



City & County of San Francisco

Mayor's Office
on Disability

Feasibility of wheelchair charging stations

San Francisco Fellows 23-24 Cohort

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Who are the San Francisco Fellows?

The San Francisco Fellowship is a 12-month full-time work experience. Fellows are placed in several departments throughout the City and work on various programs.

- **10-week group project**
- **Worked on for 4 hours each week in collaboration with the Mayor's Office on Disability (MOD) and other city departments.**



Image: The 29 SF Fellows of the 23-24 Cohort on the front steps outside of City Hall.



Project Scope & Objective

- Initial feasibility research for the Implementation of Electric Wheelchair Charging Stations Initiative.
- Key objective is to propose recommendations to MOD and the Mayor's Council on Disability concerning the feasibility of the initiative's implementation. The objective required the following:
 - Market research on electric wheelchair charging devices
 - Research and outreach with City and County case studies
 - Community engagement and feedback
 - Focus groups with City Departments
 - A memo outlining the feasibility
- The purpose for today is to present our findings and some possible options for implementation strategies that the City could pursue to push this initiative forward.

1. Background



The Problem

- Community members have submitted requests for the installation of outdoor electric wheelchair charging stations throughout the City and County of San Francisco
 - Currently, no electric wheelchair charging stations are publicly accessible in San Francisco
 - Electric wheelchair charging stations have been installed in smaller Cities and Counties across the United States
- An electric wheelchair's battery charge determines the user's mobility and travel capacities
 - Most electric wheelchairs can travel around 10 miles before the battery needs a charge (Rural Transit Assistance Program, 2019)
 - Battery life can be unpredictable (age of device, terrain, weather, i.e., all have potential to impact battery life)



San Francisco Demographics

- 1 in 10 San Franciscans reports a disability, totaling about 96,000 residents
- 64% of people with disabilities identify as Black, Indigenous, and Other People of Color (BIPOC)
- 1 in 4 people with disabilities live in poverty
- This is an equity and ableism issue

San Francisco Residents Report Many Types of Disability

Some report multiple disabilities.¹

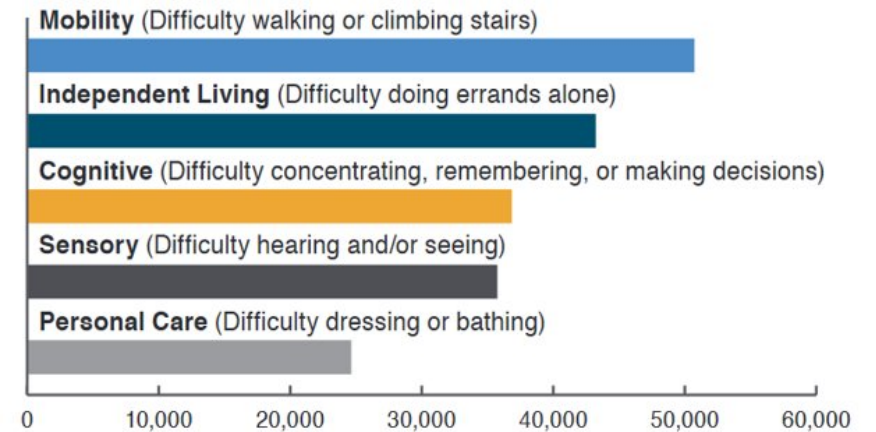


Image: A graph from the 2019 American Community Survey 5-Year Estimates, depicting how many San Francisco residents report a disability and what type of disability.

Charging Devices

- Mobility Matters 2 Me is the sole producer of the wheelchair charging stations.
- Includes:
 - 13.5" x 11" x 5" Weatherproof Box and Key
 - 24V 5-amp charger for mobility devices
 - Dual USB charger
 - 10" x 15" metal identification sign
 - Mounting hardware
- Requires a 110V power source

Total Cost = \$749 per charging station



*Image: Wheelchair Charging Station from
Mobility Matters 2 Me*

Case Study Research

Successful Wheelchair Charging Station Programs Implemented in:

- Oswego, New York
- Umatilla County, Oregon
- Bellevue, Washington
- Hattiesburg, Mississippi



Image: Wheelchair charging station outdoors in a park and wheelchair user plugging in.

