



MEMORANDUM

November 4, 2022

TO: MEMBERS, PORT COMMISSION
Hon. Willie Adams, President
Hon. Kimberly Brandon, Vice President
Hon. John Burton
Hon. Gail Gilman
Hon. Steven Lee

FROM: Elaine Forbes
Executive Director

SUBJECT: Update on recent Central Embarcadero Quick-Build traffic safety and other changes, between Mission Street and Broadway, per the San Francisco Municipal Transportation Agency's Embarcadero Enhancement Program in support of the City's Vision Zero traffic safety goals

DIRECTOR'S RECOMMENDATION: Information Only – No Action Required

SUMMARY

In August 2021, [the Port Commission approved Quick-Build traffic safety](#) and other changes – including a two-way, protected bikeway and northbound vehicle lane adjustments to The Embarcadero between Mission Street and Broadway as part of the San Francisco Municipal Transportation Agency's (SFMTA) Embarcadero Enhancement Program. This approval came with a commitment by SFMTA staff to conduct a comprehensive evaluation of the changes, and was followed in October 2021 with a [presentation to the Commission by Port staff](#) focused on additional potential ways to reduce conflicts on the Embarcadero Promenade between pedestrians and other wheeled device users.

The SFMTA substantially completed the Central Embarcadero Quick-Build Project in February 2022, with design adjustments and new Promenade safety signs added in June/July 2022. In coordination with Port staff, the SFMTA conducted a data-driven evaluation and shared its findings with key stakeholders in September 2022. This report summarizes key findings from these efforts and recommended next steps, including a 'field test' for the Broadway intersection. The report also updates and expands discussion of potential regulatory options to further improve the safety and comfort for

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pedestrians on The Embarcadero Promenade based on SFMTA findings and ongoing coordination.

PORT'S STRATEGIC PLAN OBJECTIVES

The Port's efforts to collaborate with SFMTA on the Embarcadero Enhancement Program support the goals and objectives of the Port's Strategic Plan as follows:

Evolution

Evolve the waterfront to respond to changing public and Port needs.

- **Safer Embarcadero.** Collaborate with SFMTA to create a safer Embarcadero
- **Embarcadero Enhancement Program (EEP)** Work with Port tenants, development partners and public to increase safety along The Embarcadero for all transportation modes, implementing bicycle and pedestrian safety improvements between Mission and Broadway Streets in 2022
- **Promenade Management.** Develop and implement measures on the Embarcadero Promenade that reduce pedestrian and wheeled vehicle conflicts

Engagement

- **Engage constituents and public on Port functions and activities**
- **Public Awareness.** Strengthen stakeholder and public understanding and support.
 - **Involve People.** Engage advisory groups, communities, and stakeholders
 - Inform and seek feedback through Port Commission meetings
 - Inform and involve communities and stakeholders
- **Agency Coordination.** Partner with City departments and government agencies to align communication, engagement, and activities

BACKGROUND

SFMTA 'Quick-Build' projects are relatively low-cost, easily-reversible safety treatments that are core to the city's Vision Zero transportation safety and Transit First priorities. The SFMTA's Central Embarcadero Quick-Build Project was implemented in early 2022 to improve safety and access for people walking, biking, and rolling along and across The Embarcadero between Mission Street and Broadway. It extended an earlier Quick-Build project that installed a two-way bikeway between Howard and Mission streets in 2020. The project also upgraded pedestrian crossings, expanded passenger and commercial loading near the Ferry Building, and included a vehicle lane 'road diet' for northbound Embarcadero.

These recent changes were prioritized as part of the SFMTA's Embarcadero Enhancement Program (EEP), which seeks to improve safety, mobility, connectivity, and accessibility for all users of The Embarcadero and support a vibrant waterfront economy. Much of The Embarcadero is on the Vision Zero High-Injury Network, the small collection of streets that account for the vast majority of severe and fatal traffic injuries. Between 2013 and 2019, the EEP planning phase established a conceptual

design and phasing plan for corridor safety improvements through extensive community engagement and early implementation projects. With the most recent Quick-Build project, the SFMTA has invested over \$3 million in Embarcadero roadway safety upgrades since 2014.

