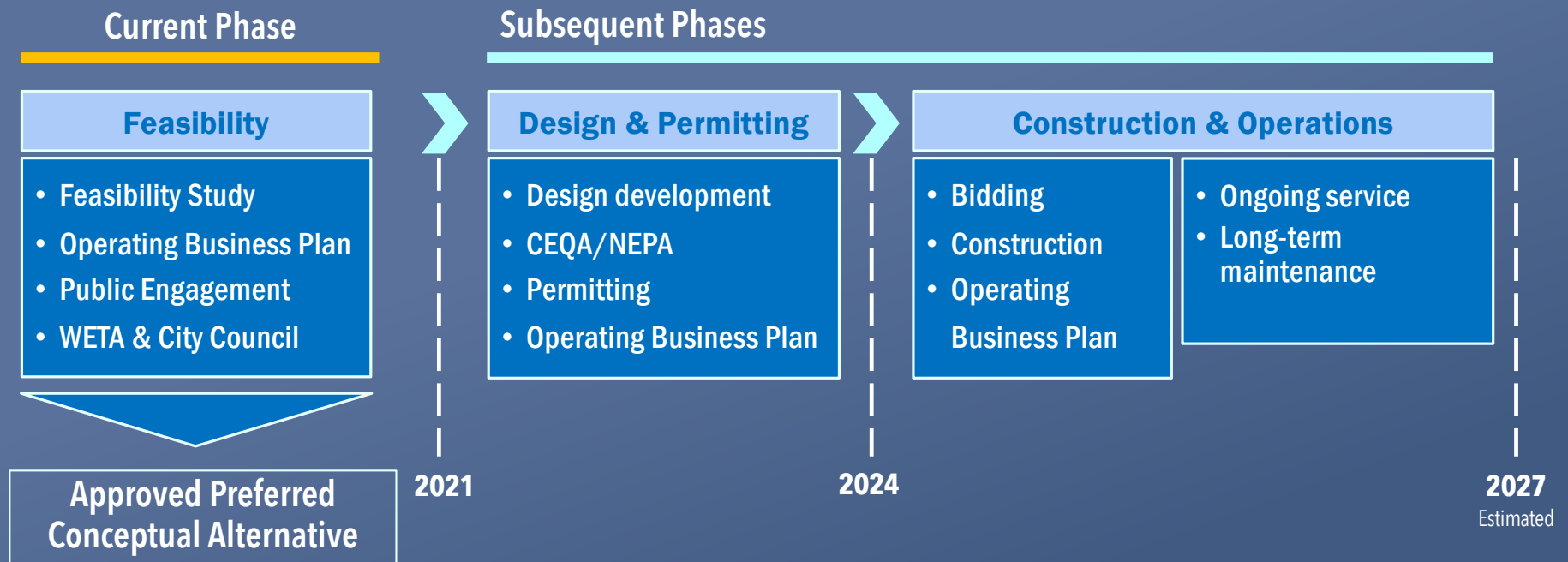


Item #9 - Berkeley Pier/Ferry Study & Ferry Service Business Plan Update

WETA Board of Directors Meeting
November 4, 2021



Phases of MOU



Note: MOU may be terminated at any phase upon mutual agreement.

Public Engagement Steps

Workshop #1	<ul style="list-style-type: none">• Introduce Pier/Ferry Study & Pier Samples	January 21, 2021
Planning	<ul style="list-style-type: none">• City Council Work Session 2/16/21• WETA Board Session 3/4/21• Review workshop feedback• Develop landside and waterside options	Feb - June
Questionnaire	<ul style="list-style-type: none">• Questionnaire on ferry & pier preferences	March - June
Workshop #2	<ul style="list-style-type: none">• Present/discuss Waterside & Landside Concepts	Aug 10
Planning	<ul style="list-style-type: none">• Develop a preferred conceptual alternative	Aug - October
Workshop #3	<ul style="list-style-type: none">• Present Preferred Conceptual Alternative	Oct 27, 2021

Key Messages from the Community

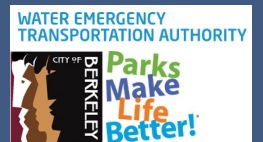
- ✓ Community supports a ferry; parking needs to be managed.
- ✓ Community strongly supports a restored pier that serves all users.
- ✓ Protect character & environmental resources of the Waterfront.
- ✓ Protect existing user needs and recreational assets.

WETA Berkeley Ferry Service Business Plan

Service Plan

Ridership & Market Demand

Equity Considerations



Initial Screening of Route Options

		RIDERSHIP	MARKETS	EQUITY BENEFITS	RATING
Route Options	<u>San Francisco</u>	High	Commuter, Rec, Event	High	Recommended
	South San Francisco	Med-Low	Commuter	Medium	Future Consideration
	Mission Bay (Direct)	Medium	Commuter, Rec, Event	Medium	Future Consideration
	<u>Mission Bay (From SF)</u>	Medium	Commuter, Rec, Event	Med-Low	Recommended
	Larkspur (Weekday)	Low	Commuter	Med-Low	Deferred
	<u>Larkspur (Weekend)</u>	Medium	Rec	Medium	Recommended
	Vallejo	Low	Commuter	Low	Deferred

Ridership Estimation Methodology

- Based on Alameda County Transportation Commission's regional model*
- Forecasts are "unconstrained"
- Adjustments made to account for:
 - Headways
 - Capacity
 - Observed changes in peak versus all-day ridership
- Verified against actual ridership counts

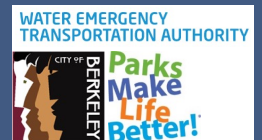
*Source: Hovercraft Feasibility Study – 2019 & 2021 Update



Ridership Forecast – Average Daily Boardings

		Weekday Average	Weekend Day Average	Special Events (Average/day)
2020 Daily Boardings	1) Berkeley – SF	1,830	2,990	200
	2) Berkeley – SF – Mission Bay	2,020	3,300	200
	3) Berkeley – Larkspur (weekend service)	–	490	–
2040 Daily Boardings	1) Berkeley – SF	2,110	3,450	230
	2) Berkeley – SF – Mission Bay	2,320	3,800	230
	3) Berkeley – Larkspur (weekend service)	–	580	–

