

**Members of the Board**

James Wunderman, Chair  
Monique Moyer, Vice Chair  
Jessica Alba  
Jeffrey DelBono  
Anthony J. Intintoli, Jr.

**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
BOARD OF DIRECTORS MEETING**

*Thursday, December 8, 2022 at 1:30 p.m.*

**Vallejo City Hall**  
555 Santa Clara Street  
Vallejo, CA

**Face masks strongly recommended for in-person participation.**

*and*

**Videoconference**

Join WETA BOD Zoom Meeting

<https://us02web.zoom.us/j/89718217408>

**Meeting ID: 897 1821 7408**

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***The full agenda packet is available for download at [weta.sanfranciscobayferry.com](http://weta.sanfranciscobayferry.com)***

**AGENDA**

1. CALL TO ORDER
2. ROLL CALL/PLEDGE OF ALLEGIANCE
3. REPORT OF BOARD CHAIR **Information**
  - a. Chair's Verbal Report
4. REPORTS OF DIRECTORS **Information**

Directors are limited to providing information, asking clarifying questions about matters not on the agenda, responding to public comment, referring matters to committee or staff for information, or requesting a report to be made at another meeting.
5. REPORTS OF STAFF **Information**
  - a. Executive Director's Report on Agency Projects, Activities and Services
    - i. Network Management
  - b. Monthly Review of Financial Statements
  - c. Federal Legislative Update
  - d. State Legislative Update
  - e. Monthly Ridership and Recovery Report
  - f. Marketing Update
6. CONSENT CALENDAR **Action**
  - a. Adopt Resolution Regarding Remote Meetings Pursuant to Assembly Bill 361
  - b. Board Meeting Minutes – November 3, 2022
  - c. Authorize Release of a Request for Proposal – MV *Intintoli* and MV *Mare Island* Replacement
  - d. Authorize Release of a Request for Proposals for Gemini Class Mid-Life Refurbishment
  - e. Adopt 2021 Metropolitan Transportation Commission Multi-Jurisdictional Hazard Mitigation Plan

**Water Emergency Transportation Authority  
December 8, 2022 Meeting of the Board of Directors**

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| 7. <u>RECOGNIZE THE OUTSTANDING SERVICE OF ANTHONY J. INTINTOLI, JR. AS A MEMBER OF THE BOARD OF DIRECTORS OF THE SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY AND ITS PREDECESSOR SAN FRANCISCO BAY AREA WATER TRANSIT AUTHORITY FROM 2000 TO 2022</u> | <b>Action</b>      |
| 8. <u>RECEIVE THE INDEPENDENT AUDITOR'S REPORTS FOR THE FISCAL YEAR ENDING JUNE 30, 2022</u>   | <b>Action</b>      |
| 9. <u>APPROVE CONTRACT AWARD TO FOTH &amp; VAN DYKE AND ASSOCIATES, INC. FOR ON-CALL DREDGING SUPPORT SERVICES</u>   | <b>Action</b>      |
| 10. <u>APPROVE CONTRACT AWARDS TO MACKENZIE, DAVIS &amp; ASSOCIATES COMMUNICATIONS, AND UNDERGROUND AGENCY FOR MARKETING AND PUBLIC RELATIONS SERVICES</u>   | <b>Action</b>      |
| 11. <u>APPROVE CONTRACT AWARDS TO NEXT STEPS MARKETING AND INTERETHNICA, INC. FOR COMMUNITY OUTREACH SERVICES</u>  | <b>Action</b>      |
| 12. <u>2022 ONBOARD PASSENGER SURVEY REPORT</u>  | <b>Information</b> |
| 13. <u>REVIEW AND PROVIDE INPUT ON WETA'S DRAFT 2023 LEGISLATIVE PROGRAM</u>   | <b>Information</b> |
| 14. <u>WETA FLEET ELECTRIFICATION STUDY: FUTURE BATTERY TECHNOLOGY, COST PROJECTION, ENVIRONMENTAL IMPACT</u>  | <b>Information</b> |
| 15. <u>AUTHORIZE RELEASE OF A REQUEST FOR PROPOSALS – CONSTRUCTION OF A NEW FLOAT TO SUPPORT A TRANSITION TO ZERO EMISSION VESSELS</u>   | <b>Action</b>      |
| 16. <u>PUBLIC COMMENTS FOR NON-AGENDA ITEMS</u>  |                    |

ADJOURNMENT

**All items appearing on the agenda are subject to action by the Board of Directors. Staff recommendations are subject to action and change by the Board of Directors.**

**CHANGES RELATED TO COVID-19**

Consistent with AB 361, codified in Government Code Section 54953, this meeting will be conducted through an internet-based service option. The public is invited to participate via the link provided at the top of this agenda.

**PUBLIC COMMENTS** WETA welcomes comments from the public.

*If you know in advance that you would like to make a public comment during the videoconference, please email BoardOfDirectors@watertransit.org with your name and item number you would like to provide comment on no later than 15 minutes after the start of the meeting. Comments will also be accepted in real time. During the public comment period, speakers will be allotted no more than 3 minutes to speak and will be heard in the order of sign-up. Said time frames may be extended only upon approval of the Board of Directors.*

Agenda Items: Speakers on individual agenda items will be called in order of sign-up after the discussion of each agenda item.

**Water Emergency Transportation Authority**  
**December 8, 2022 Meeting of the Board of Directors**

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Non-Agenda Items: A 15-minute period of public comment for non-agenda items will be held at the end of the meeting. Please indicate on your speaker card that you wish to speak on a non-agenda item. No action can be taken on any matter raised during the public comment period.

Upon request, WETA will provide written agenda materials in appropriate alternative formats to individuals with disabilities. In addition, WETA will arrange for disability-related modifications or accommodations including auxiliary aids or services to enable individuals with disabilities to participate in public meetings. Please send an email with your request to: [contactus@watertransit.org](mailto:contactus@watertransit.org) or by telephone: (415) 291-3377 as soon as possible and no later than 5 days prior to the meeting and we will work to accommodate access to the meeting.

**AGENDA ITEM 1**  
**CALL TO ORDER**

**AGENDA ITEM 2**  
**ROLL CALL**

**AGENDA ITEM 3**  
**REPORT OF BOARD CHAIR**

**AGENDA ITEM 4**  
**REPORTS OF DIRECTORS**

**NO MATERIALS**

TO: WETA Board Members

FROM: Seamus Murphy, Executive Director

DATE: December 8, 2022

RE: Executive Director's Report

**November 8, 2022 General Election Update**

**Mayoral Races** – The city of Richmond and Oakland have elected new mayors in the 2022 General Election. Richmond's apparent newly elected mayor is former Richmond councilmember Eduardo Martinez, and Oakland's apparent newly elected mayor is former Oakland councilmember Sheng Thao.

**Ballot Measures** – The city of San Francisco has voted to pass Proposition L, Sales Tax Renewal for Transportation Projects Measure. This measure will continue a one-half cent sales tax to 2053 and generate estimated annual revenue of \$100–236 million to pay for transportation projects described in a new 30-year spending plan, which includes \$5 million for the Mission Bay Ferry Landing.

**Regional Network Management**

On May 7, 2020, the Metropolitan Transportation Commission (MTC) created a 32-member Blue Ribbon Transit Recovery Task Force to assist MTC in understanding the scale of the crisis facing Bay Area transit systems due to the COVID-19 pandemic. The task force helped guide MTC's regional response through expedited distribution of federal relief funds, and approved [27 specific near-term actions](#) to re-shape the region's transit system into a more connected, more efficient, and more user-focused mobility network across the entire Bay Area. This set of actions forms the cornerstone of a formal [Bay Area Transit Transformation Action Plan](#). Part of this action plan involves evaluating roles, responsibilities, and governance alternatives for a new regional network management framework. To guide this work, MTC created a Network Management Business Case Advisory Group.

December 2022 Update – Over the past year, the Advisory Group has worked with MTC staff and consultants to evaluate a number of options for establishing a network management framework. In November, the group reviewed a preliminary framework that includes an Executive Board composed of transit operator representatives, with dedicated support staff, and accountability to MTC. On December 12, the group is expected to receive and consider a revised recommendation.

**Public Ferry Coalition**

WETA and Washington State Ferries are co-chairs of the recently re-constituted and expanded Public Ferry Coalition (PFC). The PFC was previously a loosely defined coalition of the largest ferry operators around the country that worked together periodically on federal advocacy issues. Earlier this year, WETA staff attended the Passenger Vessel Association's annual meeting with the goal of convening a public ferry operator's committee to be able to coordinate on federal advocacy issues as well as to trade information on regulatory and administrative issues. Working with WETA's and Washington State Ferries' federal lobbyists, the expanded PFC held its first quarterly meeting on November 15 which included staff from 17 public ferry operators around the country. WETA will be leveraging this coalition to advocate for several federal funding issues including getting more co-sponsors for the Ferry Service Expansion Act (Garamendi & Murray), lobbying for the appropriation of additional funding for the Electric Low Emission Ferry program authorized through the Infrastructure Bill, as well as discussing and coordinating on several regulatory, administrative and operational issues.

**Bay Ferry VI**

Planning is underway for Bay Ferry VI, a regional active threat full scale exercise that is scheduled for Spring 2023. WETA is partnering with the Golden Gate Bridge, Highway and Transportation District (GGBHTD) to plan and coordinate this exercise. GGBHTD secured a Port Security Grant to fund this exercise which will include the development, training and testing of an active shooter training curriculum for ferry crews. WETA worked with the U.S. Coast Guard, GGBHTD, and bay area ferry operators in early 2022 to outline the specific needs for this type of training in the specific environment in which ferry crews operate. As the planning team gets further in the development of the exercise, staff will provide periodic updates to the WETA Board.

\*\*\*END\*\*\*

**MEMORANDUM**

**TO: Board Members**

**FROM: Seamus Murphy, Executive Director  
Erin McGrath, Chief Financial Officer**

**SUBJECT: Review of FY 2022-23 Financial Statements Ending October 31, 2022**

**Recommendation**

There is no recommendation associated with this informational item.

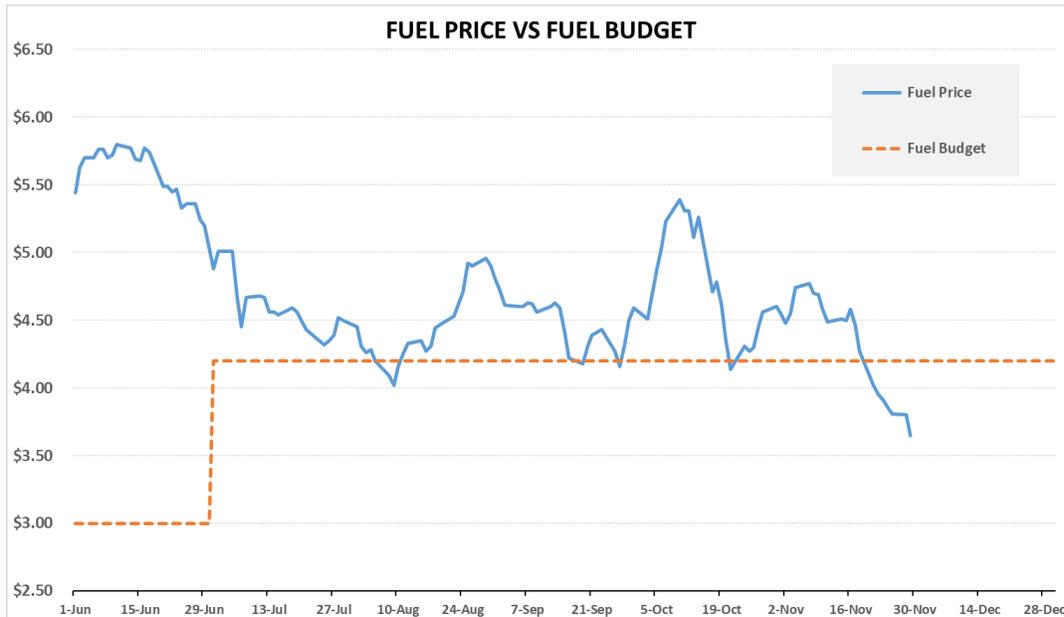
**Financial Statements Summary**

This report provides a summary of financial activity through October 31 against the Fiscal Year 2022-23 approved budget. Revenue and expense to date for operations is \$19.3 million which is within anticipated amounts at this point in the year. The summary table below shows the high-level comparison, with 33% of the fiscal year completed.

Operating Budget vs. Actual	Year - To - Date		Annual	
	FY2021-22 Actual	FY2022-23 Actual	FY2022-23 Approved Budget	% of FY 2022-23 Budget
	Prior YTD	Current YTD		
<b>Revenue:</b>				
Fare Revenue	\$2,720,840	\$4,049,290	\$ 11,228,927	36%
Federal - COVID-19 Relief Funds	5,721,057	9,163,950	27,223,251	34%
Bridge Toll Revenues	5,325,566	4,847,524	18,250,000	27%
Contra Costa Measure J	1,067,654	1,234,399	3,709,330	33%
Other Revenue	1,900	43,599	1,300,000	3%
<b>Total Operating Revenues</b>	<b>\$14,837,016</b>	<b>\$19,338,762</b>	<b>\$ 61,711,508</b>	<b>31%</b>
<b>Expense:</b>				
Ferry Services	\$14,187,424	\$ 18,264,132	\$58,311,508	32%
Planning & Administration	649,592	1,074,630	3,400,000	32%
<b>Total Operatings Expenses</b>	<b>\$14,837,016</b>	<b>19,338,762</b>	<b>\$61,711,508</b>	<b>31%</b>
<b>System-Wide Farebox Recovery %</b>	<b>19%</b>	<b>22%</b>		

Fare revenue, \$4 million to date, has been trending higher than the annual budget on a monthly basis. At current levels we would finish the budget year with a projected \$250,000 more than anticipated fare revenue. However, revenue has been slowing as the winter months approach and will likely continue to slow during what are normally low ridership months. Therefore, total fare revenue will likely return to budgeted levels as this occurs. Staff will continue to monitor and report back on fare revenue trends in the coming months.

At the last Board meeting, members inquired about fuel price trends. In the last two weeks fuel prices have dipped lower than budgeted amounts in a meaningful way. The budget assumed fuel costs to be \$4.20 per gallon, and prices are now below \$3.70 including all fees and taxes. Cumulative costs to date are higher on fuel than budgeted, with 37% of the fuel budget expended compared to 33% of the fiscal year elapsed. However, the budget anticipated that it would take some time for fuel prices to abate and the trend is currently in the right direction as shown in the chart below.



Capital Budget expenses, as shown below, are \$5 million for the year with work ramping up on the Gemini Class engine conversions, a number of vessel engine overhaul projects, and vessel expansion and replacements. A summary is shown below.

Capital Budget vs. Actual	FY2022-23 Actual Current YTD	FY2022-23 Approved Budget	% of FY 2022-23 Budget
<b>Revenue:</b>			
Federal Funds	\$1,886,034	\$25,171,292	7%
State Funds	2,827,892	10,379,421	27%
Bridge Toll Revenues	248,665	7,142,670	3%
Other Revenues	69,544	4,091,525	2%
<b>Total Capital Revenues</b>	<b>\$5,032,135</b>	<b>\$46,784,908</b>	<b>11%</b>
<b>Expense:</b>			
<b>Total Capital Expenses</b>	<b>\$5,032,135</b>	<b>\$46,784,908</b>	<b>11%</b>

The financial reports attached show the more detailed operating, administrative, and capital activity for the month of October, year-to-date amounts against budget for the fiscal year, and historical comparisons of operating expense against the prior year.

**Investment Report**

In order to comply with Government Code § 53607, this report contains the monthly balances held in both the Local Agency Investment Fund (LAIF) and our commercial bank. The total balance in these two institutions is \$21,487,665.

**Fiscal Impact**

There is no fiscal impact associated with this informational item.

\*\*\*END\*\*\*

**San Francisco Bay Area Water Emergency Transportation Authority**  
**FY 2022-23 Operating & Administration Revenue and Expense**  
**Through the Month Ending 10/31/2022**

% of Year Elapsed 33%

	Month Oct-22 Actual	Year - To - Date		Total FY2022-23 Budget	Total Budget
		FY2021-22 Actual	FY2022-23 Actual		
<b>OPERATING EXPENSE</b>					
<b>FERRY OPERATIONS:</b>					
<b>Harbor Bay Ferry Service (AHBF)</b>					
Vessel Crew Labor	\$157,225	\$549,822	\$521,261	\$1,551,680	34%
Vessel Fuel	117,973	\$242,833	448,610	1,087,800	41%
Vessel Operations & Maintenance	31,810	\$101,295	130,540	542,008	24%
Facility Operations & Maintenance	73,214	\$170,984	217,559	793,813	27%
System Expense	67,665	\$209,152	243,441	779,790	31%
<b>Total Harbor Bay Farebox Recovery - AHBF</b>	<b>\$447,887</b>	<b>\$1,274,085</b>	<b>\$1,561,410</b>	<b>\$4,755,091</b>	<b>33%</b>
	<b>15%</b>	<b>9%</b>	<b>16%</b>	<b>11%</b>	
<b>Alameda/Oakland Ferry Service (AOFS)</b>					
Vessel Crew Labor	\$431,848	\$1,352,524	\$1,429,616	\$4,999,858	29%
Vessel Fuel	294,932	\$786,323	1,129,352	2,797,200	40%
Vessel Operations & Maintenance	129,787	\$239,111	360,911	1,185,911	30%
Facility Operations & Maintenance	191,138	\$512,016	607,568	2,329,236	26%
System Expense	185,912	\$574,641	703,807	2,798,211	25%
<b>Total Alameda/Oakland Farebox Recovery - AOFS</b>	<b>\$1,233,616</b>	<b>\$3,464,616</b>	<b>\$4,231,255</b>	<b>\$14,110,416</b>	<b>30%</b>
	<b>20%</b>	<b>29%</b>	<b>26%</b>	<b>23%</b>	
<b>Vallejo Ferry Service (Vallejo)</b>					
Vessel Crew Labor	\$485,119	\$1,466,622	\$1,635,204	\$4,482,632	36%
Vessel Fuel	648,851	\$1,870,280	2,589,158	\$7,303,800	35%
Vessel Operations & Maintenance	191,012	\$319,241	416,839	\$1,506,018	28%
Facility Operations & Maintenance	225,278	\$1,336,359	1,200,389	3,373,394	36%
System Expense	195,223	\$629,557	778,165	2,872,318	27%
<b>Total Vallejo Farebox Recovery - Vallejo</b>	<b>\$1,745,483</b>	<b>\$5,622,059</b>	<b>\$6,619,755</b>	<b>\$19,538,162</b>	<b>34%</b>
	<b>24%</b>	<b>34%</b>	<b>29%</b>	<b>27%</b>	
<b>South San Francisco Ferry Service (SSF)</b>					
Vessel Crew Labor	\$121,280	\$79,257	\$383,947	\$1,206,862	32%
Vessel Fuel	73,733	\$0	304,504	777,000	39%
Vessel Operations & Maintenance	26,708	\$85,791	111,190	464,549	24%
Facility Operations & Maintenance	69,447	\$161,123	222,600	708,666	31%
System Expense	40,130	\$66,348	140,034	464,576	30%
<b>Total South San Francisco Farebox Recovery - SSF</b>	<b>\$331,298</b>	<b>\$392,519</b>	<b>\$1,162,275</b>	<b>\$3,621,653</b>	<b>32%</b>
	<b>7%</b>	<b>0%</b>	<b>7%</b>	<b>8%</b>	
<b>Richmond Ferry Service (Richmond)</b>					
Vessel Crew Labor	\$330,482	\$904,863	\$1,143,800	\$3,275,769	35%
Vessel Fuel	206,453	\$469,799	796,990	2,175,600	37%
Vessel Operations & Maintenance	40,175	\$128,697	167,477	697,397	24%
Facility Operations & Maintenance	146,237	\$342,213	433,297	1,676,668	26%
System Expense	90,931	\$253,272	324,177	1,248,762	26%
<b>Total Richmond Farebox Recovery - Richmond</b>	<b>\$814,278</b>	<b>\$2,098,843</b>	<b>\$2,865,741</b>	<b>\$9,074,196</b>	<b>32%</b>
	<b>9%</b>	<b>9%</b>	<b>11%</b>	<b>8%</b>	

(continued on next page)

**San Francisco Bay Area Water Emergency Transportation Authority**  
**FY 2022-23 Operating & Administration Revenue and Expense**  
**Through the Month Ending 10/31/2022**

% of Year Elapsed 33%

	Month Oct-22 Actual	Year - To - Date		Total FY2022-23 Budget	Total Budget
		FY2021-22 Actual	FY2022-23 Actual		
<b>OPERATING EXPENSE (continued)</b>					
<b>Seaplane Lagoon Ferry Service (SPL)</b>					
Vessel Crew Labor	\$206,614	\$548,396	\$624,046	\$1,724,089	36%
Vessel Fuel	132,720	\$244,601	521,072	1,398,600	37%
Vessel Operations & Maintenance	62,480	\$122,002	183,199	605,118	30%
Facility Operations & Maintenance	72,400	\$167,869	213,444	793,966	27%
System Expense	70,821	\$252,436	281,935	1,001,157	28%
<b>Total Seaplane Lagoon Farebox Recovery - SPL</b>	<b>\$545,035</b> 17%	<b>\$1,335,303</b> 10%	<b>\$1,823,696</b> 19%	<b>\$5,522,930</b> 18%	<b>33%</b>
<b>Sub-Total Ferry Operations (Ongoing Service)</b>	<b>\$5,117,598</b>	<b>\$14,187,424</b>	<b>\$18,264,132</b>	<b>\$56,622,448</b>	<b>32%</b>
<b>FAREBOX RECOVERY</b>	<b>18%</b>	<b>23%</b>	<b>22%</b>	<b>20%</b>	
<b>Hydrogen Demostration Project</b>					
Vessel Crew Labor	\$0	<b>Not Applicable</b>	\$0	\$440,460	0%
Vessel Fuel	-		\$0	417,400	0%
Vessel Operations & Maintenance	-		\$0	37,500	0%
Facility Operations & Maintenance	-		\$0	8,700	0%
System Expense	-		\$0	785,000	0%
<b>Total Hydrogen Demonstration</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,689,060</b>	<b>0%</b>
<b>Subtotal Ferry Operations (All)</b>	<b>\$5,117,598</b>	<b>\$14,187,424</b>	<b>\$18,264,132</b>	<b>\$58,311,508</b>	<b>31%</b>
<b>PLANNING &amp; ADMINISTRATION:</b>					
Wages and Fringe Benefits	\$178,292	\$525,213	\$678,189	\$1,775,164	38%
Professional & Other Services	275,752	287,497	602,768	2,466,660	24%
Information Tech., Office, Supplies	770	34,670	20,984	78,000	27%
Utilities	1,556	8,128	5,041	44,700	11%
Insurance	1,855	5,228	8,879	18,829	47%
Dues, Memberships, Misc.	2,514	14,771	20,495	95,000	22%
Leases and Rentals	21,301	104,870	81,332	250,431	32%
Admin Overhead Expense Transfer	(80,455)	(330,786)	(343,058)	(1,328,784)	26%
<b>Sub-Total Planning &amp; Gen Admin</b>	<b>\$401,584</b>	<b>\$649,592</b>	<b>\$1,074,630</b>	<b>\$3,400,000</b>	<b>32%</b>
<b>Total Operating Expense</b>	<b>\$5,519,182</b>	<b>\$14,837,016</b>	<b>\$19,338,762</b>	<b>\$61,711,508</b>	<b>31%</b>
<b>OPERATING REVENUE</b>					
Fare Revenue	\$930,339	\$2,720,840	4,049,290	\$11,228,927	36%
Federal Operating Assistance	2,920,442	5,721,057	\$9,163,950	27,223,251	34%
Regional - Bridge Toll	1,323,694	5,325,566	4,847,524	18,250,000	27%
Regional - Contra Costa Measure J	307,107	1,067,654	1,234,399	3,709,330	33%
Other Revenue	37,599	\$1,900	43,599	1,300,000	3%
<b>Total Operating Revenue</b>	<b>\$5,519,182</b>	<b>\$14,837,016</b>	<b>\$19,338,762</b>	<b>\$61,711,508</b>	<b>31%</b>

**San Francisco Bay Area Water Emergency Transportation Authority**  
**FY 2022-23 Capital Revenue and Expense**  
**Through the Month Ending 10/31/2022**

Project Description	Oct-22 Total	Total Project Budget	Prior Year Expense	Total FY2022-23 Budget	Year-To-Date FY2022-23 Actual	Total Future Year	% of Total Project Budget
<b>CAPITAL EXPENSES:</b>							
<b>FACILITIES:</b>							
<b>Operations and Maintenance Facilities</b>							
North Bay Facility Fuel System Improvement		\$530,450	\$320,152	\$100,000	\$0	\$110,298	60%
Central Bay Facility Oil System Modification		383,968	373,268	10,700	5,718	-	99%
<b>Terminal Improvement</b>							
Terminal Rehabilitation - Alameda Main Street	78,140	8,535,014	507,257	4,943,465	150,922	3,084,292	8%
Shoreside Infrastructure for All-Electric Vessel		5,184,685	124,685	1,924,685	8,000	3,135,315	3%
Passenger Float Rehabilitation - South San Francisco	3,531	908,500	9,995	858,500	278,401	40,005	32%
Terminal Dredging - Vallejo - Surveys & Permitting		113,000	-	113,000	-	-	0%
Terminal Reconfiguration - Vallejo	2,683	550,000	-	550,000	6,733	-	1%
Central Bay Terminal Expansion		550,000	-	550,000	-	-	0%
Passenger Float Rehabilitation - Pier 9		1,362,000	-	1,362,000	-	-	0%
<b>FERRY VESSELS:</b>							
<b>Vessel Construction</b>							
New Commuter Class High-Speed Vessels - (Two)	75,729	30,082,500	24,999,892	3,925,652	1,132,779	1,156,956	87%
Electric Vessels - Expansion - (Two)		9,000,000	-	2,800,000	-	6,200,000	0%
Replacement Vessels - MV Bay Breeze and Solano	19,335	36,002,382	4,493,045	12,491,614	1,112,363	19,017,723	16%
Replacement Vessel - MV Intintoli	6,159	26,446,700	62,794	4,000,000	40,503	22,383,906	0%
Replacement Vessel - MV Mare Island		26,500,000	-	2,650,000	-	23,850,000	0%
<b>Vessel Rehabilitation and Refurbishment</b>							
Vessel Engines Conversion - Gemini Class Vessels	383,299	5,524,100	3,089,137	2,434,963	1,389,192	-	81%
Vessel Engines Overhaul - MV Cetus	112,250	434,564	-	434,564	112,511	-	26%
Vessel Engines Overhaul - MV Hydrus	112,250	354,600	-	354,600	112,250	-	32%
Vessel Engines & Gears Overhaul - MV Bay Breeze		491,400	140,768	210,277	263,454	140,355	82%
Vessel Fuel Injectors Overhaul - MV Intintoli		127,300	23,855	31,888	74,053	71,557	77%
Test Engine Components Replacement - MV Pyxis		315,000	-	315,000	513	-	0%
Test Engine Components Replacement - MV Vela		250,000	-	250,000	-	-	0%
Vessel Mid-Life Refurbishment - MV Gemini		4,488,000	-	4,488,000	-	-	0%
Vessel Engine Overhaul - MV Intintoli	152,713	356,000	-	356,000	152,713	-	43%
Vessel Engine Midlife Overhaul - MV Argo	115,322	563,000	-	563,000	115,322	-	20%
Vessel Engine Midlife Overhaul - MV Mare Island	31,709	132,000	-	132,000	31,709	-	24%
Vessel Waterjet System Upgrade - Pyxis Class Vessels		600,000	-	600,000	-	-	0%
General Diesel Particulate Filter Demonstration Project	45,000	335,000	-	335,000	45,000	-	13%
<b>Total Capital Expenses</b>	<b>\$1,138,120</b>	<b>160,120,163</b>	<b>34,144,848</b>	<b>46,784,908</b>	<b>5,032,135</b>	<b>\$79,190,407</b>	
<b>CAPITAL REVENUES:</b>							
Federal Funds	461,483	\$86,969,449	\$4,172,330	\$25,171,292	\$1,886,034	\$57,625,827	7%
State Funds	481,677	43,413,075	22,155,000	10,379,421	2,827,892	13,134,213	58%
Regional - Bridge Toll	110,332	23,765,525	5,435,371	7,142,670	248,665	11,187,484	24%
Regional - Alameda Sales Tax Measure B / BB	84,628	5,972,114	1,263,732	4,091,525	69,544	616,858	22%
<b>Total Capital Revenues</b>	<b>\$1,138,120</b>	<b>\$160,120,163</b>	<b>\$33,026,433</b>	<b>\$46,784,908</b>	<b>\$5,032,135</b>	<b>\$82,564,382</b>	

**San Francisco Bay Area Water Emergency Transportation Authority**  
**October 31, 2022 Investment Report**

	Oct-22
Bank of America (Checking)	\$3,015,433
Bank of America (Prop 1B)	1,316,333
Bank of America (Measure B/BB)	6,783,549
Local Agency Investment Fund (LAIF)	10,372,350
<b>Total</b>	<b>\$21,487,665</b>

**TO: WETA Board Members**

**FROM: Peter Friedmann, WETA Federal Legislative Representative  
Ray Bucheger, WETA Federal Legislative Representative**

**SUBJECT: WETA Federal Legislative Board Report – December, 2022**

This report covers the following topics:

- Continuing to Advocate for WETA's FTA Grant Application
- Putting Expanded Public Ferry Coalition to Work on Behalf of WETA

### **Continuing to Advocate for WETA's FTA Grant Application**

We are continuing to advocate for WETA's request to the Federal Transit Administration (FTA) for funding to install on-site battery energy storage systems on six existing floats in the cities of Oakland, Alameda and Downtown San Francisco to help facilitate the agency's shift to zero emission ferries. WETA is seeking \$25,920,000 through the Electric and Low Emission Ferry Program (Low-No Ferry Program) and the 5307(h) Passenger Ferry Grant Program, which have been combined by FTA for purposes of this Notice of Funding Opportunity (NOFO). Letters of support were sent to FTA by Senators Feinstein and Padilla, Speaker Pelosi, and other members of the San Francisco Bay Area Congressional delegation. Following up on those letters, we have asked certain key Congressional offices to follow-up with the agency to reiterate the support that was conveyed in the letters and to reinforce why this project is important to the region.

### **Putting Expanded Public Ferry Coalition to Work on Behalf of WETA**

While members of Congress and many Congressional staffers have been focused on the election the past several weeks, we have been working with WETA staff to expand the influence of the Public Ferry Coalition. As previously discussed, WETA worked with Washington State Ferries years ago to establish the Coalition, which until recently, was comprised of only the largest public ferry systems in the country. In addition to WETA and Washington State Ferries, members of the Coalition have included Alaska Marine Highway; Cape May-Lewes Ferry; Golden Gate Bridge, Highway and Transportation District; Maine DOT/Maine State Ferry Service and the North Carolina DOT Ferry Division.

While this Coalition has been quite successful in advocating for federal funding for public ferry systems, we believe we can increase the Coalition's clout in Washington, D.C. by growing its numbers and targeting public ferry systems that operate in generally conservative states and Congressional districts. With respect to the latter, political diversity will be increasingly important as we move into the 118<sup>th</sup> Congress, which will be led by a Republican majority in the House.

This initial expansion effort has been largely driven by Lauren Gularte, who targeted public ferry system members of the Passenger Vessel Association (PVA). Working with Lauren, we held our first meeting of the expanded Coalition last month and discussed a range of topics, including: Buy America Waiver Comments; WETA/Golden Gate Ferry Workshop to break down barriers for DBEs to enter the marine industry; advocating for additional funding for the Electric Ferry/Low Emission Pilot Program; and the Ferry Service Expansion Act.

With respect to the Ferry Service Expansion Act, we asked Public Ferry Coalition members to work with us to reach out to members of the House and Senate to ask them to co-sponsor this legislation, which was introduced in partnership with WETA in September by Congressman John Garamendi (D-CA) and U.S. Senator Patty Murray (D-WA). As previously discussed, this legislation would, among other things:

- Provide \$640 million total from fiscal years 2023 to 2026 in formula grants from the Federal Highway Administration's Ferry Boats and Ferry Terminal Facilities Formula Program, a \$180 million increase over current law.
- Provide \$450 million total from fiscal years 2023 to 2026 in competitive grant programs from the Federal Transit Administration's Passenger Ferry Grant Program, a \$300 million increase over current law.
- Provide a one-time \$1.25 billion investment in federal transit funding for passenger ferries serving urbanized areas like San Francisco to correct the fact that this funding was omitted from the Infrastructure Investment and Jobs Act (IIJA).

While the 117<sup>th</sup> Congress is coming to end, a campaign to grow the list of co-sponsors through the end of the year will put us in a stronger position when the legislation is reintroduced in the 118<sup>th</sup> Congress. Maximizing the number of House and Senate members that co-sponsor the legislation will allow us to make a stronger case to Congressional leadership that this legislation should be advanced, whether in whole or in part.

Respectfully Submitted,  
Peter Friedmann and Ray Bucheger



1415 L Street  
Suite 1000  
Sacramento  
CA, 95814  
916-446-4656

November 28, 2022

TO: Board of Directors, San Francisco Bay Area Water Emergency Transportation Authority

FM: Matt Robinson, Partner  
Michael Pimentel, Legislative Advocate

RE: **STATE LEGISLATIVE UPDATE – December 2022**

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### ***Legislative Update***

The Legislature is currently on recess and will formally adjourn the 2021-22 Legislative Session Sine Die on November 30. The 2023-24 Legislative Session will convene on December 5 for an organizing session, with members returning to their districts until January 4. Shortly after the Legislature reconvenes in January, the Governor will release the Fiscal Year 2023-24 Proposed Budget on, or around, January 10. The Legislative Calendar, which sets the deadlines for the year, is now out and can be viewed [here](#). Importantly, February 17 marks the last day to introduce bills.

In this report, we provide an update on the November General Election, and highlight the forthcoming Assembly Leadership change, the release of final guidelines and call for projects for TIRCP – Cycle 6, the adoption of the FY 2022-23 Investment Plan for Clean Transportation Incentives, and legislation affecting WETA.

### ***November General Election Update***

The 2022 General Election took place on Tuesday, November 8. On the ballot were all eight of California's constitutional officers. As of this report the current leaders for these offices include: Gavin Newsom, Governor; Eleni Kounalakis, Lieutenant Governor; Shirley Weber, Secretary of State; Malia Cohen, Controller; Fiona Ma, Treasurer; Rob Bonta, Attorney General; Ricardo Lara, Insurance Commissioner; and Tony K. Thurmond, Superintendent of Public Instruction.

In the California State Legislature, 100 of the 120 seats were up for election or re-election, including 20 Senate seats (10 seats open, 10 incumbents running for re-election) and 80 Assembly seats (24 seats open, 56 incumbents running for re-election). Democrats in both houses are poised to maintain super-majorities. To view current results, please visit the Secretary of State's [website](#).

### ***Assembly Leadership Change***

Shortly after election night, the Assembly Democrats met informally in Sacramento to discuss who will lead the Caucus in 2023 and beyond. For months, it had been no secret that Assembly Member Robert Rivas (D-Salinas) was vying for the Speakership, while current Speaker Anthony Rendon (D-Lakewood) worked to hold the Assembly's top spot. On November 10, after a Caucus meeting that lasted close to six hours, it was [revealed](#) that an agreement had been reached which would allow Speaker Rendon to maintain his role until June 30, 2023, at which point "Speaker-elect" Rivas would assume the leadership

post. It is not clear what this means for the selection of other Assembly leadership posts or the selection of committee chairs and members. However, these details should emerge in the month ahead.

### ***CalSTA Releases Final Guidelines and Call for Projects for Transit and Intercity Rail Capital Program – Cycle 6***

On November 15, the California State Transportation Agency (CalSTA) released the final program guidelines and a call for projects for the Transit and Intercity Rail Capital Program (TIRCP) – Cycle 6. The final guidelines, comparison document, and the call for projects are available on the [CalSTA website](#). CalSTA expects to award a minimum of \$1.8 billion to existing TIRCP projects by January 31, 2023. Applications for new projects and high-priority grade separations are due February 10, 2023. WETA staff are working on a new project application to meet this February application deadline. CalSTA expects to announce those awards by April 24, 2023.

### **CARB Releases Proposed FY 2022-23 Funding Plan for Clean Transportation Incentives**

On November 17, the California Air Resources Board (CARB) adopted the [Fiscal Year \(FY\) 2022-23 Funding Plan for Clean Transportation Incentives](#). Among the approved investments for which WETA would be eligible are the following:

- \$273 million for CORE
- \$75 million for Advanced Technology Demonstration and Pilot Projects
- \$60 million for Demonstration and Pilot Projects – Commercial Harborcraft

We are assisting WETA staff in securing a meeting with CARB staff to explore these funding opportunities.

### ***Priority Bills***

#### **SB 917 (Becker) Seamless Transit Transformation Act – WETA SUPPORT**

This bill would have required the Metropolitan Transportation Commission (MTC) to develop and adopt a Connected Network Plan, adopt an integrated transit fare structure, develop a comprehensive, standardized regional transit mapping and wayfinding system, develop an implementation and maintenance strategy and funding plan, and establish open data standards to support a more integrated public transportation network in the nine-county San Francisco Bay Area. This bill would have also required the region's transit agencies to comply with those established integrated fare structure, regional transit mapping and wayfinding system, implementation and maintenance strategy and funding plan, and open data standards. **This bill was held in the Assembly Appropriations Committee on August 11.**

#### **SB 922 (Wiener) CEQA: Exemptions: Transportation-Related Projects – WETA SUPPORT**

This bill extends, through January 1, 2030, statutory exemptions from the requirement of the California Environmental Quality Act for clean transportation projects that make streets safer for walking and biking; speed up bus service on streets and improve its on-time performance; support faster bus service on state highways; expand carpooling; and improve wayfinding for people using transit, biking, or walking. This bill similarly extends CEQA exemptions for the construction of infrastructure of facilities to charge or refuel zero-emission transit vehicles, including for ferries; and the building of new bus and light rail stations or terminals. **This bill was signed by Governor Newsom.**

#### **SB 942 (Newman) LCTOP Free or Reduced Fare Transit Program**

This bill provides California public transit agencies with the flexibility to use Low Carbon Transit Operations Program funds for free or reduced-fare transit programs on an ongoing basis. This flexibility

will ensure the long-term sustainability and benefits of free youth ridership programs that expand access to public transit and create lifelong riders. **This bill was signed by Governor Newsom.**

**AB 1919 (Holden) Free Youth Transit Pass Pilot Program**

This bill would have created the Youth Transit Pass Pilot Program, an elective program offering free youth transit passes to students. Transit agencies can partner with educational institutions to apply for grants for free fare programs, and grant funds to be used to maintain, subsidize, or expand an existing fare free program. Previously, the bill, as introduced, would have required all agencies in the state to provide free transit passes to individuals 25 years of age and under as a precondition for accessing state funding. **This bill was vetoed by Governor Newsom.**

**AB 2807 (Bonta) Transportation Funding Eligibility for Ferries – *WETA SUPPORT***

This bill would have expanded eligibility in various programs that provide funding for zero-emission and near zero-emission technologies to include public transportation ferries and commercial harborcraft. **This bill was held in the Senate Appropriations Committee.**

MEMORANDUM

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**TO:** Board Members

**FROM:** Seamus Murphy, Executive Director  
Kevin Connolly, Planning & Development Manager  
Gabriel Chan, Transportation Planner

**SUBJECT:** Monthly Ridership and Recovery Report – October 2022

**Background**

The WETA Pandemic Recovery Plan (Plan) began on July 1, 2021 with the enhancement of the Vallejo, Oakland & Alameda, and Richmond routes, the restart of the suspended Harbor Bay route, and the launch of the new Alameda Seaplane route. The following weekend also marked the relaunch of weekend service on the Vallejo, Oakland & Alameda, and Richmond routes. The South San Francisco service was relaunched in November 2021.

The Plan enhanced service during midday and weekend periods in an effort to meet changing demands from regular commuters and recreational riders. Lower fares, more in line with parallel transit options such as BART or Transbay buses, is an additional feature of the Plan. Future modifications in service will generally follow state guidelines for reopening the economy and subsequent changes in demand. The Plan calls for a monthly evaluation of ridership demand together with other measures relating to how the Bay Area is responding to the COVID-19 health crisis. The Monthly Ridership and Recovery Report presents a status report of the WETA system along with anticipated service adjustments for the upcoming weeks.

**Discussion**

Overall, ridership grew in the first year of the Plan despite dips in the fall and winter due to the Delta and Omicron COVID variants. Beginning in March 2022, the system saw the largest increases in ridership since the start of the pandemic thanks to significant increases in weekday peak-hour ridership as more employers began implementing return-to-office plans. The agency finished Fiscal Year 2022 with about 50% of 2019 pre-pandemic annual ridership—above budget projections for FY22. Despite a September slump, WETA ridership has rebounded to about 78% of pre-covid 2019 ridership in October. The agency continues to perform better than other regional transit operators.

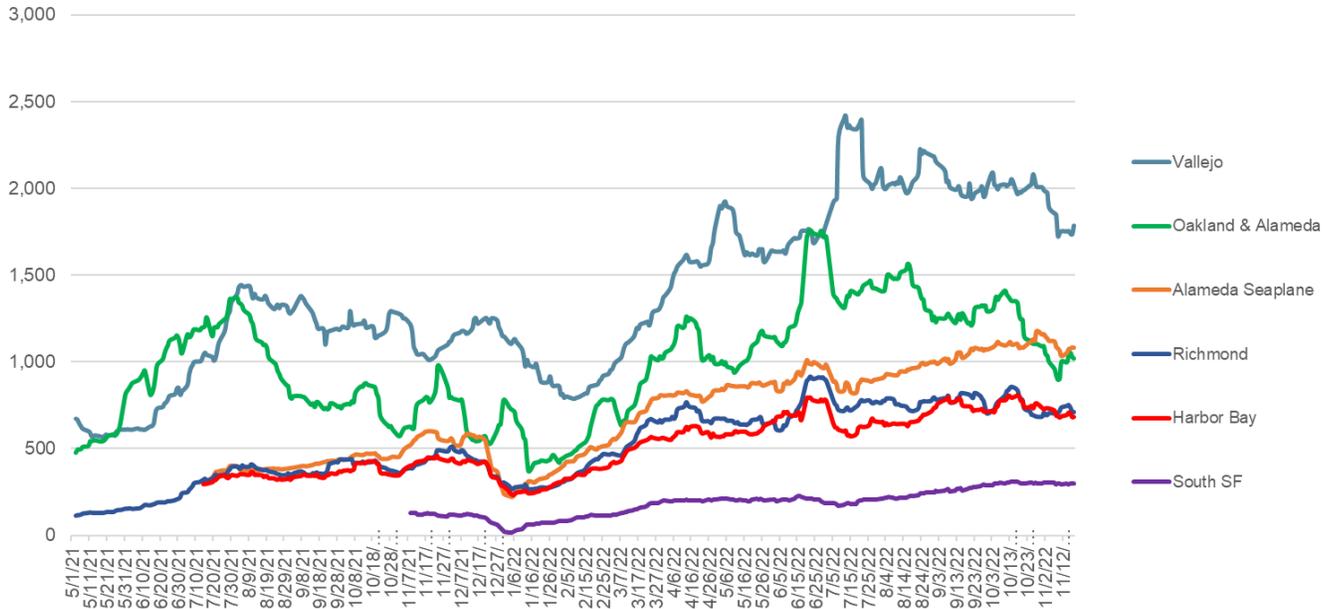
Highlights:

- Weekend ridership remains near 100% of pre-pandemic weekends.
- WETA continues to outperform the budget assumption for FY23.

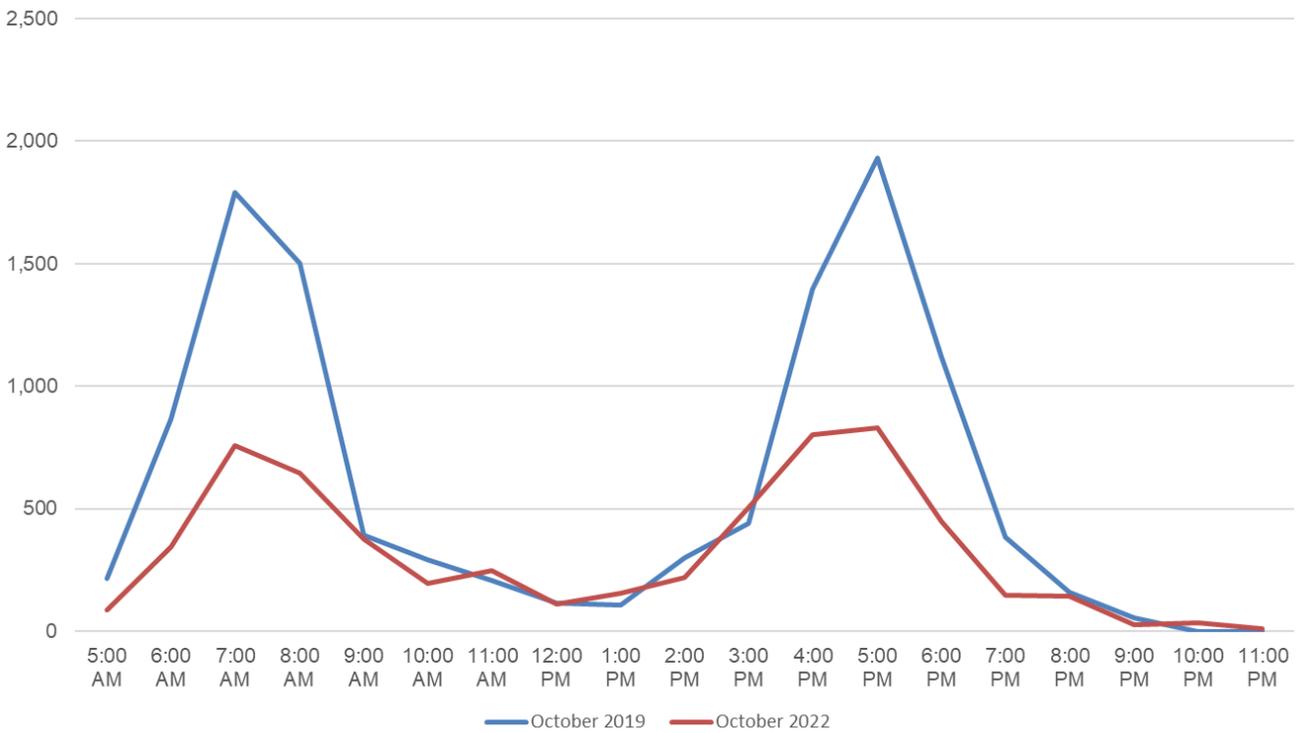
**Recommendations**

Staff do not recommend any service changes at this time.

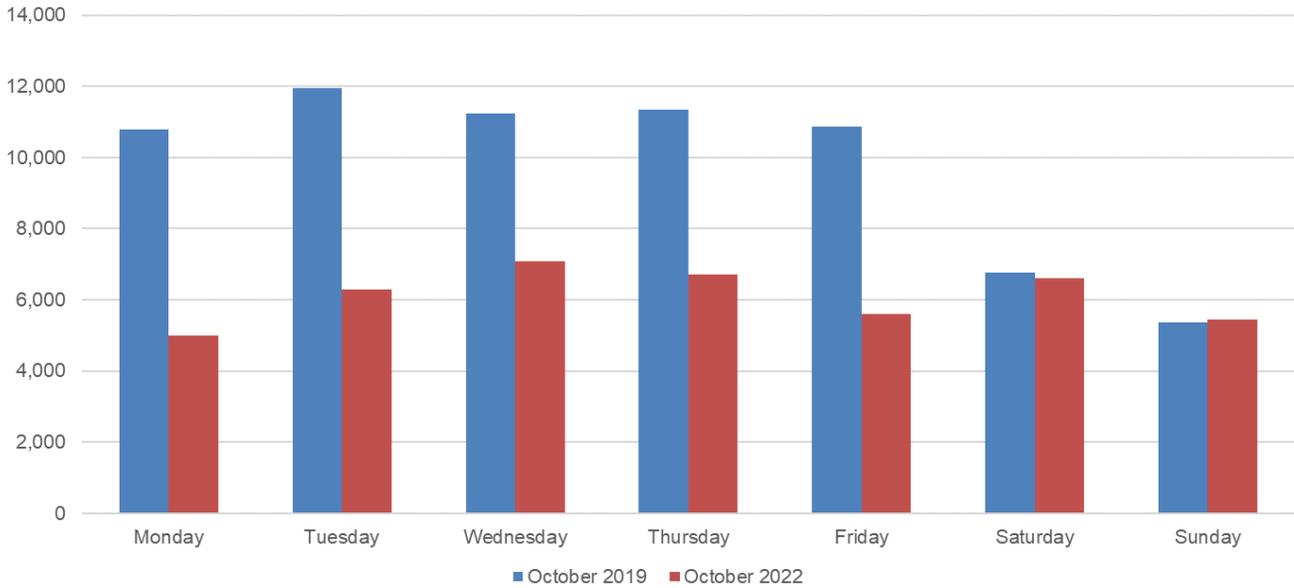
10-Day Weekday Average Ridership



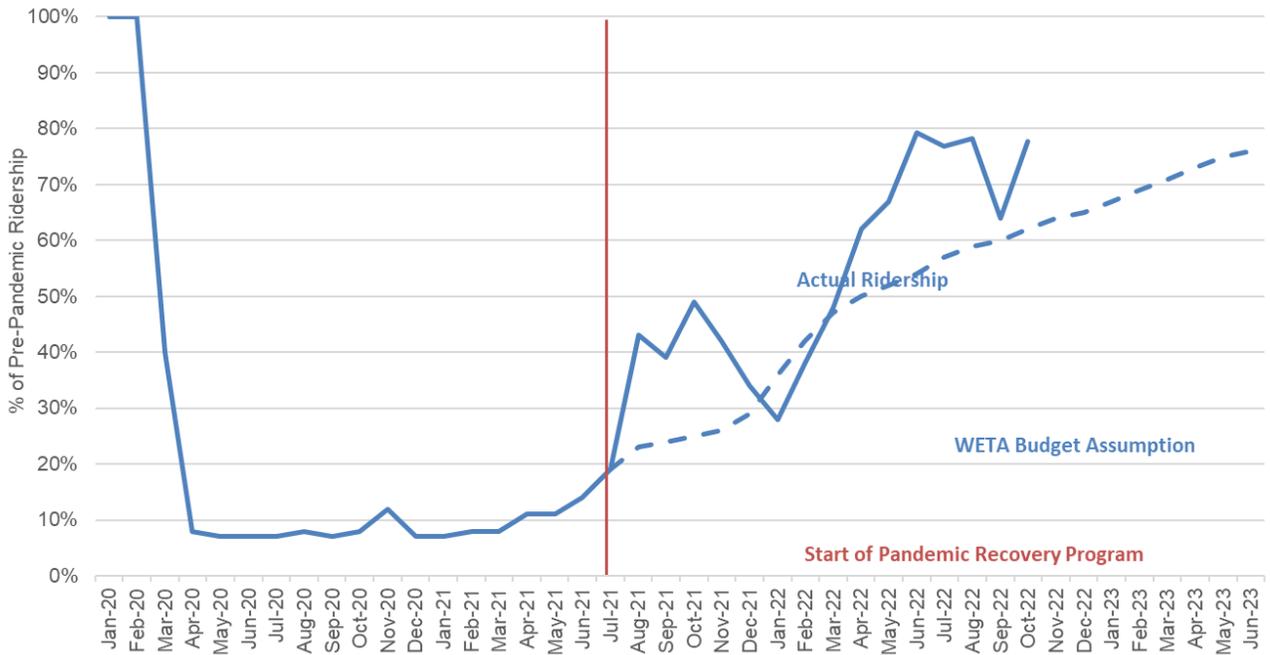
Average Weekday Hourly Boardings



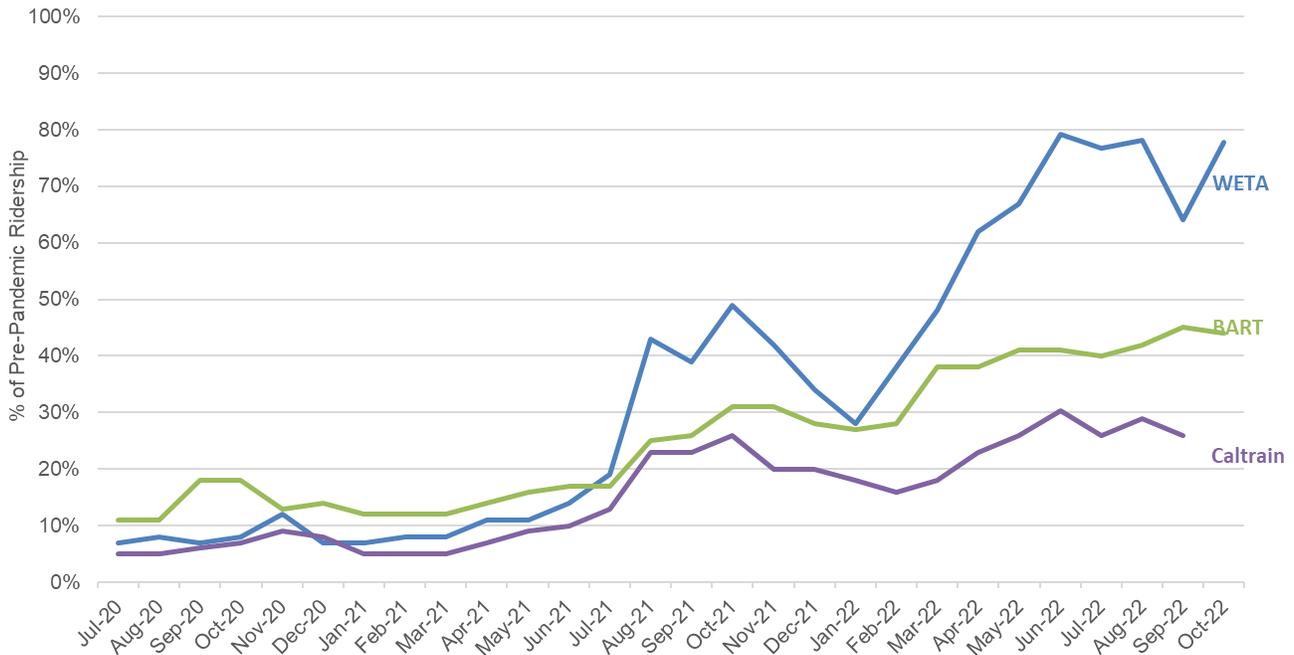
### Average Boardings by Day of Week Systemwide



### Actual vs. Budgeted Ridership



### Regional Transit Ridership



Note: Caltrain Ridership Recovery is only available through September 2022 as of now. Updated October data from Caltrain will be available following their December board meeting.

#### Monthly Operating Statistics Report

		October 2022	Oakland & Alameda*	Vallejo*	Richmond	Harbor Bay	Alameda Seaplane	South San Francisco**	Systemwide
Boardings	vs. last month	Total Passengers October 2022	62,329	56,731	21,411	15,988	23,582	6,422	186,463
		Total Passengers September 2022	56,017	60,958	21,530	15,518	22,076	5,825	181,924
		Percent change	11.27%	-6.93%	-0.55%	3.03%	6.82%	10.25%	2.49%
	vs. same month last year	Total Passengers October 2022	62,329	56,731	21,411	15,988	23,582	6,422	186,463
		Total Passengers October 2021	45,106	40,689	11,860	8,059	9,610		115,324
		Percent change	38.18%	39.43%	80.53%	98.39%	145.39%		61.69%
	vs. prior FY to date	Total Passengers Current FY To Date	238,145	244,344	83,236	59,735	85,429	21,540	732,429
		Total Passengers Last FY To Date	173,062	163,256	44,243	29,921	34,574		445,056
		Percent change	37.61%	49.67%	88.13%	99.64%	147.09%		64.57%
	Avg Weekday Ridership October 2022	2,968	2,701	1,020	761	1,123	306	8,879	
Ops Stats	Passengers Per Hour October 2022	128	78	64	84	122	48	91	
	Revenue Hours October 2022	485	725	334	191	193	133	2,060	
	Revenue Miles October 2022	6,832	19,854	6,207	3,939	3,185	2,310	42,327	
	Farebox Recovery Year-To-Date	26%	29%	11%	16%	19%	7%	22%	
	Peak hour utilization, AM – October 2022	13%	38%	37%	41%	32%	26%	31%	
	Peak hour utilization, PM – October 2022	31%	49%	34%	45%	32%	22%	36%	
Fuel	Fuel Used (gallons) – October 2022	61,521	135,345	43,064	24,608	27,684	15,380	307,603	
	Avg Cost per gallon – October 2022	\$4.79	\$4.79	\$4.79	\$4.79	\$4.79	\$4.79	\$4.79	

\* Includes special event ridership to/from Oracle Park and/or Chase Center  
 \*\* Service suspended on the South San Francisco route until November 2021

\*\*\*END\*\*\*

MEMORANDUM

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**TO:** Board Members

**FROM:** Seamus Murphy, Executive Director  
Thomas Hall, Public Information & Marketing Manager

**SUBJECT:** Marketing Update

**Recommendation**

There is no recommendation associated with this informational item.

**Background**

At its September 2022 meeting, the Board requested information on WETA's plans to market San Francisco Bay Ferry service given continued ridership challenges.

**Discussion**

WETA has multiple ongoing marketing campaigns active.

- **Paid search campaign.** WETA is currently running a paid search campaign targeting both local residents looking for affordable, fun activities in the Bay Area as well as Bay Bridge corridor commuters. This campaign is focused on cost-effectively delivering traffic to a curated landing page on the San Francisco Bay Ferry website. Over the first six weeks of the campaign, it has delivered 16,000 visits to the landing page.
- **YouTube ad campaign.** WETA leveraged the creative content developed for the summer campaign at BART's Embarcadero Station to run an ongoing YouTube campaign highlighting the convenience and high quality of ferry service as a commute option or fun outing. The intent of this campaign is to reach as many local residents and visitors as cost-effectively as possible in hopes that the ferry will remain top of mind as a travel option and to ensure viewers know where the ferry operates. Through six weeks, the campaign has delivered more than 100,000 impressions. The 15-second ad has been viewed in full more than 60,000 times.

These campaigns will continue. The YouTube campaign will be refreshed with new video content in the coming months, in addition to Spanish language content.

WETA has roughly \$200,000 in advertising budget available for the remainder of the fiscal year. Staff is currently pursuing several avenues for winter/spring marketing and will be working with consultants to develop a summer marketing campaign as the peak season approaches.

Among the campaigns currently being considered for the winter and spring seasons are:

- **Out-of-home display (billboard).** Out-of-home display was a major, successful part of the Best Way Back campaign in 2021. While out-of-home display is quite expensive, staff believes a targeted out-of-home booking could help spur interest commute ridership given high levels of peak congestion on the Bay Bridge corridor.

WETA is working with its consultants to identify the right opportunity and content message, with hopes of delivery in the late winter.

- **Streaming services.** WETA is working to develop video and audio campaigns for both ad-supported streaming over-the-top video services as well as audio streaming services. These services are growing in popularity among advertisers due to their lower cost compared to terrestrial radio or cable television and stronger ability to reach targeted demographics. WETA has targeted the early spring for launch of a streaming campaign, with the potential to start sooner for audio streaming ads.
- **Spanish language social media campaign.** WETA plans to begin working on development of a robust Spanish language social media campaign for the spring and early summer. The Spanish language slice of the paid social media element of the Best Way Back campaign was highly successful, and WETA will seek to build on that to increase awareness of San Francisco Bay Ferry service among monolingual and bilingual potential Spanish riders. The campaign will not be developed as a translation of an existing English language campaign.
- **Hotel and visitors' center brochures.** WETA is currently developing materials for paid placement at regional hotels and visitors' centers to lean into the tourism market. This is an area ripe for partnerships, which WETA will continue to pursue.

In addition to the marketing activities described in this memo, WETA's community outreach program has continued, with a focus on building San Francisco Bay Ferry awareness and affinity at a strongly local level utilizing neighborhood and community events.

**Fiscal Impact**

Funds for the marketing campaigns discussed in this memo were included in the 2022/23 budget.

\*\*\*END\*\*\*

MEMORANDUM

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**TO:** Board Members

**FROM:** Seamus Murphy, Executive Director

**SUBJECT:** Adopt Resolution Regarding Remote Meetings Pursuant to Assembly Bill 361

**Recommendation**

Adopt resolution authorizing the WETA Board to meet remotely pursuant to the provisions of AB 361.

**Background/Discussion**

In March 2020, the Governor of California issued several executive orders in response to the COVID-19 pandemic suspending portions of the Ralph M. Brown (Brown) Act to allow Board members to participate remotely in Board meetings without complying with the Brown Act's restrictions on such remote attendance. (Executive Order N-25-20 and N-29-20)

The Governor's executive order that specifically waived certain requirements of the Brown Act expired on September 30, 2021. On September 16, 2021, the Governor signed Assembly Bill (AB) 361 into law, effective on October 1, 2021. AB 361 amends the Brown Act to allow legislative bodies to meet remotely without complying with traditional teleconference meeting rules, provided there is a state of emergency and either (1) state or local officials have imposed or recommended measures to promote social distancing or (2) the legislative body determines by majority vote that meeting in person would present imminent risks to the health and safety of attendees.

The Governor-declared state of emergency continues to be in effect and both state and local officials continue to recommend measures to promote physical distancing. WETA's Board meetings, therefore, are in accordance with AB 361's requirements.

In order to qualify for AB 361, the Board must, within 30 days of its first meeting under AB 361, and every 30 days thereafter, make findings that it has reconsidered the circumstances of the state of emergency and that either or both (a) the state of emergency continues to directly impact the ability to meet safely in person and/or (b) state or local officials continue to impose or recommend measures to promote social distancing.

The Executive Director recommends that the Board adopt these findings with the understanding that the Board will need to approve a similar resolution every 30 days if it wishes to continue to meet under AB 361's requirements for teleconference Board meetings.

**Fiscal Impact**

There is no fiscal impact associated this recommendation.

\*\*\*END\*\*\*

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**

**RESOLUTION NO. 2022-45**

**FINDINGS PURSUANT TO AB 361 TO CONTINUE REMOTE PUBLIC MEETINGS**

**WHEREAS**, on March 4, 2020, Governor Gavin Newsom declared a State of Emergency to make additional resources available, formalize emergency actions already underway across multiple state agencies and departments, and help the State prepare for a broader spread of COVID-19; and

**WHEREAS**, the State of Emergency remains in effect; and

**WHEREAS**, the California Department of Public Health and the Department of Industrial Relations have imposed or recommended measures to promote social distancing, and the San Francisco Public Health Department continues to recommend measures to promote social distancing in combination with other safety precautions when activities occur in shared indoor spaces to mitigate the risk of COVID-19 transmission; and

**WHEREAS**, on September 16, 2021, the Governor signed Assembly Bill 361 into law as urgency legislation that went into effect on October 1, 2021, amending Government Code Section 54953 of the Brown Act to allow legislative bodies to continue to meet remotely without conforming to Brown Act teleconferencing rules if the legislative body holds a meeting during a proclaimed state of emergency, and if state or local officials have imposed or recommended measures to promote social distancing; now, therefore, be it

**RESOLVED** that the Board of Directors has considered the circumstances of the State of Emergency and finds that:

- a. The factors triggering the State of Emergency continue to directly impact the ability of the members of the Board and members of the public to meet safely in person; and
- b. state or local officials continue to recommend measures to promote social distancing; and be it further

**RESOLVED**, that the Board of Directors will reconsider the circumstances of the state of emergency and revisit the need to conduct meetings remotely within 30 days of the adoption of this resolution.

**CERTIFICATION**

The undersigned, Board Secretary, does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the San Francisco Bay Area Water Emergency Transportation Authority held on December 8, 2022.

YEA:

NAY:

ABSTAIN:

ABSENT:

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/s/ Board Secretary

2022-45

\*\*\*END\*\*\*

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**  
**MINUTES OF THE BOARD OF DIRECTORS MEETING**

***(November 3, 2022)***

The Board of Directors of the San Francisco Bay Area Water Emergency Transportation Authority met in regular session at the Port of San Francisco at Pier 1, San Francisco CA and via videoconference consistent with AB 361 as codified in Government Code Section 54953.

**1. CALL TO ORDER**

Chair James Wunderman apologized for the delay and called the meeting to order at 3:14 p.m.

**2. ROLL CALL**

Chair James Wunderman, Director Jessica Alba, and Director Anthony Intintoli were in attendance.

Chair Wunderman led the Pledge of Allegiance. He welcomed directors, staff, and meeting guests and noted that the meeting was being conducted in person and by videoconference and was being recorded. He advised guests about offering public comment and how guests could sign up to speak throughout the meeting.

**3. REPORT OF BOARD CHAIR**

Chair Wunderman reported that approximately 150 to 200 people were in attendance at the Marine Log Ferries conference in San Francisco. He said the main subject was zero-emission ferries and that he was proud that WETA was a host for the region.

Chair Wunderman provided the keynote address with a history of the Bay Area ferry system and the direction its heading, and Executive Director Seamus Murphy reported on the progress of shoreside charging.

Chair Wunderman said that zero-emission vessels give WETA the opportunity to create its own destiny and become a leader in the maritime industry on reducing greenhouse gases and pollution.

**4. REPORTS OF DIRECTORS**

Director Intintoli said that he had a very nice experience when two passengers on the ferry ride today who he did not know told him that they love the ferry service and appreciated what WETA was doing.

Director Alba said that she met many industry professionals at the Marine Log Ferries conference and enjoyed the tour on the MV *Dorado*.

**5. REPORTS OF STAFF**

Mr. Murphy said the Ferries conference offered WETA the opportunity to showcase what was being done at WETA and to increase education within the industry. He noted that WETA staff was also in Houston attending the Electric & Hybrid Marine Expo North America Conference and Exhibition to meet with industry partners about WETA's upcoming zero-emissions vessel procurements.

Mr. Murphy introduced WETA's new Grants Manager Jennifer Raupach. Ms. Raupach served most recently as the Principal Analyst of the Capital & Grants Programs at the Golden Gate Bridge, Highway and Transportation District.

Mr. Murphy introduced Customer Experience Specialist Rafael Regan to provide an update on WETA's real time information system.

Mr. Regan shared his presentation on the recent improvements using general transit feed specification (GTFS) data allowing for real-time trip information and an upgrade to the new Swiftly rider alert system from the BayAlerts text notification system. Chair Wunderman thanked Mr. Regan for his presentation and the improvements that were implemented.

Mr. Murphy introduced Transportation Planner Arthi Krubanandh to provide the highlights of the Clipper Means-Based Transit Fare Discount Pilot Program, Clipper START. Ms. Krubanandh handed the presentation over to Metropolitan Transportation Commission (MTC) staff Clipper Program Coordinator Helise Cohn and Principal of Transit Programs William Bacon who provided an update and described the next steps for the Clipper START program being offered on 21 transit providers in the San Francisco Bay Area.

Ms. Cohn shared her presentation on the eligibility requirements, transit operator discounts, outreach, applicant and ridership information, and findings.

Ms. Cohn reminded the Board that Clipper START launched in July 2020 with four operators and San Francisco Bay Ferry joined the program in November 2020 offering a 50 percent discount on single ride fares noting that approximately 1,600 trips were taken on San Francisco Bay Ferry in September using Clipper START.

Ms. Cohn said that actual enrollment has exceeded the 15,000 expectation in response to Chair Wunderman. In response to Director Alba, she added that the validation process was easier with the 200 percent of the federal poverty eligibility level which is consistent with Lifeline and state benefits programs and that the pilot program was extended from 18 months to 3 years.

Chair Wunderman thanked Ms. Cohn for her presentation. He called for public comments, and there were none.

Mr. Murphy introduced WETA Attorney Steven Miller from Hanson Bridgett LLP to provide updates and changes to the Brown Act that will impact how WETA holds its meetings.

Mr. Miller reminded the Board that the State Legislature enacted Assembly Bill 361 allowing for flexible remote meeting procedures during a declared state of emergency. He said that Governor Gavin Newsom announced that the state of emergency was going to expire on February 28, 2023, and as such, AB 361 will no longer provide the Board the flexibility for remote attendance.

Mr. Miller clarified the choices allowing remote participation which included the traditional Brown Act teleconference rules that have been in place and the new rule for just cause or emergency circumstances of which must publicly be disclosed at the outset of the meeting. He further clarified that the new teleconference procedures were limited to two times in a calendar year and required the participation of a quorum of the Board in person.

