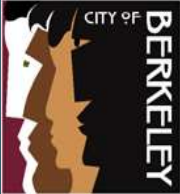




Large Scale Ferry Feasibility Study

City Council Work Session
Tuesday, December 7th, 2021



Work Session Topics

Introduction

Overview of the City & WETA Partnership: MOU

Public Engagement Process

Preferred Concept: Waterside and Landside Elements

WETA Berkeley Ferry Service Business Plan

Next Steps, Goals, Potential Funding Sources

Questions/Comments

Presenters:

Scott Ferris, City of Berkeley

Christina Erickson, City of Berkeley

Ali Endress, City of Berkeley

Nelson Lam, City of Berkeley

Kevin Connolly, WETA

Michael Gougherty, WETA

Ashleigh Kanat, Economics & Planning Systems

Bill Hurrell, CDM Smith



Project Team

City of Berkeley – Parks, Recreation & Waterfront

Scott Ferris Director	Christina Erickson Deputy Director
Ali Endress Waterfront Manager	Roger Miller Senior Management Analyst
Nelson Lam Supervising Civil Engineer Project Manager	

Water Emergency Transportation Authority

Kevin Connolly Manager, Planning & Development	Michael Gougherty Principal Planner Project Manager
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Consultant Team: WETA Business Plan

Ashleigh Kanat Economic & Planning Systems	Bill Hurrell CDM Smith
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Consultant Team

Craig Lewis Marine Structure Engineering GHD	Kent Royle Architect Marcy Wong Donn Logan Architects	Peter Bluhon Public Facilitation Bluhon Group
Alex Mercuri Transportation Planning Nelson/Nygaard	Scott Fenical Coastal Engineering Mott MacDonald	



Memorandum of Understanding: City & WETA

Current

Feasibility

- Feasibility Study
- Public Engagement
- WETA & City Council

Preferred Concept

Subsequent (with MOU amendment)

Design Development

MOU Amendment

- Detailed Technical Studies
- Final Design
- Environmental Clearance
- Permitting

Construction & Operations

- Bidding
- Construction
- Ongoing service
- Long-term maintenance

2022

2025
Estimated

2027
Estimated



Current Phase's Public Engagement Completed

Focus Group Meetings (4)	<ul style="list-style-type: none"> • Introduce project, and gather existing use pattern 	January 5, 6, 7, 2021
Workshop #1	<ul style="list-style-type: none"> • Introduce Pier/Ferry Study & Pier Samples 	January 21, 2021
City Council Work Session & WETA Board #1	<ul style="list-style-type: none"> • Project Update Presentations 	February 16, 2021 March 4, 2021
Questionnaire	<ul style="list-style-type: none"> • Questionnaire on ferry & pier preferences 	March – June, 2021
Workshop #2	<ul style="list-style-type: none"> • Present & Discuss Waterside & Landside Concepts 	August 10, 2021
Workshop #3	<ul style="list-style-type: none"> • Present & Discuss Preferred Concept 	October 27, 2021
WETA Board #2	<ul style="list-style-type: none"> • Present Preferred Concept 	November 4, 2021
 City Council Work Session #2	<ul style="list-style-type: none"> • Present Preferred Concept & Obtain Council Feedback 	December 7, 2021



Upcoming Tentative Milestones

Project Webpage Update

- Additional on-going community feedback & response (i.e. updated FAQ...)
- Large Scale Ferry Feasibility Study Report
- Any new project material, and communication

January/February, 2022

City Council Discussion

- Discuss Next Steps
 - Funding
 - Cost sharing
 - Potential lease and licensing framework

February/March, 2022

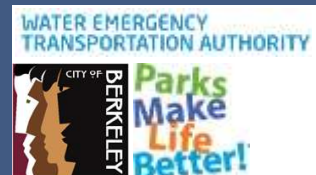
WETA BOARD

- Discuss Next Steps
 - Funding
 - Cost Sharing
 - Potential Lease and Licensing Framework

TBD

On-going Communication Tools

Pier/Ferry Project webpage: www.cityofberkeley.info/parks/pier/Project
email: BMASP@cityofberkeley.info