- Operations Assumptions:
- 2 vessels
 - 35-minute average peak headway
 - 250-passenger vessels



Comparison with Existing Ridership (2019)

		Weekday	Weekend Day
Existing and Potential Berkeley Routes	Oakland/Alameda - SF	5,047	4,120
	Vallejo - SF	4,081	1,983
	Berkeley - SF - Mission Bay	2,020	3,300
	Berkeley - SF	1,830	2,990
	Harbor Bay - SF	1,417	—
	Richmond - SF	813	680
	Oakland/Alameda - SSF	601	—
	Berkeley - Larkspur (Weekend)	—	490

Conceptual Service Schedule Weekday to SF

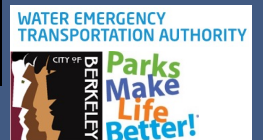
- (2) vessels & (4) crews
- (8) morning peak direction trips: 6:30 am – 12 pm
- (8) afternoon peak direction trips: 3:30 pm – 8:30 pm
- Timed-connections to Mission Bay
- Special event service scheduled as needed

Berkeley to
San Francisco

Weekdays (Monday-Friday) Westbound: Berkeley to San Francisco	
Depart Berkeley	Arrive Downtown SF
6:30	6:55
7:05	7:30
7:40	8:05
8:15	8:40
8:50	9:15
9:25	9:50
10:40	11:05
11:15	11:40
16:05	16:30
16:40	17:05
17:15	17:40
17:50	18:15
19:05	19:30
19:40	20:05

Weekdays (Monday-Friday) Eastbound: San Francisco to Berkeley	
Depart Downtown SF	Arrive Berkeley
7:05	7:30
7:40	8:05
8:15	8:40
8:50	9:15
10:05	10:30
10:40	11:05
15:30	15:55
16:05	16:30
16:40	17:05
17:15	17:40
17:50	18:15
18:25	18:50
19:40	20:05
20:15	20:40

San Francisco
to Berkeley



Conceptual Weekend Schedule

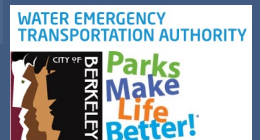
Berkeley-SF: (7) departures 8:30 am to 5 pm; headways of 70 – 110 minutes

Berkeley to San Francisco	Weekend Westbound: Berkeley to San Francisco		Weekend Eastbound: San Francisco to Berkeley		San Francisco to Berkeley
	Depart Berkeley	Arrive Downtown SF	Depart Downtown SF	Arrive Berkeley	
	8:30	8:55	9:05	9:30	
	9:40	10:05	10:15	10:40	
	10:50	11:15	12:05	12:30	
	12:40	13:05	13:30	13:55	
	14:00	14:25	14:40	15:05	
	15:10	15:35	15:45	16:10	
	17:00	17:25	17:35	18:00	

Berkeley-Larkspur: (6) departures 9 am to 5:30 pm; headways of 90 – 150 minutes

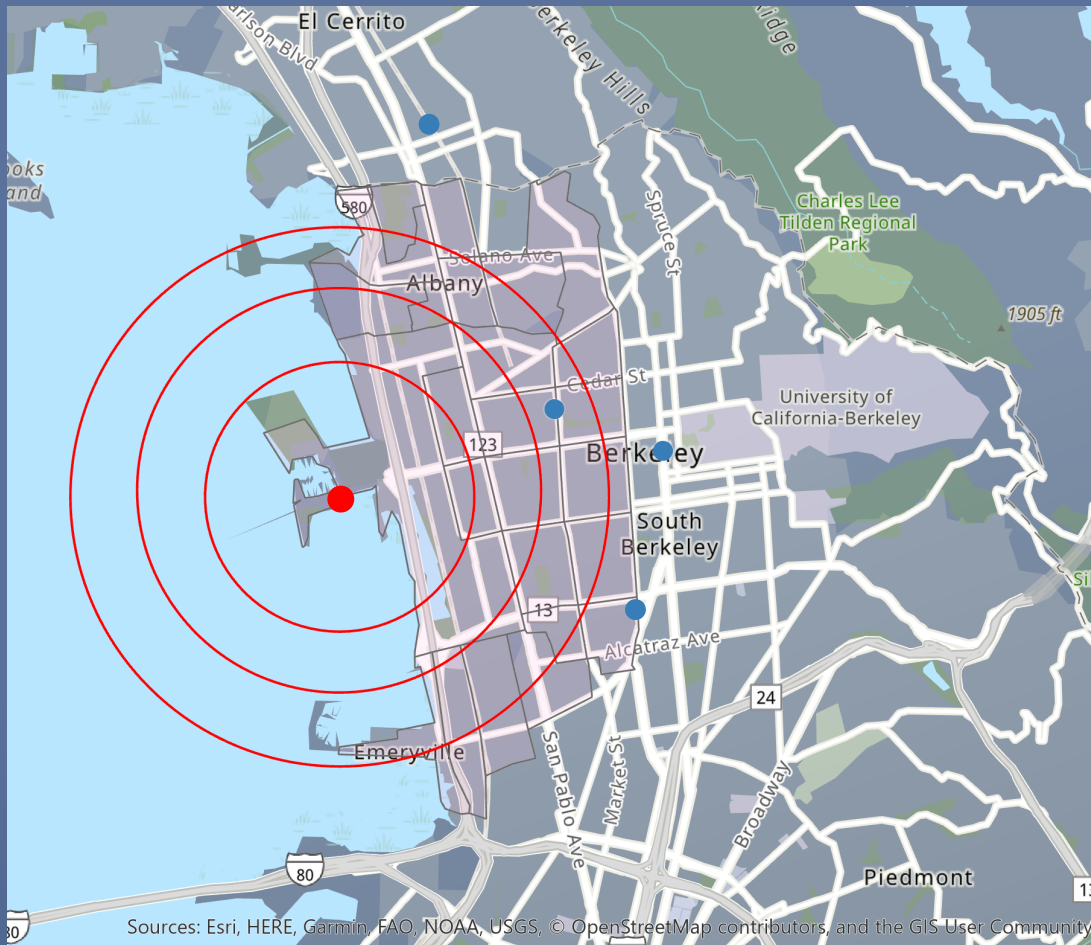
Berkeley to Larkspur	Weekend Westbound: Berkeley to Larkspur		Weekend Eastbound: Larkspur to Berkeley		Larkspur to Berkeley
	Depart Berkeley	Arrive Larkspur	Depart Larkspur	Arrive Berkeley	
	9:30	10:05	10:15	10:50	
	11:00	11:35	11:45	12:20	
	12:30	13:05	13:55	14:30	
	15:00	15:35	15:45	16:20	
	16:30	17:05	17:15	17:50	
	18:40	19:15	19:25	20:00	

