WHAT IS THE PURPOSE OF TONIGHT?

The purpose of tonight is to...

- **Reintroduce The Embarcadero Enhancement Project**
- **Explain what a 'Complete Street' concept is and how its application to The Embarcadero will make it a safer, more comfortable space for all**
- **Present the two bikeway alignment alternatives, along with the benefits and challenges associated with eac**
- **Collect your feedback on a preferred alignment and overall opportunities to improve The Embarcadero**

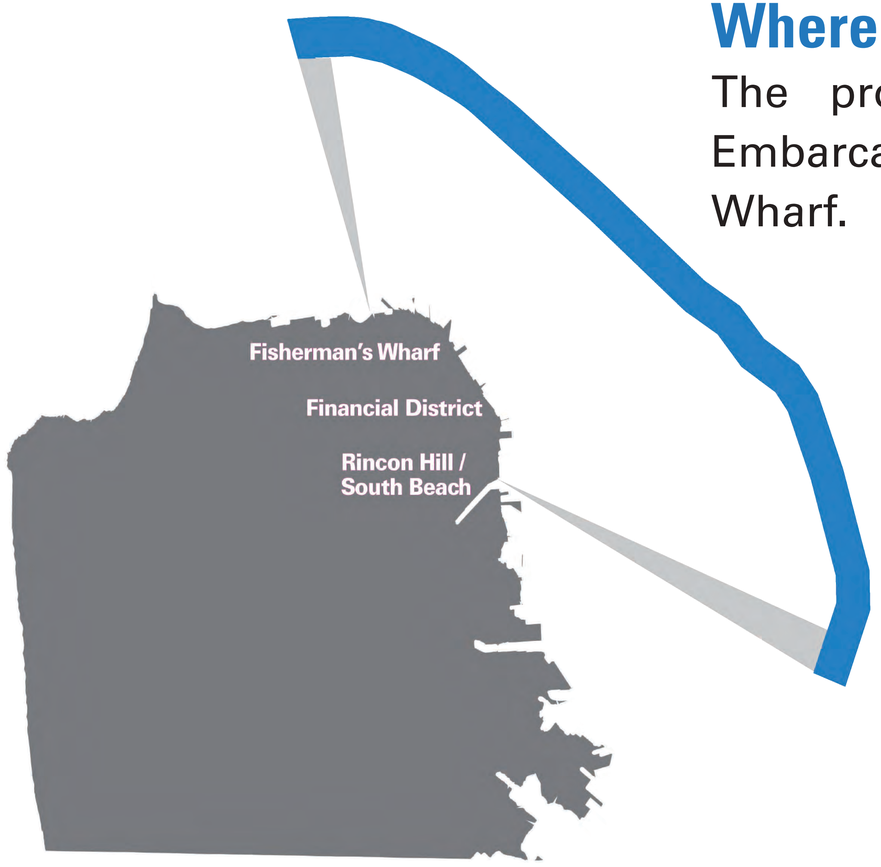
Choosing a bikeway alignment is the next step in developing a larger Complete Street design for The Embarcadero.

A 'Complete Street' is one that is designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.

PROJECT OVERVIEW

What is the Project?

The **Embarcadero Enhancement Project** focuses on increasing safety, comfort and access for all users, and ensuring the corridor continues to serve adjacent businesses. Guided by the concept of 'Complete Streets,' the project will result in a **conceptual design** for an improved Embarcadero that gives each mode of travel its own dedicated space to accommodate growing demands.



Where is the Project?

The project limits include 3 miles of The Embarcadero, from South Beach to Fisherman's Wharf.

Supportive Projects (Partial List)

- Better Market Street
- Ferry Terminal Expansion Project
- Seawall Resiliency Program
- Transbay Terminal / Folsom Street
- SE Waterfront 'Blue Greenway'
- Jefferson Street Public Realm
- E Line Streetcar Service Expansion
- Bay Bridge West Span Pathway Study

OPEN HOUSE
November 2016

-Present bikeway alignment alternatives
- Feedback on preferred alignment & project trade-offs

REFINE COMPLETE STREET CONCEPTS
Winter 2016 / 2017

- Select preferred bikeway alignment
- NE Waterfront circulation study & concept design alternatives

DESIGN WORKSHOPS
Spring - Summer 2017

- Prepare 15% concept designs
- Update impacts analysis
-Gather public feedback on design details

DESIGN APPROVAL
2017 / 2018

-Approval of conceptual design(s) for environmental review

ENVIRONMENTAL REVIEW, DETAILED DESIGN & CONSTRUCTION
To Be Determined (NOT FUNDED)

VISION ZERO

A large portion of The Embarcadero is on San Francisco's High Injury Network, representing the city's 12 percent of streets that account for 70 percent of traffic collisions

Between 2011 and 2016, **192** people were killed or injured on The Embarcadero including:

