The Embarcadero Enhancement Project

SPUR Forum
February 19, 2020
Who Is The Port?

- Trustee for Public Trust Lands
- Self-supporting enterprise agency

Public Trust Mission

- Promote maritime commerce, navigation and fisheries
- Protect natural resources
- Provide facilities that attract the public to use the waterfront
Embarcadero
Enhancement Project
Walk SF & Design for
Accessibility

@walksf
walksf.org
Who is Walk SF?
The Embarcadero - Our Waterfront Gem
Focus on safe bike infrastructure
Getting to the Curb

A Guide to Building Protected Bike Lanes That Work for Pedestrians
Getting to the Curb

Senior & Disability Working Group of the Vision Zero Coalition
Nine Principles

1. Institutionalize Inclusive Engagement and Co-Design
2. Design a Wide Buffer Area, At Least Five Feet
3. Ensure the Buffer Area Is Obstacle-Free
4. Build Raised Pedestrian Crossings Across the Bike Lane
5. Install Robust Speed Management Features at Bike Lane Crossings
6. Make Crossings High-Visibility
7. Ensure There Are Access Points to/from the Curb At Least Every 100 Feet
8. Ensure That Quick-Build Projects Include Sidewalk Curb Ramps
9. Include Accessible Loading Islands When No Paratransit Access or Parking
Separated bikeways today
Challenges crossing bikeway
Solutions
Buffer design challenges
Solutions
Importance of Inclusionary Planning & Community Engagement
THANK YOU!

Stay connected
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walksf.org
Embarcadero Enhancement Project
City Growth & Congestion

One recent study estimates 80%+ of increased delay on The Embarcadero is related to Uber & Lyft
The Experience Today
The Experience Today
The Experience Today
Most of The Embarcadero is on San Francisco’s High Injury Network, representing the city’s 13 percent of streets that account for 75 percent of severe and fatal traffic collisions.

Between 2014 and 2019, **242 people** were injured by traffic on The Embarcadero including two fatalities.

The vast majority of collisions occur at intersections. Nearly 40% of all victims (92) were people on a bicycle, despite being approx. 5% of all traffic.*

The drive behind Vision Zero is that these deaths and injuries are preventable and unacceptable.

*Remaining victims include 26 pedestrians, 122 drivers/passengers (including one fatality at Bryant Street), and 2 “other”
Embarcadero Transportation Goals

• Safety
• Access
• Mobility
• Prosperity
• Civic Design
• Resiliency
2014 Open House / Design Workshops (x3)

What We Heard

- Accommodate Loading/Unloading
- Wide and Welcoming Bikeway
- Think ‘Big’
- Adapt to Best Uses of Curb (Right-of-Way)
- Details Matter
- Provide Flexibility
- Accommodate Larger Vehicles / Lane Widths
- Fisherman’s Wharf/Pier 39 Area Needs Separate Planning

Detailed Summary Report available at sfmta.com/embarcadero
2016 Open House

Assessing Trade-Offs of Bikeway

- One-Way vs. Two-Way Protected
- Preliminary Parking & Traffic Analysis
- 17,000+ mailers / 300+ attendees
- Public Survey (531 responses)
Public Outreach / Engagement

Project Briefings

• Port Commission (2014, 2018)
• Northeast Waterfront Advisory Group (NEWAG)
• Central Waterfront Advisory Group (CWAG)
• Maritime Commerce Advisory Committee (MCAC)
• Ballpark Mission Bay Transportation Committee
• San Francisco Hotel Council
• SF Travel, SF Tour Guide Guild
• South Beach/Rincon/Mission Bay Neighborhood Assoc.
• Barbary Coast Neighborhood Association
• District 3 SFMTA Working Group
• Fisherman’s Wharf Community Benefits District
• Fisherman’s Wharf Restaurant Association
• Fisherman’s Wharf Merchants Association
• MTC Bay Trail Steering Committee
• Individual stakeholders incl. Ferry Building, Exploratorium, Pier 39, and many others...

Changes are coming to the Embarcadero, San Francisco’s waterfront

Media

Vendor Ride-Alongs
2018 Design Showcase Survey

What are you most interested to see studied or refined in greater detail?

- Bike-Pedestrian Interactions
- Transit Speed and Reliability/Streetcar Station Spacing
- Business/Passenger Loading Zones
- Impact on Traffic Congestion and Travel Time
- Construction Impacts
- Cost
VISION FOR A BETTER EMBARCADERO

Enhanced promenade & urban design
Comprehensive & coordinated wayfinding
Safer, more efficient loading & curb access
Simplified intersections with fewer conflicts, smarter signals
Faster, more reliable transit
Two-way, ‘water-side’ protected bikeway
Shorter pedestrian crossings
ADA accessibility upgrades

Embarcadero Enhancement Design Showcase - October 25, 2018

www.sfmta.com/embarcadero
Design Strategies

START HERE

16 ft Preferred Width
Absorb existing 5-ft bike lane

Need 11 ft

TIER 1 STRATEGIES
Remove General Metered Parking
8 feet
Narrow Promenade
width varies
Narrow Center Median
width varies
Remove 3rd Northbound Travel Lane
11 feet