(2) vessels running two services. Special event service scheduled as needed.



Equity and Economic Development



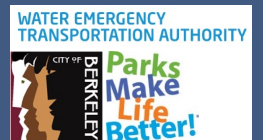


Points of Interest

- 1 mile
 - Bayer
 - Fourth Street
- 1.5 mile
 - University Village
 - Kaiser Permanente
- 2 mile
 - North Berkeley BART station
- Bart stations (blue dots)

Legend

- BART stations and ferry terminal
- Radii (1, 1.5, 2 miles)
- Census Tracts (2 miles)

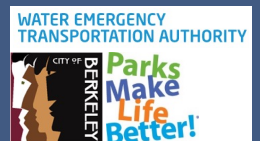


U.S. Census Socio/Economic Demographics

Geography	Jobs	% Public transit commute ¹	Median HH income	UNEMP ³ rate	Race/ethnicity: % non-white ²	Population
1-mile radius	8,980	20%	\$81,000	5.0%	57%	9,889
1.5-mile radius	18,163	26%	\$85,000	3.9%	54%	30,804
2-mile radius	31,487	28%	\$96,000	4.3%	57%	81,701
City of Berkeley	43,575	26%	\$85,500	5.3%	47%	124,321
Albany/Berkeley/Emeryville combined area	68,533	26%	\$88,600	4.8%	49%	157,497

Notes:

- 1 - Figures rounded to nearest whole number
- 2 - Calculated as 1 - (% white alone)
- 3 - UNEMP: Unemployment



Opportunity for Job Access

Average Salary and Number of Jobs — East Bay vs. San Francisco

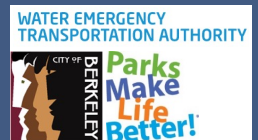
Occupation Category	Average Salary (2021 Q1)		SF/Peninsula Salary Premium
	Alameda/CCC	SF/ San Mateo	
Sales and Related	\$59,000	\$75,000	27%
Transportation and Material Moving	\$49,000	\$58,000	18%
Legal	\$146,000	\$170,000	16%
Arts/Design, Entertainment/Sports, Media	\$78,000	\$89,000	14%
Management	\$158,000	\$179,000	13%
TOTAL (all categories)	\$76,000	\$93,000	21%