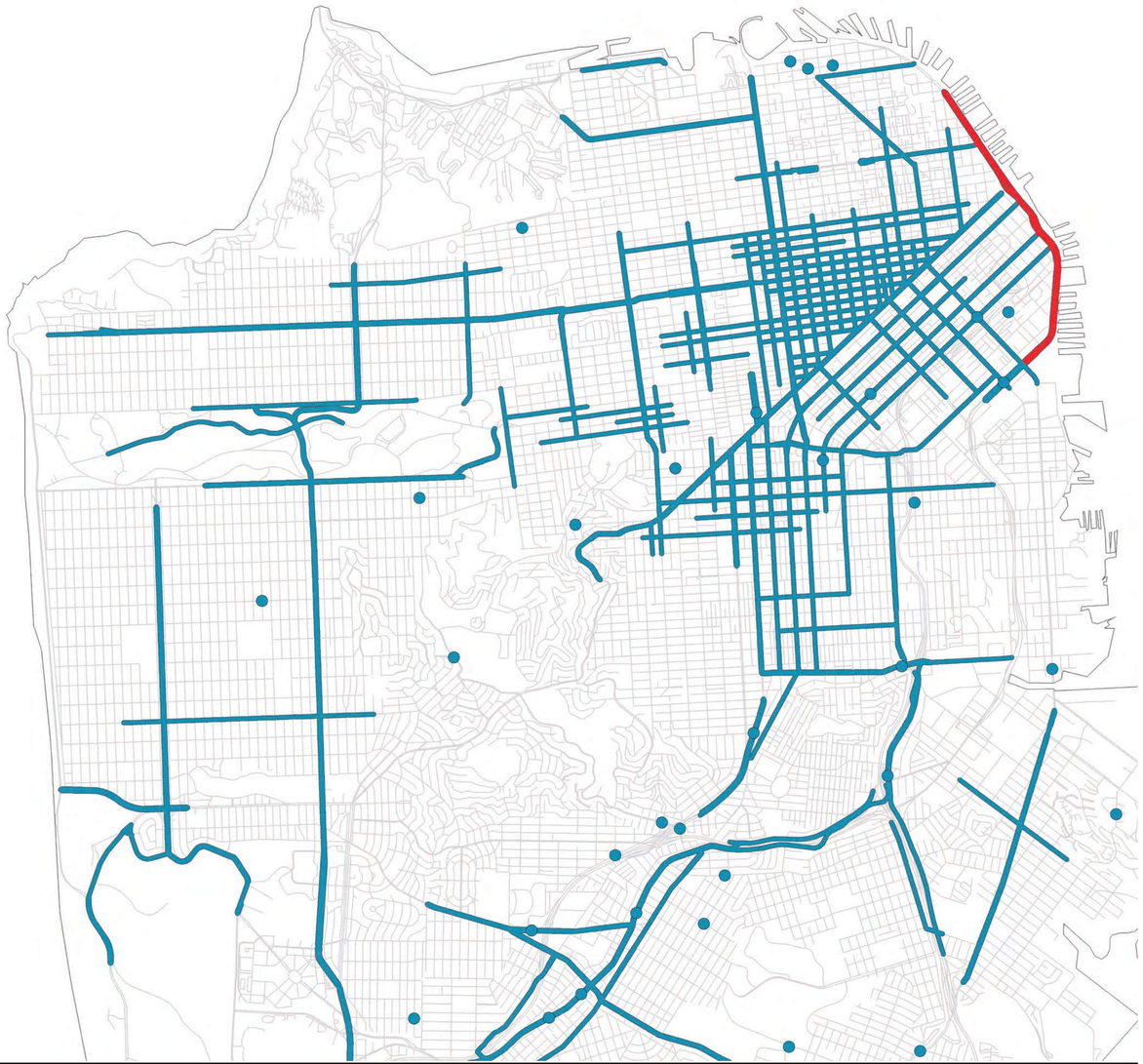
- **1 Pedestrian Fatality**
- **1 Motorist Fatality**
- **6 Pedestrians Severely Injured**
- **10 Bicyclists Severely Injured**
- **3 Motorists Severely Injured**

Every year, 30 people are killed and 200 more are seriously injured in SF traffic crashes.

VISION ZERO SF

Our city's goal, Vision Zero, is to end all traffic deaths by 2024.

High-Injury Network



SFMTA Municipal Transportation Agency

PORT OF SAN FRANCISCO

Embarcadero Enhancement
Open House
November 17, 2016

www.sfmta.com/Embarcadero

TRAFFIC & CIRCULATION CONDITIONS

Issues

- The Embarcadero remains an important arterial corridor for the movement of people and goods, including as a bypass around congestion in the Financial District
- Generally there are two travel lanes in each direction (excluding turn lanes), with a third lane (all-day or peak periods-only) between Broadway and Mission
- Average estimated corridor travel times between North Point and Townsend are 13 to 15 minutes, although congestion is highly variable depending on time of day and other factors (e.g., game days, cruise ship port-of-calls) and access can be restricted during special events

Opportunities / Challenges

- Traffic volumes have remained steady or slightly decreased in the last 15 years despite significa t local and regional housing and employment growth
- Variable lane transitions, double-parking, and bicyclists riding outside the bike lanes lead to additional driver stress, unnecessary congestion, and safety issues
- Most intersections currently allow U-turns in both directions, which promotes localized access at the expense of throughput travel time and capacity
- Improved wayfinding and real-time advisory signs could limit driver confusion and promote event detours