Preferred Concept
Illustrative Rendering

Preferred Waterside Concept

Illustrative Rendering





Preferred Waterside Concept
Illustrative Rendering

Preferred Waterside Concept Illustrative Rendering





Preferred Waterside Concept
Illustrative Rendering

Preferred Waterside Concept Illustrative Rendering



Evaluation Results – Waterside Concepts

Preferred Concept

		1	2*	3*	4*
		Sword	Dog Leg	Fish-Hook	Circle
Implementation	<ul style="list-style-type: none"> Amount of dredging Constructability Green infrastructure 	More Preferable	Less Preferable	Less Preferable	Less Preferable
Ferry Operations	<ul style="list-style-type: none"> Wind/Wave Protection Vessel maneuverability Avoid potential conflicts with recreation watercraft 	More Preferable	Less Preferable	Less Preferable	Less Preferable
Visual & Placemaking	<ul style="list-style-type: none"> Overall pier experience Harmony with former pier Consistency with Waterfront culture/experience 	More Preferable	Less Preferable	Less Preferable	Less Preferable
Recreation: On-Pier	<ul style="list-style-type: none"> Unimpeded access for fishing, walking, recreation Length of pier for fishing, walking, recreation Bay views and experience 	More Preferable	Less Preferable	Less Preferable	Less Preferable
Recreation: In-Water	<ul style="list-style-type: none"> Reduced conflicts with marina boating Reduced conflicts with watersports Reduced pier and ferry operation footprint 	More Preferable	Less Preferable	Less Preferable	Less Preferable
Highest Benefit at Lowest Cost		More Preferable \$69.5M	Less Preferable \$81.7M	Less Preferable \$88.9M	Less Preferable \$90.4M



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
<hr/>		
	\$69.5 M	TOTAL ESTIMATED