Mr. Murphy provided five written reports and offered to answer questions.

Chief Financial Officer Erin McGrath said that fuel prices continue to be volatile but were trending on budget at \$4.20 per gallon in response to Chair Wunderman. She added that fuel prices were being tracked every week and would provide a graph for the next meeting.

Chair Wunderman called for public comments, and there were none.

**6. ADOPT RESOLUTION MAKING FINDINGS PURSUANT TO ASSEMBLY BILL 361 TO HOLD REMOTE PUBLIC MEETINGS**

This item recommended adopting a resolution making findings pursuant to AB 361 to hold remote public meetings.

Director Intintoli made a motion to adopt Resolution No. 2022-40 approving this item.

Chair Wunderman called for public comments, and there were none.

Director Alba seconded the motion, and the item passed unanimously.

Yeas: Alba, Intintoli, Wunderman. Nays: None. Absent: DelBono, Moyer.

**7. CONSENT CALENDAR**

Director Intintoli made a motion to approve the consent calendar:

- a. Board Meeting Minutes – September 1, 2022
- b. Approve Board of Directors Meeting Schedule for Calendar Year 2023
- c. Approve Amended and Restated Clipper Memorandum of Understanding with the Metropolitan Transportation Commission and Bay Area Transit Operators
- d. Authorize Release of a Request for Proposals for Independent Year End Audit Services
- e. Authorize Release of a Request for Proposals for Human Resources Consulting Services

Chair Wunderman called for public comments, and there were none.

Director Alba seconded the motion, and the consent calendar carried unanimously.

Yeas: Alba, Intintoli, Wunderman. Nays: None. Absent: DelBono, Moyer.

**8. APPROVE ENTERING INTO A NEW MEMORANDUM OF UNDERSTANDING WITH REDWOOD CITY AND THE PORT OF REDWOOD CITY FOR THE PLANNING AND DESIGN PHASES OF THE REDWOOD CITY FERRY TERMINAL PROJECT**

Planning & Development Manager Kevin Connolly presented this item recommending approving entering into a Memorandum of Understanding (MOU) with Redwood City (City) and the Port of Redwood City (Port) for the planning and design phases of the Redwood City Ferry Terminal project (Project).

Mr. Connolly said that this item was a follow up on the previous MOU between the three parties and that the Project is wholly funded by Measure A sales tax revenues from San Mateo County. He noted the inclusion of support letters from long standing supporters of the Project but indicated that major employers from the business community have declined to submit letters of support as requested by Vice Chair Monique Moyer thus far.

Mr. Connolly stated that this phase would allow for a more thorough study of the dredging and permitting issues and the relationship between future operations and recreational users.

Director Intintoli expressed his concern about funding issues. Mr. Connolly stated that some level of outreach to employers and stakeholders to find out what the future holds in terms of employment and ridership that would be included in the WETA Business Plan and the Feasibility Study in response the Chair Wunderman's question about the environmental review phase.

Chair Wunderman noted that this was a long-term project and that this phase was not about WETA committing funding but to determine if the project could move forward on its own merits.

PUBLIC COMMENT

State Assemblymember Kevin Mullin Field Representative Daniel Vainish, Port of Redwood City Port Commissioner Lorianna Kastrop, Bay Area Council Vice President of Public Policy Emily Loper on behalf of the Waterfront Mobility Committee, and Seaport Industrial Association Executive Director and Chamber San Mateo County Board Member Greg Greenway spoke in support of moving forward with the MOU.

Director Alba supported moving forward so that WETA would be ready when funds and ridership were available.

Director Alba made a motion to adopt Resolution No. 2022-42 approving this item.

Director Intintoli seconded the motion, and the item passed unanimously.

Yeas: Alba, Intintoli, Wunderman. Nays: None. Absent: DelBono, Moyer.

**9. AUTHORIZE REVISED SEA CHANGE HYDROGEN-POWERED VESSEL DEMONSTRATION PROJECT**

Mr. Murphy presented this item recommending approving the implementation of a demonstration project to operate the *Sea Change* hydrogen-powered vessel as part of the San Francisco Bay Ferry network for a total of three years and authorize the Executive Director to take steps to facilitate the project including:

- Execute an amendment to WETA's Operating Contract that allows Blue and Gold Fleet to lease the vessel and operate it in WETA service
- Negotiate and execute agreements with private and public sector project sponsors to secure funding that supports project implementation, and limits WETA financial commitment to less than \$500,000

Initiation of the Demonstration Project is conditioned upon completion of any applicable Title VI requirements, permitting, and environmental review processes.

Mr. Murphy stated that final payment for construction and delivery of the vessel by the vessel's original investors is contingent on a guarantee that the vessel would be leased for a minimum of three years.

Chair Wunderman emphasized that this project would give WETA the opportunity to show leadership in the world of zero-emission vessels. He said that he was impressed with the hydrogen fuel presentation at the Marine Log Ferries Conference by Dr. Joe Pratt, Chief Executive Officer and Chief Technology Officer for Zero Emission Industries.

Director Alba appreciated the demonstration project enhancement and hoped to get clarity on the funding situation.

Director Intintoli made a motion to adopt Resolution No. 2022-43 approving this item.

Chair Wunderman called for public comments, and there were none.

Director Alba seconded the motion, and the item passed unanimously.

Yeas: Alba, Intintoli, Wunderman. Nays: None. Absent: DelBono, Moyer.

**10. APPROVE CONTRACT AWARD TO AURORA MARINE DESIGN FOR ON-CALL ENGINEERING SUPPORT SERVICES**

Operations & Maintenance Manager Timothy Hanners presented this item recommending approving a contract award to Aurora Marine Design for on-call professional engineering consulting services to support ongoing ferry system capital programs, planning efforts, construction management, and vessel design for a period of five years.

Mr. Hanners said that the Aurora Marine Design team has extensive experience working on similar projects for WETA and other organizations. The work under this contract will be assigned as needed on a task order basis and may include services related to planning, engineering, solicitation development and administration, and marine vessel and facility construction management.

Mr. Hanners said that Aurora Marine Design has demonstrated a comprehensive ability to adapt to variable demands of the upcoming complex projects to meet WETA's zero-emission goals.

Director Intintoli made a motion to adopt Resolution No. 2022-44 approving this item.

Chair Wunderman called for public comments, and there were none.

Director Alba seconded the motion, and the item passed unanimously.

Yeas: Alba, Intintoli, Wunderman. Nays: None. Absent: DelBono, Moyer.

**11. AUTHORIZE RELEASE OF DRAFT 2022 SHORT RANGE TRANSIT PLAN FOR PUBLIC COMMENT**

Transportation Planner Gabriel Chan presented this item recommending releasing the draft 2022 Short Range Transit Plan for a 30-day public comment period.

Mr. Chan shared his presentation on the five-year planning horizon which included the background, schedule, assumptions, three MTC required planning scenarios and one additional WETA scenario. He said that final approval would occur in December or January.

Mr. Chan said the scenarios assumed current pandemic recovery fares but escalate with inflation about 3 percent per year. He said that assumptions applied to all transit agencies in an effort to standardize everything in response to the Directors.

Director Alba expressed interest in seeing the difference between the pre-pandemic and pandemic recovery fares and the comparison to some of the other transit agencies.

Chair Wunderman commented that no other transit agency had Regional Measure (RM) 3 possibly coming online in 2025.

**PUBLIC COMMENT**

Richmond Ferry rider Kyle Maudlin wanted to learn more about ways to increase ridership.

Chair Wunderman commented that the arbitrage of not going back to work is being led by the employees.

Director Intintoli made a motion to approve this item.

Chair Wunderman called for public comments, and there were none.

Director Alba seconded the motion, and the item passed unanimously.

Yeas: Alba, Intintoli, Wunderman. Nays: None. Absent: DelBono, Moyer.

**12. PUBLIC COMMENTS FOR NON-AGENDA ITEMS**

Chair Wunderman called for public comments on non-agenda items, and there were none.

With all business concluded, Chair Wunderman adjourned the meeting in memory of former Association of Bay Area Governments Executive Director Ezra Rapport at 4:49 p.m.

- Board Secretary

\*\*\*END\*\*\*

MEMORANDUM

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**TO: Board Members**

**FROM: Seamus Murphy, Executive Director  
Timothy Hanners, Operations & Maintenance Manager  
Jeffery Powell, Engineering & Maintenance Administrator**

**SUBJECT: Authorize Release of a Request for Proposal – MV *Intintoli* and MV *Mare Island* Replacement**

**Recommendation**

Authorize release of a Request for Proposal (RFP) for design and construction of vessels to replace the MV *Intintoli* and MV *Mare island*.

**Background**

The MV *Intintoli* and MV *Mare Island* vessels are reaching the replacement ages of 25 years, qualifying them for Federal Transit Administration (FTA) replacement funds available through the Metropolitan Transportation Commission (MTC) in accordance with its Transit Capital Priorities process. Staff has worked to secure both FTA and local match funds to support this project, which is included in the FY 2021/22 Capital Budget.

The MV *Intintoli* is a 350-passenger vessel and the MV *Mare island* is a 330-passenger vessel. These vessels operate as a part of WETA's North Bay fleet. The vessels are utilized predominantly for the Vallejo to San Francisco service as they have a service speed to meet the demanding route. The recently ordered high speed, high-capacity Dorado class vessels will soon be available to help address these services, making it possible to focus this procurement on zero emissions vessels that are essential to complying with state emissions regulations.

**Discussion**

This item authorizes staff to prepare and release an RFP to solicit proposals from qualified firms for vessel design and construction. The preparation of the RFP will take into consideration the ongoing WETA Zero Emission Study to ensure WETA is in alignment with the transition to zero-emission vessels. WETA has also issued a Request for Information (RFI) to industry to gain feedback in vessel design and development to support the Zero Emission initiative. The results of the RFI will inform the preparation of the subject RFP.

The RFP will seek proposals for the design and construction of two all-electric Catamaran vessels that meet USCG regulations. The intended speed range will be between 24 and 27 knots with a passenger count greater than 250. This class of vessels will meet Phase 2 goals identified in WETA's electrification study, which focuses on the system's Central Bay services including Seaplane, Oakland, Main Street, and Downtown San Francisco services.

Staff anticipates that, once the highest ranked proposer is identified, staff will return to the Board for authorization to award a contract for this work and identify a timeline for moving forward with vessel construction.

**Fiscal Impact**

There is no fiscal impact associated with the release of this Request for Proposal.

\*\*\*END\*\*\*

MEMORANDUM

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**TO: Board Members**

**FROM: Seamus Murphy, Executive Director  
Timothy Hanners, Operations & Maintenance Manager  
Jeffery Powell, Engineering & Maintenance Administrator**

**SUBJECT: Authorize Release of a Request for Proposals for Gemini Class Mid-Life Refurbishment**

**Recommendation**

Authorize the release of a Request for Proposals (RFP) for the mid-life refurbishment of the Gemini Class vessels, including the MV *Gemini*, MV *Pisces*, MV *Scorpio*, and MV *Taurus*.

**Background**

The San Francisco Bay Area Water Emergency Transportation Authority's Gemini Class vessels — the MV *Gemini*, MV *Pisces*, MV *Scorpio*, and MV *Taurus* — were built by Kvichak Marine Industries and delivered in November 2008, February 2009, October 2009, and April 2010, respectively. These aluminum catamaran ferry vessels have a life expectancy of approximately 25 years. Refurbishment projects during the lifecycle of a vessel generally include a minor refit when the vessel has reached its quarter life (at approximately 6 and 18 years), a major refit at the vessel's mid-life (at approximately 12 years), and replacement when the vessel is approximately 25 years old. The Gemini Class vessels are due for a major mid-life refit as their current ages range from 14 -12 years.

**Discussion**

Staff proposes to release an RFP to solicit qualified firms to provide shipyard services for the Gemini Class vessels' mid-life refits. These refits will allow the vessels to operate reliably and safely and are necessary for the vessels to operate in revenue service for a full 25-year life expectancy. Three of the vessels recently received tier 4 compliant main engines and the repowering of the fourth vessel's main engine is currently in process, so main engine replacement will not be included in this scope of work.

The general mid-life refurbishment of the vessels may include items such as:

- Refurbish shafts, propellers, rudders, and replace bearings.
- Renew or replace auxiliary power generator sets and associated support systems.
- Overhaul HVAC, control, plumbing, fire and lifesaving safety systems.
- Renew or update vessel instrumentation and navigation equipment.
- Update passenger cabin layout, replace seating covers, carpets, deck coatings and amenities.
- Renew all exterior vinyl or coatings, including underwater hull anti corrosion and anti-fouling.
- Perform intensive vessel inspections to identify any areas that need additional work.

**Fiscal Impact**

There is no fiscal impact associated with the release of this RFP. Staff will return to the Board with budget impacts and award for contract at a later date.

\*\*\*END\*\*\*

MEMORANDUM

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**TO:** Board Members

**FROM:** Seamus Murphy, Executive Director  
Kevin Connolly, Planning and Development Manager  
Chad Mason, Senior Planner/Project Manager

**SUBJECT:** Adopt 2021 Metropolitan Transportation Commission Multi-Jurisdictional Hazard Mitigation Plan

**Recommendation**

Adopt 2021 Metropolitan Transportation Commission Multi-Jurisdictional Hazard Mitigation Plan.

**Background**

The Bay Area is subject to various earthquake-related hazards, such as ground shaking, liquefaction, land sliding, fault surface rupture, and tsunamis, and various weather-related hazards including wildfires, floods, and landslides. Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. Hazard mitigation is most effective when a long-term plan is developed before a disaster occurs. A hazard mitigation plan identifies the hazards a community or region faces, assesses their vulnerability to the hazards and identifies specific actions that can be taken to reduce the risk of the hazards. The federal Disaster Mitigation Act of 2000 outlines a process that cities, counties, and special districts can follow to develop a Local Hazard Mitigation Plan (LHMP) that complies with specific California Governor's Office of Emergency Services (Cal OES) and Federal Emergency Management Agency (FEMA) guidelines. Local agencies, such as WETA, are required to adopt a LHMP in order to maintain eligibility for disaster assistance funds. WETA previously adopted LHMPs in 2011 and 2017.

The Metropolitan Transportation Commission (MTC) took the lead in preparing the 2021 Multi-Jurisdictional LHMP (MJHMP) for the San Francisco Bay Area in order to assist local governments in meeting the LHMP requirement. Local governments can adopt and use all or part of this multi-jurisdictional plan in lieu of preparing all or part of a LHMP themselves. However, agencies need to have participated in the development of the multi-jurisdictional plan to adopt it and use it to meet their LHMP requirement. Staff coordinated with MTC to develop the MJHMP and a complementary jurisdictional annex specifically related to WETA's mission, services, and facilities. These documents, combined, make up WETA's LHMP.

**Discussion**

MTC and WETA prepared the MJHMP in accordance with state and federal requirements as a condition of receiving Hazard Mitigation Grant Program and other mitigation project grant funding, including pre-disaster mitigation funding and post-disaster mitigation funding for existing WETA facilities. The essential steps of hazard mitigation are to identify and profile hazards that affect the local area surrounding existing facilities, analyze the people and facilities at risk from those hazards, and develop mitigation actions to lessen or reduce the impact of the profiled hazards. The process includes coordination with stakeholder agencies with jurisdictions that might interface with WETA during a disaster response. The process also includes opportunities for public comment.

The plan approval process requires that the MJLHMP be submitted to Cal OES for review prior to submitting to FEMA. The MJHMP was approved by MTC in September 2022. After WETA and the other participating agencies adopt the MJHMP, the plan will be sent to FEMA and Cal OES for final approval. The 2021 MJHMP is provided as **Attachment A** to this memorandum.

**Fiscal Impact**

There is no direct fiscal impact to WETA associated with this item.

\*\*\*END\*\*\*



2021 Metropolitan  
Transportation Commission

# Multi- Jurisdictional Hazard Mitigation Plan

Final Draft

April 2021



**2021 METROPOLITAN TRANSPORTATION COMMISSION  
MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**

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## LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AC Transit	Alameda–Contra Costa Transit District
AECOM	AECOM Technical Services, Inc.
Bay Area	San Francisco Bay Area
Cal OES	California Office of Emergency Services
CCCTA	Central Contra Costa Transit Authority
CFR	Code of Federal Regulations
CGS	California Geological Survey
CO <sub>2</sub>	carbon dioxide
COVID-19	coronavirus disease 2019
CPG 201	Comprehensive Preparedness Guide 201
CPUC	California Public Utilities Commission
DFIRM	Digital Flood Insurance Rate Map
DMA 2000	Disaster Mitigation Act of 2000
DSOD	Division of Safety of Dams
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
CAL FIRE	California Department of Forestry and Fire Protection
GIS	Geographic Information System
LRA	Local Responsibility Area
M	magnitude
Marin Transit	Marin County Transit District
MJHMP	Multi-Jurisdictional Hazard Mitigation Plan
mph	miles per hour
MTC	Metropolitan Transportation Commission
NFIP	National Flood Insurance Program
NVTA	Napa Valley Transportation Authority
PG&E	Pacific Gas and Electric Company
PV	photovoltaic
SARS-CoV-2	severe acute respiratory syndrome coronavirus-2
SFHA	Special Flood Hazard Area
SFPUC	San Francisco Public Utilities Commission
SolTrans	Solano County Transit
SRA	State Responsibility Area
USC	University of Southern California
USGS	United States Geological Survey
WestCAT	Western Contra Costa Transit Authority
WETA	Water Emergency Transportation Authority
WUI	Wildland Urban Interface

## 1.0 INTRODUCTION

### 1.1 HAZARD MITIGATION PLANNING

As defined in Title 44 Code of Federal Regulations (CFR) Subpart M, Section 206.401, hazard mitigation is “any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards.” As such, hazard mitigation is any work to minimize the impacts of any type of hazard event before it occurs. Hazard mitigation aims to reduce losses from future disasters. It is a process that identifies and profiles hazards, analyzes the people and facilities at risk, and develops mitigation actions to reduce or eliminate hazard risk. The implementation of the mitigation actions—which include short- and long-term strategies that may involve planning, policy changes, programs, projects, and other activities—is the end result of this process.

Over the past two decades, local hazard mitigation planning has been driven by a federal law known as the Disaster Mitigation Act of 2000 (DMA 2000). On October 30, 2000, Congress passed the DMA 2000 (Public Law 106-390), which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Title 42 United States Code Section 5121 et seq.) by repealing the act’s previous mitigation planning section (409) and replacing it with a new mitigation planning section (322). This new section emphasized the need for state, tribal, and local entities to closely coordinate mitigation planning and implementation efforts. This new section also provided the legal basis for the Federal Emergency Management Agency’s (FEMA) mitigation plan requirements for the Hazard Mitigation Assistance grant programs.

### 1.2 2021 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN SYNOPSIS

To meet the requirements of the DMA 2000, the Metropolitan Transportation Commission (MTC), along with its eight partner transit agencies, has prepared a Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) to assess risks posed by hazards and to develop a mitigation action plan for reducing the risks in the nine-county San Francisco Bay Area (Bay Area). In addition to MTC, the eight partner transit agencies are as follows:

- Alameda–Contra Costa Transit District (AC Transit)
- Central Contra Costa Transit Authority (CCCTA)
- Marin County Transit District (Marin Transit)
- Napa Valley Transportation Authority (NVTA)
- Santa Rosa CityBus
- Solano County Transit (SolTrans)
- Western Contra Costa Transit Authority (WestCAT)
- San Francisco Bay Area Water Emergency Transportation Authority (WETA)

The 2021 MJHMP is organized to follow FEMA’s Local Mitigation Plan Review Tool, which demonstrates how hazard mitigation plans meet the DMA 2000 regulations. As such, the specific planning elements of this review tool are in their appropriate plan sections.

The 2021 MJHMP structure has been updated to include the following sections:

- **Section 2, Planning Process**, provides an overview of the 2020 planning process, starting with a timeline. It identifies planning committee members and describes their involvement with the planning process. This section also details stakeholder outreach, public involvement, and continued public involvement. It provides an overview of the existing plans and reports, details how those

documents were incorporated into the 2021 MJHMP, and includes a plan update method and schedule. Supporting planning process documentation is listed in **Appendix A**.

- **Section 3, Prologue**, describes the planning area for the 2021 MJHMP. It identifies land area by county and fixed critical infrastructure by participating agency. Location and critical facility figures are in **Appendix B**.
- **Section 4, Hazard Identification and Risk Assessment**, describes each of the nine hazards addressed in this plan. Hazard figures are in **Appendix B**. In addition, it includes impact (i.e., risk assessment) tables for land area by county and fixed critical facilities by agency. An overall summary description is provided for each hazard. Agency-specific impact tables are provided in **Appendix C** through **Appendix K**.
- **Section 5, Mitigation Strategy**, describes each participating agency's mitigation goals, potential mitigation actions and projects, and prioritization process. Agency-specific capability assessments, prioritized action plans, and the process to integrate the 2021 MJHMP into other planning mechanisms is in **Appendix C** through **Appendix K**.
- **Section 6, Plan Review, Evaluation, and Implementation**, is not addressed in the 2021 MJHMP since no previous version of the plan existed. However, **Appendix K** documents the changes in development, progress made in local mitigation efforts, and changes to priorities for WETA. WETA previously had its own hazard mitigation plan.
- **Section 7, Plan Adoption**, contains a scanned copy of the adoption resolutions.

## 2.0 PLANNING PROCESS

This section addresses Element A of the Local Mitigation Plan Regulation Checklist.

<b>Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans</b>
<b>Element A: Planning Process</b>
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement § 201.6(c)(1))
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement § 201.6(b)(2))
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement § 201.6(b)(1))
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement § 201.6(b)(3))
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement § 201.6(c)(4)(iii))
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating, and updating the mitigation plan within a 5-year cycle)? (Requirement § 201.6(c)(4)(i))

## 2.1 OVERVIEW OF THE 2021 MJHMP PLANNING PROCESS

The development of the 2021 MJHMP was a collaborative effort between MTC, AECOM Technical Services, Inc. (AECOM), and a planning committee. **Table 2-1** provides a timeline of the major planning tasks and milestones by month over a 6-month period, including the two times the planning committee met virtually. **Table 2-2** lists the planning committee members and how they contributed to the development of the plan. Planning committee agendas are provided in **Appendix A**.

**Table 2-1: MJHMP Timeline**

<b>Date</b>	<b>Tasks</b>	<b>People Involved</b>
August 2020	Conducted planning committee kickoff conference call (August 25)	MJHMP project manager, AECOM
September 2020	Collected local and regional existing plans and reports Determined the Geographic Information System (GIS) strategy for hazard profiles and impact tables Identified initial list of stakeholders and emailed stakeholders Crafted and posted public outreach messages for MTC’s website and Twitter account @MTCBATA Created plan maintenance process and schedule	MJHMP project manager, AECOM, planning committee
October 2020	Created draft hazard figures	MJHMP project manager, AECOM, planning committee
November 2020	Collected and geo-coded fixed critical facilities Draft agency-specific capability assessments Created draft hazard profiles	MJHMP project manager, AECOM, planning committee

**Table 2-1: MJHMP Timeline**

<b>Date</b>	<b>Tasks</b>	<b>People Involved</b>
December 2020	Held second planning committee conference call (December 1) Developed a list of potential mitigation actions and created a prioritization approach Completed hazard impact and overall summary tables	MJHMP project manager, AECOM, planning committee
January 2021	Selected and prioritized mitigation actions Created the Internal Draft MJHMP	MJHMP project manager, AECOM, planning committee
March 2021	Created Facebook post and emailed stakeholders about the Public Draft MJHMP review period Created the Public Draft MJHMP	MJHMP project manager, AECOM

**Table 2-2: Planning Committee**

<b>Name</b>	<b>Department/Agency and Title</b>	<b>Contribution</b>
Steve Terrin	MTC, Planner/Emergency Coordinator	Served as the 2021 MJHMP project manager, led planning committee conference calls, analyzed hazard figures and risk assessment tables, created an agency-specific capability assessment and mitigation strategy, and reviewed the Internal Draft MJHMP.
William Wong	AC Transit, Assistant Transportation Superintendent Transbay	Participated in planning committee conference calls, responded to agency-specific email inquiries, analyzed hazard figures and risk assessment tables, created an agency-specific capability assessment and mitigation strategy, and reviewed the Internal Draft MJHMP.
Kevin Finn	CCCTA, Purchasing/Grants Manager	Participated in planning committee conference calls, responded to agency-specific email inquiries, analyzed hazard figures and risk assessment tables, created an agency-specific capability assessment and mitigation strategy, and reviewed the Internal Draft MJHMP.
Amy Van Doren	Marin Transit, Director of Policy & Legislative Programs	Participated in planning committee conference call #1, responded to agency-specific email inquiries, analyzed hazard figures and risk assessment tables, created an agency-specific capability assessment and mitigation strategy, and reviewed the Internal Draft MJHMP.
Antonio Onorato	NVTA, Director of Administration, Finance and Policy	Participated in planning committee conference calls, responded to agency-specific email inquiries, analyzed hazard figures and risk assessment tables, created an agency-specific capability assessment and mitigation strategy, and reviewed the Internal Draft MJHMP.

**Table 2-2: Planning Committee**

Name	Department/Agency and Title	Contribution
Matthew Wilcox	Santa Rosa CityBus, Transit Planner	Participated in planning committee conference calls, responded to agency-specific email inquiries, analyzed hazard figures and risk assessment tables, created an agency-specific capability assessment and mitigation strategy, and reviewed the Internal Draft MJHMP.
John Sanderson	SolTrans, Operations & Planning Manager	Participated in planning committee conference calls, responded to agency-specific email inquiries, analyzed hazard figures and risk assessment tables, created an agency-specific capability assessment and mitigation strategy, and reviewed the Internal Draft MJHMP.
Rob Thompson	WestCAT, Assistant General Manager	Participated in planning committee conference calls, responded to agency-specific email inquiries, analyzed hazard figures and risk assessment tables, created an agency-specific capability assessment and mitigation strategy, and the reviewed Internal Draft MJHMP.
Chad Mason	WETA, Senior Transportation Planner/Project Manager	Participated in planning committee conference calls, responded to agency-specific email inquiries, analyzed hazard figures and risk assessment tables, reviewed and updated existing capability assessment and mitigation strategy, and reviewed the Internal Draft MJHMP.

## 2.2 OPPORTUNITIES FOR STAKEHOLDERS

On October 26, 2020, the MTC MJHMP project manager reached out to stakeholders via email (**Appendix A**) about the 2021 MJHMP and invited them to participate in the plan update process. Stakeholders included county emergency management agencies in the Bay Area (Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma), State partners (California Office of Emergency Services [Cal OES], California Department of Transportation, and California Highway Patrol), and non-profit organizations (SPUR and Greenbelt Alliance). Greenbelt Alliance reached out to the MJHMP project manager and consultant to discuss mitigation projects related to climate change.

MTC's MJHMP project manager reached out to the stakeholders again via email on March 9, 2021, inviting them to review and provide comments about the Public Draft 2021 MJHMP (**Appendix A**). No stakeholder comments were received.

## 2.3 PUBLIC INVOLVEMENT

On October 5, 2020, MTC posted information about the 2021 MJHMP kickoff on the agency's website and Twitter account. On March 8, 2021, MTC posted information about the Public Draft MJHMP and public comment period on the agency's website, Twitter account, and blog. Although MTC's tweets about the 2021 MJHMP got several likes, no public comments were received. Links to MTC's website, Twitter account, and blog are provided below (and as screenshots in **Appendix A**):

- Website: [Multi-Jurisdictional Hazard Mitigation Plan | Metropolitan Transportation Commission \(ca.gov\)](https://www.mtc.ca.gov/multi-jurisdictional-hazard-mitigation-plan)
- Twitter: <https://twitter.com/MTCBATA>

- Blog: [The Bay Link Blog | News, Views and Analysis from the Metropolitan Transportation Commission and the Association of Bay Area Governments \(bayareametro.gov\)](#)

## 2.4 REVIEW AND INCORPORATION OF EXISTING PLANS AND REPORTS

Table 2-3 lists the major relevant plans and reports reviewed and incorporated into the 2021 MJHMP.

**Table 2-3: Existing Plans and Reports**

Plans and Reports	Information to Be Incorporated into the 2021 MJHMP
United States Department of Transportation Climate Adaption Plan 2014: Ensuring Transportation Infrastructure and System Resilience	The potential impacts and future policies addressed in the plan were incorporated into the 2021 MJHMP's hazard impacts as mitigation strategy sections.
National Cooperative Highway Research Program Report 769: A Guide for Public Transportation Pandemic Planning and Response (2014)	Potential impacts and vulnerabilities in the report were included in the 2021 MJHMP's vulnerability analysis section.
Transportation System Resilience to Extreme Weather and Climate Change (2015)	"Checklist for Technical Staff" was used to develop mitigation actions in the 2021 HJHMP's mitigation strategy.
Bay Area Earthquake Plan (2016)	Situation section of plan was incorporated into the 2021 MJHMP's earthquake profile section.
Plan Bay Area —Final Plan (2017) and Overview (2019)	Resilience Action Plan items were used to develop mitigation actions in the 2021 MJHMP's mitigation strategy. Incorporated vision statement into the 2021 MJHMP's mitigation goals.
2018 California's Fourth Climate Change Assessment—San Francisco Bay Area Region Report	Summary of report was incorporated into the 2021 MJHMP's climate change profile section.
2019 Dams Within Jurisdiction of the State of California Report	Dam-specific information (e.g., number, name, type, height, crest, reservoir capacity, dam type, and High Hazard Potential status) included in the 2021 MJHMP's hazard identification and risk assessment sections.
Rain and Landslides in Northern California: United States Geological Survey (USGS) Publication (2020)	A summary of recent and past landslides and debris flows caused by rainfall was incorporated into the 2021 MJHMP's landslide profile section.
Safety First: Improving Hazard Resilience in the Bay Area (2020)	Policy recommendations were used to develop mitigation actions in 2021 MJHMP's mitigation strategy.

## 2.5 CONTINUED PUBLIC PARTICIPATION

A copy of the 2021 MJHMP will remain available on MTC's website, along with the contact information. MTC's MJHMP project manager will work with MTC's public information officer to use its website and @MTCBATA Twitter account to notify the public of and seek input on any changes or updates to the 2021 MJHMP, including mitigation action implementation and the 2026 MJHMP kickoff.

## 2.6 PLAN UPDATE METHOD AND SCHEDULE

The 2021 MJHMP will be monitored and evaluated by a subset of the planning committee, specifically MTC's MJHMP project manager. MTC's MJHMP project manager will get input from specific planning

committee members as needed. MTC’s MJHMP project manager will complete the annual review tracker every January and after any major disaster to ensure that the 2021 MJHMP is relevant and effective in achieving the plan’s goals. Annual review will be tracked in a table in this document (**Table 2-4**). FEMA-funded mitigation projects will continue to be tracked and reviewed using FEMA Mitigation Progress Report forms, and progress summaries will be included in the Annual Review Tracker (**Table 2-4**) at the beginning of each year.

Beginning in January 2026:

- MTC’s MJHMP project manager will complete the annual review tracker.
- MTC’s MJHMP project manager will reconvene the planning committee and update membership, if necessary.
- The planning committee will review **Table 2-4**, which includes annual summaries of disasters that have occurred, new permanent information available, implementation measures, and public outreach and response, to determine the hazards to be included in the 2026–2027 MJHMP.
- MTC’s MJHMP project manager will develop a new work plan.
- MTC’s MJHMP project manager—with support from the planning committee—will begin the plan update process, which is expected to take up to 6 months.

**Table 2-4: Annual Review Tracker**

<b>Year</b>	<b>Disasters That Occurred</b>	<b>Mitigation Actions Implemented</b>	<b>New Relevant Studies/Reports to Include in 2026 MJHMP</b>	<b>Public Outreach Conducted</b>	<b>Changes Made to 2021 MJHMP</b>
2022					
2023					
2024					
2025					

### 3.0 PROLOGUE

#### 3.1 PLANNING AREA

For the purposes of this plan, the geographic planning area boundaries are the nine counties of the Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Sonoma, and Solano. The region includes the major cities of San Jose, San Francisco, and Oakland. Together, the major metropolitan, smaller urban, and rural areas in the Bay Area constitute 7,047.61 squares miles and over 7.7 million people, as listed in **Table 3-1**. A map of the planning area is shown on **Figure B-1**.

**Table 3-1: Bay Area Counties**

County	Square Miles	2019 Census Population Estimates
Nine Bay Area Counties Total	7,047.61	7,739,378
Alameda	744.16	1,671,329
Contra Costa	746.80	1,153,526
Marin	527.16	258,826
Napa	788.31	137,744
San Francisco	47.57	881,549
San Mateo	455.77	766,573
Santa Clara	1,298.62	1,927,852
Solano	849.549	447,643
Sonoma	1,589.66	494,336

#### 3.2 TRANSIT AND TRANSPORTATION AGENCIES

As noted in **Section 1, Introduction**, MTC and its eight partner transit agencies have worked together to develop this 2021 MJHMP. Specifically, the agencies are:

- MTC: a public, governmental agency responsible for planning, financing, and coordinating transportation for the Bay Area
- AC Transit: an Oakland-based public transit agency serving the western portions of Alameda and Contra Costa counties in the East Bay (AC Transit also operates transbay routes across San Francisco Bay to San Francisco and selected areas in San Mateo and Santa Clara Counties.)
- CCCTA: a public transit agency operating fixed-route bus and paratransit service in and around central Contra Costa County and in the San Francisco Bay Area
- Marin Transit: a public bus agency that provides a variety of contracted fixed-route and demand-response services in Marin County
- NVRTA: a congestion management agency that also serves as the countywide transportation planning agency (NVRTA also operates Vine Transit, Napa Valley's bus system, in addition to planning and funding of paratransit; the maintenance and improvement of highways, streets, and roads; and bicycle transit.)
- Santa Rosa CityBus: a public transportation agency providing bus service in the city of Santa Rosa
- SolTrans: a joint-powers authority that provides public transportation service to the southern Solano County cities of Vallejo and Benicia

- WestCAT: a public transportation service in western Contra Costa County
- WETA: a public transit passenger ferry service in the San Francisco Bay

### 3.3 CRITICAL FACILITIES

The DMA 2000 does not specify or define the term “critical facility.” In general, a critical facility is essential to the health and welfare of the population, and it is especially important during and after a disaster or hazard event. Ground transportation critical facilities are vast and varied but generally include fixed facilities such as operation centers, depots, maintenance yards, fueling stations, parking lots, and terminals.

For the 2021 MJHMP, MTC and its eight partner transit agencies provided a list of the fixed critical facilities that they own, lease, contract with, and/or use. The fixed critical facility names and addresses were then geocoded to their locations, and the resulting geographic features were used for the risk assessment. Fixed critical facility information is listed in **Table 3-2** and shown on **Figure B-2** through **Figure B-10**. **Table 3-3** lists the MTC Express Lanes and their lengths (in miles). MTC Express Lanes are toll lanes where carpools, buses, motorcycles, and clean air vehicles travel toll-free or pay a partial toll while solo motorists may use the Express Lanes for a toll. The MTC Express Lanes include current, upcoming, and future MTC Express Lanes. All agency-specific information is provided in **Appendix C** through **Appendix K**.

**Table 3-2: Fixed Critical Facilities**

Agency	# of Facilities
Nine Agencies Total	60
MTC	10
AC Transit	9
CCCTA	2
Marin Transit	13
NVTA	3
Santa Rosa CityBus	2
SolTrans	4
WestCAT	3
WETA	13
Other: Salesforce Transit Center	1

**Table 3-3: MTC Express Lanes**

Name	Length (miles)
Express Lanes Total	129.88
MTC Express Lanes—Current	82.57
MTC Express Lanes—Upcoming	16.37
MTC Express Lanes—Future	30.94

## 4.0 HAZARD IDENTIFICATION AND RISK ASSESSMENT

This section addresses Element B of the Local Mitigation Plan Regulation Checklist.

<b>Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans</b>
<b>Element B: Hazard Identification and Risk Assessment</b>
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement § 201.6(c)(2)(ii))
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement § 201.6(c)(2)(i))
B3. Is there a description of each identified hazard’s impact on the community as well as an overall summary of the community’s vulnerability for each jurisdiction? (Requirement § 201.6(c)(2)(ii))
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement § 201.6(c)(2)(ii))

During the kickoff planning committee conference call, the MJHMP project manager, consultant, and planning committee determined the list of hazards to include in the 2021 MJHMP based on past disaster declarations; known probabilities and vulnerabilities; and regional, state, and federal plans and reports. The hazards identified were climate change, dam failure inundation, drought, earthquake, flood, infectious disease, landslide, public safety power shutoff, tsunami, and wildfire.

Hazard identification consists of describing the nature of each hazard, disaster history, location, extent/severity, and probability of future events. Hazard identification profiles have been developed for each of the ten hazards addressed in **Section 4.1** through **Section 4.10**. In addition, semi-quantitative or qualitative impact tables for land area and fixed critical facilities as well as summary descriptions have been created for each hazard. For the GIS information, elevation data were not available for each fixed critical facility; therefore, additional analysis will need to be conducted to better understand vulnerability. **Section 4.1** through **Section 4.10** do not address the National Flood Insurance Program’s (NFIP) repetitively damaged structures, as transit agencies are not considered participating communities.

According to *Comprehensive Preparedness Guide 201: Threat and Hazard Identification and Risk Assessment Guide*, second edition (CPG 201), dam failure, drought, earthquake, flood, landslide, tsunami, and wildfire are classified as natural hazards. CPG 201 does not classify climate change, infectious disease, or public safety power shutoff. As such, the hazards profiled for this MJHMP are discussed in alphabetical order and not by CPG 201 classification. The order of discussion does not signify level of risk.

## 4.1 CLIMATE CHANGE

**Table 4-1: Climate Change Profile**

Profile	Description
Nature	<p>Climate change is defined as the average statistics of weather, which include temperature, precipitation, and seasonal patterns in a particular region. Climate change refers to the long-term and irrevocable shift in these weather-related patterns, either regionally or globally. The Earth and its natural ecosystem are closely tied to the climate, and any permanent climate change will lead to an imbalance in the existing ecosystem, impacting the way people live, the food they grow, their health, the wildlife, the availability of water, and much more. Research indicates that much of this warming is due to human activities—primarily burning fossil fuels and clearing forests—that release carbon dioxide (CO<sub>2</sub>) and other gases into the atmosphere, which trap heat that would otherwise escape into space. Once in the atmosphere, these heat-trapping emissions remain there for many years (for example, CO<sub>2</sub> lasts about 100 years). If left unchecked, by the end of the century CO<sub>2</sub> concentrations could reach levels three times higher than pre-industrial times.</p> <p>According to most climatologists, the planet is starting to experience shifts in climate patterns and increased frequency of extreme weather events at both global and local levels. Over the next century, increasing atmospheric greenhouse gas concentrations are expected to cause a variety of changes to local climate conditions, including sea level rise and storm surge in coastal areas; increased riverine flooding and stormwater inundation; and more frequent higher temperatures (leading to extreme heat events and wildfires), particularly inland, decreasing air quality, and extended periods of drought.</p>
Location	<p>According to California’s Fourth Climate Change Assessment, climate change is already under way throughout the Bay Area.</p>
History	<p>The history of the scientific discovery of climate change began in the early nineteenth century, when ice ages and other natural changes in paleoclimate were first suspected and the natural greenhouse effect first identified. In the late nineteenth century, scientists first argued that human emissions of greenhouse gases could change the climate. Many other theories of climate change were advanced, involving forces from volcanism to solar variation. In the 1960s, the warming effect of CO<sub>2</sub> gas became increasingly convincing, although some scientists also pointed out that human activities—in the form of atmospheric aerosols (i.e., pollution)—could have cooling effects as well. During the 1970s, scientific opinion increasingly favored the warming viewpoint. By the 1990s, as a result of improving fidelity of computer models and observational work confirming the Milankovitch theory of the ice ages, a consensus position formed: greenhouse gases were deeply involved in most climate changes, and human emissions were resulting in serious global warming.</p> <p>Since the 1990s, scientific research on climate change has expanded and includes multiple disciplines, significantly increasing our understanding of causal relations, links with historic data, and ability to numerically model climate change. The most recent work has been summarized in the Assessment Reports by the Intergovernmental Panel on Climate Change. Climate change is a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years. It may be a change in average weather conditions or in the distribution of weather around the average conditions (i.e., more or fewer extreme weather events). Climate change is caused by factors that include oceanic processes (e.g., oceanic circulation), biotic processes, variations in solar radiation received by Earth, plate tectonics and volcanic eruptions, and human-induced alterations of the natural world; these latter effects are currently causing global warming. The term “climate change” is often used to describe human-specific impacts.</p> <p>As noted in California’s Fourth Climate Change Assessment, the impacts of climate change in the Bay Area already include:</p> <ul style="list-style-type: none"> <li>• Sea level rise (over 8 inches in the last 100 years)</li> </ul>

**Table 4-1: Climate Change Profile**

Profile	Description
	<ul style="list-style-type: none"> <li>• An increase in the average annual maximum temperature (1.7 degrees Fahrenheit [°F] from 1950 to 2005)</li> <li>• Severe moisture deficit (the 2012 to 2016 California drought led to the most severe moisture deficit over the last 1,200 years)</li> <li>• Coastal erosion (the 2015/16 El Niño was one of the three largest in the historical record)</li> <li>• Wildfires (lower precipitation and warmer air temperatures dry the forests and other vegetation)</li> </ul>
Extent / severity	<p>Over the next century, weather patterns that are considered extreme today are expected to become standard. According to California’s Fourth Climate Change Assessment – San Francisco Bay Area Report, even though all parts of the Bay Area are projected to get warmer with an annual mean warming of approximately 3.3°F by mid-century, the majority of warming will occur in the inland areas. Precipitation in the Bay Area will “continue to exhibit high year-to-year variability – ‘booms and busts’ - with very wet and very dry years.” Boom years will result in heavy rainfall and substantial flood risks, and the bust years will lead to consecutive years of low or no snowpack. Drier conditions and increased temperatures will also make wildfires more frequent and intense.</p> <p>The National Oceanic and Atmospheric Administration has produced a sea level rise viewer that shows the impacts of predicted sea level rise. As shown on <b>Figure B-11</b>, a sea level rise of just 3 feet above mean higher high tide (approximate year 2050 to 2060) will result in coastal flooding of 334.97 square miles (4.75%) of the Bay Area, while a sea level rise of 6 feet above mean higher high tide (approximate year 2100) will result in coastal flooding of 405.46 square miles (5.75%) of the Bay Area.</p>
Recurrence probability	<p>According to the National Aeronautics and Space Administration, “the current warming trend is of particular significance because most of it is extremely likely (i.e., greater than 95% probability) to be the result of human activity since the mid-twentieth century and proceeding at a rate that is unprecedented over decades to millennia.” The National Aeronautics and Space Administration also states that “scientists have high confidence that global temperatures will continue to rise for decades to come, largely due to greenhouse gases produced by human activities.”</p>

**Table 4-2: Climate Change Impact on Land Area**

County	Sea Level Rise Inundation Area—3 Feet		Sea Level Rise Inundation Area—6 Feet	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	334.97	4.75	405.46	5.75
Alameda	44.63	6.00	66.90	8.99
Contra Costa	21.15	2.83	26.04	3.49
Marin	30.78	5.84	37.24	7.06
Napa	22.72	2.88	24.83	3.15
San Francisco	1.28	2.68	3.65	7.67
San Mateo	23.24	5.10	39.85	8.74
Santa Clara	26.35	2.03	31.05	2.39
Solano	118.39	13.94	125.95	14.83
Sonoma	46.43	2.92	49.95	3.14

**Table 4-3: Climate Change Impact on Transit Agencies' Fixed Critical Facilities**

Agency	Sea Level Rise Inundation Area—3 Feet		Sea Level Rise Inundation Area—6 Feet	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Nine Transit Agencies Total	5	8.33	16	32.00
MTC	0	0.00	1	10.00
AC Transit	0	0.00	1	11.11
CCCTA	0	0.00	0	0.00
Marin Transit	5	38.46	6	46.15
NVTA	0	0.00	0	0.00
Santa Rosa CityBus	0	0.00	0	0.00
SolTrans	0	0.00	1	25.00
WestCAT	0	0.00	0	0.00
WETA	0	0.00	7	53.85
Other: Salesforce Transit Center	0	0.00	0	0.00

**Table 4-4: Climate Change Impact on MTC Express Lanes**

<b>MTC Express Lane</b>	<b>Sea Level Rise Inundation Area—3 Feet</b>		<b>Sea Level Rise Inundation Area—6 Feet</b>	
	<b># of Miles</b>	<b>% of Miles</b>	<b># of Miles</b>	<b>% of Miles</b>
Express Lanes Total	4.52	3.48	7.23	5.57
MTC Express Lanes—Current	4.40	5.33	6.61	8.01
MTC Express Lanes—Upcoming	0.12	0.73	0.62	3.78
MTC Express Lanes—Future	0.00	0.00	0.00	0.00

**Table 4-5: Overall Summary of Transit Agencies’ Vulnerability to Climate Change**

Climate Change	
Summary	<p>MTC and its partner transit agencies’ overall vulnerabilities to climate change include sea level rise, coastal erosion, increased average annual maximum temperature, severe moisture deficit/drought, and wildfires.</p> <ul style="list-style-type: none"> <li>• Nearly 5% (334.97 miles) of the Bay Area will be affected by 3 feet of sea level rise, and nearly 6% (405.46 miles) of the Bay Area will be at risk from 6 feet of sea level rise by the end of the century. Sea level rise will affect all Bay Area counties, but in particular the low-lying coastal areas of Alameda, Marin, San Mateo, and Solano Counties.</li> <li>• For MTC and its partner transit agencies, five fixed critical facilities (8.33%) will be affected by 3 feet of sea level rise and 16 fixed critical facilities (32%) will be affected by 6 feet of sea level rise. Marin Transit has all five of the fixed critical facilities in the 3-foot sea level rise area. It also has six fixed critical facilities in the 6-foot sea level rise hazard. WETA has a total of seven fixed critical facilities in the 6-foot sea level rise hazard area, and AC Transit, MTC, and SolTrans each have one. CCCTA, NVTA, Santa Rosa CityBus, and WestCAT do not have fixed critical facilities in this hazard area.</li> <li>• Approximately 4.52 miles (3.48%) of the MTC Express Lanes are in the 3-foot sea level rise area, and an additional 7.23 miles (5.57%) are in the 6-foot sea level rise area.</li> <li>• Throughout the Bay Area, flooding due to sea level rise will likely disrupt or limit transit operations, delay transit-related construction activities, and weaken or wash out the soil and culverts that support roads, tunnels, and bridges used by transit.</li> <li>• Increased average annual maximum temperature will likely affect all of the Bay Area, but most noticeably the interior counties. Increased temperatures will likely leave all transit agencies vulnerable to vehicle fleets overheating and faster deterioration of tires. Transit riders—particularly the elderly—could be vulnerable to heat-related illnesses; therefore, transit agencies will likely need to rethink greening measures at transit terminals and stops and temperature control measures on vehicles or in vessels.</li> <li>• Transit agencies, particularly those in public safety power shutoff areas (<b>Section 4.8</b>), may also be vulnerable to more power outages because of the increased temperatures. Without backup power, power outages will likely jeopardize operations and supporting ancillary assets.</li> <li>• Climate change will likely increase the vulnerability of MTC and its partner transit agencies to drought (<b>Section 4.3</b>) and wildfires (<b>Section 4.10</b>).</li> </ul>

## 4.2 DAM FAILURE

**Table 4-6: Dam Failure Profile**

Profile	Description
Nature	<p>Dam failure, also known as a dam breach, is the structural collapse of a dam that releases the water stored in the reservoir behind the dam. A dam failure is usually the result of the age of the structure, inadequate spillway capacity, or structural damage caused by an earthquake or flood. When a dam fails, a large quantity of water is suddenly released with a great potential to cause human casualties, economic loss, and environmental damage. This type of disaster is especially dangerous because it can occur suddenly, providing little warning and evacuation time for the people living downstream. The flows resulting from dam failure are generally much larger than the capacity of the downstream channels and therefore lead to extensive flooding. Flood damage occurs as a result of the momentum of the flood caused by the sediment-laden water flooding over the channel banks and impact debris carried by the flow.</p>
Location	<p>In California, any dam with a height of more than 6 feet and impounding 50 acre-feet or more of water, or any dam that is 25 feet or higher and impounds more than 15 acre-feet of water, falls under the State’s jurisdictional oversight, unless it is exempted. As shown on <b>Figure B-12</b>, according to the California Department of Water Resources’ Division of Safety of Dams (DSOD), as of December 2019, there are 270 jurisdictional dams in the Bay Area. By county, these are distributed as follows:</p> <ul style="list-style-type: none"> <li>• Alameda County: 23</li> <li>• Contra Costa County: 25</li> <li>• Marin County: 13</li> <li>• Napa County: 57</li> <li>• San Francisco County: 7</li> <li>• San Mateo County: 20</li> <li>• Santa Clara County: 42</li> <li>• Solano County: 19</li> <li>• Sonoma County: 64</li> </ul>
History	<p>According to the University of California, Davis, there have been four dam failures in the Bay Area:</p> <ul style="list-style-type: none"> <li>• 1905: An outlet wall sheared off at the core wall, Piedmont #1 Dam, Alameda County</li> <li>• 1918: A concrete outlet tower toppled over during construction, Calaveras Reservoir, Santa Clara County</li> <li>• 1921: Fill loss through riprap, San Pablo Reservoir, Contra Costa County</li> <li>• 1928: Foundation slide during construction, Lafayette Reservoir, Contra Costa County</li> </ul>

**Table 4-6: Dam Failure Profile**

Profile	Description
Extent / Severity	<p>The Federal Guidelines for Inundation Mapping of Flood Risks Associated with Dam Incidents and Failures (FEMA P-946, July 2013) define downstream hazards for dam incidents, not indicators of the probability of failure. Downstream hazards are based “solely on the potential downstream impacts to life and property should the dam fail when operating with a full reservoir.”</p> <p>FEMA has developed three categories in increasing severity for downstream hazards: Low, Significant, and High. DSOD adds a fourth category of Extremely High. According to DSOD, 149 dams are classified as High or Extremely High Hazard Potential dams. High Hazard Potential dams have a potential impact expected to cause the loss of at least one human life, and dams that are classified as Extremely High Hazard Potential dams have a potential impact expected to cause considerable loss of human life or result in an inundation area with a population of 1,000 or more. By county, these High or Extremely High Hazard Potential dams are distributed as follows:</p> <ul style="list-style-type: none"> <li>• Alameda County: 18</li> <li>• Contra Costa County: 22</li> <li>• Marin County: 8</li> <li>• Napa County: 23</li> <li>• San Francisco County: 7</li> <li>• San Mateo County: 10</li> <li>• Santa Clara County: 23</li> <li>• Solano County: 14</li> <li>• Sonoma County: 24</li> </ul> <p><b>Figure B-13</b> shows the approved Extremely High Hazard Potential and High Hazard Potential dam breach inundation maps for the Bay Area. The inundation areas of these mapped 88 dams total 370.22 square miles (5.25%). A dam breach inundation map shows downstream flooding that could result from a hypothetical failure of a dam or its critical appurtenant structures. In 2017, the California Legislature passed a law requiring all State jurisdictional dam owners—except for owners of low-hazard dams—to develop inundation maps approved by DSOD and emergency action plans approved by Cal OES.</p>
Recurrence probability	<p>Dams fail for a variety of reasons, including substandard construction materials/techniques, spillway design error, geological instability, poor maintenance, intense rainfall, and earthquakes; therefore, recurrence probabilities are unknown. State jurisdictional dams are regulated by the DSOD, and each dam undergoes inspection on an annual basis to ensure that it is safe, performing as intended, and is not developing issues. According to the DSOD, dams have been designed to withstand storms so massive that they happen only once every 1,000 years (i.e., 0.1% chance).</p> <p>In recent years, there has been growing concern around extreme precipitation events pushing aging dams beyond what they were designed to handle. Water flowing over the top of a dam is considered among the worst possible failures as it puts pressure on the structure and increases the odds of a complete collapse. According to former FEMA administrator Craig Fugate, “even if kept in good condition, thousands of dams could be at risk because of extreme rainstorms.”</p> <p>One way to measure extreme precipitation events that may cause failure to dams in the Bay Area is to calculate extreme storm frequency return intervals. According to California’s Fourth Climate Change Assessment, by the end of the century the Bay Area will experience a once in 20-year storm every 7 years and a once in 200-year sequence of storms every 40 to 50 years.</p>

**Table 4-7: Dam Failure Impact on Land Area**

County	Dam Breach Inundation Area— High Hazard Potential		Dam Breach Inundation Area— Extremely High Hazard Potential	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	30.51	0.43	339.71	4.82
Alameda	2.46	0.33	83.84	11.27
Contra Costa	3.24	0.43	54.14	7.25
Marin	9.76	1.85	3.54	0.67
Napa	7.68	0.97	31.55	4.00
San Francisco	0.00	0.00	3.15	6.62
San Mateo	0.22	0.05	12.32	2.70
Santa Clara	4.02	0.31	143.56	11.05
Solano	0.77	0.09	5.60	0.66
Sonoma	2.36	0.15	2.01	0.13

**Table 4-8: Dam Failure Impact on Transit Agencies' Fixed Critical Facilities**

Agency	Dam Breach Inundation Area—High Hazard Potential		Dam Breach Inundation Area— Extremely High Hazard Potential	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Nine Transit Agencies Total	1	1.67	2	3.33
MTC	0	0.00	0	0.00
AC Transit	0	0.00	0	0.00
CCCTA	0	0.00	0	0.00
Marin Transit	1	7.69	0	0.00
NVTA	0	0.00	2	66.67
Santa Rosa CityBus	0	0.00	0	0.00
SolTrans	0	0.00	0	0.00
WestCAT	0	0.00	0	0.00
WETA	0	0.00	0	0.00
Other: Salesforce Transit Center	0	0.00	0	0.00

**Table 4-9: Dam Failure Impact on MTC Express Lanes**

MTC Express Lane	Dam Breach Inundation Area— High Hazard Potential		Dam Breach Inundation Area— Extremely High Hazard Potential	
	# of Miles	% of Miles	# of Miles	% of Miles
Express Lanes Total	0.01	0.01	15.03	11.57
MTC Express Lanes—Current	0.00	0.00	13.68	16.57
MTC Express Lanes— Upcoming	0.00	0.00	1.35	8.26
MTC Express Lanes—Future	0.01	0.03	0.00	0.00

**Table 4-10: Overall Summary of Transit Agencies’ Vulnerability to Dam Failure**

Dam Failure	
Summary	<p>According to the DSOD, there are 88 mapped High and Extremely High Hazard Potential dams in the Bay Area that—should a hypothetical failure occur—will cause loss of human life and/or result in an inundation area with a population of 1,000 or more. These mapped High and Extremely High Hazard Potential dam breach inundation areas cover 370.22 square miles (5.25%) of the Bay Area. Santa Clara and Alameda Counties have the greatest percentage of square miles (22.32% combined) within the Extremely High Hazard Potential dam breach inundation areas.</p> <p>In terms of fixed critical facilities, only three fixed critical facilities (5.00%) are in High and Extremely High Hazard Potential dam breach inundation areas. Marin Transit has one fixed critical facility in a High Hazard Potential dam breach inundation area, and NVRTA has two fixed critical facilities in an Extremely High Hazard Potential dam breach inundation area. These agencies may experience flooding and/or damage to their facilities should a dam failure occur.</p> <p>MTC, AC Transit, CCCTA, Santa Rosa CityBus, SolTrans, WestCAT, and WETA do not have any fixed critical facilities in a dam failure hazard area. However, a hypothetical failure of a High or Extremely High dam or its critical appurtenant structures may disrupt or limit services in nearby areas that are under evacuation and/or damaged.</p> <p>Although there are almost no MTC Express Lanes in a High Hazard Potential dam breach inundation area, over 15 miles (11.57%) of MTC Express Lanes are in an Extremely High Hazard Potential dam breach inundation area.</p>

### 4.3 DROUGHT

**Table 4-11: Drought Profile**

Profile	Description
Nature	<p>Drought is a normal, recurrent feature of virtually all climatic zones, including areas of both high and low rainfall, although the characteristics will vary significantly from one region to another; drought differs from normal aridity, which is a permanent feature of the climate in areas of low rainfall. Drought is the result of a natural decline in the expected precipitation over an extended period, typically one or more seasons. Other climatic characteristics impact the severity of drought conditions, such as high temperature, high wind, and low relative humidity.</p> <p>Four common definitions for drought are provided as follows:</p> <ul style="list-style-type: none"> <li>• <b>Meteorological drought</b> is defined solely on the degree of dryness, expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales.</li> <li>• <b>Hydrological drought</b> is related to the effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels.</li> <li>• <b>Agricultural drought</b> is defined principally in terms of soil moisture deficiencies relative to the water demands of plant life, usually crops.</li> <li>• <b>Socioeconomic drought</b> associates the supply and demand of economic goods or services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of a weather-related supply shortfall. It may also be referred to as a water management drought.</li> </ul> <p>A drought’s severity depends on numerous factors, including duration, intensity, geographic extent, and regional water supply demands by humans and vegetation. Due to its multi-dimensional nature, drought is difficult to define in exact terms and poses difficulties in terms of comprehensive risk assessments.</p> <p>Drought differs from other natural hazards in three ways. First, the onset and end of a drought are difficult to determine due to the slow accumulation and lingering of effects of an event after its apparent end. Second, the lack of an exact and universally accepted definition adds to the confusion of its existence and severity. Third, in contrast with other natural hazards, the impact of drought is less obvious and may be spread over a larger geographic area. These characteristics have hindered the preparation of drought contingency or mitigation plans by many governments.</p>
Location	<p>The occurrence of drought is regional in nature and scope, which holds true for the Bay Area. Therefore, the occurrence of drought typically affects all nine counties.</p>
History	<p>Drought is a cyclic part of the climate of California, occurring in both summer and winter, with an average recurrence interval between 3 and 10 years. The most recent drought from 2012 to 2016 was the driest 4-year period on record in California since recordkeeping began in 1895. Droughts that have occurred in the Bay Area and California over the past 100 years are listed below:</p> <ul style="list-style-type: none"> <li>• 1917–1921, statewide except for the central Sierra Nevada and north coast</li> <li>• 1922–1926, statewide except for the central Sierra Nevada</li> <li>• 1928–1937, statewide</li> <li>• 1943–1951, statewide</li> <li>• 1959–1962, statewide</li> <li>• 1976–1977, statewide, except for southwestern deserts</li> <li>• 1987–1992, statewide</li> <li>• 2007–2009, statewide, particularly the central coast</li> <li>• 2012–2016, statewide</li> </ul>
Extent / severity	<p>The National Drought Mitigation Center produces drought monitor maps for the United States. It classifies droughts into five categories: D0 is the least severe, with abnormally dry conditions; D4 is the most severe, with exceptional drought conditions. California, including the Bay Area, was</p>

**Table 4-11: Drought Profile**

Profile	Description
	in some form of drought for 376 consecutive weeks from December 20, 2011 until March 14, 2019. As of December 31, 2020, the majority of the Bay Area is classified as being in a D2 drought (severe drought) intensity; Napa and Solano Counties are also classified in a D3 (extreme drought) intensity.
Recurrence probability	Researchers for California’s Fourth Climate Change Assessment have noted that California has a “highly variable climate” with wet or dry periods that can span years and are “heavily affected by extreme precipitation events.” Furthermore, climate scientists suggest the possibility of longer and more destructive droughts with climate change. Therefore, drought conditions are likely to occur in the Bay Area at least every decade.