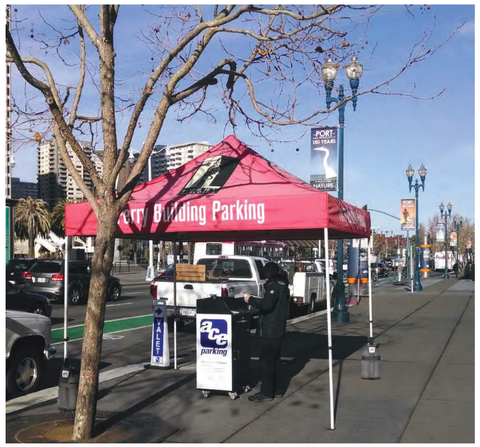
PARKING & CURBSPACE ACCESS

Issues

- Approximately 10% of the traffic volume along The Embarcadero is shuttles, buses, taxis, and delivery trucks
- Demand for curbspace loading is extremely high and varies from commercial distributors to valet parking, taxis and ride hail services, to hop-on/hop-off tour bus operations and public transit buses
- Existing loading zones may not be optimally sized, located, or managed - making it difficult for loading to occur safel in appropriate areas without impacting other roadway users, especially people riding in the bike lanes
- On-street private vehicle parking may not be the best use of space along the water's edge, given other competing needs and presence of nearby off-street garages and lots

Opportunities / Challenges

- Providing a physically-separated bikeway could reduce conflicts between people on bicycles and loading activities, although on-street parking would be impacted
- The Embarcadero Enhancement Project provides a unique opportunity to address loading needs throughout the corridor, particularly as ride hail services such as Uber and Lyft have become more popular
- Improved wayfinding and promotion of existing off-street garages may help mitigate reduced on-street parking



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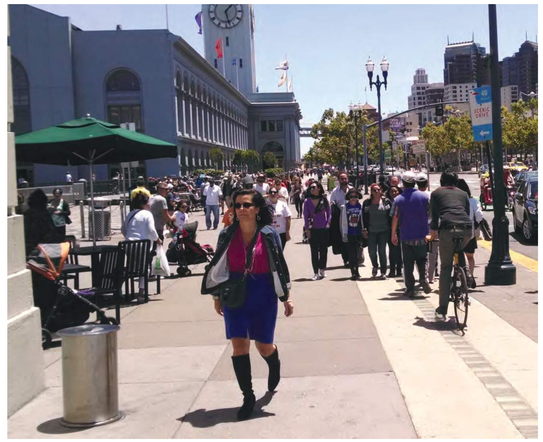
WALKING CONDITIONS

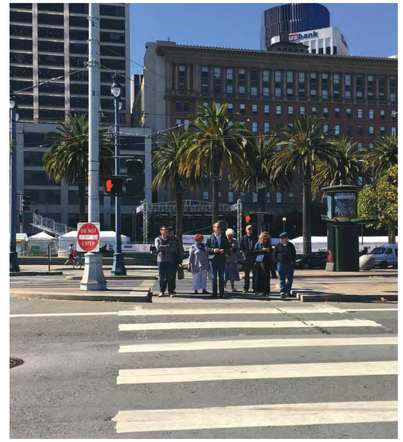
Issues

- The shared use Promenade pathway is oversubscribed with pedestrians competing for space with bicyclists, creating ongoing conflict
- Conflicts along the Promenade can be worsened by the proliferation of signs, artwork, seating, and other street furniture that otherwise contributes to a vibrant waterfront
- The size of The Embarcadero creates wide intersections and long crossings that can be difficult to use comfo tably
- Curb ramps and refuge islands exist along the corridor, but most do not meet current ADA accessibility standards
- The City-side sidewalk is too narrow and/or underutilized

Opportunities / Challenges

- Providing a physically-separated bikeway could reduce the attractiveness of the Promenade for bicyclists, thus reducing overall conflict
- Near-term upgrades to enhance comfort and safety include higher-visibility crosswalks and new pedestrian signal 'head starts' for all City-side side street crossings
- A Complete Streets approach to The Embarcadero would include ADA upgrades, more bulbouts and refuge islands, improved landscaping, better organization of the Promenade, and wider City-side sidewalks where feasible





