

Central Embarcadero Quick-Build: Evaluation & Potential Next Steps



September 21, 2022

Northern Advisory Committee (NAC)



SFMTA



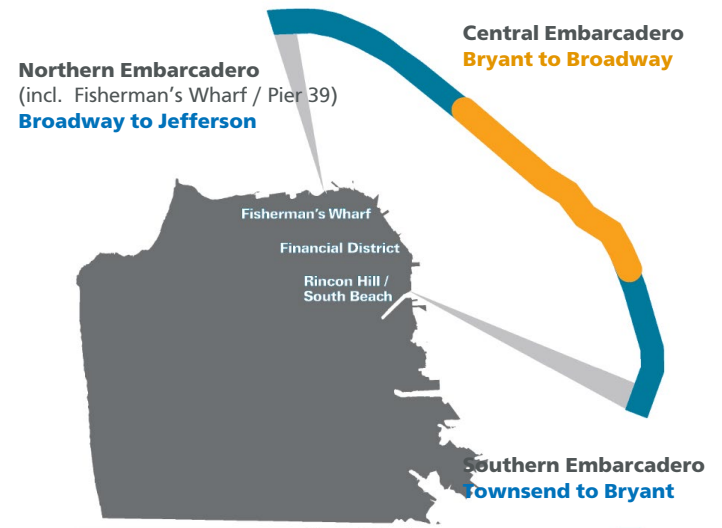
Agenda

1. Status update - Embarcadero Enhancement Program

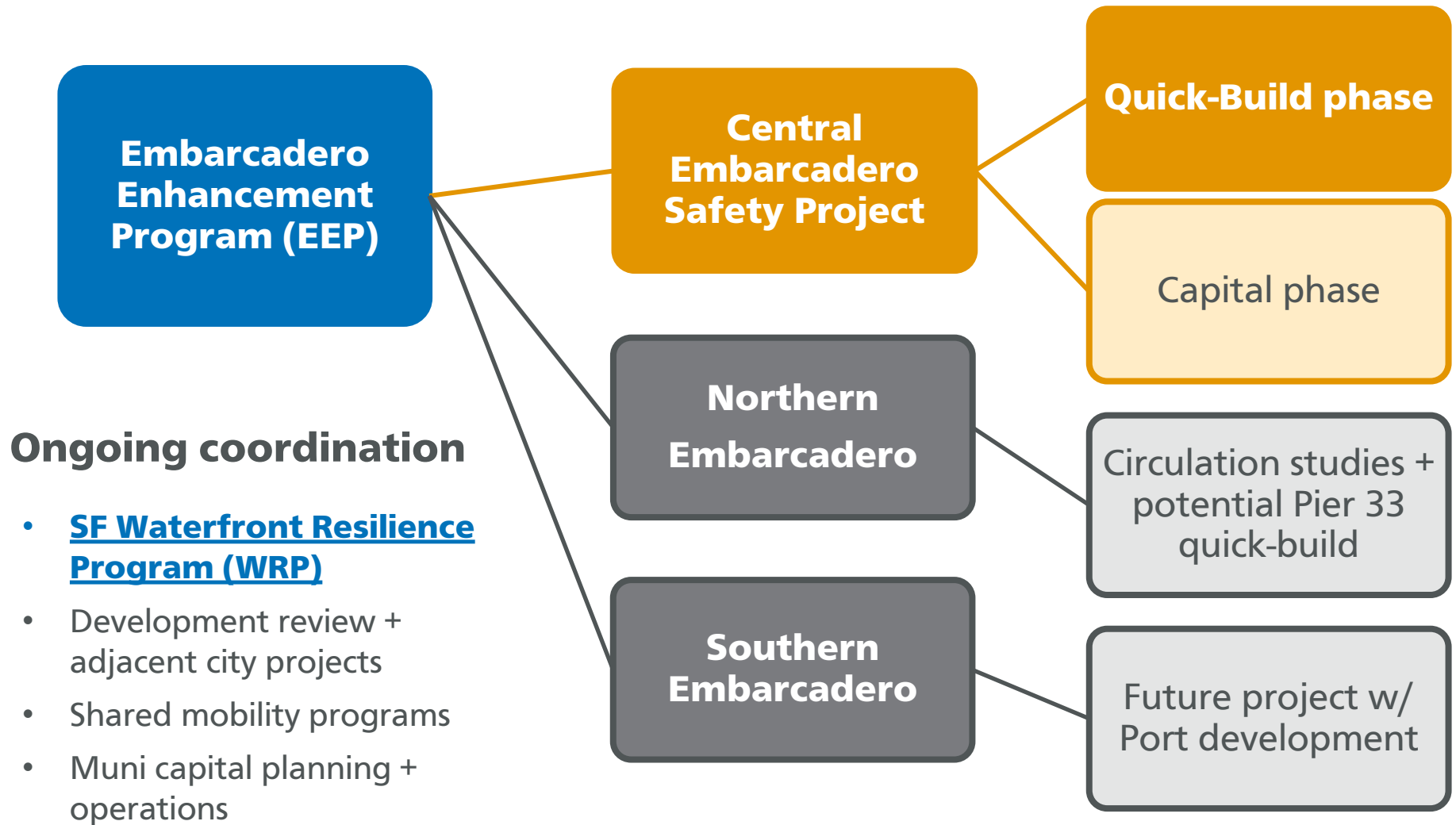
2. Evaluation summary - Central Embarcadero Quick-Build