The next step is for the SFMTA to work with the Port and Public Works staff to design and build an extension of the protected bikeway, southerly from Folsom to Bryant Street; and to make targeted pedestrian safety, accessibility, and wayfinding upgrades to the previous Quick-Build project corridor. The SFMTA has now programmed approximately \$1.2M for detailed engineering for this upcoming phase. The Central Embarcadero Quick-Build Project evaluation will help inform those efforts.

QUICK-BUILD EVALUATION

The SFMTA collected peak-period traffic counts and other travel data in September 2019 and October 2021 (pre-construction), and April 2022, and August 2022 (post-construction) to form the basis of the Central Embarcadero Quick-Build Project evaluation. These studies include counts of Promenade and crosswalk users (bicyclists, scooters, and pedestrians) as well as vehicles, and were used to quantify and compare user volumes and behaviors before and after the project was completed. The SFMTA evaluated the effectiveness of the project in meeting goals of mobility, effective design, safe behavior, ease of navigation, and perception of safety. Overall, 13 metrics were evaluated and rated in terms of performance as “positive,” “negative,” or “neutral/inconclusive.” These findings are summarized in **Table 1** below.

Table 1: Central Embarcadero Evaluation Metric Summary

ID	Evaluation Metric/Question	Performance	Description
1	<i>Are bike/scooter/skateboard riders moving off the Promenade into the bikeway?</i>	<i>Positive (Yes)</i>	Implementation of the two-way bikeway successfully helped direct wheeled users off the Promenade and into the new facility – especially once the Promenade safety signs were installed and when it is busiest with pedestrian activity (generally afternoons and weekends).
2	<i>Are faster bike, electric bike, scooter, and skateboard riders in the bikeway?</i>	<i>Positive (Yes)</i>	Of the people still riding on the Promenade, most ride much more slowly than those in the protected bikeway.
3	<i>Are bike/scooter riders yielding at mid-block crosswalks?</i>	<i>Neutral/ Inconclusive</i>	Two-thirds of bike/scooter riders yield or give space to pedestrians, but the other third continue at speed.

4	<i>Are bike/scooter riders stopping at bike traffic signals (primary crosswalks)?</i>	<i>Neutral/ Inconclusive</i>	People on bikes/scooters generally stop at bike signals, but behavior varies, with crosswalks near the Ferry Building seeing less compliance.
5	<i>Are people driving yielding at 'conflict zones' (e.g., driveways)?</i>	<i>Neutral/ Inconclusive</i>	Driver yield compliance at conflict zones is relatively low, however few "close calls" were observed.
6	<i>Are loading/parked vehicles blocking the bikeway or travel lanes?</i>	<i>Positive (No)</i>	The physical separation of the bikeway generally functions well to keep motor vehicles from blocking the bikeway, however some incidents do occur.
7	<i>How is the farmers' market load-in/out configuration working for bikeway safety?</i>	<i>Positive</i>	The adjustments made by farmers' market staff to operate with the new bikeway effectively maintain safety and access for vendors, customers, and bikeway users.
8	<i>Have vehicle speeds changed?</i>	<i>Neutral/ Inconclusive</i>	There are no clear trends to describe changes in vehicle speeds before and after the project's construction.
9	<i>Has the project affected vehicle travel times?</i>	<i>Neutral/ Inconclusive</i>	Vehicle travel time along the corridor increased slightly, but not as much as originally expected and not so much that the schedule of a typical motorist would be affected.
10	<i>How has the performance of the Broadway intersections changed?</i>	<i>Negative</i>	The reconfiguration of lanes approaching Broadway has resulted in substantial additional delay for left-turning vehicles, with no change/a slight decrease in average delay for northbound 'through' drivers. Traffic analysis suggests an alternative lane configuration (one through lane, two-left turn lanes) may improve the performance of the intersection overall, but with some increase in northbound delay.
11	<i>Are more people riding on the Embarcadero corridor?</i>	<i>Positive (Yes)</i>	Less people are using the Embarcadero corridor overall, due in large part to the effects of the pandemic, but wheeled user volumes are similar to pre-pandemic levels.