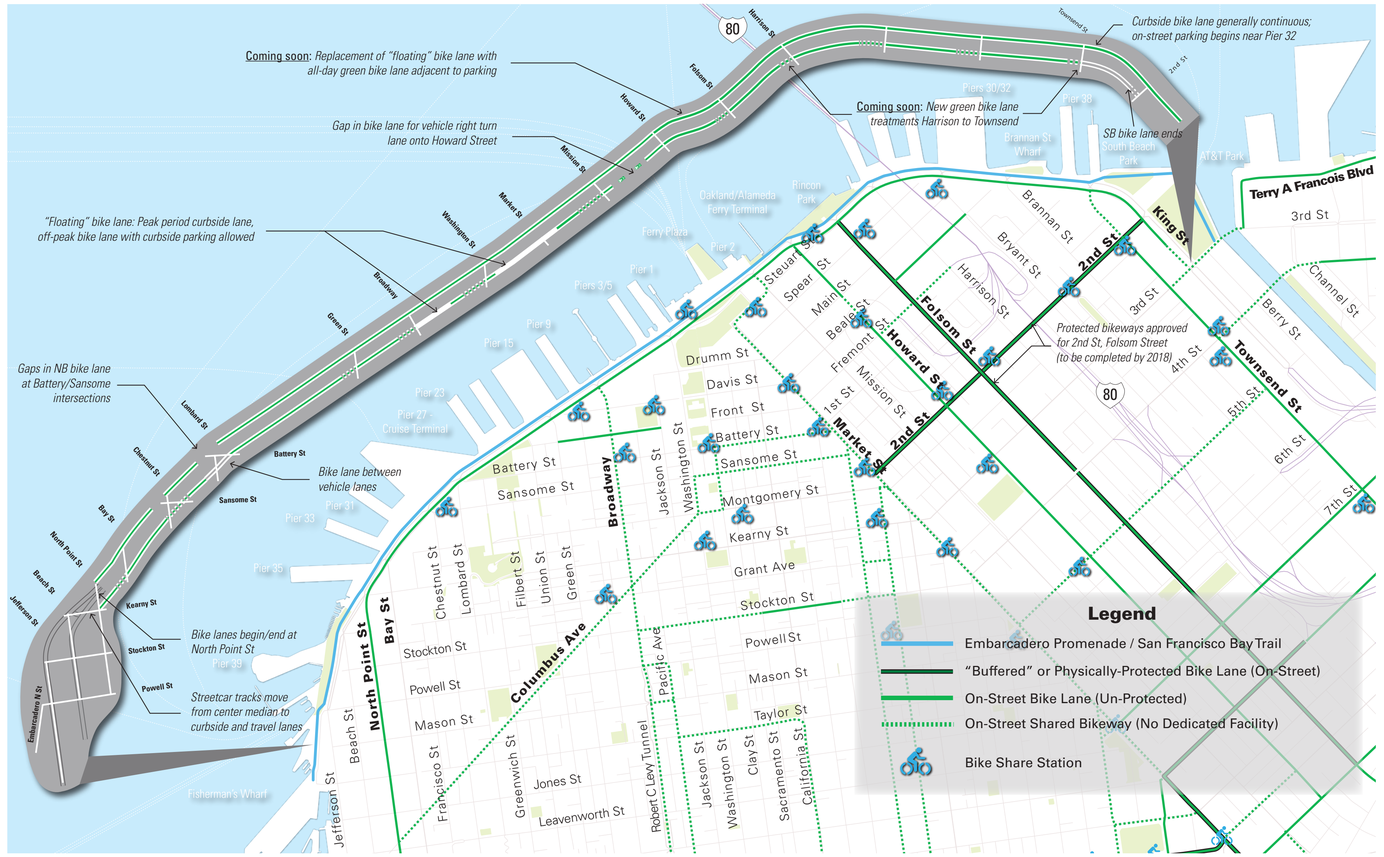
BICYCLING CONDITIONS

Issues

- The Embarcadero is one of the Bay Area's busiest bike corridors, with approx. 2,000 daily bicyclists near Alcatraz Landing at Bay Street (and nearly 1,000 bicyclists just in the afternoon commute period near the Ferry Building)
- Loading vehicles consistently block the bike lane, which along with high truck volumes forces many bicyclists onto the Promenade (increasing conflicts with pedestrians) an discourages others from riding altogether
- The SB bike lane has several gaps - leaving bicyclists more exposed to traffic, including ma y right-turning vehicles
- There are no dedicated bike facilities north of North Point St, and bicyclists tend to use the curbside streetcar lane or ride into Pier 39 where there are heavy pedestrian volumes

Opportunities / Challenges

- The City soon will be enhancing existing bike lanes south of the Ferry Building and is planning for a bike signal at North Point to facilitate safer left-turns. Additional bike safety upgrades are generally not possible, however, without the Embarcadero Enhancement Project
- With an expanding regional bike share program and potential Bay Bridge West Span pathway (among other projects), continued significant growth in bicyclist olumes along the waterfront is expected



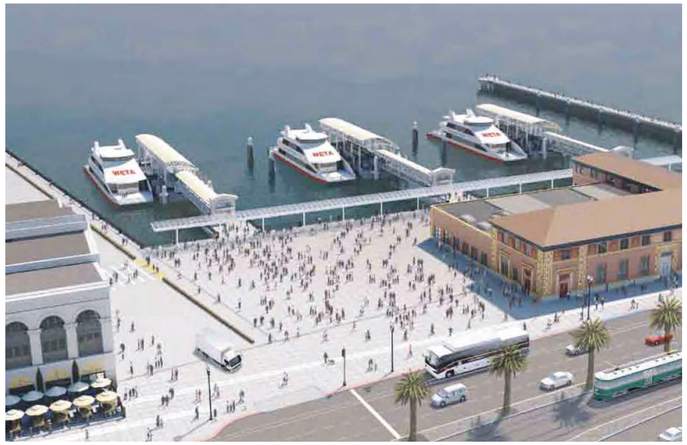
PUBLIC TRANSIT CONDITIONS

Issues

- The E Embarcadero line began service in 2015 and operates along the waterfront every 15 minutes between 10am and 7pm, seven days a week. The historic streetcar line makes the same stops as the N Judah and T Third between Caltrain and Folsom Street, and shares F Market stops from the Ferry Building to Fisherman's Wharf
- The Embarcadero corridor provides dedicated space for Muni streetcars, except for the block between Beach and Kearny where it operates in mixed southbound traffi
- To accommodate an expected tripling of ridership by 2035 (to 32,000 daily riders), the downtown Ferry Terminal is expanding to include two new gates and overwater berthing facilities, as well as supportive passenger facilities

Opportunities / Challenges

- To support faster, more reliable streetcars, Muni is planning to enhance Transit Signal Priority (TSP) throughout the corridor in 2017. Other enhancements, such as potential consolidation of closely-spaced stops, will be explored as part of the Embarcadero Enhancement Project
- Additional ferry passengers will result in higher pedestrian and bicycle volumes near the Ferry Building during peak commute periods



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WHAT WE HAVE HEARD SO FAR

Feedback thus far from residents, businesses and people who use and travel along the Embarcadero - which notably includes the 2014 design workshop series to identify values and trade-offs - is generally summarized by **seven key themes on how to enhance and complete The Embarcadero:**

RETAIN LOADING & UNLOADING FOR BUSINESSES

Virtually all 2014 design workshop participants stressed the importance of retaining access for business-related loading and unloading activities, including delivery trucks, tour buses and valet parking. Resolving how to accommodate loading activities along with a protected bikeway is a key focus and challenge of the Enhancement Project.

