

**Prop AA Vehicle Registration Fee
Project Information Form**



Project Name:	Elevator Modernization Project, Phase 1.3, Powell Street and Civic Center/UN Plaza Stations
Implementing Agency:	San Francisco Bay Area Rapid Transit District (BART)
Project Location:	Stations: Powell Street and Civic Center/UN Plaza
Supervisorial District(s):	District 6, District 3
Project Manager (name, phone, email)	Jin Cao, (510) 852 5824, jcao@bart.gov
Brief Project Description for MyStreetSF (50 words max):	The project will modernize and renovate two elevators (one street level and one platform level) at the Powell St. Station and one elevator (platform level) at the Civic Center Station. Elevator work at these stations is part of a larger construction project, which includes work at five stations and modernization of eight elevators. Elevator work at Powell St. and Civic Center stations will be included in the base contract. The project will modernize existing elevator equipment, including guides, cab and hoistway door panels, HVAC, and communication systems. Project benefits include improved accessibility, improved customer experience, and increased reliability.
Detailed Scope (may attach Word document): Please describe the project scope, benefits, coordination with other projects in the area (e.g. paving, MuniForward, Vision Zero), and how the project would meet the Prop AA screening and prioritization criteria as well as other program goals (e.g., short-term project delivery to bring tangible benefits to the public quickly). Describe how this project was prioritized. Attach maps, drawings, photos of current conditions, etc. to support understanding of the project.	See Appendix A
Describe Benefits to Equity Priority Communities and Disadvantaged Populations	See Appendix A
Prior Community Engagement/Support (may attach Word document): Please reference any community outreach that has occurred and whether the project is included in any plans (e.g. neighborhood transportation plan, corridor improvement study, station area plans, etc.).	See Appendix A
Partner Agencies: Please list partner agencies and identify a staff contact at each agency.	San Francisco Municipal Transportation Agency (SFMTA): John Becker, Roger Nguyen, Peter Gabancho, Kevin Day, and Joel Goldberg
Type of Environmental Clearance:	Categorically Exempt

Project Delivery Milestones	Status	Work	Start Date		End Date	
			Month	Calendar Year	Month	Calendar Year
Phase*	% Complete as of 1/18/22	In-house, Contracted, or Both	Month	Calendar Year	Month	Calendar Year
Planning/Conceptual Engineering	5%	Both	Apr-Jun	2021	Oct-Dec	2022
Environmental Studies (PA&ED)	N/A	N/A	N/A	N/A	N/A	N/A
Design Engineering (PS&E)	0%	Both	Apr-Jun	2022	Oct-Dec	2025
Right-of-Way	N/A	N/A	N/A	N/A	N/A	N/A
Advertise Construction	0%	N/A	Apr-Jun	2025	N/A	N/A
Start Construction (e.g. Award Contract)	0%	Both	Oct-Dec	2025	N/A	N/A
Open for Use	N/A	N/A	N/A	N/A	Oct-Dec	2027

*Only design engineering (PS&E) and construction (including related procurement) phases are eligible for Prop AA funds.

Comments

- Conceptual Engineering and Design take place simultaneously.
- PA&ED is not applicable for this project.
- PS&E is inclusive of 35/65/85/100 Design and Procurement (Contracting Plan, IFB Spec, Advertisement) up to NTP.
- Right-of-Way is not required for this project.
- The Project Delivery Schedule takes into consideration most recent information based on BART's staffing, updated BART procurement timeline, current construction market conditions, and funding availability. In 2021, BART obtained approval to program Prop K funds to the project. BART will submit an updated schedule, aligned with information in this PIF, to allocate Prop K funds for the design phase of the project.
- Open for Use date reflects expected date proposed elevators, at Powell St. Station and Civic Center Station, will be completed and open for use.

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Phase	Cost	Funding Source by Phase			Source of Cost Estimate
		Prop AA	Prop K	Other	
Planning/Conceptual Engineering	\$1,500,000	N/A	\$0	\$1,500,000	Negotiated market value
Environmental Studies (PA&ED)	\$0	N/A	\$ -	\$0	N/A
Design Engineering (PS&E)	\$5,400,000		\$1,290,000	\$4,110,000	Estimated market value based on historical projects
Right-of-Way	\$0	N/A	\$0	\$0	N/A
Construction	\$36,000,000	\$5,741,270	\$0	\$30,258,730.00	Estimated market value based on historical and similar scoped projects
TOTAL PROJECT COST	\$42,900,000	\$5,741,270	\$1,290,000	\$35,868,730	
Percent of Total		13%	3%	84%	

FUNDING PLAN FOR ALL PHASES - ALL SOURCES

Funding Source	Planned	Programmed	Allocated	TOTAL
Prop AA	\$5,741,270			\$5,741,270
PROP K		\$1,290,000		\$1,290,000
FTA Section 5337	\$9,187,980		\$3,069,600	\$12,257,580
SFMTA - Joint Use Agreement	\$10,336,197		\$8,432,553	\$18,768,750
BART Funds	\$3,800,000		\$1,042,400	\$4,842,400
TOTAL	\$29,065,447	\$1,290,000	\$12,544,553	\$42,900,000

Desired Prop AA
2024/25
*This call for project will program funds in FYs 2022/23 through 2026/27.