**Table 4-12: Drought Impact on Transit Agencies**

Drought	
Summary	<p>Drought impacts on MTC and its partner transit agencies will likely include:</p> <ul style="list-style-type: none"> <li>• Stress on right-of-way landscaping and vegetation.</li> <li>• Need to curtail transit agencies’ water-use activities (e.g., washing transit vehicles)</li> <li>• Increase in susceptibility to wildfires, which will affect transit operations, particularly in evacuation areas</li> </ul>

**Table 4-13: Overall Summary of Transit Agencies’ Vulnerability to Drought**

Drought	
Summary	<p>As noted in <b>Table 4-11</b>, drought is regional in nature and scope; therefore, drought will affect MTC and its partner transit agencies. Drought can be difficult to define in exact terms and poses difficulties in terms of comprehensive risk assessments. Droughts will likely leave MTC and its partner transit agencies vulnerable to water-use shortages (for vehicle cleaning and landscaping purposes). The combined effect of heat and drought could increase heat-related illnesses for drivers and riders too. Drought can create favorable wildfire conditions that could affect ridership and limit route services.</p>

## 4.4 EARTHQUAKE

**Table 4-14: Earthquake Profile**

Profile	Description
Nature	<p>An earthquake is a sudden motion or trembling caused by a release of strain accumulated in or along the edge of Earth’s tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. Earthquakes usually occur without warning and can cause massive damage and extensive casualties in a few seconds. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure. Ground motion is the vibration or shaking of the ground during an earthquake. When a fault ruptures, seismic waves radiate, causing the ground to vibrate. The severity of the vibration increases with the amount of energy released and decreases with distance from the causative fault or epicenter. Soft soils can amplify ground motions.</p> <p>In addition to ground motion, several secondary natural hazards can occur from earthquakes, such as the following:</p> <ul style="list-style-type: none"> <li>• <b>Surface faulting:</b> Surface faulting is the differential movement of two sides of a fault at the Earth’s surface. Displacement along faults varies in terms of both length and width but can be significant (e.g., up to 20 feet), as can the length of the surface rupture (e.g., up to 200 miles). Surface faulting can cause severe damage to linear structures, including railways, highways, pipelines, tunnels, and dams.</li> <li>• <b>Liquefaction:</b> Liquefaction occurs when seismic waves pass through saturated granular soil distorting its granular structure and causing some of the empty spaces between granules to collapse. Liquefaction causes lateral spreads (i.e., horizontal movements of commonly 10 to 15 feet, but up to 100 feet), flow failures (i.e., massive flows of soil, typically hundreds of feet, but up to 12 miles), and loss of bearing strength (i.e., soil deformations causing structures to settle or tip). Liquefaction can cause severe damage to property.</li> <li>• <b>Landslides/debris flows:</b> Landslides/debris flows occur as a result of horizontal seismic inertia forces induced in the slopes by the ground shaking. The most common earthquake-induced landslides include shallow, disrupted landslides such as rock falls, rockslides, and soil slides. Debris flows are created when surface soil on steep slopes becomes completely saturated with water. Once the soil liquefies, it loses the ability to hold together and can flow downhill at very high speeds, taking vegetation and/or structures with it. Slide risks increase after an earthquake during a wet winter.</li> </ul> <p>The two most common measures of earthquake intensity used in the United States are the Modified Mercalli Intensity Scale, which measures felt intensity; and peak ground acceleration, which measures instrumental intensity by quantifying how hard the earth shakes in a given location. Magnitude (M) is measured by the amplitude of the earthquake waves recorded on a seismograph using a logarithmic scale.</p>
Location	<p>The Bay Area is transected by a series of significant subparallel faults between the Pacific and North American plates; faults include the San Andreas, Calaveras, Concord-Green Valley, Greenville, Hayward, Rodgers Creek, and San Gregorio Faults. The faults are shown on <b>Figure B-14</b>.</p>

**Table 4-14: Earthquake Profile**

Profile	Description
History	<p>According to the USGS, 52 earthquakes of M 5.0 or greater have been recorded in the region since 1769 (<b>Figure B-14</b>). Three of these earthquakes have been greater or equal to an M 7.0:</p> <ul style="list-style-type: none"> <li>• An M 7.0 earthquake occurred on October 21, 1868, on the Hayward Fault in the East Bay. The cities of Hayward, San Leandro, and Fremont were hardest hit; 30 people were killed and hundreds of buildings were damaged and destroyed.</li> <li>• An M 7.4 earthquake occurred in June 1838 along the San Andreas Fault. It is believed to have affected 62 miles of the fault from the San Francisco Peninsula to the Santa Cruz Mountains.</li> <li>• An M 7.8 earthquake occurred on April 18, 1906, along the San Andreas Fault. The epicenter was near San Francisco although shaking could be felt from as far north as Southern Oregon and as far south as Los Angeles. Approximately 3,000 people died as a result of the earthquake and subsequent fires.</li> </ul>
Extent / severity	<p>The California Geological Survey (CGS) has developed probabilistic seismic hazard maps for earthquake shaking potential for California. The maps show the relative intensity of ground shaking and damage in California from anticipated future earthquakes. The maps are probabilistic in that the analysis “takes into consideration the uncertainties in the size and location of earthquakes and the resulting ground motions that can affect a particular site.” Regions near major, active faults are shown in red and pink and experience stronger earthquake shaking more frequently. Regions that are distant from known, active faults are shown in orange and yellow; these areas experience lower levels of shaking, less frequently. <b>Figure B-15</b> depicts a probabilistic seismic hazard map that shows a 10% probability of exceedance in 50 years (an annual probability of 1 in 475 of being exceeded each year). In the Bay Area, there are 4716.81 square miles (66.93%) with severe shaking potential, and 1422.21 square miles (20.18%) with violent shaking potential.</p>
Recurrence probability	<p>In 2015, scientists developed a new earthquake forecast model for California. Known as the third Uniform California Earthquake Rupture Forecast, the model estimates the magnitude, location, and likelihood of earthquake fault rupture throughout the state. The model shows that the probability of having a nearby earthquake rupture with a 30-year likelihood of one or more events in the Bay Area include:</p> <ul style="list-style-type: none"> <li>• 100% for a M 5.0</li> <li>• 98% for a M 6.0</li> <li>• 72% for a M 6.7</li> <li>• 51% for a M 7.0</li> <li>• 20% for a M 7.5</li> </ul>

**Table 4-15: Earthquake Impact on Land Area**

County	Probabilistic Earthquake Shaking Area—Severe		Probabilistic Earthquake Shaking Area—Violent	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	4716.81	66.93	1422.21	20.18
Alameda	465.70	62.58	201.80	27.12
Contra Costa	621.29	83.19	73.97	9.91
Marin	355.68	67.47	172.79	32.78
Napa	619.63	78.60	0.55	0.07
San Francisco	23.40	49.18	23.35	49.08
San Mateo	174.49	38.28	280.34	61.51
Santa Clara	691.25	53.23	343.03	26.42
Solano	562.16	66.17	1.44	0.17
Sonoma	1203.21	75.69	324.92	20.44

**Table 4-16: Earthquake Impact on Transit Agencies' Fixed Critical Facilities**

Agency	Probabilistic Earthquake Shaking Area—Severe		Probabilistic Earthquake Shaking Area—Violent	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Nine Transit Agencies Total	38	63.33	19	31.66
MTC	5	50.00	2	20.00
AC Transit	0	0.00	9	100.00
CCCTA	2	100.00	0	0.00
Marin Transit	10	66.66	3	20.00
NVTA	3	100.00	0	0.00
Santa Rosa CityBus	1	50.00	1	50.00
SolTrans	4	100.00	0	0.00
WestCAT	2	66.67	1	33.33
WETA	10	76.92	3	23.08
Other: Salesforce Transit Center	1	100.00	0	0.00

**Table 4-17: Earthquake Impact on MTC Express Lanes**

MTC Express Lane	Probabilistic Earthquake Shaking Area—Severe		Probabilistic Earthquake Shaking Area—Violent	
	# of Miles	% of Miles	# of Miles	% of Miles
Express Lanes Total	70.71	54.44	60.04	46.23
MTC Express Lanes—Current	23.40	28.34	60.04	72.71
MTC Express Lanes—Upcoming	16.37	100.00	0.00	0.00
MTC Express Lanes—Future	30.94	100.00	0.00	0.00

**Table 4-18: Overall Summary of Transit Agencies’ Vulnerability to Earthquakes**

Earthquake	
Summary	<p>According to the CGS, nearly 90% of Bay Area will likely experience severe or violent shaking from anticipated future earthquakes. Counties that will experience mostly violent shaking include San Francisco (49.08% of land area) and San Mateo (61.51% of land area).</p> <p>For MTC and its partner transit agencies, 38 fixed critical facilities (63.33%) are in severe shaking hazard areas, and 19 fixed critical facilities (31.66%) are in violent shaking hazard areas, for a total of 57 fixed critical facilities (95%) at risk of severe or violent shaking. In addition, over 70 miles (54.44%) of MTC Express Lanes are in severe shaking hazard areas, and an additional 60.04 miles (46.23%) of MTC Express Lanes are in violent shaking hazard areas.</p> <p>For transit agencies vulnerable to severe shaking (or Modified Mercalli Intensity 8), fixed critical facilities that are considered ordinary substantial buildings may have considerable damage, including partial building collapse and furniture will be overturned. Fixed critical facilities in this hazard area include.</p> <ul style="list-style-type: none"> <li>• MTC: 5 fixed critical facilities</li> <li>• CCCTA: 2 fixed critical facilities</li> <li>• Marin Transit: 10 fixed critical facilities</li> <li>• NVRTA: 3 fixed critical facilities</li> <li>• Santa Rosa CityBus: 1 fixed critical facility</li> <li>• SolTrans: 4 fixed critical facilities</li> <li>• WestCAT: 2 fixed critical facilities</li> <li>• WETA: 10 fixed critical facilities</li> <li>• Other: Salesforce Transit Center: 1 fixed critical facility</li> </ul> <p>All of AC Transit’s critical facilities are in the violent shaking hazard area. In addition, two MTC fixed critical facilities, three Marin Transit fixed critical facilities, one Santa Rosa CityBus fixed critical facility, one WestCAT fixed critical facility, and three WETA fixed critical facilities are in violent shaking hazard areas. For fixed critical facilities vulnerable to violent shaking (or Modified Mercalli Intensity 9), ordinary substantial buildings will likely have considerable damage, including partial building collapse, and buildings will likely separate from their foundations.</p> <p>Finally, the MTC and its partner transit agencies may experience delayed, limited, or suspended service after severe or violent earthquake shaking due to the need to undertake damage assessments and infrastructure damage.</p>

## 4.5 FLOOD

**Table 4-19: Flood Profile**

Profile	Description
Nature	<p>A flood occurs when the existing channel of a stream, river, canyon, or other watercourse cannot contain excess runoff from rainfall or snowmelt, resulting in overflow onto adjacent lands. In coastal areas, flooding may occur when high winds or tides result in a surge of seawater into areas that are above the normal high tide line.</p> <p>Secondary hazards from floods can include:</p> <ul style="list-style-type: none"> <li>• Erosion or scouring of stream banks, roadway embankments, foundations, footings for bridge piers, and other features</li> <li>• Impact damage to structures, roads, bridges, culverts, and other features from high-velocity flow and from debris carried by floodwaters (Such debris may also accumulate on bridge piers and in culverts, increasing loads on these features or causing overtopping or backwater effects.)</li> <li>• Destruction of crops, erosion of topsoil, and deposition of debris and sediment on croplands</li> <li>• Release of sewage and hazardous or toxic materials when wastewater treatment plants are inundated, storage tanks are damaged, and pipelines are severed.</li> </ul> <p>In the Bay Area, floods usually occur during the season of highest precipitation or during heavy rainfalls after prolonged dry periods. The Bay Area is dry during late spring, summer, and early fall, receiving most of its rain during the winter months. The rainfall season extends from November through April, with approximately 95% of the annual rainfall occurring during this period.</p>
Location	<p>In the Bay Area, four main types of flooding are known to occur:</p> <ul style="list-style-type: none"> <li>• Coastal flooding: Coastal flooding is caused by waves generated by severe winter storms. The occurrence of such a storm event in combination with high astronomical tides and strong winds can cause significant wave runup and allow storm waves to reach higher-than-normal elevations along the coastline. As shown on <b>Figure B-16</b>, the areas with the worst coastal flooding in the Bay Area include Alameda, Marin, San Mateo, and Santa Clara Counties.</li> <li>• Riverine flooding: Also known as overbank flooding, riverine flooding occurs in narrow, confined channels in the steep valleys of mountainous and hilly regions to wide and flat areas in plains and coastal regions. The amount of water in the floodplain is a function of the size and topography of the contributing watershed, the regional and local climate, and land use characteristics. Flooding in steep, mountainous areas is usually confined, strikes with less warning time, and has a short duration. Larger rivers typically have longer, more predictable flooding sequences and broad floodplains. In the Bay Area, streams and rivers that empty into San Francisco Bay or its tributary bays include Corte Madera Creek, Novato Creek, Petaluma River, Sonoma Creek, Napa River, Carneros Creek, Suisun Bay, Suisun Slough, Corderia Slough, Suisun Creek, Montezuma Slough, Pacheco Creek, Sacramento River, San Joaquin River, San Pablo Creek, Pinole Creek, San Leandro Creek, San Lorenzo Creek, Alameda Creek, Coyote Creek, Guadalupe River, Stevens Creek, San Francisquito Creek, Redwood Creek, and San Mateo Creek (<b>Figure B-16</b>).</li> <li>• Localized/urban flooding: Localized flooding may also occur outside of recognized drainage channels or delineated floodplains due to a combination of locally heavy precipitation, increased surface runoff, and inadequate facilities for drainage and stormwater conveyance. Such events frequently occur in flat areas and in urbanized areas with large impermeable surfaces.</li> <li>• Sea level rise: see <b>Section 4.1</b>.</li> </ul>

**Table 4-19: Flood Profile**

Profile	Description
History	<p>According to the National Oceanic and Atmospheric Administration Storm Events Database, the numbers of days associated with a flood event by county from January 1, 2000, to June 1, 2020, are as follows:</p> <ul style="list-style-type: none"> <li>• Alameda County: 42 days</li> <li>• Contra Costa County: 8 days</li> <li>• Marin County: 42 days</li> <li>• Napa County: 20 days</li> <li>• San Francisco County: 37 days</li> <li>• San Mateo County: 24 days</li> <li>• Santa Clara County: 40 days</li> <li>• Solano County: 9</li> <li>• Sonoma County: 49</li> </ul> <p>Of these flood events, the federal government declared seven major disaster declarations for floods in the Bay Area (listed in descending chronological order):</p> <ul style="list-style-type: none"> <li>• California Severe Winter Storms, Flooding, Landslides, and Mudslides (CR-4434-CA), February 24, 2019, to March 1, 2019</li> <li>• California Severe Winter Storms, Flooding, Landslides, and Mudslides (DR-4431-CA), February 13, 2019, to February 15, 2019</li> <li>• California Severe Winter Storms, Flooding, Landslides, and Mudslides (DR-4308-CA), February 1, 2017, to February 23, 2017</li> <li>• California Severe Winter Storms, Flooding, Landslides, and Mudslides (DR-4305-CA), January 18, 2017, to January 23, 2017</li> <li>• California Severe Winter Storms, Flooding, Landslides, and Mudslides (DR-4301-CA), January 3, 2017, to January 12, 2017</li> <li>• California Storms, Flooding, Landslides, and Mudslides (DR-1646-CA), March 29, 2006, to April 16, 2006</li> <li>• California Storms, Flooding, Landslides, and Mudslides (DR-1628-CA), December 17, 2005, to February 3, 2006</li> </ul>
Extent / severity	<p>The magnitude of flooding that is used as the standard for floodplain management in the United States is a flood with a probability of occurrence of 1% in any given year. This flood is also known as the 100-year flood (i.e., base flood). The 100-year flood (1%) and the 500-year flood (0.2%), are considered Special Flood Hazard Areas (SFHAs) and identified on FEMA’s Digital Flood Insurance Rate Maps (DFIRMs). DFIRMs have been developed for Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Solano, and Sonoma Counties. In San Francisco County, the 100-year flood is identified on the San Francisco Public Utilities Commission’s (SFPUC) 100-Year Storm Flood Risk Map.</p> <p>The DFIRMs for the Bay Area and the SFPUC map identify 834.78 square miles (11.84%) with a 1% annual chance of flooding. In addition, the DFIRMs identify an additional 193.81 square miles (2.75%) with a 0.2% annual chance of flooding.</p>
Recurrence probability	<p>Floods can occur at any time but are most common with annual winter storms packed with subtropical moisture. Severe flooding is most likely to occur during strong El Niño events, which generally occur every 2 to 7 years.</p>

**Table 4-20: Flood Impact on Land Area**

County	SFHA—0.2% Annual Chance Flood		SFHA—1% Annual Chance Flood	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	193.81	2.75	834.78	11.84
Alameda	22.53	3.03	63.16	8.49
Contra Costa	12.56	1.68	118.40	15.85
Marin	5.23	0.99	45.19	8.57
Napa	4.12	0.52	78.22	9.92
San Francisco	N/A	N/A	1.44	3.02
San Mateo	7.01	1.54	32.83	7.20
Santa Clara	116.67	8.98	88.74	6.83
Solano	16.02	1.89	308.88	36.36
Sonoma	9.66	0.61	97.93	6.16

**Table 4-21: Flood Impact on Transit Agencies' Fixed Critical Facilities**

Agency	SFHA—0.2% Annual Chance Flood		SFHA—1% Annual Chance Flood	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Nine Transit Agencies Total	10	16.67	6	10.00
MTC	0	0.00	0	0.00
AC Transit	0	0.00	0	0.00
CCCTA	0	0.00	0	0.00
Marin Transit	6	40.00	5	38.46
NVTA	1	33.33	1	33.33
Santa Rosa CityBus	0	0.00	0	0.00
SolTrans	0	0.00	0	0.00
WestCAT	0	0.00	0	0.00
WETA	3	23.08	0	0.00
Other: Salesforce Transit Center	0	0.00	0	0.00

**Table 4-22: Flood Impact on MTC Express Lanes**

Agency	SFHA—0.2% Annual Chance Flood		SFHA—1% Annual Chance Flood	
	# of Miles	% of Miles	# of Miles	% of Miles
Express Lanes Total	9.56	7.36	7.33	5.64
MTC Express Lanes – Current	7.97	9.65	6.04	7.31
MTC Express Lanes – Upcoming	0.13	0.78	0.63	3.85
MTC Express Lanes – Future	1.46	4.72	0.66	2.12

**Table 4-23: Overall Summary of Transit Agencies’ Vulnerability to Floods**

Flood	
Summary	<p>Nearly 15% of the Bay Area (1,028.59 square miles) is in an SFHA. For MTC and its partner transit agencies, 10 fixed critical facilities (16.67%) are in the 500-year (0.2%) flood zone, and an additional six fixed critical facilities (10.00%) are in the 100-year (1%) flood zone. Within the 500-year flood zone, Marin Transit has five fixed critical facilities, NVTA has one, and WETA has the remaining three. Marin Transit has five of the six fixed critical facilities in the 100-year (1%) flood zone, and NVTA has one. MTC, AC Transit, CCCTA, Santa Rosa CityBus, SolTrans, and WestCAT do not have any fixed critical facilities in these hazard areas. There are 16.89 miles (13.00%) of MTC Express Lanes that are in an SFHA.</p> <p>For MTC and its partner transit agencies, flooding may cause route/commuter delays or disruption due to inundated roadways. Flooding may affect ridership, as riders may not venture out in the rain/flooded areas and may not be able to use the limited route service.</p>

## 4.6 INFECTIOUS DISEASE

**Table 4-24: Infectious Disease**

Profile	Description
Nature	<p>A disease is a pathological condition of a part, organ, or system of a living organism resulting from various causes, such as infection or exposure to toxins; a disease is characterized by an identifiable group of signs or symptoms. The major concern here is an epidemic, when a disease affects a disproportionately large number of individuals in a population, community, or region at the same time.</p> <p>Of great concern are infectious diseases caused by the entry and growth of microorganisms in humans. Infectious diseases are diseases caused by a pathogen that enters the body, triggering development of an infection. Such pathogens may include bacteria, viruses, fungi, prions, or protozoans. Infectious diseases can have a range of causes and are often contagious or communicable, meaning they can be passed from person to person. They can be transmitted through numerous modes, including direct contact (person-to-person, animal-to-person, or mother-to-unborn child contact), insect bites, food and water contamination, or airborne inhalation. Many infectious diseases can make the body vulnerable to secondary infections, which are caused by other organisms taking advantage of a weakened immune system.</p> <p>According to the Global Health Council, over 9.5 million people die each year from infectious diseases. Although progress has been made to control or eradicate many infectious diseases, humans remain vulnerable to many new emerging organisms, such as the coronavirus disease 2019 (COVID-19), a new coronavirus discovered in 2019. In addition, previously recognized pathogens can evolve to become resistant to available antibiotics and other treatments. For example, malaria, tuberculosis, and bacterial pneumonias are appearing in new forms that are resistant to drug treatments. The spread of infectious diseases also increases with population growth and the ease of travel.</p> <p>The State of California has established a list of over 95 communicable (infectious) diseases, which—by law—must be reported by health providers to state or local public health officials. These diseases are those of public interest by reason of their communicability, severity, or frequency.</p>
Location	<p>The entire Bay Area is susceptible to infectious diseases. Segments of the population at highest risk for contracting an illness from a pathogen are the very young, the elderly, or individuals who currently experience respiratory or immune deficiencies. These segments of the population are present throughout the region. In addition, because of the communicable nature of these diseases, tourism centers or areas of high population density are considered more at risk. As a result, the population in and around San Francisco may have an increased potential for exposure to and the spread of infectious diseases.</p>

**Table 4-24: Infectious Disease**

Profile	Description
History	<p>Notable historical outbreaks, epidemics, and pandemics in the Bay Area include:</p> <ul style="list-style-type: none"> <li>• 1873: The cholera epidemic of 1873 in the United States. The Surgeon General’s Office believed that cholera first landed in San Francisco as early as September 1850 with the arrival of the <i>S.S. Carolina</i>. It was exacerbated due to poor sanitation conditions in the city and quickly spread to San Jose, Carson Valley, and Sacramento.</li> <li>• 1888: The California Department of Public Health reported that the entire Bay Area was dealing with cases of smallpox, scarlet fever, typhoid, consumption, diphtheria, and cholera.</li> <li>• 1900–1904: Outbreak of the bubonic plague in San Francisco was the first plague epidemic in the continental United States. It was centered in San Francisco’s Chinatown and resulted in 119 deaths. A second plague hit San Francisco in 1907 and spread to Oakland, resulting in an additional 78 deaths.</li> <li>• 1918–1919: The flu pandemic of 1918 infected and killed 45,000 and 3,000 San Franciscans, respectively.</li> <li>• 1948: The nation—including the Bay Area—experienced its largest epidemic of poliomyelitis, with 288 cases of local origin and 27,658 cases reported throughout the country. Previous outbreaks had occurred in the Bay Area in 1934, 1943, and 1945.</li> <li>• 2010: California declared pertussis (commonly referred to as whooping cough) as an epidemic in 2010. The State recorded more than 9,000 cases, including 809 hospitalizations and 10 deaths.</li> <li>• 2015: Although measles were declared eliminated by the United States in 2000, California experienced a measles outbreak in 2015 as the result an exposure at Disneyland. This led to the infection of 131 California residents.</li> <li>• 2019–present: COVID-19, caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), was first confirmed in the Bay Area in Santa Clara County on January 31, 2020. As of February 21, 2021, there have been nearly 406,991 confirmed cases and 5,362 deaths related to COVID-19 in the Bay Area.</li> </ul>
Extent / severity	<p>Each infectious disease has a different pathogenicity, which can affect the probability of occurrence and the extent of occurrence. In addition, infectious diseases are affected by factors such as environmental changes, human behavior and demographics, and technological advancement. According to the Mayo Clinic, most infectious diseases only have minor complications, but some can be life-threatening.</p> <p>People who have weakened immune systems are particularly vulnerable to infectious diseases. Infectious diseases can seriously affect those who are immunocompromised. Others who may be disproportionately affected by infectious diseases include the young and the elderly; people being cared for in institutional settings (such as hospitals and nursing homes); and people with inadequate access to healthcare, such as the homeless and others of low socioeconomic status. In addition, pregnant women and people who care for small children are generally at higher risk for acquiring infectious diseases.</p>
Recurrence probability	<p>The probability and magnitude of an infectious disease occurrence is difficult to evaluate due to the wide variation in disease characteristics, such as rate of spread, morbidity, and mortality, detection and response time, and the availability of vaccines and other forms of prevention. A review of the historical record indicates that disease-related disasters do occur in humans with some regularity and varying degrees of severity; however, there is growing concern about emerging infectious diseases.</p> <p>Infectious diseases pose a significant risk to the Bay Area; however, the probability of a major infectious disease outbreak with the potential of reaching the scale of an epidemic is not nearly as common. Based on recent history, an infectious disease outbreak occurs in the Bay Area about every 5 to 10 years, while a pandemic occurs every 100 years plus.</p>

**Table 4-25: Infectious Disease Impact on Transit Agencies**

Infectious Disease	
Summary	<p>Infectious disease impacts on MTC and its partner transit agencies will likely include:</p> <ul style="list-style-type: none"> <li>• Decrease in ridership/revenue due to individual behavior changes, such as fear-induced aversion to workplaces and public gathering places, and loss of jobs.</li> <li>• Increase in expenses associated with infection control and disinfection measures.</li> <li>• Employee refusal to work during an outbreak, which could in turn impact transit service routes, maintenance and repair, local critical infrastructure, and supporting vendors.</li> <li>• Loss of revenue, which could lead to layoffs and cuts in current service levels, which could in turn impact essential workers and other-transit dependent riders.</li> </ul>

**Table 4-26: Overall Summary of Transit Agencies’ Vulnerability to Infectious Diseases**

Infectious Disease	
Summary	<p>Infectious diseases can be difficult to evaluate due to the wide variation in disease characteristics and therefore pose difficulties in terms of comprehensive risk assessments. According to the National Cooperative Highway Research Program Report 769, transit agencies, including the MTC and its partner transit agencies, are most vulnerable to infectious diseases because of a lack of preparedness, across-the-board workforce shortages, and/or required responses to public information and/or public health strategies, including shelter-in-place orders, to limit disease. As a result, the MTC and its partner transit agencies are vulnerable to keeping transit workers employed and bringing back service both during and after an infectious disease epidemic or pandemic.</p> <p>According to the San Francisco Chronicle, transit use in the Bay Area has dropped by over 70% since the COVID-19 pandemic emerged in the Bay Area in early 2020. The transit agencies that have suffered the most are those that have serviced commuter routes to downtown San Francisco. It remains unclear when ridership will be back to pre-pandemic levels. As noted in the article (January 11, 2021), the COVID-19 pandemic has changed how and where Bay Area residents “live, work and travel” and the region’s “commitment to urbanism and to a ‘public transit first’ policy,” remains unknown.</p>

## 4.7 LANDSLIDE

**Table 4-27: Landslide Profile**

Profile	Description
Nature	<p>Landslide is a general term for the dislodging and fall of a mass of soil or rocks along a sloped surface or for the dislodged mass itself. The term is used for varying phenomena, including mudflows, mudslides, debris flows, rock falls, rockslides, debris avalanches, debris slides, and slump-earth flows. Landslides may result from a wide range of combinations of natural rock, soil, or artificial fill. The susceptibility of hillside and mountainous areas to landslides depends on variations in geology, topography, vegetation, and weather. Landslides may also occur because of indiscriminate development of sloping ground or the creation of cut-and-fill slopes in areas of unstable or inadequately stable geologic conditions.</p> <p>In California, landslides range from small shallow landslides that may mobilize into rapidly moving deadly debris flows to larger, deep-seated landslides that are capable of moving entire houses and infrastructure downslope. Coastal cliff collapses and cliff erosion are also concerns along the coast of Northern California, and more recently debris flows from burned areas are a particular concern after wildfires.</p>
Location	<p>In 2011, CGS created a deep-seated landslide grip map to show the relative likelihood of deep-seated landslides in California. The map combines landslide inventory, geology, rock strength, slope, average annual rainfall, and earthquake shaking potential layers to create classes of landslide susceptibility (<b>Figure B-17</b>). According to CGS, “these classes express the generalization that on very low slopes, landslide susceptibility is low even in weak materials, and that landslide susceptibility increases with slope and in weaker rocks. Very high landslide susceptibility, classes VIII, IX, and X, includes very steep slopes in hard rocks and moderate to very steep slopes in weak rocks.” Therefore, the hilly or mountainous areas of Marin and Sonoma Counties, the East Bay Hills, and the Santa Cruz Mountains are more in danger of landslides than other places.</p> <p>In 2018, MTC created a map (<b>Figure B-18</b>) that shows where landslides have previously occurred. The generalized location of landslides was determined using 1997 USGS landslide inventory maps and drawing “envelopes” around areas containing mapped landslides. Areas identified as “most” existing landslides cover areas with the largest and most concentrated landslides; “few” existing landslides indicates smaller, more scattered landslides; and “flat land” indicates areas that have not had landslide events. <b>Figure B-18</b> shows that “most” existing mapped landslides have occurred in Alameda, Marin, San Mateo, Santa Clara, and Sonoma Counties.</p>
History	<p>As noted in <b>Table 4-19</b>, there have been seven major disaster declarations for mudslides and landslides associated with winter storms in the Bay Area over the last 20 years. In fact, mudslides and landslides associated with severe storms have been among the most common disasters in the Bay Area from 1950 to 2009 and have caused hundreds of millions of dollars in property loss, tens of deaths, and hundreds of injuries.</p> <p>In 2006, a fatal landslide occurred in Mill Valley when a “fast-moving wall of mud” buried a 76-year-old man behind his home. In February 2019, a destructive landslide occurred in the neighboring town of Sausalito. The slide trapped one woman and damaged two homes and five cars.</p>

**Table 4-27: Landslide Profile**

Profile	Description
Extent / severity	<p>Shallow landslides are generally those less than 10 to 15 feet deep. When shallow landslides are sufficiently wet, they may move rapidly and can be highly mobile over long distances.</p> <p>Deep-seated landslides are hundreds to thousands of feet long or wide and only move fractions of an inch per year; however, during heavy rainfall events, a landslide can move several yards a minute or faster. In these areas, rocks have been weakened through faulting and fracturing, uplift, and saturated soils due to heavy or prolonged rainfall. In addition, these slippages can be exacerbated by the temperature fluctuation, known as the freeze-thaw cycle.</p> <p><b>Figure B-17</b> shows the extent of deep-seated landslide susceptibility areas in Bay Area; there are 1970.96 square miles (27.97%) of land in Classes IX and X, according to this figure.</p> <p><b>Figure B-18</b> shows that 2828.43 square miles (40.13%) of the Bay Area have experienced “few” existing landslides, and another 1868.14 square miles (26.51%) have experienced “most” existing landslides.</p>
Recurrence probability	<p>Shallow landslides can occur at any time during the winter but are more likely to happen when the ground is nearly saturated, which typically occurs after the first few storms in November and December. However, deep-seated landslides generally need deep infiltration of rainfall (which can take weeks or months to occur) to be triggered and therefore generally occur toward the end of the winter season in March or April. Every landslide event reported in the Bay Area has followed a winter storm/rain event; therefore, it is assumed that the probability of a future landslide event will be highly tied to winter storm/rain events. Based on historical occurrences, severe winter storm conditions are likely to occur in the Bay Area every 2 to 7 years.</p>

**Table 4-28: Deep-Seated Landslide Impact on Land Area**

County	Deep-Seated Landslide Class IX and X Area	
	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	1970.96	27.97
Alameda	144.86	19.47
Contra Costa	124.38	16.65
Marin	239.28	45.39
Napa	206.22	26.16
San Francisco	4.06	8.54
San Mateo	102.58	22.51
Santa Clara	403.37	31.06
Solano	28.60	3.37
Sonoma	717.60	45.14

**Table 4-29: Deep-Seated Landslide Impact on Transit Agencies’ Fixed Critical Facilities**

Agency	Deep-Seated Landslide Class IX and X Area	
	# of Facilities	% of Fixed Facilities
Nine Transit Agencies Total	0	0.00
MTC	0	0.00
AC Transit	0	0.00
CCCTA	0	0.00
Marin Transit	0	0.00
NVTA	0	0.00
Santa Rosa CityBus	0	0.00
SolTrans	0	0.00
WestCAT	0	0.00
WETA	0	0.00
Other: Salesforce Transit Center	0	0.00

**Table 4-30: Deep-Seated Landslide Impact on MTC Express Lanes**

MTC Express Lane	Deep-Seated Landslide Class IX and X Area	
	# of Miles	% of Miles
Express Lanes Total	2.51	1.93
MTC Express Lanes—Current	1.21	1.46
MTC Express Lanes—Upcoming	0.65	3.95
MTC Express Lanes—Future	0.65	2.09

**Table 4-31: Existing Landslide Impact on Land Area**

County	Existing Landslide Area—Few		Existing Landslide Area—Most	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	2828.43	40.13	1868.14	26.51
Alameda	269.48	36.21	199.17	26.77
Contra Costa	263.73	35.31	156.42	20.94
Marin	240.85	45.69	186.62	35.40
Napa	465.24	59.02	139.69	17.72
San Francisco	7.41	15.58	0.45	0.95
San Mateo	221.33	48.56	103.40	22.69
Santa Clara	529.36	40.76	383.40	29.52
Solano	224.06	26.37	38.99	4.59
Sonoma	606.97	38.18	659.99	41.52

**Table 4-32: Existing Landslide Impact on Transit Agencies' Fixed Critical Facilities**

Agency	Existing Landslide Area—Few		Existing Landslide Area—Most	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Nine Transit Agencies Total	8	13.33	2	3.33
MTC	2	20.00	0	0.00
AC Transit	1	11.11	2	22.22
CCCTA	0	0.00	0	0.00
Marin Transit	1	6.66	0	0.00
NVTA	0	0.00	0	0.00
Santa Rosa CityBus	0	0.00	0	0.00
SolTrans	1	25.00	0	0.00
WestCAT	3	100.00	0	0.00
WETA	0	0.00	0	0.00
Other: Salesforce Transit Center	0	0.00	0	0.00

**Table 4-33: Existing Landslide Impact on MTC Express Lanes**

Agency	Existing Landslide Area—Few		Existing Landslide Area—Most	
	# of Miles	% of Miles	# of Miles	% of Miles
Express Lanes Total	11.45	8.82	2.48	1.25
MTC Express Lanes—Current	5.02	6.08	1.94	2.35
MTC Express Lanes—Upcoming	2.95	18.02	0.00	0.00
MTC Express Lanes—Future	3.48	11.25	0.00	0.00

**Table 4-34: Overall Summary of Transit Agencies’ Vulnerability to Landslides**

Landslide	
Summary	<p>The Bay Area is vulnerable to both shallow and deep-seated landslides. Both types of landslides are the result of ground saturation associated with winter storms.</p> <ul style="list-style-type: none"> <li>• In the nine counties, there are 1907.96 square miles (27.97%) mapped as high (Class IX and X) deep-seated landslide susceptibility areas. These landslide-prone areas include over 30% of the mountainous or hilly areas of Marin, Sonoma, and Santa Clara Counties. Fortunately, MTC and its partner transit agencies do not have any fixed critical facilities in this hazard area.</li> <li>• Landslides can occur along existing old landslides, which are shown on <b>Figure B-18</b>. There are eight fixed critical facilities (13.33%) that are in “few” existing landslide hazard areas. Fixed critical facilities in this hazard area include those of MTC (2), AC Transit (1), Marin Transit (1), SolTrans (1), and WestCAT (3). In addition, AC Transit has two fixed critical facilities in the “most” existing landslide hazard area. CCCTA, NVTA, Santa Rosa CityBus, and WETA do not have any fixed critical facilities in either the “few” or “most” landslide hazard areas.</li> <li>• There are 2.51 miles (1.93%) of MTC Express Lanes in high deep-seated landslide susceptibility areas, 11.45 miles (8.82%) in “few” existing landslide hazard areas, and 2.48 miles (1.25%) in “most” existing landslide hazard areas.</li> <li>• All of the transit agencies included in this plan may be vulnerable to landslides blocking or damaging roadways, transit stops, and parking lots, thereby likely disrupting route service.</li> </ul>

## 4.8 PUBLIC SAFETY POWER SHUTOFF

**Table 4-35: Public Safety Power Shutoff Profile**

Profile	Description
Nature	<p>The risk of wildfire increases when several factors combine, including high temperatures, high sustained and peak winds, and critically low humidity. During these conditions, electrical transmission and distribution lines may ignite fires if they are downed by winds and/or trees. To reduce the chance of accidental fire ignition in certain areas, Pacific Gas and Electric Company (PG&amp;E) may de-energize electrical grids or blocks in particular areas in advance of or during periods of heightened risk conditions. Heightened risk conditions include:</p> <ul style="list-style-type: none"> <li>• A Red Flag Warning has been declared by the National Weather Service.</li> <li>• Humidity levels are low, generally 20% or below.</li> <li>• Sustained winds above approximately 25 miles per hour (mph) and wind gusts in excess of approximately 45 mph are forecasted.</li> <li>• Site-specific conditions such as temperature, terrain, and local climate increase risk.</li> <li>• The condition of dry fuel on the ground and live vegetation (moisture content) increases risk.</li> <li>• On-the-ground, real-time wildfire relation information from PG&amp;E Wildfire Safety Operations Center and field observations from PG&amp;E field crews indicate heightened risk.</li> </ul> <p>Per the California Public Utilities Commission (CPUC), utilities will only de-energize if the utility “reasonably believes that there is an ‘imminent and significant risk’ to strong winds that may topple power lines or cause major vegetation-related damage to power lines, leading to increased risk of fire.”</p>
Location	<p>In 2012, the CPUC developed a statewide map to identify areas associated with increased risk for “utility associated wildfires.” The map, known as the CPUC Fire-Threat map, incorporates historical powerline wildfires and ranks fire-threat areas based on the risk that utility wildfires pose to people. <b>Figure B-19</b> shows the Tier 2 (Elevated) and Tier 3 (Extreme) CPUC Fire-Threat Areas in Bay Area. With the exception of San Francisco County, every Bay Area county has Tier 2 CPUC Fire-Threat Areas. Tier 3 CPUC Fire-Threat Areas can be found in every Bay Area county except San Francisco and Solano Counties.</p>
History	<p>The Bay Area experienced extensive public safety power shutoffs in late October 2019 due to Red Flag Warnings. Almost a year later, in September through December 2020, parts of Napa and Sonoma Counties experienced public safety power shutoffs also due to increasing fire danger.</p>
Extent / severity	<p>As shown on <b>Figure B-19</b>, 2788.10 square miles (39.56%) of the Bay Area is in Tier 2 (Elevated) CPUC Fire-Threat Areas, with an additional 1200.21 square miles (17.03%) in Tier 3 (Extreme) CPUC Fire-Threat Areas.</p>
Recurrence probability	<p>PG&amp;E “anticipates that a public safety power shutoff could occur 1 to 2 times a year in PG&amp;E’s service area, although it is impossible to predict future weather conditions in the new normal of climate-driven extreme weather events.”</p>

**Table 4-36: Public Safety Power Shutoff Impact on Land Area**

County	CPUC—Fire-Threat Area: Tier 2 Elevated		CPUC—Fire-Threat Area: Tier 3 Extreme	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	2788.10	39.56	1200.21	17.03
Alameda	242.15	32.54	86.30	11.60
Contra Costa	202.13	27.07	133.40	17.86
Marin	254.65	48.31	109.54	20.78
Napa	399.28	50.65	187.69	23.81
San Francisco	0.00	0.00	0.00	0.00
San Mateo	205.60	45.11	79.04	17.34
Santa Clara	711.22	54.77	138.35	10.65
Solano	103.18	12.15	0.00	0.00
Sonoma	669.89	42.14	465.87	29.31

**Table 4-37: Public Safety Power Shutoff Impact on Transit Agencies' Fixed Critical Facilities**

Agency	CPUC—Fire-Threat Area: Tier 2 Elevated		CPUC—Fire-Threat Area: Tier 3 Extreme	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Nine Transit Agencies Total	1	1.67	0	0.00
MTC	0	0.00	0	0.00
AC Transit	0	0.00	0	0.00
CCCTA	0	0.00	0	0.00
Marin Transit	1	7.69	0	0.00
NVTA	0	0.00	0	0.00
Santa Rosa CityBus	0	0.00	0	0.00
SolTrans	0	0.00	0	0.00
WestCAT	0	0.00	0	0.00
WETA	0	0.00	0	0.00
Other: Salesforce Transit Center	0	0.00	0	0.00

**Table 4-38: Public Safety Power Shutoff Impact on MTC Express Lanes**

MTC Express Lane	CPUC—Fire-Threat Area: Tier 2 Elevated		CPUC—Fire-Threat Area: Tier 3 Extreme	
	# of Miles	% of Miles	# of Miles	% of Miles
Express Lanes Total	6.84	5.27	0.00	0.00
MTC Express Lanes—Current	0.00	0.00	0.00	0.00
MTC Express Lanes—Upcoming	0.00	0.00	0.00	0.00
MTC Express Lanes—Future	6.84	22.11	0.00	0.00

**Table 4-39: Overall Summary of Transit Agencies’ Vulnerability to Public Safety Power Shutoffs**

Public Safety Power Shutoffs	
Summary	<p>Over half of the Bay Area is vulnerable to public safety power shutoffs, particularly during Red Flag Warnings. As listed in <b>Table 4-36</b>, 2,788.10 square miles (39.56%) and 1,200.21 square miles (17.03%) are in Tier 2 (Elevated) and Tier 3 (Extreme) CPUC Fire-Threat Areas, respectively. Marin, Napa, San Mateo, Santa Clara, and Sonoma Counties all have over 40% of their land area in Tier 2 (Elevated) CPUC Fire-Threat Areas. In addition, Marin, Napa, and Sonoma Counties have over 20% of their land area in Tier 3 (Extreme) CPUC Fire-Threat Areas.</p> <p>Despite the fact that public safety power shutoffs may affect a large portion of the Bay Area, only 6.84 miles (5.27%) of the MTC Express Lanes are located in a Fire-Threat Area (Tier 2). Only one fixed critical facility (for Marin Transit) of the 60 fixed critical facilities included in this plan is in a CPUC Fire-Threat Area. Therefore, MTC, AC Transit, CCCTA, NVTA, Santa Rosa CityBus, SolTrans, WestCAT, and WETA do not have any fixed critical facilities in this type of hazard area. However, de-energization of electrical systems in affected areas will likely impact traffic control systems and communication systems to carry out daily operations and those needed to support evacuation throughout the region. Therefore, all transit agencies included in this plan may be affected by public safety power shutoffs.</p>

## 4.9 TSUNAMI

**Table 4-40: Tsunami Profile**

Profile	Description
Nature	<p>A tsunami is a series of traveling ocean waves of extremely long length, generated by disturbances associated primarily with earthquakes occurring below or near the ocean floor. Subduction zone earthquakes at plate boundaries often cause tsunamis. However, tsunamis can also be generated by underwater landslides or volcanic eruptions, the collapse of volcanic edifices, and—in very rare instances—large meteorite impacts in the ocean.</p> <p>In the deep ocean, a tsunami may have a length from wave crest to wave crest of 100 miles or more, but a wave height of only a few feet or less. Therefore, the wave period can be up to several hours, and wavelengths can exceed several hundred miles. Tsunamis are unlike typical wind-generated swells on the ocean, which might have a period of about 10 seconds and a wavelength of up to 300 feet. Tsunamis cannot be felt aboard ships and they cannot be seen from the air or the open ocean. In deep water, the waves may reach speeds exceeding 700 mph.</p> <p>Tsunamis arrive as a series of successive crests (high-water levels) and troughs (low-water levels). These successive crests and troughs can occur anywhere from 5 to 90 minutes apart; however, they usually occur 10 to 45 minutes apart.</p> <p>Tsunamis not only affect beaches that are open to the ocean, but also bay mouths, tidal flats, and the shores of large coastal rivers. Tsunami waves can also diffract around land masses. Because tsunamis are asymmetrical, the waves may be much stronger in one direction than another, depending on the nature of the source and the surrounding geography. However, tsunamis propagate outward from their source, so coasts in the shadow of affected land masses are safer.</p> <p>In the Bay Area, tsunamis are most likely to be generated by very distant subduction faults (such as those in Washington, Alaska, Japan, and Russia) than local strike-slip faults (such as the San Andreas Fault).</p>
Location	<p><b>Figure B-20</b> shows maximum tsunami inundation areas based on the modeling of realistic local and distant earthquakes and hypothetical extreme undersea, near-shore landslides. The model, developed by the University of Southern California (USC) Tsunami Research Center, does not represent inundation from a single scenario event, but rather an “ensemble” of source events affecting a given region. As such, the inundation area shown will not likely be inundated completely during a single tsunami event.</p> <p>As shown on <b>Figure B-20</b>, all of the Pacific Coast and the bay coastline is affected by tsunami inundation, with the exception of Suisun Bay.</p>
History	<p>Since 1854, more than 71 tsunamis have been recorded in San Francisco Bay. Most of these tsunamis were generated by earthquakes in distant subduction zones near Russia, Japan, or Alaska. The worst tsunami to hit the Bay Area produced waves of just under 4 feet in Marin County. That tsunami was generated in Alaska by a M 9.2 earthquake on March 27, 1964.</p>
Extent / severity	<p>According to USC modeling, 80.41 square miles (1.14%) in the Bay Area are at risk of tsunami run-up from a number of extreme, yet realistic, tsunami sources.</p>
Recurrence probability	<p>According to USC engineers, the “likelihood of a large tsunami to strike California would be hard to predict.... small tsunamis will swell into California (which includes the Bay Area) every few years.”</p> <p>In addition, Cal OES and CGS are preparing a new type of tsunami hazard map, the probabilistic tsunami hazard analysis map, which will show potential tsunami events that have a 1000-year average return occurrence. The maps were expected to be completed in 2020.</p>

**Table 4-41: Tsunami Impact on Land Area**

County	Maximum Tsunami Run-Up Area	
	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	80.41	1.14
Alameda	32.15	4.32
Contra Costa	3.43	0.46
Marin	13.56	2.57
Napa	3.77	0.48
San Francisco	2.97	6.23
San Mateo	13.18	2.89
Santa Clara	1.41	0.11
Solano	5.87	0.69
Sonoma	4.08	0.26

**Table 4-42: Tsunami Impact on Transit Agencies' Fixed Critical Facilities**

County	Maximum Tsunami Run-Up Area	
	# of Facilities	% of Facilities
Nine Transit Agencies Total	10	16.67
MTC	1	10.00
AC Transit	0	0.00
CCCTA	0	0.00
Marin Transit	0	0.00
NVTA	0	0.00
Santa Rosa CityBus	0	0.00
SolTrans	0	0.00
WestCAT	0	0.00
WETA	9	69.23
Other: Salesforce Transit Center	0	0.00

**Table 4-43: Tsunami Impact on MTC Express Lanes**

MTC Express Lanes	Maximum Tsunami Run-Up Area	
	# of Miles	% of Miles
Express Lanes Total	0.00	0.00
MTC Express Lanes—Current	0.00	0.00
MTC Express Lanes—Upcoming	0.00	0.00
MTC Express Lanes—Future	0.00	0.00

**Table 4-44: Overall Summary of Transit Agencies’ Vulnerability to Tsunamis**

Tsunami	
Summary	<p>According to USC modeling, only 80.41 square miles of the Bay Area (1.14%) are at risk of tsunami run-up. Coastal areas are more at-risk than those in the bay because the Golden Gate serves as a protective element. In the bay, only 10 of the 60 fixed critical facilities (16.67%) included in this plan are at risk from tsunami run-up. Nine of the 10 fixed critical facilities are owned/contracted/used by WETA for ferry service operations. The remaining fixed critical facility is the MTC’s Bay Area Toll Authority. Fortunately, AC Transit, CCCTA, Marin Transit, NVTA, Santa Rosa CityBus, SolTrans, and WestCAT do not have any fixed critical facilities in this hazard area. In addition, none of the MTC Express Lanes are in a tsunami run-up hazard area. Tsunami run-up in the bay will likely cause minor flooding and damage to low-lying coastal areas. As such, any run-up may temporarily block roadways, transit stops, and parking lots, thereby likely disrupting transit route service.</p>

## 4.10 WILDFIRE

**Table 4-45: Wildfire Profile**

Profile	Description
Nature	<p>Wildfires spread by consuming flammable vegetation. This type of fire often begins unnoticed, spreads quickly, and is usually signaled by dense smoke that may be visible from miles away. Wildfires can be caused by human activities (e.g., unattended burns, campfires, or off-road vehicles without spark-arresting mufflers) or by natural events such as lightning.</p> <p>Wildfires often occur in forests or other highly vegetated areas. In addition, wildfires can be classified as forest, urban, interface or intermix fires and prescribed burns.</p> <p>The following three factors contribute significantly to wildfire behavior and can be used to identify wildfire hazard areas:</p> <ul style="list-style-type: none"> <li>• Topography describes slope increases, which influence wildfire spread rates. South-facing slopes are also subject to more solar radiation, making them drier and thereby intensifying wildfire behavior. However, ridge tops may mark the end of wildfire spread because fire spreads more slowly (or may even be unable to spread) downhill.</li> <li>• Fuel is the type and condition of vegetation; fuel plays a significant role in wildfire spread occurrence. Certain plant types are more susceptible to burning or will burn with greater intensity. Dense or overgrown vegetation increases the amount of combustible material available as fire fuel (referred to as the “fuel load”). The living-to-dead plant matter ratio is also important. Certain climate changes may increase wildfire risk; for example, prolonged drought periods can significantly increase wildfire risk, as both living and dead plant matter moisture content decreases. Both the horizontal and vertical fuel load continuity is also an important factor.</li> <li>• Weather is the most variable factor affecting wildfire behavior. Temperature, humidity, wind, and lightning can affect ignition opportunities and fire spread rate. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildfire activity. Climate change increases fire to vegetation ignition susceptibility due to longer dry seasons. By contrast, cooling and higher humidity often signal reduced wildfire occurrence and easier containment.</li> </ul> <p>Wildfire frequency and severity are sometimes affected by other hazard impacts such as lightning, drought, and infestations (e.g., damage caused by spruce-bark beetles). If not promptly controlled, wildfires may grow into an emergency or disaster. Even small fires can threaten lives and resources and destroy improved properties. In addition to affecting people, wildfires may severely affect livestock and pets. Such events may require emergency water/food, evacuation, and shelter.</p> <p>Indirect wildfire effects can be catastrophic. In addition to stripping the land of vegetation and destroying forest resources, large, intense fires can harm the soil, waterways, and the land itself. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and exacerbate river and stream siltation, thereby increasing flood potential, harming aquatic life, and degrading water quality. Vegetation-stripped lands are also more susceptible to increased debris flow hazards.</p>
Location	<p>The California Department of Forestry and Fire Protection’s (CAL FIRE) Fire Resource and Assessment Program provides vital data on California’s forests and rangelands through a variety of mapping tools.</p> <p>The Fire Resource and Assessment Program Fire Hazard Severity Zones (FHSZs) map fire hazards based on factors such as fuel, terrain and weather. The FHSZ areas are represented as Moderate, High, and Very High. The maps are divided into Local Responsibility Areas (LRAs) and State Responsibility Areas (SRAs). LRAs generally include cities, cultivated agriculture lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and CAL FIRE under contract to the local government. SRA is a legal term defining the area where the state has financial responsibility for wildfire protection.</p>

**Table 4-45: Wildfire Profile**

Profile	Description
	<p><b>Figure B-21</b> displays the areas most susceptible to wildfires. Counties that have over 40% of their area within High FHSZ SRAs include Alameda, Contra Costa, San Mateo, Santa Clara, and Sonoma Counties. Napa County is the only county in the Bay Area with over 40% (49.15%) of its land area in a Very High FHSZ SRA.</p> <p>The Wildland Urban Interface (WUI) maps show the zones of transition between wildland and human development. Known commonly as the WUI, communities in these areas are at a greater risk of wildfires. California has three types of WUI areas:</p> <ul style="list-style-type: none"> <li>• Wildland Urban Interface areas, which are developed areas that have sparse or no wildland vegetation, but are in close proximity to a large patch of wildland</li> <li>• Wildland Urban Intermix areas, where houses and wildland vegetation directly intermingle</li> <li>• Wildland Urban Influence areas, which has wildfire-susceptible vegetation and is up to 1.5 miles from WUI or Wildland Urban Intermix areas</li> </ul> <p>As shown on <b>Figure B-22</b>, no county in the Bay Area has a significant percentage of its land area in the Interface or Intermix areas. However, Contra Costa, Marin, Napa, San Mateo, and Sonoma Counties have over 40% of their land area in Influence areas.</p>
History	<p>According to CAL FIRE, the Bay Area experiences 300 wildfires a year on average. As shown on <b>Figure B-23</b>, some of the Bay Area’s most destructive fires have occurred in the past 5 years:</p> <ul style="list-style-type: none"> <li>• The Jerusalem Fire started on August 9, 2015, in Lake County before eventually spreading to Napa County. Over 25,000 acres were burned, and 6 residences and 21 outbuildings were destroyed. The cause of the fire is listed as faulty residential wiring.</li> <li>• The Valley Fire started on September 12, 2015, in Lake County and also burned into Napa and Sonoma Counties. Over 76,000 acres were burned and 1,955 structures destroyed. The cause of the fire is listed as faulty outdoor electrical wiring.</li> <li>• The Tubbs Fire started on October 8, 2017, in Napa County. It burned 36,704 acres in Sonoma, Napa, and Lake Counties. The fire destroyed 5,643 structures (with over half of these structures in the city of Santa Rosa) and killed 22 people. The cause of the fire is listed as faulty private electrical system.</li> <li>• The Pocket Fire started on October 9, 2017, in Sonoma County. It burned 17,362 acres and destroyed six structures by the time it was contained. The cause of the fire is listed as a downed conductor.</li> <li>• The Nuns Fire started on October 8, 2017, in Sonoma County. It started when strong winds knocked an alder tree into a powerline conductor. It merged with the Norrbom Fire, the Adobe Fire, the Pressley Fire, and the Oakmont Fire, and grew to over 54,000 acres in size; 1,527 structures were destroyed by the time it was contained.</li> <li>• The Atlas Fire also started on October 8, 2017, in Napa County. It burned 51,623 acres and 120 structures were destroyed and six lives were lost. The fire had multiple starts from tree branches falling onto powerline conductors.</li> <li>• The County Fire in Yolo and Napa Counties was first reported on June 30, 2018. It burned 89,841 acres and destroyed 20 buildings. The cause of the fire was an improperly installed electric livestock fence unit.</li> <li>• The Kincade Fire started on October 23, 2019, in Sonoma County. It burned 77,772 acres and destroyed 374 buildings. The fire was caused by electrical transmission lines.</li> </ul> <p>During the drafting of this plan, between August 16 and 18, 2020, 650 wildfires ignited across Northern California due to rare, massive summer thunderstorms that produced dry lightning. The three largest fires as a result were:</p> <ul style="list-style-type: none"> <li>• The CZU Lightning Complex, which burned 86,509 acres and destroyed 1,490 structures in Santa Cruz and San Mateo counties.</li> <li>• LNU Lightning Complex, which burned 363,220 and destroyed 1,491 structures across Napa, Sonoma, Lake, Yolo, and Solano Counties.</li> </ul>

**Table 4-45: Wildfire Profile**

Profile	Description
	<ul style="list-style-type: none"> <li>SCU Lightning Complex, which burned 396,624 acres and destroyed 222 structures in Santa Clara, Contra Costa, Alameda, Stanislaus, and San Joaquin Counties.</li> </ul> <p>In addition, on September 27, 2020, the Glass Fire started and burned 67,484 acres and destroyed 1,555 structures in Napa and Sonoma Counties over a 23-day period. The cause of the fire is still under investigation.</p>
Extent / severity	<p>As shown on the Cal FIRE FHSZ map, 3234.58 square miles (45.90%) in the Bay Area are in the High FHSZ SRA, and an additional 1422.98 square miles (20.19%) are in the Very High FHSZ SRA, and 148.54 square miles (2.11%) are in the Very High FHSZ LRA.</p> <p>As shown on the WUI map, 226.57 square miles (3.21%) in the Bay Area are in the Interface area, an additional 278.36 square miles (3.95%) are in the Intermix area, and 2,718.58 square miles (38.57%) are in the Influence area.</p>
Recurrence probability	<p>Based on historical CAL FIRE records, the Bay Area has averaged approximately 300 wildfires annually over the past 5 years. However, according to a recent study by Stanford University; the University of California, Los Angeles; and the University of California, Merced: “[W]ildfires in California are going to continue or get worse....it could be that [we are] going to see more seasons where we have multiple large wildfires across the state of California.”</p>

**Table 4-46: Wildfire Impact on Land Area (State Responsibility Areas)**

County	Fire Hazard Severity Zones			
	State Responsibility Area—High		State Responsibility Area—Very High	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	3234.58	45.90	1422.98	20.19
Alameda	384.78	51.71	59.80	8.04
Contra Costa	328.11	43.93	64.02	8.57
Marin	91.58	17.37	19.22	3.65
Napa	193.07	24.49	387.47	49.15
San Francisco	0.00	0.00	0.00	0.00
San Mateo	231.28	50.74	97.96	21.49
Santa Clara	918.00	70.69	365.99	28.18
Solano	80.63	9.49	32.66	3.84
Sonoma	1007.14	63.36	395.85	24.90

**Table 4-47: Wildfire Impact on Transit Agencies’ Fixed Critical Facilities (State Responsibility Areas)**

Agency	Fire Hazard Severity Zones			
	State Responsibility Area—High		State Responsibility Area—Very High	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Nine Transit Agencies Total	1	1.67	0	0.00
MTC	0	0.00	0	0.00
AC Transit	0	0.00	0	0.00
CCCTA	0	0.00	0	0.00
Marin Transit	1	7.69	0	0.00
NVTA	0	0.00	0	0.00
Santa Rosa CityBus	0	0.00	0	0.00
SolTrans	0	0.00	0	0.00
WestCAT	0	0.00	0	0.00
WETA	0	0.00	0	0.00
Other: Salesforce Transit Center	0	0.00	0	0.00

**Table 4-48: Wildfire Impact on MTC Express Lanes (State Responsibility Areas)**

MTC Express Lanes	Fire Hazard Severity Zones			
	State Responsibility Area—High		State Responsibility Area—Very High	
	# of Miles	% of Miles	# of Miles	% of Miles
Express Lanes Total	2.34	1.80	0.00	0.00
MTC Express Lanes—Current	0.00	0.00	0.00	0.00
MTC Express Lanes—Upcoming	0.00	0.00	0.00	0.00
MTC Express Lanes—Future	2.34	7.56	0.00	0.00

**Table 4-49: Wildfire Impact on Land Area (Local Responsibility Areas)**

County	Fire Hazard Severity Zones	
	Local Responsibility Area—Very High # of Sq. Miles	Local Responsibility Area—Very High % of Sq. Miles
Nine Bay Area Counties Total	148.54	2.11
Alameda	37.32	5.02
Contra Costa	42.21	5.65
Marin	8.84	1.68
Napa	1.79	0.23
San Francisco	0.00	0.00
San Mateo	22.66	4.97
Santa Clara	31.29	2.41
Solano	0.00	0.00
Sonoma	4.41	0.28

**Table 4-50: Wildfire Impact on Transit Agencies’ Fixed Critical Facilities (Local Responsibility Areas)**

Agency	Fire Hazard Severity Zones	
	Local Responsibility Area—Very High # of Facilities	Local Responsibility Area—Very High % of Facilities
Nine Transit Agencies Total	0	0.00
MTC	0	0.00
AC Transit	0	0.00
CCCTA	0	0.00
Marin Transit	0	0.00
NVTA	0	0.00
Santa Rosa CityBus	0	0.00
SolTrans	0	0.00
WestCAT	0	0.00
WETA	0	0.00
Other: Salesforce Transit Center	0	0.00

**Table 4-51: Wildfire Impact on MTC Express Lanes (Local Responsibility Areas)**

MTC Express Lanes	Fire Hazard Severity Zones	
	Local Responsibility Area—Very High # of Sq. Miles	Local Responsibility Area—Very High % of Sq. Miles
Express Lanes Total	0.00	0.00
MTC Express Lanes—Current	0.00	0.00
MTC Express Lanes—Upcoming	0.00	0.00
MTC Express Lanes—Future	0.00	0.00

**Table 4-52: Wildfire Urban Interface Impact on Land Area**

County	Wildland Urban Interface					
	Wildland Urban Influence		Wildland Urban Intermix		Wildland Urban Interface	
	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles	# of Sq. Miles	% of Sq. Miles
Nine Bay Area Counties Total	2,718.58	38.57	278.36	3.95	226.57	3.21
Alameda	256.03	34.41	27.73	2.00	42.05	5.65
Contra Costa	315.13	42.20	31.18	3.71	56.61	7.58
Marin	312.43	59.27	26.63	5.91	20.01	3.80
Napa	337.17	42.77	0.70	3.38	11.25	1.43
San Francisco	1.76	3.70	21.57	1.48	1.82	3.84
San Mateo	242.60	53.23	39.56	4.73	26.06	5.72
Santa Clara	350.59	27.00	15.16	3.05	30.85	2.38
Solano	173.41	20.41	100.96	1.78	15.73	1.85
Sonoma	729.47	45.89	14.87	6.35	22.19	1.40

**Table 4-53: Wildfire Urban Interface Impact on Fixed Critical Facilities**

Agency	Wildland Urban Interface					
	Wildland Urban Influence		Wildland Urban Intermix		Wildland Urban Interface	
	# of Facilities	% of Facilities	# of Facilities	% of Facilities	# of Facilities	% of Facilities
Nine Transit Agencies Total	1	1.67	0	0.00	3	5.00
MTC	1	10.00	0	0.00	0	0.00
AC Transit	0	0.00	0	0.00	0	0.00
CCCTA	0	0.00	0	0.00	0	0.00
Marin Transit	0	0.00	0	0.00	2	15.38
NVTA	0	0.00	0	0.00	0	0.00
Santa Rosa CityBus	0	0.00	0	0.00	0	0.00
SolTrans	0	0.00	0	0.00	0	0.00
WestCAT	0	0.00	0	0.00	0	0.00
WETA	0	0.00	0	0.00	1	7.69
Other: Salesforce Transit Center	0	0.00	0	0.00	0	0.00

**Table 4-54: Wildfire Urban Interface Impact on MTC Express Lanes**

MTC Express Lanes	Wildland Urban Interface					
	Wildland Urban Influence		Wildland Urban Intermix		Wildland Urban Interface	
	# of Miles	% of Miles	# of Miles	% of Miles	# of Miles	% of Miles
Express Lanes Total	1.68	1.29	4.77	3.68	13.92	10.72
MTC Express Lanes – Current	0.27	0.33	1.34	1.62	10.55	12.78
MTC Express Lanes – Upcoming	0.03	0.20	0.00	0.00	2.11	12.87
MTC Express Lanes – Future	1.38	4.45	3.43	11.10	1.26	4.08

**Table 4-55: Overall Summary of Transit Agencies’ Vulnerability to Wildfires**

Wildfires	
Summary	<p>Although over 65% of the Bay Area is in an FHSZ, only one fixed critical facility included in this plan (Marin Transit) is in this hazard area. Likewise, although over 45% of the Bay Area is in a WUI (including approximately 15% of the MTC Express Lanes), only four fixed critical facilities (one for MTC; two for Marin Transit; and one for WETA) included in this plan are in a WUI area. AC Transit, CCCTA, NVTA, Santa Rosa CityBus, SolTrans, and WestCAT do not have any critical facilities in a WUI area.</p> <p>The low number of fixed critical facilities in an FHSZ or WUI area is because the majority of fixed critical facilities are in non-wildland, non-urban, and urban unzoned areas. However, as recent Bay Area wildfires have shown, living outside a higher-risk zone does not mean an area is without risk. In addition, the MTC and its partner transit agencies are vulnerable to the wildfire-related highway and roadway closures and power outages that can leave traffic control systems, communication systems, ticket stations, etc., inoperable.</p>

## 5.0 MITIGATION STRATEGY

This section addresses Element C of the Local Mitigation Plan Regulation Checklist.

<b>Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans</b>
<b>Element C: Mitigation Strategy</b>
<p>C1. Does the Plan document each jurisdiction’s existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement § 201.6(c)(3))</p> <p>C2. Does the Plan address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement § 201.6(c)(3)(i))</p> <p>C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement § 201.6(c)(3)(i))</p> <p>C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement § 201.6(c)(3)(ii))</p> <p>C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement § 201.6(c)(3)(iv)); (Requirement § 201.6(c)(3)(iii))</p> <p>C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement § 201.6(c)(4)(ii))</p>

### 5.1 AUTHORITIES, POLICIES, PROGRAMS, AND RESOURCES

MTC and its partner transit agencies’ existing authorities, policies, programs, and resources available for hazard mitigation are listed in **Appendix C** through **Appendix K**. The appendices also identify each agency’s ability to expand and improve on its hazard mitigation capabilities when possible.

### 5.2 NATIONAL FLOOD INSURANCE PROGRAM PARTICIPATION

The NFIP aims to reduce the impact of flooding on residential and non-residential buildings by providing insurance to property owners and encouraging communities to adopt and enforce floodplain management regulations. Participation in the NFIP is based on an agreement between local communities and the Federal Government. According to FEMA:

A community, as defined for the NFIP’s purposes, is any state, area, or political subdivision; any Indian tribe, authorized tribal organization, or Alaska native village; or authorized native organization that has the authority to adopt and enforce floodplain management ordinances for the area under its jurisdiction. In most cases, a community is an incorporated city, town, township, borough, or village, or an unincorporated area of a county or parish.

Therefore, MTC and its partner transit agencies do not participate in the NFIP. However, each of the nine counties in the Bay Area do.

### 5.3 MITIGATION GOALS

Mitigation goals are defined as general guidelines that explain what an agency wants to achieve in terms of hazard and loss prevention. Goal statements are typically long-range, policy-oriented statements

representing a community-wide vision. The Plan Bay Area’s resilience action objectives provided the basis for the three goals for the 2021 MJHMP. They are:

- Enhance climate protection and adaptation efforts
- Create healthy and safe transit agencies
- Protect transit agencies against hazards

## **5.4 RECOMMENDED MITIGATION ACTIONS**

Mitigation actions help achieve the goals of the MJHMP. The recommended mitigation actions in **Table 5-1** include education and awareness, structure and infrastructure projects, preparedness and response, and local plans and regulations. This list addresses every hazard profiled in this plan and is based on the plan’s risk assessment as well as lessons learned from recent disasters. The list was developed using FEMA success stories and Best Management Practices, FEMA job aids, local and regional plans and reports, and input from planning committee members, stakeholder groups, and sustainability practitioners.

**Table 5-1: Recommended Mitigation Actions**

No.	Hazard Mitigated	Project Name	Project Description	Project Source
1	All hazards	After-Action Report	Require after-action reports with clear recommendations for improvement following hazard events.	Federal Highway Administration (FHWA)
2	All hazards	Standby Contracts	Establish standby contracts to be used for emergency response and recovery support, including on-call executive support.	FHWA
3	All hazards	Interagency Communication and Coordination	Improve interagency communication and coordination. Promote establishment of resource-sharing agreements and information sharing about plans, initiatives, risks, and resources. Ensure that transit agencies are integrated into emergency radio communication systems.	FHWA
4	All hazards	Emergency Response Plan Hazard-specific Annexes	Develop hazard-specific annexes for any functional annex that does not by itself give enough information to perform the function adequately in the face of a particular high-priority hazard.	New Jersey Transit Corporation
5	All hazards	Owner/Operator Roles and Responsibilities	For transit agencies that have leased or contracted facilities and services, clarify owner/operator roles and responsibilities during emergencies.	FEMA
6	Climate change	Saltwater Corrosion Monitoring and Mitigation	Monitor for the potential adverse corrosion effects of saltwater on steel reinforcement and other system components and mitigate as needed.	FEMA
7	Climate change	Cool Pavement Program	Install cool pavements (with higher solar reflectance) over asphalt at waiting areas to lower surface temperature.	C40 Cities

**Table 5-1: Recommended Mitigation Actions**

No.	Hazard Mitigated	Project Name	Project Description	Project Source
8	Climate change, drought, and flood	Green Infrastructure Stormwater Management Best Practices	Transit agencies have significant opportunities to prevent localized flooding and capture water by reducing runoff from new and existing park and ride lots, administrative buildings, maintenance facilities, storage lots, and joint development projects through green infrastructure stormwater management best practices (e.g., rain gardens, green roofs, stormwater ponds, trees, native plants, pervious pavements, native vegetation buffers along waterways).	FHWA
9	Climate change and flood	Bus Rapid Transit Station Elevation	Elevate new and existing bus rapid transit stations.	C40 Cities
10	Climate change, dam failure, flood, and tsunami	Protective Maintenance and Storage Facilities	Provide portable or permanent protective maintenance and storage facilities to prevent flood damage.	New Jersey Transit Corporation
11	Climate change, dam failure, flood, and tsunami	Critical Utility System Elevation	Elevate new and existing critical utility systems, such as emergency power, electrical and steam power, communication and information technology/data, and medical and mechanical equipment, above the design flood elevation.	FHWA
12	Climate change, dam failure, flood, and tsunami	Passive Floodproofing Measures	Install passive floodproofing measures in existing facilities that cannot be elevated.	FEMA
13	Climate change, dam failure, flood, and tsunami	Water Pumps	Elevate water pumps or add more pumps to the backup system for new and existing critical facilities.	FEMA
14	Climate change, dam failure, flood, and tsunami	Fuel Storage Tanks strengthening	Strengthen new and existing fuel storage tanks and their anchorage for flood design-level hydrostatic submersion forces.	FEMA
15	Climate change, dam failure, flood, and tsunami	Fuel Pump Elevation	Elevate new and existing fuel pumps above the design flood elevation.	FEMA

**Table 5-1: Recommended Mitigation Actions**

No.	Hazard Mitigated	Project Name	Project Description	Project Source
16	Climate change, dam failure, flood, and tsunami	Oil Storage Drum Anchorage	Anchor existing oil storage drums to prevent flotation and release of contents or elevate them above anticipated flood levels.	FEMA
17	Climate change, dam failure, flood, landslide, public safety power shutoff, tsunami, and wildfire	Standard Operating Procedures for Alternative Locations	Develop standard operating procedures to implement to move vehicles and other portable assets out of harm’s way to an alternative location when a hazard event is predicted or imminent. Pursue necessary memorandum of agreement to store additional vehicles/assets at alternative locations.	FHWA
18	Climate change, dam failure, flood, landslide, public safety power shutoff, tsunami, and wildfire	Fuel Storage Capacity/Contingency	Determine and secure enough fuel storage for generators to use. Develop contingency plans for obtaining generator fuel.	FEMA
19	Climate change, drought, and wildfire	Cooling and Smoke Relief Centers and Wildfire Evacuation Points and Shelter Location Transportation Assessment	Work with local government entities to develop action plans that identify/describe public transportation access/routes, particularly for transit-dependent neighborhoods, to pre-identified cooling and smoke relief centers as well as wildfire evacuation points and shelters.	Center for Disease Control and Prevention
20	Climate change, earthquake, flood, public safety power shutoff, and wildfire	Standby Power Systems/Generators	Install appropriate standby power systems such as generators or solar photovoltaic (PV) systems in new and existing critical facilities that meet current and projected loads, site parameters, risk assessment, flexibility requirements, and operating concerns.	New Jersey Transit Corporation
21	Climate change, earthquake, flood, public safety power shutoff, and wildfire	Energy Storage for Electric Fleets	Develop and implement an energy storage / on-site generator emergency program for electric fleets.	C40 Cities

**Table 5-1: Recommended Mitigation Actions**

No.	Hazard Mitigated	Project Name	Project Description	Project Source
22	Earthquake	Seismic Retrofits	Seismic retrofit existing vulnerable critical facilities to better protect structural and non-structural components (suspended ceilings, non-load-bearing walls and utility systems) and building contents (furnishings, supplies, inventory, and equipment).	FEMA
23	Earthquake	Fuel-oil-Based Generators	Replace existing generators that use natural gas with fuel-oil-based generators for emergency power, since natural gas supplies are often turned off after earthquakes to avoid gas leaks.	FEMA
24	Infectious disease	Crowding Information App	Create or use a transit app with real-time crowding information to help customers make more informed ride-making decisions.	Transit (app)
25	Landslide	Highway Corridor Landslide Hazard Mapping	For transit agencies in Alameda, Marin, and Santa Clara Counties, incorporate Highway Corridor Landslide Hazard Mapping into route and evacuation route planning to facilitate slide-aware maintenance practices along these highway corridors.	CGS
26	Wildfire	Ignition-Resistant Retrofits	Retrofit existing critical facilities through ignition-resistant construction using noncombustible materials, technologies, and assemblies on existing buildings and structures that are in conformance with local fire-related codes and standards.	FEMA
27	Wildfire	Defensible Space	Create defensible space around new and existing critical facilities by reducing or removing flammable vegetation around the perimeter of a given structure.	FEMA
28	Wildfire (can be expanded to include dam failure and tsunami)	Evacuation Preparedness	Work with local entities to develop evacuation need assessment and evacuation plan for transit-dependent communities.	FHWA

## 5.5 PRIORITIZED ACTION PLAN

A prioritized action plan is an itemized list of recommended mitigation actions that a community/agency hopes to put into practice to reduce its risks and vulnerabilities.

For this MJHMP, the planning committee created a two-tier prioritization process based on the following:

- Tier 1 (high priority) mitigation actions are those that address hazards of immediate concern and are also cost-effective (i.e., have a positive cost-benefit ratio) and have an identified funding source.
- Tier 2 (medium priority) mitigation actions are those that address hazards that are not of immediate concern and/or those that are of immediate concern but are not cost-effective or do not have an identified funding source.

The MTC and its partner transit agencies determined hazards/threats of immediate concern based on the 2021 MJHMP's hazard profiles, risk assessments, and capability assessments. By agency, they include:

- MTC: climate change, earthquake, infectious disease, public safety power shutoff, and wildfire
- AC Transit: earthquake, infectious disease, landslide, public safety power shutoff, and wildfire
- CCCTA: earthquake, public safety power shutoff, and wildfire
- Marin Transit: climate change (sea level rise), earthquake, flood, public safety power shutoff, and wildfire
- NVRTA: earthquake, dam failure, flood, landslide, public safety power shutoff, and wildfire
- Santa Rosa CityBus: earthquake, infectious disease, public safety power shutoff, and wildfire
- SolTrans: earthquake, public safety power shutoff, and wildfire
- WestCAT: earthquake, infectious disease, public safety power shutoff, and wildfire
- WETA: climate change (sea level rise), earthquake, infectious disease, and public safety power shutoff

The results of the above prioritization process are shown in **Appendix C** through **Appendix K**. For each mitigation action listed, potential funding sources, responsible departments/agencies, and implementation timelines have been identified.

## 5.6 PLAN INTEGRATION

**Appendix C** through **Appendix K** also identify how the 2021 MJHMP will be integrated into relevant agency-specific plans and programs.

## 6.0 PLAN REVIEW, EVALUATION, AND IMPLEMENTATION

This section addresses Element D of the Local Mitigation Plan Regulation Checklist.

<b>Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans</b>
<b>Element D: Plan Review, Evaluation and Implementation</b>
D1. Was the Plan revised to reflect changes in development? (Requirement § 201.6(d)(3))
D2. Was the Plan revised to reflect progress in local mitigation efforts? (Requirement § 201.6(d)(3))
D3. Was the Plan revised to reflect changes in priorities? Requirement § 201.6(d)(3))

### 6.1 CHANGES IN DEVELOPMENT

This MJHMP is the first such document developed by MTC and its partner transit agencies; therefore, it does not include a discussion of changes in development. As noted previously, WETA created a stand-alone Local Hazard Mitigation Plan in 2016. Changes in development for WETA between 2016 and 2020 included:

- Expansion of the San Francisco Bay ferry fleet, including the addition of two ferries in 2017 and one ferry in 2018, 2019, and 2020.
- Opening of its second Operations and Maintenance Facility in Alameda in 2018.
- Completion of the new Richmond Ferry Terminal at Fort Point in 2019
- Completion of the Downtown San Francisco Ferry Terminal expansion project in 2020.

The above changes to WETA’s critical facilities list were included in the 2021 MJHMP.

### 6.2 PROGRESS IN LOCAL MITIGATION EFFORTS

**Appendix K** addresses progress made in local mitigation efforts for WETA. In addition, the 2016 WETA Local Hazard Mitigation Plan (in particular, the hazard profiles) was included in a document review for the WETA Emergency Response Plan update.

### 6.3 CHANGES IN PRIORITIES

Mitigation actions included in WETA’s 2016 Local Hazard Mitigation Plan were prioritized using a point system (1 to 6 = low priority, 7 to 12 = medium priority, and 13 to 18 = high priority) of 18 criteria. The 2021 MJHMP prioritization process includes three of the same criteria (cost-effectiveness, funding source, and immediate/high priority hazard/disaster) for a more streamlined multi-agency approach to prioritizing mitigation actions.

## 7.0 PLAN ADOPTION

This section addresses Element E of the Local Mitigation Plan Regulation Checklist.

<b>Regulation Checklist – 44 CFR 201.6 Local Mitigation Plans</b>
<b>Element E: Plan Adoption</b>
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement § 201.6(c)(5)) E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the Plan documented formal Plan adoption? (Requirement § 201.6(c)(5))

### 7.1 FORMAL ADOPTION

To be completed.

### 7.2 MULTI-JURISDICTIONAL ADOPTION

To be completed.