12	Are people riding in the Washington bikeway?	Neutral/ Inconclusive	Following installation of the new bikeway on Washington Street, bike volumes remained similar to pre-pandemic counts.
13	Are bike/scooter riders able to enter/exit the bikeway easily at Broadway (enter) + Folsom (exit)?	Neutral/ Inconclusive	The transition from one-way to two-way bikeway at either end of the project area can be challenging for southbound wheeled users.

Overall, the project evaluation points to tangible success at moving more and faster users of wheeled devices into the new protected bikeway and improving the Promenade experience for pedestrians. The two-way waterside bikeway relieves pressure on the Embarcadero's Promenade by providing a dedicated space for riding bikes and scooters protected from vehicle traffic. Four months after the bikeway and Promenade signage was installed, 86% of wheeled users were observed in the bikeway during weekday mornings, 78% during weekday afternoons, and 94% on the weekend (**Figure 1**). People using the protected bikeway are generally yielding to people in crosswalks, and people driving can safely access loading zones and pier driveways while their overall travel time along the corridor has not increased significantly.

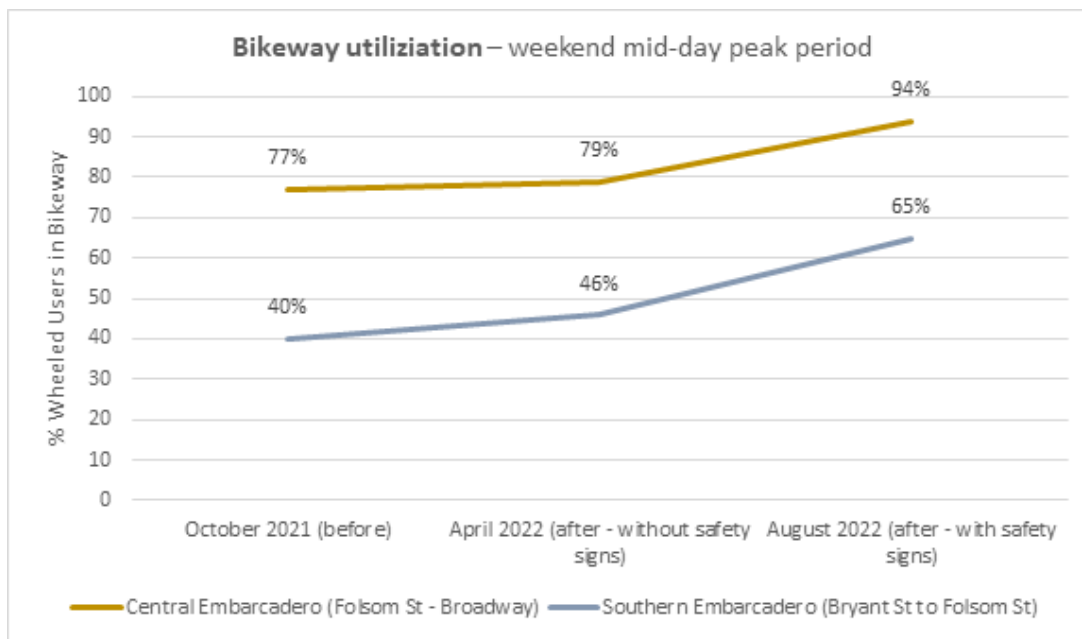


Figure 1. Bikeway utilization, Central and Southern Embarcadero.

Promenade activity outside the project area (Southern Embarcadero)

The project team reviewed pre- and post-project promenade/bikeway utilization outside the project area along Southern Embarcadero near Bryant Street where there is not a two-way protected bikeway – to consider potential ‘downstream’ effects of Promenade safety and help put context to the overall Central Embarcadero evaluation. Staff reviewed wheeled users in the northbound and southbound one-way on-street bike lanes and users traveling in either direction on the Promenade.

Southern Embarcadero bikeway use by wheeled users was consistently lower (i.e., Promenade riding was more prevalent) than in the Central Embarcadero for all observation periods, suggesting that the waterside two-way protected bikeway is successfully attracting wheeled users off of the Promenade (see **Figure 1**). Both Central and Southern Embarcadero segments saw increased bikeway utilization over time, suggesting that Promenade safety signs can be effective on their own (the Southern Embarcadero section has yet to receive a new protected bikeway), and/or in combination with more protected bike infrastructure in the area or along one’s route.