3. Review & discuss:

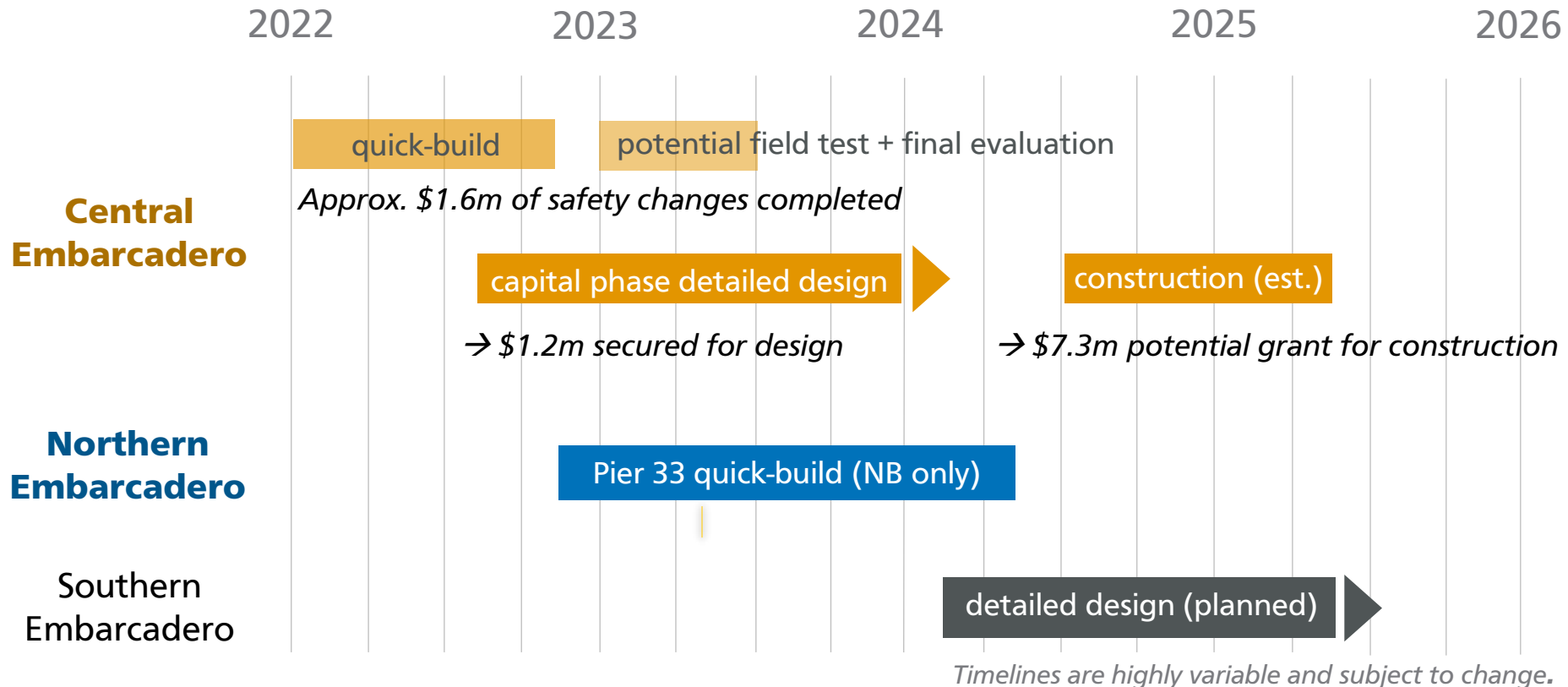
- Takeaways for potential changes, including additional field-testing & promenade regulation
- Fall 2022 Port Commission update
- Early preview/input for Central Embarcadero capital phase



Embarcadero Enhancement Program



EEP capital programming



The EEP includes over \$10 million programmed in near-term Complete Street safety investments for Central Embarcadero

Central Embarcadero Safety Project



Messaging & project promotion



[youtube.com/watch?v=PJb0AJTm2GY](https://www.youtube.com/watch?v=PJb0AJTm2GY)

Central Embarcadero Quick-Build Project



Project additions since February 2022

- **Curb ramps** to improve accessibility at floating load zones
- **More flexible posts** to dissuade people from driving/loading in the bikeway and crosswalks
- **Fully green-colored bikeway along the Ferry Building frontage** to better delineate space in this high-activity area
- **Promenade-safety signs** to promote pedestrian priority and encourage people into the bikeway

Upcoming changes...