2. Outreach & Community Engagement Findings

San Francisco Department Engagement

1. Municipal Transportation Agency
2. The Port of San Francisco
3. Public Utilities Commission
3. Public Library
4. Department of Emergency Management
6. Department of Homelessness and Supportive Housing
7. Recreation and Parks Department
8. Department of Public Health
9. Office of Supervisor Myrna Melgar, District 7



Community Engagement

- Meeting with the **Community Alliance of Disability Advocates (CADA)** and others:
 - Discuss lived experiences
 - How the installation of electric wheelchair charging stations would impact City access
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Community Public Survey:

- Community survey was open for 1.5 weeks
 - Shared through MOD's community networks and newsletters
- 82 total responses
- 45 respondents of that total (55%) are electric wheelchair/mobility device users



Public Survey Results

Survey respondents indicate community support and a desire for the initiative to be implemented throughout the City.

59%

of electric wheelchair users responded that the installation of electric wheelchair charging station would significantly impact their day-to-day life

43%

of electric wheelchair users responded they worry “very often” about their electric wheelchair running out of battery while they are out



Public Survey Results – Indoor versus Outdoor

Overall, survey respondents indicated comparable levels of support for both the installation of electric wheelchair charging stations in outdoor and indoor locations.

67% of electric wheelchair users responded they would be “very likely” to use indoor charging stations

62% of electric wheelchair users responded they would be “very likely” to use an outdoor wheelchair charging station