**Preferred Waterside Concept
Estimated Cost**



Preferred Landside Concept
Illustrative Rendering



Preferred Landside Concept
Illustrative Rendering



1 DRIVE-IN MOVIES & CONCERTS



1 EVENTS, PARTIES, FOOD TRUCKS/FESTS

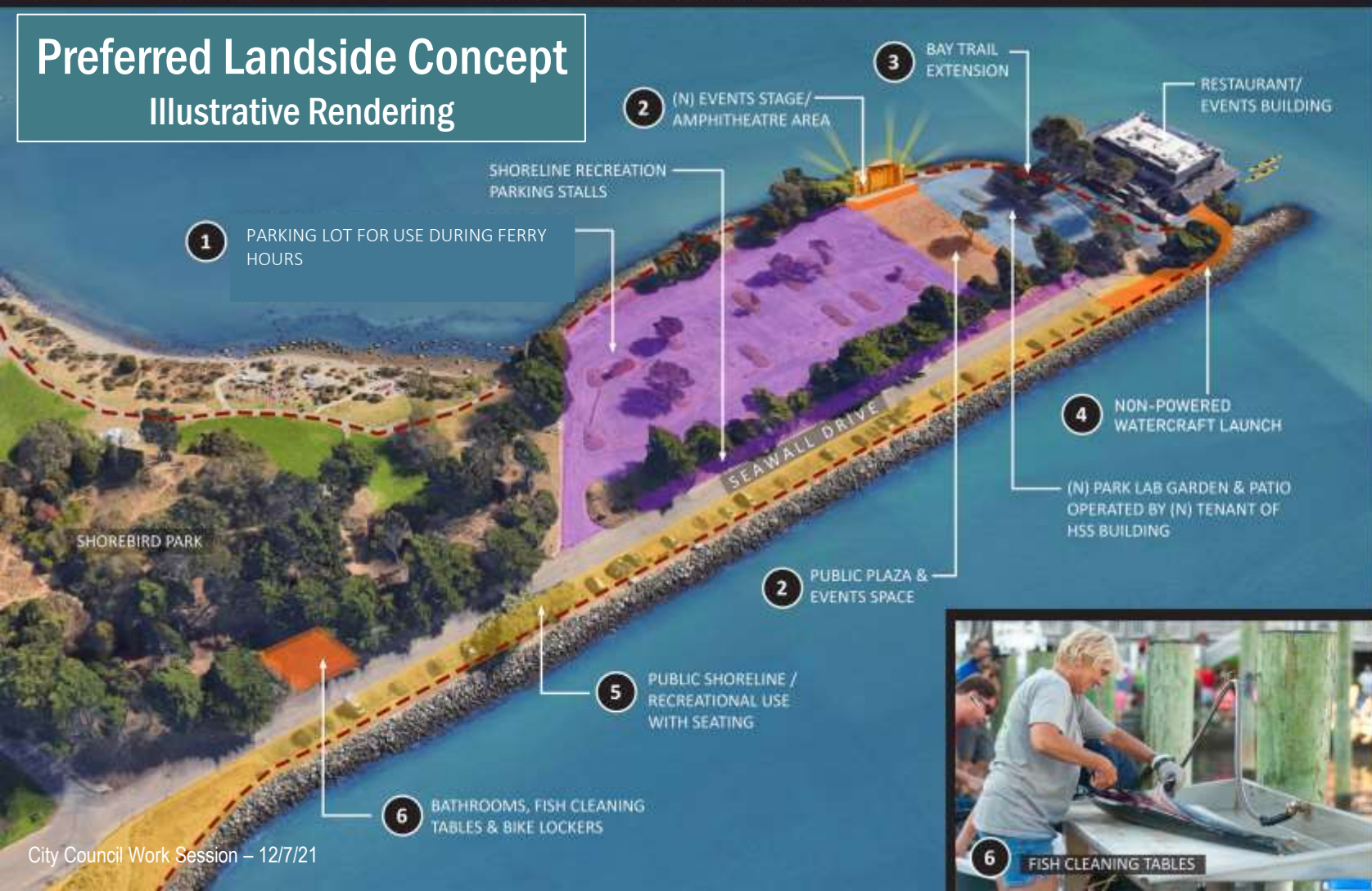


1 FARMER'S MARKET



2 PERFORMANCES/SHOWS

Preferred Landside Concept Illustrative Rendering



3 EXTENDED BAY TRAIL



4 KAYAK LAUNCH



6 FISH CLEANING TABLES



5 PUBLIC SHORELINE

Evaluation Results – Landside Concepts

Preferred Concept

		Concept A Clustered	Concept B* Dispersed
Implementation	<ul style="list-style-type: none"> • Constructability • Centralized EV charging & green infrastructure • Flexible configuration for future development 	More preferable	Less preferable
Mobility	<ul style="list-style-type: none"> • Supports biking, walking, transit access • Supports convenient parking access and management • Effective wayfinding and user-friendly 	More preferable	Less preferable
Visual & Placemaking	<ul style="list-style-type: none"> • Harmony with and enhancement of the Waterfront • Enhances public safety • Minimizes parking footprint to allow for more greenspace 	More preferable	Less preferable
Recreation	<ul style="list-style-type: none"> • Provides space for diverse recreation uses • Flexible space for recreation/events during low parking demand • Leverage existing parking supply to support waterfront uses 	More preferable	Less preferable
Highest Benefit at Lowest Cost		\$14.0M	\$19.5M

* Concept B drawing is included in the Council Report





1	\$1.5*	Non-Motorized Watercraft Access Point
2	\$1.2	Restroom Plaza & Pier Entrance Facility
3	\$1.8	Bay Trail (Adventure Playground Entrance to Pier Plaza)
4	\$3.4	Seawall Drive (199 Seawall Drive Terminus to University Avenue)
5	\$1.1	University Ave (South Cove West Lot to Seawall Dr)
6	\$1.0	199 Seawall Drive - Amphitheater/Event Stage
7	\$4.0	199 Seawall Drive Ferry Parking Lot
<hr/>		
	\$14.0 M	TOTAL ESTIMATED *millions of \$

Preferred Landside Concept
Estimated Cost



Program-level Estimated Preferred Concept Cost

Waterside Elements	\$69.5M
Landside Elements	\$14.0M
<hr/>	
Total Preferred Concept Plan	\$83.5M
Two Electric Ferry Vessels	\$38.2M
Estimated Total Project	\$121.7M

**Preferred Concept
Illustrative Rendering**

Preferred Concept Benefits at the Waterfront – Support Broader Berkeley



Emergency
Access &
Safety

Support for
Existing
Waterfront
Businesses
& Generate
Marina
Revenue

Attracting
New
businesses &
Support
Waterfront's
Future

Multimodal
Transit and
access
improvements

Increased
Amenities
and Funding
Supports A
Enjoyable
Waterfront

Via a safe, accessible, enjoyable Waterfront, for Berkeley residents, workers, businesses, boaters, and recreational users.