PROP AA EXPENDITURES BY FISCAL YEAR (CASH FLOW)*

	22/23	23/24	24/25	25/26	26/27	27/28	28/29	Total
Design Engineering (PS&E)								\$0
Construction			\$2,870,635	\$2,870,635				\$5,741,270
TOTAL BY FISCAL YEAR	\$0	\$0	\$2,870,635	\$2,870,635	\$0	\$0	\$0	\$5,741,270

*Cash flow can extend beyond the FYs 2022/23 through 2026/27 period.

Comments/Concerns

- The Project Cost Estimate is based on current construction market conditions.
- Under the SFMTA/BART Joint Use Agreement, SFMTA is responsible for reimbursement to BART for half the cost of projects in shared use areas of the downtown stations: Embarcadero, Montgomery Street, Powell Street, and Civic Center.
- The FTA Section 5337 funds are for Elevator Modernization work throughout the BART system; the planned amount included in this funding request is based on up-to-date funding plans for related projects.



Elevator Modernization Project, Phase 1.3
Powell Street and Civic Center/UN Plaza Stations

The San Francisco Bay Area Rapid Transit District (BART) requests \$5,741,270 of Prop AA Vehicle Registration Fee Program funds for construction of the Elevator Modernization Project at the BART/SFMTA Powell Street Station (Powell St.) and Civic Center/UN Plaza Station (Civic Center). This is a high impact project that is expected to provide immediate tangible benefits to the public. Details on the project scope, prioritization, support, and benefits are listed below.

Project Scope

The project will modernize and renovate two elevators at the Powell St. Station and one elevator at the Civic Center Station. Elevator work at these two stations is part of a larger construction project, the Elevator Modernization Project, Phase 1.3. This project will include elevator modernization work at five San Francisco Stations: Embarcadero, Montgomery Street (Montgomery St.), Powell St., Civic Center, and Glen Park. The Prop AA funding request is for work to be performed at the Powell St. and Civic Center Stations, as project work at these stations will be included in the first phase of the larger construction contract.

Over the last several years, BART has been working to accomplish several critical elevator improvements. These improvements include replacing flooring in all passenger elevators throughout the system to make them safer and easier to clean, upgrading protective material at the sides of the elevators to prevent liquid from flowing under the sub-floor and damaging elevator equipment and causing odor, and replacing all elevator emergency call boxes. However, elevators located in high service areas are in dire need of modernization to increase accessibility, reduce elevator service interruptions, and improve elevator maintainability.

The project work at the Powell St. Station will focus on one street level elevator and one platform level elevator. The work at the Civic Center Station will focus on the platform level elevator. These elevators are traction or hydraulic, the two types of elevators that BART currently operates. Traction elevators utilize steel ropes or belts on a pulley system, and hydraulic elevators are powered by a hydraulic jack or fluid-driven pistons that travel inside of a cylinder.

The project is currently at Conceptual Engineering Report development phase. The current phase includes field assessment details, code review of existing system with respect to current codes, high level cost estimate for construction along with construction schedule, based on review of internal and external potential impacts.

The project work at both stations will include:

- Removing existing elevator equipment in the hoistway and machine room
- Cleaning and painting machine room and elevator cab
- Steam cleaning hoistway and pit floor, applying epoxy coatings to pit floor and cab floor
- Upgrading machine room and elevators' electrical, HVAC, and communication system
- Replacing guides, cab and hoistway doors panels, cab enclosures, door equipment, cab top equipment, and cab frame
- Installing new hoistway equipment including various switches and fascia

- Refurbishing buffers, pit channels, guide rails, and brackets
- Replacing controller

Scope of work specific to the traction elevator: M30-55 (Powell St.) and M40-57 (Civic Center)

- Replacing traction machine, governor, safety, and ropes

Scope of work specific to the hydraulic power elevator: M30-54 (Powell St.)