- **Bike/scooter parking hubs** to consolidate and expand racks
- **Signal timing** review/update in 2023 along full corridor

Evaluation framework



Effective design

- Are bike and scooter riders moving off the promenade into the bikeway?
- Are bike and scooter riders stopping at bicycle traffic signals?
- How are the 'floating' loading zones being used?

Safe behavior

- Are bike and scooter riders yielding at crosswalks?
- Are people driving yielding at 'conflict zones' (e.g., driveways)?

Ease of navigation

- Are loading/parked vehicles blocking x-walks, bikeway, travel lanes?
- What effects does the bikeway have on Ferry Building operations?

Mobility

- Has vehicle travel time changed?
- How is the performance of the Broadway intersection?

Perception of safety

- Do people feel safer / more comfortable with the changes?

Evaluation summary

1. Are bike, scooter, and skateboard riders moving off the promenade into the bikeway?



Implementation of the two-way bikeway successfully helped attract wheeled users off the promenade and into the new facility – especially on weekdays and since the promenade-safety signs were installed.

		AM peak (8am-9am)		PM peak (5pm-6pm)		Weekend peak (Sat 11:15am-12:15pm)	
		Promenade	Bikeway	Promenade	Bikeway	Promenade	Bikeway
Oct 2021 (before)	Bikes	43%	57%	39%	61%	22%	78%
	Scooters	69%	31%	58%	42%	28%	72%
	Combined	47%	53%	43%	57%	23%	77%
Apr 2022 (after)	Bikes	35%	65%	22%	78%	22%	78%
	Scooters	37%	63%	37%	63%	16%	84%
	Combined	35%	65%	25%	75%	21%	79%
Aug 2022 (after)	Bikes	13%	87%	20%	80%	4%	96%
	Scooters	19%	81%	27%	73%	15%	85%
	Combined	14%	86%	22%	78%	6%	94%

Evaluation summary

2. Are faster bike, electric bike, scooter, and skateboard riders in the bikeway?



The minority of people who continue to ride on the promenade tend to ride much more slowly than those in the protected bikeway.

3. Are bike/scooter riders yielding at mid-block crosswalks?



Two-out-of-three bike/scooter riders yield or give space to pedestrians, but the other third continue at speed.

4. Are bike/scooter riders stopping at bike traffic signals?



People on bikes/scooters generally stop at bike signals, but behavior varies, with crosswalks near the Ferry Building seeing less compliance.

Evaluation Summary



Evaluation summary

5. Are people driving yielding at driveway 'conflict zones'?



Driver yield compliance at conflict zones is relatively low, however few "close calls" were observed.

6. Are the new 'floating' zones working well?



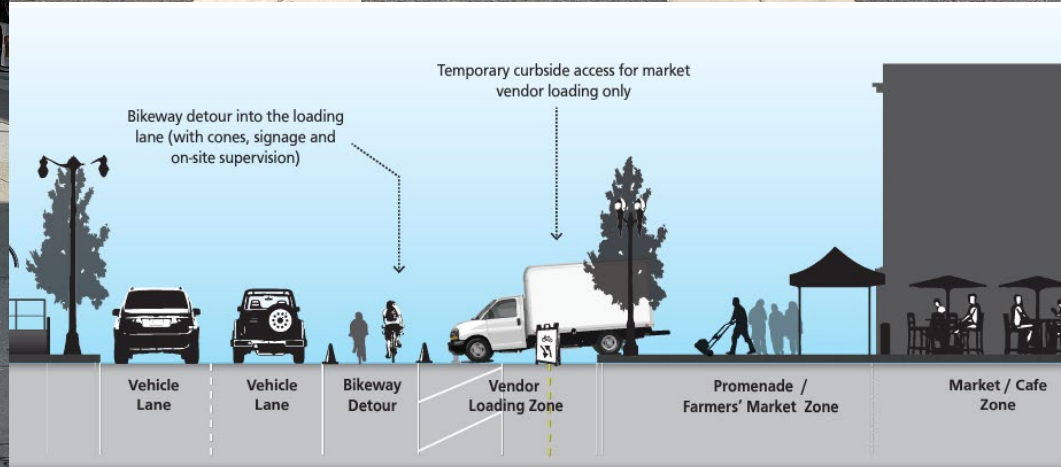
Vehicles generally use the load zones properly and stay out of the bikeway.

7. How is the farmers' market load in/out working?



Foodwise operations and bikeway adjustments during load in/out help maintain safe access for vendors, customers, and bikeway users. However, vehicles are often parked both at the curb and in the floating spaces during the afternoon load-out.

Evaluation Summary



Evaluation summary

8. Have vehicle speeds changed?



There are no clear trends to describe changes in vehicle speeds before and after the project's construction.

9. Has the project affected vehicle travel times?



Vehicle travel time along the corridor has increased slightly, but not as much as originally expected nor so much that the schedule of a typical driver would be affected.