MAINTAIN APPROPRIATE VEHICLE CAPACITY

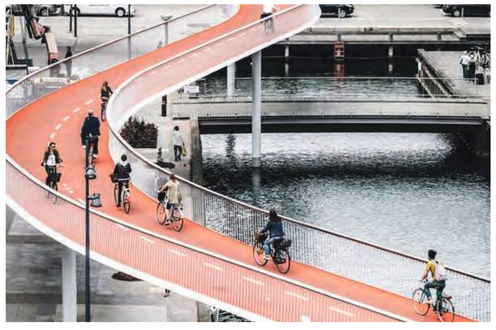
The Embarcadero remains a key arterial corridor for moving people and goods, and is the logical route for accessing the northern waterfront from the Bay Bridge and I-80. While supportive of enhancing safety, a number of stakeholders are concerned about increased traffic congestion and longer travel times that could result from this project.

ON-STREET PARKING VS. SAFER TRAVEL

Given high demand for a limited right-of-way, workshop participants and others have questioned the value of maintaining the current supply of on-street parking for private vehicles. These stakeholders point to the presence of parking lots and garages within a short walk of The Embarcadero, and have not made parking retention as high a priority as providing a protected bikeway or retaining a wide, welcoming Promenade.

SEPARATION OF MODES

In order to reduce conflicts along the Promenade and support a truly 'Complete Street,' the majority of feedback has recognized the need to provide a physically-separated bikeway. Such a facility is seen as critical to accommodating all ages and abilities while also allowing for increased separation between pedestrians and vehicles.



THINK BIG

A variety of commenters have emphasized the once-in-a-lifetime opportunity this project represents, whether it be focused on how the project relates to the sea wall and addresses climate change; provides a great user experience and avoids conflict; or expands people-oriented spaces in front of the Ferry Building and northern waterfront. These comments have generally encouraged the City to think 'big' or 'outside-the-box' when advancing the design.

DESIGN DETAILS MATTER

Barriers, landscaping, differentiated grades and street trees between bicycles and other users were frequently emphasized as key aspects of the street designs proposed during the fall 2014 workshops - as were bikeway and vehicle lane widths. Stakeholders have also frequently underscored the desire for great urban design and to assure that pedestrians feel safe and separated from fast moving bicyclists and skaters.

SUPPORT FLEXIBILITY

The theme of fl xibility and adaptability emerged during the 2014 design workshop series as a response both to the busy calendar of special events and street/lane restrictions along The Embarcadero, as well as the desire to find creative solutions to potential time-of-day conflicts - e. . when there are Farmer's Markets or peaks in user demands.

EMBARCADERO COMPLETE STREETS DESIGN PROCESS

Selecting a preferred bikeway alignment is but one step in the process to develop and consider Complete Street improvements for all roadway users. Below is a diagram that outlines next steps in the design process once a preferred bikeway is identified

Identify Preferred Bikeway Alignment

Next Steps: North Point to Townsend Street

Refine Load Zone Detail

Adjust Bikeway Width and Buffer Assumptions As Necessary

Explore Parking Mitigation Options

Refine Ci culation and Traffic Signal Concept

Consider Alternative Uses to SB Bike Lane (if Two-Way Alignment is Selected)

Consider Potential Streetcar Stop Consolidation(s)

Explore 'Big Move' Concept at Ferry Building

The "Big Move" concept is the idea of shifting all through-traffic way from the Ferry Building to provide a larger, more fl xible plaza space that supports bicycling, pedestrians, special events such as the Farmer's Market, and related loading/unloading activities.

More design analysis is needed to confirm if this concept is feasible prior to formally considering with this project.

Agency Approvals to Proceed / Fund Environmental Review Phase

2017 / 2018

Design Workshops to Present Draft Complete Street Concept(s)

SUMMER 2017

Next Steps: Embarcadero North of North Point Street

Finalize Data Collection for Sub-Area Circulation Study

Prepare Initial Circulation and Urban Design Concepts

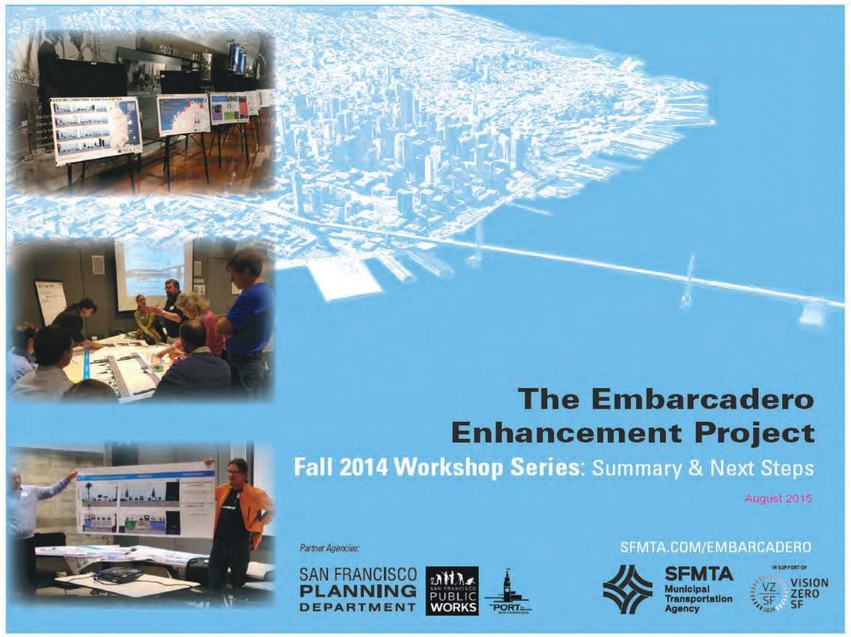
Conduct Stakeholder Meetings / Design Workshop(s)