- Replacing pump unit including tank, valves, motor, and pipes
- Replacing hydraulic ram and cylinder

Project Location

BART requests funds for the construction phase of the Elevator Modernization work at the Powell St. Station and the Civic Center Station. The Powell St. Station is one of the busiest stations of the BART system. The station is in the heart of the City's shopping, hotel, and convention center districts. Adjacent to the neighborhoods of Union Square, Tenderloin, Mid-Market and South of Market, the station is often the first destination of visitors from San Francisco International and Oakland International airports. The Civic Center Station is in San Francisco's mid-market district, at the junction of Downtown, and South of Market neighborhoods. It is a central, transit rich location that has seen significant development in the past few years, including multiple building renovations and a variety of software companies, including Twitter and Zendesk, establishing offices in the area.

In 2019, the Powell St. and Civic Center Stations were ranked No. 3 and No. 4, respectively, for highest number of station exits across the BART system (Montgomery was ranked No. 1 and Embarcadero was ranked No. 2). In 2021, the Powell St. and Civic Center Stations were ranked No. 1 and No. 3, respectively, for highest number of station exits (Embarcadero was ranked No. 2 and Montgomery was ranked No. 4), see table 1.

Table 1, 2019 and 2021 BART ridership data

Year	System Exits	Powell St. Entries	Powell St. Exits	Civic Center Entries	Civic Center Exits
2019	117,481,037	9,201,972	8,050,637	7,058,200	6,599,520
2021	24,583,353	2,188,451	1,906,781	1,472,175	1,397,805

Source: <https://www.bart.gov/about/reports/ridership>

The first phase of the project work at the Powell St. Station will include one street elevator and one platform service elevator, categorized as M30-54 and M30-55, see figure 1 and figure 2. The project work at Civic Center Station will include one platform service elevator, categorized as M40-57, see figure 3 and figure 4. The platform elevators at both the Powell St. and Civic Center stations provide service to the concourse, Muni, and BART platforms. The Powell St. Station street elevator provides service to the street and concourse level. For additional details, see figures 1 - 4.

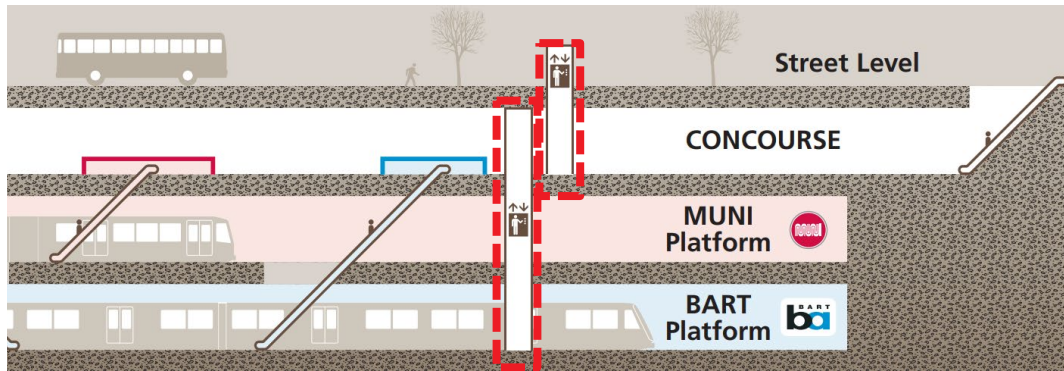


Figure 1. Powell St. Station map section view,
<https://www.bart.gov/sites/default/files/documents/station/powell-street-station-map.pdf>.