Key Preferred Locations Identified

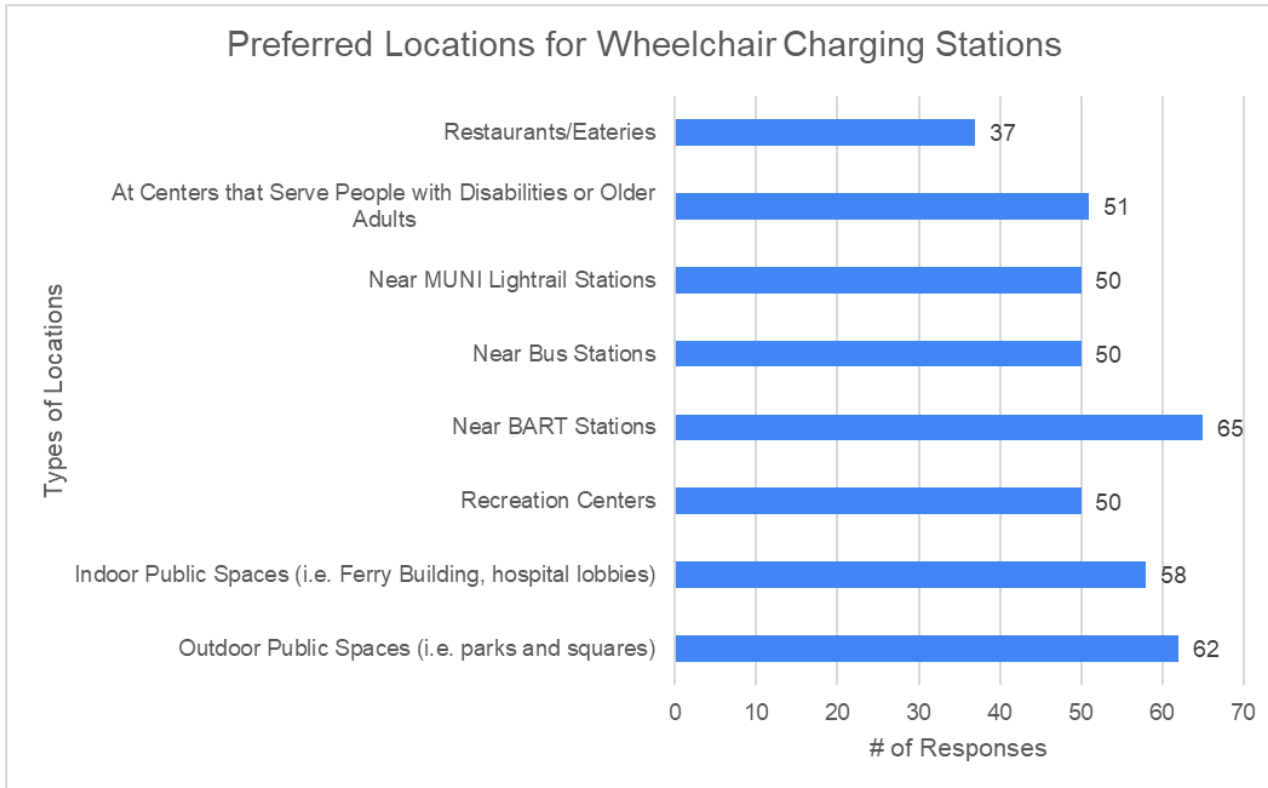


Table: Graph of the preferred locations for wheelchair charging station organized by type of locations and # of responses. Highest shown preferred location is near BART stations.

Key Locations Include:

- Along transportation corridors
- In outdoor public spaces
- In indoor public spaces
- Recreation centers

Additional research and outreach necessary in future planning efforts.



Public Survey Takeaways



Similar levels of interest for all proposed locations



Support for the initiative to be widespread throughout the City



More community outreach necessary to have better alignment on key locations

3. Key Takeaways and Findings



Key Findings & Takeaways

- **Appointment of a lead agency**
 - The initiative spans over multiple department jurisdictions, making it ideal to have a lead agency to resolve challenges regarding ownership over installation and maintenance.
- **Expressed desire for legislative action to be taken in support of the initiative**
 - Pursuing legislative action and support from the Board of Supervisors would give this project legitimacy and allow for a broader platform for City Departments to learn about the initiative.
- **Funding**
 - There is a funding gap for wheelchair charging stations. Further research is required for additional options like grants, internal budgets, and legislative funding.



Key Findings & Takeaways (2)

- Alignment between community and agency desires
 - Outdoor v. Indoor locations
 - Indoor locations are preferred due to concerns for user safety, better ability to deter vandalism, and higher potential for nearby staff.
 - Outdoor locations are less feasible due to higher maintenance costs, the limited number of outdoor outlets available, and the high possibility of vandalism
 - Safety & Vandalism
 - Safety while charging is a key concern for members of the Disability Community
 - Concerns with vandalism and tampering of electrical wiring bring up additional concerns for general fire safety, requiring additional follow-up with the Fire Department.

4. Recommendations

Individual Agency Implementation Recommendation

1) Individual Agency Implementation

- 1) Municipal Transit Agency
 - 2) Recreation and Parks
 - 3) San Francisco Public Library
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- **Strengths**

- Individual Agency Leadership allows for agency discretion and control of the project
- Faster implementation of wheelchair charging stations

- **Weaknesses**

- Lack of a city-wide network of charging stations to serve community needs
- Individual agencies must secure funding, provide maintenance, and build capacity



Multi-Agency Implementation Strategy Recommendation

2) Multi-Agency Implementation

- 1) Emergency Operations Strategy
 - 2) Board of Supervisor Leadership
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- **Strengths**

- City-wide network of wheelchair charging stations will best serve community needs
- Lead agency to oversee the project with one funding and maintenance plan

- **Weaknesses**

- Cross departmental communication leads to longer process and bureaucratic burden



Individual Agency Implementation: San Francisco Municipal Transit Agency (MTA)

- The SFMTA's strong commitment to accessibility makes it a qualified agency to host the initiative.
- Mobility hubs are locations that offer transportation options with EV and bike charging and parking. Two options are the Caltrain station in Townsend and the Balboa Park BART station.
- Community desire for charging stations along transportation corridors
- Funding sourced from available grants
 - Ex. Federal Transit Administration Section 5310 (Enhanced Mobility of Seniors and Individuals with Disabilities)
- Experience collaborating with other departments on projects.