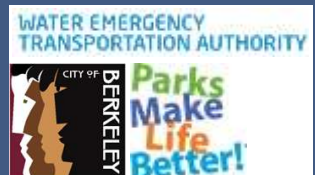
WETA Berkeley Ferry Service Business Plan

Ridership Forecast

Parking & Access

Service Plan

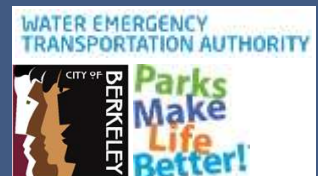
Equity Considerations



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



Mode of Access

Existing Terminals (Pre-Pandemic)

Terminal	Walk	Drive Alone	Bike	Carpool	Public Transit	Kiss-and-Ride	TNCs	Taxi	Other	Total
Alameda	12%	44%	9%	22%	0%	6%	5%	1%	1%	100%
Oakland	24%	21%	6%	28%	6%	7%	6%	0%	2%	100%
Harbor Bay	30%	31%	12%	8%	11%	7%	1%	0%	1%	100%
Richmond	13%	41%	14%	14%	2%	10%	4%	0%	2%	100%
Vallejo	7%	34%	4%	19%	2%	22%	8%	0%	4%	100%

Source: Year 2017 and Year 2019 (Richmond only) WETA On-Board Surveys

Future Berkeley Terminal (Estimated)

Terminal	Walk	Drive Alone	Bike	Carpool	Public Transit	Kiss-and-Ride	TNCs	Taxi	Other	Total
Berkeley	8%	31%	16%	15%	5%	15%	7%	1%	1%	100%



Ferry Parking, Access, and Mobility



Goals

- Avoid ferry parking impacts to other waterfront users
- Minimize need for new parking and preserve natural beauty of Waterfront
- Support non-driving travel modes



Toolkit

- Limit/cap for ferry parking
- Active parking management: paid parking for ferry users, time limits, enforcement
- TDM programs: incentives for biking, walking, and transit



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

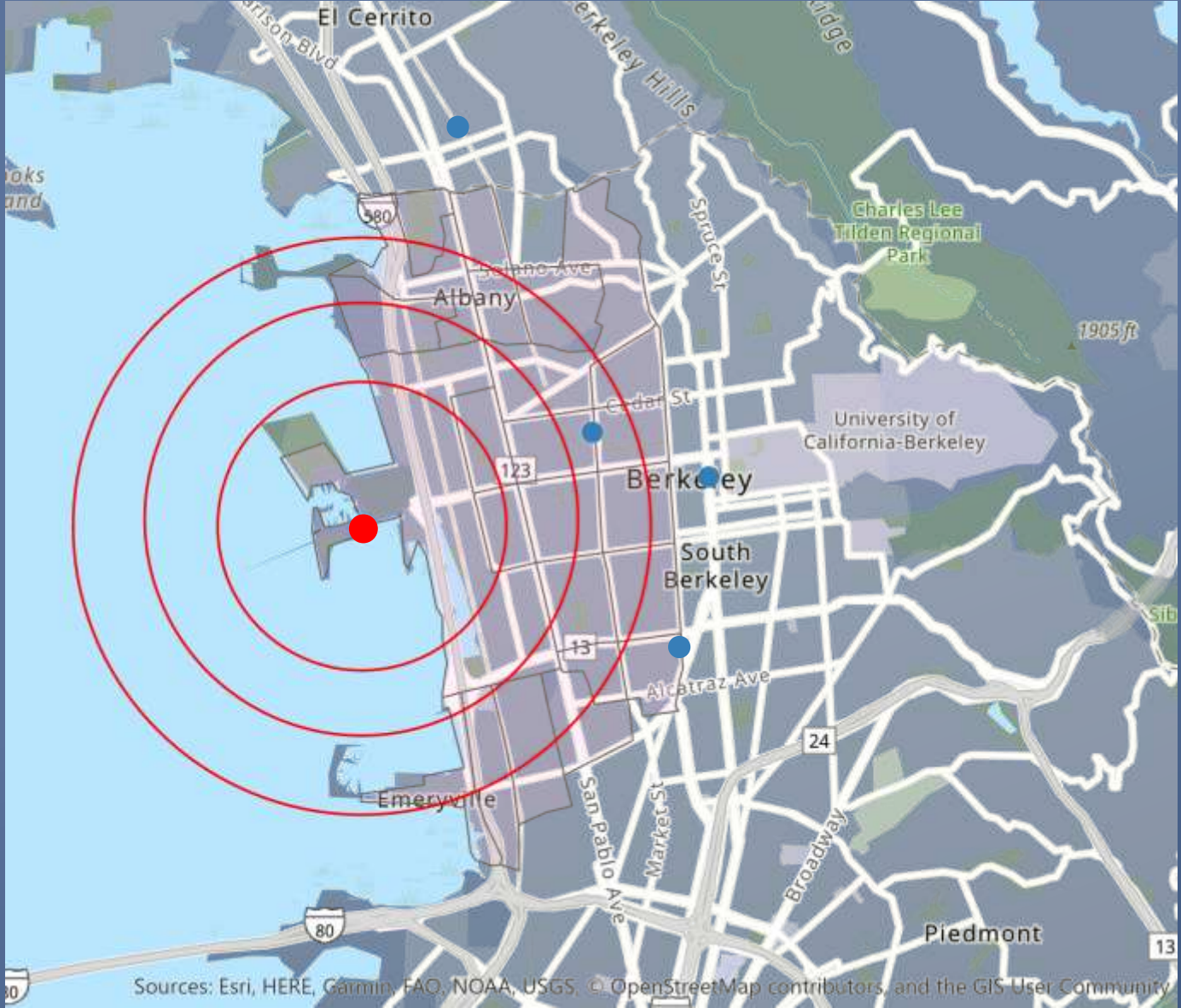
Berkeley to Larkspur	Weekend Westbound: Berkeley to Larkspur		Weekend Eastbound: Larkspur to Berkeley		Larkspur to Berkeley
	Depart Berkeley	Arrive Larkspur	Depart Larkspur	Arrive Berkeley	
	9:30	10:05	10:15	10:50	
	11:00	11:35	11:45	12:20	
	12:30	13:05	13:55	14:30	
	15:00	15:35	15:45	16:20	
	16:30	17:05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