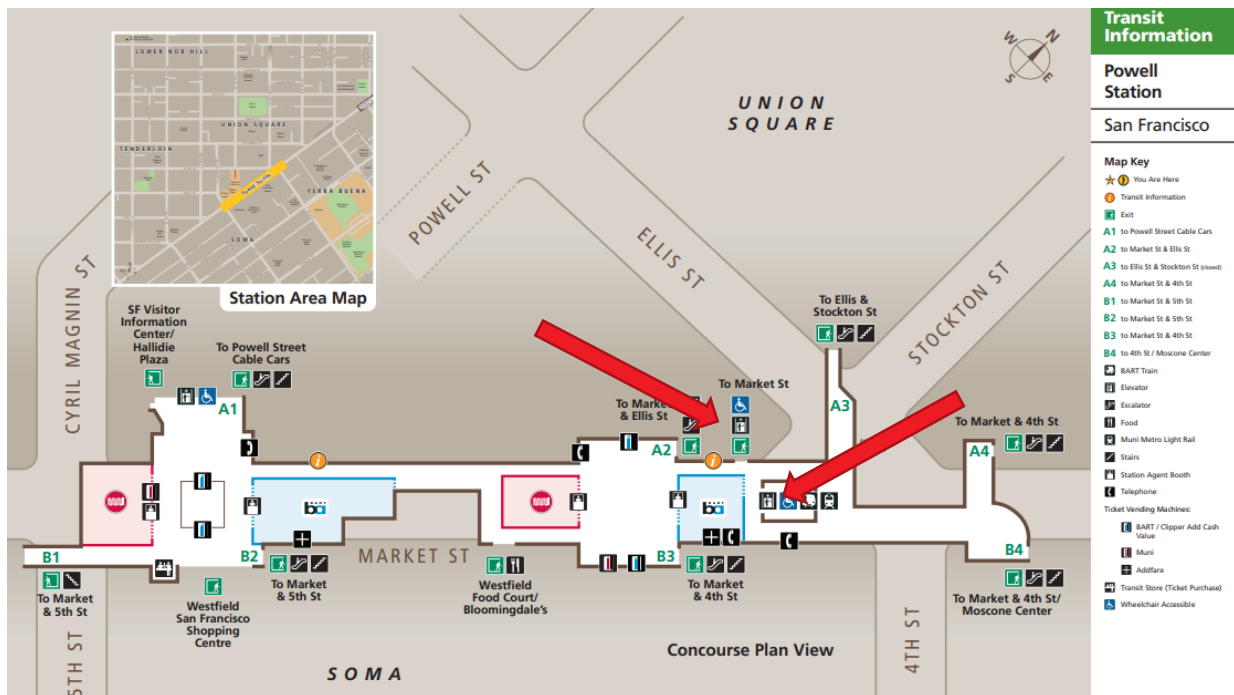


Figure 2. Powell St. Station map,
<https://www.bart.gov/sites/default/files/documents/station/powell-street-station-map.pdf>.

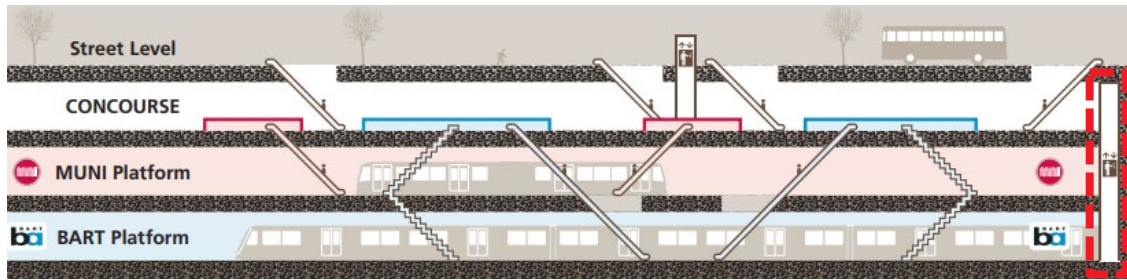


Figure 3, Civic Center Station map section view,
<https://www.bart.gov/sites/default/files/documents/station/civic-center-station-map.pdf>.