TIER 2 STRATEGIES
Utilize ‘Marginal Wharf’ Areas
~8 feet
Remove Northbound Left-Turn Lane
~11 feet
Consider Streetcar Stop Removal / Relocation
width varies

TIER 3 STRATEGIES
Consider ‘Flex Zone’ & Time Restrictions for Loading Access
width varies
Consider ‘Mixing Zone’ for Shared Pedestrian/Bicycle Access
width varies

Embarcadero Enhancement Project – SPUR Forum
Embarcadero Enhancement Project

Project Approvals / Environmental Determination (PAED) Phase

- $875,000 for preliminary engineering, traffic analysis, and public outreach

- CEQA review including historic resources evaluation & updated project description

- Ongoing coordination with Port Resiliency Program, RFP’s for pier redevelopment

- $12m-$15m assumed for initial project segment (tentatively the ‘southern segment’)

- Consultant assistance includes 3D animation(s) of two-way bikeway for public engagement
SFMTA Quick-Build Initiative

Breed calls for 20 miles of new protected bike lanes in SF in two years

City speeds up approval process for new bike lanes, road safety improvements

Vision Zero Desperately Needs Help

San Francisco’s goal to eliminate traffic fatalities by 2024 seems farther away than ever. What will it take to get back on track?

By Joa Mojado • 08/20/2019 5:39 pm • Updated 08/22/2019 12:08 pm

By SF Weekly’s count, 23 people have died in traffic fatalities on city streets this year. (Art by Sophia Valdes)
SFMTA Quick-Build Initiative
Folsom to Mission Quick-Build Proposal
Folsom to Mission Quick-Build Proposal

Protected Bikeway:
Short segment of two-way, water-side bikeway helps connect Ferry Terminal users with rapidly expanding SOMA protected bicycle network; also allows preview/testing of new bikeway concept, including bike signals

Safer Pedestrian Crossings:
Right-turn on red restrictions, ‘painted safety zones,’ one block of vehicle lane reduction to calm busy intersections; calmer promenade with reduced bicycle/scooter traffic

Spot Pavement Repair:
Smother, safer rides for everyone
Folsom to Mission Quick-Build Proposal

- Two-way bikeway starts/ends at newly expanded Ferry Terminal
- Physically protected two-way bikeway (removes travel lane)
- New bicycle signals, connection to Howard Street
- Physically protected two-way bikeway (removes 25 parking spaces)
- Southbound bikeway STOP control, connections to/from Folsom Street protected bike lanes (under construction)
- Updated striping, “No Right Turn On Red” restriction to enhance bike connectivity, reduce pedestrian/vehicle conflicts
- Roadway paving, bike lane striping upgrades this block
- Connection to approved Howard Street (3rd to Embarcadero) Quick-Build Project improvements
- No Right Turn On Red restrictions for southbound Embarcadero at Howard, Folsom streets

Embarcadero Enhancement Project – SPUR Forum
Design Direction - Circulation

Embarcadero Enhancement Project (all else, including NB 3rd lane removal)

Recently completed with Sansome-Battery Connections Project

Howard/Embarcadero Quick-Build Project (Proposed)

Planning Phase Assumptions

- Maintain two vehicle through lanes (except at NB approach to Bay Street)
- Seek to remove double-turn lanes if feasible (except at Bay Street)
- Simplify select intersections for safety, bikeway design, and/or for efficiency/transit travel time
Design Direction - Bikeway

**Mission to Broadway:**
- Road diet (removal of third NB travel lane) allows potential quick-build opportunity, although approach to Broadway is a major pinchpoint
- SFMTA preparing traffic analysis, trade-offs matrix between quick-build and larger capital project for public feedback
- Potential Washington and Clay left-turn lane changes, city-side pedestrian improvements not essential to bikeway but remain under study

**Sansome to North Point:**
- 3rd NB travel lane removal opportunities, Sansome to Bay; approach to Bay Street would leave one through travel lane, double-left turn lanes onto Bay Street
- Pier 35 (Bay to North Point): 2020 quick-build could be converted to two-way bikeway

**Folsom to Harrison block:**
- 2020 quick-build to protect existing northbound (NB) bikeway
- Two-way bikeway requires narrowing center median, restricting northbound left-turns (onto Folsom)

**Harrison to Townsend:**
- Prioritized segment for initial capital phase
- Seeking 35% design by end of 2020

**Folsom to Mission Quick Build Proposal (2020):**

**Broadway to Sansome:**
- Most constrained portion of the corridor, no third travel lane and heavy demand for loading
- SFMTA preparing traffic analysis, trade-offs matrix between quick-build and larger capital project for public feedback

**Legend**
- Potential Quick-Build Bikeway Segments
- Limited Quick-Build Opportunities
- Part of FW-Pier 39 Circulation Study
Design Direction - Loading
Project Timelines (subject to change)

Mission to Folsom, Pier 35 Quick Builds

Embarcadero

2020

Preliminary Engineering / Environmental Review / Outreach

Potential Quick-Build Phase(s)*

Detailed Design*

Initial Capital Construction*

FW/Pier 39

Circulation Study / Stakeholder Outreach

Design and Approvals TBD* pending study

* Pending identification of funding
Design Considerations

Intersection Treatments

Curbside Zones

Turning Templates + Design Vehicles
Design Guidance
Cross Section Elements

Motor Vehicle Travel Lanes
The space in which motorists operate vehicles, including autos, trucks and buses.