10. Are more people riding on The Embarcadero corridor?



Despite less people using The Embarcadero overall (due to the pandemic), wheeled user volumes are similar to pre-pandemic levels – indicating a potential to attract new users.

11. Are people riding in the Washington Street bikeway?



Bike volumes remain similar to before the pandemic.

Evaluation summary

12. Are people able to easily enter and exit the bikeway?



The transition from one-way to two-way bikeway at either end of the project area can be challenging for southbound wheeled users.

13. How has the performance of the Broadway intersection changed?



The reconfiguration of lanes approaching Broadway has resulted in additional delay for left-turning vehicles and no change (or a slight decrease) in average delay for northbound through traffic. Traffic analysis suggests an alternative lane configuration may improve the performance of the intersection.

Broadway layout

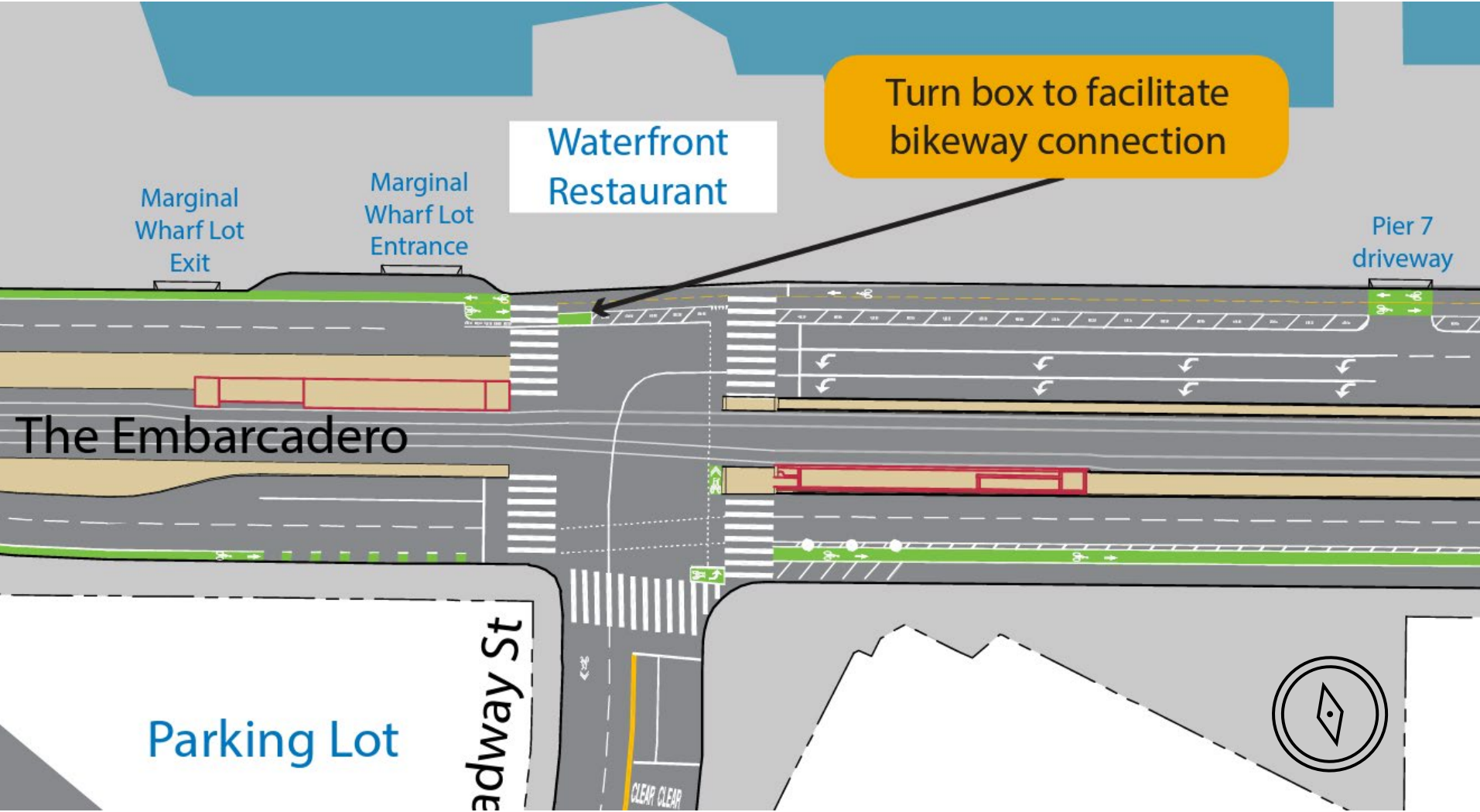


Existing Conditions - Northbound Embarcadero at Broadway

- Vehicle travel lane angles toward bikeway and promenade (not ideal)
- Bikeway not well connected to Broadway; transition to/from promenade could be improved