21% average salary premium

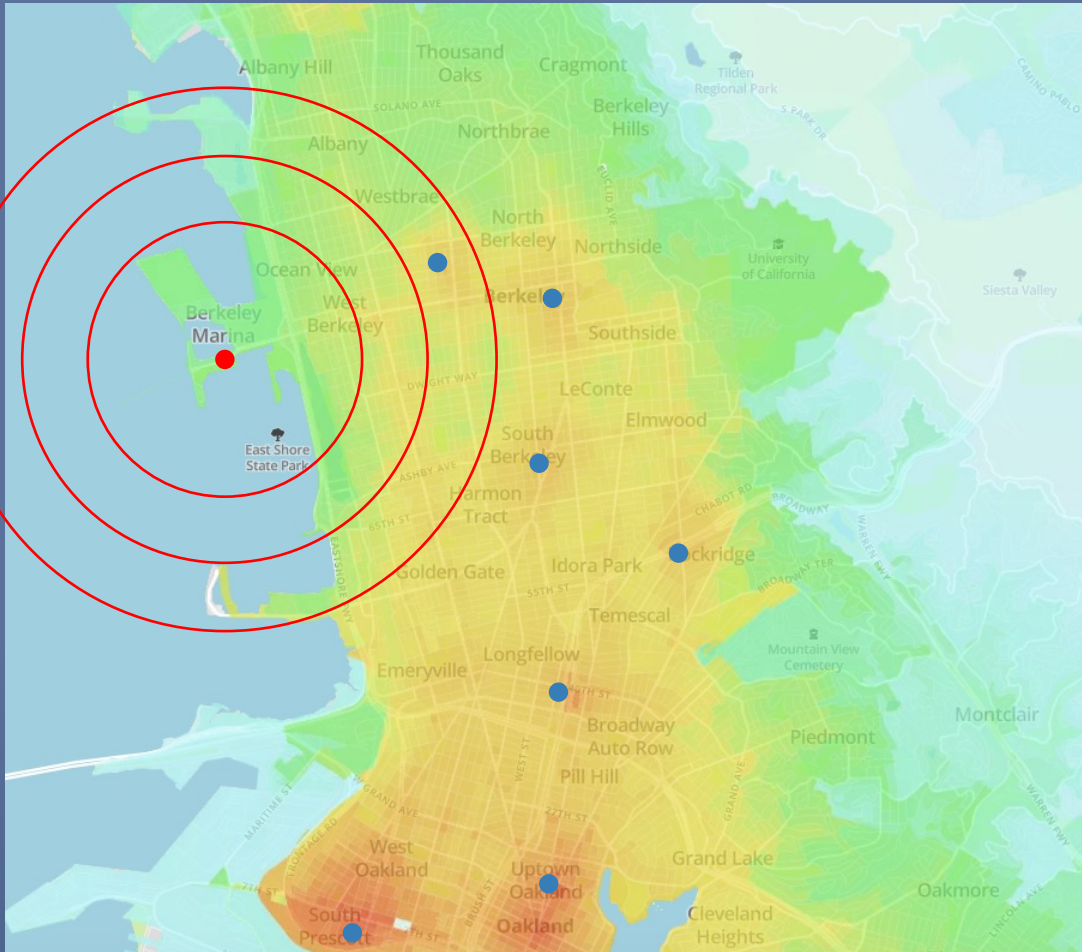


Top 5 categories ranked by salary premium

Source: California Employment Development Department



Access to Jobs via Transit



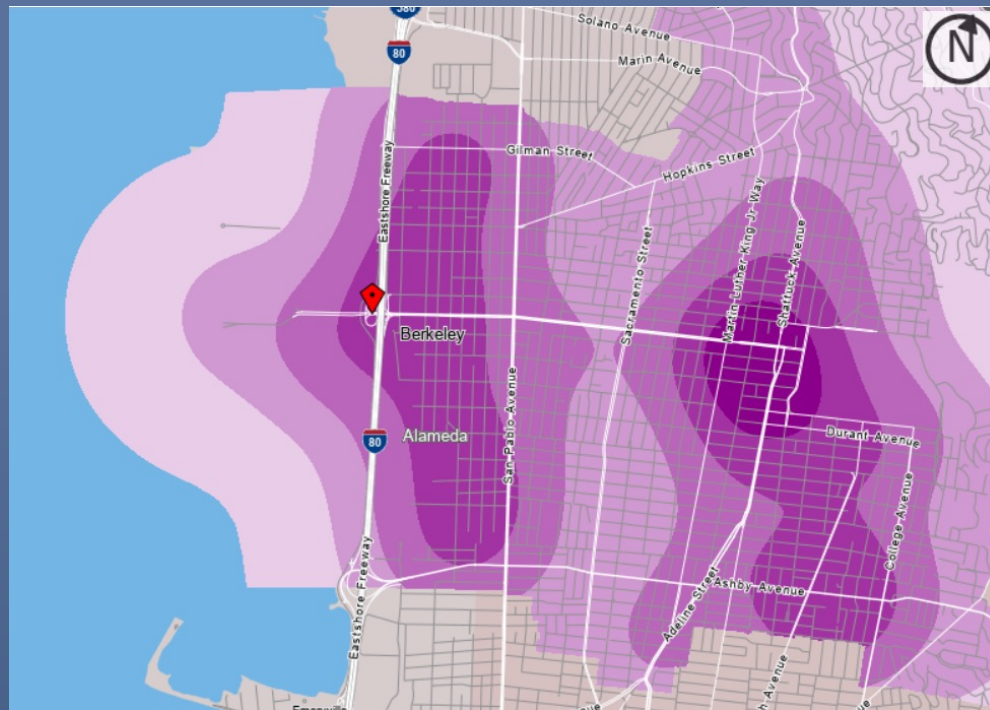
Jobs within 30 minutes
(Transit, AM peak)