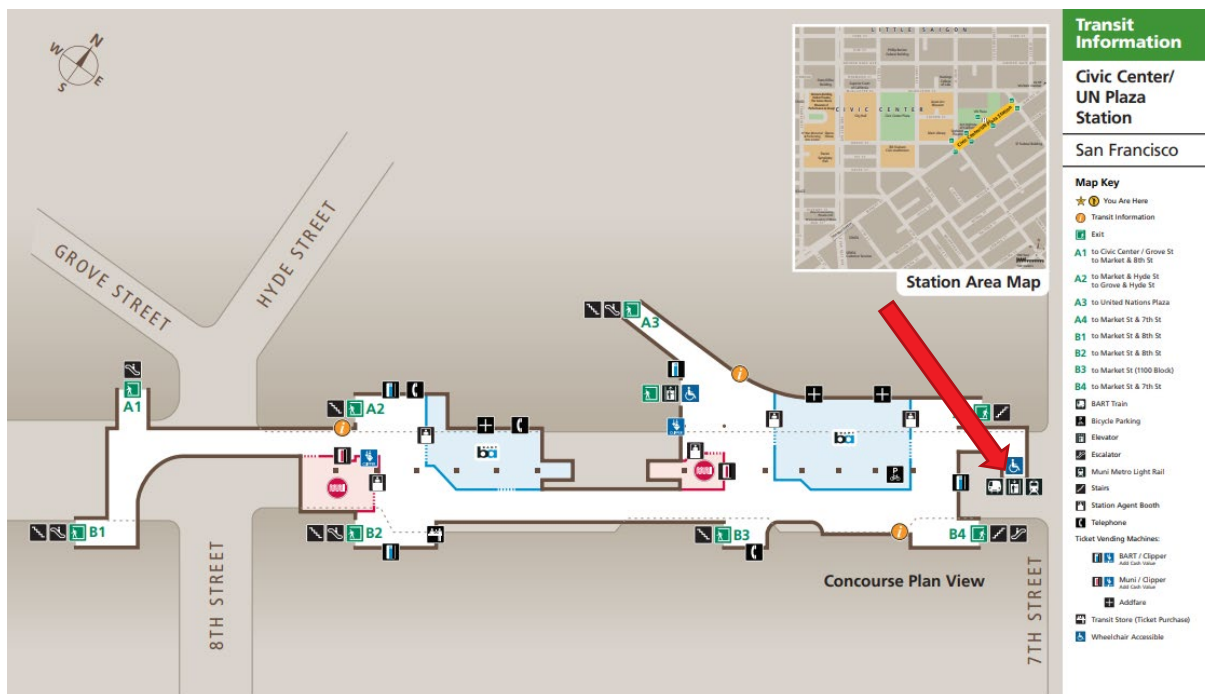


Figure 4, Civic Center Station map,
<https://www.bart.gov/sites/default/files/documents/station/civic-center-station-map.pdf>.

Current Conditions

The project work will include a detailed assessment of the condition and needs of the current elevators. Current elevators undergo regular maintenance; however, the elevators are often vandalized, and parts are damaged. BART maintains a significant amount of on-hand elevator inventory of parts, but the agency experiences challenges to secure and repair parts. BART's elevators were made by four different manufactures, and some of them have gone out-of-business. Components and parts are also obsolete, requiring BART crews to search for suitable or compatible replacement parts.

Major components such as elevator doors / door operators and hydraulic cylinders are built for a specific conveyance with precise technical specification. When these components fail, they are required to be removed, overhauled, and reinstalled. These repairs go beyond routine

maintenance and are classified as extensive heavy repairs. Older equipment with a high degree of ridership, operational hours, and environmental abuse, such as at the Powell St. and Civic Center stations, have exceeded their useful life, see figures 5 - 10.



Figure 5. Street elevator at Powell St. Station, December 2021.



Figure 6. Street elevator at Civic Center Station, December 2021.

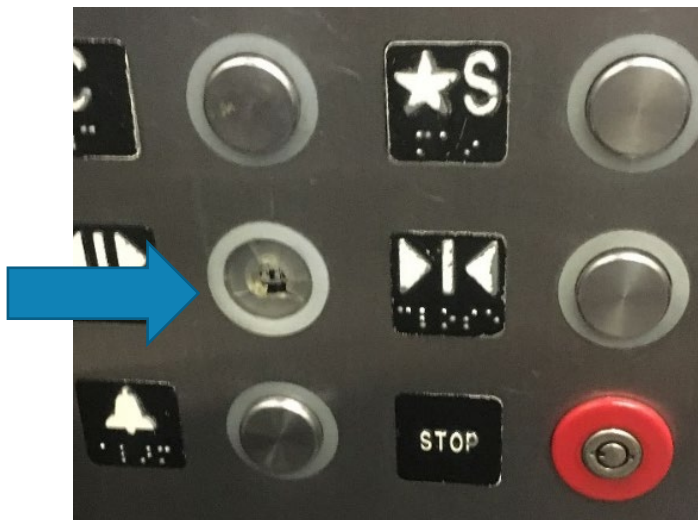


Figure 7. Vandalism to destination buttons at Powell St. Station platform elevator, December 2021.

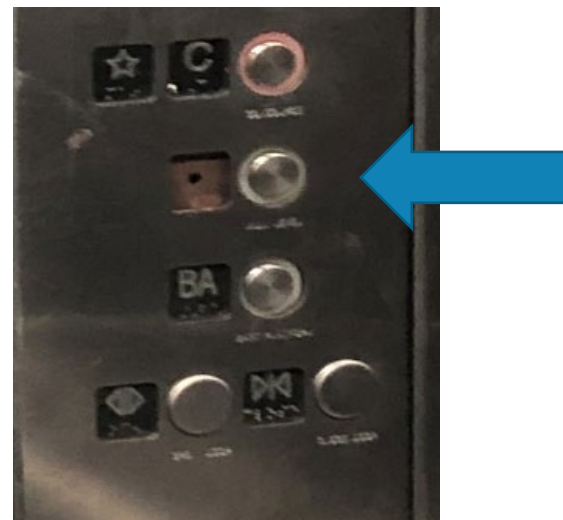


Figure 8. Vandalism to destination buttons at Civic Center Station street elevator, December 2021.