## **8.0 APPENDICES**

## **APPENDIX A—PLANNING PROCESS**

2021 Metropolitan Transportation Commission  
Multi-Jurisdictional Hazard Mitigation Plan  
Planning Committee Meeting #1  
August 25, 2020  
12 p.m. – 1 p.m.

Agenda

WELCOME!!!

- Introductions
- Please follow along on the PowerPoint presentation!

OVERVIEW

- Disaster Mitigation Act of 2000 and local mitigation planning requirements
- 2021 MJHMP outline and schedule
- Hazards to be profiled in the 2021 MJHMP
- Agency-specific appendices: fixed critical facilities, risk assessment, capability assessment, and mitigation strategy
- Social media public outreach campaign

NEXT STEPS

- AECOM will prepare the draft hazard figures and land area risk assessments for the 9-county MTC service area.
- Participating agencies will need to provide AECOM with lists of the locations of their fixed critical facilities.

2021 Metropolitan Transportation Commission  
Multi-Jurisdictional Hazard Mitigation Plan  
Planning Committee Meeting #2  
December 1, 2021  
11 a.m. – 12 p.m.

Agenda

WELCOME!!!

PROGRESS MADE-TO-DATE

- Section 2: Planning Process Documentation
  - Public Outreach\*
- Section 3: Community Profile
  - Draft Fixed Critical Facilities\*
- Section 4: Hazard Identification and Risk Assessment
  - Hazard Figures\*
  - Land Area Impact Tables\*
- Section 5: Mitigation Strategy\*
  - Capability Assessment\*
  - Mitigation Goals
  - Recommended Mitigation Actions\*
  - Prioritization Process
  - Prioritized Mitigation Action Plan

NEXT STEPS

- Finalize Critical Facilities List (Dec 4, 2020)
- Complete Capability Assessment Tables (Dec 11, 2020)
- Review Critical Facilities Impact Tables (Dec 18, 2020)
- Review, Select and Prioritize Recommended Mitigation Actions (Jan 8, 2021)
- Initial Draft Plan (mid Jan 2021)

\*attachments

Mon 10/26/2020 2:59 PM

Good Afternoon,

The Metropolitan Transportation Commission is developing a Multi-Jurisdictional Hazard Mitigation Plan. Eight partner agencies will also be participating in this planning process, including Alameda-Contra Costa Transit District, Central Contra Costa County Transit Authority, Marin County Transit District, Napa Valley Transportation Authority, Santa Rosa CityBus, Solano County Transit, Water Emergency Transportation Authority, and Western Contra Costa Transit Authority.

By the end of 2020, we will have identified and profiled hazards, analyzed risk and developed mitigation actions to reduce or eliminate these risks. The implementation of the mitigation actions, which include short- and long-term strategies that may involve planning, policy changes, programs, projects, and other activities, will be the end result of this process.

To learn more about hazard mitigation planning, please visit: <https://www.fema.gov/emergency-managers/risk/hazard-mitigation-planning>

To learn more about our plan, please follow our Twitter account @MTCBATA or visit our website <https://mtc.ca.gov/our-work/operate-coordinate/emergency-management/multi-jurisdictional-hazard-mitigation-plan>.

If you would like to participate in our planning process, please contact me via email. I will send out a follow-up email when our Public Draft is available for review and comment.

Mon 03/09/2021 3:06 PM

Good Afternoon,

The Metropolitan Transportation Commission (MTC) has developed a Multi-Jurisdictional Hazard Mitigation Plan. Eight partner transit agencies participated in this planning process, including AC Transit, CCCTA, Marin Transit, NVRTA, Santa Rosa CityBus, SolTrans, WestCAT, and WETA. A hazard mitigation plan is required by a federal law, known as the Disaster Mitigation Act of 2000 (DMA 2000), to receive certain types of FEMA grant funding.

The planning process took six months to complete. The plan addresses climate change, dam failure, drought, earthquake, flood, infectious disease, landslide, public safety power shut-off, tsunami, and wildfire. For each hazard identified, short- and long-term strategies were developed reduce or eliminate the hazard impact on MTC and its partner transit agencies. Strategies were developed using FEMA success stories and best management practices, FEMA job aids, local and regional plans and reports, and input from planning committee members, stakeholder members, and sustainability practitioners.

The plan organized to follow FEMA's Local Mitigation Plan Regulation Checklist, which demonstrates how hazard mitigation plans meet the DMA 2000 regulations. A copy of the Regulation Checklist can be found here: [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide\\_09\\_30\\_2011.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf)

The draft plan is online and available for review and comment until Friday, March 19. It can be found here:

[Multi-Jurisdictional Hazard Mitigation Plan | Metropolitan Transportation Commission \(ca.gov\)](#)

If you have any questions about the plan or the planning process, please contact me via email.



MTC is the transportation planning, financing and coordinating agency for the nine-county San Francisco Bay Area.

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- Emergency Management
- MJHMP Multi-Jurisdictional Hazard Mitigation Plan

## Multi-Jurisdictional Hazard Mitigation Plan

MTC and its partners are developing a hazard mitigation plan to reduce loss of life and property by minimizing the impact of disasters in the Bay Area.



Karl Nielsen

The **Federal Emergency Management Agency** (FEMA) recommends that MTC and its partners create a hazard mitigation plan (HMP), a guidance document designed to help communities and agencies with their disaster resiliency efforts.

The HMP will address ten hazards (climate change, dam failure, drought, earthquake, flood, landslide, pandemic, public safety power shutoff, tsunami and wildfire) and serve as a catalyst for dialogue on public policies needed to mitigate the potential loss of life, property damage, and environmental degradation from natural disasters, while accelerating Bay Area economic recovery from those disasters.

Under the leadership of a planning committee, the HMP planning process will include qualitative and semi-quantitative risk assessment and a mitigation action plan to reduce risks. The mitigation measures will include education and awareness, structure and infrastructure projects, preparedness and response, and local plans and regulations.

### Project Timeline

The planning process is expected to take four months, and a public draft will be available for review and comment in early 2021. After a final draft has been approved by FEMA and adopted by MTC and partner agencies, certain types of mitigation grant funding will then become available to the agencies. The plan will have a 5-year lifespan; an update will need to be resubmitted to FEMA in 2026.

### Staff Contact

For questions about the HMP or to provide feedback, please contact Stephen Terrin at [sterrin@bayareametro.gov](mailto:sterrin@bayareametro.gov).

### Partner Agencies

The HMP is being developed jointly by MTC and the following partner agencies:

- Alameda-Contra Costa Transit District
- Central Contra Costa County Transit Authority
- Marin County Transit District
- Napa Valley Transportation Authority
- Santa Rosa CityBus
- Solano County Transit
- Water Emergency Transportation Authority
- Western Contra Costa Transit Authority

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Averting disaster: MTC and partners planning for future



Averting disaster: MTC and partners planning for future  
MTC and its partners will create a hazard mitigation plan, a docu  
[blog.bayareametro.gov](http://blog.bayareametro.gov)

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Related Documents

- 2021 Multi-Jurisdictional Hazard Mitigation Draft Plan  
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## Multi-Jurisdictional Hazard Mitigation Plan

MTC and its partners are developing a hazard mitigation plan that reduces loss of life and property by minimizing the impact of disasters in the Bay Area.



Karl Nielsen

The [Federal Emergency Management Agency](#) (FEMA) recommends that MTC and its partners create a hazard mitigation plan (HMP), a guidance document designed to help communities and agencies with their disaster resiliency efforts.

The HMP will address ten hazards (climate change, dam failure, drought, earthquake, flood, landslide, pandemic, public safety power shutoff, tsunami and wildfire) and serve as a catalyst for dialogue on public policies needed to mitigate the potential loss of life, property damage, and environmental degradation from natural disasters, while accelerating Bay Area economic recovery from those disasters.

Under the leadership of a planning committee, the HMP planning process will include qualitative and semi-quantitative risk assessment and a mitigation action plan to reduce risks. The mitigation measures will include education and awareness, structure and infrastructure projects, preparedness and response, and local plans and regulations.

### Project Timeline

During a six-month planning process, MTC and eight partner transit agencies have prepared a public draft. After a final draft has been approved by FEMA and adopted by MTC and the partner agencies, certain types of mitigation grant funding will then become available to the agencies. The plan will have a 5-year lifespan; an update will need to be resubmitted to FEMA in 2026.

### Draft Plan Public Comment

The [2021 Multi-Jurisdictional Hazard Mitigation Draft Plan](#) is available for public comment from March 5 to March 19, 2021. To provide feedback, please email the staff contact below.

### Staff Contact

For questions about the HMP or to provide feedback, please contact Stephen Terrin at [sterrin@bayareametro.gov](mailto:sterrin@bayareametro.gov).

### Partner Agencies

The HMP is being developed jointly by MTC and the following partner agencies:

- Alameda-Contra Costa Transit District
- Central Contra Costa County Transit Authority
- Marin County Transit District
- Napa Valley Transportation Authority
- Santa Rosa CityBus
- Solano County Transit
- Water Emergency Transportation Authority
- Western Contra Costa Transit Authority



**Metropolitan Transportation Commission**  @MTCBATA · Mar 8



MTC seeks comment on Bay Area disaster plan



MTC seeks comment on Bay Area disaster plan  
MTC and its partners have developed a draft Hazard Mitigation Plan and now seek public comment on [blog.bayareametro.gov](https://blog.bayareametro.gov)



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RESILIENCY

## MTC seeks comment on Bay Area disaster plan

MARCH 8, 2021



Credit: Mark Prado

MTC and its partners have developed a [draft Hazard Mitigation Plan](#) and now seek public comment on the document. Comment will be taken until March 19. Feedback can be sent to Stephen Terrin at [sterrin@bayareametro.gov](mailto:sterrin@bayareametro.gov).

Simply put, MTC and its partners have developed the draft hazard mitigation plan to reduce loss of life and property by minimizing the impact of disasters in the Bay Area.

It addresses a variety of hazards: climate change, dam failure, drought, earthquake, flood, landslide, pandemic, public safety power shutoff, tsunami and wildfire.

The document will serve as a catalyst for dialogue on public policies needed to mitigate the potential loss of life, property damage, and environmental degradation from natural disasters, while accelerating Bay Area economic recovery from those events.

For more information [visit the plan's website](#).

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HEADLINES

Today's News Roundup

**APPENDIX B—FIGURES**





**Legend**

- County Boundary
- Fixed Critical Facilities
- ▲ Salesforce Transit Center

**Express Lanes**

- MTC Express Lanes - Current
- MTC Express Lanes - Upcoming
- MTC Express Lanes - Future

**Source**  
 Bay Area Counties (2020)  
<https://geodata.lib.berkeley.edu/>  
 Metropolitan Transportation Commission (2020)

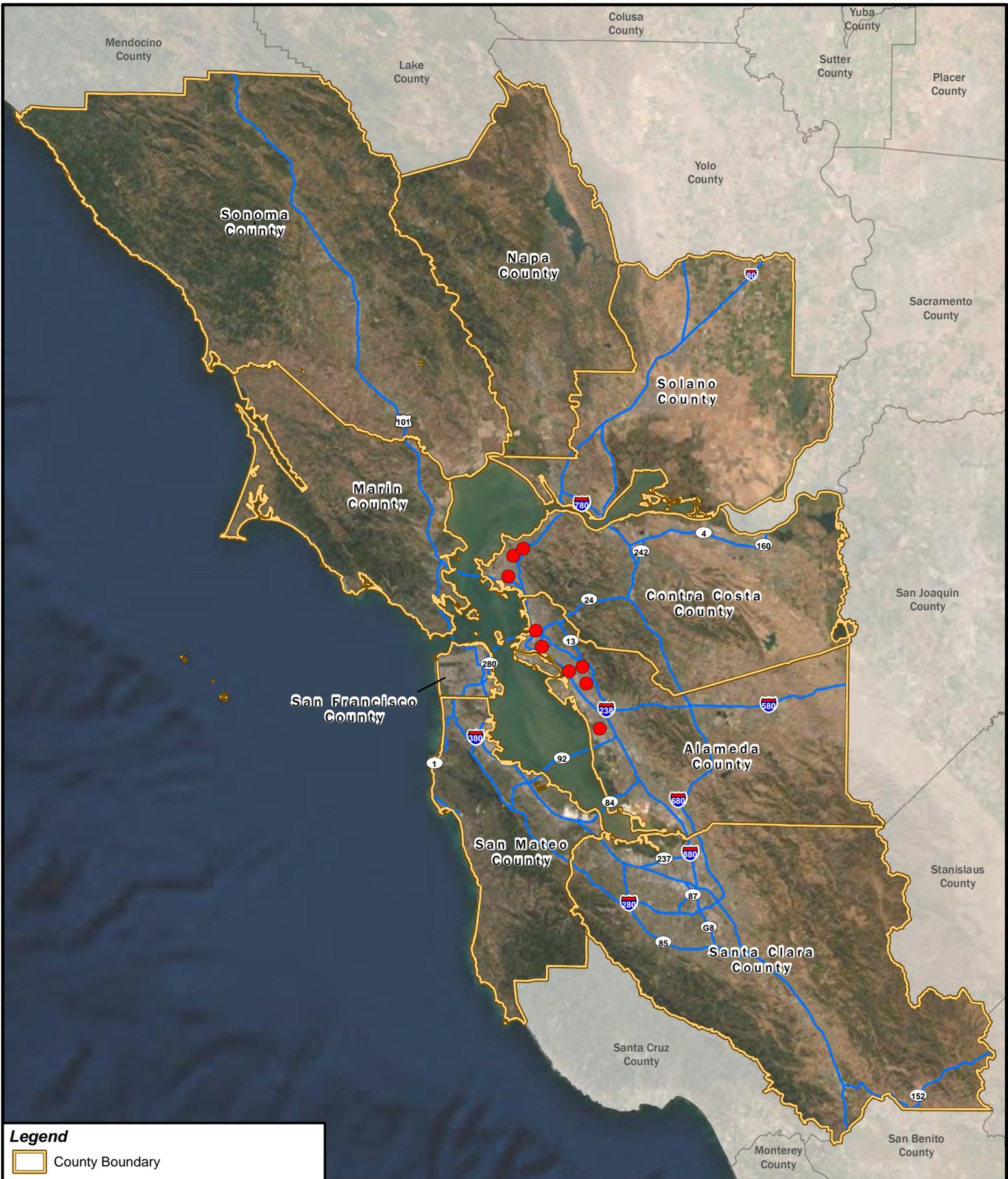
**Note**  
 Fixed critical facilities may be owned, leased, contracted, and/or used by an agency

**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 3/26/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles

**MTC Fixed Critical Facilities  
 and Express Lanes  
 Figure B-2**

*2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary
- Fixed Critical Facility

**Source**  
 Bay Area Counties (2020)  
<https://geodata.lib.berkeley.edu/>  
 Metropolitan Transportation Commission (2020)

**Note**  
 Fixed critical facilities may be owned, leased, contracted, and/or used by an agency

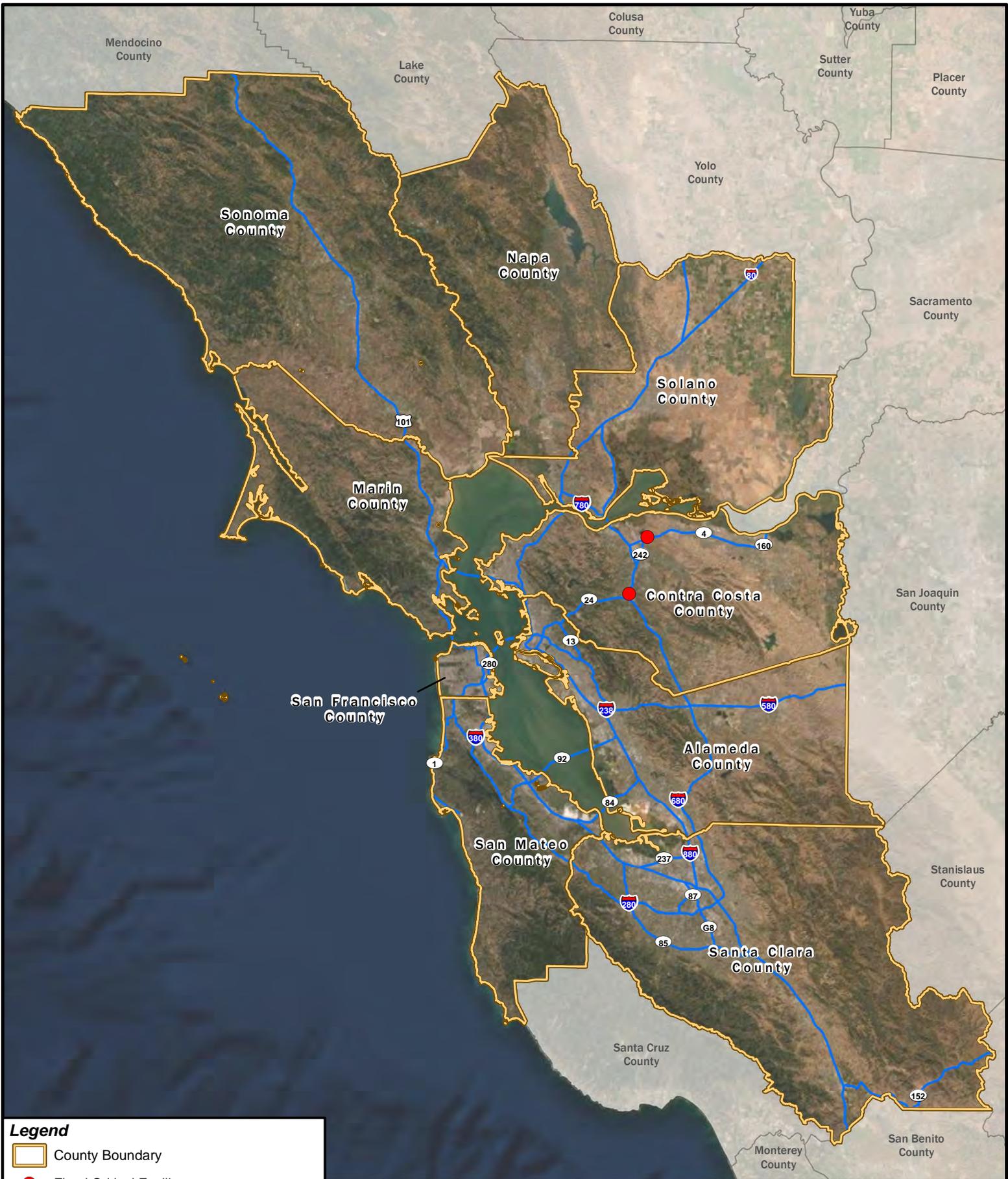
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 1 in = 16 miles  
 Date: 1/28/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles

**AC Transit Fixed Critical Facilities**  
**Figure B-3**

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*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**  
 County Boundary  
 Fixed Critical Facility

**Source**  
 Bay Area Counties (2020)  
<https://geodata.lib.berkeley.edu/>  
 Metropolitan Transportation Commission (2020)

**Note**  
 Fixed critical facilities may be owned, leased, contracted, and/or used by an agency

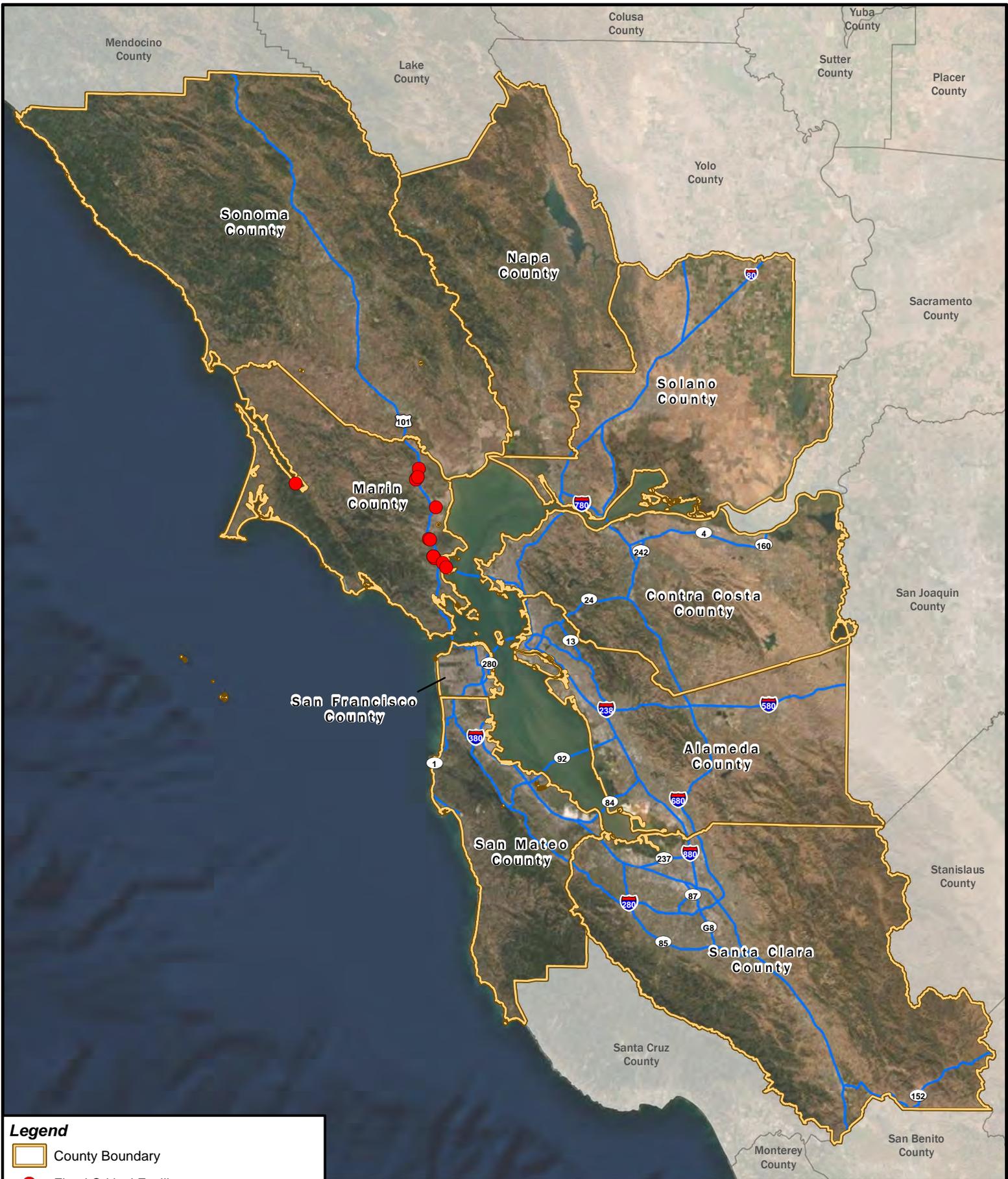
**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 1/27/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles



**CCCTA Fixed Critical Facilities**  
**Figure B-4**

2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan



**Legend**

- County Boundary
- Fixed Critical Facility

**Source**  
 Bay Area Counties (2020)  
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 Metropolitan Transportation Commission (2020)

**Note**  
 Fixed critical facilities may be owned, leased, contracted, and/or used by an agency

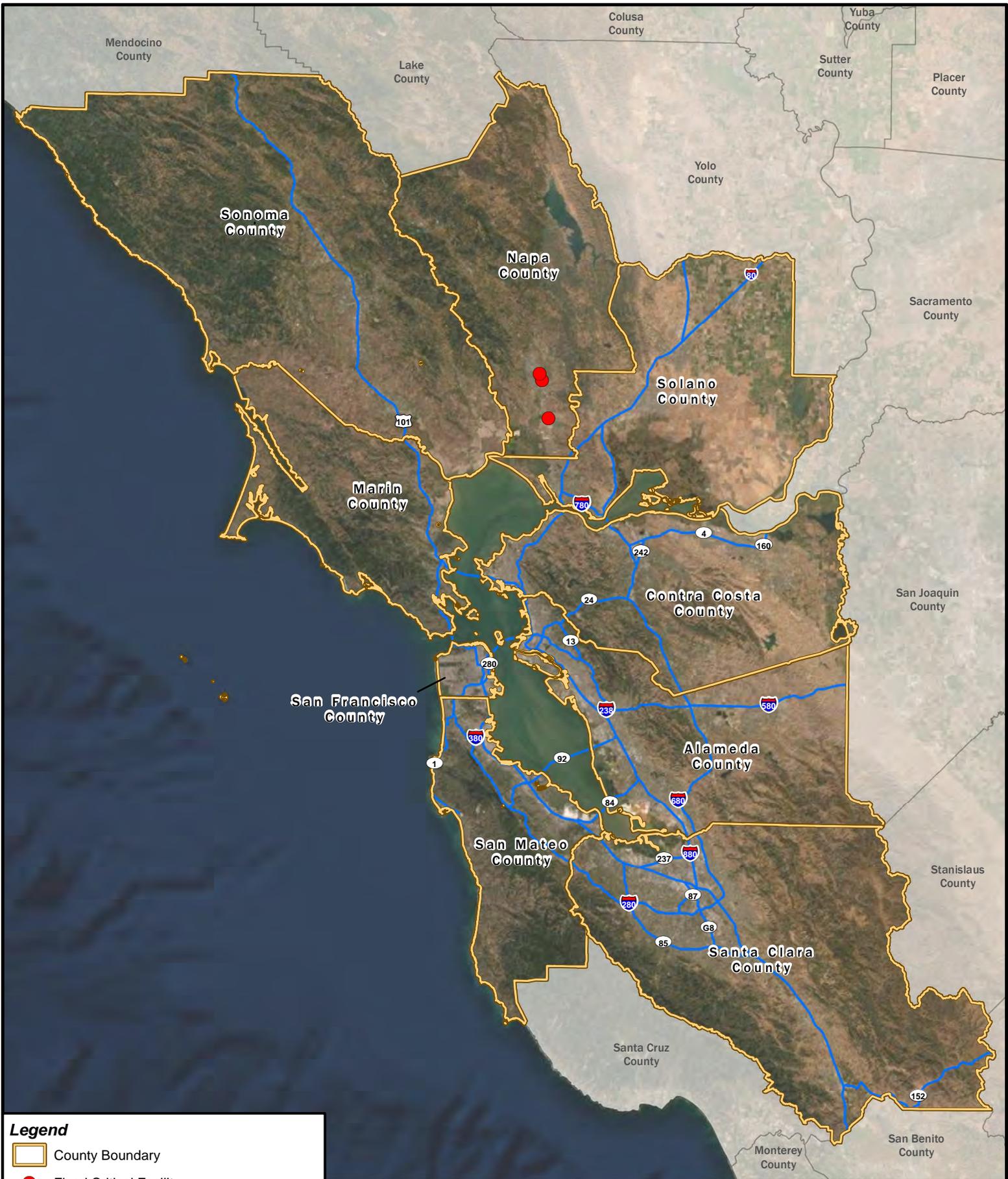
**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 1/27/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles

**Marin Transit Fixed Critical Facilities**  
**Figure B-5**

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*2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**  
 □ County Boundary  
 ● Fixed Critical Facility

**Source**  
 Bay Area Counties (2020)  
<https://geodata.lib.berkeley.edu/>  
 Metropolitan Transportation Commission (2020)

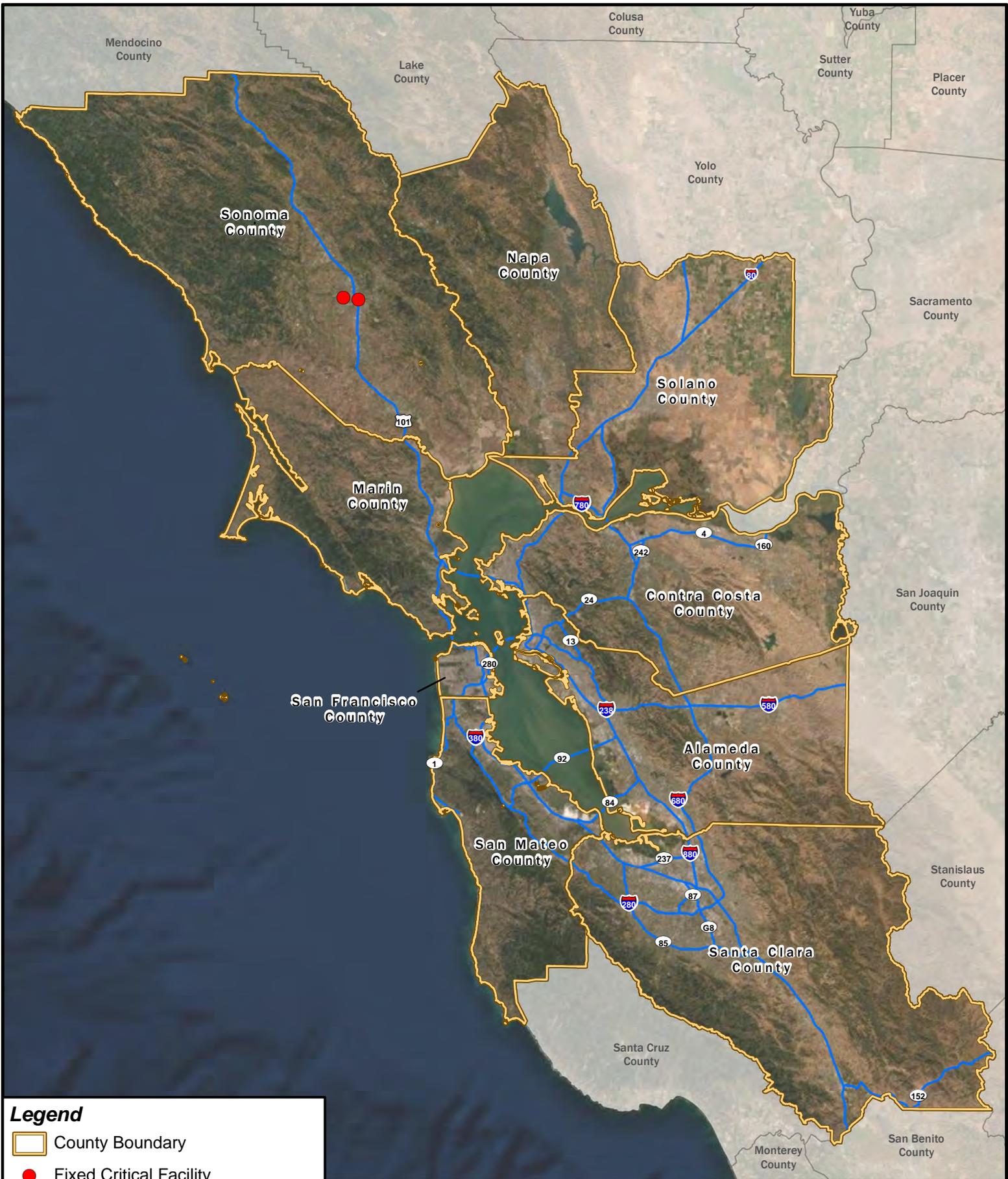
**Note**  
 Fixed critical facilities may be owned, leased, contracted, and/or used by an agency

**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 1/27/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles

**NVTA Fixed Critical Facilities**  
**Figure B-6**

2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan



**Legend**

- County Boundary
- Fixed Critical Facility

**Source**  
 Bay Area Counties (2020)  
<https://geodata.lib.berkeley.edu/>  
 Metropolitan Transportation Commission (2020)

**Note**  
 Fixed critical facilities may be owned, leased, contracted, and/or used by an agency

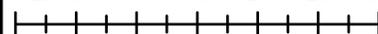
**Scale:** 1:1,000,000

1 in = 16 miles

Date: 1/27/2021

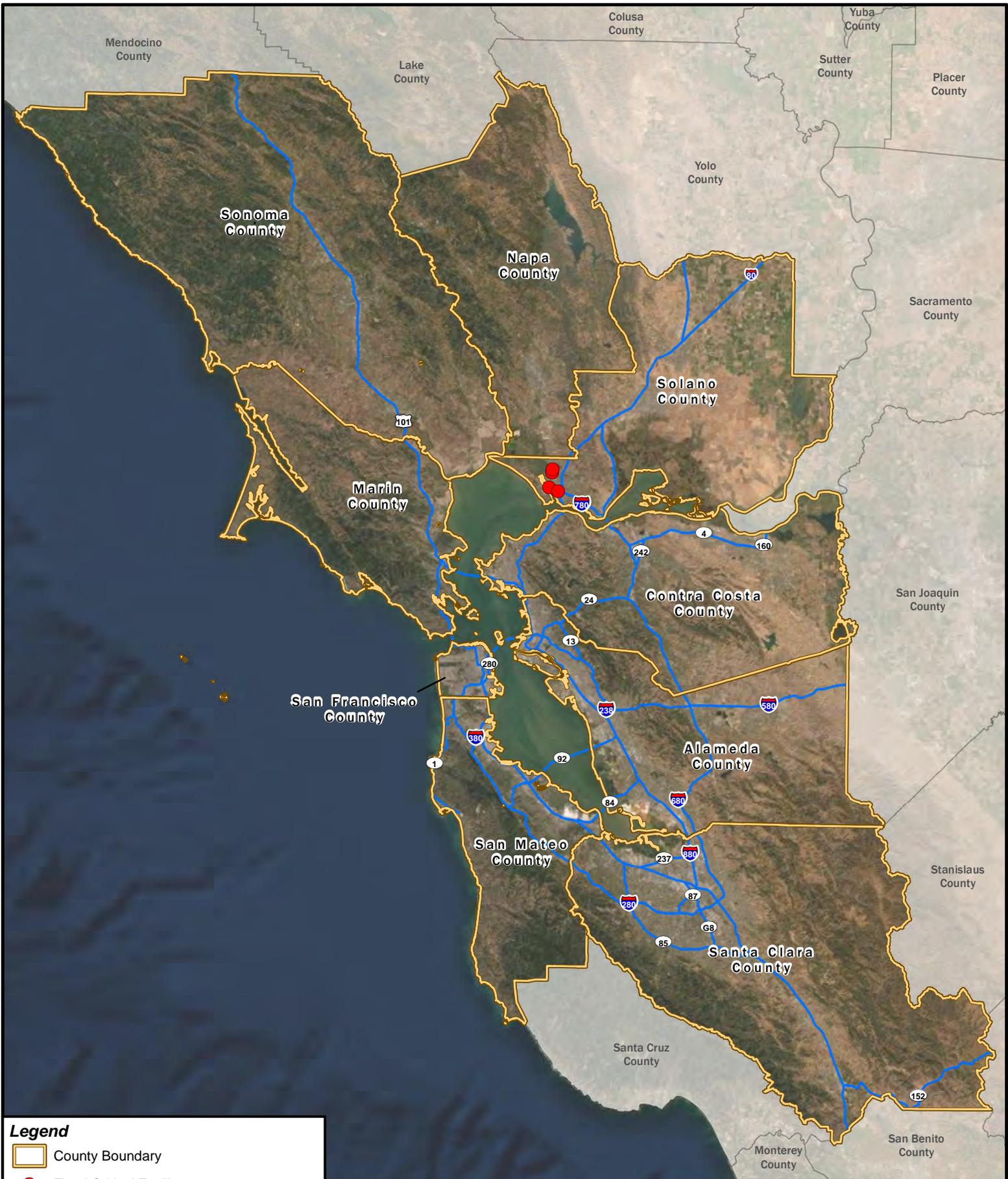
Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles



**Santa Rosa CityBus  
 Fixed Critical Facilities  
 Figure B-7**

*2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**  
 County Boundary  
 Fixed Critical Facility

**Source**  
 Bay Area Counties (2020)  
<https://geodata.lib.berkeley.edu/>  
 Metropolitan Transportation Commission (2020)

**Note**  
 Fixed critical facilities may be owned, leased, contracted, and/or used by an agency

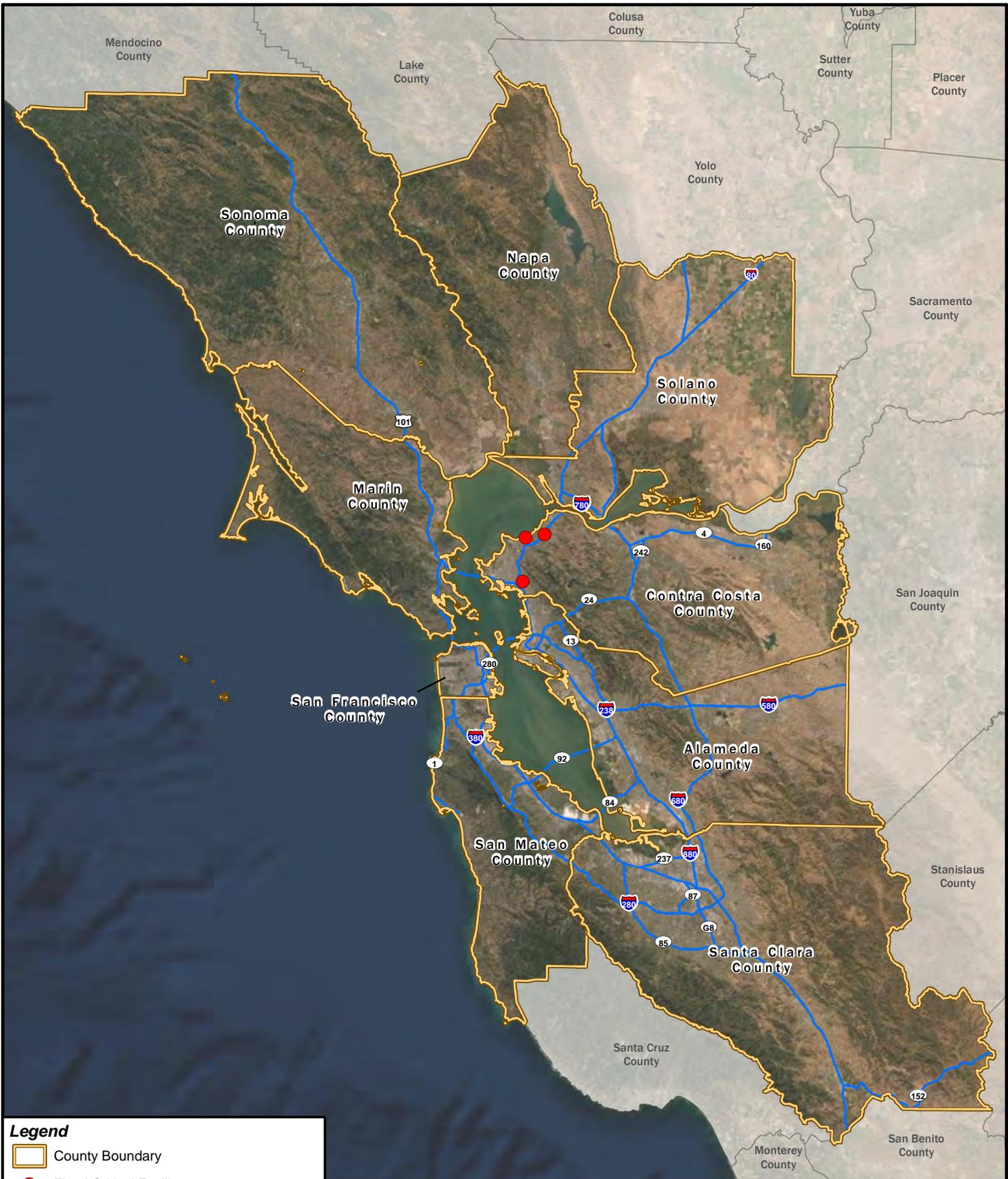
**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 3/1/2021  
 Projection: NAD 83 State Plane Zone III



0 2.5 5 10 15 20 25 30 Miles

**SoITrans Fixed Critical Facilities**  
**Figure B-8**

*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary
- Fixed Critical Facility

**Source**  
 Bay Area Counties (2020)  
<https://geodata.lib.berkeley.edu/>  
 Metropolitan Transportation Commission (2020)

**Note**  
 Fixed critical facilities may be owned, leased, contracted, and/or used by an agency

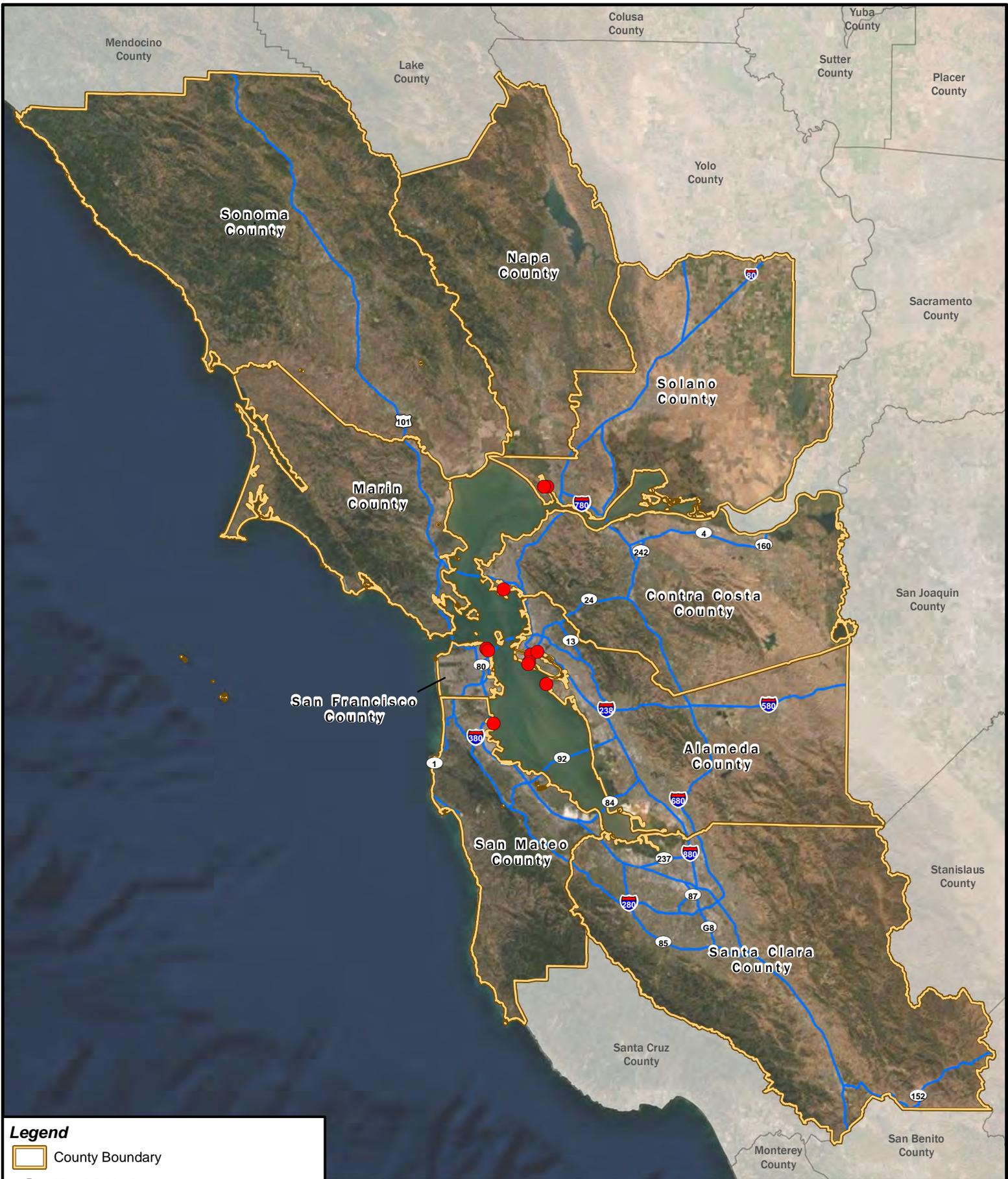
**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles

**WestCAT Fixed Critical Facilities**  
**Figure B-9**

---

*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary
- Fixed Critical

**Source**  
 Bay Area Counties (2020)  
<https://geodata.lib.berkeley.edu/>  
 Metropolitan Transportation Commission (2020)

**Note**  
 Fixed critical facilities may be owned, leased, contracted, and/or used by an agency

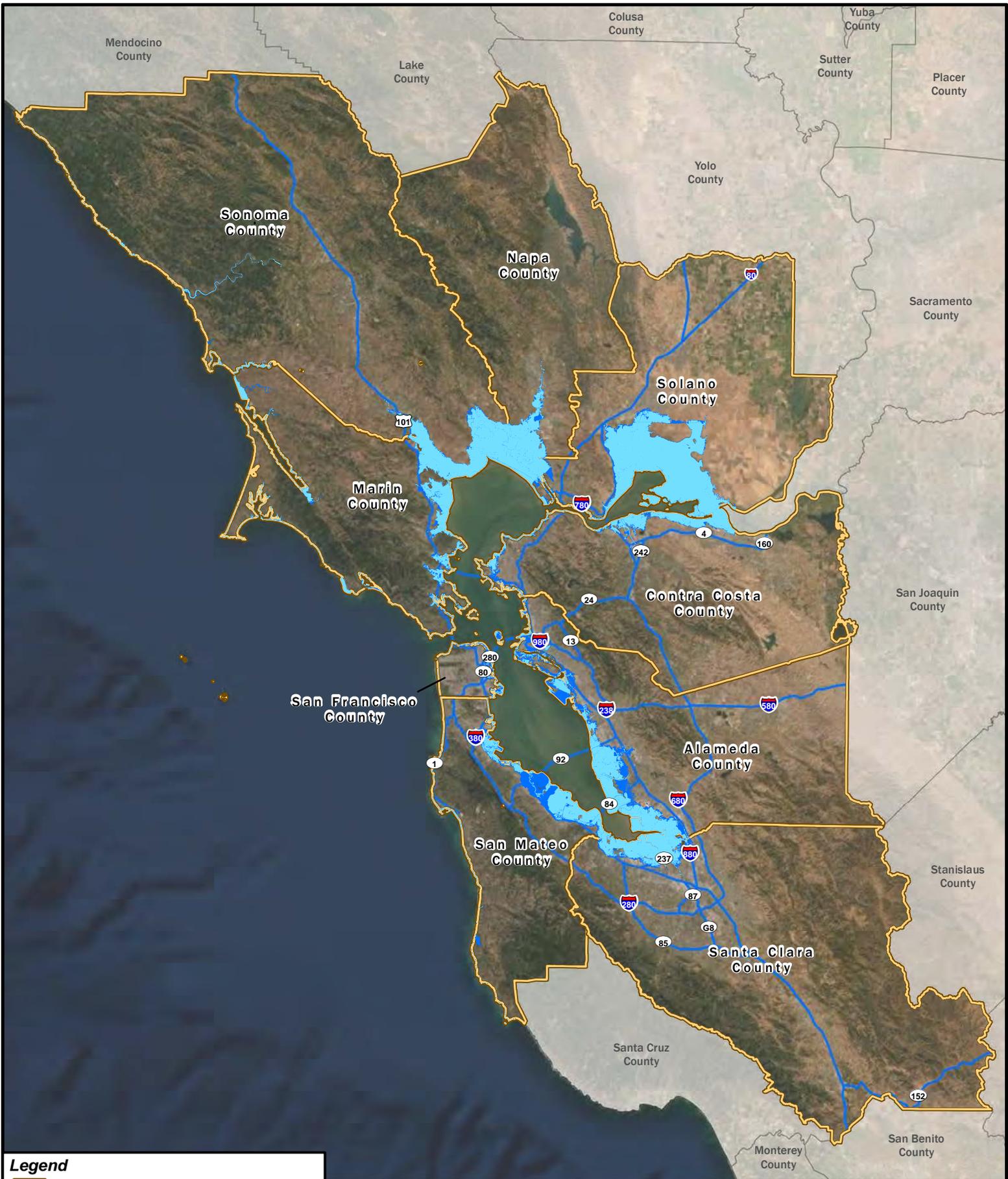
**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles

**WETA Fixed Critical Facilities**  
**Figure B-10**

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*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary
- 3-foot Sea Level Rise
- 6-foot Sea Level Rise

**Source**  
 NOAA Sea Level Rise Database (2019)  
<https://coast.noaa.gov/slrdata/>

**Scale:** 1:1,000,000

1 in = 16 miles

Date: 2/8/2021

Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles



**Sea Level Rise Inundation Areas**  
**Figure B-11**

*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary

**Jurisdictional Dams Downstream Hazard Potential**

- Extremely High
- High
- Significant
- Low

**Source**  
 California Jurisdictional Dams (2020)  
<https://hub.arcgis.com/>  
 Dam Breach Inundation Database (2020)  
<https://fmds.water.ca.gov/>

**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**California Jurisdictional Dams**  
**Figure B-12**

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*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary

**Jurisdictional Dams  
Downstream Hazard Potential**

- Extremely High
- High
- Dam Breach Inundation Areas (Extremely High & High)

**Source**  
 California Jurisdictional Dams (2020)  
<https://hub.arcgis.com/>  
 Dam Breach Inundation Database (2020)  
<https://fmds.water.ca.gov/>

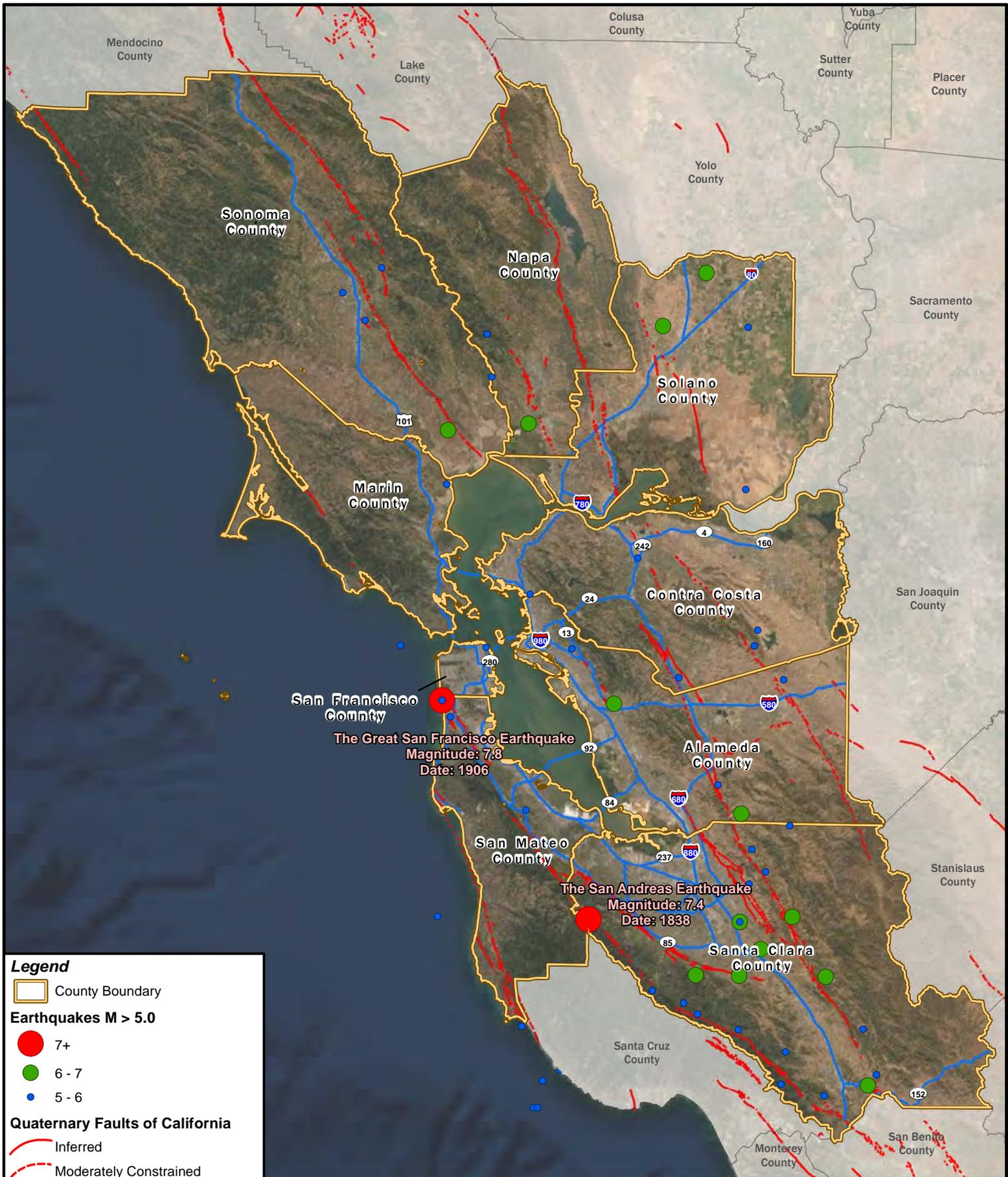
**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**Dam Breach Inundation Areas  
Figure B-13**

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*2021 MTC  
Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary

**Earthquakes M > 5.0**

- 7+
- 6 - 7
- 5 - 6

**Quaternary Faults of California**

- Inferred
- Moderately Constrained
- Well Constrained

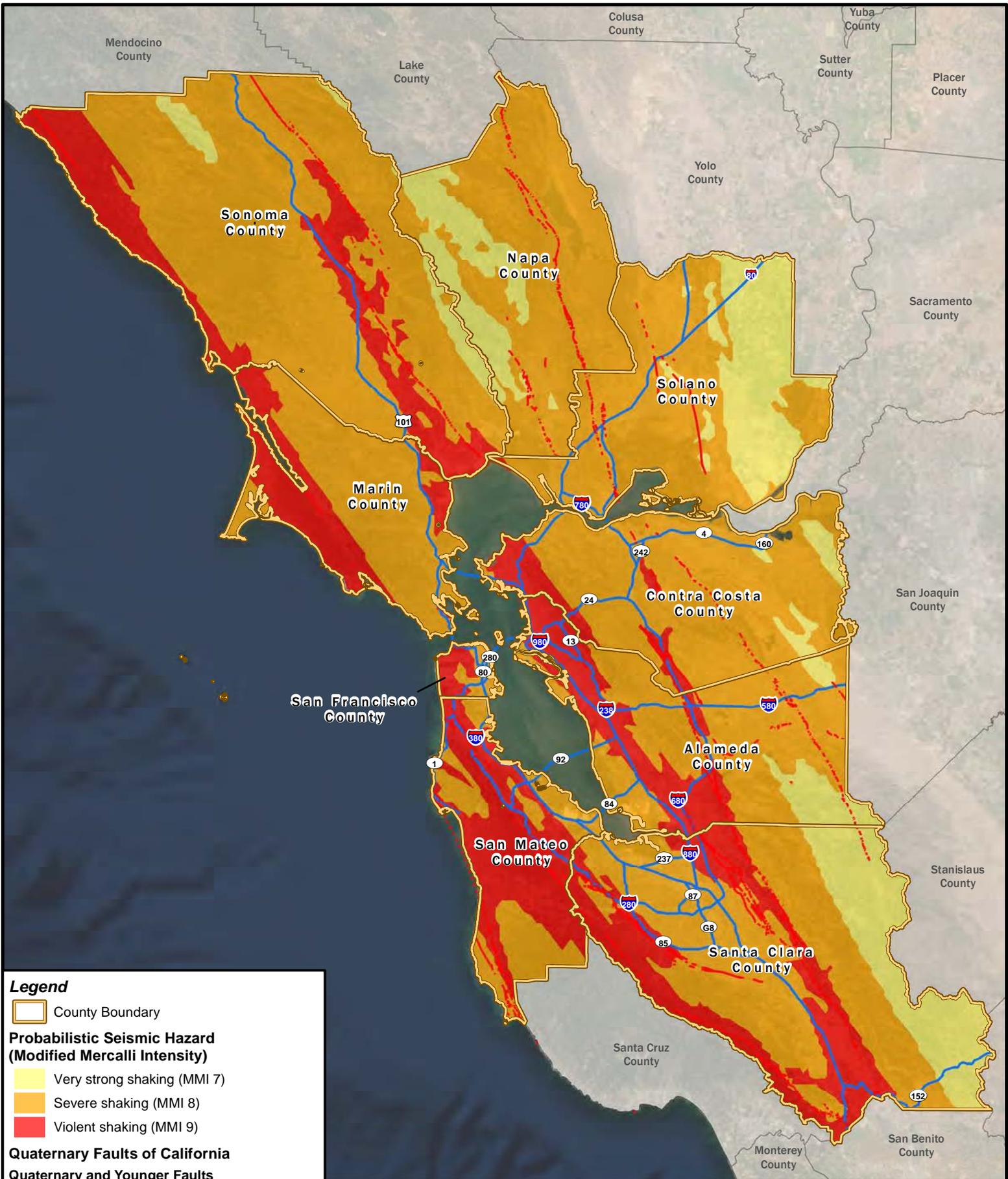
**Source**  
 Historic Earthquakes, 1769 to 2020  
 California (Magnitude 5.0 plus) (2020)  
<https://hub.arcgis.com/>  
 Earthquake Catalogs 1932-2019 (2020)  
<http://service.scedc.caltech.edu>

**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**Historical Earthquakes (1769-2020)**  
**Figure B-14**

2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan



**Legend**

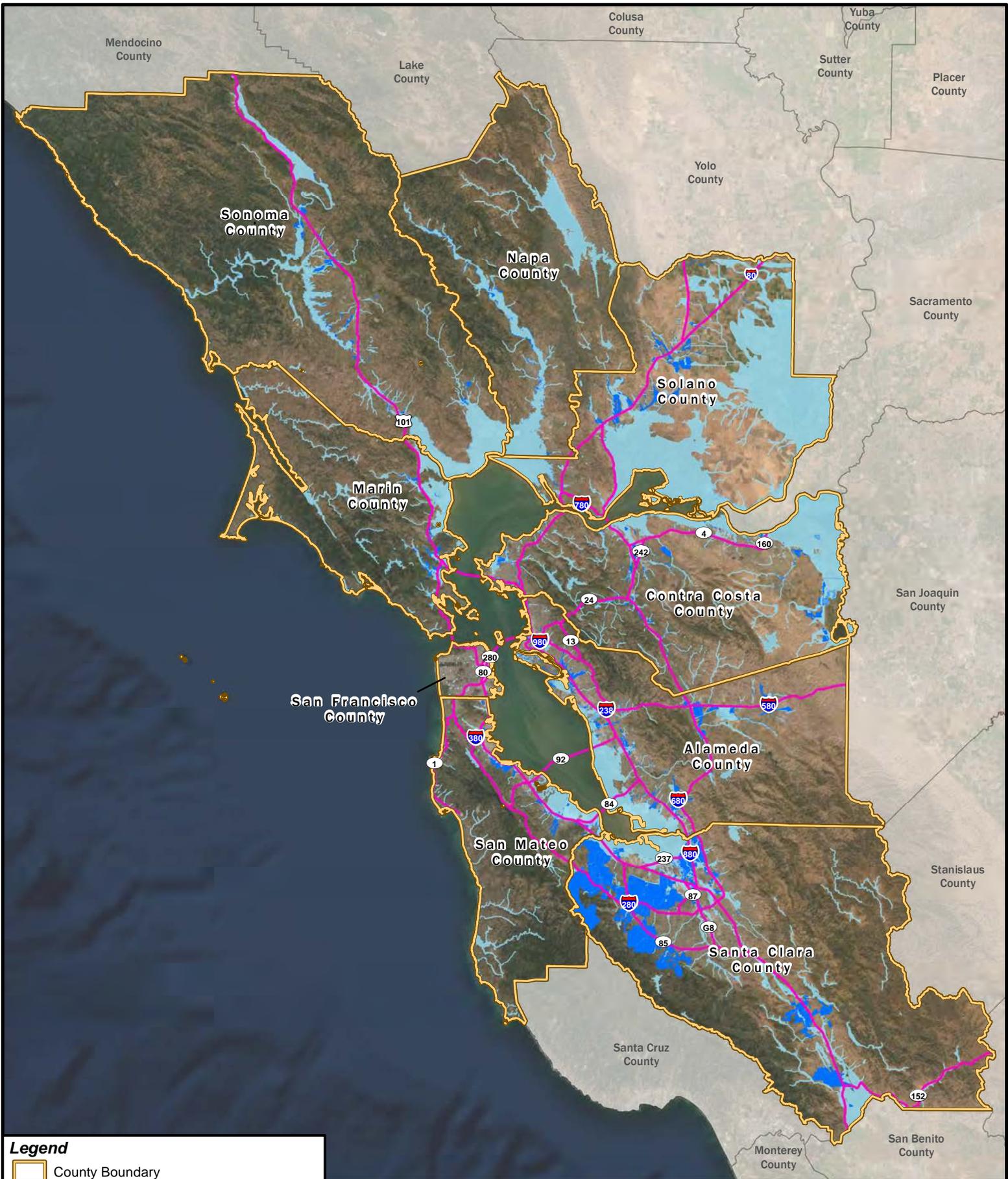
- County Boundary
- Probabilistic Seismic Hazard (Modified Mercalli Intensity)**
  - Very strong shaking (MMI 7)
  - Severe shaking (MMI 8)
  - Violent shaking (MMI 9)
- Quaternary Faults of California**
- Quaternary and Younger Faults**
  - Inferred
  - Moderately Constrained
  - Well Constrained

**Source**  
 Probabilistic Seismic Hazard Assessment (2020)  
<https://opendata.mtc.ca.gov>

Scale: 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

**Probabilistic Earthquake Shaking Hazard Areas**  
**Figure B-15**

2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan



**Legend**

- County Boundary
- 0.2% Annual Chance
- 1% Annual Chance

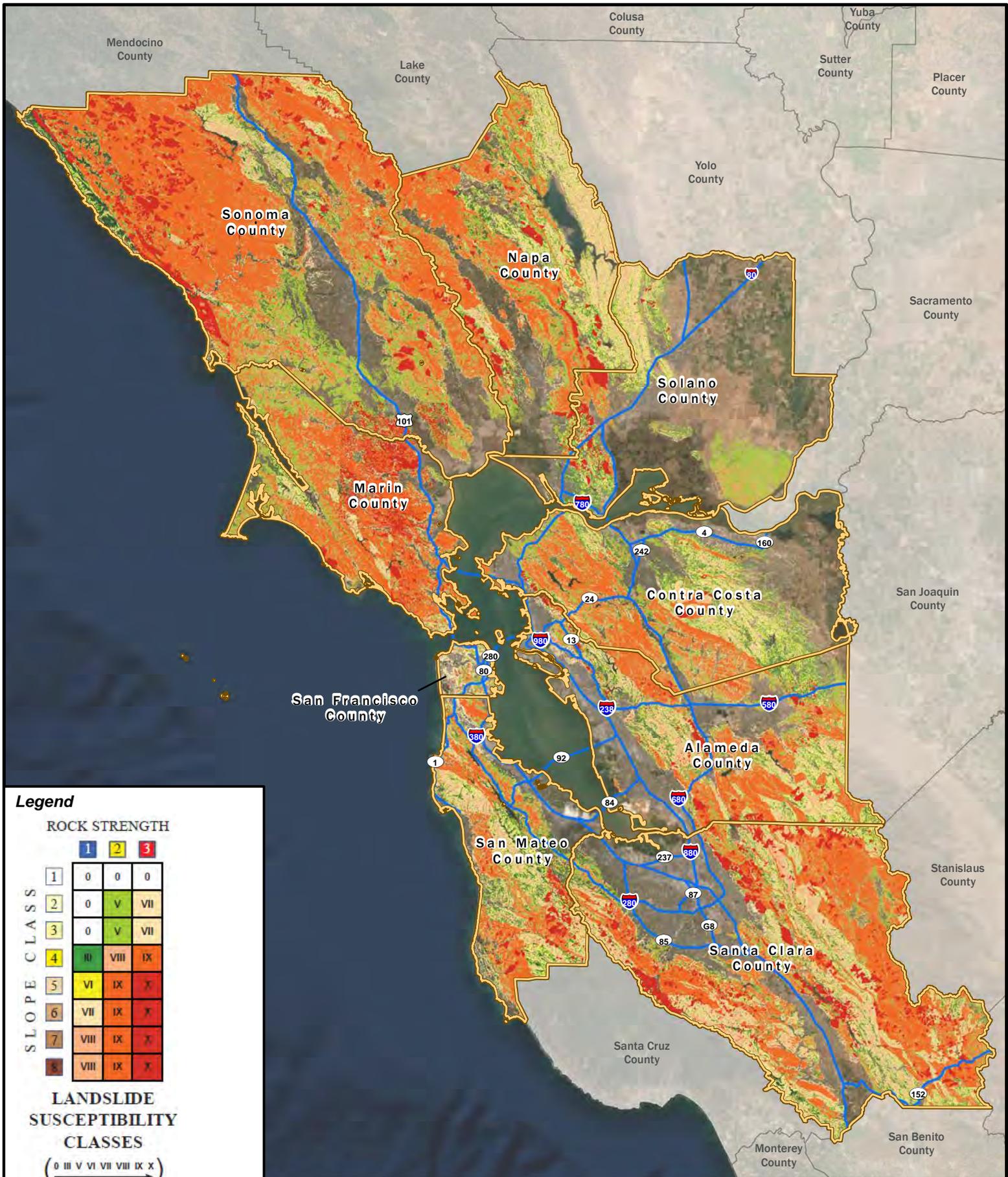
**Source**  
 FEMA Digital Flood Insurance Rate Map (2019, 2020)  
<https://datasf.org/>; <https://msc.fema.gov>

**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 Miles

**Special Flood Hazard Areas**  
**Figure B-16**

*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

**ROCK STRENGTH**

	1	2	3
<b>SLOPE CLASS</b>			
1	0	0	0
2	0	V	VII
3	0	V	VII
4	III	VIII	IX
5	VI	IX	X
6	VII	IX	X
7	VIII	IX	X
8	VIII	IX	X

**LANDSLIDE SUSCEPTIBILITY CLASSES**

( 0 III V VI VII VIII IX X )

← increasing susceptibility →

County Boundary

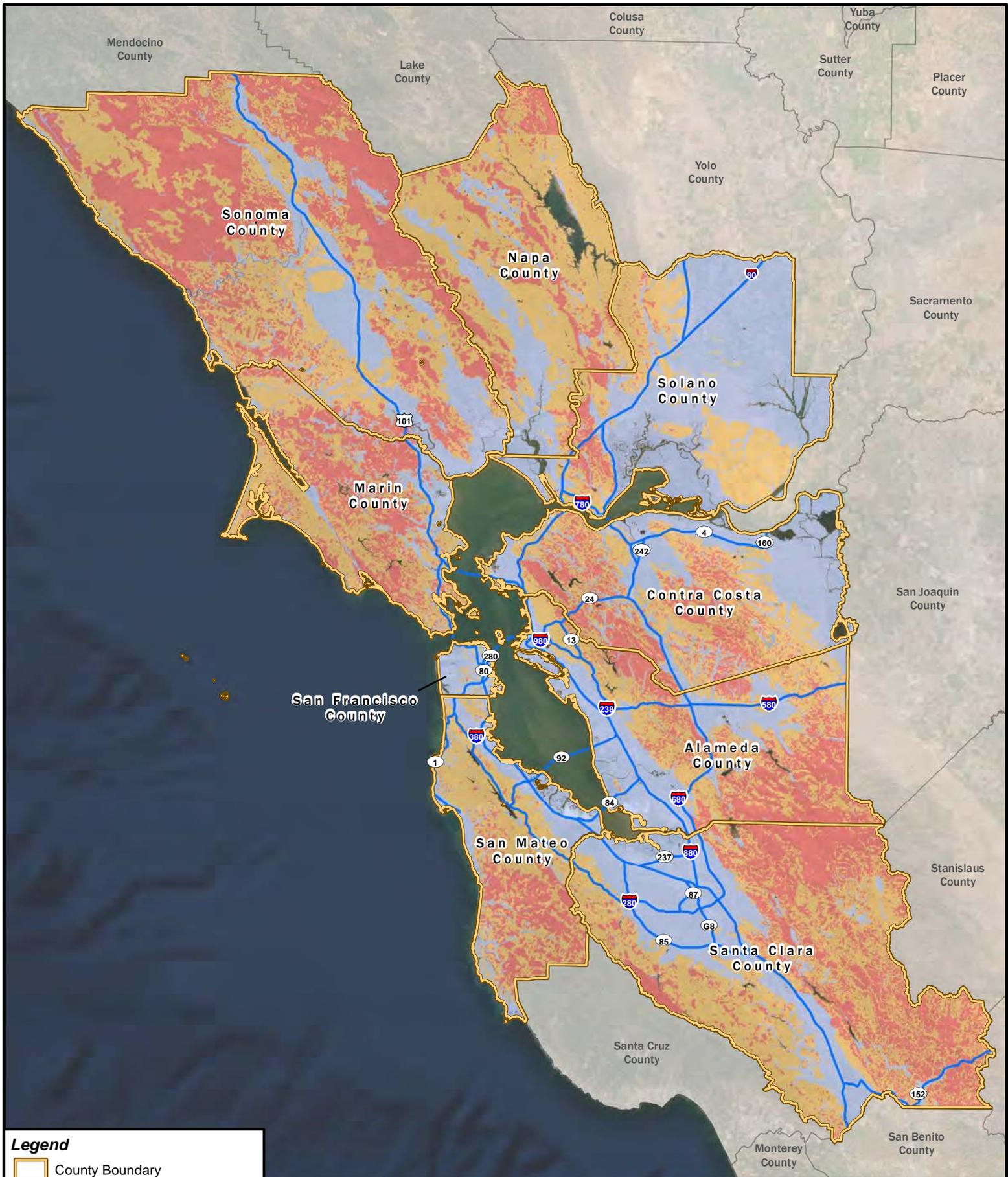
**Source**  
 Susceptibility to Deep-Seated Landslides in California (2018)  
<https://maps.conservation.ca.gov>