Recommended ‘field test’ for Broadway approach lanes in early 2023

The one metric to receive a ‘negative’ performance evaluation was that for the Broadway intersection, where the project removed one of two northbound left-turn lanes to make room for the bikeway. As shown in **Figure 2**, overall delay for northbound left-turning vehicles more than doubled after the project was implemented, while northbound through travel delay was reduced (mostly due to fewer vehicles from the pandemic). This quantitative assessment was further bolstered by numerous field observations of excessive vehicle back-ups (also known as ‘queues’) in the single northbound left-turn lane, as well as public constituent complaints.

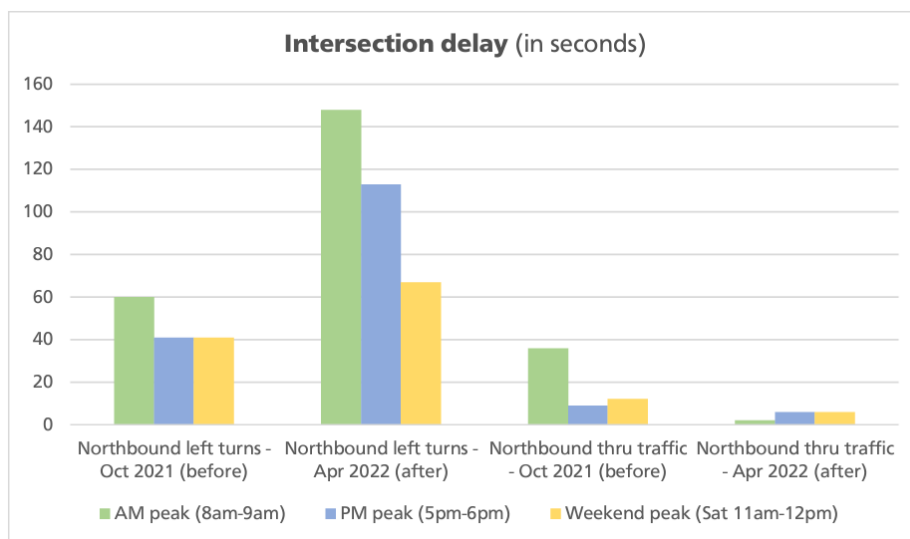


Figure 2 - Broadway Intersection delay (before and after project)

In September 2022, SFMTA and Port staff presented this information as part of the draft evaluation summary both to the ad hoc Embarcadero Enhancement Advisory Group (EEAG) and the Port’s Northern Advisory Committee (NAC). Staff shared and discussed with these groups the tentative recommendation for a ‘field test’ at Broadway with two left-turn lanes and one through lane, which is estimated to reduce overall vehicle delay (**Figure 3**).

Representatives from the Chinatown, Barbary Coast, North Beach and Telegraph Hill neighborhood organizations (among others) voiced general support for the Broadway

field test, while other stakeholders remain concerned/skeptical that a one northbound through lane design would ‘work’. Ultimately, a majority of stakeholder participants agree that real-life testing for a limited period of time is a good strategy to inform a final design at Broadway, so long as:

- there is continued emphasis on data and performance evaluation, with a clear understanding of what constitutes success or failure
- the alternative intersection design can be easily and quickly reversible
- the testing is performed outside the summer/fall peak travel season
- stakeholder engagement and consultation will continue beyond the evaluation period

The project team is confident it can meet these expectations and that there is substantial benefit to testing the alternative design as a conclusion to the Central Embarcadero Quick-Build Project.