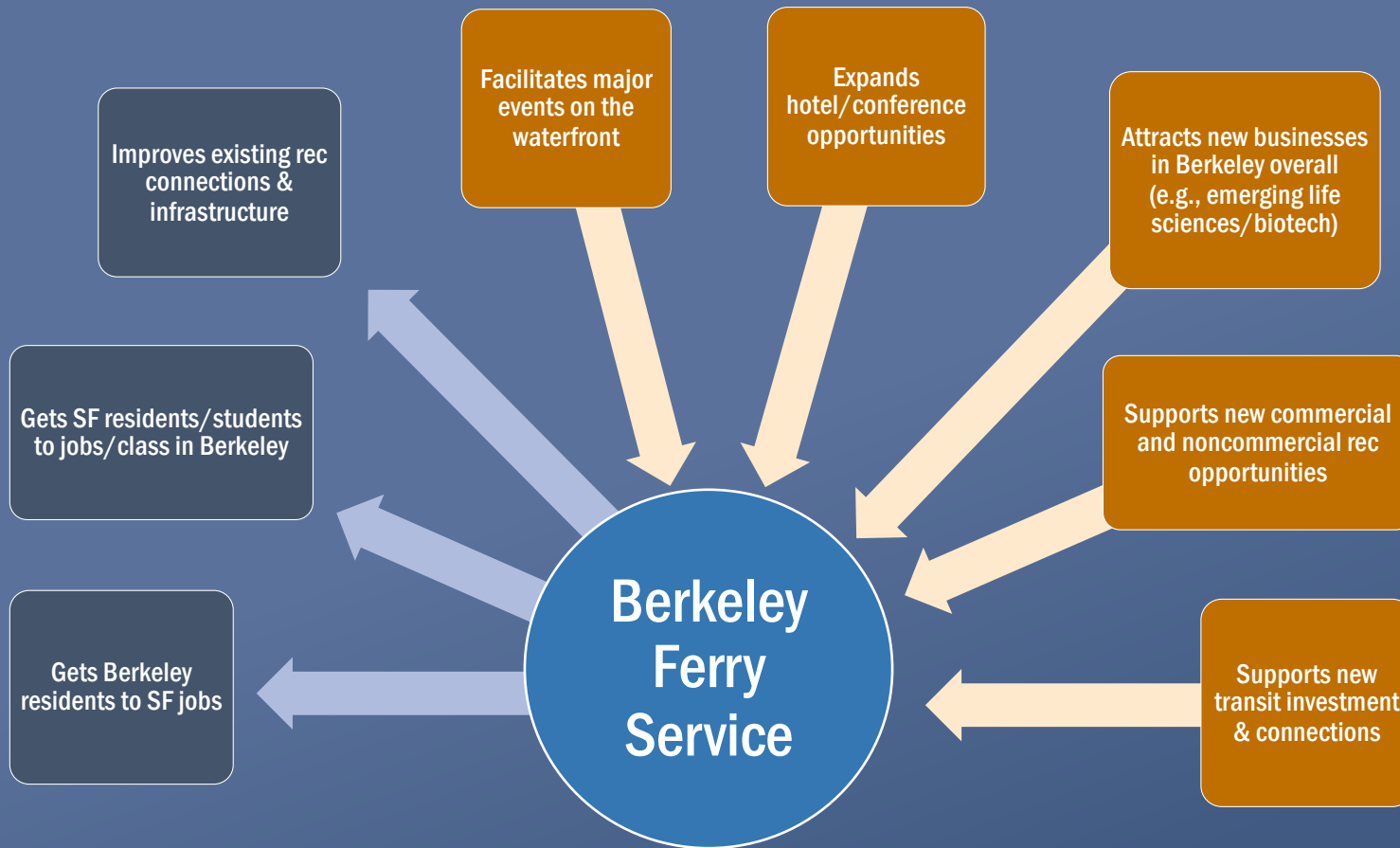


Source: Accessibility Observatory,
University of Minnesota (2019)



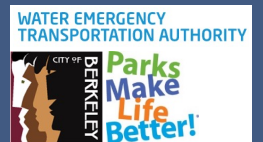
Job Opportunities in Berkeley

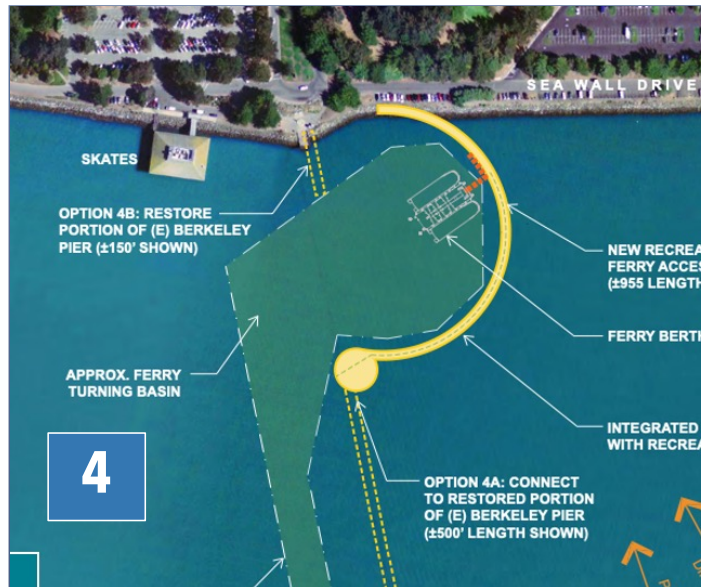
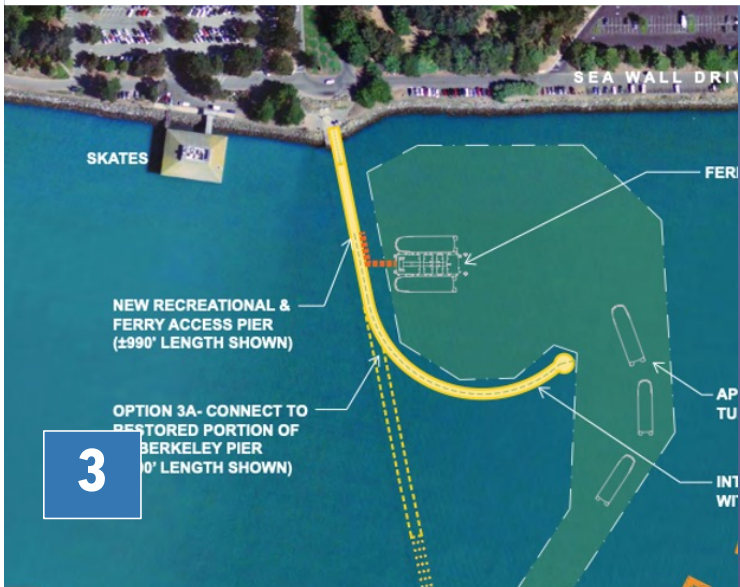
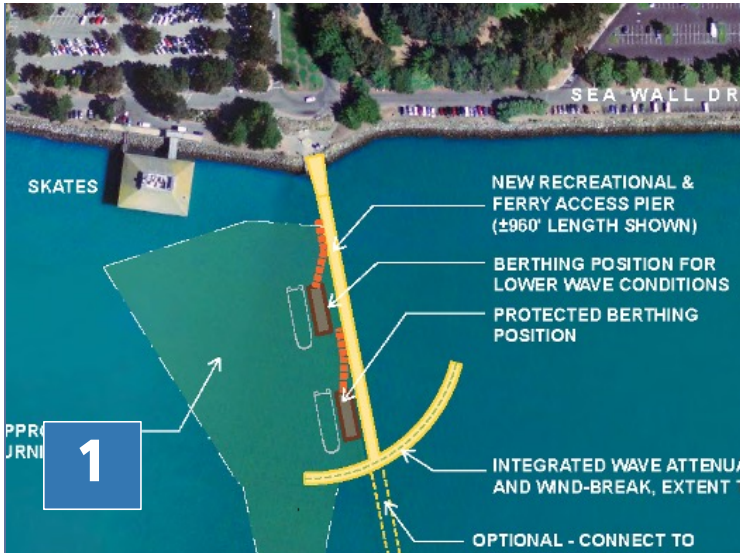




Ferry service can support both existing and attract new activities.