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



Points of Interest

- 1 mile
 - Bayer
 - Fourth Street
- 1.5 mile
 - University Village
 - Kaiser Permanente
- 2 mile
 - North Berkeley BART station



Legend

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



U.S. Census Socio/Economic Demographics

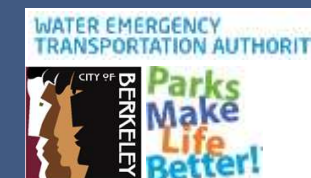
Geography	Jobs	% Public transit commute ¹	Median HH income	UNEMP ³ rate	Race/ethnicity: % non-white ²	Population
1-mile radius	8,980	20%	\$81,000	5.0%	57%	9,889
1.5-mile radius	18,163	26%	\$85,000	3.9%	54%	30,804
2-mile radius	31,487	28%	\$96,000	4.3%	57%	81,701
City of Berkeley	43,575	26%	\$85,500	5.3%	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

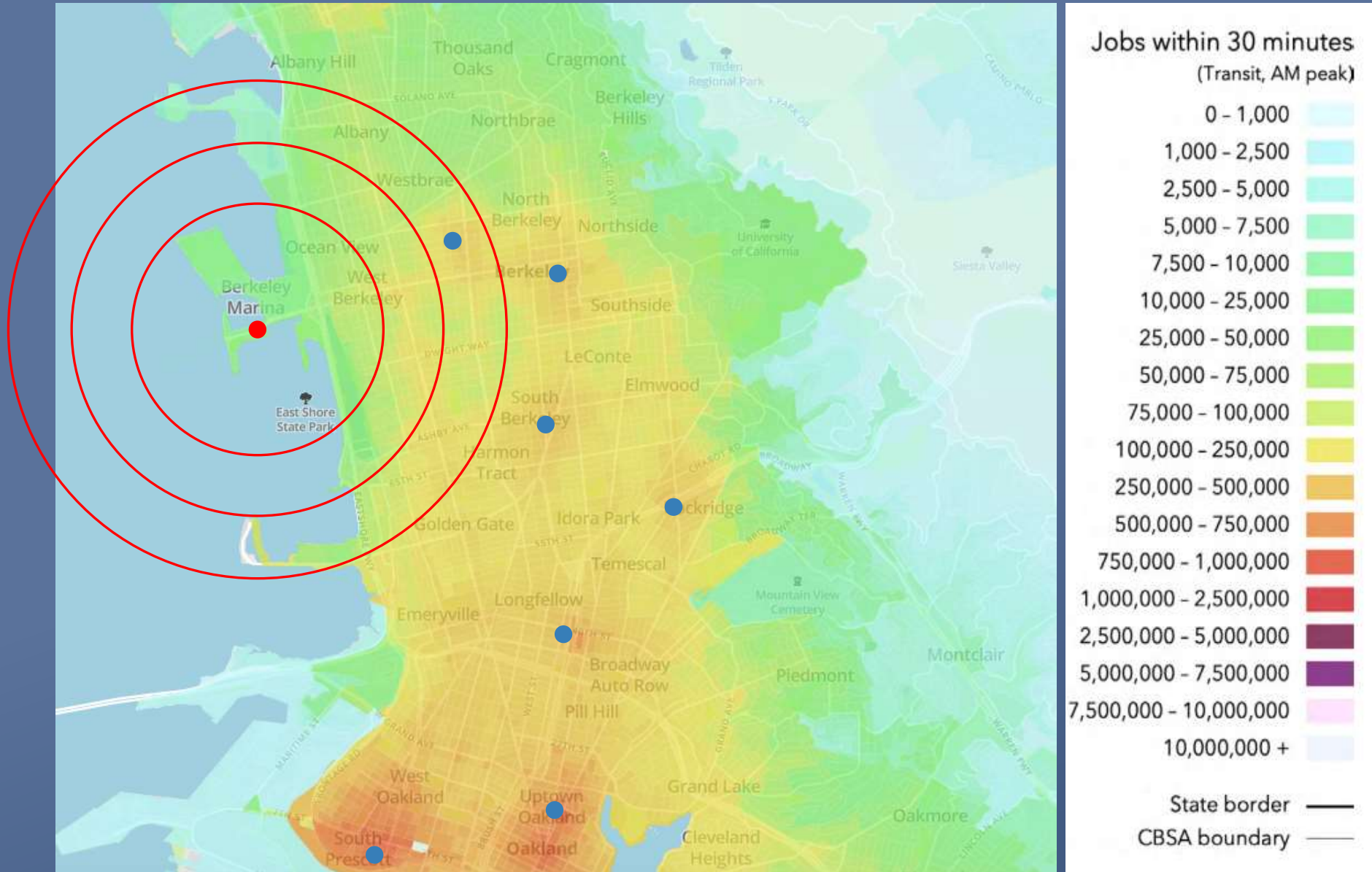


Top 5 categories ranked by salary premium

Source: California Employment Development Department



Access to Jobs via Transit



Source: Accessibility Observatory,
University of Minnesota (2019)



COMMUNITY CONCERNS

- Can the Waterfront accommodate both ferry service and recreation?
- Shouldn't we wait for the BMASP to finish?
- Should the public be investing in ferry service?
- Is this even possible within our current regulatory restrictions?
- How can this move forward if the City hasn't completed the environmental/CEQA process?
- Does community input matter, or has the decision already been made?



Next Steps

Goals for Design Development Phase

1. Bring more AC Transit bus service to the Marina.
2. Bring more shuttle service to the Marina.
3. Use parking management methods to encourage alternative transportation to the Marina (e.g., paid ferry parking, time-restricted parking at other lots, parking enforcement).