Broadway layout

Potential Broadway layout with restored double left-turn lane



Broadway layout

Existing

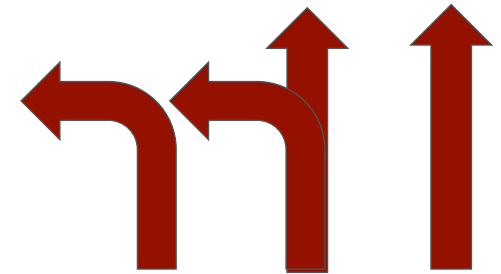


- + Two through lanes is consistent with the rest of the corridor
- Left-turn pocket is susceptible to overflowing during peak traffic
- Reduces vehicle access to destinations via westbound Broadway, including NB Sansome

Possible 'field test' pending Port Commission approval



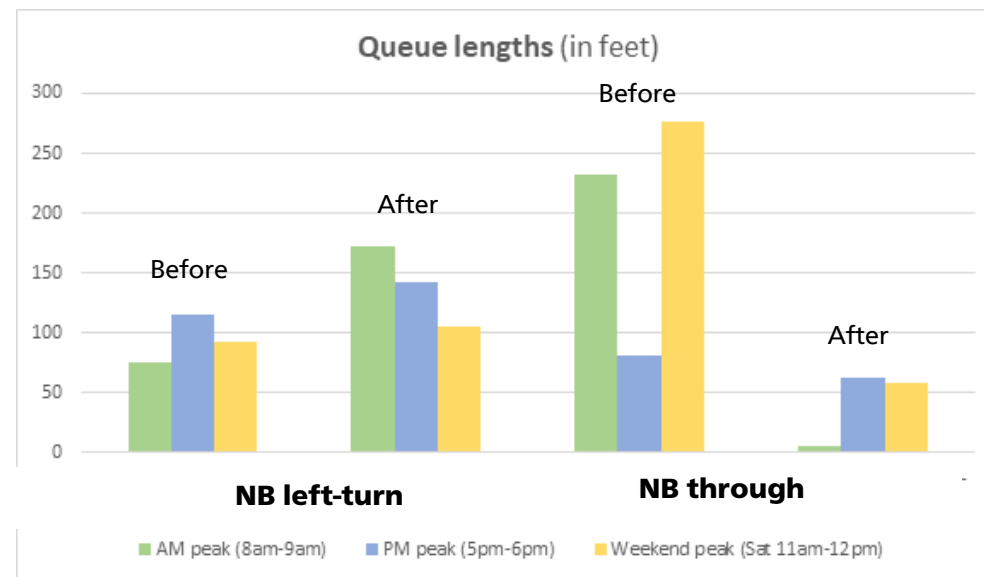
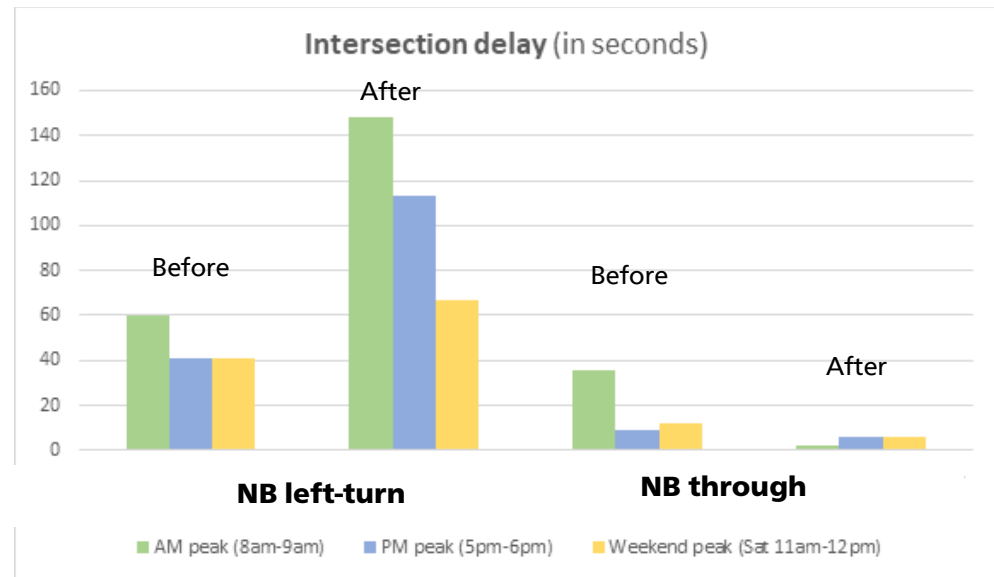
- + Per traffic models, performs more efficiently than other two options (moves more people, reduces delay)
- + Extends protected bikeway through intersection
- Requires drivers to merge from two through lanes into one