Figure 9. Door vandalism and deterioration of platform elevator at Powell St. Station, December 2021.



Figure 10. Shattered window glass of platform elevator at Civic Center Station, December 2021.

Project Advertisement

BART is scheduled to advertise the project in the first quarter of calendar year 2025. The project will advertise as a package with work at eight elevators and five stations in San Francisco: Embarcadero, Montgomery St., Powell St., Civic Center, and Glen Park. With support from Prop AA Program funds, BART will advertise the project with a base contract for work at Powell St. and Civic Center stations. The base contract will include work at the three elevators described in the Project Scope. The remaining five elevators will be listed as options to be exercised at a future date, see table 2.

Table 2, Elevator Modernization Advertisement Plan

Station	BART Asset Reference	Type	Status
Powell	M30-55	Traction	Base Contract
Powell	M30-54	Hydraulic	Base Contract
Civic Center	M40-57	Traction	Base Contract
Civic Center	M40-56	Hydraulic	Option
Embarcadero	M16-62	Hydraulic	Option

Montgomery	M20-52	Hydraulic	Option
Montgomery	M20-53	Traction	Option
Glen Park	M70-37	Traction	Option

Project Prioritization

The elevators selected as a part of this project have been prioritized based on data from BART's Asset Management software (Maximo) occurrence of unscheduled/unplanned elevator service interruptions, and on a joint engineering assessment that ranked 140 elevators systemwide for those with the highest needs. The project was also identified in BART's FY19 Short Range Transit Plan and Capital Improvement Plan.¹ The Elevator Modernization project was also listed, as the Elevator Modernization and Expansion Program, which encompasses work beyond the scope of this funding request, in BART's proposal for the San Francisco Sales Tax Expenditure Plan, administered by the San Francisco County Transportation Authority and scheduled to be presented to San Francisco voters in the November 2022 Consolidated General Election.

Community engagement/support

BART has engaged with community members and obtained input and support for the Elevator Modernization Project work through various forums:

- BART conducted extensive community outreach as part of the 2015 Powell St. BART Station Modernization Program² and the 2016 Civic Center Station Modernization Plan³. The outreach included a series of open houses, surveys, fliers, BART news stories, and social media engagement events. The purpose of the outreach was to inform BART riders and the public about BART's planning process, share efforts to implement capacity and modernization at the stations (including elevator renovation), build awareness and understanding of challenges and potential solutions, and survey riders on preferences for improvements.
- BART has obtained community input through Customer Satisfaction Studies. Since 1996, BART has conducted these studies, performed by an independent research firm, to help the agency prioritize efforts to achieve higher levels of customer satisfaction. The study involves surveying BART customers onboard randomly selected train cars. In the 2020 BART Customer Satisfaction Study, elevator availability and reliability received low customer ratings,⁴ highlighting the need for elevator modernization.

¹ San Francisco Bay Area Rapid Transit District, "FY19 Short Range Transit Plan and Capital Improvement Program," October 2018, 65.

² ARUP, "Powell St. BART Station Modernization Program, Final Report," September 2015.

³ "Civic Center Station Modernization," San Francisco Bay Area Rapid Transit District, accessed January 13, 2022, <https://www.bart.gov/about/planning/civiccenter>.

⁴ San Francisco Bay Area Rapid Transit District, "2020 BART Customer Satisfaction Study," March 2021.

- BART has also been obtaining on-going community input regarding elevators through the Elevator Attendant Program. This program, receiving Lifeline Transportation Program funds from SFCTA, was first launched in April 2018 at the Powell St. and Civic Center stations, and expanded to Embarcadero and Montgomery St. stations in November 2019. The program provides elevator attendant services to address sanitation, safety, and security concerns inside station elevators.⁵ The attendants greet customers, operate the elevator, collect data on the number of users and their demographics, and attempt to deter inappropriate behavior. According to Daniel Cooperman, Senior Manager of Social Service Partnerships at BART, elevator attendants at the Powell St. and Civic Center stations provided services to 39,243 customers, including 3,424 people with disabilities, in 2020 (data from 2021 is being consolidated). Before the program, only 44% of elevator users rated themselves as very or somewhat satisfied using the elevators. After six months of the program being in place, community members expressed satisfaction. Community members' comments included "very good for people with disabilities," and "please keep this going. I feel so much safer."⁶ Elevator modernization work, along with continuation of Elevator Attendant Program services at the Powell St. and Civic Center stations, is vital to ensure elevators consistently remain safe, clean, and in working order for all BART/Muni patrons.
- BART staff members are scheduled to present information to and seek input from the BART Accessibility Task Force (BATF) about the Elevator Modernization Project work, at Powell St. and Civic Center stations, at the next BATF meeting on January 27, 2022. "The BATF advises the BART Board of Directors and staff on disability-related issues and advocates on behalf of people with disabilities and seniors to make the BART system accessible to all."⁷ BART staff had planned to engage with the BATF at a scheduled meeting in December 2021, but the meeting was cancelled.