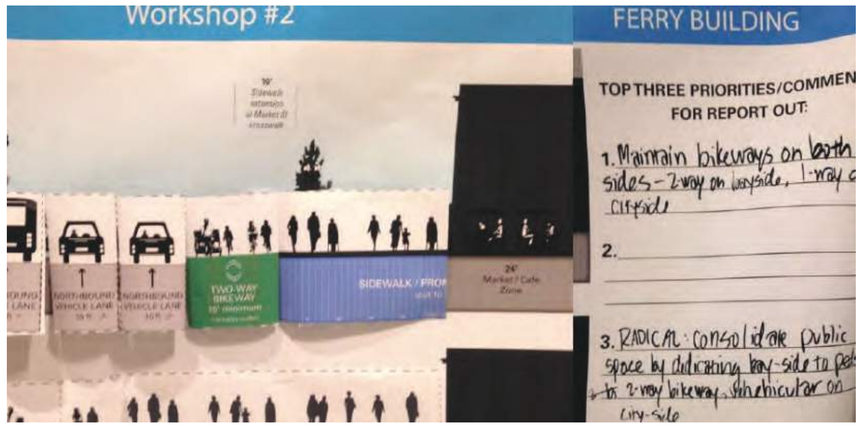
Refine Concepts & Summa ize Findings

SPRING 2017

Ongoing: Coordination with the Port's Seawall Resiliency Program
(sfport.com/great-seawall-resiliency-program)
& Waterfront Land Use Plan Update
(sfport.com/waterfront-plan-update)

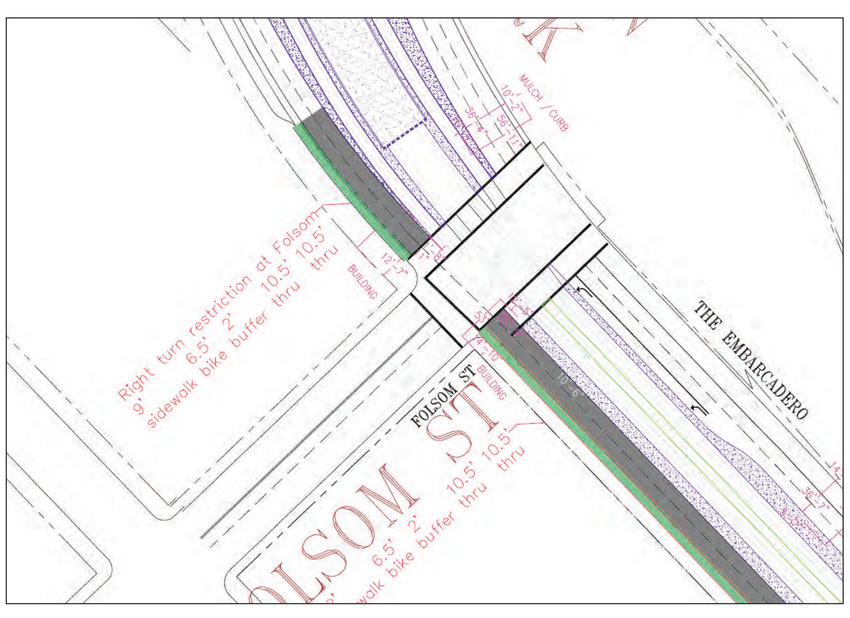
WHAT HAVE WE DONE SO FAR?





Design Workshops (2014)

In the fall of 2014, the Project held a design workshop series to assess public values and transportation priorities along The Embarcadero, focusing on specific 'pinchpoints.' A detailed report summarizing workshop activities and input is available this evening and online.



Draft Alignments (2015)

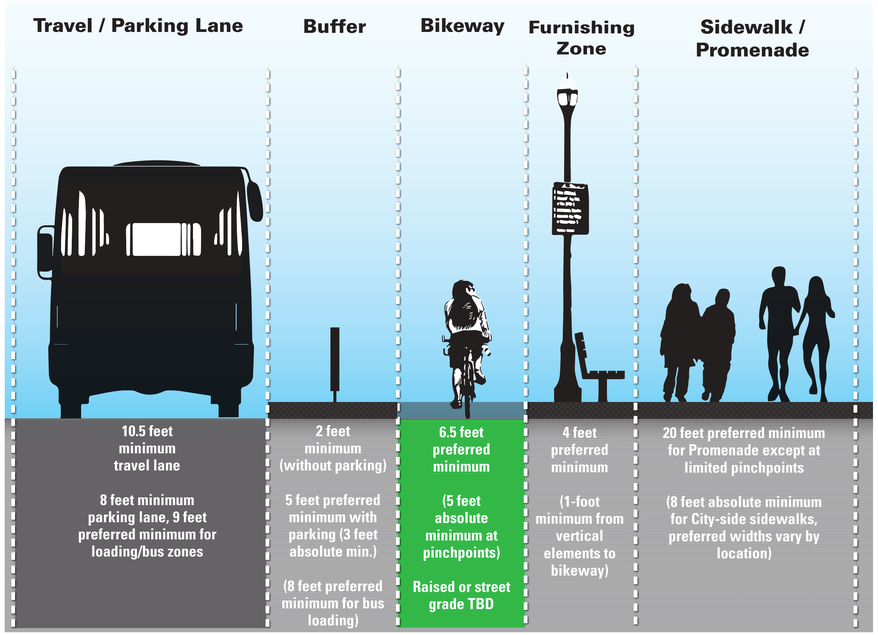
Based on public input, the Project team prepared high-level Complete Street design concepts for The Embarcadero (between North Point and Townsend streets), which include two potential bikeway alignments.