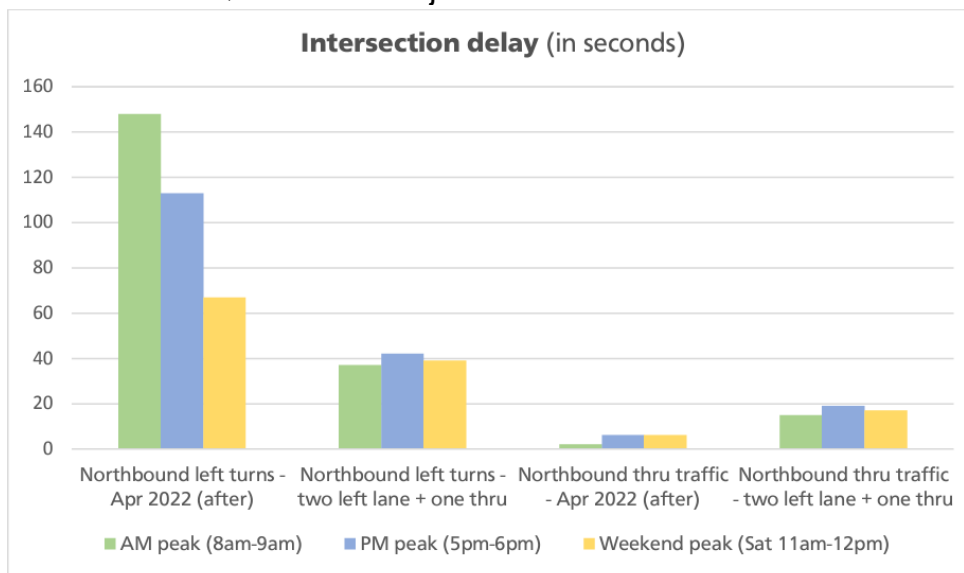


Figure 3: Broadway intersection delay (existing post-project and estimated with field test)

The alternative Broadway approach design with two turn lanes and one northbound through lane could be favorable for several reasons:

1. It is expected to increase the overall throughput of the intersection, allowing for more vehicle turns off the corridor while generally maintaining northbound through capacity. While northbound queues would be longer, there should be sufficient green time, most of the time, for most vehicles to clear the intersection in one cycle.
2. It would improve safety and comfort by better positioning vehicles in relation to the bikeway and by allowing a better exit/entry for the bikeway.
3. It avoids the potential need for costly curb and signal changes to improve upon the current quick-build design.

The Broadway field test is proposed for the first quarter of 2023, with implementation in January/February and evaluation/stakeholder feedback planned for April/May. A

recommendation for the final design at Broadway, along with that for the larger capital project, would be presented to the Port Commission in summer 2023.

OPTIONS FOR REGULATING PROMENADE USERS

At the October 21, 2021 Port Commission meeting, the Commission expressed concern over safety on the Embarcadero Promenade and requested Port staff return with suggestions on how conflicts on the Promenade could be further reduced between pedestrians, cyclists, and people riding scooters and other electric wheeled devices. The SFMTA evaluation described above found that a significant amount of bicycle and scooter riders are moving off the Promenade into the new bikeway, particularly during times of heavier use, and that the majority of people still using wheeled devices on the Promenade tend to ride much more slowly than those in the protected bikeway. These improvements in behavior could be credited to the new bikeway, the Promenade signage, and public messaging. Further compliance will likely occur when other sections of the Embarcadero also receive a protected bikeway, and when SFMTA Powered Scooter Share Program requirements for technology to detect and prohibit sidewalk (and Promenade) riding on individual shared scooters is phased in over time. Should the Commission desire additional actions to further reduce wheeled vehicle use on the Promenade, Port staff has outlined the following policy change options.

City and Port Code Addressing the Promenade

Depending on Project outcomes, the Port Commission could consider other options for regulating uses on the Promenade, including possible Code changes to prohibit bicycles on the Promenade.

Current Regulations. The Port Commission's regulation of the Promenade is primarily codified in the Port Code, which is one element of the San Francisco Municipal Code. Notably, the Promenade is not a City sidewalk, as persons age 13 and above are prohibited from riding a bicycle on such sidewalks. The Port Code identifies Herb Caen Way (Embarcadero Promenade) as a "Park." The Port Code prohibits operation of a vehicles in all Port parks and includes a broad definition of vehicle that covers electric scooters, electric or motorized bicycles, and other motorized conveyances. The definition of vehicle expressly excludes bicycles when under human power, so the Port Code currently prohibits use of the Promenade by motorized vehicles but authorizes use by bicycles, push-scooters, and other wheeled devices when under human power.