⁵ "Elevator Status," San Francisco Bay Area Rapid Transit District, accessed January 4, 2022, <https://www.bart.gov/stations/elevators>.

⁶ San Francisco Bay Area Rapid Transit District, "Elevator Attendant Program: Helping Riders, Helping the Community" flier. 2021.

⁷ "BART Accessibility Task Force," San Francisco Bay Area Rapid Transit District, accessed January 14, 2022, <https://www.bart.gov/about/bod/advisory/accessibility>.

Project Benefits

As described earlier, the project will take place at two of BART’s busiest stations that provide transit access not only to local San Francisco community members but also to regional commuters and tourists. The Powell St. and Civic Center stations are also located in Equity Priority Communities, as shown in figure 11. Hence, the project provides a wide range of benefits, including improved accessibility, improved customer experience, and increased reliability.

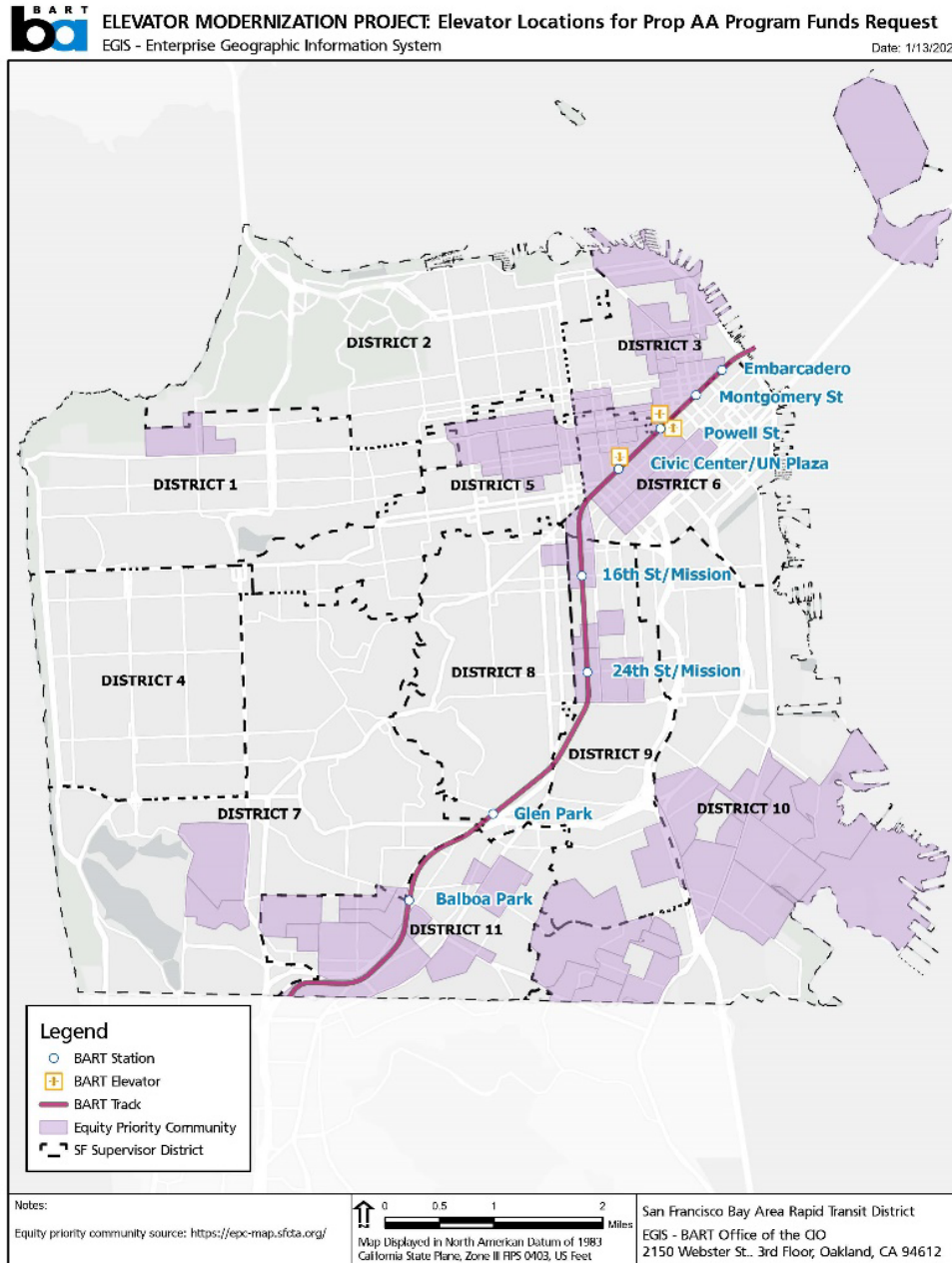


Figure 11, Equity Priority Communities, and project location

Increased reliability. The project is anticipated to improve elevator reliability, as has been demonstrated at previous elevator modernization and renovation projects. As an example of how elevator modernization work can improve reliability, see figure 12, Modernization improvements at Pleasant Hill BART Station. The graph depicts cumulative unplanned service calls (an event in which the elevator requires a technician to be dispatched to inspect the unit due to an unplanned outage) from December of 2015 to June of 2021. From late 2015 to early 2018, there was an unplanned service call every 13 calendar days, forward to the post modernization period in early 2021 and that number had increase to a non-planned service call every 25 days; a significant increase in the days between events.