Preferred Waterside Concept Plan





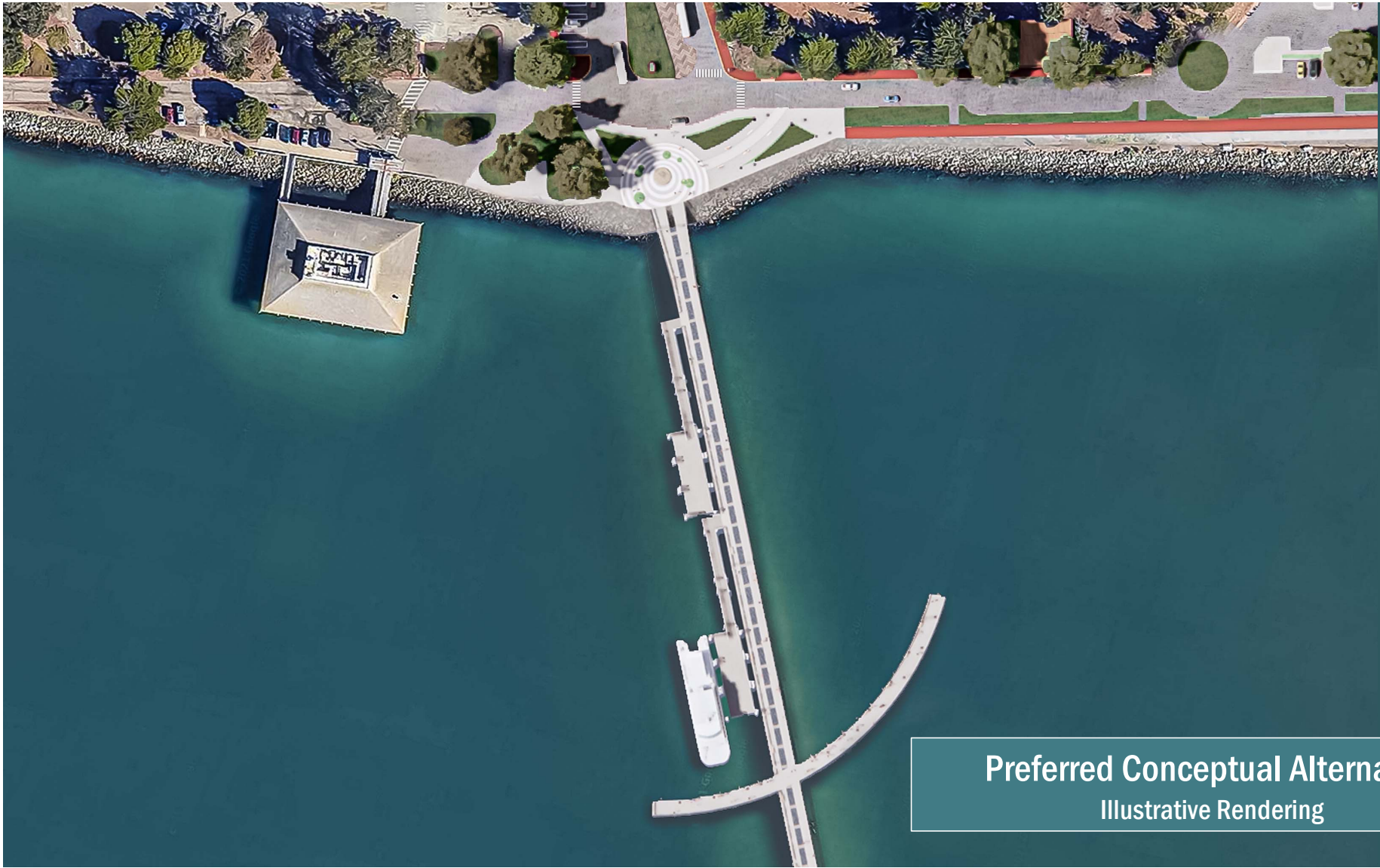
Alternatives Evaluated

WATER EMERGENCY TRANSPORTATION AUTHORITY

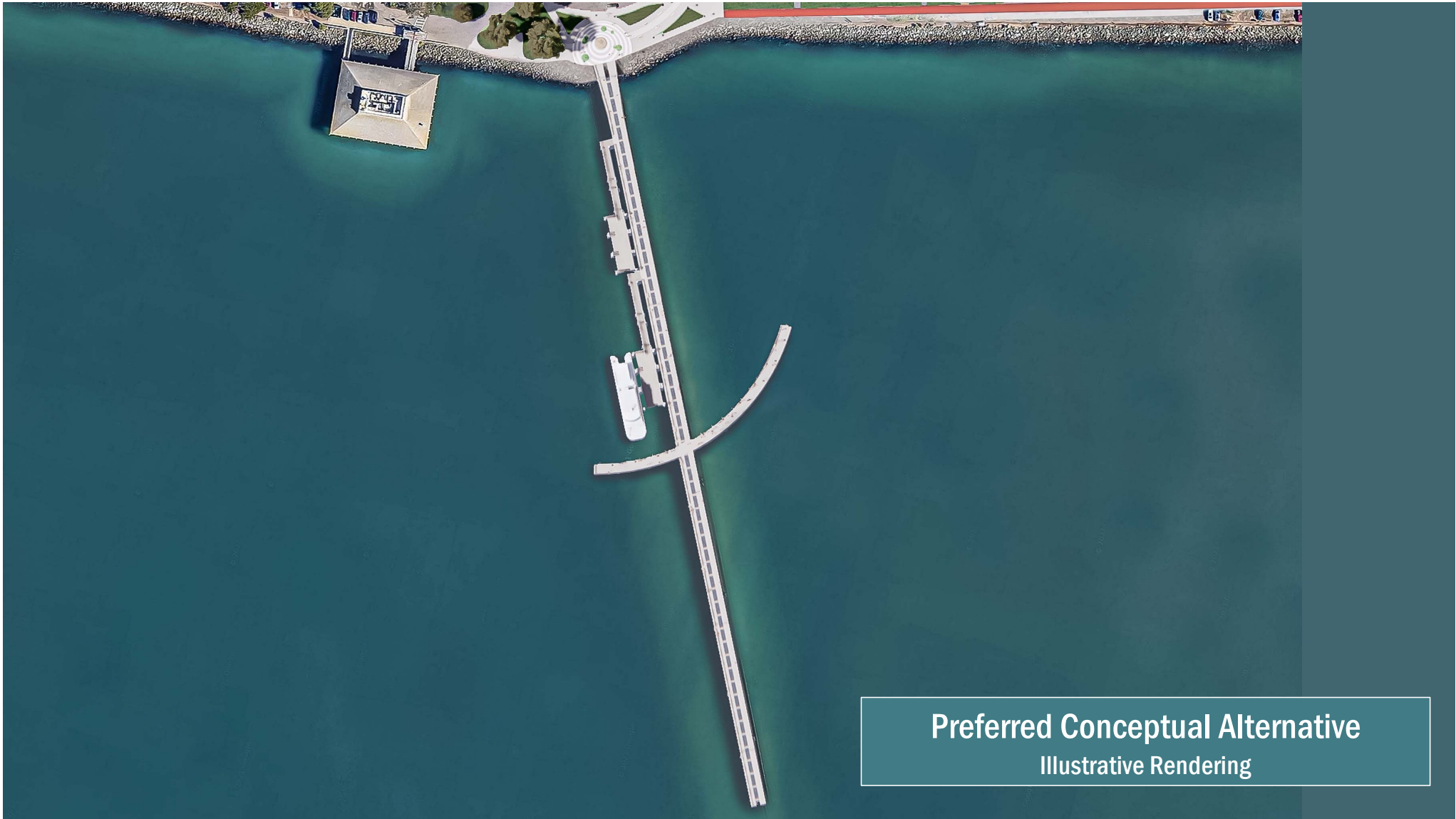
CITY OF BERKELEY Parks Make Life Better!