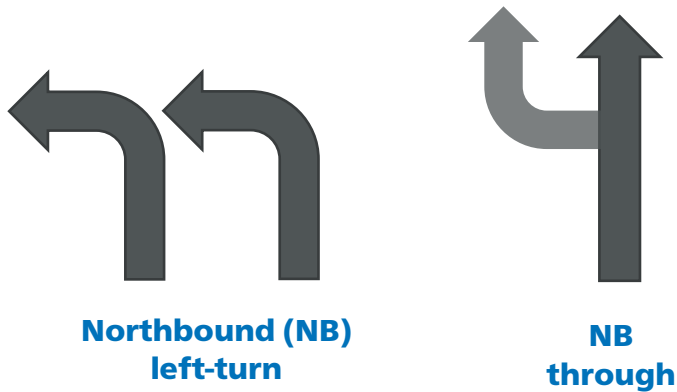
- + Flexible center lane is easy to navigate
- Northbound and southbound traffic cannot move at the same time
- Per traffic models, this creates significant congestion

Evaluation summary

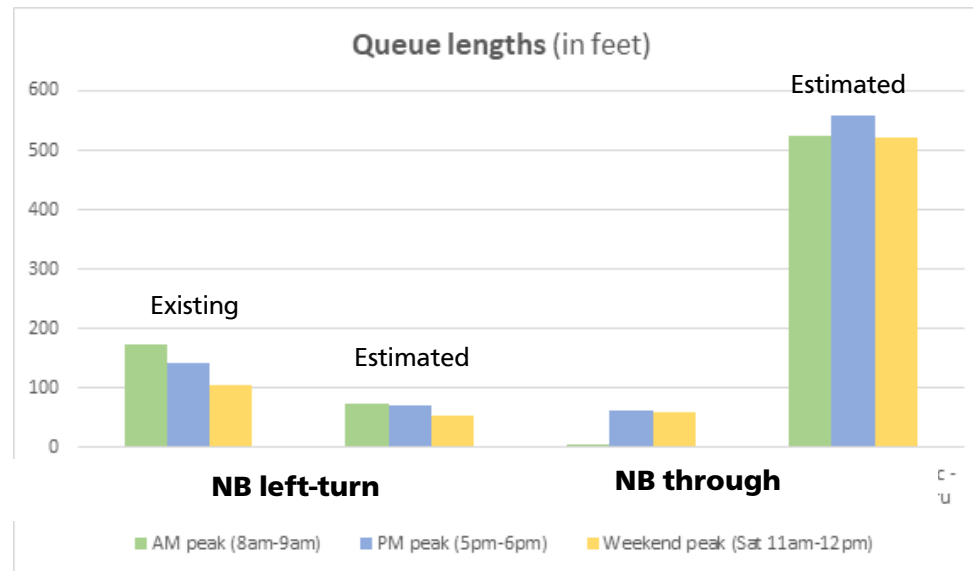
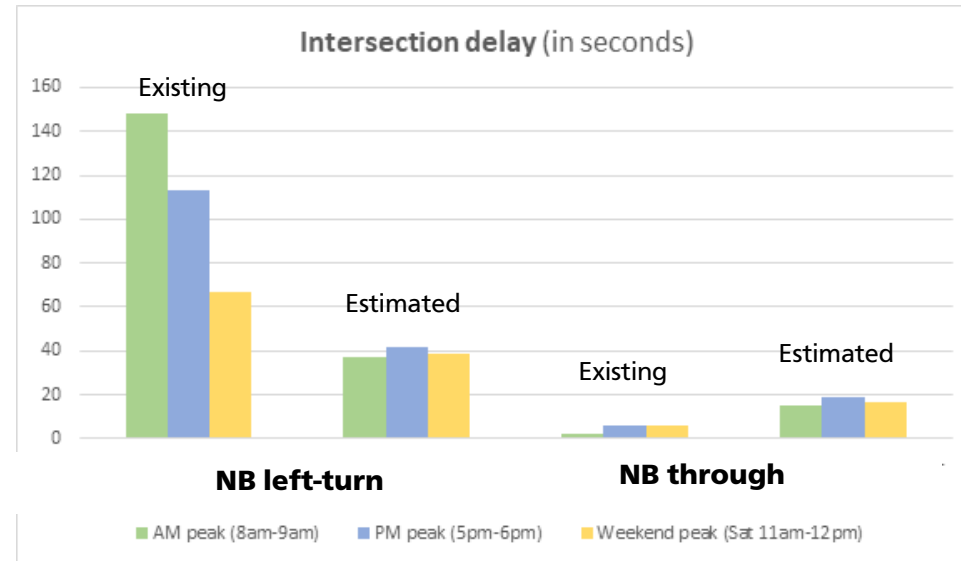
The single left-turn lane from northbound Embarcadero onto westbound Broadway is inadequate during weekday AM-peak and PM-peak periods. Vehicle queues regularly back-up beyond the left lane, spilling into the through travel lane and adding to corridor delay/altering driver behaviors.