Separated Bikeway
The space in which the bicyclist operates. It is located between the street buffer and the sidewalk buffer.

Street Buffer
The Street Buffer separates the bikeway from motor vehicle traffic.

Pedestrian Through Zone
Primary accessible pedestrian pathway paralleling the street and bikeway. The through zone ensures pedestrians have a safe and comfortable place to walk.

Amenity Zone/Sidewalk Buffer
The sidewalk buffer and amenity zone separates the bikeway from the pedestrian through zone and includes street furniture and amenities such as benches, lighting, refuse containers, bicycle parking, public art, and wayfinding signs.

Sidewalk/Promenade
The Embarcadero Promenade is the major continuous waterfront walkway and multiuse pathway along the Port of San Francisco’s northern waterfront.
Intersection Treatments

Protected Intersection

Bikeway Bend Out

Raised Bikeway Crossing
“Protected Intersection” Features

1. **Buffer + Corner Island**
   Provides space for the bicycle left turn queuing area and pedestrian refuge. The buffer is a corner island when motor vehicles cross the bikeway.

2. **Signage + Markings**
   Crosswalk and crossbike markings identify conflict areas and guide users through the intersection.

3. **Pedestrian Island**
   Islands reduce crossing distances and improve visibility by keeping the intersection clear. Wider islands support large pedestrian volumes.

4. **Bicycle Queue Area**
   Bicyclists can wait ahead of the crosswalk for a green signal and accommodates the natural position of bicyclists turning onto connecting bikeways.
**Driveway “Bend-Out” Features**

1. **Bend-Out Configuration**
   Provides opportunity for an ample pedestrian refuge and motorist yielding area between the through street and intersecting street.

2. **Signage + Markings**
   Motor vehicle and bicycle-oriented signage and markings identify right-of-way and warn users of conflict areas.

3. **Raised Crossing**
   The bikeway and pedestrian crossing area may be raised above street grade to slow and alert motorists to crossing pedestrians and bicyclists.
“Raised Crossing” Features

1. **Raised Roadway Crossing**
   - Alerts motorists to crossing bicyclists and pedestrians. 8% max. grade requires about **seven feet** of bikeway street buffer space.

2. **Signage + Markings**
   - Motor vehicle and bicycle-oriented signage and markings **identify right-of-way** and **warn** users of conflict areas.

3. **Bikeway Buffer Width**
   - The bikeway buffer width must increase at the crossing to accommodate the roadway ramp width.

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2nd Ave. + Bell St. Seattle, WA
Design Vehicle Considerations

- Passenger Car (P)
  - Length: 19.00
  - Width: 7.00

- Single Unit Truck (SU)
  - Length: 30.00
  - Width: 8.00

- 40-foot City Bus (CITY-BUS)
  - Length: 40.00
  - Width: 8.50

- Semitrailer (WB-40)
  - Length: 30.00
  - Width: 8.00

- Surface Transportation Assistance Act Semitrailer (STAA-STD-50)
  - Length: 41.00
  - Width: 8.50

- California Legal Semitrailer (CA LEGAL-50)
  - Length: 45.00
  - Width: 8.50

- Fire Truck (Example)
  - Length: 30.00
  - Width: 8.00
Recent Inspiration

Better Market Street
Sample Projects

Seattle, WA
Sample Projects

Lake Merritt, Oakland
Context-Sensitive Design
Curb Management

**Movement**
Curb lane is used for the through-movement of motorized and non-motorized means of transportation, such that the curb lane is unavailable for other functions.

**Access for People**
Active space that prioritizes transit boardings, and accommodates pick-ups/drop-offs, and shared-mobility services.

**Public Space and Services**
Curb designated for use by people and public services.

**Access for Goods**
Space for deliveries of different types and sizes, used for short periods of time.

**Storage for Vehicles**
Space intended to be occupied by vehicles for extended periods, such that no other users can access the space.
Data Dashboard

Promenade Activity by Intersection Along Embarcadero

- Promenade Peds NB
- Promenade Peds SB
- Promenade Bikes NB
- Promenade Bikes SB
- Promenade Scooters NB
- Promenade Scooters SB
- NB Bike Lane Bike + Scooter
- SB Bike Lane Bike + Scooter
Data Dashboard
Data Dashboard

Promenade Activity Breakdown at Mission St
Webmap Collaboration
Webmap Collaboration
Thank You!

Questions?

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