Preferred Conceptual Alternative
Illustrative Rendering



Preferred Conceptual Alternative
Illustrative Rendering



Preferred Conceptual Alternative
Illustrative Rendering

Preferred Conceptual Alternative
Illustrative Rendering





Preferred Conceptual Alternative
Illustrative Rendering



Preferred Conceptual Alternative
Illustrative Rendering



Preferred Conceptual Alternative
Illustrative Rendering



Preferred Conceptual Alternative
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Preferred Conceptual Alternative
Illustrative Rendering

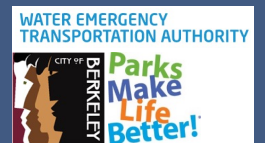


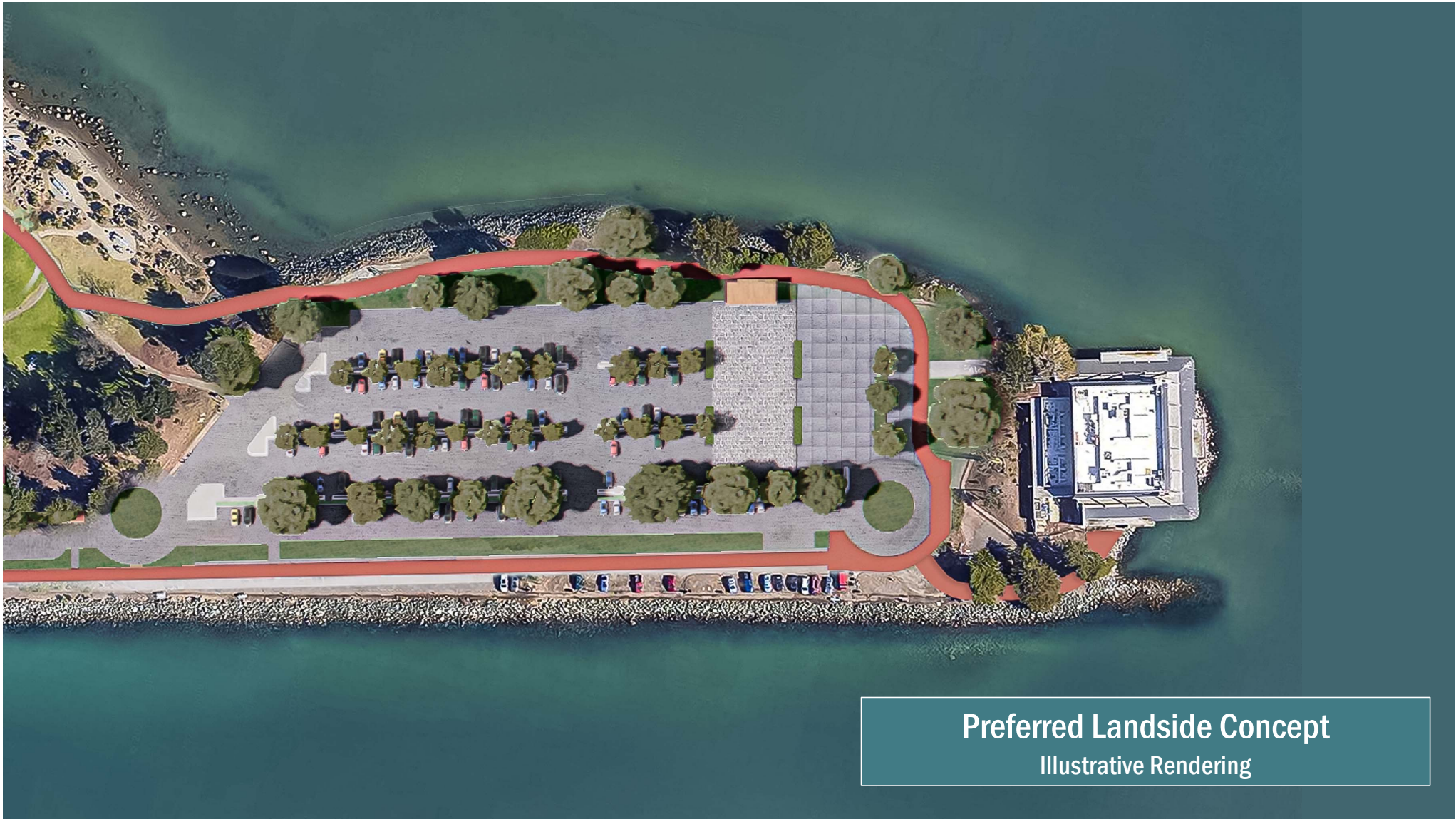
1	\$3.7	Demo Existing Pier
2	\$19.6	Dual-Purpose Pier
3	\$9.6	Integrated Breakwater
4	\$11.0	Ferry Berthing Facility
5	\$2.9	Berthing Facility - Guide/Dolphin Piles
6	\$4.6	Dredging
7	\$4.2	Ferry Facility Electrification
8	\$13.9	Recreational Pier Extension