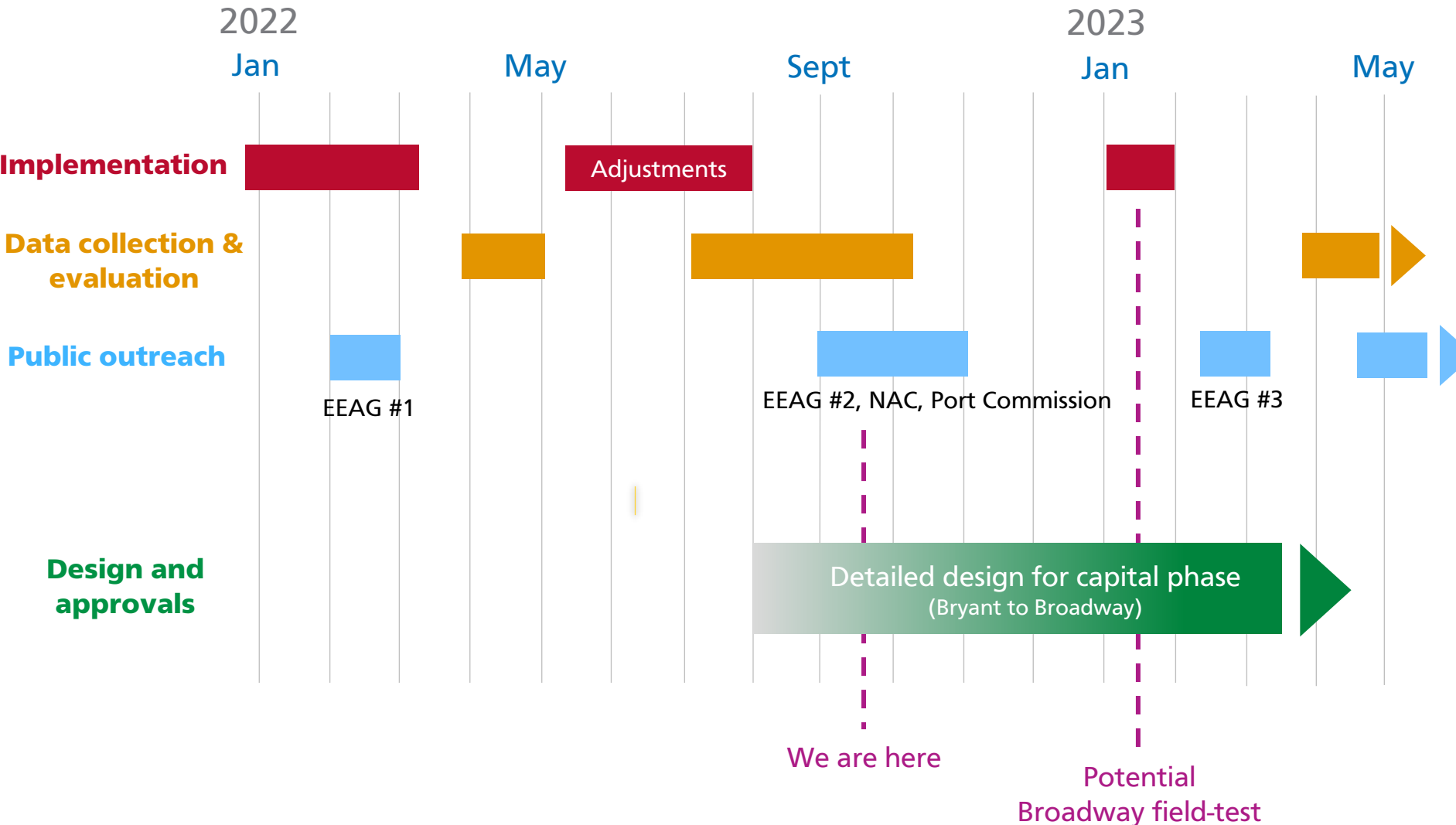
Broadway layout - Potential



Restoring the two left-turn lanes and maintaining two northbound (NB) vehicle lanes on the far-side of the Broadway would likely improve conditions for all users - including drivers. **While longer NB back-ups are expected, the 'green time' provided should help clear most vehicles each signal cycle;** capacity for left-turns to Broadway meanwhile would be greatly improved.