Impact Analysis (2016)

The SFMTA updated traffic data and identified potential impacts of each bikeway alignment on seven project criteria / elements, which are available for review to help identify a preferred alignment alternative.

ALIGNMENT ALTERNATIVE - ONE WAY CURBSIDE

OVERVIEW



A one-way curbside bikeway alignment would upgrade existing bike lanes in both the northbound and southbound directions along The Embarcadero, providing a wider and more physically protected space for people to bike.

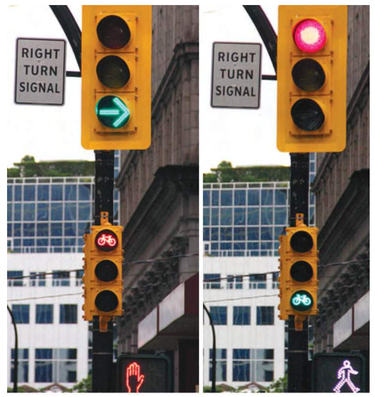
Minimum Requirements

The project team assumed a standard width of 8.5 feet (including traffic buffer) and dedicated bike signal phasing at intersections (for southbound travel only) for assessing potential impacts.

To support adjacent parking or loading, the bikeway would need to be approximately 11.5 feet. For this reason, the northbound one-way alignment is generally assumed to have similar impacts as the two-way waterside alignment.

Dedicated bike signals for southbound travel were assumed as a minimum safety feature due to the volume of right-turning vehicles.

BENEFITS/CHALLENGES



Benefits

- Intuitive; similar to existing bike lane configuratio
- Retains more design fl xibility around constraints (i.e., can revert to standard bike lane or shared lane if necessary, which is more difficult to do with a wo-way bikeway)
- Potentially requires less narrowing of the Promenade for northbound bikeway
- Easier to implement in phases than a two-way bikeway

Challenges:

- Impacts both sides of the Embarcadero, including for construction
- Southbound bike signals to address vehicle right-turn conflicts require additional space for dedicated vehicle turn pockets, and would likely result in significant, un voidable congestion
- Conflicts with desire for wider sidewalks on City-side; actually narrows existing sidewalks to potentially unacceptable widths
- Desire to be on the waterside may encourage southbound bicyclists to continue using Promenade
- Less opportunity for "real" separation from traffic compared to two-way alignment alternative
- Less bike capacity and opportunities for passing compared to the two-way alignment alternative
- One-way alignment does not appear feasible / practical north of North Point Street

SUMMARY OF POTENTIAL IMPACTS

TRAFFIC AND CIRCULATION

Maintains two travel lanes in each direction and NB double-left turns onto Washington, Broadway, and Bay streets. Due to required bike signal phases, substantial SB congestion is forecasted at Battery Street and at most intersections south of the Ferry Building. SB right-turns at Folsom and Harrison streets would be prohibited, and Lombard Street would potentially be closed to traffic at The Embarcadero.

PARKING AND LOADING

Impacts approximately 314-330 parking spaces depending on final design. Mitigation/replacement efforts may reduce the number of parking spaces removed but options are limited. Existing load zones on the water-side would largely be retained, but City-side impacts include Chaya, Delancy Street restaurant loading/valet zones.

PEDESTRIAN FACILITIES

Due to existing narrow sidewalks on the City-side, this alignment potentially results in unacceptable sidewalk widths (9 feet or less) from North Point to Battery, Howard to Harrison, and at Brannan Street. On the water-side, the width of the Promenade generally would be impacted less than the two-way alignment alternative.

TREES/LANDSCAPE DESIGN

Since the one-way alignment would require sidewalk narrowing in many places, it would impact a significant number of street trees (approx. 62) and light poles (approx. 44) with limited options for replacement.

TRANSIT/BUS OPERATIONS

Generally impacts transit operations more than the two-way alignment (particularly Golden Gate bus routes and Muni buses leaving the Kirkland Division Yard) due to the significant increase in SB congestion from dedicated bike signals.