Elevator safety protocols and fail safes dictate that an elevator stop operation, in the event of a system safety device, is tripped to prevent serious failures to the elevator and keep the riding patrons safe. As a result, specific safety features such as a blocked door caused by vandalism can stop the elevator from operating, requiring the attention of a technician to inspect, validate, and reinstate the elevator for service.

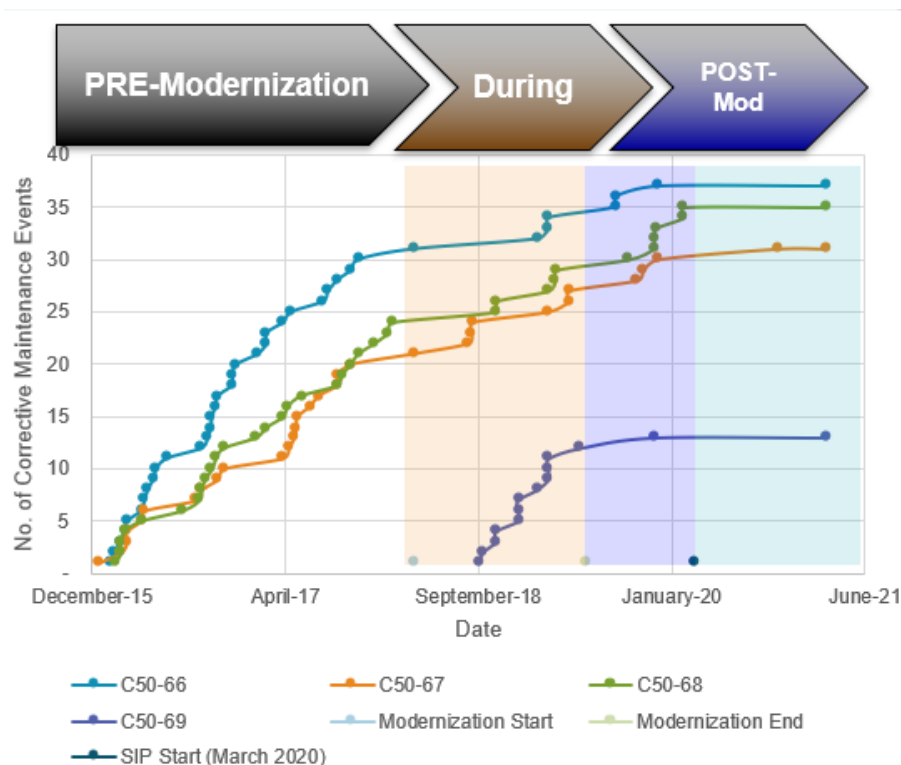


Figure 12, Modernization improvements at Pleasant Hill BART Station, Parking Garage, Unplanned Maintenance Visits

Improved accessibility. When moving in between street to concourse or concourse to platform, even the smallest changes can greatly improve accessibility. The elevator improvements will reduce the risk of lengthy elevator downtime due to equipment failure. These improvements are expected to have significant impact, especially for community members with disabilities and those who are traveling with strollers, walkers, pets, or luggage. Improvements will provide

continuity of access due to increased elevator reliability; this is especially important for community members who use a wheelchair.

Improved customer experience. The project will increase the reliability of the elevators and improve the look and feel of the station and elevators. These improvements will improve customers' experience as they navigate the station to and/or from desired destinations. These improvements will be especially beneficial to community members with mobility limitations that rely on gaining access to the transportation system and traversing the station levels using an elevator.