\$69.5 M TOTAL ESTIMATED

**Preferred Alternative
Waterside Estimated Costs**

Preferred Landside Concept Plan

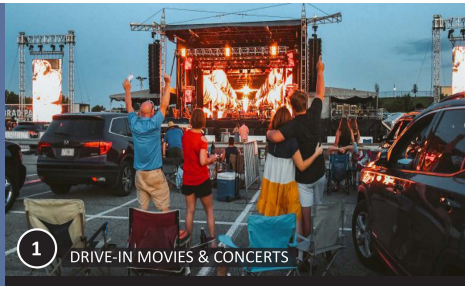




Preferred Landside Concept
Illustrative Rendering



Preferred Landside Concept
Illustrative Rendering



1 DRIVE-IN MOVIES & CONCERTS



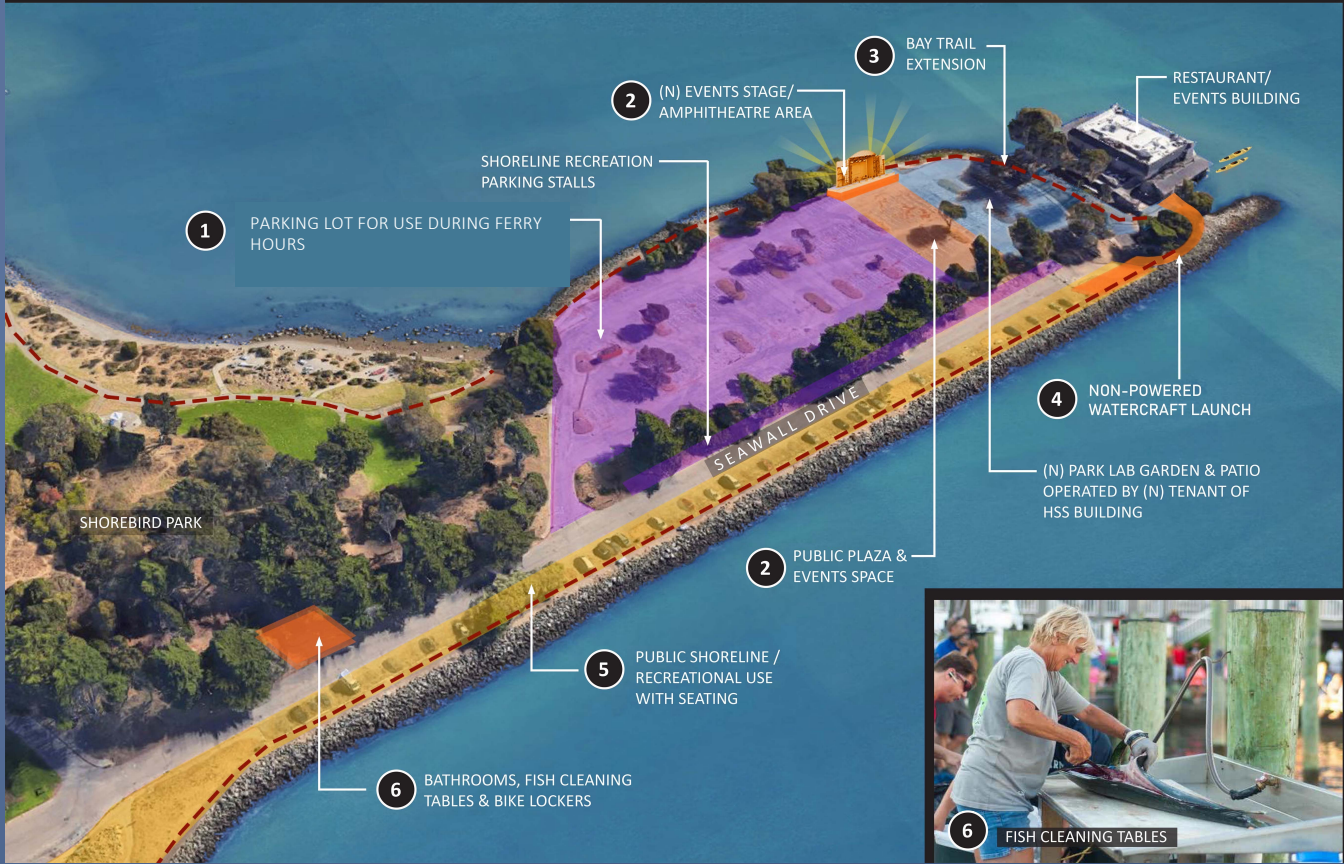
1 EVENTS, PARTIES, FOOD TRUCKS/FESTS



1 FARMER'S MARKET



2 PERFORMANCES/SHOWS



3 EXTENDED BAY TRAIL



4 KAYAK LAUNCH



6 FISH CLEANING TABLES



5 PUBLIC SHORELINE



An aerial perspective rendering of a waterfront development. A long, narrow pier extends from a landmass into a large body of blue water. The pier has a central roadway and is flanked by walkways and railings. At the end of the pier, a large white ferry is docked. To the right, another white ferry is moving away, leaving a white wake. The landmass features a circular road, several trees, and a building with a prominent brown, gabled roof. In the background, a small boat is visible on the water.

Waterside Estimated	\$69.5 M
Landside Estimated	\$14.0 M
<hr/>	
Total Estimated	\$83.5 M
Vessels (2 x 250 pax)	\$32.0 M

Preferred Conceptual Alternative

Illustrative Rendering