**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**Deep-Seated Landslide Susceptibility Areas**  
**Figure B-17**

2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan



**Legend**

- County Boundary
- Surficial Deposits
- Few Landslides
- Most Landslides

**Source**  
 Existing Landslide Data (2020)  
<https://pubs.usgs.gov/>

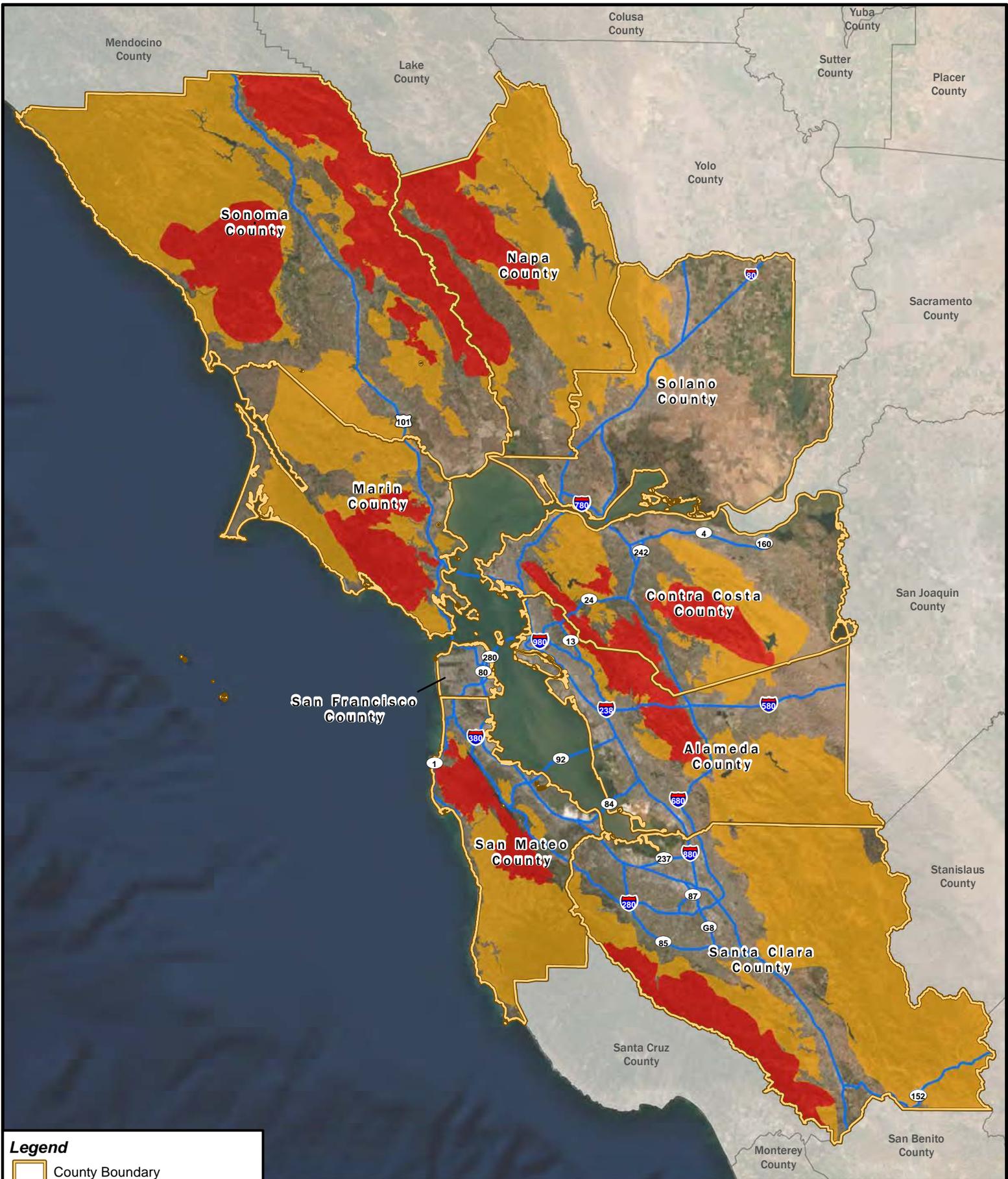
**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**Existing Landslide Areas**  
**Figure B-18**

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*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary
- Tier 2 - Elevated
- Tier 3 - Extreme

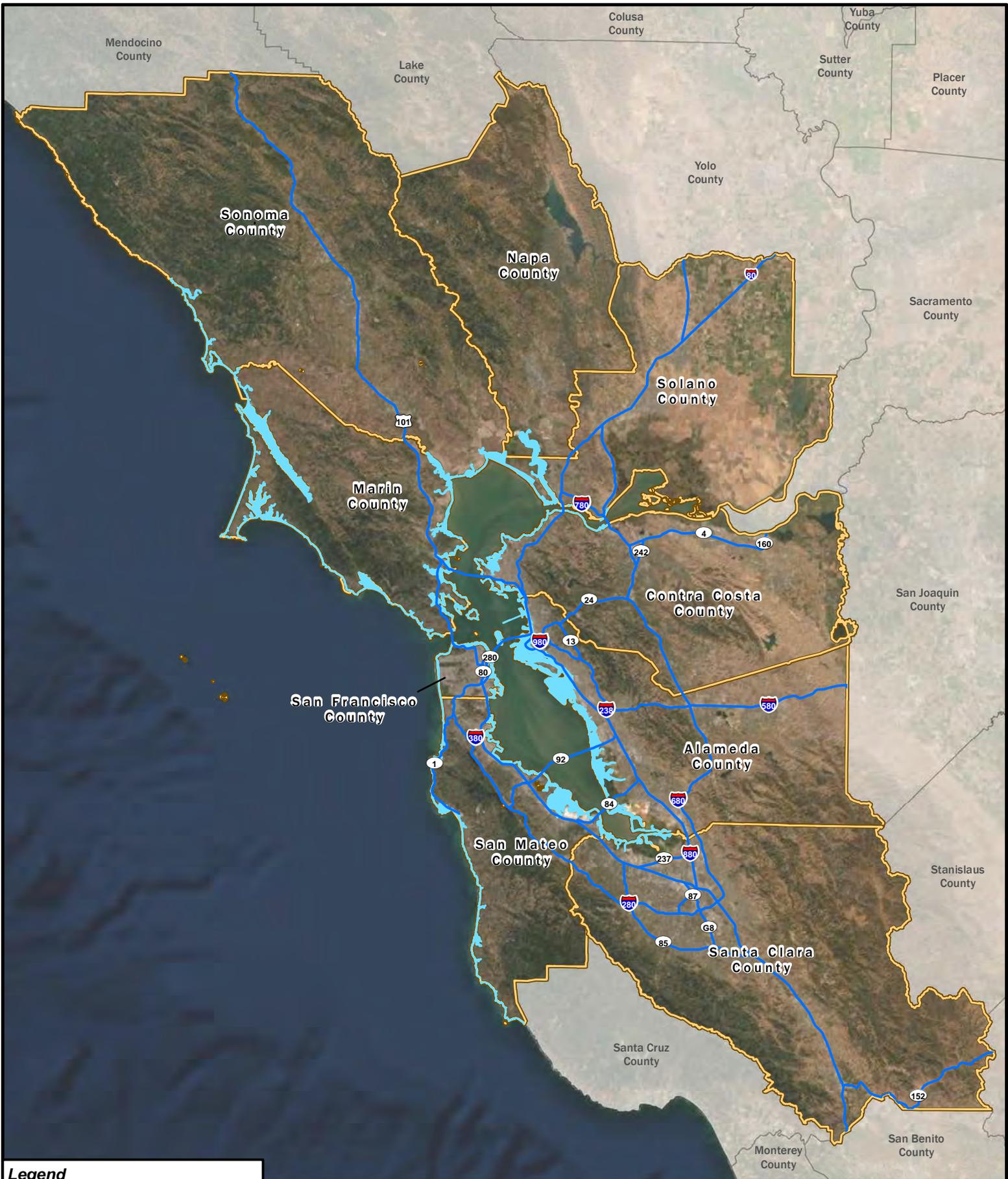
**Source**  
 California Public Utilities Commission  
 Fire-Threat (2020)  
<https://www.cpuc.ca.gov/>

**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**California Public Utilities  
 Commission Fire-Threat Areas  
 Figure B-19**

*2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary
- Maximum Run-Up

**Source**  
 Tsunami Inundation Areas (Potential) for Evacuation Planning (2020)  
<https://mtc.maps.arcgis.com/>

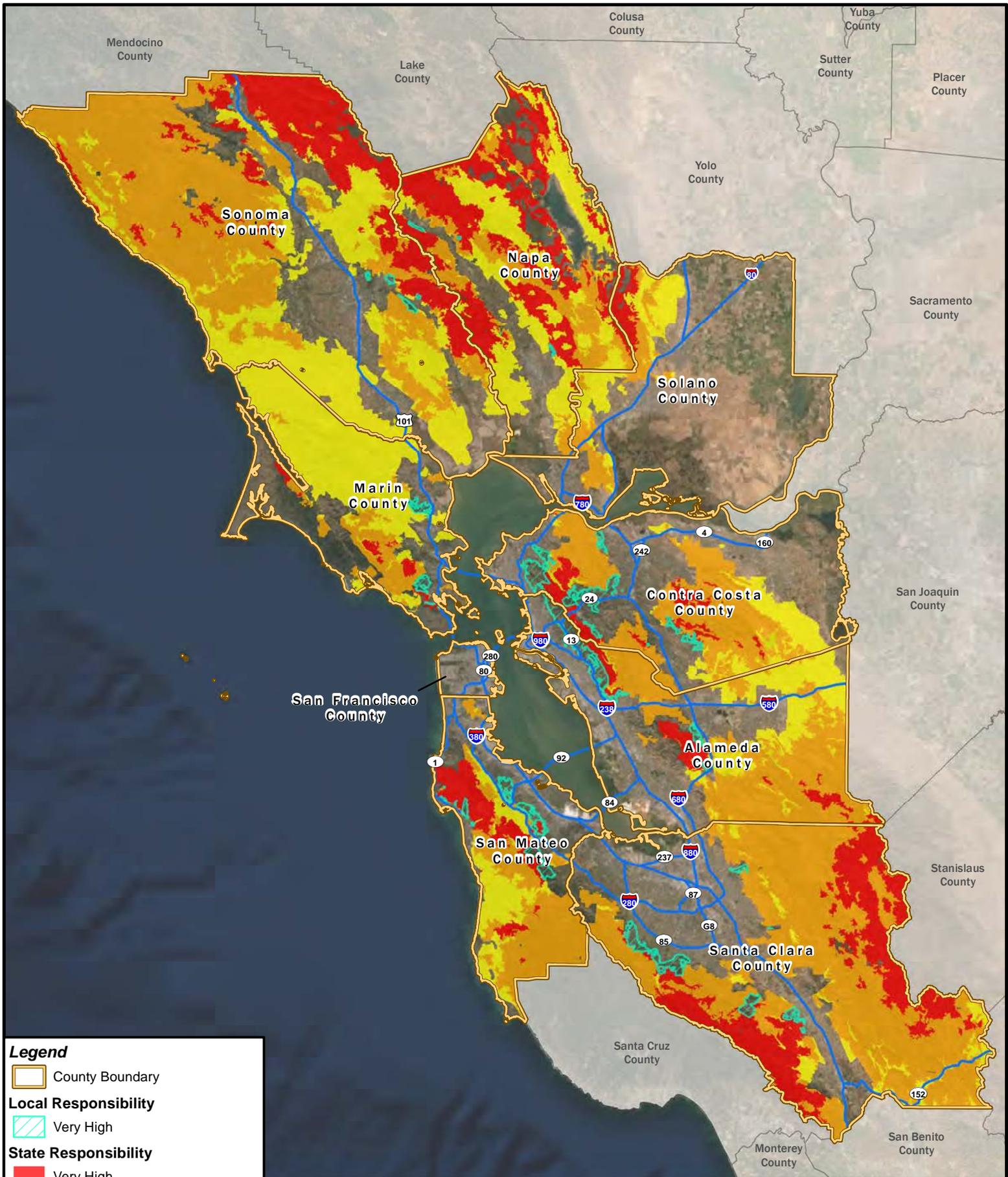
**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**Tsunami Run-Up Areas**  
**Figure B-20**

---

*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*



**Legend**

- County Boundary

**Local Responsibility**

- Very High

**State Responsibility**

- Very High
- High
- Moderate

**Source**  
 Fire Hazard Severity Zone (2020)  
<https://gis.data.ca.gov/>  
<https://frap.fire.ca.gov>

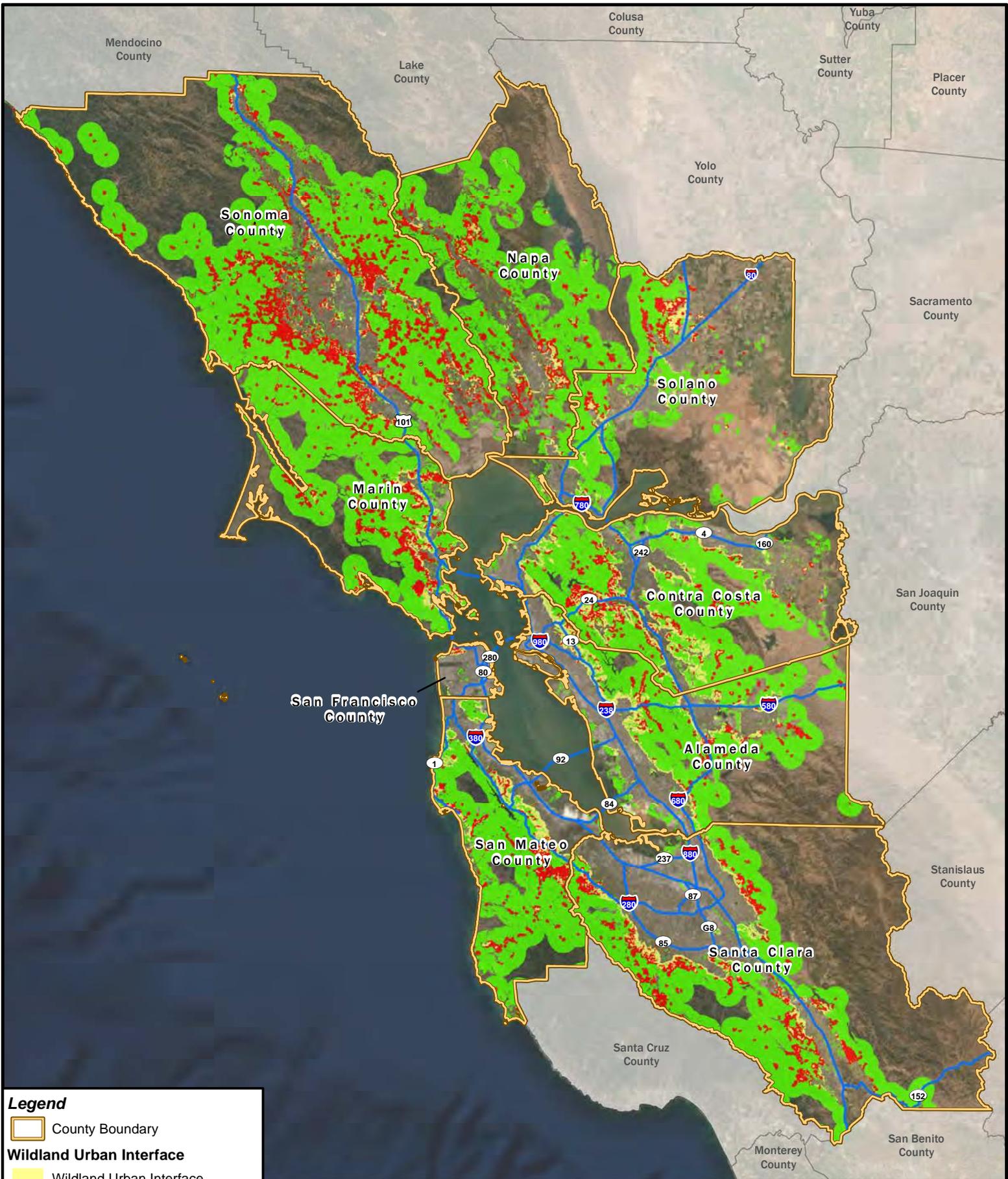
**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**Fire Hazard Severity Zones**  
**Figure B-21**

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2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan



**Legend**

- County Boundary

**Wildland Urban Interface**

- Wildland Urban Interface
- Wildland Urban Intermix
- Wildland Urban Influence

**Source**  
 Wildland Urban Interface (2020)  
<https://gis.data.ca.gov/>  
<https://frap.fire.ca.gov>

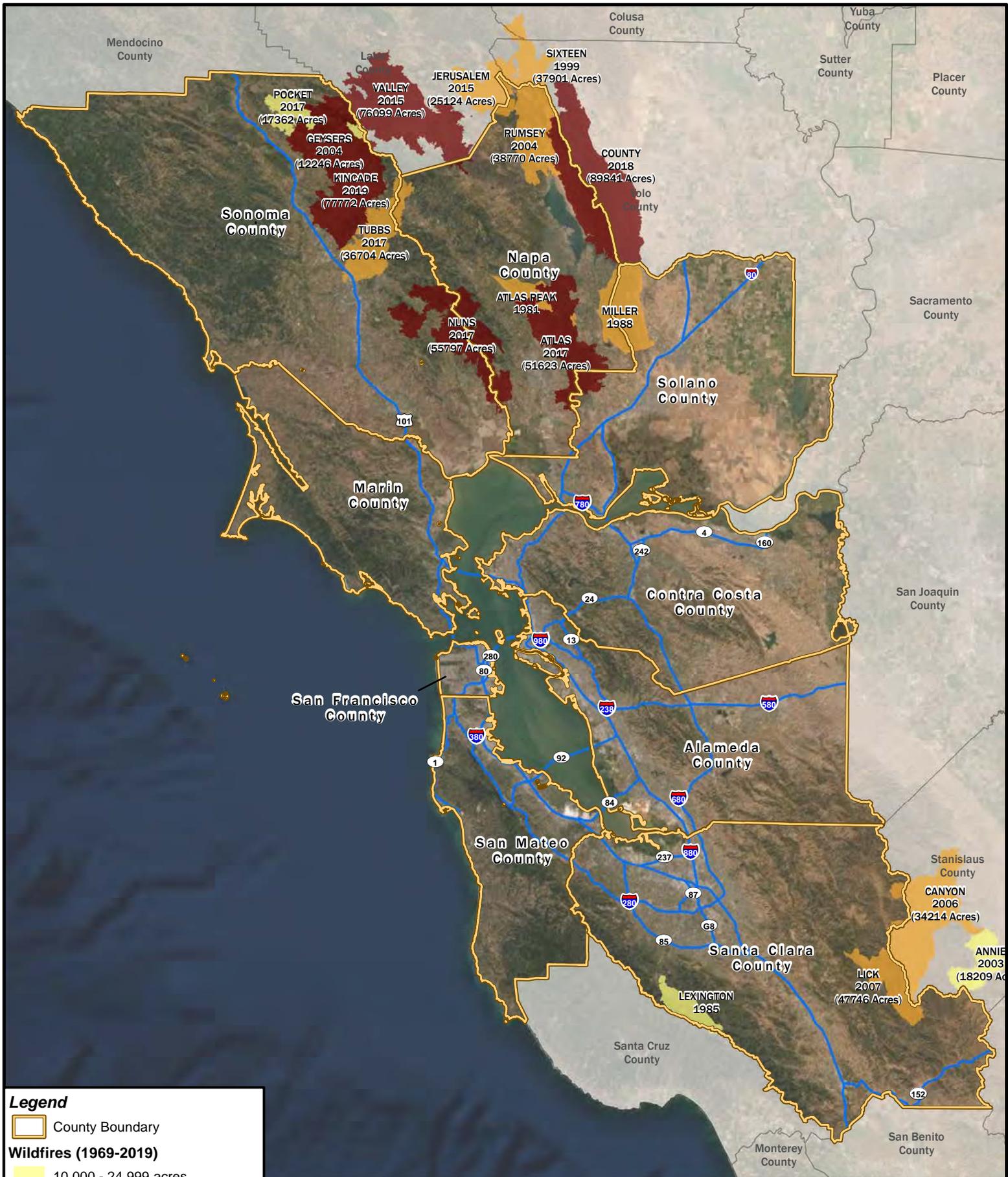
**Scale:** 1:1,000,000  
 1 in = 16 miles  
**Date:** 2/8/2021  
**Projection:** NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**Wildland Urban Interface**  
**Figure B-22**

---

2021 MTC  
 Multi-Jurisdictional Hazard Mitigation Plan



**Legend**

County Boundary

**Wildfires (1969-2019)**

- 10,000 - 24,999 acres
- 25,000 - 49,999 acres
- 50,000+ acres

**Source**  
 Fire Resource and Assessment Program  
 Fire Perimeters Database (2019)  
<https://frap.fire.ca.gov>

**Scale:** 1:1,000,000  
 1 in = 16 miles  
 Date: 2/8/2021  
 Projection: NAD 83 State Plane Zone III

0 2.5 5 10 15 20 25 30 35 40 Miles

**Historical Wildfires (1969-2019)**  
**Figure B-23**

*2021 MTC*  
*Multi-Jurisdictional Hazard Mitigation Plan*

## **APPENDIX C—METROPOLITAN TRANSPORTATION COMMISSION**

**Table C-1: Hazard Impacts on MTC’s Fixed Critical Facilities and Express Lanes**

Hazard Area	# of Facilities Impacted	Miles of Express Lanes Impacted
Sea Level Rise Inundation Area—3 Ft.	0	9.02
Sea Level Rise Inundation Area—6 Ft.	1	12.18
Dam Breach Inundation Area—High Hazard	0	0.06
Dam Breach Inundation Area—Extremely High Hazard	0	20.07
Probabilistic Earthquake Shaking Area—Severe	5	110.96
Probabilistic Earthquake Shaking Area—Violent	2	88.06
Special Flood Hazard Area—0.2% Annual Chance Flood	0	18.50
Special Flood Hazard Area—1% Annual Chance Flood	0	15.97
Deep-Seated Landslide Class IX and X Area	0	6.93
Existing Landslides Area—Few	2	22.40
Existing Landslides Area—Most	0	2.48
CPUC—Fire Threat Area—Tier 2 Elevated	0	8.41
CPUC—Fire Threat Area—Tier 3 Extreme	0	0.00
Maximum Tsunami Run-Up Area	1	0.00
Fire Hazard Severity Zones: State Responsibility Area—High	0	5.18
Fire Hazard Severity Zones: State Responsibility Area—Very High	0	0.00
Fire Hazard Severity Zones: Local Responsibility Area—Very High	0	0.00
Wildland Urban Interface—Influence	1	3.88
Wildland Urban Interface—Intermix	0	9.70
Wildland Urban Interface—Interface	0	25.53

Notes:

CPUC = California Public Utilities Commission

Ft. = foot/feet

MTC = Metropolitan Transportation Commission

**Table C-2: MTC—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
<b>Planning and Regulatory</b>		
San Francisco Bay Area Regional Transportation Emergency Management Plan—2018	<ul style="list-style-type: none"> <li>• Supports the coordinated emergency response capabilities for transportation agencies throughout the Bay Area.</li> <li>• Focuses on two key areas: 1) interagency communications; and 2) preparation of detailed emergency response plans.</li> <li>• Includes a baseline-operating plan adaptable to a range of emergency recovery scenarios too.</li> </ul>	
Plan Bay Area	<ul style="list-style-type: none"> <li>• Is an updated long-range Regional Transportation Plan and Sustainable Communities Strategy for the nine-county San Francisco Bay Area.</li> <li>• Roadmap for forecasting transportation needs through the year 2040, preserving the character of our diverse communities, and adapting to the challenges of future population growth.</li> <li>• The plan includes resiliency action measures.</li> </ul>	MTC can make amendments to the Plan Bay Area 2020 through the TIP. The TIP is updated at least every 4 years.
2019 San Francisco Bay Area’s Transportation Improvement Program	<ul style="list-style-type: none"> <li>• Lists the near-term transportation projects, programs and investment priorities of the region’s surface transportation system that have a federal interest along with locally and state-funded projects that are regionally significant.</li> </ul>	There are several ways that a project can get included in the TIP; the most common course is when local partner agencies submit their priority list to MTC for approval.
Climate Change Initiatives Program	<ul style="list-style-type: none"> <li>• Focuses on reducing transportation greenhouse gas emissions through innovative pilot projects.</li> </ul>	
<b>Administrative and Technical</b>		
Operations	<ul style="list-style-type: none"> <li>• Coordinates local response and relief activities in the Emergency Operation Center, and works closely with local, state, and federal partners to support planning and training and to provide information and coordinate assistance.</li> <li>• Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</li> </ul>	

**Table C-2: MTC—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
Policy	<ul style="list-style-type: none"> <li>• Develops and maintains transportation plans. Anticipates and acts on the need for new plans and policies.</li> <li>• Provides information to the public and media as necessary.</li> </ul>	The Plan Bay Area 2040 identifies MTC as a partner agency to establish a resilience technical services team. The team can share data, best practices, and grant opportunities for climate adaptation and natural hazard mitigation.
<b>Financial</b>		
Bridge Tolls	<ul style="list-style-type: none"> <li>• Charges via direct user fees for the use of facility capacity and services and are used as a way to pay for operating expenses and transportation projects.</li> </ul>	
FTA 5303	<ul style="list-style-type: none"> <li>• Provides funding and procedural requirements for multimodal transportation planning in metropolitan areas and states.</li> <li>• Planning needs to be cooperative, continuous, and comprehensive, resulting in long-range plans and short-range programs that reflect transportation investment priorities.</li> </ul>	
The Mills-Alquist-Deddeh Act (SB 325) / TDA of 1971 funds	<ul style="list-style-type: none"> <li>• Provides local agencies with two major sources of funding: the Local Transportation Fund and State Transit Assistance funds; these funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales, and transit performance.</li> </ul>	
Caltrans Sustainable Transportation Planning Grants	<ul style="list-style-type: none"> <li>• Encourages local and regional planning that furthers state goals, including—but not limited to—the goals and best practices cited in the Regional Transportation Plan Guidelines.</li> <li>• Includes improving public safety and security, and practicing environmental stewardship, adopted by the California Transportation Commission.</li> </ul>	MTC can apply for annual grants to address: 1) transportation-related issues around climate change and wildfires; and 2) emergency preparedness/response planning projects.

**Table C-2: MTC—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
FEMA HMA Grants	<ul style="list-style-type: none"> <li>• Provides funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages.</li> <li>• Supports pre- and post-disaster mitigation plans and projects.</li> <li>• Available to California communities/agencies after a presidentially declared disaster has occurred in California, administered by Cal OES.</li> <li>• The Building Resilient Infrastructure and Communities program is an annual nationally competitive program that focuses on reducing the nation’s risk by funding public infrastructure projects that increase a community’s resilience before a disaster affects an area.</li> </ul>	MTC can apply for HMA grant funding once the 2021 MJHMP has been approved and adopted.
FTA Emergency Relief Program	<ul style="list-style-type: none"> <li>• Provides post-disaster assistance to public transit operators by funding the protection, repair, and/or replacement of equipment and facilities that may suffer or have suffered serious damage as a result of an emergency or disaster.</li> <li>• Funds capital projects to protect, repair, or replace facilities or equipment that are in danger of suffering serious damage, or have suffered serious damage as a result of an emergency.</li> <li>• Can also fund the operating costs of evacuation, rescue operations, temporary public transportation service, or reestablishing, expanding, or relocating service before, during, or after an emergency.</li> </ul>	
<b>Education and Outreach</b>		
511 SF Bay	<ul style="list-style-type: none"> <li>• Provides traffic, transit, carpool, vanpool, and bicycling information 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.</li> <li>• Travelers can register for 511ALERT, a text-based notification system.</li> <li>• In the event of an emergency, registered users will receive up-to-date transportation alert information gathered from various trusted government sources.</li> <li>• Alerts complement the information currently provided by 511 on its website, phone line, and social media channels.</li> </ul>	

**Table C-2: MTC—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
Service Alerts	<ul style="list-style-type: none"> <li>Creates service alerts with additional information when there is a network disruption.</li> </ul>	
Media / Social Media	<ul style="list-style-type: none"> <li>Creates and shares content via media or social networking.</li> </ul>	MTC can use digital engagement and online methods to gather input from the public about the 2021 MJHMP and future updates.

Notes:

- Cal OES = California Office of Emergency Services
- FTA = Federal Transit Administration
- HMA = Hazard Mitigation Assistance
- MJHMP = Multi-Jurisdictional Hazard Mitigation Plan
- MTC = Metropolitan Transportation Commission
- SB = Senate Bill
- SF = San Francisco
- TDA = Transportation Development Act
- TIP = Transportation Improvement Program

**Table C-3: MTC—Prioritized Action Plan**

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
1	After-Action Report	Medium	General operating budget, FTA Emergency Relief Program	Operations	As required after a hazard/ disaster
2	Stand-by Contracts	High	General operating budget	Operations	0 to 5 years
3	Interagency Communication and Coordination	High	Caltrans Sustainable Transportation Planning Grants	Operations	0 to 5 years
4	Emergency Response Plan Hazard-Specific Annexes	High	Caltrans Sustainable Transportation Planning Grants	Policy	0 to 5 years
17	Standard Operating Procedures for Alternative Locations	High	Caltrans Sustainable Transportation Planning Grants	Operations	0 to 5 years
18	Fuel Storage Capacity / Contingency	High	Caltrans Sustainable Transportation Planning Grants	Operations	0 to 5 years
19	Cooling and Smoke Relief Centers and Wildfire Evacuation Points and Shelter Locations Transportation Assessment	High	FEMA HMA Grants	Operations	0 to 5 years
20	Standby Power Systems / Generators	High	FEMA HMA Grants	Operations	0 to 5 years
24	Crowding Information App	High	Caltrans Sustainable Transportation Planning Grants	Operations	0 to 5 years
25	Highway Corridor Landslide Hazard Mapping	Medium	FEMA HMA Grants	Policy	5+ years
27	Defensible Space	High	FEMA HMA Grants	Operations	0 to 5 years
28	Evacuation Preparedness	High	Caltrans Sustainable Transportation Planning Grants	Operations	0 to 5 years
*addition	Disaster Regional Funding Plan	High	General operating budget	Policy	0 to 5 years
*addition	Transit-Oriented Residential Seismic/Wildfire Retrofits	High	FEMA HMA Grants	Operations	0 to 5 years

Notes:  
 FEMA = Federal Emergency Management Agency  
 FTA = Federal Transit Administration  
 HMA = Hazard Mitigation Assistance  
 MTC = Metropolitan Transportation Commission

**Table C-4: MTC—Integration of 2021 MJHMP**

MJHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Mitigation strategy	Relevant mitigation actions in the 2021 MJHMP will be incorporated into the Plan Bay Area Implementation Plan.	When the Transportation Improvement Program is updated every 4 years.
Mitigation strategy	Relevant mitigation actions in the 2021 MJHMP will be incorporated into the MTC’s Climate Change Initiatives Program.	As directed in the Plan Bay Area.

Notes:  
 MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 MTC = Metropolitan Transportation Commission  
 TIP = Transportation Improvement Program

**APPENDIX D—ALAMEDA-CONTRA COSTA TRANSIT DISTRICT**

**Table D-1: Hazard Impacts on AC Transit's Fixed Critical Facilities**

Hazard Area	# of Facilities Impacted
Sea Level Rise Inundation Area—3 Ft.	0
Sea Level Rise Inundation Area—6 Ft.	1
Dam Breach Inundation Area—High Hazard	0
Dam Breach Inundation Area—Extremely High Hazard	0
Probabilistic Earthquake Shaking Area—Severe	0
Probabilistic Earthquake Shaking Area—Violent	9
Special Flood Hazard Area—0.2% Annual Chance Flood	0
Special Flood Hazard Area—1% Annual Chance Flood	0
Deep-Seated Landslide Class IX and X Area	0
Existing Landslides Area—Few	1
Existing Landslides Area—Most	2
CPUC—Fire Threat Area—Tier 2 Elevated	0
CPUC—Fire Threat Area—Tier 3 Extreme	0
Maximum Tsunami Run-Up Area	0
Fire Hazard Severity Zones: State Responsibility Area—High	0
Fire Hazard Severity Zones: State Responsibility Area—Very High	0
Fire Hazard Severity Zones: Local Responsibility Area—Very High	0
Wildland Urban Interface—Influence	0
Wildland Urban Interface—Intermix	0
Wildland Urban Interface—Interface	0

## Notes:

AC Transit = Alameda-Contra Costa Transit District

CPUC = California Public Utilities Commission

Ft = foot/feet

**Table D-2: AC Transit—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
<b>Planning and Regulatory</b>		
AC Transit Emergency Operations Plan	<ul style="list-style-type: none"> <li>• Describes the organizational structures, roles and responsibilities, and protocols for providing emergency response and short-term recovery.</li> <li>• Describes the purpose, situation and assumptions, concept of operations, organization, assignment of responsibilities, plan development and maintenance, authorities, and references.</li> </ul>	
SRTP FY 2014/15 through 2023/24	<ul style="list-style-type: none"> <li>• Provides information on an agency’s transportation goals and policies as well as socioeconomic, environmental, and other factors that will affect the operation of the transportation system over the next 10 years.</li> </ul>	
AC Transit Strategic Plan	<ul style="list-style-type: none"> <li>• The overall approach of this plan is to focus bus transit resources on the services that AC Transit can provide best, the services that will continue to be needed by transit-dependent people, and the services that will help East Bay cities meet their land use and environmental goals now and in the future.</li> </ul>	AC Transit can develop hazard mitigation related strategic initiatives in the plan.
<b>Administrative and Technical</b>		
Emergency Management	<ul style="list-style-type: none"> <li>• Coordinates local response and relief activities in the Emergency Operations Center.</li> <li>• Works closely with local, state, and federal partners to support planning and training and to provide information and coordinate assistance.</li> </ul>	AC Transit can improve the agency’s role in interagency communication and coordination by developing resource-sharing agreements, sharing information about emergency management plans, initiatives, risks, and resources with other partner transit agencies as well as ensuring that they are integrated into emergency radio communication systems.
Operations	<ul style="list-style-type: none"> <li>• Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</li> </ul>	
Planning	<ul style="list-style-type: none"> <li>• Develops and maintains transportation plans.</li> <li>• Anticipates and acts on the need for new plans and policies.</li> </ul>	

**Table D-2: AC Transit—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
Finance	<ul style="list-style-type: none"> <li>Sources, negotiates, and selects goods and services.</li> </ul>	AC Transit can appoint/task a person responsible for overseeing FEMA mitigation grant funding opportunities, including grant application and grant management.
Media Affairs	<ul style="list-style-type: none"> <li>Provides information to the public and media as necessary.</li> </ul>	
<b>Financial</b>		
Tolls/Fares	<ul style="list-style-type: none"> <li>Charges via direct user fees for the use of facility capacity and services and are used as a way to pay for operating expenses and transportation projects.</li> </ul>	
Local Option Transportation Sales Tax	<ul style="list-style-type: none"> <li>Funds local transportation projects and programs.</li> </ul>	
The Mills-Alquist-Deddeh Act (SB 325) / TDA of 1971 funds	<ul style="list-style-type: none"> <li>Provides local agencies with two major sources of funding: the Local Transportation Fund and State Transit Assistance funds; these funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales, and transit performance.</li> </ul>	
Caltrans Sustainable Transportation Planning Grants	<ul style="list-style-type: none"> <li>Encourages local and regional planning that furthers state goals, including—but not limited to—the goals and best practices cited in the Regional Transportation Plan Guidelines.</li> <li>Includes improving public safety and security, and practicing environmental stewardship, adopted by the California Transportation Commission.</li> </ul>	AC Transit can apply for annual grants to address: 1) transportation-related issues around climate change and wildfires; and 2) emergency preparedness/response planning projects.
FEMA HMA Grants	<ul style="list-style-type: none"> <li>Provides funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages.</li> <li>Supports pre- and post-disaster mitigation plans and projects.</li> <li>Available to California communities/agencies after a presidentially declared disaster has occurred, administered by Cal OES.</li> <li>The Building Resilient Infrastructure and Communities program is an annual nationally competitive program that focuses on reducing the nation’s risk by funding public infrastructure projects that increase a community’s resilience before a disaster affects an area.</li> </ul>	AC Transit can apply for HMA grant funding once the 2021 MJHMP has been approved and adopted.

**Table D-2: AC Transit—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
FTA Emergency Relief Program	<ul style="list-style-type: none"> <li>Provides post-disaster assistance to public transit operators by funding the protection, repair, and/or replacement of equipment and facilities that may suffer or have suffered serious damage as a result of an emergency or disaster.</li> <li>Funds capital projects to protect, repair, or replace facilities or equipment that are in danger of suffering serious damage, or have suffered serious damage, as a result of an emergency.</li> <li>Can also fund the operating costs of evacuation, rescue operations, temporary public transportation service, or reestablishing, expanding, or relocating service before, during or after an emergency.</li> </ul>	
<b>Education and Outreach</b>		
511 SF Bay	<ul style="list-style-type: none"> <li>Provides traffic, transit, carpool, vanpool, and bicycling information 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.</li> <li>Travelers can register for 511ALERT, a text-based notification system.</li> <li>In the event of an emergency, registered users will receive up-to-date transportation alert information gathered from various trusted government sources.</li> <li>Alerts complement the information currently provided by 511 on its website, phone line, and social media channels.</li> </ul>	AC Transit can create or use a transit app with real-time crowding information to help customers make more informed ride-making decisions.
Service Alerts	<ul style="list-style-type: none"> <li>Creates service alerts with additional information when there is a network disruption.</li> </ul>	
Media / Social Media	<ul style="list-style-type: none"> <li>Creates and shares content via media or social networking.</li> </ul>	AC Transit can use digital engagement and online methods to gather input from the public about the 2021 MJHMP and future updates.

Notes:

- AC Transit = Alameda-Contra Costa Transit District
- Cal OES = California Office of Emergency Services
- FTA = Federal Transit Administration
- FY = fiscal year
- HMA = Hazard Mitigation Assistance
- MJHMP = Multi-Jurisdictional Hazard Mitigation Plan
- SB = Senate Bill
- SF = San Francisco
- SRTP = Short-Range Transit Plan
- TDA = Transportation Development Act

**Table D-3: AC Transit—Prioritized Action Plan**

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
3	Interagency Communication and Coordination	High	Caltrans Sustainable Transportation Planning Grants	Planning & Operations	0 to 5 years
20	Standby Power Systems / Generators	High	FEMA HMA Grants	Operations	0 to 5 years
22	Seismic Retrofits	High	FEMA HMA Grants	Operations	0 to 5 years
24	Crowding Information App	High	Caltrans Sustainable Transportation Planning Grants	Planning & Operations	0 to 5 years
25	Highway Corridor Landslide Hazard Mapping	Medium	FEMA HMA Grants	Planning & Operations	5+ years
28	Evacuation Preparedness	High	Caltrans Sustainable Transportation Planning Grants	Planning & Operations	0 to 5 years

Notes:

AC Transit = Alameda-Contra Costa Transit District  
 Caltrans = California Department of Transportation  
 FEMA = Federal Emergency Management Agency  
 HMA = Hazard Mitigation Assistance

**Table D-4: AC Transit—Integration of 2021 MJHMP**

MJHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Mitigation strategy	Relevant mitigation goals and actions in the 2021 MJHMP will be incorporated into the SRTP’s goals, objectives and standards.	When the SRTP is updated every 2 years.
Mitigation Strategy	Relevant mitigation goals and actions in the 20221 MJHMP can be incorporated into the Strategic Plan’s strategic initiatives.	When objectives/metrics are refined.

Notes:

AC Transit = Alameda-Contra Costa Transit District  
 MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 SRTP = Short-Range Transit Plan  
 TIP = Transportation Improvement Program

**APPENDIX E—CENTRAL CONTRA COSTA TRANSIT AUTHORITY**

**Table E-1: Hazard Impacts on CCCTA’s Fixed Critical Facilities**

Hazard Area	# of Facilities Impacted
Sea Level Rise Inundation Area—3 Ft.	0
Sea Level Rise Inundation Area—6 Ft.	0
Dam Breach Inundation Area—High Hazard	0
Dam Breach Inundation Area—Extremely High Hazard	0
Probabilistic Earthquake Shaking Area—Severe	2
Probabilistic Earthquake Shaking Area—Violent	0
Special Flood Hazard Area—0.2% Annual Chance Flood	0
Special Flood Hazard Area—1% Annual Chance Flood	0
Existing Landslides Area—Few	0
Existing Landslides Area—Most	0
Deep-Seated Landslide Class IX and X Area	0
CPUC—Fire Threat Area—Tier 2 Elevated	0
CPUC—Fire Threat Area—Tier 3 Extreme	0
Maximum Tsunami Run-Up Area	0
Fire Hazard Severity Zones: State Responsibility Area—High	0
Fire Hazard Severity Zones: State Responsibility Area—Very High	0
Fire Hazard Severity Zones: Local Responsibility Area—Very High	0
Wildland Urban Interface—Influence	0
Wildland Urban Interface—Intermix	0
Wildland Urban Interface—Interface	0

Notes:  
 CCCTA = Central Contra Costa Transit Authority  
 CPUC = California Public Utilities Commission  
 Ft. = foot/feet

**Table E-2: CCCTA—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand / Improve
<b>Planning and Regulatory</b>		
Internal Emergency Plan	<ul style="list-style-type: none"> <li>• Describes the organizational structures, roles and responsibilities, and protocols for providing emergency response and short-term recovery.</li> <li>• Describes the purpose, situation and assumptions, concept of operations, organization, assignment of responsibilities, plan development and maintenance, authorities, and references.</li> </ul>	
2020 TEP	<ul style="list-style-type: none"> <li>• Provides information on an agency’s transportation goals and policies as well as socioeconomic, environmental, and other factors that will affect the operation of the transportation system over the next 35 years.</li> <li>• Includes a list of planned major capital projects, their estimated costs, and the revenues reasonably expected to be available to fund the projects.</li> </ul>	The TEP can be amended by the authority-governing body.
Hazard / Safety Analysis (Assessment Studies)	<ul style="list-style-type: none"> <li>• A variety of transit studies, corridor studies, improvement studies, etc.</li> <li>• Identifies potential transportation-related hazards and safety measures and proposes how to mitigate risks.</li> </ul>	Studies can be expanded to include a hazard analysis component.
<b>Administrative and Technical</b>		
Safety and Training	<ul style="list-style-type: none"> <li>• Coordinates local response and relief activities in the Emergency Operations Center.</li> <li>• Works closely with local, state, and federal partners to support planning and training and to provide information and coordinate assistance.</li> </ul>	
Construction	<ul style="list-style-type: none"> <li>• Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</li> </ul>	

**Table E-2: CCCTA—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand / Improve
Planning	<ul style="list-style-type: none"> <li>• Develops and maintains transportation plans.</li> <li>• Anticipates and acts on the need for new plans and policies.</li> </ul>	CCCTA can appoint/task a person responsible for overseeing FEMA mitigation grant funding opportunities, including grant application and grant management.
Finance and Accounting	<ul style="list-style-type: none"> <li>• Sources, negotiates and selects goods and services.</li> </ul>	
External Affairs	<ul style="list-style-type: none"> <li>• Provides information to the public and media as necessary.</li> </ul>	
<b>Financial</b>		
Tolls / Fares	<ul style="list-style-type: none"> <li>• Charges via direct user fees for the use of facility capacity and services and are used as a way to pay for operating expenses and transportation projects.</li> </ul>	
Local Option Transportation Sales Tax	<ul style="list-style-type: none"> <li>• A half-cent transportation sales tax from 2009 through 2034, approved by Contra Costa County voters in 2004.</li> </ul>	
California Senate Bill 1 – the Road Repair and Accountability Act of 2017	<ul style="list-style-type: none"> <li>• Aims to repair roads, improve traffic safety, and expand public transit systems through maintenance projects on state highways.</li> <li>• Provides funding to enhance trade corridors, transit, and active transportation facilities, in addition to repairing local streets and roads throughout California.</li> </ul>	
The Mills-Alquist-Deddeh Act (SB 325) / TDA of 1971 funds	<ul style="list-style-type: none"> <li>• Provides local agencies with two major sources of funding: the Local Transportation Fund and State Transit Assistance funds; these funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales, and transit performance.</li> </ul>	
Caltrans Sustainable Transportation Planning Grants	<ul style="list-style-type: none"> <li>• Encourages local and regional planning that furthers state goals, including—but not limited to—the goals and best practices cited in the Regional Transportation Plan Guidelines.</li> <li>• Includes improving public safety and security, and practicing environmental stewardship, adopted by the California Transportation Commission.</li> </ul>	CCCTA can apply for annual grants to address: 1) transportation-related issues around climate change and wildfires; and 2) emergency preparedness/response planning projects.

**Table E-2: CCCTA—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand / Improve
FEMAHMA Grants	<ul style="list-style-type: none"> <li>• Provides funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages.</li> <li>• Supports pre- and post-disaster mitigation plans and projects.</li> <li>• Available to California communities/agencies after a presidentially declared disaster has occurred, administered by Cal OES.</li> <li>• The Building Resilient Infrastructure and Communities program is an annual nationally competitive program that focuses on reducing the nation’s risk by funding public infrastructure projects that increase a community’s resilience before a disaster affects an area.</li> </ul>	CCCTA can apply for HMA grant funding once the 2021 MJHMP has been approved and adopted.
FTA Emergency Relief Program	<ul style="list-style-type: none"> <li>• Provides post-disaster assistance to public transit operators by funding the protection, repair, and/or replacement of equipment and facilities that may suffer or have suffered serious damage as a result of an emergency or disaster.</li> <li>• Funds capital projects to protect, repair, or replace facilities or equipment that are in danger of suffering serious damage, or have suffered serious damage as a result of an emergency.</li> <li>• Can also fund the operating costs of evacuation, rescue operations, temporary public transportation service, or reestablishing, expanding, or relocating service before, during, or after an emergency.</li> </ul>	

**Table E-2: CCCTA—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand / Improve
<b>Education and Outreach</b>		
511 SF Bay	<ul style="list-style-type: none"> <li>• Provides traffic, transit, carpool, vanpool, and bicycling information 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.</li> <li>• Travelers can register for 511ALERT, a text-based notification system.</li> <li>• In the event of an emergency, registered users will receive up-to-date transportation alert information gathered from various trusted government sources.</li> <li>• Alerts complement the information currently provided by 511 on its website, phone line, and social media channels.</li> </ul>	
Service Alerts	<ul style="list-style-type: none"> <li>• Creates service alerts with additional information when there is a network disruption.</li> </ul>	
Media / Social Media	<ul style="list-style-type: none"> <li>• Creates and shares content through media or social networking.</li> </ul>	CCCTA can use digital engagement and online methods to gather input from the public about the 2021 MJHMP and future updates.

Notes:  
 Cal OES = California Office of Emergency Services  
 CCCTA = Central Contra Costa Transit Authority  
 FTA = Federal Transit Administration  
 HMA = Hazard Mitigation Assistance  
 MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 MTC = Metropolitan Transportation Commission  
 SB = Senate Bill  
 SF = San Francisco  
 TDA = Transportation Development Act  
 TEP = Transportation Expenditure Plan

**Table E-3: CCCTA—Prioritized Action Plan**

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
20	Standby Power Systems / Generators	High	FEMA HMA Grants	Construction	0 to 2 years
27	Defensible Space	High	FEMA HMA Grants	Construction	0 to 5 years

Notes:

CCCTA = Central Contra Costa Transit Authority  
 FEMA = Federal Emergency Management Agency  
 HMA = Hazard Mitigation Assistance

**Table E-4: CCCTA—Integration of 2021 MJHMP**

MJHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Mitigation strategy	Relevant mitigation actions in the 2021 MJHMP will be incorporated into the 2020 TEP.	When the authority-governing body amends the 2020 TEP.

Notes:  
 CCCTA = Central Contra Costa Transit Authority  
 MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 TEP = Transportation Expenditure Plan

## **APPENDIX F—MARIN COUNTY TRANSIT DISTRICT**

**Table F-1: Hazard Impacts on Marin Transit’s Fixed Critical Facilities**

Hazard Area	# of Facilities Impacted
Sea Level Rise Inundation Area—3 Ft.	5
Sea Level Rise Inundation Area—6 Ft.	6
Dam Breach Inundation Area—High Hazard	1
Dam Breach Inundation Area—Extremely High Hazard	0
Probabilistic Earthquake Shaking Area—Severe	10
Probabilistic Earthquake Shaking Area—Violent	3
Special Flood Hazard Area—0.2% Annual Chance Flood	6
Special Flood Hazard Area—1% Annual Chance Flood	5
Deep-Seated Landslide Class IX and X Area	0
Existing Landslides Area—Few	1
Existing Landslides Area—Most	0
CPUC—Fire Threat Area—Tier 2 Elevated	1
CPUC—Fire Threat Area—Tier 3 Extreme	0
Maximum Tsunami Run-Up Area	0
Fire Hazard Severity Zones: State Responsibility Area—High	1
Fire Hazard Severity Zones: State Responsibility Area—Very High	0
Fire Hazard Severity Zones: Local Responsibility Area—Very High	0
Wildland Urban Interface—Influence	0
Wildland Urban Interface—Intermix	0
Wildland Urban Interface—Interface	2

Notes:  
 CPUC = California Public Utilities Commission  
 Ft. = foot/feet  
 Marin Transit = Marin County Transit District

**Table F-2: Marin Transit—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
<b>Planning and Regulatory</b>		
Emergency Response Plan	<ul style="list-style-type: none"> <li>• Addresses the needs of passengers first in an emergency.</li> <li>• Develops communication and coordination, then strategies to meet priorities for emergency needs in response to the Marin EOC.</li> <li>• Provides paratransit operator basic first aid training and emergency management training for key management staff.</li> <li>• When the Marin EOC is activated, Marin Transit staff serve in the Marin EOC in the transportation unit of the Logistics Section.</li> <li>• Under direction of the EOC and incident command, the transportation unit develops strategies and delivers resources from partner transit agencies and operations contractors.</li> <li>• Integrates information and operations with the Marin EOC when activated.</li> <li>• Marin Transit and its contractors’ plans for emergency staffing, fuel, repairs, maintenance, and staging areas, except when directed by an incident commander.</li> <li>• Deploys Marin Transit Bus Resource Coordinator to the County.</li> </ul>	
2020 – 2029 SRTP	<ul style="list-style-type: none"> <li>• Provides information on the district’s transportation goals and policies as well as socioeconomic, environmental, and other factors that will affect the operation of the transportation system over the next 10 years.</li> <li>• The SRTP will be fiscally constrained in the first 5 years and forecasts the costs and revenues associated with the delivery of services.</li> <li>• It also includes a list of planned major capital projects, their estimated costs, and the revenues reasonably expected to be available to fund the projects.</li> </ul>	The local transportation sales tax measure requires Marin Transit to amend the SRTP every 2 years.
Marin County emergency exercises	<ul style="list-style-type: none"> <li>• At least since 2004, Marin Transit staff have participated in Marin County Office of Emergency Services exercises and workshops and staff to the Marin EOC.</li> </ul>	Exercises can be expanded to address recent hazards and/or emerging hazard/threat issues while workshops can be created to address organizational response, resources, and communication strategies.

**Table F-2: Marin Transit—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
<b>Administrative and Technical</b>		
Policy & Legislative Programs	<ul style="list-style-type: none"> <li>• Works closely with local, state, and federal partners to support planning, and training, and emergency preparedness.</li> <li>• Acts as staff to the Marin EOC under the Logistics Section P and to provides information and coordinates assistance with emergency response strategies.</li> </ul>	
Planning & Operations	<ul style="list-style-type: none"> <li>• Develops and maintains transportation plans.</li> <li>• Anticipates and acts on the need for new plans and policies.</li> <li>• Manages the delivery of all transportation services, including paratransit and fixed route.</li> </ul>	
Finance & Capital Programs	<ul style="list-style-type: none"> <li>• Provides direct or contracted civil, structural, and mechanical engineering services, including contract, project, and construction management.</li> </ul>	Marin Transit can appoint/task a person responsible for overseeing FEMA mitigation grant funding opportunities, including grant application and grant management.
General Manager, Transportation Planning Manager, Planning Analyst	<ul style="list-style-type: none"> <li>• Provides information to the public and media as necessary.</li> </ul>	
<b>Financial</b>		
Tolls / Fares	<ul style="list-style-type: none"> <li>• Develops and implements fare policies</li> <li>• Charges via direct user fees for the use of facility capacity; services and are used as a way to partially offset to pay for operation expenses and transportation projects with an emphasis on equitable access for low-income residents.</li> </ul>	
Local Option Transportation Sales Tax	<ul style="list-style-type: none"> <li>• Funds local transportation services, projects, and programs.</li> </ul>	
The Mills-Alquist-Deddeh Act (SB 325) / TDA of 1971 funds	<ul style="list-style-type: none"> <li>• Provides local agencies with two major sources of funding: the Local Transportation Fund and State Transit Assistance funds; these funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales, and transit performance, and operator revenues.</li> </ul>	

**Table F-2: Marin Transit—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
Caltrans Sustainable Transportation Planning Grants	<ul style="list-style-type: none"> <li>Encourages local and regional planning that furthers state goals, including—but not limited to—the goals and best practices cited in the Regional Transportation Plan Guidelines.</li> <li>Includes improving public safety and security, and practicing environmental stewardship, adopted by the California Transportation Commission.</li> </ul>	Marin Transit can apply for annual grants to address: 1) transportation-related issues around climate change and wildfires; and 2) emergency preparedness/response planning projects.
FEMA HMA Grants	<ul style="list-style-type: none"> <li>Provides funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages.</li> <li>Supports pre- and post-disaster mitigation plans and projects.</li> <li>Available to California communities/agencies after a presidentially declared disaster has occurred, administered by Cal OES.</li> <li>The Building Resilient Infrastructure and Communities is an annual nationally competitive program that focuses on reducing the nation’s risk by funding public infrastructure projects that increase a community’s resilience before a disaster affects an area.</li> </ul>	Marin Transit can apply for HMA grant funding once the 2021 MJHMP has been approved and adopted.
FTA—Section 5311 Funds	<ul style="list-style-type: none"> <li>Provides funding to help ensure that rural Americans have access to transit to meet basic mobility needs.</li> <li>Funds are provided to the states to be used for public transportation projects in areas other than urbanized areas.</li> </ul>	Marin Transit relies on 5311 to partially fund the West Marin Stagecoach, with consists of two routes linking West Marin to the US 101 corridor.
FTA Emergency Relief Program	<ul style="list-style-type: none"> <li>Provides post-disaster assistance to public transit operators by funding the protection, repair, and/or replacement of equipment and facilities that may suffer or have suffered serious damage as a result of an emergency or disaster.</li> <li>Funds capital projects to protect, repair, or replace facilities or equipment that are in danger of suffering serious damage, or have suffered serious damage as a result of an emergency.</li> <li>Can also fund the operating costs of evacuation, rescue operations, temporary public transportation service, or reestablishing, expanding, or relocating service before, during or after an emergency.</li> </ul>	

**Table F-2: Marin Transit—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
<b>Education and Outreach</b>		
511 SF Bay	<ul style="list-style-type: none"> <li>• Provides traffic, transit, carpool, vanpool, and bicycling information 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.</li> <li>• Travelers can register for 511ALERT, a text-based notification system.</li> <li>• In the event of an emergency, registered users will receive up-to-date transportation alert information gathered from various trusted government sources.</li> <li>• Alerts complement the information currently provided by 511 on its website, phone line, and social media channels.</li> </ul>	
Service Alerts	<ul style="list-style-type: none"> <li>• Creates service alerts with additional information when there is a network disruption.</li> </ul>	
Media / Social Media	<ul style="list-style-type: none"> <li>• Creates and shares content and alerts via media or social networking.</li> </ul>	Marin Transit can use digital engagement and online methods to gather input from the public about the 2021 MJHMP and future updates.

Notes:

EOC = Emergency Operations Center

FTA = Federal Transit Administration

HMA = Hazard Mitigation Assistance

Marin Transit = Marin County Transit District

MJHMP = Multi-Jurisdictional Hazard Mitigation Plan

SF = San Francisco

STRP = Short Range Transit Plan

TDA = Transportation Development Act

**Table F-3: Marin Transit—Prioritized Action Plan**

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
3	Interagency Communication and Coordination (Marin Emergency Alert Authority)	High	Caltrans Sustainable Transportation Planning Grants	Planning & Operations	0 to 5 years
5	Owner/Operator Roles and Responsibilities	High	General operating budget	Planning & Operations	0 to 5 years
8	Green Infrastructure Stormwater Management Best Practices	High	Caltrans Sustainable Transportation Planning Grants	Planning & Operations	0 to 5 years
11	Critical Utility System Elevation	High	FEMA HMA Grants	Planning & Operations	0 to 5 years
12	Passive Floodproofing Measures	High	FEMA HMA Grants	Planning & Operations	0 to 5 years
20	Standby Power Systems / Generators	High	FEMA HMA Grants	Planning & Operations	0 to 5 years
22	Seismic Retrofits	High	FEMA HMA Grants	Planning & Operations	0 to 5 years
28	Evacuation Preparedness	High	Caltrans Sustainable Transportation Planning Grants	Planning & Operations	0 to 5 years

Notes:

FEMA = Federal Emergency Management Agency

HMA = Hazard Mitigation Assistance

Marin Transit = Marin County Transit District

**Table F-4: Marin Transit—Integration of 2021 MJHMP**

MJHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Mitigation strategy	Relevant mitigation goals and actions in the 2021 MJHMP will be incorporated into the SRTP.	When the SRTP is amended every 2 years.

Notes:  
 Marin Transit = Marin County Transit District  
 MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 STRP = Short Range Transit Plan

**APPENDIX G—NAPA VALLEY TRANSPORTATION AUTHORITY**

**Table G-1: Hazard Impacts on NVTA's Fixed Critical Facilities**

<b>Hazard Area</b>	<b># of Facilities Impacted</b>
Sea Level Rise Inundation Area—3 Ft.	0
Sea Level Rise Inundation Area—6 Ft.	0
Dam Breach Inundation Area—High Hazard	0
Dam Breach Inundation Area—Extremely High Hazard	2
Probabilistic Earthquake Shaking Area—Severe	3
Probabilistic Earthquake Shaking Area—Violent	0
Special Flood Hazard Area—0.2% Annual Chance Flood	1
Special Flood Hazard Area—1% Annual Chance Flood	1
Deep-Seated Landslide Class IX and X Area	0
Existing Landslides Area—Few	0
Existing Landslides Area—Most	0
CPUC—Fire Threat Area—Tier 2 Elevated	0
CPUC—Fire Threat Area—Tier 3 Extreme	0
Maximum Tsunami Run-Up Area	0
Fire Hazard Severity Zones: State Responsibility Area—High	0
Fire Hazard Severity Zones: State Responsibility Area—Very High	0
Fire Hazard Severity Zones: Local Responsibility Area—Very High	0
Wildland Urban Interface—Influence Zone	0
Wildland Urban Interface—Urban Intermix Zone	0
Wildland Urban Interface—Interface Zone	0

## Notes:

CPUC = California Public Utilities Commission

Ft. = foot/feet

NVTA = Napa Valley Transportation Authority

**Table G-2: NVTA—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand/Improve
<b>Planning and Regulatory</b>		
Countywide Transportation Plan	<ul style="list-style-type: none"> <li>Provides information on an agency’s transportation goals and policies as well as socioeconomic, environmental, and other factors that will affect the operation of the transportation system over the next 25 years.</li> <li>Includes a list of planned major capital projects, their estimated costs, and the revenues reasonably expected to be available to fund the projects.</li> <li>Generally updated every 4 years.</li> </ul>	
SRTP	<ul style="list-style-type: none"> <li>Outlines the capital expenditure program and forecasted expenditures and needs for the next 5 years for NVTA and Vine Transit.</li> <li>Identifies short-range goals necessary to meet the 5-year planning horizon.</li> </ul>	The SRTP identifies specific capital projects, which could include mitigation actions identified in the 2021 MJHMP.
<b>Administrative and Technical</b>		
Capital Development & Planning	<ul style="list-style-type: none"> <li>Coordinates local response and relief activities in the Emergency Operation Center.</li> <li>Works closely with local, state, and federal partners to support planning and training to provide information and coordinate assistance.</li> </ul>	
Engineering & Projects	<ul style="list-style-type: none"> <li>Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</li> </ul>	
Capital Development & Planning	<ul style="list-style-type: none"> <li>Develops and maintains transportation plans.</li> <li>Anticipates and acts on the need for new plans and policies.</li> </ul>	
Administration, Finance & Policy	<ul style="list-style-type: none"> <li>Sources, negotiates and selects goods and services.</li> </ul>	NVTA can appoint/task a person responsible for overseeing FEMA mitigation grant funding opportunities, including grant application and grant management.
Communications	<ul style="list-style-type: none"> <li>Provides information to the public and media as necessary.</li> </ul>	

**Table G-2: NVTA—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand/Improve
<b>Financial</b>		
Tolls/Fares	<ul style="list-style-type: none"> <li>Charges via direct user fees for the use of facility capacity and services and are used as a way to pay for operating expenses and transportation projects.</li> </ul>	
Local Option Transportation Sales Tax	<ul style="list-style-type: none"> <li>Funds local transportation projects and programs.</li> </ul>	
The Mills-Alquist-Deddeh Act (SB 325) / TDA of 1971 funds	<ul style="list-style-type: none"> <li>Provides local agencies with two major sources of funding: the Local Transportation Fund and State Transit Assistance funds; these funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales, and transit performance.</li> </ul>	
Caltrans Sustainable Transportation Planning Grants	<ul style="list-style-type: none"> <li>Encourages local and regional planning that furthers state goals, including—but not limited to—the goals and best practices cited in Regional Transportation Plan Guidelines.</li> <li>Includes improving public safety and security, and practicing environmental stewardship, adopted by the California Transportation Commission.</li> </ul>	NVTA can apply for annual grants to address: 1) transportation-related issues around climate change and wildfires; and 2) emergency preparedness/response planning projects.
FEMA HMA Grants	<ul style="list-style-type: none"> <li>Provides funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages.</li> <li>Supports pre- and post-disaster mitigation plans and projects.</li> <li>Available to California communities/agencies after a presidentially declared disaster has occurred, administered by Cal OES.</li> <li>The Building Resilient Infrastructure and Communities program is an annual nationally competitive program that focuses on reducing the nation’s risk by funding public infrastructure projects that increase a community’s resilience before a disaster affects an area.</li> </ul>	NVTA can apply for HMA grant funding once the 2021 MJHMP has been approved and adopted.

**Table G-2: NVTA—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand/Improve
FTA Emergency Relief Program	<ul style="list-style-type: none"> <li>• Provides post-disaster assistance to public transit operators by funding the protection, repair, and/or replacement of equipment and facilities that may suffer or have suffered serious damage as a result of an emergency or disaster.</li> <li>• Funds capital projects to protect, repair, or replace facilities or equipment that are in danger of suffering serious damage, or have suffered serious damage as a result of an emergency.</li> <li>• Can also fund the operating costs of evacuation, rescue operations, temporary public transportation service, or reestablishing, expanding, or relocating service before, during or after an emergency.</li> </ul>	
<b>Education and Outreach</b>		
511 SF Bay	<ul style="list-style-type: none"> <li>• Provides traffic, transit, carpool, vanpool, and bicycling information 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.</li> <li>• Travelers can register for 511ALERT, a text-based notification system.</li> <li>• In the event of an emergency, registered users will receive up-to-date transportation alert information gathered from various trusted government sources.</li> <li>• Alerts complement the information currently provided by 511 on its website, phone line, and social media channels.</li> </ul>	
Service Alerts	<ul style="list-style-type: none"> <li>• Creates service alerts with additional information when there is a network disruption.</li> </ul>	
Media / Social Media	<ul style="list-style-type: none"> <li>• Creates and shares context via media or social networking.</li> </ul>	NVTA can use digital engagement and online methods to gather input from the public about the 2021 MJHMP and future updates.

Notes:

- Cal OES = California Office of Emergency Services
- FTA = Federal Transit Administration
- HMA = Hazard Mitigation Assistance
- MJHMP = Multi-Jurisdictional Hazard Mitigation Plan
- NVTA = Napa Valley Transportation Authority
- SF = San Francisco
- STRP = Short Range Transit Plan
- TDA = Transportation Development Act

**Table G-3: NVT A—Prioritized Action Plan**

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
3	Interagency Communication and Coordination	High	Caltrans Sustainable Transportation Planning Grants	Administration, Finance & Policy	0 to 5 years
11	Critical Utility System Elevation	High	FEMA HMA Grants	Administration, Finance & Policy	0 to 5 years
12	Passive Floodproofing Measures	High	FEMA HMA Grants	Administration, Finance & Policy	0 to 5 years
17	Standard Operating Procedures for Alternative Locations	High	Caltrans Sustainable Transportation Planning Grants	Administration, Finance & Policy	0 to 5 years
20	Standby Power Systems / Generators	High	FEMA HMA Grants	Administration, Finance & Policy	0 to 5 years
22	Seismic Retrofits	High	FEMA HMA Grants	Administration, Finance & Policy	0 to 5 years
28	Evacuation Preparedness	High	Caltrans Sustainable Transportation Planning Grants	Administration, Finance & Policy	0 to 5 years

Notes:

NVT A = Napa Valley Transportation Authority  
 FEMA = Federal Emergency Management Agency  
 HMA = Hazard Mitigation Assistance

**Table G-4: NVTA—Integration of 2021 MJHMP**

MJHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Mitigation strategy	Relevant mitigation actions in the 2021 MJHMP will be presented at public meetings. NVTA implements projects and programs approved by the voters through policy, planning, and funding decisions made in public meetings.	Ongoing / during public meetings.
Mitigation strategy	Relevant mitigation goals and actions in the 2021 MJHMP will be incorporated into the SRTP’s goals, objectives and standards.	When the SRTP is amended every 5 years.