BIKEWAY QUALITY

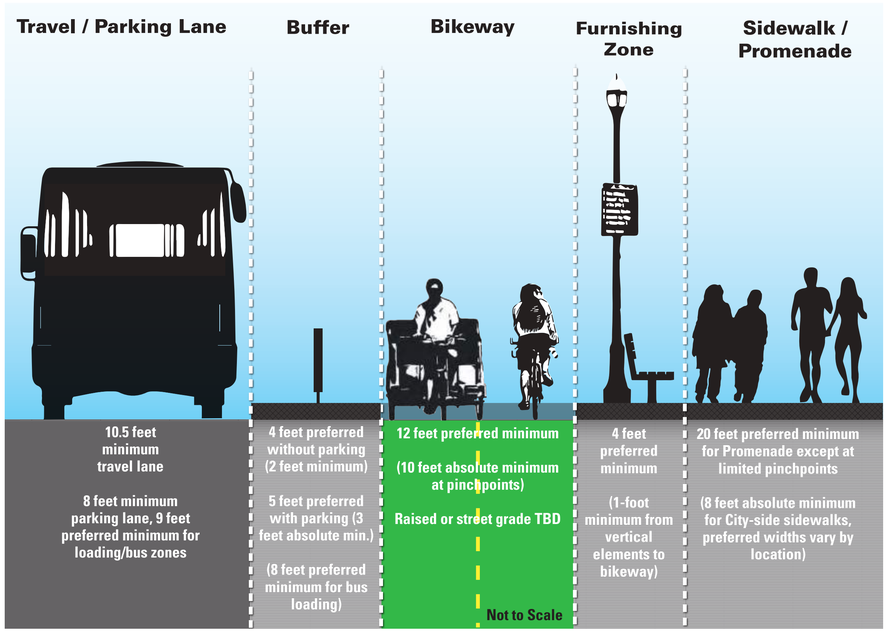
Widens the existing SB bike lanes and improves intersection safety at most locations with new dedicated bike signals or vehicle right-turn bans. Wider and physically-protected NB bike lanes are achievable, but opportunities for substantial separation from SB traffic are more limited.

COST

While specific cost estimates are not yet available, the one-way alignment is generally expected to be double the cost of the two-way alignment due to having a much larger footprint.

ALIGNMENT ALTERNATIVE - TWO WAY WATERSIDE

OVERVIEW



This alignment proposes a two-way (bi-directional) bikeway adjacent to the Promenade (northbound or "waterside") of The Embarcadero.

Minimum Requirements

The project team assumed a standard width of 16 feet (including traffic buffer) for a two-way protected bikeway in order to assess potential impacts. Actual widths of the bikeway and buffer would vary, but this width generally allows for adjacent parking or loading with an accessible buffer zone, or a wider bikeway (and narrower buffer) where parking/loading is not adjacent.

While traffic signals would be upgraded as part of the two-way bikeway alignment, dedicated bike phases were not assumed since the Promenade is uninterrupted by major intersections or signals. In most cases bikes would use the same signal phases as northbound traffic, and in some locations the buffer could become a pedestrian waiting zone where bikes yield to pedestrians at crosswalks.

BENEFITS/CHALLENGES

Benefits

- Minimizes potential vehicular conflicts - fewer cross streets and more opportunities for physical separation than one-way alignment
- Higher bicycle capacity, easier passing (of pedicabs, for example), and more potential for social bike riding than one-way alternative
- Puts people on bikes closer to destinations, which should help result in higher compliance
- Generally limits traffic impacts / trade-offs to one side of The Embarcadero
- Focuses investment in most heavily-used pedestrian areas
- Allows for redundant southbound bike lane or repurposing into wider sidewalks

Challenges:

- Higher complexity of design for transitions and intersections compared to the one-way alignment
- Less potential for phased implementation than one-way alternative
- Requires narrowing of existing Promenade in most locations and reduction in northbound vehicle capacity
- More interaction with loading/unloading activities than on City-side

SUMMARY OF POTENTIAL IMPACTS

TRAFFIC AND CIRCULATION

Maintains two travel lanes in each direction and NB double-left turns onto Washington, Broadway, and Bay streets. Prohibits NB left-turns at Folsom and potentially Chestnut streets, and repurposes a third NB travel lane between Howard and Pier 5 (approx. 4 blocks). A modest increase in NB congestion during peak periods is anticipated (about 2 to 4 minutes in additional delay), although SB congestion could decrease by 1 to 2 minutes due to signal timing efficiencies.

PARKING AND LOADING

Impacts approximately 89 parking spaces, with up to 132 spaces potentially removed depending on alignment options. Mitigation/replacement would be explored to potentially reduce the number of parking spaces removed. Existing loading zones on the water-side would largely be retained and/or enhanced, although some spaces would need to be shifted.

PEDESTRIAN FACILITIES

Varied impacts to the width of the Promenade. For most blocks it would require 0-4 feet for the bikeway, at some locations up to 14 feet would be required, and in a few locations the Promenade could be widened slightly. With few exceptions, a minimum Promenade width of 20 feet is expected to be retained, while 'de-cluttering' the Promenade and improving marginal wharf areas could result in more usable, people-oriented space.

TREES/LANDSCAPE DESIGN

Requires removal of 6 palm trees where center medians would be narrowed/removed. Otherwise, this alignment provides opportunities for landscaping and urban design enhancements pending additional design.

TRANSIT/BUS OPERATIONS

Minimal impacts to NB bus operations, but overall is less disruptive than the one-way alignment. Streetcar impacts from a potential 'big move' at the Ferry Building and possible stop consolidation require further study.

BIKEWAY QUALITY

This alignment meets or exceeds the preferred minimum width in the vast majority of the corridor, provides good opportunities for traffic separation, avoids more signalized intersections than the one-way alignment, and is directly adjacent to waterfront destinations. If desirable, portions of the SB bike lane could also be maintained to provide an alternative facility.

COST

While specific cost estimates are not yet available, this alignment is expected to be roughly half the cost of the one-way alternative.