In addition to Port regulation, the Promenade is dedicated by the Metropolitan Transportation Commission and Association of Bay Area Governments (MTC-ABAG) as a part of the San Francisco Bay Trail, and subject to Bay Conservation and Development Commission (BCDC) permits that designate it as "Dedicated Public Access".

Enforcement of Motorized Devices. Public complaints about scooters riding on city sidewalks recently led the SFMTA to consider increasing the fine for sidewalk riding from \$150 to \$500 and to require sidewalk detection on scooters that slows the devices to a walking speed. Sidewalk detection technology is currently in development and

could be deployed in the coming year. On October 18, 2022 the Board of Supervisors passed a Resolution urging SFMTA to increase fines for illegal parking of scooters and for riding on city sidewalks and the Promenade to \$500, and to empower Parking Control Officers to issue citations. The Resolution also urged SFMTA to immediately require anti-sidewalk riding technology on all scooters. Through the Port's Memorandum of Understanding with the SFMTA for use of rental scooters, these changes if adopted by the SFMTA Commission would also apply to the Embarcadero Promenade.

On October 25, 2022 SFMTA submitted a letter to the 3 City contracted scooter companies saying they have to create geofencing restrictions that would prohibit users from leaving scooters parked on the Embarcadero's north and east waterfront sidewalks from Piers 14 to 45. Riders will also be restricted from parking e-scooters on sidewalks, side streets and piers on the entire stretch of Jefferson Street from Powell Street to west of Hyde Street. The parking restriction is due to the high numbers of parking complaints submitted via 311, parking citations issued by SFMTA investigators, and improper riding citations issued by SFMTA investigators for observed and documented violations. The three companies, which operate a combined fleet of 5,500 e-scooters in San Francisco, will be required to keep the geofencing restrictions in place for at least the month of November and SFMTA could extend the date. The new restrictions won't apply to private e-scooters.

Revise Existing Regulations. The Port Commission may also revise existing regulations governing use of the Promenade and other Port property. Methods to enact new regulations include amending the Port Code (requiring approval by the Board of Supervisors); instructing the Executive Director to close a park area to bicycles under certain circumstances; or amending the Port Harbor and Traffic Code (which is not codified as part of the San Francisco Municipal Code and does not require approval by the Board of Supervisors). Any new regulations governing the Promenade would require a thorough public outreach process to local, City, and regional users and may require approval of other agencies, including BCDC. Public outreach would be followed by Port Commission consideration of proposed Code changes and depending on which option chosen, could require Board of Supervisors approval.

If directed by the Commission, the public outreach process could explore new regulations such as:

- Prohibiting bicycles and/or other wheeled devices under human power from all or a portion of the Promenade
- Age limits, such as prohibiting persons 13 and over from using wheeled devices, similar to most City sidewalks, and possibly with an exception for allowing adults to accompany persons under 13 years of age
- Limiting speeds

If the Commission chooses to pursue changes to the regulations, staff recommends that public outreach for changing Promenade regulations be extensive and include

neighborhood and civic organizations, Port tenants, agency stakeholders, the public, and Citywide residents.

RECOMMENDATION

SFMTA and Port staff recommend continuing the Quick-Build public outreach and awareness campaign, the project evaluation, and the research for Project modifications that are ongoing, through 2023, and perform a ‘field test’ at Broadway with two left-turn lanes and one through lane which is estimated to reduce overall vehicle delay, during approximately the first quarter of 2023.

Regarding the Promenade, given the increase of motorized scooter and cyclist use of the new protected bikeway adjacent to the roadway and recent actions by the SFMTA to restrict parking and speed on the Embarcadero and Jefferson Street, Port staff recommend continuing to observe and evaluate whether the improvements and actions have adequately resolved conflicts on the Promenade, or whether other changes or regulations should be pursued. Further changes could include constructing other sections of the protected bike lane along the Embarcadero and changes to Port and or City codes. Port staff will provide options for further actions if the Port Commission deems necessary.

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