Notes:

MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 NVTA = Napa Valley Transportation Authority  
 SRTP = Short Range Transit Plan

**APPENDIX H—SANTA ROSA CITYBUS**

**Table H-1: Hazard Impacts on Santa Rosa CityBus’s Fixed Critical Facilities**

Hazard Area	# of Facilities Impacted
Sea Level Rise Inundation Area—3 Ft.	0
Sea Level Rise Inundation Area—6 Ft.	0
Dam Breach Inundation Area—High Hazard	0
Dam Breach Inundation Area—Extremely High Hazard	0
Probabilistic Earthquake Shaking Area—Severe	1
Probabilistic Earthquake Shaking Area—Violent	1
Special Flood Hazard Area—0.2% Annual Chance Flood	0
Special Flood Hazard Area—1% Annual Chance Flood	0
Deep-Seated Landslide Class IX and X Area	0
Existing Landslides Area—Few	0
Existing Landslides Area—Most	0
CPUC—Fire Threat Area—Tier 2 Elevated	0
CPUC—Fire Threat Area—Tier 3 Extreme	0
Maximum Tsunami Run-Up Area	0
Fire Hazard Severity Zones: State Responsibility Area—High	0
Fire Hazard Severity Zones: State Responsibility Area—Very High	0
Fire Hazard Severity Zones: Local Responsibility Area—Very High	0
Wildland Urban Interface—Influence	0
Wildland Urban Interface—Intermix	0
Wildland Urban Interface—Interface	0

Notes:  
 CPUC = California Public Utilities Commission  
 Ft. = foot/feet

**Table H-2: Santa Rosa CityBus—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand /Improve
<b>Planning and Regulatory</b>		
City of Santa Rosa Emergency Operations Plan (2017)	<ul style="list-style-type: none"> <li>• Describes the organizational structures, roles and responsibilities, and protocols for providing emergency response and short-term recovery.</li> <li>• Also includes the purpose, situation and assumptions, concept of operations, organization, assignment of responsibilities, plan development and maintenance, authorities, and references.</li> </ul>	
SRTP for FY 2016-2025	<ul style="list-style-type: none"> <li>• Provides information on an agency’s transportation goals and policies as well as socioeconomic, environmental, and other factors that will affect the operation of the transportation system over the next 10 years.</li> <li>• Includes a list of planned major capital projects, their estimated costs, and the revenues reasonably expected to be available to fund the projects.</li> </ul>	Goals, objectives, and standards for Santa Rosa CityBus are reviewed on an annual basis, and formally adjusted—if necessary—in the SRTP updates.
<b>Administrative and Technical</b>		
Santa Rosa CityBus Transit Planning and Operations	<ul style="list-style-type: none"> <li>• Santa Rosa CityBus does not act as the coordinating entity that is the command team in the Emergency Operations Center. Rather, Santa Rosa CityBus is part of the logistics team and acts at the instruction of the command team and/or logistics team lead.</li> <li>• Santa Rosa CityBus staff that take instruction depends on the shift, but includes the transit operations superintendent and transit planner(s).</li> <li>• Santa Rosa CityBus directs or contracts civil, structural, and mechanical engineering services, including contract, project, and construction management.</li> <li>• Transit planners, transit operations superintendent, and the deputy director for the City of Santa Rosa’s transit department are responsible for maintaining transportation plans. They anticipate and act on the need for new plans and policies.</li> </ul>	Santa Rosa CityBus through the City of Santa Rosa can appoint/task a person responsible for overseeing FEMA mitigation grant funding opportunities, including grant application and grant management.
City of Santa Rosa Purchasing	<ul style="list-style-type: none"> <li>• Purchasing is handled entirely by the City of Santa Rosa’s purchasing officer.</li> <li>• Santa Rosa CityBus may requisition goods and services by going through the purchasing officer.</li> </ul>	
City of Santa Rosa Public Information	<ul style="list-style-type: none"> <li>• All public information is disseminated by the City of Santa Rosa’s Public Information team.</li> </ul>	

**Table H-2: Santa Rosa CityBus—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand /Improve
<b>Financial</b>		
Tolls / Fares	<ul style="list-style-type: none"> <li>Charges via direct user fees for the use of facility capacity.</li> <li>Services and are used as a way to pay for operating expenses and transportation projects.</li> </ul>	
Local Option Transportation Sales Tax	<ul style="list-style-type: none"> <li>Funds local transportation projects and programs.</li> </ul>	
The Mills-Alquist-Deddeh Act (SB 325) / TDA of 1971 funds	<ul style="list-style-type: none"> <li>Provides local agencies with two major sources of funding: the Local Transportation Fund and State Transit Assistance funds; these funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales, and transit performance.</li> </ul>	
Caltrans Sustainable Transportation Planning Grants	<ul style="list-style-type: none"> <li>Encourages local and regional planning that furthers state goals, including—but not limited to—the goals and best practices cited in the Regional Transportation Plan Guideline.</li> <li>Includes improving public safety and security, and practicing environmental stewardship, adopted by the California Transportation Commission.</li> </ul>	Santa Rosa CityBus through the City of Santa Rosa can apply for annual grants to address: 1) transportation-related issues around climate change and wildfires; and 2) emergency preparedness/response planning projects.
FEMA/HMA Grants	<ul style="list-style-type: none"> <li>Provides funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages.</li> <li>Supports pre- and post-disaster mitigation plans and projects.</li> <li>Available to California communities/agencies after a presidentially declared disaster has occurred, administered by Cal OES.</li> <li>The Building Resilient Infrastructure and Communities is an annual nationally competitive program that focuses on reducing the nation’s risk by funding public infrastructure projects that increase a community’s resilience before a disaster affects an area.</li> </ul>	Santa Rosa CityBus through the City of Santa Rosa can apply for HMA grant funding once the 2021 MJHMP has been approved and adopted.

**Table H-2: Santa Rosa CityBus—Authorities, Policies, Programs, and Resources**

Type / Name	Description	Ability to Expand /Improve
FTA Emergency Relief Program	<ul style="list-style-type: none"> <li>• Provides post-disaster assistance to public transit operators by funding the protection, repair, and/or replacement of equipment and facilities that may suffer or have suffered serious damage as a result of an emergency or disaster.</li> <li>• Funds capital projects to protect, repair, or replace facilities or equipment that are in danger of suffering serious damage, or have suffered serious damage as a result of an emergency.</li> <li>• Can also fund the operating costs of evacuation, rescue operations, temporary public transportation service, or reestablishing, expanding, or relocating service before, during, or after an emergency.</li> </ul>	
<b>Education and Outreach</b>		
511 SF Bay	<ul style="list-style-type: none"> <li>• Provides traffic, transit, carpool, vanpool, and bicycling information 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.</li> <li>• Travelers can register for 511ALERT, a text-based notification system.</li> <li>• In the event of an emergency, registered users will receive up-to-date transportation alert information gathered from various trusted government sources.</li> <li>• Alerts will complement the information currently provided by 511 on its website, phone line, and social media channels.</li> </ul>	
Service Alerts	<ul style="list-style-type: none"> <li>• Creates service alerts with additional information when there is a network disruption.</li> </ul>	
Media / Social Media	<ul style="list-style-type: none"> <li>• Creates and shares content via media or social networking.</li> </ul>	Santa Rosa CityBus through the City of Santa Rosa can use digital engagement and online methods to gather input from the public about the 2021 MJHMP and future updates.

Notes:

- FTA = Federal Transit Administration
- FY = Fiscal Year
- HMA = Hazard Mitigation Assistance
- MJHMP = Multi-Jurisdictional Hazard Mitigation Plan
- SF = San Francisco
- SRTP = Short Range Transit Plan
- TDA = Transportation Development Act

**Table H-3: Santa Rosa CityBus—Prioritized Action Plan**

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
3	Interagency Communication and Coordination	High	Caltrans Sustainable Transportation Planning Grants	Santa Rosa City Bus Transit Planning and Operations	0 to 5 years
19	Cooling and Smoke Relief Centers and Wildfire Evacuation Points and Shelter Locations Transportation Assessment	High	FEMA HMA Grants	Santa Rosa City Bus Transit Planning and Operations	0 to 5 years
20	Standby Power Systems / Generators	High	FEMA HMA Grants	Santa Rosa City Bus Transit Planning and Operations	0 to 2 years
21	Energy Storage for Electric Fleets	High	Caltrans Sustainable Transportation Planning Grants	Santa Rosa City Bus Transit Planning and Operations	0 to 5 years
24	Crowding Information App	High	Caltrans Sustainable Transportation Planning Grants	Santa Rosa City Bus Transit Planning and Operations	0 to 5 years
*addition	Communication Equipment	High	Operating budget, grant source to be determined	Santa Rosa City Bus Transit Planning and Operations	0 to 5 years

Notes:  
 FEMA = Federal Emergency Management Agency  
 HMA = Hazard Mitigation Assistance

**Table H-4: Santa Rosa CityBus Integration of 2021 MJHMP**

MJHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Mitigation strategy	Relevant mitigation goals and actions in the 2021 MJHMP will be incorporated into the SRTP.	Goals and actions can be reviewed on an annual basis, and formally adjusted—if necessary—in the SRTP updates.

Notes:  
 MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 SRTP = Short Range Transit Plan

**APPENDIX I—SOLANO COUNTY TRANSIT**

**Table I-1: Hazard Impacts on SolTrans Fixed Critical Facilities**

<b>Hazard Area</b>	<b># of Facilities Impacted</b>
Sea Level Rise Inundation Area—3 Ft.	0
Sea Level Rise Inundation Area—6 Ft.	1
Dam Breach Inundation Area—High Hazard	0
Dam Breach Inundation Area—Extremely High Hazard	0
Probabilistic Earthquake Shaking Area—Severe	4
Probabilistic Earthquake Shaking Area—Violent	0
Special Flood Hazard Area—0.2% Annual Chance Flood	0
Special Flood Hazard Area—1% Annual Chance Flood	0
Deep-Seated Landslide Class IX and X Area	0
Existing Landslides Area—Few	1
Existing Landslides Area—Most	0
CPUC—Fire Threat Area—Tier 2 Elevated	0
CPUC—Fire Threat Area—Tier 3 Extreme	0
Maximum Tsunami Run-Up Area	0
Fire Hazard Severity Zones: State Responsibility Area—High	0
Fire Hazard Severity Zones: State Responsibility Area—Very High	0
Fire Hazard Severity Zones: Local Responsibility Area—Very High	0
Wildland Urban Interface—Influence	0
Wildland Urban Interface—Intermix	0
Wildland Urban Interface—Interface	0

## Notes:

CPUC = California Public Utilities Commission

Ft. = foot/feet

SolTrans = Solano County Transit

**Table I-2: SolTrans—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
<b>Planning and Regulatory</b>		
2019 SolTrans Emergency Operations Plan	<ul style="list-style-type: none"> <li>• Describes the organizational structures, roles and responsibilities, and protocols for providing emergency response and short-term recovery.</li> <li>• Also includes the purpose, situation and assumptions, concept of operations, organization, assignment of responsibilities, plan development and maintenance, authorities, and references.</li> </ul>	
2013 SolTrans SRTP	<ul style="list-style-type: none"> <li>• Provides information on an agency’s transportation goals and policies as well as socioeconomic, environmental, and other factors that will affect the operation of the transportation system over the next 10 years.</li> <li>• Includes a list of planned major capital projects, their estimated costs, and the revenues reasonably expected to be available to fund the projects.</li> <li>• The current SRTP is for FY 2012-2013 through FY 2022-2023.</li> </ul>	SolTrans can incorporate the 2021 MJHMP mitigation strategy into the SRTP Goals, Objectives, Measures, and Standards.
2018 Comprehensive Operational Analysis	<ul style="list-style-type: none"> <li>• Evaluates local routes, General Public Dial-A-Ride, and Local Taxi Scrip in order to restructure these services.</li> </ul>	SolTrans can add a hazard component into future comprehensive analyses.
<b>Administrative and Technical</b>		
Planning and Operations	<ul style="list-style-type: none"> <li>• Coordinates local response and relief activities in the Emergency Operation Center.</li> <li>• Works closely with local, state, and federal partners to support planning and training, and to provide information and coordinate assistance.</li> <li>• Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</li> <li>• Develops and maintains transportation plans.</li> <li>• Anticipates and acts on the need for new plans and policies.</li> <li>• Provides information to the media as needed.</li> </ul>	SolTrans can appoint/task a person responsible for overseeing FEMA mitigation grant funding opportunities, including grant application and grant management.
Finance and Administration	<ul style="list-style-type: none"> <li>• Sources, negotiates and selects goods and services.</li> </ul>	
<b>Financial</b>		
Tolls/Fares	<ul style="list-style-type: none"> <li>• Charges via direct user fees for the use of facility capacity and services and are used as a way to pay for operating expenses and transportation projects.</li> </ul>	

**Table I-2: SolTrans—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
Local Option Transportation Sales Tax	<ul style="list-style-type: none"> <li>Funds local transportation projects and programs.</li> </ul>	
The Mills-Alquist-Deddeh Act (SB 325) / TDA of 1971 funds	<ul style="list-style-type: none"> <li>Provides local agencies with two major sources of funding: the Local Transportation Fund and State Transit Assistance funds; these funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales and transit performance.</li> </ul>	
Caltrans Sustainable Transportation Planning Grants	<ul style="list-style-type: none"> <li>Encourages local and regional planning that furthers state goals, including—but not limited to—the goals and best practices cited in Regional Transportation Plan Guidelines.</li> <li>Includes improving public safety and security, and practicing environmental stewardship, adopted by the California Transportation Commission.</li> </ul>	SolTrans can apply for annual grants to address: 1) transportation-related issues around climate change and wildfires; and 2) emergency preparedness/response planning projects.
FEMA HMA Grants	<ul style="list-style-type: none"> <li>Provides funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages.</li> <li>Supports pre- and post-disaster mitigation plans and projects.</li> <li>Available to California communities/agencies after a presidentially declared disaster has occurred, administered by Cal OES.</li> <li>The Building Resilient Infrastructure and Communities (BRIC) is an annual nationally competitive program that focuses on reducing the nation’s risk by funding public infrastructure projects that increase a community’s resilience before a disaster affects an area.</li> </ul>	SolTrans can apply for HMA grant funding once the 2021 MJHMP has been approved and adopted.
FTA Emergency Relief Program	<ul style="list-style-type: none"> <li>Provides post-disaster assistance to public transit operators by funding the protection, repair, and/or replacement of equipment and facilities that may suffer or have suffered serious damage as a result of an emergency or disaster.</li> <li>Funds capital projects to protect, repair, or replace facilities or equipment that are in danger of suffering serious damage, or have suffered serious damage as a result of an emergency.</li> <li>Can also fund the operating costs of evacuation, rescue operations, temporary public transportation service, or reestablishing, expanding, or relocating service before, during, or after an emergency.</li> </ul>	

**Table I-2: SolTrans—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
<b>Education and Outreach</b>		
511 SF Bay	<ul style="list-style-type: none"> <li>• Provides traffic, transit, carpool, vanpool, and bicycling information 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.</li> <li>• Travelers can register for 511ALERT, a text-based notification system.</li> <li>• In the event of an emergency registered users will receive up-to-date transportation alert information gathered from various trusted government sources.</li> <li>• These alerts will complement the information currently provided by 511 on its website, phone line, and social media channels.</li> </ul>	
Service Alerts	<ul style="list-style-type: none"> <li>• Creates service alerts with additional information when there is a network disruption.</li> </ul>	
Media / Social Media	<ul style="list-style-type: none"> <li>• Creates and shares content via media or social networking.</li> </ul>	SolTrans can use digital engagement and online methods to gather input from the public about the 2021 MJHMP and future updates.

Notes:

- Cal OES = California Office of Emergency Services
- FTA = Federal Transit Administration
- FY = Fiscal Year
- HMA = Hazard Mitigation Assistance
- MJHMP = Multi-Jurisdictional Hazard Mitigation Plan
- SF = San Francisco
- SolTrans = Solano County Transit
- SRTP = Short Range Transit Plan
- TDA = Transportation Development Act

**Table I-3: SolTrans—Prioritized Action Plan**

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
3	Interagency Communication and Coordination	High	Caltrans Sustainable Transportation Planning Grants	Planning and Operations	0 to 5 years
20	Standby Power Systems / Generators	High	FEMA HMA Grants	Planning and Operations	0 to 5 years
22	Seismic Retrofits	High	FEMA HMA Grants	Planning and Operations	0 to 5 years
28	Evacuation Preparedness	High	Caltrans Sustainable Transportation Planning Grants	Planning and Operations	0 to 5 years

Notes:

FEMA = Federal Emergency Management Agency

HMA = Hazard Mitigation Assistance

SolTrans = Solano County Transit

**Table I-4: SolTrans—Integration of 2021 MJHMP**

MJHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Mitigation strategy	Relevant mitigation goals and actions in the 2021 MJHMP will be incorporated into the SRTP.	When the SRTP is amended every 2 years.

Notes:  
 MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 SolTrans = Solano County Transit  
 SRTP = Short Range Transit Plan

## **APPENDIX J—WESTERN CONTRA COSTA TRANSIT AUTHORITY**

**Table J-1: Hazard Impacts on WestCAT Fixed Critical Facilities**

Hazard Area	# of Facilities Impacted
Sea Level Rise Inundation Area—3 Ft.	0
Sea Level Rise Inundation Area—6 Ft.	0
Dam Breach Inundation Area—High Hazard	0
Dam Breach Inundation Area—Extremely High Hazard	0
Probabilistic Earthquake Shaking Area—Severe	2
Probabilistic Earthquake Shaking Area—Violent	1
Special Flood Hazard Area—0.2% Annual Chance Flood	0
Special Flood Hazard Area—1% Annual Chance Flood	0
Deep-Seated Landslide Class IX and X Area	0
Existing Landslides Area—Few	3
Existing Landslides Area—Most	0
CPUC—Fire Threat Area—Tier 2 Elevated	0
CPUC—Fire Threat Area—Tier 3 Extreme	0
Maximum Tsunami Run-Up Area	0
Fire Hazard Severity Zones: State Responsibility Area—High	0
Fire Hazard Severity Zones: State Responsibility Area—Very High	0
Fire Hazard Severity Zones: Local Responsibility Area—Very High	0
Wildland Urban Interface—Influence	0
Wildland Urban Interface—Intermix	0
Wildland Urban Interface—Interface	0

## Notes:

CPUC = California Public Utilities Commission

Ft. = foot/feet

WestCAT = Western Contra Costa Transit Authority

**Table J-2: WestCAT—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
<b>Planning and Regulatory</b>		
Emergency Operations Plan / Emergency Response Plan	<ul style="list-style-type: none"> <li>• Describes the organizational structures, roles and responsibilities, and protocols for providing emergency response and short-term recovery.</li> <li>• Also includes purpose, situation and assumptions, concept of operations, organization, assignment of responsibilities, plan development and maintenance, authorities, and references.</li> </ul>	
2016 – 2026 SRTP	<ul style="list-style-type: none"> <li>• Provides information on an agency’s transportation goals and policies as well as socioeconomic, environmental, and other factors that will affect the operation of the transportation system over the next 10 years.</li> <li>• Includes a list of planned major capital projects, their estimated costs, and the revenues reasonably expected to be available to fund the projects.</li> </ul>	Recommendations in the SRTP are likely to be adjusted as necessary to respond to actual financial conditions, demand levels, and development changes.
<b>Administrative and Technical</b>		
Administration Division	<ul style="list-style-type: none"> <li>• Tasked with planning, scheduling, budgeting, marketing, procurement, community outreach and compliance activities</li> </ul>	WestCAT can appoint/task a person responsible for overseeing FEMA mitigation grant funding opportunities, including grant application and grant management.
Operations Division	<ul style="list-style-type: none"> <li>• Tasked with operations, including dispatch and road supervision, handled by a private contractor.</li> </ul>	
<b>Financial</b>		
Tolls/Fares	<ul style="list-style-type: none"> <li>• Charges via direct user fees for the use of facility capacity and services and are used as a way to pay for operating expenses and transportation projects.</li> </ul>	
Local Option Transportation Sales Tax	<ul style="list-style-type: none"> <li>• A half-cent transportation sales tax from 2009 through 2034, approved by Contra Costa County voters in 2004.</li> </ul>	
The Mills-Alquist-Deddeh Act (SB 325) / TDA of 1971 funds	<ul style="list-style-type: none"> <li>• Provides local agencies with two major sources of funding: the Local Transportation Fund and State Transit Assistance funds; these funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales, and transit performance.</li> </ul>	

**Table J-2: WestCAT—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
Caltrans Sustainable Transportation Planning Grants	<ul style="list-style-type: none"> <li>Encourages local and regional planning that furthers state goals, including—but not limited to—the goals and best practices cited in the Regional Transportation Plan Guidelines.</li> <li>Includes improving public safety and security, and practicing environmental stewardship, adopted by the California Transportation Commission.</li> </ul>	WestCAT can apply for annual grants to address: 1) transportation-related issues around climate change and wildfires; and 2) emergency preparedness/response planning projects.
FEMA HMA Grants	<ul style="list-style-type: none"> <li>Provides funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages.</li> <li>Supports pre- and post-disaster mitigation plans and projects.</li> <li>Available to California communities/agencies after a presidentially declared disaster has occurred, administered by Cal OES.</li> <li>The Building Resilient Infrastructure and Communities is an annual nationally competitive program that focuses on reducing the nation’s risk by funding public infrastructure projects that increase a community’s resilience before a disaster affects an area.</li> </ul>	WestCAT can apply for HMA grant funding once the 2021 MJHMP has been approved and adopted.
FTA Section 5307 Funds	<ul style="list-style-type: none"> <li>Makes federal resources available to urbanized areas and governors for transit capital and operating assistance in urbanized areas and for transportation-related planning.</li> </ul>	
FTA Emergency Relief Program	<ul style="list-style-type: none"> <li>Provides post-disaster assistance to public transit operators by funding the protection, repair, and/or replacement of equipment and facilities that may suffer or have suffered serious damage as a result of an emergency or disaster.</li> <li>Funds capital projects to protect, repair, or replace facilities or equipment that are in danger of suffering serious damage, or have suffered serious damage as a result of an emergency.</li> <li>Can also fund the operating costs of evacuation, rescue operations, temporary public transportation service, or reestablishing, expanding, or relocating service before, during, or after an emergency.</li> </ul>	

**Table J-2: WestCAT—Authorities, Policies, Programs, and Resources**

Type/Name	Description	Ability to Expand/Improve
<b>Education and Outreach</b>		
511 SF Bay	<ul style="list-style-type: none"> <li>• Provides traffic, transit, carpool, vanpool, and bicycling information 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.</li> <li>• Travelers can register for 511ALERT, a text-based notification system.</li> <li>• In the event of an emergency, registered users will receive up-to-date transportation alert information gathered from various trusted government sources.</li> <li>• Alerts will complement the information currently provided by 511 on its website, phone line, and social media channels.</li> </ul>	
Service Alerts	<ul style="list-style-type: none"> <li>• Creates service alerts with additional information when there is a network disruption.</li> </ul>	
Media / Social Media	<ul style="list-style-type: none"> <li>• Creates and shares content via media or social networking.</li> </ul>	WestCAT can use digital engagement and online methods to gather input from the public about the 2021 MJHMP and future updates.

Notes:

- Cal OES = California Office of Emergency Services
- FTA = Federal Transit Administration
- HMA = Hazard Mitigation Assistance
- MJHMP = Multi-Jurisdictional Hazard Mitigation Plan
- SF = San Francisco
- SRTP = Short Range Transit Plan
- TDA = Transportation Development Act
- WestCAT = Western Contra Costa Transit Authority

**Table J-3: WestCAT—Prioritized Action Plan**

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
3	Interagency Communication and Coordination	High	Caltrans Sustainable Transportation Planning Grants	Administration Division	0 to 5 years
5	Owner/Operator Roles and Responsibilities	High	Caltrans Sustainable Transportation Planning Grants, Annual Budget	Operations Division	0 to 5 years
17	Standard Operating Procedures for Alternative Locations	High	Caltrans Sustainable Transportation Planning Grants	Administration Division	0 to 5 years
19	Cooling and Smoke Relief Centers and Wildfire Evacuation Points and Shelter Locations Transportation Assessment	High	FEMA HMA Grants	Administration Division	0 to 5 years
24	Crowding Information App	High	Caltrans Sustainable Transportation Planning Grants	Administration Division	0 to 5 years

Notes:

FEMA = Federal Emergency Management Agency  
 HMA = Hazard Mitigation Assistance  
 WestCAT = Western Contra Costa Transit Authority

**Table J-4: WestCAT—Integration of 2021 MJHMP**

MJHMP Section	Existing Plan/Policy/Program	Process/Timeframe
Mitigation strategy	Relevant mitigation goals and actions in the 2021 MJHMP will be incorporated into the SRTP.	When full plans are prepared every 4 years with a mini-SRTP due in September of the years when no full SRTP is produced.

Notes:  
 MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 SRTP = Short Range Transit Plan  
 WestCAT = Western Contra Costa Transit Authority

**APPENDIX K—SAN FRANCISCO BAY AREA WATER EMERGENCY  
TRANSPORTATION AUTHORITY**

**Table K-1: Hazard Impacts on WETA's Fixed Critical Facilities**

Hazard Area	# of Facilities Impacted
Sea Level Rise Inundation Area—3 Ft.	0
Sea Level Rise Inundation Area—6 Ft.	7
Dam Breach Inundation Area—High Hazard	0
Dam Breach Inundation Area—Extremely High Hazard	0
Probabilistic Earthquake Shaking Area—Severe	10
Probabilistic Earthquake Shaking Area—Violent	3
Special Flood Hazard Area—0.2% Annual Chance Flood	3
Special Flood Hazard Area—1% Annual Chance Flood	0
Deep-Seated Landslide Class IX and X Area	0
Existing Landslides Area—Few	0
Existing Landslides Area—Most	0
CPUC—Fire Threat Area—Tier 2 Elevated	0
CPUC—Fire Threat Area—Tier 3 Extreme	0
Maximum Tsunami Run-Up Area	9
Fire Hazard Severity Zones: State Responsibility Area—High	0
Fire Hazard Severity Zones: State Responsibility Area—Very High	0
Fire Hazard Severity Zones: Local Responsibility Area—Very High	0
Wildland Urban Interface—Urban Influence	0
Wildland Urban Interface—Urban Intermix	0
Wildland Urban Interface—Urban Influence	1

Notes:

CPUC =

Ft. = foot/feet

WETA = Water Emergency Transportation Authority

**Table K-2: WETA—Authorities, Policies, Programs, and Resources**

Type/ Name	Description	Ability to Expand/Improve
<b>Planning and Regulatory</b>		
2016 WETA Emergency Response Plan	<ul style="list-style-type: none"> <li>• Describes the organizational structures, roles and responsibilities, and protocols for providing emergency response and short-term recovery.</li> <li>• Includes purpose, situation and assumptions, concept of operations, organization, assignment of responsibilities, plan development and maintenance, authorities, and references.</li> </ul>	WETA is in the process of updating its ERP (which should be completed by the end of 2021) and the changes will focus largely on revising their Emergency Operations Center org chart and the responsibilities assigned to each position.
2020 WETA SRTP	<ul style="list-style-type: none"> <li>• Provides information about financial resources and performance targets over a 5- to 10-year outlook.</li> </ul>	Current SRTP is updated through FY 2028 – 2029.
2016 WETA Strategic Plan	<ul style="list-style-type: none"> <li>• Outlines a vision for the San Francisco Bay Ferry system over the next 20 years that responds to passenger demand, makes critical infrastructure investments, and increases WETA's ability to respond to emergencies and system disruptions.</li> </ul>	The WETA Board can revisit and reassess the direction of the Strategic Plan through planning studies and public forums.
<b>Administrative and Technical</b>		
Operations and Maintenance	<ul style="list-style-type: none"> <li>• Coordinates local response and relief activities in the Emergency Operations Center.</li> <li>• Works closely with local, state, and federal partners to support planning and training and to provide information and coordinate assistance.</li> <li>• Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</li> </ul>	
Planning and Development	<ul style="list-style-type: none"> <li>• Develops and maintains transportation plans.</li> <li>• Anticipates and acts on the need for new plans and policies.</li> </ul>	
Finance and Administration	<ul style="list-style-type: none"> <li>• Sources, negotiates and selects goods and services.</li> </ul>	WETA can appoint/task a person responsible for overseeing FEMA mitigation grant funding opportunities, including grant application and grant management.
Public Information and Marketing	<ul style="list-style-type: none"> <li>• Provides information to the public and media as necessary.</li> </ul>	

**Table K-2: WETA—Authorities, Policies, Programs, and Resources**

Type/ Name	Description	Ability to Expand/Improve
<b>Financial</b>		
Fares	<ul style="list-style-type: none"> <li>Charges via direct user fees for the use of facility capacity and services.</li> <li>Fees are used to pay for operating expenses and transportation projects.</li> </ul>	
Local Option Transportation Sales Tax	<ul style="list-style-type: none"> <li>Funds local transportation projects and programs.</li> </ul>	
The Mills-Alquist-Deddeh Act (SB 325) / TDA of 1971 funds	<ul style="list-style-type: none"> <li>Provides local agencies with two major sources of funding: the Local Transportation Fund and State Transit Assistance funds; these funds contribute to the development and support of public transportation and are allocated to areas of each county based on population, taxable sales, and transit performance.</li> </ul>	
Caltrans Sustainable Transportation Planning Grants	<ul style="list-style-type: none"> <li>Encourages local and regional planning that furthers state goals, including—but not limited to—the goals and best practices cited in the Regional Transportation Plan Guidelines.</li> <li>Includes improving public safety and security and practicing environmental stewardship, adopted by the California Transportation Commission.</li> </ul>	WETA can apply for annual grants to address: 1) transportation-related issues around climate change and wildfires; and 2) emergency preparedness/response planning projects.
FEMA HMA Grants	<ul style="list-style-type: none"> <li>Provides funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages.</li> <li>Supports pre- and post-disaster mitigation plans and projects.</li> <li>Available to California communities/agencies after a presidentially declared disaster has occurred in California, administered by Cal OES.</li> <li>The Building Resilient Infrastructure and Communities program is an annual nationally competitive program that focuses on reducing the nation’s risk by funding public infrastructure projects that increase a community’s resilience before a disaster affects an area.</li> </ul>	WETA can apply for HMA grant funding once the 2021 MJHMP has been approved and adopted.

**Table K-2: WETA—Authorities, Policies, Programs, and Resources**

Type/ Name	Description	Ability to Expand/Improve
FTA Emergency Relief Program	<ul style="list-style-type: none"> <li>• Provides post-disaster assistance to public transit operators by funding the protection, repair, and/or replacement of equipment and facilities that may suffer or have suffered serious damage as a result of an emergency or disaster.</li> <li>• Funds capital projects to protect, repair, or replace facilities or equipment that are in danger of suffering serious damage, or have suffered serious damage as a result of an emergency.</li> <li>• Can also fund the operating costs of evacuation, rescue operations, temporary public transportation service, or reestablishing, expanding, or relocating service before, during, or after an emergency.</li> </ul>	
<b>Education and Outreach</b>		
511 SF Bay	<ul style="list-style-type: none"> <li>• Provides traffic, transit, carpool, vanpool, and bicycling information 24 hours a day, 7 days a week from anywhere in the nine-county Bay Area.</li> <li>• Travelers can register for 511ALERT, a text-based notification system.</li> <li>• In the event of an emergency, registered users will receive up-to-date transportation alert information gathered from various trusted government sources.</li> <li>• These alerts will complement the information currently provided by 511 on its website, phone line, and social media channels.</li> </ul>	
Service Alerts	<ul style="list-style-type: none"> <li>• San Francisco Bay Ferry BayAlerts. San Francisco Bay Ferry's rider notification system, providing regular passengers with important, timely, and customized ferry service information including emergency information.</li> </ul>	
Media / Social Media	<ul style="list-style-type: none"> <li>• Creates and shares content via media or social networking.</li> </ul>	WETA can use digital engagement and online methods to gather input from the public about the 2021 MJHMP and future updates.

Notes:

- Cal OES = California Office of Emergency Services
- FTA = Federal Transit Administration
- HMA = Hazard Mitigation Assistance
- MJHMP = Multi-Jurisdictional Hazard Mitigation Plan
- SF = San Francisco
- SRTP = Short Range Transit Plan
- TDA = Transportation Development Act
- WETA = Water Emergency Transportation Authority

**Table K-3: WETA—Prioritized Action Plan**

No.	Project Name	Priority	Potential Funding Source	Responsibility	Timing
3	Interagency Communication and Coordination	High	Caltrans Sustainable Transportation Planning Grants	Planning and Development	0 to 5 years
5	Owner/Operator Roles and Responsibilities	High	General operating budget	Planning and Development	0 to 5 years
6	Saltwater Corrosion Monitoring and Mitigation	High	FEMA HMA Grants	Planning and Development	0 to 5 years
12	Passive Floodproofing Measures	High	FEMA HMA Grants	Planning and Development	0 to 5 years
18	Fuel Storage Capacity / Contingency	High	Caltrans Sustainable Transportation Planning Grants	Planning and Development	0 to 5 years
21	Energy Storage for Electric Fleets	High	Caltrans Sustainable Transportation Planning Grants	Planning and Development	0 to 5 years
24	Crowding Information App	High	Caltrans Sustainable Transportation Planning Grants	Planning and Development	0 to 5 years

Notes:  
 FEMA = Federal Emergency Management Agency  
 HMA = Hazard Mitigation Assistance  
 WETA = Water Emergency Transportation Authority

**Table K-4: WETA—Integration of 2021 MJHMP**

MJHMP Section	Existing Plan/Policy/Program	Process / Timeframe
Mitigation strategy	Relevant mitigation goals and actions in the 2021 MJHMP mitigation strategy may be incorporated into Focus Area 6: Emergency Response of the Strategic Plan.	The WETA board will continually revisit and reassess the direction of the Strategic Plan through planning studies and public forums. Additionally, monitoring of WETA’s progress toward the goals and objectives outlined in the Strategic Plan will occur through integration with key regional reporting requirements and board oversight.
Mitigation strategy	Relevant mitigation actions in the 2021 MJHMP mitigation strategy may be incorporated into the SRTP.	WETA will incorporate emergency response performance measures into the SRTP to address the goals and objectives set in the Strategic Plan. The SRTP is updated every 4 years.

Notes:  
 MJHMP = Multi-Jurisdictional Hazard Mitigation Plan  
 SRTP = Short Range Transit Plan  
 WETA = Water Emergency Transportation Authority

**Table K-5: WETA Progress in Local Mitigation Efforts**

Action #	Action	Status
1-1	Assess the vulnerability of critical facilities (including fuel tanks) subject to damage during natural disasters or security threats. Develop a risk register by facility.	Ongoing—also addressed in mitigation actions 6, 12, 18, and 21
1-2	Retrofit or replace critical facilities that are vulnerable to damage in natural disasters.	Ongoing—also addressed in mitigation actions 6, 12, 18, and 21
1-3	Clarify to staff, the contract operator, elected officials, and the public, the extent to which WETA facilities are expected to perform and remain functional following a major earthquake.	Ongoing—also addressed in mitigation action 3
1-4	Identify and mitigate potential impacts to WETA facility contents, architectural components, and equipment that could prevent critical buildings from being functional after major natural disasters. Contents and equipment include computers and servers, phones, files, and other tools used by staff to conduct daily business. Verify that objects subject to toppling or falling are properly secured.	Ongoing—considered preparedness action and not included
1-5	Support and encourage efforts of other lifeline infrastructure agencies as they plan for and arrange financing for seismic retrofits and other disaster mitigation strategies (such as reinforcing the seawall at the Port of San Francisco).	Ongoing—considered support/encouragement and not included
1-6	Encourage joint meetings of security and operations personnel at critical facilities to develop innovative ways to work together to increase safety and security.	Ongoing—considered support/encouragement and not included
1-7	Investigate the possibility of using security cameras for the secondary purpose of post-disaster damage assessment.	Ongoing—considered response/recovery action and not included
1-8	Pre-position emergency power generation capacity (or use rental/lease agreements for generators) in critical buildings to maintain continuity of government and services.	Ongoing—also addressed in mitigation actions 18 and 21
1-9	Explore ways to require that hazardous materials stored in the flood zone be elevated or otherwise protected from tsunami inundation.	Ongoing—also addressed in mitigation action 12
1-10	Comply with all applicable building and fire codes, as well as other regulations (e.g., state requirements for fault, landslide, and liquefaction investigations in particular mapped areas), when constructing or significantly remodeling government-owned facilities.	Ongoing—required by the government and therefore not included in the 2021 MJHMP
1-11	Establish plans for delivery of fuel. Continue to explore alternative fuel sources. Practice refueling from the Maritime Administration Pre-positioned Medium Speed Logistics Roll-on/Roll-off ships using the recently developed procedures.	Ongoing—also addressed in mitigation 18

**Table K-5: WETA Progress in Local Mitigation Efforts**

Action #	Action	Status
2-1	Conduct and/or promote attendance at local or regional hazard conferences and workshops for elected officials and staff to educate them on the critical need for programs in mitigating hazards.	Ongoing—participates / has participated in: MTC’s Emergency Table Top annual exercises; San Francisco Fleet Week Defense Support of Civilian Authorities exercises; Bay Ferry exercises; Urban Shield Yellow Command; and Golden Guardian
3-1	As a critical infrastructure operator, practice using the Emergency Operations Centers and redundant communications systems at the North and Central Bay Maintenance Facilities.	Ongoing—also addressed in mitigation action 3
3-2	Stay informed of scientific information compiled by regional and state sources on the subject of rising sea levels and global warming, especially on additional actions that local governments can take to mitigate this hazard including special design and engineering of government-owned facilities in low-lying areas, such as wastewater treatment plants, ports, and airports.	Ongoing—also addressed in mitigation action 6
3-3	Use proven technologies for vessels and facilities to improve environmental performance.	Ongoing—purchase of new ferries
3-4	Develop a continuity of operations plan that includes backup storage of vital records such as plans, backup procedures to pay employees and vendors if normal finance department operations are disrupted, and backup for other essential electronic files.	Ongoing—considered response/recovery action and not included
3-5	Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for carpooling, and public transit.	Ongoing—addressed in the 2020 SRTP
3-6	Purchase only ENERGY STAR equipment and appliances for local government use.	Ongoing—considered preparedness action and not included
4-1	Continue to participate in general mutual-aid agreements including the San Francisco Bay Transit Operators Mutual Aid Agreement and the San Francisco Bay Area Vessel Mutual Assistance Plan.	Ongoing—no new action necessary
5-1	Expand the WETA water-based transportation “system” for movement of first responders and survivors in the event of major earthquakes. Implement the new routes from Richmond, California and Treasure Island.	Ongoing—new Richmond Ferry Service launched
5-2	Develop a plan for short-term and intermediate-term sheltering of staff.	Completed
5-3	Encourage employees to have a family disaster plan.	Ongoing—considered preparedness action and not included

**Table K-5: WETA Progress in Local Mitigation Efforts**

Action #	Action	Status
5-4	Encourage CERT/NERT-type training to employees.	Ongoing—considered preparedness action and not included
5-5	Periodically assess the need for changes in staffing levels, amount of or updated supplies, equipment, technologies, and in-service training classes.	Ongoing—considered preparedness action
5-6	Participate in developing and maintaining a system of interoperable communications.	Ongoing—addressed in mitigation action 3
5-7	Keep WETA’s emergency response and operations plans current by incorporating changes to resources, staff, and response processes. Conduct after-action reviews of actual response events.	Ongoing/completed—after action reports are already part of WETA’s response/recovery process
5-8	Expand participation in disaster exercises involving regional emergency management agencies including cities where ferry terminals, ports, other transit providers, and regional authorities are situated.	Ongoing—participates / has participated in: MTC’s Emergency Table Top annual exercises; San Francisco Fleet Week Defense Support of Civilian Authorities exercises; Bay Ferry exercises; Urban Shield Yellow Command; and Golden Guardian
5-9	Develop procedures for the emergency evacuation of areas identified on tsunami evacuation maps.	Ongoing—to be addressed in updated Emergency Response Plan

Notes:

CERT/NERT = Community Emergency Response Team / National Emergency Response Team

MJHMP = Multi-Jurisdictional Hazard Mitigation Plan

MTC = Metropolitan Transportation Commission

SRTP = Short Range Transit Plan

WETA = Water Emergency Transportation Authority

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**

**RESOLUTION NO. 2022-46**

**ADOPT THE 2021 METROPOLITAN TRANSPORTATION COMMISSION  
MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**

**WHEREAS**, the Bay Area is subject to various earthquake-related hazards such as ground shaking, liquefaction, land sliding, fault surface rupture, and tsunamis; and

**WHEREAS**, the Bay Area is subject to various weather-related hazards including wildfires, floods, and landslides; and

**WHEREAS**, the San Francisco Bay Area Water Emergency Transportation Authority (WETA) recognizes that disasters do not recognize city, county, or special district boundaries; and

**WHEREAS**, WETA seeks to maintain and enhance disaster-resistant facilities by reducing the potential loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters; and

**WHEREAS**, WETA is committed to increasing the disaster resistance of the infrastructure, health, housing, economy, government services, education, environment, and land use systems in WETA's jurisdiction, as well as in the Bay Area as a whole; and

**WHEREAS**, the federal Disaster Mitigation Act of 2000 requires all cities, counties, and special districts to adopt a Local Hazard Mitigation Plan to receive disaster mitigation funding from the Federal Emergency Management Agency (FEMA); and

**WHEREAS**, the Metropolitan Transportation Commission (MTC) has approved and adopted the 2021 MTC Multi-Jurisdictional Hazard Mitigation Plan, created in collaboration with WETA and other participating jurisdictions, to serve as the multi-jurisdictional Hazard Mitigation Plan for the San Francisco Bay Area in accordance with Disaster Mitigation Act of 2000 requirements; now, therefore, be it

**RESOLVED**, that the Board of Directors hereby adopts the 2021 MTC Multi-Jurisdictional Hazard Mitigation Plan; and be it further

**RESOLVED**, that WETA commits to continuing to take those actions, and initiating further actions as appropriate, identified in the 2021 MTC Multi-Jurisdictional Hazard Mitigation Plan.

**CERTIFICATION**

The undersigned, Board Secretary, does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the San Francisco Bay Area Water Emergency Transportation Authority held on December 8, 2022.

YEA:  
NAY:  
ABSTAIN:  
ABSENT:

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/s/ Board Secretary

2022-46

\*\*\*END\*\*\*

MEMORANDUM

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**TO: Board Members**

**FROM: Seamus Murphy, Executive Director**

**SUBJECT: Recognize the Outstanding Service of Anthony J. Intintoli, Jr. as a Member of the Board of Directors of the San Francisco Bay Area Water Emergency Transportation Authority and its Predecessor San Francisco Bay Area Water Transit Authority from 2000 to 2022**

**Recommendation**

Recognize, by resolution, the outstanding service of Anthony J. Intintoli, Jr. as a Member of the Board of Directors of the San Francisco Bay Area Water Emergency Transportation Authority and its Predecessor San Francisco Bay Area Water Transit Authority from 2000 to 2022.

**Background/Discussion**

Anthony J. Intintoli announced his retirement as a Board Member of the San Francisco Bay Area Water Emergency Transportation Authority effective December 31, 2022.

Director Intintoli has served the people of the great State of California for over twenty-two years as a Board Member of the San Francisco Bay Area Water Transit Authority (WTA) from the year 2000 through 2007 and of the San Francisco Bay Area Water Emergency Transportation Authority (WETA) from 2008 to 2022.

As one of the original members of the WTA Board of Directors representing the City of Vallejo and the Vallejo Ferry Service, Director Intintoli was integral in building the agency from the ground up from a small start-up planning agency to a renowned public transit operator. Key outcomes under his leadership included transitioning the Oakland Alameda and Vallejo Ferry Services to the San Francisco Bay Ferry (SF Bay Ferry), creating the cleanest high-speed ferry fleet in the nation, constructing new terminals and two major operation and maintenance hubs, and expanding the ferry system to serve more communities throughout the region.

Director Intintoli launched and grew the WETA and the SF Bay Ferry system by shepherding the completion of innumerable plans, studies, and government reports, securing system funding commitments, building and refurbishing boats and terminal facilities, negotiating agreements with labor, and hiring system operators – all resulting in the SF Bay Ferry system being recognized as an increasingly vital part of the Bay Area's transportation system. His personal relationships in working with Board members, stakeholders, the community, and staff enabled him to build a reputation of respect, loyalty, forward thinking, and fiscal responsibility.

The resolution associated with this item congratulates, honors, and thanks Director Intintoli for his achievements and contributions, commitment to the public good, dedication, and leadership in support of increased ferry transportation on the San Francisco Bay.

**Fiscal Impact**

There is no fiscal impact associated with this item.

\*\*\*END\*\*\*

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**

**RESOLUTION NO. 2022-47**

**IN RECOGNITION OUTSTANDING SERVICE BY ANTHONY J INTINTOLI, JR.**

**WHEREAS**, in 2000, Anthony J. Intintoli Jr. was appointed to the San Francisco Bay Area Water Transit Authority (WTA) as a Member of the Board of Directors; and

**WHEREAS**, in March 2008, Director Intintoli was appointed to the San Francisco Bay Area Water Emergency Transportation Authority (WETA) as Vice Chair of the Board of Directors; and

**WHEREAS**, in January 2016, Director Intintoli was reappointed as a Member of the WETA Board of Directors; and

**WHEREAS**, Director Intintoli launched and grew WETA and the SF Bay Ferry system by completing innumerable plans, studies, and government reports, securing system funding commitments, building and refurbishing boats and terminal facilities, negotiating agreements with labor, and hiring system operators, all resulting in the SF Bay Ferry system being recognized as a vital part of the Bay Area's transportation system; and

**WHEREAS**, under Director Intintoli's leadership WETA has secured federal, state, and local funding to expand ferry service in the Bay Area; and

**WHEREAS**, to that effect, during Director Intintoli's tenure WETA has built twelve new ferries, two major operations and maintenance hubs serving the Central Bay and North Bay and expanded the downtown San Francisco Ferry Terminal to support system growth and emergency response; and

**WHEREAS**, Director Intintoli led WETA's efforts to launch new ferry service in South San Francisco in 2012, Richmond in 2019, and Alameda Seaplane in 2021 while loyally representing the Vallejo community; and

**WHEREAS**, WETA has been incredibly fortunate to have Director Intintoli's leadership, dedication, and expertise the past 22 years; now, therefore, be it

**RESOLVED**, that the Board of Directors hereby commends Anthony J Intintoli, Jr. for his achievements and contributions as a Board Member of the San Francisco Bay Area Water Emergency Transportation Authority and the San Francisco Bay Area Water Transit Authority for the past 22 years and wishes him much happiness.

**CERTIFICATION**

The undersigned, Board Secretary, does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the San Francisco Bay Area Water Emergency Transportation Authority held on December 8, 2022.

YEA:

NAY:

ABSTAIN:

ABSENT:

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/s/ Board Secretary

2022-47

\*\*\*END\*\*\*

MEMORANDUM

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**TO:** Board Members

**FROM:** Seamus Murphy, Executive Director  
Erin McGrath, Chief Financial Officer

**SUBJECT:** Receive the Independent Auditor's Reports for the Fiscal Year Ending June 30, 2022

**Recommendation**

Receive WETA's Annual Financial Reports for the fiscal year ending June 30, 2022, as audited and prepared by Maze & Associates, consisting of the following documents:

- A. Memorandum on Internal Control and Required Communications
- B. Basic Financial Statements
- C. Single Audit Report
- D. Measure B Fund Financial Statements
- E. Measure BB Fund Financial Statements.

**Background**

Section 106.6 of the WETA Administrative Code requires the preparation of annual audited financial reports by an independent auditor consistent with California Government Code Section 66540.54. WETA contracted with Maze & Associates (Maze), through a competitive procurement process, to perform this independent audit work.

**Discussion**

The reports for the fiscal year ending June 30, 2022, issued by Maze and provided for Board review, are comprised of the following:

**Memorandum on Internal Control and Required Communications**

The Memorandum on Internal Control and Required Communications, provided as **Attachment A**, communicates information regarding the auditor's responsibilities under generally accepted auditing standards, describes new requirements implemented during this year's work, provides an overview of the scope of the audit, and any concerns that arose during their audit work. In accordance with *Government Auditing Standards*, the independent auditors are required to communicate significant findings and issues related to an audit. Maze did not identify any deficiencies in internal controls that were considered to be material weaknesses during the audit (page 1, Attachment A). Maze also reports that there were no disagreements with management on financial accounting, reporting, or auditing that arose during the course of the audit (page 18 of the attachment).

**Basic Financial Statements**

The Basic Financial Statements are provided as **Attachment B** to this report. These statements include an Independent Auditor's Report, the Management Discussion and Analysis, Basic Financial Statements and Required Supplementary Information for the year ending June 30, 2022. The Independent Auditor's Report (on page 57 of the attachment) provides their opinion that WETA's basic financial statements present fairly in all material respects the respective financial position of the business-type activities of the agency as of

June 30, 2022, and the respective changes in financial position and cash flows for the year then ended, in conformity with generally accepted accounting principles in the United States of America.

A summary review of the financial information is provided in the Management Discussion and Analysis prior to the statements and notes. This shows a few important financial facts. First, WETA's net position – which is essentially the amount that assets exceeded liabilities – was \$474 million at June 30, 2022, virtually unchanged from June 30, 2021.

The report also reflects the positive change in operating revenues (primarily fare revenue) from the prior year, from \$1.9 million to \$8.2 million due to the partial return of transit ridership following pandemic shutdowns. It also shows the continued and growing importance of operating support from sources other than fares, from \$31.8 million to \$41.2, primarily in federal COVID relief funds that allowed operations continue through the fiscal year.

Operating expenses in the Statement of Activities increased by \$13.5 million from \$33.9 million to \$47.4 million over the prior year as a result of increased service begun on July 1, 2021, and the dramatic rise in fuel costs in the second half of the year. Capital expenses for the year were \$13.5 million, which provided an addition to WETA's capital assets which now total \$443 million (net of depreciation). WETA added one new asset this year, the new ferry vessel MV *Dorado*.

As initiated in last year's statements, there is significant information reflecting the recent efforts of WETA to identify and fund its future retiree benefits beyond CalPERS benefits. They are detailed in Notes 9 (Pension Plan) and 10 (Post Employment Health Care Benefit). Those notes reflect the CalPERS pension benefit funding status available to all WETA employees but also the status of WETA's longevity stipend which provides additional health care stipends for long-term employees. Through the creation of trust funds in 2020/21 to address these long-term liabilities, WETA has been able to set aside significant funding for those liabilities. Unfortunately, investment returns and cost increases in the last fiscal year reduced the funded status of WETA's trust funds held at US Bank from being fully funded to being underfunded by approximately 30% depending on the fund. WETA's practice is to contribute to the trust funds as needed based on biennial valuation reports. WETA's budget assumed contributions to the funds prior to learning of the impacts of the returns, therefore staff will evaluate whether it makes sense to increase contributions to achieve fully funded status quickly with current year resources.

#### Single Audit Report

The Single Audit Report, provided as **Attachment C**, is a required financial report for an entity that expends \$750,000 or more in federal funds in a single year. This report includes a schedule of expenditures of federal awards and a report on internal controls and compliance related to the federal expenditures. WETA expended \$24.6 million in federal funds during Fiscal Year 2022, primarily in COVID emergency operating funding. Maze has audited the compliance of WETA with respect to the types of requirements described in *OMB Compliance Supplement* that are applicable to each of the major federal programs providing funding. It is Maze's opinion that WETA complied, in all material respects, with the types of compliance requirements applicable to the federal program for the year ended June 30, 2022.

#### Measure B and Measure BB Fund Financial Statements

The Measure B and Measure BB Fund Financial Statements, provided as **Attachment D** and **Attachment E**, respectively, are required in relation to the receipt of Alameda County Measures B and BB funds in FY 2022. These reports include the financial statements for

WETA's Measure B and BB funds and a compliance opinion of the funds received and used. Maze has audited the compliance of WETA with respect to requirements related to these funds as specified in the Master Programs Funding Agreements between WETA and the Alameda County Transportation Commission. WETA expended \$98,037 in Measure B funding and \$469,106 from Measure BB. These amounts are relatively low due to the slowdown in capital activity on vessel projects during the last fiscal year. It is Maze's opinion that WETA is in compliance with the laws and regulations, contracts, and grant requirements related to Measure B and Measure BB funds for the year ended June 30, 2022.

David Alvey, partner at Maze & Associates, will be in attendance at the meeting to provide an overview and answer any questions related to the audit reports.

**Fiscal Impact**

There is no fiscal impact associated with the receipt of these audit reports.

**Attachment A** – Memorandum on Internal Control and Required Communications

**Attachment B** – Basic Financial Statements

**Attachment C** – Single Audit Report

**Attachment D** – Measure B Fund Statement

**Attachment E** – Measure BB Fund Statement

\*\*\*END\*\*\*

**SAN FRANCISCO  
BAY AREA WATER EMERGENCY  
TRANSPORTATION AUTHORITY**

**MEMORANDUM ON INTERNAL CONTROL  
AND  
REQUIRED COMMUNICATIONS**

**FOR THE YEAR ENDED  
JUNE 30, 2022**

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**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION  
AUTHORITY**

**MEMORANDUM ON INTERNAL CONTROL  
AND  
REQUIRED COMMUNICATIONS**

**For The Year Ended June 30, 2022**

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## MEMORANDUM ON INTERNAL CONTROL

To the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

In planning and performing our audit of the basic financial statements of the San Francisco Bay Area Water Emergency Transportation Authority (Authority), California, as of and for the year ended June 30, 2022, in accordance with auditing standards generally accepted in the United States of America, we considered the Authority's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Authority's financial statements will not be prevented, or detected and corrected, on a timely basis.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses. In addition, because of inherent limitations in internal control, including the possibility of management override of controls, misstatements due to error or fraud may occur and not be detected by such controls. Given these limitations during our audit, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Included in the Schedule of Other Matters are recommendations not meeting the above definitions that we believe are opportunities for strengthening internal controls and operating efficiency.

This communication is intended solely for the information and use of management, Board of Directors, others within the organization, and agencies and pass-through entities requiring compliance with *Government Auditing Standards*, and is not intended to be and should not be used by anyone other than these specified parties.

A handwritten signature in black ink that reads 'Maze & Associates'.

Pleasant Hill, California  
November 28, 2022

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## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### NEW GASB PRONOUNCEMENTS OR PRONOUNCEMENTS NOT YET EFFECTIVE

The following comment represents new pronouncements taking affect in the next few years. We cite them here to keep you informed of developments:

#### **EFFECTIVE FISCAL YEARS 2022, 2023 and 2024:**

##### **GASB 99 – Omnibus 2022**

The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing (1) practice issues that have been identified during implementation and application of certain GASB Statements and (2) accounting and financial reporting for financial guarantees. The practice issues addressed by this Statement are as follows:

- Classification and reporting of derivative instruments within the scope of Statement No. 53, *Accounting and Financial Reporting for Derivative Instruments*, that do not meet the definition of either an investment derivative instrument or a hedging derivative instrument
- Clarification of provisions in Statement No. 87, *Leases*, as amended, related to the determination of the lease term, classification of a lease as a short term lease, recognition and measurement of a lease liability and a lease asset, and identification of lease incentives
- Clarification of provisions in Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*, related to (a) the determination of the public-private and public-public partnership (PPP) term and (b) recognition and measurement of installment payments and the transfer of the underlying PPP asset
- Clarification of provisions in Statement No. 96, *Subscription-Based Information Technology Arrangements*, related to the subscription-based information technology arrangement (SBITA) term, classification of a SBITA as a short term SBITA, and recognition and measurement of a subscription liability
- Extension of the period during which the London Interbank Offered Rate (LIBOR) is considered an appropriate benchmark interest rate for the qualitative evaluation of the effectiveness of an interest rate swap that hedges the interest rate risk of taxable debt
- Accounting for the distribution of benefits as part of the Supplemental Nutrition Assistance Program (SNAP)
- Disclosures related to nonmonetary transactions
- Pledges of future revenues when resources are not received by the pledging government

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### **GASB 99 – *Omnibus 2022 (Continued)***

- Clarification of provisions in Statement No. 34, *Basic Financial Statements—and Management’s Discussion and Analysis—for State and Local Governments*, as amended, related to the focus of the government-wide financial statements
- Terminology updates related to certain provisions of Statement No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*
- Terminology used in Statement 53 to refer to resource flows statements

#### **The Requirements of this Statement are Effective as Follows:**

The requirements in paragraphs 26–32 related to extension of the use of LIBOR, accounting for SNAP distributions, disclosures of nonmonetary transactions, pledges of future revenues by pledging governments, clarification of certain provisions in Statement 34, as amended, and terminology updates related to Statement 53 and Statement 63 are effective upon issuance.

The requirements in paragraphs 11–25 related to leases, PPPs, and SBITAs are effective for fiscal years beginning after June 15, 2022, and all reporting periods thereafter.

The requirements in paragraphs 4–10 related to financial guarantees and the classification and reporting of derivative instruments within the scope of Statement 53 are effective for fiscal years beginning after June 15, 2023, and all reporting periods thereafter.

Earlier application is encouraged and is permitted by individual topic.

#### **How the Changes in This Statement Will Improve Financial Reporting**

The requirements of this Statement will enhance comparability in the application of accounting and financial reporting requirements and will improve the consistency of authoritative literature. Consistent authoritative literature enables governments and other stakeholders to more easily locate and apply the correct accounting and financial reporting provisions, which improves the consistency with which such provisions are applied. The comparability of financial statements also will improve as a result of this Statement. Better consistency and comparability improve the usefulness of information for users of state and local government financial statements.

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

**EFFECTIVE FISCAL YEAR 2022/23:**

#### **GASB 91 – Conduit Debt Obligations**

The primary objectives of this Statement are to provide a single method of reporting conduit debt obligations by issuers and eliminate diversity in practice associated with (1) commitments extended by issuers, (2) arrangements associated with conduit debt obligations, and (3) related note disclosures. This Statement achieves those objectives by clarifying the existing definition of a conduit debt obligation; establishing that a conduit debt obligation is not a liability of the issuer; establishing standards for accounting and financial reporting of additional commitments and voluntary commitments extended by issuers and arrangements associated with conduit debt obligations; and improving required note disclosures.

A conduit debt obligation is defined as a debt instrument having *all* of the following characteristics:

- There are at least three parties involved:
  - (1) an issuer
  - (2) a third-party obligor, and
  - (3) a debt holder or a debt trustee.
- The issuer and the third-party obligor are not within the same financial reporting entity.
- The debt obligation is not a parity bond of the issuer, nor is it cross-collateralized with other debt of the issuer.
- The third-party obligor or its agent, not the issuer, ultimately receives the proceeds from the debt issuance.
- The third-party obligor, not the issuer, is primarily obligated for the payment of all amounts associated with the debt obligation (debt service payments).

All conduit debt obligations involve the issuer making a limited commitment. Some issuers extend additional commitments or voluntary commitments to support debt service in the event the third party is, or will be, unable to do so.

An issuer should not recognize a conduit debt obligation as a liability. However, an issuer should recognize a liability associated with an additional commitment or a voluntary commitment to support debt service if certain recognition criteria are met. As long as a conduit debt obligation is outstanding, an issuer that has made an additional commitment should evaluate at least annually whether those criteria are met. An issuer that has made only a limited commitment should evaluate whether those criteria are met when an event occurs that causes the issuer to reevaluate its willingness or ability to support the obligor's debt service through a voluntary commitment.

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### **GASB 91 – Conduit Debt Obligations (Continued)**

This Statement also addresses arrangements—often characterized as leases—that are associated with conduit debt obligations. In those arrangements, capital assets are constructed or acquired with the proceeds of a conduit debt obligation and used by third-party obligors in the course of their activities. Payments from third-party obligors are intended to cover and coincide with debt service payments. During those arrangements, issuers retain the titles to the capital assets. Those titles may or may not pass to the obligors at the end of the arrangements.

Issuers should not report those arrangements as leases, nor should they recognize a liability for the related conduit debt obligations or a receivable for the payments related to those arrangements. In addition, the following provisions apply:

- If the title passes to the third-party obligor at the end of the arrangement, an issuer should not recognize a capital asset.
- If the title does not pass to the third-party obligor and the third party has exclusive use of the entire capital asset during the arrangement, the issuer should not recognize a capital asset until the arrangement ends.
- If the title does not pass to the third-party obligor and the third party has exclusive use of only portions of the capital asset during the arrangement, the issuer, at the inception of the arrangement, should recognize the entire capital asset and a deferred inflow of resources. The deferred inflow of resources should be reduced, and an inflow recognized, in a systematic and rational manner over the term of the arrangement.

This Statement requires issuers to disclose general information about their conduit debt obligations, organized by type of commitment, including the aggregate outstanding principal amount of the issuers' conduit debt obligations and a description of each type of commitment. Issuers that recognize liabilities related to supporting the debt service of conduit debt obligations also should disclose information about the amount recognized and how the liabilities changed during the reporting period.

#### ***How the Changes in this Statement will Improve Financial Reporting***

The requirements of this Statement will improve financial reporting by eliminating the existing option for issuers to report conduit debt obligations as their own liabilities, thereby ending significant diversity in practice. The clarified definition will resolve stakeholders' uncertainty as to whether a given financing is, in fact, a conduit debt obligation. Requiring issuers to recognize liabilities associated with additional commitments extended by issuers and to recognize assets and deferred inflows of resources related to certain arrangements associated with conduit debt obligations also will eliminate diversity, thereby improving comparability in reporting by issuers. Revised disclosure requirements will provide financial statement users with better information regarding the commitments issuers extend and the likelihood that they will fulfill those commitments. That information will inform users of the potential impact of such commitments on the financial resources of issuers and help users assess issuers' roles in conduit debt obligations.

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### **GASB 94 – Public-Private and Public-Public Partnerships and Availability Payment Arrangements**

The primary objective of this Statement is to improve financial reporting by addressing issues related to public-private and public-public partnership arrangements (PPPs). As used in this Statement, a PPP is an arrangement in which a government (the transferor) contracts with an operator (a governmental or nongovernmental entity) to provide public services by conveying control of the right to operate or use a nonfinancial asset, such as infrastructure or other capital asset (the underlying PPP asset), for a period of time in an exchange or exchange-like transaction. Some PPPs meet the definition of a service concession arrangement (SCA), which the Board defines in this Statement as a PPP in which (1) the operator collects and is compensated by fees from third parties; (2) the transferor determines or has the ability to modify or approve which services the operator is required to provide, to whom the operator is required to provide the services, and the prices or rates that can be charged for the services; and (3) the transferor is entitled to significant residual interest in the service utility of the underlying PPP asset at the end of the arrangement.

This Statement also provides guidance for accounting and financial reporting for availability payment arrangements (APAs). As defined in this Statement, an APA is an arrangement in which a government compensates an operator for services that may include designing, constructing, financing, maintaining, or operating an underlying nonfinancial asset for a period of time in an exchange or exchange-like transaction.

**PPPs** – This Statement requires that PPPs that meet the definition of a lease apply the guidance in Statement No. 87, Leases, as amended, if existing assets of the transferor that are not required to be improved by the operator as part of the PPP arrangement are the only underlying PPP assets and the PPP does not meet the definition of an SCA. This Statement provides accounting and financial reporting requirements for all other PPPs: those that either (1) meet the definition of an SCA or (2) are not within the scope of Statement 87, as amended (as clarified by this Statement). The PPP term is defined as the period during which an operator has a noncancelable right to use an underlying PPP asset, plus, if applicable, certain periods if it is reasonably certain, based on all relevant factors, that the transferor or the operator either will exercise an option to extend the PPP or will not exercise an option to terminate the PPP.

A transferor generally should recognize an underlying PPP asset as an asset in financial statements prepared using the economic resources measurement focus. However, in the case of an underlying PPP asset that is not owned by the transferor or is not the underlying asset of an SCA, a transferor should recognize a receivable measured based on the operator's estimated carrying value of the underlying PPP asset as of the expected date of the transfer in ownership. In addition, a transferor should recognize a receivable for installment payments, if any, to be received from the operator in relation to the PPP. Measurement of a receivable for installment payments should be at the present value of the payments expected to be received during the PPP term. A transferor also should recognize a deferred inflow of resources for the consideration received or to be received by the transferor as part of the PPP. Revenue should be recognized by a transferor in a systematic and rational manner over the PPP term.

This Statement requires a transferor to recognize a receivable for installment payments and a deferred inflow of resources to account for a PPP in financial statements prepared using the current financial resources measurement focus. Governmental fund revenue would be recognized in a systematic and rational manner over the PPP term.

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### **GASB 94 – Public-Private and Public-Public Partnerships and Availability Payment Arrangements** **(Continued)**

This Statement also provides specific guidance in financial statements prepared using the economic resources measurement focus for a government that is an operator in a PPP that either (1) meets the definition of an SCA or (2) is not within the scope of Statement 87, as amended (as clarified in this Statement). An operator should report an intangible right-to-use asset related to an underlying PPP asset that either is owned by the transferor or is the underlying asset of an SCA. Measurement of the right-to-use asset should be the amount of consideration to be provided to the transferor, plus any payments made to the transferor at or before the commencement of the PPP term, and certain direct costs. For an underlying PPP asset that is not owned by the transferor and is not the underlying asset of an SCA, an operator should recognize a liability measured based on the estimated carrying value of the underlying PPP asset as of the expected date of the transfer in ownership. In addition, an operator should recognize a liability for installment payments, if any, to be made to the transferor in relation to the PPP. Measurement of a liability for installment payments should be at the present value of the payments expected to be made during the PPP term. An operator also should recognize a deferred outflow of resources for the consideration provided or to be provided to the transferor as part of the PPP. Expense should be recognized by an operator in a systematic and rational manner over the PPP term.

This Statement also requires a government to account for PPP and non-PPP components of a PPP as separate contracts. If a PPP involves multiple underlying assets, a transferor and an operator in certain cases should account for each underlying PPP asset as a separate PPP. To allocate the contract price to different components, a transferor and an operator should use contract prices for individual components as long as they do not appear to be unreasonable based on professional judgment or use professional judgment to determine their best estimate if there are no stated prices or if stated prices appear to be unreasonable. If determining the best estimate is not practicable, multiple components in a PPP should be accounted for as a single PPP.

This Statement also requires an amendment to a PPP to be considered a PPP modification, unless the operator's right to use the underlying PPP asset decreases, in which case it should be considered a partial or full PPP termination. A PPP termination should be accounted for by a transferor by reducing, as applicable, any receivable for installment payments or any receivable related to the transfer of ownership of the underlying PPP asset and by reducing the related deferred inflow of resources. An operator should account for a termination by reducing the carrying value of the right-to-use asset and, as applicable, any liability for installment payments or liability to transfer ownership of the underlying PPP asset. A PPP modification that does not qualify as a separate PPP should be accounted for by remeasuring PPP assets and liabilities.

**APAs** – An APA that is related to designing, constructing, and financing a nonfinancial asset in which ownership of the asset transfers by the end of the contract should be accounted for by a government as a financed purchase of the underlying nonfinancial asset. This Statement requires a government that engaged in an APA that contains multiple components to recognize each component as a separate arrangement. An APA that is related to operating or maintaining a nonfinancial asset should be reported by a government as an outflow of resources in the period to which payments relate.

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### **GASB 96 – Subscription-Based Information Technology Arrangements**

This Statement provides guidance on the accounting and financial reporting for subscription-based information technology arrangements (SBITAs) for government end users (governments). This Statement (1) defines a SBITA; (2) establishes that a SBITA results in a right-to-use subscription asset—an intangible asset—and a corresponding subscription liability; (3) provides the capitalization criteria for outlays other than subscription payments, including implementation costs of a SBITA; and (4) requires note disclosures regarding a SBITA. To the extent relevant, the standards for SBITAs are based on the standards established in Statement No. 87, Leases, as amended.

A SBITA is defined as a contract that conveys control of the right to use another party's (a SBITA vendor's) information technology (IT) software, alone or in combination with tangible capital assets (the underlying IT assets), as specified in the contract for a period of time in an exchange or exchange-like transaction.

The subscription term includes the period during which a government has a noncancelable right to use the underlying IT assets. The subscription term also includes periods covered by an option to extend (if it is reasonably certain that the government or SBITA vendor will exercise that option) or to terminate (if it is reasonably certain that the government or SBITA vendor will not exercise that option).

Under this Statement, a government generally should recognize a right-to-use subscription asset—an intangible asset—and a corresponding subscription liability. A government should recognize the subscription liability at the commencement of the subscription term, —which is when the subscription asset is placed into service. The subscription liability should be initially measured at the present value of subscription payments expected to be made during the subscription term. Future subscription payments should be discounted using the interest rate the SBITA vendor charges the government, which may be implicit, or the government's incremental borrowing rate if the interest rate is not readily determinable. A government should recognize amortization of the discount on the subscription liability as an outflow of resources (for example, interest expense) in subsequent financial reporting periods.

The subscription asset should be initially measured as the sum of (1) the initial subscription liability amount, (2) payments made to the SBITA vendor before commencement of the subscription term, and (3) capitalizable implementation costs, less any incentives received from the SBITA vendor at or before the commencement of the subscription term. A government should recognize amortization of the subscription asset as an outflow of resources over the subscription term.

Activities associated with a SBITA, other than making subscription payments, should be grouped into the following three stages, and their costs should be accounted for accordingly:

- Preliminary Project Stage, including activities such as evaluating alternatives, determining needed technology, and selecting a SBITA vendor. Outlays in this stage should be expensed as incurred.
- Initial Implementation Stage, including all ancillary charges necessary to place the subscription asset into service. Outlays in this stage generally should be capitalized as an addition to the subscription asset.

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### ***GASB 96 – Subscription-Based Information Technology Arrangements (Continued)***

- Operation and Additional Implementation Stage, including activities such as subsequent implementation activities, maintenance, and other activities for a government's ongoing operations related to a SBITA. Outlays in this stage should be expensed as incurred unless they meet specific capitalization criteria.

In classifying certain outlays into the appropriate stage, the nature of the activity should be the determining factor. Training costs should be expensed as incurred, regardless of the stage in which they are incurred.

If a SBITA contract contains multiple components, a government should account for each component as a separate SBITA or nonsubscription component and allocate the contract price to the different components. If it is not practicable to determine a best estimate for price allocation for some or all components in the contract, a government should account for those components as a single SBITA.

This Statement provides an exception for short-term SBITAs. Short-term SBITAs have a maximum possible term under the SBITA contract of 12 months (or less), including any options to extend, regardless of their probability of being exercised. Subscription payments for short-term SBITAs should be recognized as outflows of resources.