4. Conduct a full CEQA environmental review (and NEPA if required) to assess project impacts on air quality, biological resources, greenhouse gas emissions, transportation/traffic/parking, land use planning, recreation, etc.
5. Conduct a public engagement process for the Design Development phase.
6. Integrate the potential ferry project into the larger Berkeley Marina Specific Plan (BMASP) project.



Next Steps

- 1) Both entities to work jointly to identify funding with agreed cost-sharing for the Design Development Phase
- 2) Seek approval from City Council and WETA Board on the updated or amended MOU

Funding Options

- A. Fund the initial Design Development (DD) phase: legal review & evaluation, preliminary design, permitting and all necessary environmental review at \$4-5M*. The remaining cost of DD can be funded in a future step.
- B. Fund a full DD phase that includes complete design, permitting, environmental review, legal review and evaluation at \$6-8M*.
- C. Fund Total Project (DD and Construction) – estimated at \$83.5M.

*Approximated cost range; vary depending on required environmental review process (CEQA/NEPA)

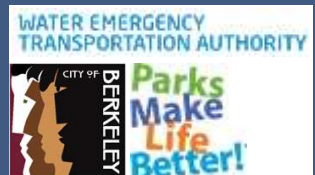
*The estimated DD phase cost is based on estimated construction cost at program-level.



Next Steps

Potential Funding/Grants

1. **Regional Measure 3**
2. **Alameda County Transportation Commission - Measure BB**
3. **Caltrans – Active Transportation Program**
4. **Caltrans – Ferry Boat and Terminal Facilities Construction Program**
5. **Infrastructure Investment and Jobs Act’s Passenger Ferry Grant Program**
6. **City of Berkeley Funds**



Questions/Comments

- Feedback on the Details of the preferred concept
- Discuss Potential Next Steps