Central Embarcadero timeline



Central Embarcadero Safety Project



Bryant to Harrison

Central Embarcadero Safety Project



Bryant to Harrison

Central Embarcadero Safety Project

LEGEND - Other project changes / trade-offs



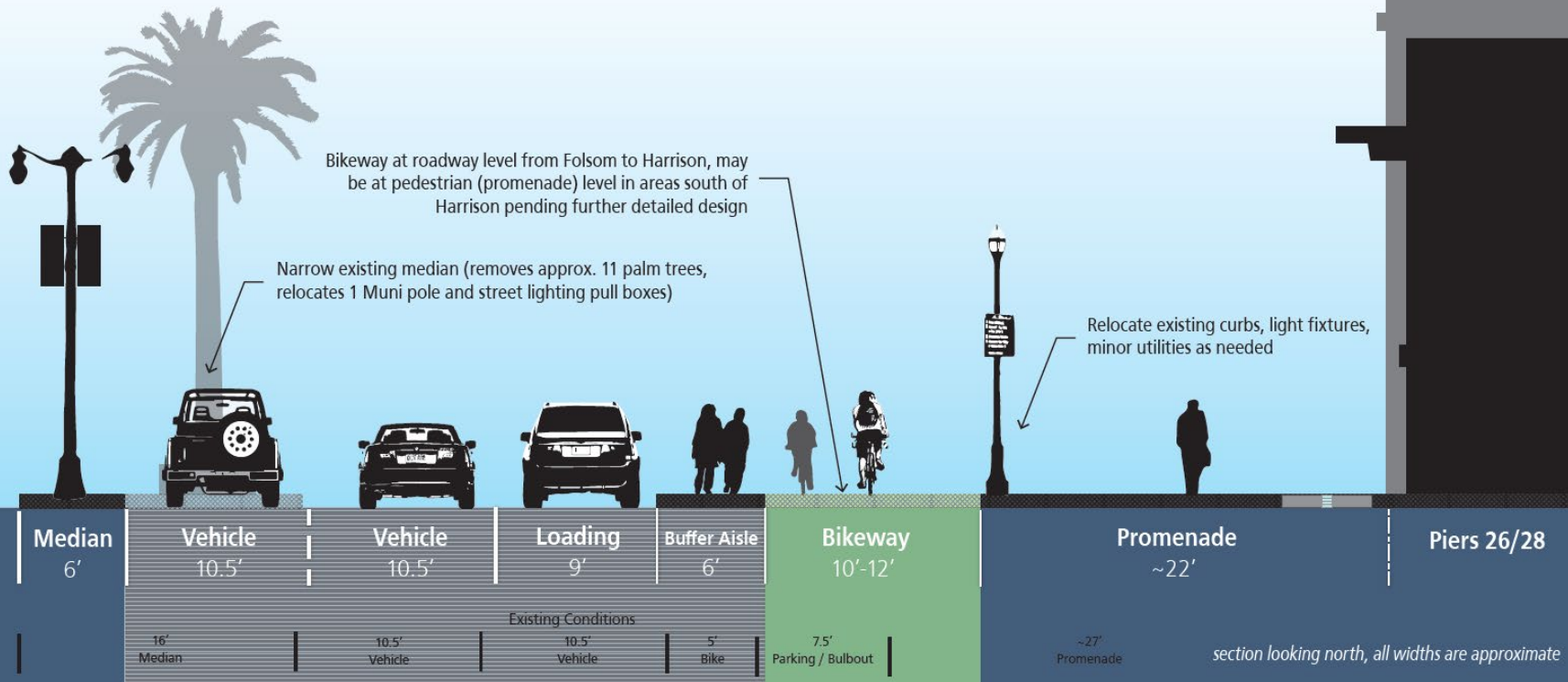
Narrowed center median & palm tree removal / relocation



Modified / narrowed promenade curb & furnishing zone



New/modified loading & parking removal (up to 18 spaces pending further design)



Central Embarcadero Safety Project



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Washington Street at the Embarcadero

Central Embarcadero Safety Project



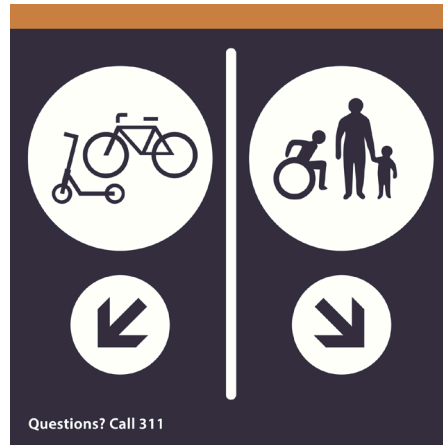
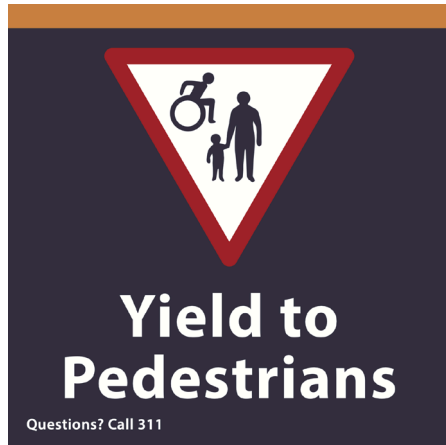


Thank you!

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Promenade regulations review



- **Current Port Code:** Motorized devices (bikes and scooters) are not permitted on the promenade
- **Potential Change to Port Code:** No bicycles on the promenade where adjacent to a two-way protected bike lane
 - Consistent with policy for City sidewalks
 - Those 12 years and under would still be allowed to ride on the promenade

Evaluation

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