This Statement requires a government to disclose descriptive information about its SBITAs other than short-term SBITAs, such as the amount of the subscription asset, accumulated amortization, other payments not included in the measurement of a subscription liability, principal and interest requirements for the subscription liability, and other essential information.

#### ***How the Changes in this Statement will Improve Financial Reporting***

The requirements of this Statement will improve financial reporting by establishing a definition for SBITAs and providing uniform guidance for accounting and financial reporting for transactions that meet that definition. That definition and uniform guidance will result in greater consistency in practice. Establishing the capitalization criteria for implementation costs also will reduce diversity and improve comparability in financial reporting by governments. This Statement also will enhance the relevance and reliability of a government's financial statements by requiring a government to report a subscription asset and subscription liability for a SBITA and to disclose essential information about the arrangement. The disclosures will allow users to understand the scale and important aspects of a government's SBITA activities and evaluate a government's obligations and assets resulting from SBITAs.

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### EFFECTIVE FISCAL YEAR 2023/24:

#### ***GASB 100 – Accounting for Changes and Error Corrections***

The primary objective of this Statement is to enhance accounting and financial reporting requirements for accounting changes and error corrections to provide more understandable, reliable, relevant, consistent, and comparable information for making decisions or assessing accountability.

This Statement defines *accounting changes* as changes in accounting principles, changes in accounting estimates, and changes to or within the financial reporting entity and describes the transactions or other events that constitute those changes. As part of those descriptions, for (1) certain changes in accounting principles and (2) certain changes in accounting estimates that result from a change in measurement methodology, a new principle or methodology should be justified on the basis that it is preferable to the principle or methodology used before the change. That preferability should be based on the qualitative characteristics of financial reporting—understandability, reliability, relevance, timeliness, consistency, and comparability. This Statement also addresses corrections of errors in previously issued financial statements.

This Statement prescribes the accounting and financial reporting for (1) each type of accounting change and (2) error corrections. This Statement requires that (a) changes in accounting principles and error corrections be reported retroactively by restating prior periods, (b) changes to or within the financial reporting entity be reported by adjusting beginning balances of the current period, and (c) changes in accounting estimates be reported prospectively by recognizing the change in the current period. The requirements of this Statement for changes in accounting principles apply to the implementation of a new pronouncement in absence of specific transition provisions in the new pronouncement. This Statement also requires that the aggregate amount of adjustments to and restatements of beginning net position, fund balance, or fund net position, as applicable, be displayed by reporting unit in the financial statements.

This Statement requires disclosure in notes to financial statements of descriptive information about accounting changes and error corrections, such as their nature. In addition, information about the quantitative effects on beginning balances of each accounting change and error correction should be disclosed by reporting unit in a tabular format to reconcile beginning balances as previously reported to beginning balances as restated.

Furthermore, this Statement addresses how information that is affected by a change in accounting principle or error correction should be presented in required supplementary information (RSI) and supplementary information (SI). For periods that are earlier than those included in the basic financial statements, information presented in RSI or SI should be restated for error corrections, if practicable, but not for changes in accounting principles.

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### EFFECTIVE FISCAL YEAR 2024/25:

##### **GASB 101 – Compensated Absences**

The objective of this Statement is to better meet the information needs of financial statement users by updating the recognition and measurement guidance for compensated absences. That objective is achieved by aligning the recognition and measurement guidance under a unified model and by amending certain previously required disclosures.

##### *Recognition And Measurement*

This Statement requires that liabilities for compensated absences be recognized for (1) leave that has not been used and (2) leave that has been used but not yet paid in cash or settled through noncash means. A liability should be recognized for leave that has not been used if (a) the leave is attributable to services already rendered, (b) the leave accumulates, and (c) the leave is more likely than not to be used for time off or otherwise paid in cash or settled through noncash means. Leave is attributable to services already rendered when an employee has performed the services required to earn the leave. Leave that accumulates is carried forward from the reporting period in which it is earned to a future reporting period during which it may be used for time off or otherwise paid or settled. In estimating the leave that is more likely than not to be used or otherwise paid or settled, a government should consider relevant factors such as employment policies related to compensated absences and historical information about the use or payment of compensated absences. However, leave that is more likely than not to be settled through conversion to defined benefit postemployment benefits should not be included in a liability for compensated absences.

This Statement requires that a liability for certain types of compensated absences—including parental leave, military leave, and jury duty leave—not be recognized until the leave commences. This Statement also requires that a liability for specific types of compensated absences not be recognized until the leave is used.

This Statement also establishes guidance for measuring a liability for leave that has not been used, generally using an employee's pay rate as of the date of the financial statements. A liability for leave that has been used but not yet paid or settled should be measured at the amount of the cash payment or noncash settlement to be made. Certain salary-related payments that are directly and incrementally associated with payments for leave also should be included in the measurement of the liabilities.

With respect to financial statements prepared using the current financial resources measurement focus, this Statement requires that expenditures be recognized for the amount that normally would be liquidated with expendable available financial resources.

##### *Notes To Financial Statements*

This Statement amends the existing requirement to disclose the gross increases and decreases in a liability for compensated absences to allow governments to disclose only the net change in the liability (as long as they identify it as a net change). In addition, governments are no longer required to disclose which governmental funds typically have been used to liquidate the liability for compensated absences.

## MEMORANDUM ON INTERNAL CONTROL

### SCHEDULE OF OTHER MATTERS

#### **GASB 101 – Compensated Absences (Continued)**

##### *How the Changes in this Statement Will Improve Financial Reporting*

The unified recognition and measurement model in this Statement will result in a liability for compensated absences that more appropriately reflects when a government incurs an obligation. In addition, the model can be applied consistently to any type of compensated absence and will eliminate potential comparability issues between governments that offer different types of leave.

The model also will result in a more robust estimate of the amount of compensated absences that a government will pay or settle, which will enhance the relevance and reliability of information about the liability for compensated absences.

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## REQUIRED COMMUNICATIONS

To the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

We have audited the basic financial statements of the San Francisco Bay Area Water Emergency Transportation Authority (Authority), California, for the year ended June 30, 2022. Professional standards require that we provided you with information about our responsibilities under generally accepted auditing standards, *Government Auditing Standards* and Uniform Guidance, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated July 19, 2022. Professional standards also require that we communicate to you the following information related to our audit.

### **Significant Audit Matters**

#### ***Qualitative Aspects of Accounting Practices***

*Accounting Policies* - Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the Authority are described in Note 2 to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during the year

The following GASB pronouncements became effective, but did not have a material effect on the financial statements:

#### **GASB 87 – Leases**

The objective of this Statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. This Statement increases the usefulness of governments' financial statements by requiring recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments' leasing activities.

A lease is defined as a contract that conveys control of the right to use another entity's nonfinancial asset (the underlying asset) as specified in the contract for a period of time in an exchange or exchange-like transaction. Examples of nonfinancial assets include buildings, land, vehicles, and equipment. Any contract that meets this definition should be accounted for under the leases guidance, unless specifically excluded in this Statement.

The pronouncement became effective, but did not have a material effect on the financial statements.

**GASB 97 – *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans—An Amendment of GASB Statements No. 14 and No. 84, and a Supersession of GASB Statement No. 32***

The primary objectives of this Statement are to (1) increase consistency and comparability related to the reporting of fiduciary component units in circumstances in which a potential component unit does not have a governing board and the primary government performs the duties that a governing board typically would perform; (2) mitigate costs associated with the reporting of certain defined contribution pension plans, defined contribution other postemployment benefit (OPEB) plans, and employee benefit plans other than pension plans or OPEB plans (other employee benefit plans) as fiduciary component units in fiduciary fund financial statements; and (3) enhance the relevance, consistency, and comparability of the accounting and financial reporting for Internal Revenue Code (IRC) Section 457 deferred compensation plans (Section 457 plans) that meet the definition of a pension plan and for benefits provided through those plans.

The pronouncement became effective, but did not have a material effect on the financial statements.

**GASB 99 – *Omnibus 2022***

The objectives of this Statement are to enhance comparability in accounting and financial reporting and to improve the consistency of authoritative literature by addressing (1) practice issues that have been identified during implementation and application of certain GASB Statements and (2) accounting and financial reporting for financial guarantees. The Statement contains provisions that are to be implemented in phases over three fiscal years. The practice issues addressed by this Statement that are effective in fiscal year 2022 are as follows:

- Extension of the period during which the London Interbank Offered Rate (LIBOR) is considered an appropriate benchmark interest rate for the qualitative evaluation of the effectiveness of an interest rate swap that hedges the interest rate risk of taxable debt
- Accounting for the distribution of benefits as part of the Supplemental Nutrition Assistance Program (SNAP)
- Disclosures related to nonmonetary transactions
- Pledges of future revenues when resources are not received by the pledging government
- Clarification of provisions in Statement No. 34, *Basic Financial Statements—and Management’s Discussion and Analysis—for State and Local Governments*, as amended, related to the focus of the government-wide financial statements
- Terminology updates related to certain provisions of Statement No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*
- Terminology used in Statement 53 to refer to resource flows statements.

The requirements in paragraphs 26-32 of the pronouncement became effective, but did not have a material effect on the financial statements.

The following pronouncements became effective, but did not have a material effect on the financial statements:

**GASB 89 – Accounting for Interest Cost Incurred before the End of a Construction Period**  
**GASB 92 – Omnibus 2020**  
**GASB 93 – Replacement of Interbank Offered Rates**

*Unusual Transactions, Controversial or Emerging Areas* – We noted no transactions entered into by the Authority during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

*Accounting Estimates* – Accounting estimates are an integral part of the financial statements prepared by management and are based on management’s knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the Authority’s financial statements were:

*Estimated Net Pension Asset and Pension-Related Deferred Outflows and Inflows of Resources:* Management’s estimate of the net pension asset and deferred outflows/inflows of resources are disclosed in Note 9 to the financial statements and are based on actuarial studies determined by a consultant, which are based on the experience of the Authority. We evaluated the key factors and assumptions used to develop the estimate and determined that it is reasonable in relation to the basic financial statements taken as a whole.

*Estimated Net OPEB Asset:* Management’s estimate of the net OPEB asset is disclosed in Note 10 to the financial statements and is based on actuarial study determined by a consultant, which is based on the experience of the Authority. We evaluated the key factors and assumptions used to develop the estimate and determined that it is reasonable in relation to the basic financial statements taken as a whole.

*Estimated Fair Value of Investments:* As of June 30, 2022, the Authority held approximately \$25.2 million of cash and investments as measured by fair value as disclosed in Note 3 to the financial statements. Fair value is essentially market pricing in effect as of June 30, 2022. These fair values are not required to be adjusted for changes in general market conditions occurring subsequent to June 30, 2022.

*Estimate of Depreciation:* Management’s estimate of the depreciation is based on useful lives determined by management. These lives have been determined by management based on the expected useful life of assets as disclosed in Note 4 to the financial statements. We evaluated the key factors and assumptions used to develop the depreciation estimate and determined that it is reasonable in relation to the basic financial statements taken as a whole.

*Disclosures*— The financial statement disclosures are neutral, consistent, and clear.

### ***Difficulties Encountered in Performing the Audit***

We encountered no significant difficulties in dealing with management in performing and completing our audit.

### ***Corrected and Uncorrected Misstatements***

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. Management has corrected all such misstatements. In addition, none of the misstatements detected as a result of audit procedures and corrected by management were material, either individually or in the aggregate, to each opinion unit's financial statements taken as a whole.

Professional standards require us to accumulate all known and likely uncorrected misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriated level of management. We have no such misstatements to report to the Board.

### ***Disagreements with Management***

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

### ***Management Representations***

We have requested certain representations from management that are included in a management representation letter dated November 28, 2022.

### ***Management Consultations with Other Independent Accountants***

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the Authority's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

### ***Other Audit Findings or Issues***

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the Authority auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

**Other Matters**

We applied certain limited procedures to the required supplementary information that accompanies and supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the required supplementary information and do not express an opinion or provide any assurance on the required supplementary information.

\*\*\*\*\*

This information is intended solely for the use of Board of Directors and management and is not intended to be, and should not be, used by anyone other than these specified parties.

*Maze + Associates*

Pleasant Hill, California  
November 28, 2022

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**SAN FRANCISCO  
BAY AREA WATER EMERGENCY  
TRANSPORTATION AUTHORITY**

**BASIC FINANCIAL STATEMENTS**

**FOR THE YEAR ENDED JUNE 30, 2022**

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**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

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## INDEPENDENT AUDITOR'S REPORT

To the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

### **Report on the Audit of the Financial Statements**

#### *Report on the Financial Statements*

#### *Opinion*

We have audited the accompanying financial statement of the business-type activities of the San Francisco Bay Area Water Emergency Transportation Authority (Authority), California, as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the Table of Contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities of the Authority as of June 30, 2022, and the respective changes in financial position and cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

#### *Basis for Opinions*

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Authority and to meet our other ethical responsibilities, in accordance with the relevant ethical requirement relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

#### *Responsibilities of Management for the Financial Statements*

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

## ***Auditor's Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

### ***Change in Accounting Principles***

Management adopted the provisions of the following Governmental Accounting Standards Board Statement, which became effective during the year ended June 30, 2022, but did not have a material effects on the financial statements as discussed in Note 2F and 6 to the financial statements:

Statement No. 87 – *Leases*

The emphasis of this matters does not constitute a modification to our opinions.

### ***Required Supplementary Information***

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and other Required Supplementary Information as listed in the Table of Contents be presented to supplement the basic financial statements. Such information is the responsibility of management and although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### ***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated November 28, 2022, on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.

*Maze + Associates*

Pleasant Hill, California  
November 28, 2022

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## **MANAGEMENT’S DISCUSSION AND ANALYSIS**

The following Management’s Discussion and Analysis (MD&A) of the San Francisco Bay Area Water Emergency Transportation Authority (Authority) activities and financial performance provides an introduction to the financial statements of the Authority for the fiscal year ended June 30, 2022. The information presented herein should be considered in conjunction with the accompanying financial statements and notes.

### **BASIC FINANCIAL STATEMENTS**

The Basic Financial Statements required under GASB 34 include:

Statement of Net Position—presents the financial position of the Authority, including assets, deferred outflows, liabilities, deferred inflows, and net position. The difference between this statement and the traditional Balance Sheet is that net position (fund equity) is shown as the difference between total assets and total liabilities.

Statement of Activities—presents revenues, expenses, and changes in net position for the fiscal year. It differs from the traditional Statement of Revenues and Expenses in that revenues and expenses directly attributable to operating programs are presented separately from investment income and financing costs.

Statement of Cash Flows—provides itemized categories of cash flows. This statement differs from the traditional Statement of Cash Flows in that it presents itemized categories of cash inflows and outflows instead of computing the net cash flows from operation by backing out non-cash revenues and expenses from net operating income. In addition, cash flows related to investments and financing activities are presented separately.

## ORGANIZATION DESCRIPTION AND OPERATIONS

In October 1999, the California state legislature formed the Water Transit Authority (WTA), a regional agency mandated to create a long-term plan for new and expanded water-transit and related services on the San Francisco Bay. On January 1, 2008, a new state law, Senate Bill 976, dissolved the WTA and replaced it with the San Francisco Bay Area Water Emergency Transportation Authority (Authority). This regional transportation agency is responsible for consolidating and operating public ferry services in the Bay Area, planning new service routes, and coordinating ferry transportation response to emergencies or disasters affecting the Bay Area transportation system.

In June 2016, the Authority Board of Directors (Board) adopted the following Mission Statement for the organization:

*The San Francisco Bay Area Water Emergency Transportation Authority (Authority) is a regional agency with responsibility to develop and operate a comprehensive water transportation system for the Bay Area. The Authority shall also coordinate water transportation services in response to natural disasters and transportation disruptions.*

At the same time, the Authority Board approved the following Vision Statement for how the Authority would pursue its Mission:

*The San Francisco Bay Area Water Emergency Transportation Authority develops, operates, and manages an expanded and enhanced region-wide ferry system that provides a reliable, state-of-the-art and attractive transportation option for the Bay Area and plays a critical role in coordinating and providing water transportation to serve emergency response and economic recovery needs.*

Taken together, the Mission and Vision Statements describe and characterize the Authority's multiple functional roles in the regional transportation network. Under the *San Francisco Bay Ferry* brand, the Authority is responsible for carrying over 1.4 million passengers annually utilizing a fleet of 16 high speed passenger-only ferry vessels. San Francisco Bay Ferry currently serves the cities of Alameda, Oakland, Richmond, San Francisco, South San Francisco, and Vallejo.

## FINANCIAL POSITION SUMMARY

Total net position may serve as a useful indicator of the Authority's financial position when taking all assets and liabilities into account. The Authority's assets and deferred outflows exceeded its liabilities and deferred inflows by \$474 million on June 30, 2022, a less than 0.08% decrease from June 30, 2021.

The chart below summarizes the Authority's net position as of June 30, 2022 and compares it to the prior year. A discussion of some of the most significant balances follows the chart.

### Change in Net Position (in thousands)

	<u>2022</u>	<u>2021</u>
<b>Assets:</b>		
Current and other assets	\$42,242	\$42,788
Capital assets	443,248	447,943
Total assets	<u>\$485,491</u>	<u>\$490,731</u>
<b>Deferred Outflows of Resources:</b>	<u>\$1,797</u>	<u>\$703</u>
<b>Liabilities:</b>		
Current liabilities	\$8,874	\$4,995
Unearned/deferred revenue	4,637	10,618
Other noncurrent liabilities	204	1,051
Total liabilities	<u>\$13,715</u>	<u>\$16,664</u>
<b>Deferred Inflows of Resources:</b>	<u>(\$381)</u>	<u>\$444</u>
<b>Net Position:</b>		
Net investment in capital assets	\$443,248	\$447,943
Restricted	11,857	9,606
Unrestricted	18,848	16,776
Total net position	<u>\$473,954</u>	<u>\$474,325</u>

The assets and deferred outflows totaled \$487.3 million on June 30, 2022, consisting of \$42.2 million in current assets such as cash and receivables, \$443 million in capital assets, and \$1,797 in pension and other post-employment benefits (OPEB)-related deferred outflows.

Net assets were essentially unchanged year over year with changes in assets and liabilities essentially matching each other. Year-end changes in Deferred Outflows and Inflows of Resources are related to investment losses in Authority funds set up to pay longevity stipends and other pension liabilities. Current liabilities increased due to timing of year end pending invoices on June 30<sup>th</sup>. These liabilities are resolved in the weeks following the close of the fiscal year.

The largest portion of the Authority's net position (94%) represents its investment in capital assets (i.e., ferries, terminals, improvements, and equipment). These capital assets are used to provide services to passengers Agency. A small (1%) decrease in capital assets are the result of the change caused by depreciation (which decreases values) and additional assets (one new ferry added to the fleet). Construction in progress also decreased over the prior year further reducing overall capital assets.

Within the Authority's net position are restricted assets, which represents resources that are subject to external restrictions imposed by grantors and contributors, which increased by \$2.3 million during the year. The remaining unrestricted net position, \$18.8 million, are unencumbered and may be used to meet future obligations.

## Notes to the Basic Financial Statements

The notes to the basic financial statements, which follow the statements themselves in this document, provide additional information that is essential to a full understanding of the financial data provided in the financial statements. They include further description of important elements of the Authority's financial statements and implementation of new accounting standards as required by the Governmental Accounting Standards Board. Over the past several years, the Authority has implemented a number of new GASB statements related to employee pension and other post-employment benefits, referred to as OPEB. Those statements have resulted in significant pension and OPEB information reflected in the statements and notes and in the Authority's decision to create trust funds to address those obligations.

## FISCAL YEAR 2022 FINANCIAL HIGHLIGHTS

The following table summarizes the Statement of Activities and the change in Net Position of governmental activities, for the year ended June 30, 2022, as compared to June 30, 2021:

### Statement of Activities and Changes In Net Position

(in thousands)

	<u>2022</u>	<u>2021</u>	<b>Favorable/ (Unfavorable) Change From 2021</b>
Operating revenues	\$8,232	\$1,936	\$6,296
Operating expenses	(47,392)	(33,905)	(13,486)
Loss before depreciation and other non-operating revenues and expenses	(39,160)	(31,969)	(7,191)
Depreciation	(18,241)	(18,362)	121
Operating loss	(57,401)	(50,331)	(7,070)
Other non-operating revenues and expenses, net	41,232	28,013	13,219
Loss before capital contribution	(16,168)	(22,318)	6,149
Capital contributions	15,797	27,577	(11,780)
Change in Net Position	(372)	5,259	(5,631)
Net Position, beginning	474,325	469,067	5,259
Net Position, ending	<u>\$473,954</u>	<u>\$474,325</u>	<u>(\$372)</u>

## Revenues

A summary of revenues for the year ended June 30, 2022, and the amount of change in relation to prior year amounts (in thousands) is as follows:

	<u>2022</u>	<u>2021</u>	<u>Increase/ (Decrease) From 2021</u>
<b>Operating Revenues:</b>			
Alameda Harbor Bay Ferry Service	\$453	\$0	\$453
Alameda / Oakland Ferry Service	2,430	545	1,886
Vallejo Ferry Service	4,048	1,256	2,792
South San Francisco Ferry Service	88	-	88
Richmond Ferry Service	605	135	470
Seaplane Lagoon	608	-	608
Total operating revenues	<u>\$8,232</u>	<u>\$1,936</u>	<u>\$6,296</u>
<b>Non-operating Revenues:</b>			
Operating assistance	\$41,131	\$31,822	\$9,309
Investment / Interest Income	27	71	(44)
Non-Transportation Revenue	75	-	75
Total non-operating revenues	<u>41,232</u>	<u>31,893</u>	<u>9,340</u>
<b>Capital contributions:</b>	<u>15,797</u>	<u>27,577</u>	<u>(11,780)</u>
<b>Total Revenues</b>	<u>\$65,261</u>	<u>\$61,405</u>	<u>\$3,856</u>

- Revenue generated from operations (farebox revenue) increased significantly by \$6.3 million or 325% from the prior year as the Authority experienced some return to ridership following two years of pandemic reductions.
- Non-operating revenues increased by \$9.3 million or 29%. This increase was attributed to the increased reliance on Federal assistance to support operations due to ridership and fare revenue decreases brought on by continued impacts of the COVID-19 pandemic.
- Capital grants and contributions from Federal, State, and Local governments decreased by \$11.8 million, or 43% attributed primarily to an overall reduction capital activities and specific delays in vessel construction projects brought on by the pandemic.

## Expenses

The chart below shows a summary of expenses for the year ended June 30, 2022 by category related to the Bay Ferry service and management of that service. It also shows the change in relation to prior year amounts (in thousands). The chart excludes depreciation and other financial statement required adjustments in order to provide a table that is comparable to the revenue table.

	<u>2022</u>	<u>2021</u>	<u>Increase/ (Decrease) From 2021</u>
<b>Operating Expenses:</b>			
Alameda Harbor Bay Ferry Service	\$4,225	\$1,683	\$2,542
Alameda / Oakland Ferry Service	10,602	8,546	2,056
Vallejo Ferry Service	17,769	15,549	2,220
South San Francisco Ferry Service	2,548	1,333	1,215
Richmond Ferry Service	7,250	4,157	3,093
Seaplane Lagoon Ferry Service	4,493	124	4,370
Planning & Administration	2,550	2,367	183
<b>Total Operating Expenses</b>	<b>\$ 49,438</b>	<b>\$ 33,758</b>	<b>\$ 15,679</b>

Total operating expenses, before depreciation, increased by \$15.7 million, or 46%, over the prior year as a result of a number of factors: an increase in service starting July 1 as part of the Authority's Pandemic Recovery Program, a full year of service to South San Francisco, significant increases in fuel costs in the second half of the fiscal year, and increased labor costs related to staffing challenges during the pandemic.

## CAPITAL INVESTMENT ACTIVITIES

During the year ending June 30, 2022, the Authority expended \$13.5 million on capital activities. (See Note 4 for further information.) This included the following notable project expenses:

- Construction of Two 445-Passenger Expansion Vessels (\$6.4 million)
- Gemini Class Engine Conversions – (\$3 million)
- Purchase/Construct Two Replacement Vessels – Bay Breeze and Solano (\$1.2 million)
- Passenger Float Rehabilitation - South San Francisco Terminal (\$1.3 million)
- Terminal Rehabilitation Alameda Main Street – (\$485,987)
- Multiple Vessel Smaller Rehabilitation Projects – (\$437,366)

## PROGRAM INITIATIVES AND OUTLOOK

Although fiscal year 2021-22 was a challenging one due to continued negative impacts of the pandemic, the Authority will continue its efforts at pandemic recovery as the trends in ridership were very positive at the close of the fiscal year. The Authority chose to continue with a fare program adopted at the beginning of the fiscal year that reduced fares overall by 20% in order to rebuild ridership on all six San Francisco Bay Ferry routes: Alameda/Oakland to San Francisco, Alameda Harbor Bay to San Francisco, Alameda/Oakland to South San Francisco, Vallejo to San Francisco, Richmond to San Francisco, and Alameda Seaplane Lagoon to San Francisco. Continued federal COVID-19 operative support will be essential to that effort and is anticipated to provide support into fiscal year 2023-24.

Planning, administration, and development efforts in the coming year will focus on:

- **Budget Planning:** The Authority’s post-pandemic fare revenue has been challenged by the change in commuting patterns across the Bay Area while costs have increased due to inflation significantly impacting labor and fuel. The Authority was successful at competing for additional federal funding through the American Rescue Plan for operating needs which will provide needed revenue support through Fiscal year 2023-24. At that time, new revenues from Regional Measure 3 (Bridge Tolls) are anticipated to be received of up to \$35 million annually for ferry service. However, receipt of those funds has been stalled by litigation for over three years. The Authority will continue to undertake prudent planning for scenarios related to the outcome.
- **Business Plan:** The Authority will continue work on a business plan that is a far-reaching effort to define a service vision for the Authority to guide development and operational policy over the next 30 years. The effort emphasizes outreach and engagement, reaching out to a broad range of stakeholders and interest groups to help define a future vision for the agency. For the coming year, the Authority anticipates utilizing technical consultants to support the overall business plan effort in areas such as transportation planning, emergency response, vessel technology and organizational management.
- **System Planning and Service Development -** Significant effort will be focused on monitoring system operation and ridership and developing and refining services based on new post-pandemic travel patterns. Depending on those patterns, staff will be presenting a Five-Year Fare Program that has been delayed for two years as impacts of the pandemic have lingered.
- **Zero Emission Fleet Development** – In addition to supporting the Authority’s ongoing fleet construction and rehabilitation program, staff have begun to implement capital programs funded by State and Federal grants that will invest in five new electric vessels and related charging infrastructure. This will mean significant progress toward State mandated emissions standard with the operation of zero emissions vessels in approximately three years.
- **Emergency Response Program/Training** – Authority staff will continue to participate in local, regional, and state emergency exercises, meetings and planning discussions and efforts to improve internal training exercises including in-person emergency simulations.
- **Passenger Experience** – Several customer experience improvements are being implemented in the coming year, including improved customer-facing mobile application functionality, enhanced integration of real-time transit information, upgraded terminal and onboard signage, the addition of passenger information carts at the Downtown San Francisco Terminal, improved concessions options, and more efficient dwell times. The FY 2022-23 budget includes more frequent and more advanced surveying of passengers to inform future service decisions and passenger experience upgrades.

## CONTACTING THE AUTHORITY'S FINANCIAL MANAGEMENT

The financial report is designed to provide citizens, taxpayers, creditors and interested parties with a general overview of the Authority’s finances. Questions or additional information about these statements should be directed to San Francisco Bay Area Water Emergency Transportation Authority, at Pier 9, Suite 111, San Francisco, CA 94111.

SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY  
STATEMENT OF NET POSITION  
JUNE 30, 2022

ASSETS

Current Assets	
Cash and cash equivalents (Note 3)	\$25,183,125
Receivables:	
Accounts	10,950,712
Interest	4,611
Security deposit	76,432
Inventory	93,215
Prepaid expenses	<u>5,340,108</u>
Total Current Assets	<u>41,648,203</u>
Noncurrent Assets	
Net OPEB Asset (Note 10)	524,028
Collective net pension Asset (Note 9)	70,008
Capital assets, net of accumulated depreciation (Note 4):	
Construction in progress	24,444,460
Depreciable capital assets, net	
Ferries	168,517,104
Terminal development rights	2,794,955
Floats, piers and gangways	8,523,863
Ferry terminal and facilities	238,664,982
Equipment and service vehicles	<u>303,116</u>
Total Capital Assets	<u>443,248,480</u>
Total Noncurrent Assets	<u>443,842,516</u>
Total Assets	<u>485,490,719</u>

DEFERRED OUTFLOWS OF RESOURCES

Related to pensions (Note 9)	1,647,478
Related to OPEB (Note 10)	<u>149,144</u>
Total Deferred Outflows of Resources	<u>1,796,622</u>

LIABILITIES

Current Liabilities	
Accounts payable	8,369,090
Other accrued liabilities	396,346
Compensated absences (Note 2C)	<u>108,500</u>
Total Current Liabilities	<u>8,873,936</u>
Noncurrent Liabilities	
Compensated absences (Note 2C)	204,463
Unearned revenue - State Appropriation (Note 5A)	1,061,044
Unearned revenue - Prop 1B (Note 5C)	1,517,542
Unearned revenue -STA-SGR (Note 5E)	956,240
Unearned revenue -LCTOP (Note 5F)	<u>1,101,957</u>
Total Noncurrent Liabilities	<u>4,841,246</u>
Total Liabilities	<u>13,715,182</u>

DEFERRED INFLOWS OF RESOURCES

Related to pensions (Note 9)	(668,727)
Related to OPEB (Note 10)	<u>287,289</u>
Total Deferred Inflows of Resources	<u>(381,438)</u>

NET POSITION (Note 8)

Net investment in capital assets	443,248,480
Restricted	11,857,244
Unrestricted	<u>18,847,873</u>
Total Net Position	<u>\$473,953,597</u>

See accompanying notes to financial statements

SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY  
STATEMENT OF ACTIVITIES  
FOR THE YEAR ENDED JUNE 30, 2022

OPERATING REVENUES

Farebox revenue	\$8,232,071
Total Operating Revenues	8,232,071

PROGRAM OPERATING EXPENSES

Personnel costs	1,436,558
Administrative expenses	16,133,033
Legal and consulting	2,277,182
Purchased transportation	25,535,901
Insurance premiums	2,009,033
Depreciation (Note 4)	18,241,102
Total Program Operating Expenses	65,632,809

OPERATING LOSS (57,400,738)

NON-OPERATING REVENUES (EXPENSE)

Metropolitan Transportation Commission	15,554,999
Federal Transit Administration	21,924,452
Contra Costa Transportation Authority	3,651,299
Interest/Investment earnings	101,576
Total Non-operating Revenues	41,232,326

CAPITAL GRANTS AND CONTRIBUTIONS 37,721,134

State of California	10,106,297
Federal Transit Administration	2,656,020
Alameda County Transportation Commission	2,197,322
City of Alameda	619,705
Metropolitan Transportation Commission	217,338
Total capital grants and contributions	15,796,682

CHANGE IN NET POSITION (371,730)

NET POSITION - BEGINNING 474,325,327

NET POSITION - ENDING \$473,953,597

See accompanying notes to financial statements

SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY  
STATEMENT OF CASH FLOWS  
FOR THE YEAR ENDED JUNE 30, 2022

CASH FLOWS FROM OPERATING ACTIVITIES

Receipts from customers	\$8,230,147
Payments to vendors and consultants	(42,043,632)
Payments to or on behalf of employees	<u>(3,558,749)</u>
Net cash flows from (used for) operating activities	<u>(37,372,234)</u>

CASH FLOWS FROM NONCAPITAL AND RELATED FINANCING ACTIVITIES

Intergovernmental collections	<u>35,292,027</u>
Net cash flows from noncapital and related financing activities	<u>35,292,027</u>

CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES

Grant receipts used for capital activities	9,077,261
Payments for capital assets	<u>(13,546,798)</u>
Net cash flows from (used for) capital and related financing activities	<u>(4,469,537)</u>

CASH FLOWS FROM INVESTING ACTIVITIES

Interest receipts	<u>110,812</u>
Net cash flows from (used for) investing activities	<u>110,812</u>
Net cash flows	(6,438,932)

Cash and cash equivalents- beginning of year	<u>31,622,057</u>
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Cash and cash equivalents - end of year	<u><u>\$25,183,125</u></u>
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Reconciliation of operating loss to net cash flows from operating activities:

Operating loss	(\$57,400,738)
Depreciation	18,241,102
Change in assets and liabilities:	
Security deposits	
Inventory	
Prepaid expenses	(118,856)
Net OPEB asset	124,846
Accounts payable	3,977,832
Other accrued liabilities	(72,305)
Unearned fares	(1,924)
Compensated absences	48,508
Net Pension asset	(251,324)
Deferred outflows/inflows	<u>(1,919,375)</u>

Net cash flows used for operating activities	<u><u>(\$37,372,234)</u></u>
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See accompanying notes to financial statements

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 1 – REPORTING ENTITY**

The San Francisco Bay Area Water Emergency Transportation Authority (Authority) is the regional water transportation planning and operating agency for the San Francisco Bay Area. It was established by the California State Legislature on October 14, 2007. The Authority was created by the State Legislature to plan, manage, and operate new and existing Alameda and Vallejo ferry services and coordinate the emergency activities of all water transportation and related facilities within the Bay Area region.

The Authority is governed by a Board of Directors comprised of appointees from the Governor of California, the State Assembly, and the State Senate Subcommittee on Rules. The Board, consisting of 5 members, is responsible for general operations of the Authority, reviewing and approving the annual budget, approving future contractual agreements with vendors, and appointment of the Executive Director.

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

The accounting policies of the Authority conform with generally accepted accounting principles applicable to governments. The following is a summary of the significant policies:

**A. *Basis of Presentation***

The Authority's Basic Financial Statements are prepared in conformity with accounting principles generally accepted in the United States of America. The Government Accounting Standards Board is the acknowledged standard setting body for establishing accounting and financial reporting standards followed by governmental entities in the U.S.A.

These Standards require that the financial statements described below be presented.

***Government-wide Statements:*** The Statement of Net Position and the Statement of Activities display information about the primary entity (the Authority). These statements include the financial activities of the overall Authority. Eliminations have been made to minimize the double counting of internal activities. These statements display the *business-type activities* of the Authority. Business-type activities are financed in whole or in part by fees charged to external parties.

The Statement of Activities presents a comparison between direct expenses and program revenues for each function of the Authority's business-type activities. Program Operating Expenses are those that are specifically associated with a program or function. Nonoperating Revenues include (a) charges paid by the recipients of goods or services offered by the programs, (b) grants and contributions that are restricted to meeting the operational needs of a particular program and (c) fees, grants and contributions that are restricted to financing the acquisition or construction of capital assets. Revenues that are not classified as Nonoperating Revenues are presented as Operating Revenues.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

**B. Basis of Accounting**

The Authority uses an enterprise fund format to report its activities for financial statement purposes. The Authority’s financial statements are reported using the *economic resources measurement focus* and the full *accrual basis* of accounting. Revenues are recorded when *earned* and expenses are recorded at the time liabilities are *incurred*, regardless of when the related cash flows take place.

Grant reimbursements are recognized in the period the grant expenditures are made. Expenditures in excess of reimbursement are recorded as receivables if allowable under the grant, while excess reimbursements are recorded as deferred revenues.

**C. Compensated Absences**

Compensated absences comprise vacations and administration leave and are recorded as an expense when earned. The accrued liability for unused compensated absences is computed using current employee pay rates. Sick pay does not vest and is not accrued.

The changes in compensated absences were as follows:

Balance at June 30, 2021	\$264,455
Additions	284,539
Payments	<u>(236,031)</u>
Balance at June 30, 2022	<u>312,963</u>
Due within one year	<u>108,500</u>
Due in more than one year	<u><u>\$204,463</u></u>

**D. Estimates**

The Authority’s management has made a number of estimates and assumptions relating to the reporting of assets and liabilities and revenues and expenses and the disclosure of contingent liabilities to prepare these financial statements in conformity with Generally Accepted Accounting Principles (GAAP). Actual results could differ from those estimates.

**E. Fair Value Measurements**

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels based on the extent to which inputs used in measuring fair value are observable in the market.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)**

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs are inputs – other than quoted prices included within level 1 – that are observable for an asset or liability, either directly or indirectly.

Level 3 inputs are unobservable inputs for an asset or liability.

If the fair value of an asset or liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement.

**F. Lease**

A lease is defined as a contract that conveys control of the right to use another entity’s nonfinancial asset (the underlying asset) as specified in the contract for a period of time in an exchange or exchange-like transaction. Examples of nonfinancial assets include buildings, land, vehicles, and equipment.

The Authority’s policy sets a lease amortization threshold based on 1% of the Authority’s total annual assets for lease contracts to be recorded under the GASB 87. Any lease with a present value at inception less than 1% of the Authority’s total annual assets will be deemed immaterial in relation to the financial statements as a whole and, thereby excluded from an amortization schedule.

As of June 30, 2022, the Authority does not have any leases that qualify under this threshold. See Note 6 for additional information.

**NOTE 3 – CASH AND INVESTMENTS**

**A. Carrying Amount and Fair Value**

Cash and investments are recorded at fair value, which is the same as fair market value. The Authority’s cash and investments were composed of cash in banks and the California Local Agency Investment Fund (LAIF), each of which is described below.

Cash and investments comprised of the following at June 30, 2022:

Investment Type	Total
California Local Agency Investment Fund	\$11,900,217
<b><i>Held by Trustees:</i></b>	
Money Market Mutual Fund	11,162,178
Total Investments	23,062,395
Cash in banks and on hand	2,120,730
Total Cash and investments	\$25,183,125

The California Local Agency Investment Fund (LAIF) and money market mutual funds are exempt from the fair value hierarchy.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 3 – CASH AND INVESTMENTS (Continued)**

**B. Investments Authorized by the Authority**

The California Government Code allows the Authority to invest in the following types of investments.

Authorized Investment Type	Maximum Maturity	Minimum Credit Quality	Maximum in Portfolio	Maximum Investment In One Issuer
U.S. Treasury Obligations	5 years	N/A	No Limit	No Limit
State Obligations: CA and Others	5 years	N/A	No Limit	No Limit
CA Local Agency Obligations	5 years	N/A	No Limit	No Limit
U.S. Agency Obligations	5 years	N/A	No Limit	No Limit
Negotiable Certificates of Deposit	5 years	N/A	30%	No Limit
Non-negotiable Certificates of Deposit	5 years	N/A	No Limit	No Limit
Mutual Funds and Money Market Mutual Funds	N/A	Multiple	20%	10%
Bankers Acceptances	180 days	N/A	40%	30%
Commercial Paper - Pooled Funds	270 Days	Highest	40%	10%
Commercial Paper - Non-Pooled Funds	270 Days	Highest	25%	10%
Local Agency Investment Program Fund (LAIF)	N/A	N/A	No limit	No Limit
Local Agency Bonds	5 years	N/A	No Limit	No Limit
Placement Service Deposits	5 years	N/A	50%	No Limit
Placement Service Certificates of Deposit	5 years	N/A	50%	No Limit
Repurchase Agreements	1 year	N/A	No Limit	No Limit
Reverse Repurchase Agreements and Securities Lending Agreements	92 days	N/A	20%	No Limit
Medium-Term Notes	5 years	A	30%	No Limit
Collateralized Bank Deposits	5 years	N/A	No Limit	No Limit
Mortgage Pass-Through Securities	5 years	AA	20%	No Limit
County Pooled Investment Funds	N/A	N/A	No Limit	No Limit
Joint Powers Authority Pool	N/A	Multiple	No Limit	No Limit
Voluntary Investment Program Funds	N/A	N/A	No Limit	No Limit
Supranational Obligations	5 years	AA	30%	No Limit
Public Bank Obligations	5 years	N/A	No Limit	No Limit

**C. Interest Rate Risk**

Interest rate risk is the risk that changes in market interest rates may adversely affect the fair value of the Authority's investment. Generally, the longer the maturity of an investment, the greater is the sensitivity of its fair value to changes in market interest rates. As of year end, the weighted average maturity of the investments in the LAIF investment pool, and the money market mutual funds, is approximately 311 and 19 days, respectively.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 3 – CASH AND INVESTMENTS (Continued)**

**D. Credit Risk**

Generally, credit risk is the risk that an issuer of an investment fails to fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating organization. As of year end, the money market mutual funds were rated AAAM by S&P. LAIF is not rated by a nationally recognized statistical rating organization.

**E. Custodial Credit Risk**

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the Authority may not be able to recover its deposits or may not be able to recover collateral securities that are in the possession of an outside party. Under California Government Code Section 53651, depending on specific types of eligible securities, a bank must deposit eligible securities posted as collateral with its agent having a fair value of 110% to 150% of the Authority's cash on deposit. All of the Authority's deposits are either insured by the Federal Depository Insurance Corporation (FDIC) or collateralized with pledged securities held in the trust department of the financial institutions in the Authority's name.

**F. Local Agency Investment Fund**

The Authority is a voluntary participant in LAIF. LAIF is regulated by California Government Code Section 16429 under the oversight of the Treasurer of the State of California. Included in LAIF's investment portfolio are collateralized mortgage obligations, mortgage-backed securities, other asset-backed securities, loans to certain state funds, and floating rate securities issued by federal agencies, government-sponsored enterprises, and corporations. The carrying value of LAIF approximates fair value.

**NOTE 4 – CAPITAL ASSETS**

All capital assets are valued at historical cost or estimated historical cost if actual historical cost is not available. Contributed capital assets are valued at their estimated fair market value on the date contributed.

Capital assets with limited useful lives are depreciated over their estimated useful lives. The purpose of depreciation is to spread the cost of capital assets equitably among all users over the life of these assets. The amount charged to depreciation expense each year represents that year's pro rata share of the cost of capital assets.

Depreciation expense is calculated on the straight line method over the estimated useful lives of assets, which are as follows:

Ferries	25 years
Ferry Terminal/Facilities	50 years
Terminal Development Rights	55 years

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 4 – CAPITAL ASSETS (Continued)**

Capital assets activity was as follows for the year ended June 30, 2022:

	Balance as of June 30, 2021	Additions	Deletions	Transfers/ Adjustments	Balance as of June 30, 2022
Capital assets not being depreciated:					
Construction in progress	\$26,128,888	\$13,546,798		(\$15,231,226)	\$24,444,460
Total assets not being depreciated	<u>26,128,888</u>	<u>13,546,798</u>		<u>(15,231,226)</u>	<u>24,444,460</u>
Capital assets being depreciated:					
Ferries	231,256,132			15,231,226	246,487,358
Terminal development rights	3,660,000				3,660,000
Floats, piers and gangways	16,077,607				16,077,607
Ferry terminal and facilities	265,855,052				265,855,052
Equipment and service vehicles	1,631,777				1,631,777
Total assets being depreciated	<u>518,480,568</u>			<u>15,231,226</u>	<u>533,711,794</u>
Less accumulated depreciation for:					
Ferries	(66,612,239)	(11,358,015)			(77,970,254)
Terminal development rights	(798,500)	(66,545)			(865,045)
Floats, piers and gangways	(7,094,932)	(458,812)			(7,553,744)
Ferry terminal and facilities	(20,886,930)	(6,303,140)			(27,190,070)
Equipment and service vehicles	(1,274,071)	(54,590)			(1,328,661)
Total accumulated depreciation	<u>(96,666,672)</u>	<u>(18,241,102)</u>			<u>(114,907,774)</u>
Net capital assets being depreciated	<u>421,813,896</u>	<u>(18,241,102)</u>		<u>\$15,231,226</u>	<u>418,804,020</u>
Capital Assets, Net	<u>\$447,942,784</u>	<u>(\$4,694,304)</u>			<u>\$443,248,480</u>

**NOTE 5 – MAJOR FUNDING SOURCES**

**A. State Appropriation**

In October 1999, the California State legislature formed the Water Transit Authority (WTA) and received a single \$12,000,000 appropriation as initial funding for the study and planning of water transportation services in the San Francisco Bay. On October 14, 2007, Senate Bill stated that WTA funds will be transferred to the Authority. As of June 30, 2022, the appropriation has a balance as follows:

Original appropriation	\$12,000,000
Net expenses as of June 30, 2022	<u>(10,941,179)</u>
Unearned appropriation as of beginning of period	1,058,821
Fiscal year 2022:	
Add: Interest income	2,223
Less: Expended	<u>-</u>
Unearned appropriation as of period end	<u>\$1,061,044</u>

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 5 – MAJOR FUNDING SOURCES (Continued)**

**B. Bridge Tolls**

*Regional Measure 1 (RM1)* – In November 1988, Bay Area voters approved Regional Measure 1 (RM1), which authorized a standard auto toll of \$1 for all seven state-owned Bay Area toll bridges. The additional revenues generated by the toll increase were identified for use for congestion-relieving transit operations and capital projects in the bridge corridors. The Authority receives the portion of RM1 funding intended for transit operation and ferry capital projects. As of June 30, 2022, the Authority expended a total of \$155,526 for capital. Of the total 2021 receivable balance and 2022 expenditures, the Authority received \$479,448 in cash and had a receivable balance of \$73,309.

*Regional Measure 2 (RM2)* – On March 2, 2004, voters passed Regional Measure 2 (RM2), raising the toll on the seven State-owned toll bridges in the San Francisco Bay Area by \$1.00. This extra dollar is to fund various transportation projects within the region that have been determined to reduce congestion or to make improvements to travel in the toll bridge corridors, as identified in SB 916 (Chapter 715, Statutes of 2004). Specifically, RM2 establishes the Regional Traffic Relief Plan and identifies specific transit operating assistance and capital projects and programs eligible to receive RM2 funding. The Authority was allocated \$13,005,500 to be used for operations in the fiscal year 2021-22. As of June 30, 2022, the Authority has expended total current allocated operating funds of \$13,005,000. RM2 funding is also provided for Planning and Administration of ferry service and \$2,550,000 was allocated and spent in the fiscal year 2021-22.

*AB664* – This source is named for the 1975 enabling legislation that established certain reserves from the original base toll. Funds are collected from the Dumbarton, San Mateo-Hayward and San Francisco-Oakland Bay bridges and are used to fund capital projects that further the development of public transit in the vicinity of the bridges. Most AB664 funding is programmed to various transit agencies as a match for federal funds to cover the cost of replacing buses and improving capital facilities. As of June 30, 2022, the Authority had expended total allocated funds of \$61,849. Of the total 2021 receivable balance and 2022 expenditures, the Authority received \$19,737 in cash and had a receivable balance of \$61,318 at June 30, 2022.

**C. Proposition 1B (CTSGP-RPWT) Projects**

Pursuant to State Proposition 1B, the Authority is the eligible recipient of funds from the California Transit Grant Program, Regional Public Waterborne Transit (CTSGP-RPWT) for public transportation ferries and related facilities and services and emergency water transportation disaster recovery within the Bay Area region. As of June 30, 2022, the Authority had been awarded \$245 million in Proposition 1B allocations. Unspent grant receipts are reported as unearned revenue in the accompanying financial statements.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 5 – MAJOR FUNDING SOURCES (Continued)**

A summary of the Authority’s Proposition 1B projects for the fiscal year ended June 30, 2022 are as follows:

Project Name	Grant Allocations	Interest Applied	Expended in Fiscal Year		Unearned Revenue at 06/30/22
			Prior years	2021-2022	
Preliminary Studies & Bridging Design of Redwood City, Richmond, Antioch and Martinez	\$2,299,792		(\$2,299,792)		
Final Design for Berkeley and Hercules Terminals	220,519		(220,519)		
South San Francisco Terminal and Vessel Construction	9,617,037		(9,617,037)		
Maintenance Barge/Facility and Emergency Floats	5,686,442		(5,686,442)		
Central Bay and North Bay Maintenance Facilities	76,176,210		(75,183,428)	(\$373,268)	\$619,513
San Francisco Berthing Expansion	61,474,530	\$544,340	(62,018,870)		
WETA Ferry Vessels	73,525,470		(66,769,358)	(6,416,076)	340,036
East Bay Ferry Terminals	16,000,000		(16,000,000)		
<b>Total</b>	<b>\$245,000,000</b>	<b>\$544,340</b>	<b>(\$237,795,446)</b>	<b>(\$6,789,344)</b>	<b>959,549</b>
Add interest earned in prior years					1,101,598
Add interest earned in current year					736
Less interest applied to projects					(544,341)
Unearned Revenues					<b>\$1,517,542</b>

**D. Measure B and Measure BB Programs**

Measure B was approved by the voters of Alameda County in 2000. This measure authorized a half-cent transportation sales tax to finance improvements to the County’s mass transit and road improvements. Measure B funds are to be collected for a duration of 20 years; sales tax collection began on April 1, 2002 and will extend through March 31, 2022.

On November 4, 2014, the voters of Alameda County approved Measure BB, authorizing Alameda County Transportation Commission (CTC) to administer the proceeds from the extension of an existing one-half of one percent transaction and use tax scheduled to terminate on March 31, 2022 and the augmentation of the tax by one-half of one percent. The duration of the tax will be for 30 years from the initial year of collection, expiring on March 31, 2045. The tax proceeds will be used to pay for investments outlined in the 2014 Alameda County Transportation Expenditure Plan (2014 TEP).

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 5 – MAJOR FUNDING SOURCES (Continued)**

The Authority uses Measure B and Measure BB funds for the maintenance and operations of the Alameda ferry services. During the fiscal year ended June 30, 2022, the Measure B and Measure BB program activity was as follows:

	<u>Measure B</u>	<u>Measure BB</u>
<b>Program Revenues:</b>		
Direct Local Program Distribution Allocation	\$1,046,606	\$1,148,884
Interest Earned - Measure B/BB Distribution	1,097	736
<b>Total Measure B/BB Revenues</b>	<u>1,047,703</u>	<u>1,149,620</u>
<b>Program Expenditures:</b>		
Construction / Capital:		
Terminal Rehabilitation - Alameda Main Street	(98,037)	
Replacement Vessel - M/V Bay Breeze		(77,019)
Engines Conversion - Gemini Class Vessels		(392,087)
<b>Total Direct Local Distribution Program Expenditures</b>	<u>(98,037)</u>	<u>(469,106)</u>
<b>Revenue Over Expenditures/ Excess Net Change in Fund Balance</b>	<u>949,666</u>	<u>680,514</u>
<b>Fund Balance:</b>		
Beginning Fund Balance	1,657,517	1,993,487
<b>Ending Fund Balance</b>	<u>\$2,607,183</u>	<u>\$2,674,001</u>
<b>Reserves:</b>		
Restricted for Measure B and Measure BB programs and projects	<u>\$2,607,183</u>	<u>\$2,674,001</u>
<b>Unspent Funds as of the End of the Year:</b>	<u>\$2,607,183</u>	<u>\$2,674,001</u>

**E. State Transit Assistance – State of Good Repair (STA-SGR)**

The Road Repair and Accountability Act of 2017, Senate Bill 1 (SB 1), signed by the Governor on April 28, 2017, includes a program that will provide additional revenues for transit infrastructure repair and service improvements. This investment in public transit will be referred to as the State of Good Repair (SGR) program. This program provides funding of approximately \$105 million annually to the State Transit Assistance (STA) Account. These funds are to be made available for eligible transit maintenance, rehabilitation and capital projects. Funds are distributed by formula on a population basis in the region and on a revenue basis.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 5 – MAJOR FUNDING SOURCES (Continued)**

During the fiscal year, the Authority received \$336,587 in SGR funding and incurred \$453,998 SGR expenditures. The Authority recorded a balance of unspent SGR proceeds and interest of \$956,240 as of June 30, 2022. Total funding allocated to the Authority as of June 30, 2022 is \$1,392,683.

<b>Program Fund Balance - FY2020-21</b>	\$1,071,480
<b>Program Revenues:</b>	
Allocation Received - FY2021-22	336,587
Interest Earned	2,171
<b>Total Program Revenues</b>	338,758
<b>Program Expenditures:</b>	
Terminal Dredging - Vallejo	(406,920)
Vessel Replacement - M/V Bay Breeze	(47,078)
<b>Total Program Expenditures</b>	(453,998)
<b>Ending Program Fund Balance</b>	\$956,240

**F. *Low Carbon Transit Operations Program (LCTOP)***

The Low Carbon Transit Operations Program (LCTOP) is one of several programs funded by auction proceeds from the California Air Resource Board’s Cap-and-Trade Program. LCTOP receives a five percent continuous appropriation of the annual auction proceeds beginning in FY2015/16. Funding is allocated annually to public transit operators in the State based on the existing State Transit Assistance revenue based formulas. The LCTOP program provides operating and capital assistance for transit agencies to reduce greenhouse gas (GHG) emissions and improve mobility, with a priority on serving disadvantaged communities.

During the fiscal year, the Authority received \$283,450 in LCTOP funding and incurred \$103,052 LCTOP expenditures. Total funding allocated from the LCTOP program to the Authority is \$1,822,735 as of June 30, 2022. The Authority recorded a balance of unspent LCTOP funding and interest of \$1,101,957 as of June 30, 2022.

**G. *Federal Funding Programs***

The majority of federal funds received and utilized by the Authority to support its annual capital program are Federal Section 5307 Urbanized Area Formula Grants and Section 5337 State of Good Repair Grants programmed annually by the Metropolitan Transportation Commission (MTC) and secured through direct grant applications and contracts with the Federal Transit Administration (FTA). These funds are currently available to support high priority capital rehabilitation and replacement projects. The Authority also receives Federal Highway Administration (FHWA) Ferry Boat Program funds and is eligible to receive FTA Passenger Ferry Grant Program funds for the construction of ferry boat and ferry terminal facilities. In fiscal year 2022, the Authority utilized \$2,656,020 in federal funds for capital repair and replacement projects.

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**NOTE 5 – MAJOR FUNDING SOURCES (Continued)**

The Coronavirus Aid, Relief, and Economic Security (CARES) Act, the Coronavirus Response and Relief Appropriations Act of 2021 (CRRSAA), and the American Rescue Plan Act of 2021 (ARP) provided supplemental funding to transit agencies to help prevent, prepare for, and respond to the COVID-19 pandemic. The total amount made available to each agency was based on funding appropriated under the Acts and metrics developed by MTC. In fiscal year 2022, the Authority utilized a total of \$21,924,452 from those three funding sources to support operating expenses during continued impact from the COVID-19 pandemic. The breakdown for fiscal year 2021-22 is as follows:

CARES Act:	\$ 1,275,813
CRRSAA:	\$18,353,738
ARP:	\$ 2,294,901

**NOTE 6 – LEASE OBLIGATION**

**A. *Port of San Francisco***

The Authority and Port of San Francisco entered into a lease agreement on December 1, 2011. The agreement allows the Authority to lease three parcels for office space, nonexclusive apron space and the exclusive use of lay berth area for ferry berthing. The annual lease payment is \$244,170 and each parcel amount is subject to a 3% annual adjustment with a minimum adjustment of \$0.01 (1 cent). On September 29, 2016, the Authority and the Port of San Francisco entered into a new lease extending the original lease by 5 years. It expired on November 30, 2021. The annual lease payment is \$341,517, and each parcel is subject to a 3% annual adjustment with a minimum adjustment. On August 26, 2021, the Authority and the Port of San Francisco entered into a new lease extending the original lease by 5 years at a reduced rate. It expires November 30, 2026. The annual lease payment is \$306,948, and each parcel is subject to a 3% annual adjustment with a minimum adjustment

**B. *Lennar Mare Island, LLC***

The Authority and Lennar Mare Island entered into a lease agreement on April 22, 2013. The agreement allows the Authority to lease facilities for the purposes of continued ferry maintenance operations at the Temporary Ferry Facility Area and Permanent Ferry Facility Area. The Authority is obligated to make monthly payments for the Temporary Ferry Facility Area and Permanent Ferry Facility Area of \$9,000 and \$2,500, respectively. The Permanent Ferry Facility Area shall increase the monthly base rent by 2.5% over the prior year's base rent amount on an annual basis. The lease expires after 50 years.

**C. *City of Alameda***

The Authority and the City of Alameda entered into a lease agreement on February 15, 2015. The agreement allows the Authority to lease facilities for the Central Bay Operations and Maintenance Facility. The Authority is obligated to make monthly base rent payments equal to \$5,125, adjusted annually by the Consumer Price Index Rent Adjustment, and expires after 60 years.

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**NOTE 6 – LEASE OBLIGATION (Continued)**

**D. City of Richmond**

The Authority and the City of Richmond entered into a lease agreement on August 24, 2017. The agreement allows the Authority to lease landside and waterside facilities for the Richmond ferry service. The Authority is obligated to make an annual base rent payment of \$1. The lease expires on August 31, 2027.

**NOTE 7 – RISK MANAGEMENT**

The Authority purchased the following insurance policy coverage for fiscal year 2022:

<u>Type of Coverage</u>	<u>Limit</u>	<u>Deductible</u>
General liability	\$1,000,000 to 3,000,000	\$2,500
Workers compensation	1,000,000	N/A
Public officials management & Employment practices liability	3,000,000	5,000 to 25,000
Crime Insurance	1,000,000	2,500
 <u>Type of Coverage (related to Ferry Services)</u>		
Marine commercial liability, Terminal operators liability and Wharfingers liability	\$1,000,000 to 3,000,000	\$2,500
Property Insurance	193,725,290	50,000 to 250,000
Excess marine liability	24,000,000	N/A

The Authority did not have any claims in fiscal year 2022.

**NOTE 8 – NET POSITION**

**A. Net Position**

Net Position is the excess of all the Authority’s assets and deferred outflows of resources over all its liabilities and deferred inflows, regardless of fund. The Authority’s Net Position is reported under the captions described below:

*Net Investment in Capital Assets* is the current net book value of the Authority’s capital assets, less the outstanding balance of any debt issued to finance these assets.

*Restricted* describes unexpended Measure B revenues, unexpended Measure BB revenues and Alameda Local Property Tax/Assessments.

*Unrestricted* describes the portion of Net Position which may be used for any Authority purpose.

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**NOTE 9 – PENSION PLAN**

**A. Plan Descriptions and Summary of Balances by Plan**

**Plan Descriptions** – The Authority has three defined benefit pension plans, a Miscellaneous Plan (Plan), a Water Emergency Transportation Authority Plan and Replacement Benefit Plan. The Miscellaneous Plan is a public agency cost-sharing multiple-employer defined benefit pension plan administered by the California Public Employees’ Retirement System (CalPERS). The Water Emergency Transportation Authority Plan and Replacement Benefit Plan are both Single Employer Plan administered by the Authority. Benefit provisions under the Plans are established by State statute and Authority Ordinance.

*Miscellaneous Plan* – The Plan is administered by the California Public Employees’ Retirement System (“CalPERS”). Benefit provisions under the Plans are established by State statute and Authority resolution. CalPERS issues publicly available reports that include a full description of the pension plans regarding benefit provisions, assumptions and membership information that can be found on the CalPERS website.

*Water Emergency Transportation Authority Plan and Replacement Benefit Plan* – These plans were implemented on September 5, 2019 and are closed to new participants hired after January 1, 2013. These plans are separate from CalPERS and are established as a 401(a) Defined Benefit Plan. Both plans are administered by the Authority.

For purposes of measuring the net pension liability and deferred outflows/inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Plan and additions to/deductions from the Plan’s fiduciary net position have been determined on the same basis as they are reported by the CalPERS Financial Office or the Trust. For this purpose, benefit payments (including refunds of employee contributions) are recognized when currently due and payable in accordance with the benefit terms. Investments are reported at fair value.

Below is a summary of the deferred outflows of resources, net pension liabilities and deferred inflows of resources by plan:

Plan	Deferred Outflows of Resources	Net Pension Liability (Asset)/Proportionate Share of Net Pension Liability (Asset)	Deferred Inflows of Resources
CalPERS Plans:			
Miscellaneous	\$1,021,375	(\$971,774)	(\$668,727)
Water Emergency Transportation Authority Plan	581,858	775,730	
Replacement Benefit Plan	44,245	126,036	
	<u>\$1,647,478</u>	<u>(\$70,008)</u>	<u>(\$668,727)</u>

Each plan is discussed in detail below.

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**NOTE 9 – PENSION PLAN (Continued)**

**B. General Information about the CalPERS Pension Plans**

**Plan Description** – All qualified permanent and probationary employees are eligible to participate in the Authority’s Miscellaneous Employee Pension Rate Plan. The Authority’s Miscellaneous Rate Plan is part of the public agency cost-sharing multiple-employer defined benefit pension plan, which is administered by the California Public Employees’ Retirement System (CalPERS). The employer participates in one cost-sharing multiple-employer defined benefit pension plan regardless of the number of rate plans the employer sponsors. Benefit provisions under the Plan are established by State statute and Board resolution. CalPERS issues publicly available reports that include a full description of the pension plan regarding benefit provisions, assumptions and membership information that can be found on the CalPERS website.

**Benefits Provided** – CalPERS provides service retirement and disability benefits, annual cost of living adjustments and death benefits to plan members, who must be public employees and beneficiaries. Benefits are based on years of credited service, equal to one year of full time employment. Members with five years of total service are eligible to retire at age 50 with statutorily reduced benefits. All members are eligible for non-duty disability benefits after 10 years of service. The death benefit is one of the following: the Basic Death Benefit, the 1957 Survivor Benefit, or the Optional Settlement 2W Death Benefit. The cost of living adjustments for each plan are applied as specified by the Public Employees’ Retirement Law.

The Plan’s provisions and benefits in effect at June 30, 2022 are summarized as follows:

	Miscellaneous	
	Tier 1 - Prior to January 1, 2013	Tier 2 - On or after January 1, 2013
Hire date		
Benefit formula	2.5% @ 55	2% @ 62
Benefit vesting schedule	5 years service	5 years service
Benefit payments	monthly for life	monthly for life
Retirement age	50 - 67	52 - 67
Monthly benefits, as a % of eligible compensation	2.0% - 2.5%	1.0% - 2.5%
Required employee contribution rates	8.00%	6.75%
Required employer contribution rates	12.20%	7.59%

Beginning in fiscal year 2016, CalPERS collects employer contributions for the Plan as a percentage of payroll for the normal cost portion as noted in the rates above and as a dollar amount for contributions toward the unfunded liability and side fund. The dollar amounts are billed on a monthly basis.

**Contributions** – Section 20814(c) of the California Public Employees’ Retirement Law requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. Funding contributions for the Plan are determined annually on an actuarial basis as of June 30 by CalPERS. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The Authority’s is required to contribute the difference between the actuarially determined rate and the contribution rate of employees.

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**NOTE 9 – PENSION PLAN (Continued)**

For the year ended June 30, 2022, the contributions recognized as part of pension expense for each Plan were as follows:

	Miscellaneous
	Tier I & Tier II
Contributions - employer	\$268,997
Contributions - employee (paid by employer)	190,183

***Pension Liabilities, Pension Expenses and Deferred Outflows/Inflows of Resources Related to Pensions***

For purposes of measuring the net pension liability and deferred outflows/inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Plan and additions to/deductions from the Plan’s fiduciary net position have been determined on the same basis as they are reported by the CalPERS Financial Office. For this purpose, benefit payments (including refunds of employee contributions) are recognized when currently due and payable in accordance with the benefit terms. Investments are reported at fair value.

As of June 30, 2022, the Authority reported a net pension liability for its proportionate share of the net pension liability of the Plan as follows:

	Proportionate Share of Net Pension Liability (Asset)
Miscellaneous	(\$971,774)
Total Net Pension Liability (Asset)	(\$971,774)

The Authority’s net pension liability for the Plan is measured as the proportionate share of the net pension liability. The net pension liability of the Plan is measured as of June 30, 2021, and the total pension liability for the Plan used to calculate the net pension liability was determined by an actuarial valuation as of June 30, 2020 rolled forward to June 30, 2021 using standard update procedures. The Authority’s proportion of the net pension liability was based on a projection of the Authority’s long-term share of contributions to the pension plan relative to the projected contributions of all participating employers, actuarially determined. The Authority’s proportionate share of the net pension liability for the Plan as of June 30, 2020 and 2021 was as follows:

	Miscellaneous
Proportion - June 30, 2020	0.0065%
Proportion - June 30, 2021	-0.0512%
Change - Increase (Decrease)	-0.057656%

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**NOTE 9 – PENSION PLAN (Continued)**

For the year ended June 30, 2022, the Authority recognized a negative pension expense of \$2,132,527. At June 30, 2022, the Authority reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Miscellaneous	
	Deferred Outflows of Resources	Deferred Inflows of Resources
Contributions made after the measurement date	\$268,997	
Differences between actual and expected experience	(108,974)	
Changes in assumptions		
Net differences in actual contributions and proportionate contributions		(\$179,580)
Net differences between projected and actual earnings on pension plan investments		848,307
Adjustments due to changes in proportion	861,352	
Total	<u>\$1,021,375</u>	<u>\$668,727</u>

Deferred outflows of \$268,997 related to contributions subsequent to the measurement date, will be recognized as a reduction of the net pension liability in the year ended June 30, 2023. Other amounts reported as deferred inflows of resources related to pensions will be recognized as pension expense as follows:

Year Ended June 30	Miscellaneous
	Annual Amortization
2023	\$429,574
2024	411,181
2025	345,920
2026	234,430
Total	<u>\$1,421,105</u>

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**NOTE 9 – PENSION PLAN (Continued)**

**Actuarial Assumptions** – For the measurement period ended June 30, 2021, the total pension liability was determined by rolling forward the June 30, 2020 total pension liability. The June 30, 2020 and June 30, 2021 total pension liability was based on the following actuarial methods and assumptions:

	Miscellaneous
Valuation Date	June 30, 2020
Measurement Date	June 30, 2021
Actuarial Cost Method	Entry-Age Normal Cost Method
Actuarial Assumptions:	
Discount Rate	7.15%
Inflation	2.50%
Salary Increases	Varies by Entry Age and Service
Mortality Rate Table (1)	Derived using CalPERS Membership Data for all Funds
Post Retirement Benefit Increase	The lesser of contract COLA or 2.50% until Purchasing Power Protection Allowance Floor on Purchasing Power applies, 2.50% thereafter

(1) The mortality table used was developed based on CalPERS-specific data. The probabilities of mortality are based on the 2017 CalPERS Experience Study for the period from 1997 to 2015. Pre- retirement and Post-retirement mortality rates include 15 years of projected mortality improvement using 90% of Scale MP-2016 published by the Society of Actuaries. For more details on this table, please refer to the CalPERS Experience Study and Review of Actuarial Assumptions report from December 2017 that can be found on the CalPERS website.

All other actuarial assumptions used in the June 30, 2020 valuation were based on the results of a December 2017 actuarial experience study for the period 1997 to 2011, including updates to salary increase, mortality and retirement rates. Further details of the Experience Study can be found on the CalPERS website under Forms and Publications.

**Discount Rate** – The discount rate used to measure the total pension liability for the Plan was 7.15%. The projection of cash flows used to determine the discount rate for each Plan assumed that contributions from all plan members in the Public Employees Retirement Fund (PERF) will be made at the current member contribution rates and that contributions from employers will be made at statutorily required rates, actuarially determined. Based on those assumptions, the Plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

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**NOTE 9 – PENSION PLAN (Continued)**

In determining the long-term expected rate of return, CalPERS took into account both short-term and long-term market return expectations as well as the expected pension fund cash flows. Using historical returns of all the funds' asset classes, expected compound (geometric) returns were calculated over the short-term (first 10 years) and the long-term (11+ years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the rounded single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equivalent to the single equal rate calculated above and adjusted to account for assumed administrative expenses.

The table below reflects the expected real rate of return by asset class.

Asset Class <sup>1</sup>	Assumed Asset Allocation	Real Return Years 1 - 10 <sup>2</sup>	Real Return Years 11+ <sup>3</sup>
Public Equity	50%	4.80%	5.98%
Fixed Income	28%	1.00%	2.62%
Inflation Assets	0%	0.77%	1.81%
Private Equity	8%	6.30%	7.23%
Real Assets	13%	3.75%	4.93%
Liquidity	1%	0.00%	-0.92%
Total	<u>100%</u>		

(1) In the System's ACFR, Fixed Income is included in Global Debt Securities; Liquidity is included in Short-term Investments; Inflation Assets are included in both Global Equity Securities and Global Debt Securities.

(2) An expected inflation of 2.00% used for this period.

(3) An expected inflation of 2.92% used for this period.