Individual Agency Implementation: San Francisco Recreation and Parks (RPD)

- Locations include:
 - Within Golden Gate Park: the Botanical Gardens, County Fair Building, Kezar Stadium, the Aquatic Center, and the Bandshell Concert Venue
 - The Gene Friend Recreation Center
- Concerns with vandalism can be resolved with supervised stations and generators.
 - Vandalism concerns renders 24/7 outside access infeasible, however, the Botanical Gardens could provide year-round access during business hours.

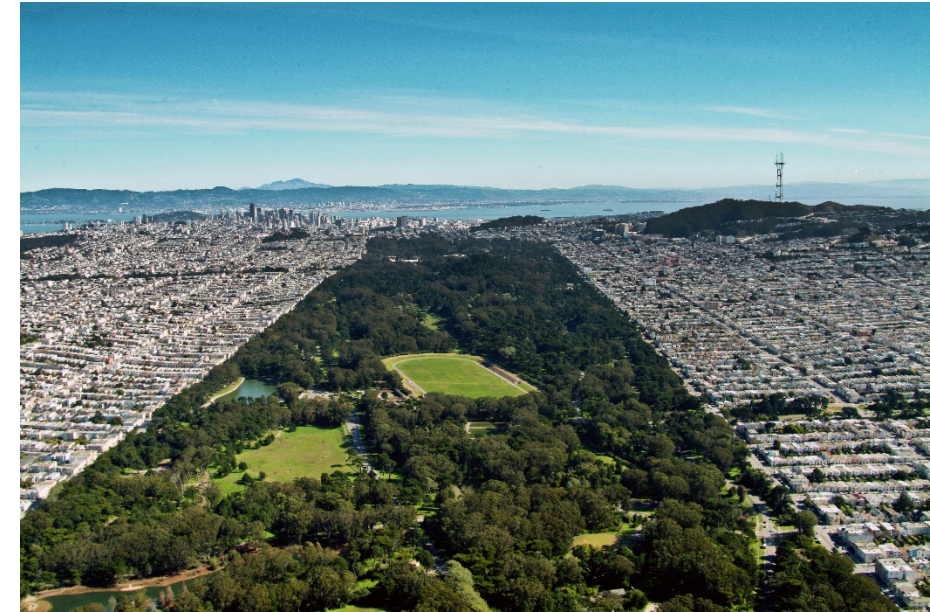


Image: Aerial image of Golden Gate Park

Individual Agency Implementation: San Francisco Public Library

- The Main Branch of the San Francisco Public Library offers wide community outreach, security measures, hours of operation, entertainment, and an in-house facilities division.
- Potential locations within the Main Library include:
 - Deaf Services Center (Open 5 Days a Week)
 - Larkin Street Entrance
 - Various locations on the upper-level floors
- Further research is recommended for possible funding streams.
- Collaboration with the 27 other branches can be approached to install the chargers at their respective locations.



*Image: San Francisco Public Library Main Branch –
Located at 100 Larkin Street*



Multi-Agency Implementation: Emergency Operations Strategy

- Bellevue, WA implemented 6 charging stations with their Office for Emergency Management for disaster preparedness for wheelchair users.
- SF Department of Emergency Management (DEM) could be lead agency, responsible for
 - Pursuing funding through emergency operations grants (Bellevue received \$2,500 from the Urban Areas Strategy Initiative (UASI) Grant Program funded by the Department of Homeland Security)
- Potential locations at existing emergency shelters with staff to prevent vandalism and back-up generators. Other locations could include:
 - The Main Branch of the SF Public Library
 - Ferry Building/Pier 1
 - Zuckerberg San Francisco General Hospital

Multi-Agency Implementation: Cross City Collaboration Program

- Pursuing multi-agency implementation could occur with Board of Supervisors
 - A hearing could incentivize collaboration between the government and public leading to action
 - Options for funding include grants, Board Discretionary funding, and General Fund
 - An ordinance or legislation would ensure longevity and structure to this initiative



Image: Community members at a Board of Supervisor Hearing

Recommendations for Further Research

- Additional locations could be possible, and further research is necessary to better understand feasibility
- Continue outreach with:
 - City-Agencies
 - Community based organizations
 - Other cities & counties in the United States
 - Subject matter experts
- Additional planning phases needed to:
 - Map out predicted maintenance needs
 - Plan funding strategy

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