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**NOTE 9 – PENSION PLAN (Continued)**

***Sensitivity of the Proportionate Share of the Net Pension Asset to Changes in the Discount Rate***

The following presents the Authority’s proportionate share of the net pension asset for the Plan, calculated using the discount rate for the Plan, as well as what the Authority’s proportionate share of the net pension asset would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

	Miscellaneous
1% Decrease	6.15%
Net Pension Liability (Asset)	\$277,400
Current Discount Rate	7.15%
Net Pension Liability (Asset)	(\$971,774)
1% Increase	8.15%
Net Pension Liability (Asset)	(\$2,004,448)

***Pension Plan Fiduciary Net Position*** – Detailed information about each pension plan’s fiduciary net position is available in the separately issued CalPERS financial reports.

**C. *General Information about the Water Emergency Transportation Authority Retirement Plan and the Water Emergency Transportation Authority Replacement Benefit Pension Plans***

***Plan Description*** – In September 2019, the Authority’s Board of Directors (Board) adopted the San Francisco Bay Area Water Emergency Transportation Authority Retirement Plan (Retirement Plan), the San Francisco Bay Area Water Emergency Transportation Authority Replacement Benefits Plan (Replacement Benefits Plan) and related Trust Agreements to restructure funding of the Authority’s existing longevity stipend benefits. The Board also authorized staff to take actions to support the implementation of these plans, which provide monthly stipend to eligible retirees to support medical costs in retirement.

***Benefits Provided*** – The Retirement Plan and Replacement Benefit Plan provides Longevity Stipend benefits for eligible employees who were hired prior to January 1, 2013.

***Employees Covered by Benefit Terms*** – Membership in the Retirement Plan consisted of the following at the measurement date of June 30, 2022:

Active plan members	5
Inactive employees or beneficiaries currently receiving benefit payments	3
Inactive employees entitled to but not yet receiving benefit payments	
Total	8

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**NOTE 9 – PENSION PLAN (Continued)**

*Employees Covered by Benefit Terms* – Membership in the Replacement Benefit Plan consisted of the following at the measurement date of June 30, 2021:

Active plan members	
Inactive employees or beneficiaries currently receiving benefit payments	1
Inactive employees entitled to but not yet receiving benefit payments	_____
Total	1

*Actuarial Methods and Assumptions* – The Authority’s net pension liability (asset) was measured as of June 30, 2022 and the total Pension liability (asset) used to calculate the net pension liability (asset) was determined by an actuarial valuation dated June 30, 2021, based on the following actuarial methods and assumptions for, both the Retirement Plan and Replacement Benefit Plan, respectively:

	Retirement Plan
Valuation Date	June 30, 2021
Measurement Date	June 30, 2022
Contribution Policy	Authority contributes full ADC
Actuarial Assumptions:	
Discount Rate	5.50%
Long-Term Net Rate of Return	6.00%
Inflation	2.50%
Salary Increases	Aggregate - 2.7% annually CalPERS 1997-2015 Experience Study
Mortality, Retirement, Disability, Termination	CalPERS 1997-2015 Experience Study
Mortality Improvement	Mortality projected fully generational with Scale MP-2020
Participation at Retirement	PEMHCA - 100% Non-PEMHCA - 0%
Medical Trend	Non-Medicare - 6.5% for 2023, decreasing to an ultimate rate of 3.75% in 2076
PEMHCA Minimum Increases	3.75%

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**NOTE 9 – PENSION PLAN (Continued)**

	Replacement Benefit Plan
Valuation Date	June 30, 2021
Measurement Date	June 30, 2022
Contribution Policy	Authority contributes full ADC
Actuarial Assumptions:	
Discount Rate	5.50%
Long-Term Net Rate of Return	6.00%
Inflation	2.50%
Salary Increases	Aggregate - 2.7% annually CalPERS 1997-2015 Experience Study
Termination	CalPERS 1997-2015 Experience Study
Mortality Improvement	Mortality projected fully generational with Scale MP-2020
Participation at Retirement	PEMHCA - 100% Non-PEMHCA - 0%
Medical Trend	Non-Medicare - 6.5% for 2023, decreasing to an ultimate rate of 3.75% in 2076
PEMHCA Minimum Increases	3.75%

The long-term expected rate of return on Retirement Plan and Replacement Benefit Plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of Pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global Equity	45%	4.56%
Fixed Income	50%	0.78%
REITs	3%	4.06%
Cash	2%	-0.50%
Total	100%	
Assumed Long-Term Rate of Inflation		2.50%
Assumed Long-Term Net Rate of Return, Rounded		5.50%

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**NOTE 9 – PENSION PLAN (Continued)**

*Discount Rate* – The discount rate used to measure the total Pension liability was 5.50%. The projection of cash flows used to determine the discount rate assumed that Authority contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the Pension plan’s fiduciary net position was projected to be available to make all projected pension payments for current active and inactive employees and beneficiaries. Therefore, the long-term expected rate of return on Pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability (asset).

*Changes in Net Pension Liability (Asset)*

The changes in the net pension liability (asset) for the Retirement Plan is as follows:

	<b>Increase (Decrease)</b>		
	<b>Total Pension Liability</b>	<b>Plan Fiduciary Net Position</b>	<b>Net Pension Liability/(Asset)</b>
	<b>(a)</b>	<b>(b)</b>	<b>(c) = (a) - (b)</b>
Balance at June 30, 2021 (June 30, 2021 measurement date)	\$1,689,514	\$1,787,738	(\$98,224)
Changes Recognized for the Measurement Period:			
Service cost	93,700		93,700
Interest	105,776		105,776
Benefit changes			-
Difference between expected and actual experience	332,922		332,922
Changes of assumptions	80,856		80,856
Contributions from the employer			-
Net investment income		(250,700)	250,700
Benefit payments and refunds	(40,579)	(40,579)	-
Administrative expenses		(10,000)	10,000
Net Changes	<u>572,675</u>	<u>(301,279)</u>	<u>873,954</u>
Balance at June 30, 2022 (June 30, 2022 measurement date)	<u>\$2,262,189</u>	<u>\$1,486,459</u>	<u>\$775,730</u>

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**NOTE 9 – PENSION PLAN (Continued)**

The changes in the net Pension liability (asset) for the Replacement Benefit Plan is as follows:

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability/(Asset) (c) = (a) - (b)
Balance at June 30, 2021 (June 30, 2021 measurement date)	\$357,289	\$350,994	\$6,295
Changes Recognized for the Measurement Period:			
Service cost	11,782		11,782
Interest	21,721		21,721
Benefit changes			-
Difference between expected and actual experience	28,639		28,639
Changes of assumptions	12,513		12,513
Contributions from the employer		14,110	(14,110)
Net investment income		(49,196)	49,196
Benefit payments and refunds	(14,110)	(14,110)	-
Administrative expenses		(10,000)	10,000
Net Changes	60,545	(59,196)	119,741
Balance at June 30, 2022 (June 30, 2022 measurement date)	\$417,834	\$291,798	\$126,036

***Sensitivity of the Net Pension Liability/(Asset) to Changes in the Discount Rate***

The following presents the net Pension asset of the Authority for both Retirement Plan and Replacement Benefits Plan, respectively, as well as what the Authority's net Pension liability/(asset) would be if it were calculated using a discount rate that is 1-percentage-point lower (4.50%) or 1-percentage-point higher (6.50%) than the current discount rate:

	Retirement Plan's Net Pension Liability/(Asset)		
	Discount Rate -1%	Current Discount	Discount Rate +1%
	(4.50%)	Rate (5.50%)	(6.50%)
Net Pension Liability (Asset)	\$1,207,285	\$775,730	\$433,860

	Replacement Benefit Plan's Net Pension Liability/(Asset)		
	Discount Rate -1%	Current Discount	Discount Rate +1%
	(4.50%)	Rate (5.50%)	(6.50%)
Net Pension Liability (Asset)	\$195,645	\$126,036	\$70,293

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**NOTE 9 – PENSION PLAN (Continued)**

*Pension Expense and Deferred Outflows/Inflows of Resources Related to Pension*

For the year ended June 30, 2022, the Authority recognized Pension expense of \$216,106 related to the Retirement Plan. At June 30, 2022, the Authority reported deferred outflows and inflows of resources related to Pension from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Employer contributions made subsequent to the measurement date		
Difference between expected and actual experience	\$284,672	
Changes in assumptions	69,138	
Net difference between projected and actual earnings on plan investments	228,048	
Total	<u>\$581,858</u>	<u>\$0</u>

For the year ended June 30, 2022, the Authority recognized Pension expense of \$73,980 related to the Replacement Benefit Plan. At June 30, 2022, the Authority reported deferred outflows and inflows of resources related to Pension from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Employer contributions made subsequent to the measurement date		
Difference between expected and actual experience		
Changes in assumptions		
Net difference between projected and actual earnings on plan investments	\$44,245	
Total	<u>\$44,245</u>	<u>\$0</u>

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 9 – PENSION PLAN (Continued)**

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to Pension will be recognized as part of Pension expense as follows:

Retirement Plan	
Measurement Period Ended June 30	Annual Amortization
2023	\$112,231
2024	112,231
2025	112,229
2026	131,229
2027	59,968
Thereafter	53,970
Total	\$581,858

Replacement Benefit Plan	
Measurement Period Ended June 30	Annual Amortization
2023	\$10,085
2024	10,085
2025	10,083
2026	13,992
2027	-
Thereafter	-
Total	\$44,245

**NOTE 10 – POSTEMPLOYMENT HEALTH CARE BENEFITS**

**A. General Information about the Authority’s Other Post Employment Benefit (OPEB) Plan**

**Plan Description** – The Authority’s Post Employment Benefit Plan San Francisco Bay Area Water Emergency Transportation Authority Retiree Healthcare Plan is an agent multiple-employer defined benefit OPEB plan. By Board resolution, the Authority provides certain health care benefits for retired employees (spouse and dependents are not included) under third-party insurance plans.

**Benefits Provided** – The Authority pays the minimum of PEMHCA community rated plans for retired employees’ medical premiums, in which the benefits continue to the surviving spouse. The Authority will also provide a longevity stipend for retired employees who have at least 10 years of service, by paying up to the PERS Care single premium for single coverage only.

For the year ended June 30, 2022, the Authority’s contributions to the Plan were \$14,916.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 10 – POSTEMPLOYMENT HEALTH CARE BENEFITS (Continued)**

*Employees Covered by Benefit Terms* – Membership in the plan consisted of the following at the measurement date of June 30, 2022:

Active plan members	18
Inactive employees or beneficiaries currently receiving benefit payments	4
Inactive employees entitled to but not yet receiving benefit payments	5
Total	27

**B. Net OPEB Asset**

*Actuarial Methods and Assumptions* – The Authority’s net OPEB asset was measured as of June 30, 2022 and the total OPEB liability used to calculate the net OPEB asset was determined by an actuarial valuation dated June 30, 2019, based on the following actuarial methods and assumptions:

	Actuarial Assumptions
Valuation Date	June 30, 2021
Measurement Date	June 30, 2022
Actuarial Assumptions:	
Discount Rate	6.25%
Long-Term Net Rate of Return	6.75%
Inflation	2.50%
Mortality, Retirement, Disability, Termination	CalPERS 1997-2015 experience study
Mortality Improvement	Scale MP-2020
Medical Trend	-Non-Medicare - 6.75% for 2022, decreasing to an ultimate rate of 3.75% in 2076 and later years -Medicare (None Kaiser) - 5.85% for 2022, decreasing to an ultimate rate of 3.75% in 2076 and later years -Medicare (Kaiser) - 4.75% for 2022, decreasing to an ultimate rate of 3.75% in 2076 and later years

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 10 – POSTEMPLOYMENT HEALTH CARE BENEFITS (Continued)**

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global Equity	49%	4.56%
Long US Treasuries	5%	0.29%
Mortgage-Backed Securities	5%	0.49%
Investment Grade Corporates	4%	1.56%
High Yield	4%	3.00%
Sovereigns	5%	2.76%
TIPS	5%	-0.08%
Commodities	3%	1.22%
REITs	20%	4.06%
Total	<u>100%</u>	
Assumed Long-Term Rate of Inflation		2.50%
Assumed Long-Term Net Rate of Return, Rounded		6.25%

**Discount Rate** – The discount rate used to measure the total OPEB liability was 6.25%. The projection of cash flows used to determine the discount rate assumed that Authority contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the OPEB plan’s fiduciary net position was projected to be available to make all projected OPEB payments for current active and inactive employees and beneficiaries. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

**C. Changes in Net OPEB Liability (Asset)**

The changes in the net OPEB liability (asset) follows:

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability/(Asset) (c) = (a) - (b)
Balance at June 30, 2021 (June 30, 2021 measurement date)	\$833,487	\$1,482,361	(\$648,874)
Changes Recognized for the Measurement Period:			
Service cost	130,914		130,914
Interest	64,597		64,597
Benefit changes			-
Difference between expected and actual experience	(265,379)		(265,379)
Changes of assumptions	10,493		10,493
Contributions from the employer		14,916	(14,916)
Net investment income		(198,327)	198,327
Benefit payments and refunds	(14,826)	(14,826)	-
Administrative expenses		(810)	810
Net Changes	<u>(74,201)</u>	<u>(199,047)</u>	<u>124,846</u>
Balance at June 30, 2022 (June 30, 2022 measurement date)	<u>\$759,286</u>	<u>\$1,283,314</u>	<u>(\$524,028)</u>

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 10 – POSTEMPLOYMENT HEALTH CARE BENEFITS (Continued)**

Detailed information about the OPEB plan’s fiduciary net position is available in the separately issued plan financial report that may be obtained from CERBT. The benefit payments and refunds include implied subsidy benefit payments in the amount of \$7,818.

**D. Sensitivity of the Net OPEB Liability/(Asset) to Changes in the Discount Rate and Healthcare Cost Trend Rates**

The following presents the net OPEB asset of the Authority, as well as what the Authority's net OPEB liability/(asset) would be if it were calculated using a discount rate that is 1-percentage-point lower (5.25%) or 1-percentage-point higher (7.25%) than the current discount rate:

	<b>Plan's Net OPEB Liability/(Asset)</b>		
	<b>Discount Rate -1% (5.25%)</b>	<b>Current Discount Rate (6.25%)</b>	<b>Discount Rate +1% (7.25%)</b>
Net OPEB Liability	(\$381,252)	(\$524,028)	(\$637,273)

The following presents the net OPEB liability/(asset) of the Authority, as well as what the Authority's net OPEB liability/(asset) would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rates:

	<b>Plan's Net OPEB Liability/(Asset)</b>		
	<b>Decrease -1%</b>	<b>Current Healthcare Cost Trend Rates</b>	<b>Increase +1%</b>
Net OPEB Liability	(\$668,971)	(\$524,028)	(\$331,087)

**E. OPEB Expense and Deferred Outflows/Inflows of Resources Related to OPEB**

For the year ended June 30, 2022, the Authority recognized OPEB expense of \$79,046. At June 30, 2022, the Authority reported deferred outflows and inflows of resources related to OPEB from the following sources:

	<b>Deferred Outflows of Resources</b>	<b>Deferred Inflows of Resources</b>
Employer contributions made subsequent to the measurement date		
Difference between expected and actual experience		\$282,792
Changes in assumptions	\$28,406	4,497
Net difference between projected and actual earnings on plan investments	120,738	
Total	\$149,144	\$287,289

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
NOTES TO BASIC FINANCIAL STATEMENTS  
For the Year Ended June 30, 2022**

**NOTE 10 – POSTEMPLOYMENT HEALTH CARE BENEFITS (Continued)**

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized as part of OPEB expense as follows:

Measurement Period Ended June 30	Annual Amortization
2023	(\$12,241)
2024	(10,817)
2025	(11,362)
2026	27,846
2027	(31,828)
Thereafter	(99,743)
Total	(\$138,145)

**NOTE 11 – COMMITMENTS AND CONTINGENCIES**

The Authority participates in Federal and State and local grant programs. These programs have been audited by the Authority’s independent auditors, in accordance with the provisions of the Federal Single Audit Act as amended and applicable State requirements. No cost disallowances were proposed as a result of these audits; however, these programs are still subject to further examination by the grantors and the amount, if any, of expenditures which may be disallowed by the granting agencies cannot be determined at this time. The Authority expects such amounts, if any, to be immaterial.

At June 30, 2022, the Authority had made commitments for the following projects:

Purchase New Commuter Class High-Speed Vessel	\$2,196,648
Purchase Replacement Vessel - MV Bay Breeze & MV Vallejo	23,521,393
Vessel Engine Overhaul - MV Argo & MV Carina	903,081
Intintoli Replacement Vessel	1,321,700
South San Francisco Float Refurbishment	513,255
Electric Vessel and Infrastructure	223,798
Business Plan	321,182
Total	\$29,001,057

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**REQUIRED SUPPLEMENTARY INFORMATION**

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**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
REQUIRED SUPPLEMENTARY INFORMATION  
For the Year Ended June 30, 2022**

**San Francisco Water Emergency Transportation Authority's Miscellaneous Plan,  
a Cost-Sharing Multiple-Employer Defined Pension Plan**

As of fiscal year ending June 30, 2022  
Last 10 Years\*

**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY/(ASSET) AND RELATED RATIOS**

<b>Measurement Date</b>	<b>6/30/2014</b>	<b>6/30/2015</b>	<b>6/30/2016</b>	<b>6/30/2017</b>	<b>6/30/2018</b>	<b>6/30/2019</b>	<b>6/30/2020</b>	<b>6/30/2021</b>
Plan's Proportion of the Net Pension Liability/(Asset)	0.010204%	0.016026%	0.011107%	0.007533%	-0.002877%	0.002546%	0.006478%	-0.015118%
Plan's Proportionate Share of the Net Pension Liability/(Asset)	\$748,940	\$439,655	\$385,835	\$296,963	(\$108,435)	\$101,947	\$273,245	(\$971,774)
Plan's Covered Payroll	\$1,217,627	\$1,363,751	\$1,453,752	\$1,597,597	\$1,744,351	\$1,890,469	\$2,184,929	\$2,113,621
Plan's Proportionate Share of the Net Pension Liability/(Asset) as a Percentage of its Covered-Employee Payroll	61.51%	32.24%	26.54%	18.59%	-6.22%	5.39%	12.51%	-45.98%
Plan's Fiduciary Net Position as a Percentage of the Total Pension Liability (Asset)	81.15%	79.89%	75.87%	75.39%	77.69%	77.73%	81.14%	90.49%

\* Fiscal year 2015 was the 1st year of implementation

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
REQUIRED SUPPLEMENTARY INFORMATION  
For the Year Ended June 30, 2022**

San Francisco Water Emergency Transportation Authority's Miscellaneous Plan,  
a Cost-Sharing Multiple-Employer Defined Pension Plan  
As of fiscal year ending June 30, 2022  
Last 10 Years\*

**SCHEDULE OF CONTRIBUTIONS**

	6/30/2015	6/30/2016	6/30/2017	6/30/2018
<b>Fiscal Year Ended :</b>				
Actuarially determined contribution	\$222,396	\$434,477	\$391,333	\$516,162
Contributions in relation to the actuarially determined contributions	(222,396)	(434,477)	(391,333)	(516,162)
Contribution deficiency (excess)	\$0	\$0	\$0	\$0
Covered payroll	\$1,363,751	\$1,453,752	\$1,597,597	\$1,744,351
Contributions as a percentage of covered payroll	16.31%	29.89%	24.50%	29.59%

**Notes to Schedule**

Valuation date:

Methods and assumptions used to determine contribution rates:

Actuarial cost method  
Amortization method

Remaining amortization period  
Asset valuation method  
Inflation  
Salary increases

Investment rate of return

Retirement age  
Mortality

	6/30/2013	6/30/2014	6/30/2015	6/30/2016
Entry age				
Level percentage of payroll, closed 30 years				
5-year smoothed market 2.75%				
Varies by Entry Age and Service				
7.5%, net of pension plan investment and administrative expenses, including inflation				
55 yrs. Misc., 62 yrs. Tier 2				
The probabilities of mortality are derived from CalPERS' Membership Data for all Funds based on CalPERS' specific data from a 2010 CalPERS Experience Study. The table includes 20 years of mortality improvements using the Society of Actuaries Scale AA.				
Entry age				
Level percentage of payroll, closed 30 years				
5-year smoothed market 2.75%				
Varies by Entry Age and Service				
7.65%, net of pension plan investment and administrative expenses, including inflation				
55 yrs. Misc., 62 yrs. Tier 2				
The probabilities of mortality are derived from CalPERS' Membership Data for all Funds based on CalPERS' specific data from a 2010 CalPERS Experience Study. The table includes 20 years of mortality improvements using the Society of Actuaries Scale AA.				
Entry age				
Level percentage of payroll, closed 30 years				
5-year smoothed market 2.75%				
Varies by Entry Age and Service				
7.15%, net of pension plan investment and administrative expenses, including inflation				
55 yrs. Misc., 62 yrs. Tier 2				
The probabilities of mortality are derived from CalPERS' Membership Data for all Funds based on CalPERS' specific data from a 2014 CalPERS Experience Study. The table includes 20 years of mortality improvements using the Society of Actuaries Scale BB.				

\* Fiscal year 2015 was the 1st year of implementation.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY  
REQUIRED SUPPLEMENTARY INFORMATION  
For the Year Ended June 30, 2022**

San Francisco Water Emergency Transportation Authority's Miscellaneous Plan,  
a Cost-Sharing Multiple-Employer Defined Pension Plan  
As of fiscal year ending June 30, 2022

Last 10 Years\*  
**SCHEDULE OF CONTRIBUTIONS**

	6/30/2019	6/30/2020	6/30/2021	6/30/2022
<b>Fiscal Year Ended :</b>				
Actuarially determined contribution	\$202,432	\$245,274	\$254,421	\$268,997
Contributions in relation to the actuarially determined contributions	(202,432)	(245,274)	(254,421)	(268,997)
Contribution deficiency (excess)	\$0	\$0	\$0	\$0
Covered payroll	\$1,890,469	\$2,184,929	\$2,113,621	\$2,382,444
Contributions as a percentage of covered payroll	10.71%	11.23%	12.04%	11.29%

**Notes to Schedule**

Valuation date:

Methods and assumptions used to determine contribution rates:

Actuarial cost method  
Amortization method

Remaining amortization period

Asset valuation method

Inflation

Salary increases

Investment rate of return

Retirement age

Mortality

	6/30/2017	6/30/2018	6/30/2019	6/30/2020
Entry age				
Level percentage of payroll, closed 30 years				
5-year smoothed market 2.50%				
Varies by Entry Age and Service				
7.15%, net of pension plan investment and administrative expenses, including inflation				
55 yrs. Misc., 62 yrs. Tier 2				
The probabilities of mortality are derived from CalPERS' Membership Data for all Funds based on CalPERS' specific data from a 2017 CalPERS Experience Study. The table includes 15 years of mortality improvements using the Society of Actuaries Scale 90% of scale MP 2016..				

\* Fiscal year 2015 was the 1st year of implementation.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY**

**REQUIRED SUPPLEMENTARY INFORMATION**  
**For the Year Ended June 30, 2022**

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**  
**REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)**  
**SCHEDULE OF CHANGES IN NET PENSION LIABILITY (ASSET) AND RELATED RATIOS**  
**For the Year Ended June 30, 2022**

Last Ten Fiscal Years \*

**Retirement Plan**  
**Single Employer Plan**

Measurement Date	June 30, 2021	June 30, 2022
<b>Total Pension liability</b>		
Service cost	\$193,544	\$93,700
Interest	181,668	105,776
Benefit changes	-	-
Differences between expected and actual experience	-	332,922
Assumption changes	-	80,856
Benefit payments	(15,107)	(40,579)
Changes of benefit terms	-	-
<b>Net change in total Pension liability</b>	<b>360,105</b>	<b>572,675</b>
<b>Total Pension liability - beginning</b>	<b>1,329,409</b>	<b>1,689,514</b>
<b>Total Pension liability - ending (a)</b>	<b>\$1,689,514</b>	<b>\$2,262,189</b>
<b>Pension fiduciary net position</b>		
Contributions - employer	\$1,635,933	\$0
Contributions - employee	-	-
Net investment income	173,135	(250,700)
Benefit payments	(15,107)	(40,579)
Administrative expense	(6,223)	(10,000)
Other changes	-	-
<b>Net change in plan fiduciary net position</b>	<b>1,787,738</b>	<b>(301,279)</b>
<b>Plan fiduciary net position - beginning</b>	<b>-</b>	<b>1,787,738</b>
<b>Plan fiduciary net position - ending (b)</b>	<b>\$1,787,738</b>	<b>\$1,486,459</b>
<b>Plan net Pension liability (asset) - ending (a) - (b)</b>	<b>(\$98,224)</b>	<b>\$775,730</b>
<b>Plan fiduciary net position as a percentage of the total Pension liability</b>	<b>105.81%</b>	<b>65.71%</b>
<b>Covered payroll</b>	<b>\$1,209,976</b>	<b>\$810,595</b>
<b>Plan net Pension liability as a percentage of covered payroll</b>	<b>-8.10%</b>	<b>95.70%</b>

\*Fiscal year 2021 was the 1st year of implementation.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY**

**REQUIRED SUPPLEMENTARY INFORMATION**  
**For the Year Ended June 30, 2022**

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**  
**REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)**  
**SCHEDULE OF CONTRIBUTIONS**  
**For the Year Ended June 30, 2022**

**Last Ten Fiscal Years \***  
**Retirement - Single Employer Plan**

	2020-2021	2021-2022
Actuarially determined contribution	\$124,700	\$100,839
Contributions in relation to the actuarially determined contribution	1,635,933	-
Contribution deficiency (excess)	(\$1,511,233)	\$100,839
Covered payroll	\$1,209,976	\$810,595
Contributions as a percentage of covered payroll	135.20%	0.00%

\*Fiscal year 2021 was the 1st year of implementation.

**Notes to Schedule:**

Methods and assumptions used to determine contribution rates:

Valuation Date	June 30, 2019	June 30, 2021
Actuarial Cost Method	Entry Age Normal	Entry Age Normal
Amortization Method	Level percentage of pay	Level percentage of pay
Discount Rate	6.00%	5.50%
General Inflation	2.75%	2.50%
Mortality, Retirement, Termination & Disability	CalPERS 1997-2015 experience study	CalPERS 1997-2015 experience study
Mortality Improvement	Scale MP-2019	Scale MP-2020

\*Fiscal year 2021 was the 1st year of implementation.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY**

**REQUIRED SUPPLEMENTARY INFORMATION  
For the Year Ended June 30, 2022**

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY  
REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)  
SCHEDULE OF CHANGES IN NET PENSION LIABILITY (ASSET) AND RELATED RATIOS  
For the Year Ended June 30, 2022**

**Last Ten Fiscal Years \***

**Replacement Benefits Plan  
Single Employer Plan**

Measurement period	June 30, 2021	June 30, 2022
<b>Total Pension liability</b>		
Service cost	\$33,022	\$11,782
Interest	39,018	21,721
Benefit changes	-	-
Differences between expected and actual experience	-	28,639
Assumption changes	-	12,513
Benefit payments	(6,473)	(14,110)
Changes of benefit terms	-	-
<b>Net change in total Pension liability</b>	<b>65,567</b>	<b>60,545</b>
<b>Total Pension liability - beginning</b>	<b>291,722</b>	<b>357,289</b>
<b>Total Pension liability - ending (a)</b>	<b>\$357,289</b>	<b>\$417,834</b>
<b>Pension fiduciary net position</b>		
Contributions - employer	\$327,270	\$14,110
Contributions - employee	-	-
Net investment income	36,420	(49,196)
Benefit payments	(6,473)	(14,110)
Administrative expense	(6,223)	(10,000)
Other changes	-	-
<b>Net change in plan fiduciary net position</b>	<b>350,994</b>	<b>(59,196)</b>
<b>Plan fiduciary net position - beginning</b>	<b>-</b>	<b>350,994</b>
<b>Plan fiduciary net position - ending (b)</b>	<b>\$350,994</b>	<b>\$291,798</b>
<b>Plan net Pension liability (asset) - ending (a) - (b)</b>	<b>\$6,295</b>	<b>\$126,036</b>
<b>Plan fiduciary net position as a percentage of the total Pension liability</b>	<b>98.24%</b>	<b>69.84%</b>
<b>Covered payroll</b>	<b>\$162,225</b>	<b>\$0</b>
<b>Plan net Pension liability as a percentage of covered payroll</b>	<b>3.90%</b>	<b>N/A</b>

\*Fiscal year 2021 was the 1st year of implementation.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY**

**REQUIRED SUPPLEMENTARY INFORMATION**  
**For the Year Ended June 30, 2022**

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**  
**REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)**  
**SCHEDULE OF CONTRIBUTIONS**  
**For the Year Ended June 30, 2022**

**Last Ten Fiscal Years \***  
**Replacement Benefits Plan**

	2021-2022
Actuarially determined contribution	\$14,943
Contributions in relation to the actuarially determined contribution	14,110
Contribution deficiency (excess)	\$833
Covered payroll	\$0
Contributions as a percentage of covered payroll	N/A

\*Fiscal year 2021 was the 1st year of implementation.

**Notes to Schedule:**

Methods and assumptions used to determine contribution rates:

Valuation Date	June 30, 2021
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level percentage of pay
Discount Rate	5.50%
General Inflation	2.50%
Mortality, Retirement, Termination & Disability	CalPERS 1997-2015 experience study
Mortality Improvement	Scale MP-2020

\*Fiscal year 2021 was the 1st year of implementation.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY**

**REQUIRED SUPPLEMENTARY INFORMATION  
For the Year Ended June 30, 2022**

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY  
REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)  
SCHEDULE OF CHANGES IN NET OPEB LIABILITY (ASSET) AND RELATED RATIOS  
For the Year Ended June 30, 2022**

Last Ten Fiscal Years \*

**Other Post-Employment Benefits (OPEB)  
Agent Multiple Employer Plan**

Measurement period	June 30, 2017	June 30, 2018	June 30, 2019	June 30, 2020	June 30, 2021
<b>Total OPEB liability</b>					
Service cost	\$67,000	\$69,097	\$71,170	\$222,993	\$130,914
Interest	44,000	49,653		96,368	64,597
Benefit changes			(318,925)		
Differences between expected and actual experience			(69,195)		(265,379)
Assumption changes			29,188	(5,747)	10,493
Benefit payments	(10,000)	(11,000)	(7,919)	(21,366)	(14,826)
Changes of benefit terms			57,170		
<b>Net change in total OPEB liability</b>	101,000	107,750	(238,511)	292,248	(74,201)
<b>Total OPEB liability - beginning</b>	571,000	672,000	779,750	541,239	833,487
<b>Total OPEB liability - ending (a)</b>	<u>\$672,000</u>	<u>\$779,750</u>	<u>\$541,239</u>	<u>\$833,487</u>	<u>\$759,286</u>
<b>OPEB fiduciary net position</b>					
Contributions - employer	\$194,000	\$88,000	\$91,319	\$180,327	\$14,916
Contributions - employee					
Net investment income	50,000	55,796	54,997	336,991	(198,327)
Benefit payments	(10,000)	(11,000)	(7,919)	(21,366)	(14,826)
Administrative expense		(1,335)	(229)	(1,220)	(810)
Other changes					
<b>Net change in plan fiduciary net position</b>	234,000	131,461	138,168	494,732	(199,047)
<b>Plan fiduciary net position - beginning</b>	484,000	718,000	849,461	987,629	1,482,361
<b>Plan fiduciary net position - ending (b)</b>	<u>\$718,000</u>	<u>849,461</u>	<u>\$987,629</u>	<u>\$1,482,361</u>	<u>\$1,283,314</u>
<b>Plan net OPEB liability (asset) - ending (a) - (b)</b>	<u>(\$46,000)</u>	<u>(\$69,711)</u>	<u>(\$446,390)</u>	<u>(\$648,874)</u>	<u>(\$524,028)</u>
<b>Plan fiduciary net position as a percentage of the total OPEB liability</b>	106.85%	108.94%	182.48%	177.85%	169.02%
<b>Covered payroll</b>	<u>\$1,598,000</u>	<u>\$1,746,000</u>	<u>\$1,890,469</u>	<u>\$2,185,976</u>	<u>\$2,113,620</u>
<b>Plan net OPEB liability as a percentage of covered payroll</b>	N/A	N/A	N/A	N/A	N/A

\*Fiscal year 2018 was the 1st year of implementation.

**SAN FRANCISCO BAY AREA WATER  
EMERGENCY TRANSPORTATION AUTHORITY**

**REQUIRED SUPPLEMENTARY INFORMATION**  
**For the Year Ended June 30, 2022**

SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY  
REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)  
SCHEDULE OF CONTRIBUTIONS  
For the Year Ended June 30, 2022

Last Ten Fiscal Years \*

Other Post-Employment Benefits (OPEB) - Agent Multiple Employer Plan

	2017-18	2018-19	2019-20	2020-2021	2021-2022
Actuarially determined contribution	\$74,000	\$83,354	\$69,147	\$85,500	\$76,610
Contributions in relation to the actuarially determined contribution	88,000	91,319	82,310	98,017	14,916
Contribution deficiency (excess)	(\$14,000)	(\$7,965)	(\$13,163)	(\$12,517)	\$61,694
Covered payroll	\$1,746,000	\$1,890,469	\$2,185,976	\$2,113,620	\$2,281,712
Contributions as a percentage of covered payroll	5.04%	4.83%	3.77%	4.64%	0.65%

\*Fiscal year 2018 was the 1st year of implementation.

**Notes to Schedule:**

Methods and assumptions used to determine contribution rates:

Valuation Date	June 30, 2017	June 30, 2017	June 30, 2019	June 30, 2019	June 30, 2021
Actuarial Cost Method	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal
Amortization Method	Level percentage of pay	Level percentage of pay	Level percentage of pay	Level percentage of pay	Level percentage of pay
Actuarial Value of Assets	Investment gains and losses spread over 5-year rolling period Not less than 80% not more than 120% of the Market Value of Assets	Investment gains and losses spread over 5-year rolling period	Investment gains and losses spread over 5-year rolling period	Investment gains and losses spread over 5-year rolling period	Investment gains and losses spread over 5-year rolling period
Discount Rate	6.75%	6.75%	6.75%	6.75%	6.75%
General Inflation	2.75%	2.75%	2.75%	2.75%	2.50%
Aggregate Payroll Increases	3.00%	3.00%	3.00%	3.00%	3.00%
Medical Trend	Non-Medicare - 7.0% for 2017/18, decreasing to an ultimate rate of 5.5% in 2020/21 Medicare - 7.2% for 2017/18, decreasing to an ultimate rate of 5.6% in 2020/21	Non-Medicare - 7.0% for 2019, decreasing to an ultimate rate of 4% in 2076 Medicare - 6.5% for 2019, decreasing to an ultimate rate of 4% in 2076	Non-Medicare - 7.25% for 2021, decreasing to an ultimate rate of 4% in 2076 Medicare - 6.3% for 2021, decreasing to an ultimate rate of 4% in 2076	Non-Medicare - 7.25% for 2021, decreasing to an ultimate rate of 4% in 2076 Medicare - 6.3% for 2021, decreasing to an ultimate rate of 4% in 2076	-Non-Medicare - 6.75% for 2022, decreasing to an ultimate rate of 3.75% in 2076 and later years -Medicare (None Kaiser) - 5.85% for 2022, decreasing to an ultimate rate of 3.75% in 2076 and later years -Medicare (Kaiser) - 4.75% for 2022, decreasing to an ultimate rate of 3.75% in 2076 and later years
Mortality, Retirement, Termination & Disability	CalPERS 1997-2011 experience study	CalPERS 1997-2011 experience study	CalPERS 1997-2015 experience study	CalPERS 1997-2015 experience study	CalPERS 1997-2015 experience study
Mortality Improvement	Scale MP-2017	Scale MP-2017	Scale MP-2019	Scale MP-2019	Scale MP-2020

\*Fiscal year 2018 was the 1st year of implementation.

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**INDEPENDENT AUDITOR’S REPORT ON  
INTERNAL CONTROL OVER FINANCIAL REPORTING  
AND ON COMPLIANCE WITH THE TRANSPORTATION DEVELOPMENT ACT AND  
OTHER MATTERS BASED ON AN  
AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE  
WITH *GOVERNMENT AUDITING STANDARDS***

To the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the basic financial statements of the San Francisco Bay Area Water Emergency Transportation Authority (Authority), California, as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the Authority’s basic financial statements, and have issued our report thereon dated November 28, 2022.

***Report on Internal Control over Financial Reporting***

In planning and performing our audit of the financial statements, we considered the Authority’s internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority’s internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority’s internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Authority’s financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that have not been identified.

### ***Report on Compliance and Other Matters***

As part of obtaining reasonable assurance about whether the Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. Our procedures included the applicable audit procedures contained in §6666 and §6667 of Title 21 of California Code of Regulations and tests of compliance with the applicable provisions of the Transportation Development Act and the allocation instructions and resolutions of the Metropolitan Transportation Commission. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

We have also issued a separate Memorandum on Internal Control dated November 28, 2022 which is an integral part of our audit and should be read in conjunction with this report.

### ***Purpose of this Report***

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

This report is intended solely for the information and use of the Metropolitan Transportation Commission, management, Board of Directors, others within the Authority, and federal awarding agencies and pass-through entities and is not intended to be and should not be used by anyone other than these specified parties; however, this restriction is not intended to limit the distribution of this report, which is a matter of public record.

*Maze + Associates*

Pleasant Hill, California  
November 28, 2022

**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY**

**SINGLE AUDIT REPORT  
FOR THE YEAR ENDED JUNE 30, 2022**

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**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY**

**SINGLE AUDIT REPORT  
For The Year Ended June 30, 2022**

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**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY**

**SCHEDULE OF FINDINGS AND QUESTIONED COSTS  
For The Year Ended June 30, 2022**

**SECTION I – SUMMARY OF AUDITOR’S RESULTS**

**Financial Statements**

Type of report the auditor issued on whether the financial statements audited were prepared in accordance with GAAP Unmodified

Internal control over financial reporting:

- Material weakness(es) identified?        Yes   X   No
- Significant deficiency(ies) identified?        Yes   X   None Reported

Noncompliance material to financial statements noted?        Yes   X   No

**Federal Awards**

Internal control over major federal programs:

- Material weakness(es) identified?        Yes   X   No
- Significant deficiency(ies) identified?        Yes   X   None Reported

Type of auditor’s report issued on compliance for major federal programs: Unmodified

Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?        Yes   X   No

Identification of major program(s):

<u>Assistance Listing Number(s)</u>	<u>Name of Federal Program or Cluster</u>
20.507 and 20.525	Federal Transit Cluster

Dollar threshold used to distinguish between type A and type B programs: \$750,000

Auditee qualified as low-risk auditee?   X   Yes        No

## **SECTION II – FINANCIAL STATEMENT FINDINGS**

Our audit did not disclose any significant deficiencies, or material weaknesses or instances of noncompliance material to the basic financial statements. We have also issued a separate Memorandum on Internal Control dated November 28, 2022 which is an integral part of our audits and should be read in conjunction with this report.

## **SECTION III – FEDERAL AWARD FINDINGS AND QUESTIONED COSTS**

Our audit did not disclose any findings or questioned costs required to be reported in accordance with Uniform Guidance.

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**

**SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS**

For the Fiscal Year Ended June 30, 2022

<b>Federal Grantor/ Pass-Through Grantor/Program or Cluster Title</b>	<b>Federal CFDA Number</b>	<b>Grant Number</b>	<b>Federal Expenditures</b>
Federal Transit Cluster			
Federal Transit Formula Grants Direct Programs:			
FY18 Ferry Vessel Construction and Major Component Maintenance	20.507	CA-2018-098	\$257,361
FY2020 Ferry Vessel Major Component Maintenance	20.507	CA-2020-229	218,519
WETA FFY20 5307-6 CARES Act Grant - Operating Assistance	20.507	CA-2020-246	1,275,813
WETA FFY21 5307-8 CRRSAA Grant - Operating Assistance	20.507	CA-2021-041	18,353,738
Alameda Ferry Terminal Rehabilitation	20.507	CA-2021-048	387,950
WETA FFY21 5307-9 ARP Grant - Operating Assistance	20.507	CA-2021-202	2,294,901
Ferry Vessel Replacement - MV Intinoli	20.507	CA-2022-069	<u>50,233</u>
Subtotal FTA - Federal Transit Formula Grants Direct Programs			<u>22,838,515</u>
State of Good Repair Grants Direct Programs:			
FY2016 Ferry Capital Rehabilitation and Replacement	20.525	CA-2017-023	63,494
FY2019 Section 5337 Capital Projects	20.525	CA-2019-064	1,039,988
FY21-22 Terminal Maintenance	20.525	CA-2022-097	<u>638,475</u>
Subtotal FTA - State of Good Repairs Grants Direct Programs			<u>1,741,957</u>
Total Federal Transit Cluster			<u>24,580,472</u>
<b>Total Department of Transportation and Expenditures of Federal Awards</b>			<b><u><u>\$24,580,472</u></u></b>

See Accompanying Notes to Schedule of Expenditures of Federal Awards

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**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY**

**NOTES TO THE SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS  
For The Year Ended June 30, 2022**

**NOTE 1 – REPORTING ENTITY**

The Schedule of Expenditure of Federal Awards (the Schedule) includes expenditures of federal awards for the San Francisco Bay Area Water Emergency Transportation Authority, California and its component units as disclosed in the notes to the Basic Financial Statements.

**NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

Basis of accounting refers to *when* revenues and expenditures or expenses are recognized in the accounts and reported in the financial statements, regardless of the measurement focus applied. All proprietary funds are accounted for using the accrual basis of accounting. Expenditures of Federal Awards reported on the Schedule are recognized when incurred.

**NOTE 3 – INDIRECT COST ELECTION**

The Authority has elected to not use the 10% de minimis indirect cost rate allowed under the Uniform Guidance.

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**INDEPENDENT AUDITOR’S REPORT ON  
INTERNAL CONTROL OVER FINANCIAL REPORTING  
AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN  
AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE  
WITH *GOVERNMENT AUDITING STANDARDS***

To the Honorable Members of the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the San Francisco Bay Area Water Emergency Transportation Authority (Authority) as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the Authority’s basic financial statements, and have issued our report thereon dated November 28, 2022.

***Report on Internal Control Over Financial Reporting***

In planning and performing our audit of the financial statements, we considered the Authority’s internal control over financial reporting (internal control) as a basis for designing audit procedures audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Authority’s internal control. Accordingly, we do not express an opinion on the effectiveness of the Authority’s internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the Authority’s financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

### ***Compliance and Other Matters***

As part of obtaining reasonable assurance about whether the Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion.

The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

We have also issued a separate Memorandum on Internal Control dated November 28, 2022, which is an integral part of our audit and should be read in conjunction with this report.

### ***Purpose of this Report***

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

*Mazz + Associates*

Pleasant Hill, California  
November 28, 2022

**INDEPENDENT AUDITOR'S REPORT ON COMPLIANCE FOR EACH MAJOR  
FEDERAL PROGRAM; REPORT ON INTERNAL CONTROL OVER COMPLIANCE;  
AND REPORT ON THE SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS  
REQUIRED BY THE UNIFORM GUIDANCE**

To the Honorable Members of the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

**Report on Compliance for Each Major Federal Program**

***Opinion on Each Major Federal Program***

We have audited San Francisco Bay Area Water Emergency Transportation Authority's (Authority) compliance with the types of compliance requirements identified as subject to audit in the *OMB Compliance Supplement* that could have a direct and material effect on each of the Authority's major federal programs for the year ended June 30, 2022. Major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned the Authority's costs.

In our opinion, the Authority complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2022.

***Basis for Opinion on Each Major Federal Program***

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (*Government Auditing Standards*); and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditor's Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the Authority and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the Authority's compliance with the compliance requirements referred to above.

***Responsibilities of Management for Compliance***

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to its federal programs.

## ***Auditor's Responsibilities for the Audit of Compliance***

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the Authority's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material, if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the Authority's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance, we

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the Authority's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- obtain an understanding of the Authority's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

### ***Report on Internal Control Over Compliance***

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditor's Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

***Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance***

We have audited the financial statements of the business-type activities of the Authority as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements. We issued our report thereon dated November 28, 2022, which contained an unmodified opinion on those financial statements. Our audit was performed for the purpose of forming an opinion on the financial statements that collectively comprise the basic financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the financial statements as a whole.

*Mazze + Associates*

Pleasant Hill, California  
November 28, 2022

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**SAN FRANCISCO  
BAY AREA WATER EMERGENCY  
TRANSPORTATION AUTHORITY**

**MEASURE B FUND  
FINANCIAL STATEMENTS**

**FOR THE YEAR ENDED JUNE 30, 2022**

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**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
MEASURE B FUND  
Financial Statements  
For the Year Ended June 30, 2022**

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## INDEPENDENT AUDITOR'S REPORT

To the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

### Report on the Audit of the Financial Statements

#### *Opinions*

We have audited the accompanying financial statements of the Alameda County Transportation Commission-Measure B Funds (Measure B Program) of the San Francisco Bay Area Water Emergency Transportation Authority (Authority), California, as of and for the year ended June 30, 2022, and the related notes to the financial statements as listed in the Table of Contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Measure B Program as of June 30, 2022, and the change in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

#### *Basis for Opinions*

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Authority and to meet our other ethical responsibilities, in accordance with the relevant ethical requirement relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

#### *Responsibilities of Management for the Financial Statements*

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

### ***Auditor's Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

### ***Emphasis of a Matter***

As discussed in Note 1, the financial statements present only the Measure B Program and are not intended to present fairly the financial position of the Authority as of June 30, 2022, the changes in its financial position, or where applicable, its cash flows for the year then ended in accordance with accounting principles generally accepted.

The emphasis of this matter does not constitute a modification to our opinion.

***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated November 28, 2022, on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.

*Maze + Associates*

Pleasant Hill, California  
November 28, 2022

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SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
ALAMEDA COUNTY TRANSPORTATION COMMISSION - MEASURE B FUND

BALANCE SHEET  
JUNE 30, 2022

	Mass Transit
ASSETS	
Cash and Investments	\$3,846,736
Measure B Direct Local Distribution Program Receivable	14,922
Interest Receivable	1,588
	Total Assets
	\$3,863,246
LIABILITIES	
Accounts Payable	\$180,292
Accrued Liabilities	1,075,772
	Total Liabilities
	1,256,064
FUND BALANCE	
Restricted for Measure B Programs and Projects	2,607,182
	Total Fund Balance
	2,607,182
	Total Liabilities and Fund Balance
	\$3,863,246

See accompanying notes to financial statements.

SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
ALAMEDA COUNTY TRANSPORTATION COMMISSION - MEASURE B FUND

STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN  
FUND BALANCE  
FOR THE YEAR ENDED JUNE 30, 2022

	Mass Transit
REVENUES:	
Direct Local Distribution Funds Allocation	\$1,046,606
Interest	1,096
Total Revenues	1,047,702
EXPENDITURES:	
Construction:	
Terminal Rehabilitation - Alameda Main Street	98,037
Total Expenditures	98,037
NET CHANGE IN FUND BALANCE	949,665
FUND BALANCE:	
Beginning Fund Balance	1,657,517
Ending Fund Balance	\$2,607,182

See accompanying notes to financial statements.

**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
MEASURE B FUND  
NOTES TO THE FINANCIAL STATEMENTS  
For The Year Ended June 30, 2022**

**1. DESCRIPTION OF REPORTING ENTITY**

**Reporting Entity** – All transactions of the Alameda County Transportation Commission – Measure B Funds (Measure B Program) of the San Francisco Bay Area Water Emergency Transportation Authority (Authority), are included in the basic financial statements of the Authority. Measure B Program is used to account for the Authority’s share of the net revenues generated by the Measure B sales tax and expenditures incurred under the Authority’s mass transit program.

In fiscal year 2011, the transfer of the Alameda/Oakland Ferry Service and the Alameda Harbor Bay Ferry Service from the City of Alameda and the Alameda Reuse and Redevelopment Authority to the Authority included Measure B monies. Measure B monies are used to finance the facilities and operations of the Alameda ferry services.

The accompanying financial statements are for the Measure B Program only and are not intended to fairly present the financial position, results of operations and cash flows of the Authority in conformity with accounting principles generally accepted in the United States of America.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING PRINCIPLES**

**Basis of Accounting** – The Authority uses an enterprise fund format to report its activities for financial statement purposes. The Authority’s financial statements are reported using the *economic resources measurement focus* and the full *accrual basis* of accounting. Revenues are recorded when *earned* and expenses are recorded at the time liabilities are *incurred*, regardless of when the related cash flows take place.

**Fair Value Measurements** – Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels based on the extent to which inputs used in measuring fair value are observable in the market.

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs are inputs – other than quoted prices included within level 1 – that are observable for an asset or liability, either directly or indirectly.

Level 3 inputs are unobservable inputs for an asset or liability.

If the fair value of an asset or liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement.

**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
MEASURE B FUND  
NOTES TO THE FINANCIAL STATEMENTS  
For The Year Ended June 30, 2022**

**2. SUMMARY OF SIGNIFICANT ACCOUNTING PRINCIPLES (Continued)**

**Use of Estimates** – Management uses estimates and assumptions in preparing the financial statements. Those estimates and assumptions affect the reported amounts of assets and liabilities, the disclosures of contingent assets and liabilities, and the reported revenues and expenses. Actual results could differ from those estimates.

**3. CASH AND INVESTMENTS**

Cash and investments consisted of \$3,846,736 in money market funds. Money market funds are reported at amortized cost as indicated in GASB 72 paragraph 69c.

See the Authority’s Basic Financial Statements (BFS) for disclosures related to cash and investments as prescribed by Governmental Accounting Standards Board Statement No. 40. The BFS may be obtained from the San Francisco Bay Area Water Emergency Transportation Authority, Pier 9, Suite 111, San Francisco, CA 94111.

**4. MEASURE B PROGRAM**

On November 7, 2000, the voters of Alameda County approved the reauthorization of Measure B. The Authority receives a portion of the proceeds of an additional one-half cent sales tax to be used for transportation – related expenditures. This measure was adopted with the intention that the funds generated by the additional sales tax would not fund expenditures previously paid for by property taxes but, rather, would be used for additional projects and programs.

Projects funded by Measure B were as follows:

*Terminal Rehabilitation – Alameda Main Street*

## INDEPENDENT AUDITOR'S REPORT ON MEASURE B COMPLIANCE

To the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

### **Report on Compliance for Measure B Program**

#### ***Opinion on Compliance for Measure B Program***

We have audited the San Francisco Bay Area Water Emergency Transportation Authority's (Authority) compliance with the requirements of laws, regulations, contracts, and grants specified in the *Master Programs Funding Agreement* between the Authority and the Alameda County Transportation Commission (Funding Agreement) that could have a direct and material effect on the Alameda County Transportation Commission Measure B Program for the year ended June 30, 2022.

In our opinion, the Authority complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on Measure B Program for the year ended June 30, 2022.

#### ***Basis for Opinion on the Measure B Program***

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (Government Auditing Standards), and requirements specified in the Funding Agreement. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the Authority and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for the Measure B Program. Our audit does not provide a legal determination of the Authority's compliance with the compliance requirements referred to above.

#### ***Responsibilities of Management for Compliance***

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the Measure B Program.

### ***Auditor's Responsibilities for the Audit of Compliance***

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the Authority's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, Government Auditing Standards and requirements specified in the Funding Agreement will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the Authority's compliance with the requirements of the Measure B Program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards* and the Funding Agreement, we

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the Authority's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- obtain an understanding of the Authority's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the requirements referred to above, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

### **Report on Internal Control Over Compliance**

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of the Measure B Program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of the Measure B Program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of the Measure B Program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditor's Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements, specified in the *Master Programs Funding Agreement* between the Authority and the Alameda County Transportation Commission. Accordingly, this report is not suitable for any other purpose.

*Maze + Associates*

Pleasant Hill, California  
November 28, 2022

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**SAN FRANCISCO  
BAY AREA WATER EMERGENCY  
TRANSPORTATION AUTHORITY**

**MEASURE BB FUND  
FINANCIAL STATEMENTS**

**FOR THE YEAR ENDED JUNE 30, 2022**

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**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
MEASURE BB FUND  
Financial Statements  
For the Year Ended June 30, 2022**

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## INDEPENDENT AUDITOR'S REPORT

To the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

### Report on the Audit of the Financial Statements

#### *Opinions*

We have audited the accompanying financial statements of the Alameda County Transportation Commission-Measure BB Funds (Measure BB Program) of the San Francisco Bay Area Water Emergency Transportation Authority (Authority), California, as of and for the year ended June 30, 2022, and the related notes to the financial statements as listed in the Table of Contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Measure BB Program as of June 30, 2022, and the change in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

#### *Basis for Opinions*

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Authority and to meet our other ethical responsibilities, in accordance with the relevant ethical requirement relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

#### *Responsibilities of Management for the Financial Statements*

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

### ***Auditor's Responsibilities for the Audit of the Financial Statements***

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Authority's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

### ***Emphasis of a Matter***

As discussed in Note 1, the financial statements present only the Measure BB Program and are not intended to present fairly the financial position of the Authority as of June 30, 2022, the changes in its financial position, or where applicable, its cash flows for the year then ended in accordance with accounting principles generally accepted.

The emphasis of this matter does not constitute a modification to our opinion.

***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated November 28, 2022, on our consideration of the Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Authority's internal control over financial reporting and compliance.

*Maze + Associates*

Pleasant Hill, California  
November 28, 2022

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SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
ALAMEDA COUNTY TRANSPORTATION COMMISSION - MEASURE BB FUND

BALANCE SHEET  
JUNE 30, 2022

	Mass Transit
<b>ASSETS</b>	
Cash and Investments	\$2,675,917
Measure BB Direct Distribution Program Receivable	471,665
Measure BB Direct Distribution Program Interest Receivable	1,105
Total Assets	\$3,148,687
<b>LIABILITIES</b>	
Accrued Liability	\$474,685
Total Liabilities	474,685
<b>FUND BALANCE</b>	
Restricted for Measure BB Programs and Projects	2,674,002
Total Fund Balance	2,674,002
Total Liabilities and Fund Balance	\$3,148,687

See accompanying notes to financial statements.

SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
ALAMEDA COUNTY TRANSPORTATION COMMISSION - MEASURE BB FUND

STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN  
FUND BALANCE  
FOR THE YEAR ENDED JUNE 30, 2022

	Mass Transit
REVENUES:	
Direct Local Distribution Funds Allocation	\$1,148,884
Interest	737
Total Revenues	1,149,621
EXPENDITURES:	
Construction:	
Replacement Vessel - M/V Bay Breeze	77,019
Engines Conversion - Gemini Class Vessels	392,087
Total Expenditures	469,106
NET CHANGE IN FUND BALANCE	680,515
FUND BALANCE:	
Beginning Fund Balance	1,993,487
Ending Fund Balance	\$2,674,002

See accompanying notes to financial statements.

**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
MEASURE BB FUND  
NOTES TO THE FINANCIAL STATEMENTS  
For The Year Ended June 30, 2022**

**1. DESCRIPTION OF REPORTING ENTITY**

**Reporting Entity** – All transactions of the Alameda County Transportation Commission – Measure BB Funds (Measure BB Program) of the San Francisco Bay Area Water Emergency Transportation Authority (Authority), are included in the basic financial statements of the Authority. The Measure BB Program is used to account for the Authority’s share of the net revenues generated by the Measure BB sales tax and expenditures incurred under the Authority’s mass transit program.

The accompanying financial statements are for the Measure BB Program only and are not intended to fairly present the financial position, results of operations and cash flows of the Authority in conformity with accounting principles generally accepted in the United States of America.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING PRINCIPLES**

**Basis of Accounting** – The Authority uses an enterprise fund format to report its activities for financial statement purposes. The Authority’s financial statements are reported using the *economic resources measurement focus* and the full *accrual basis* of accounting. Revenues are recorded when *earned* and expenses are recorded at the time liabilities are *incurred*, regardless of when the related cash flows take place.

**Fair Value Measurements** – Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Authority categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels based on the extent to which inputs used in measuring fair value are observable in the market.

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs are inputs – other than quoted prices included within level 1 – that are observable for an asset or liability, either directly or indirectly.

Level 3 inputs are unobservable inputs for an asset or liability.

If the fair value of an asset or liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement.

**Use of Estimates** – Management uses estimates and assumptions in preparing the financial statements. Those estimates and assumptions affect the reported amounts of assets and liabilities, the disclosures of contingent assets and liabilities, and the reported revenues and expenses. Actual results could differ from those estimates.

**SAN FRANCISCO BAY AREA  
WATER EMERGENCY TRANSPORTATION AUTHORITY  
MEASURE BB FUND  
NOTES TO THE FINANCIAL STATEMENTS  
For The Year Ended June 30, 2022**

**3. CASH AND INVESTMENTS**

Cash and investments consisted of \$1,148,884 in money market funds. Money market funds are reported at amortized cost as indicated in GASB 72 paragraph 69c.

See the Authority's Basic Financial Statements (BFS) for disclosures related to cash and investments as prescribed by Governmental Accounting Standards Board Statement No. 40. The BFS may be obtained from the San Francisco Bay Area Water Emergency Transportation Authority, Pier 9, Suite 111, San Francisco, CA 94111.

**4. MEASURE BB PROGRAM**

On November 4, 2014, the voters of Alameda County approved Measure BB, authorizing Alameda County Transportation Commission (CTC) to administer the proceeds from the extension of an existing one-half of one percent transaction and use tax scheduled to terminate on March 31, 2022 and the augmentation of the tax by one-half of one percent. The duration of the tax will be for 30 years from the initial year of collection, expiring on March 31, 2045. The tax proceeds will be used to pay for investments outlined in the 2014 Alameda County Transportation Expenditure Plan (2014 TEP).

Projects funded by Measure BB were as follows:

*Replacement Vessel – M/V Bay Breeze*  
*Engines Conversion – Gemini Class Vessels*

## INDEPENDENT AUDITOR'S REPORT ON MEASURE BB COMPLIANCE

To the Board of Directors  
San Francisco Bay Area Water Emergency Transportation Authority  
San Francisco, California

### **Report on Compliance for Measure BB Program**

#### ***Opinion on Compliance for Measure BB Program***

We have audited the San Francisco Bay Area Water Emergency Transportation Authority's (Authority) compliance with the requirements of laws, regulations, contracts, and grants specified in the *Master Programs Funding Agreement* between the Authority and the Alameda County Transportation Commission (Funding Agreement) that could have a direct and material effect on the Alameda County Transportation Commission Measure BB Program for the year ended June 30, 2022.

In our opinion, the Authority complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on Measure BB Program for the year ended June 30, 2022.

#### ***Basis for Opinion on the Measure BB Program***

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (Government Auditing Standards), and requirements specified in the Funding Agreement. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the Authority and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for the Measure BB Program. Our audit does not provide a legal determination of the Authority's compliance with the compliance requirements referred to above.

#### ***Responsibilities of Management for Compliance***

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the Measure BB Program.

### ***Auditor's Responsibilities for the Audit of Compliance***

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the Authority's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, Government Auditing Standards and requirements specified in the Funding Agreement will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the Authority's compliance with the requirements of the Measure BB Program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards* and the Funding Agreement, we

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the Authority's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- obtain an understanding of the Authority's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the requirements referred to above, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

### **Report on Internal Control Over Compliance**

*A deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of the Measure BB Program on a timely basis. *A material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of the Measure BB Program will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of the Measure BB Program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the Auditor's Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements, specified in the *Master Programs Funding Agreement* between the Authority and the Alameda County Transportation Commission. Accordingly, this report is not suitable for any other purpose.

*Maze + Associates*

Pleasant Hill, California  
November 28, 2022

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**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**

**RESOLUTION NO. 2022-48**

**RECEIVE THE INDEPENDENT AUDITOR'S REPORTS  
FOR THE YEAR ENDING JUNE 30, 2022 AS SUBMITTED BY MAZE & ASSOCIATES**

**WHEREAS**, Section 106.6 of the WETA Administrative Code requires the preparation of annual audit reports by an independent auditor consistent with California Government Code Section 66540.54; and

**WHEREAS**, Maze & Associates (Maze) is currently in contract with WETA to perform its annual audits; and

**WHEREAS**, the Independent Auditor's Reports for the fiscal year ending June 30, 2022, prepared by Maze, include the following reports: Memorandum on Internal Control and Required Communications; Basic Financial Statements; Single Audit Report; Measure B Fund Financial Statements; and Measure BB Fund Financial Statements; and

**WHEREAS**, these reports were presented to the Board by a representative of Maze at the December 8, 2022 Board of Directors meeting; now, therefore, be it

**RESOLVED**, that the Board of Directors hereby takes action to receive the Independent Auditor's Reports for the fiscal year ending June 30, 2022 as submitted by Maze & Associates, including the following:

- (a) Memorandum on Internal Control and Required Communications;
- (b) Basic Financial Statements;
- (c) Single Audit Report;
- (d) Measure B Fund Financial Statements; and
- (e) Measure BB Fund Financial Statements.

**CERTIFICATION**

The undersigned, Board Secretary, does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the San Francisco Bay Area Water Emergency Transportation Authority held on December 8, 2022.

YEA:

NAY:

ABSTAIN:

ABSENT:

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/s/ Board Secretary

2022-48

\*\*\*END\*\*\*

MEMORANDUM

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**TO:** Board Members

**FROM:** Seamus Murphy, Executive Director  
Kevin Connolly, Planning & Development Manager  
Chad Mason, Senior Planner/Project Manager

**SUBJECT:** Approve Contract Award to Foth & Van Dyke and Associates, Inc. for On-Call Dredging Support Services

**Recommendation**

Approve contract award to Foth & Van Dyke and Associates, Inc. (Foth) for on-call professional services to support the ongoing system wide dredging program for a total amount not to exceed \$1,000,000 for a five-year term.

**Background**

Several facilities in the WETA system require regular dredging to maintain operations, including Vallejo, South San Francisco, Harbor Bay, Richmond and both maintenance facilities. Maintenance dredging is required to ensure that the float is buoyant at all tidal levels and to ensure continued access by all vessels in the WETA fleet. It is important to monitor conditions and sedimentation rates at these facilities to ensure that service disruptions are avoided. Preparation to dredge requires site investigations, surveys, design, and regulatory compliance. Permitting occurs with local, state, and federal agencies and can take six to twelve months to complete. Dredging support services have typically been provided by consultants under on-call professional services agreements, which are funded with non-federal sources.

**Discussion**

On June 2, 2022, the Board of Directors authorized staff to release a Request for Proposals (RFP) for professional services to support the ongoing system wide dredging program. The RFP was released on September 29, 2022.

Proposals were evaluated based on the following selection criteria, as established in the RFP:

**1. Project Understanding and Approach**

Understanding of services required, proposed approach to providing the services and working with WETA staff, and an organization chart of the proposed team.

**2. Proposer's Qualifications and Experience**

Proposer's qualifications to perform the services, relevant experience performing work that is the same or similar to the services, including the scope and dollar value of prior projects completed and proposer's references, as well as financial strength and stability.

**3. Qualifications and Experience of Key Personnel**

Qualifications and relevant experience to perform the same or similar services as required by the RFP.

Three proposals were received and determined to be responsive. WETA established an Evaluation Committee to review and score the proposals against the selection criteria included in the RFP. The scoring results of the review are summarized in Table 1 below.

<b>Table 1 – RFP 22-2012 Scoring</b>				
<b>Proposer</b>	<b>Project Understanding and Approach</b>	<b>Firm's Qualifications and Experience</b>	<b>Qualifications and Experience of Key Personnel</b>	<b>Total Score</b>
<b>Foth</b>	25	47	24	<b>96</b>
<b>COWI</b>	21.5	44	22.5	<b>88</b>
<b>Haley &amp; Aldrich</b>	20	41	21	<b>82</b>

Based upon the evaluation and scoring of proposals, the Evaluation Committee identified Foth as the highest-ranked, most qualified firm to perform this work. The Foth team has extensive experience working on WETA dredging projects. Foth demonstrated a comprehensive understanding and approach for WETA's entire dredging process including resource agency coordination and permitting, dredging contract procurement and construction management responsibilities.

Pursuant to the RFP, and consistent with state and federal law for the procurement of engineering services like these, price was not considered as an evaluation criterion. After completion of the scoring process, staff initiated negotiations with Foth and was able to agree upon hourly rates. Staff determined that Foth's rates are fair and reasonable compared with other similar service contracts and in particular with other contracts WETA has entered into with Foth. The recommended contract award is for a total amount not to exceed \$1,000,000 for a term of five years. The work under this contract will be assigned as needed on a task order basis and may include a variety of dredging support services including but not limited to testing/sampling, permitting, procurement and construction management. The work will be managed by task orders issued by WETA staff within the overall contract limit.

#### **Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE) Goals**

The professional services under this contract are funded in part with Federal Transit Administration (FTA) funds. Staff has reviewed the DBE/SBE materials provided by Foth and has determined that they comply with the DBE/SBE requirements for this contract. Foth is not a certified DBE or SBE. However, Foth has identified two SBE subcontractors in their proposal and one additional subcontractor with SBE certification pending. The amount of participation by the SBE subcontractors is dependent on the task orders issued and the related scopes of work. Foth will provide the amount of SBE participation on a task order basis throughout the life of the contract. SBE participation for all FTA funded task orders issued pursuant to this contract will count toward WETA's 7.5% overall triennial SBE goal.

#### **Fiscal Impact**

Funding for on-call dredging support services is included in the FY 2022/23 Capital Budget for the *Terminal Dredging – Vallejo Surveys & Permitting* project, at a total cost of \$113,000, funded with a combination of FTA (80%) and AB664 Bridge Toll (20%) funds. Funding will be included in future year budgets to support needed work that would be completed under this award authority. Task order work in any given year will not exceed budgeted funds.

\*\*\*END\*\*\*

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**

**RESOLUTION NO. 2022-49**

**APPROVE CONTRACT AWARD TO FOTH & VAN DYKE AND ASSOCIATES, INC. FOR ON-CALL DREDGING SUPPORT SERVICES**

**WHEREAS**, San Francisco Bay Area Water Emergency Transportation Authority (WETA) requires on-call professional services to support the ongoing system wide dredging program for a period of five years; and

**WHEREAS**, WETA issued a Request for Proposals (RFP) for the required dredging support services in September 2022; and

**WHEREAS**, in accordance with the RFP and WETA's Administrative Code, WETA established an Evaluation Committee that reviewed all proposals received by the RFP's due date; and

**WHEREAS**, based on the evaluation criteria in the RFP, the Evaluation Committee determined Foth & Van Dyke and Associates, Inc. was the highest-ranked proposer; and

**WHEREAS**, after completion of the ranking process, WETA staff negotiated an agreement with Foth & Van Dyke and Associates, Inc. at rates determined to be fair and reasonable; and

**WHEREAS**, WETA staff recommends the Board of Directors award a contract to Foth & Van Dyke and Associates, Inc. for a five-year term for a total not to exceed amount of \$1,000,000; now, therefore, be it

**RESOLVED**, that the Board of Directors hereby approves entering into a five-year agreement with Foth & Van Dyke and Associates, Inc. for on-call dredging support services in an amount not to exceed \$1,000,000; and be it further

**RESOLVED**, that the Board of Directors authorizes the Executive Director to execute an agreement with Foth & Van Dyke and Associates, Inc. and take any other necessary actions consistent with this action.

**CERTIFICATION**

The undersigned, Board Secretary, does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the San Francisco Bay Area Water Emergency Transportation Authority held on December 8, 2022.

YEA:

NAY:

ABSTAIN:

ABSENT:

---

/s/ Board Secretary

2022-49

\*\*\*END\*\*\*

MEMORANDUM

---

**TO:** Board Members

**FROM:** Seamus Murphy, Executive Director  
Thomas Hall, Public Information & Marketing Manager

**SUBJECT:** Approve Contract Awards to MacKenzie, Davis & Associates Communications, and Underground Agency for Marketing and Public Relations Services

**Recommendation**

Approve contract awards to MacKenzie, Davis & Associates Communications, and Underground Agency for marketing and public relations services in an aggregate amount not to exceed \$350,000 per year for all three contracts over a seven-and-a-half year term, and authorize the Executive Director to negotiate and execute agreements and take any other related actions to support this work.

**Background**

WETA has historically used marketing and public relations consultants to support a wide breadth of work undertaken by staff. This outside support has allowed WETA to scale up its marketing and public information capacity given limited staff resources and the agency's dynamic needs.

The work done by marketing and public relations consultants includes:

- Plan, develop and execute multi-channel, multi-lingual marketing campaigns based on specific WETA-directed objectives as it pertains to increasing ridership, brand affinity and awareness of San Francisco Bay Ferry and any other WETA services.
- Provide creative services to support campaigns and other WETA marketing and public information initiatives, including but not limited to, creative development, design, copywriting, scriptwriting, video production, audio production and website development.
- Coordinate with WETA-contracted vendors and other vendors for production and delivery of collateral materials.
- Provide media buying services for print, digital, radio and out-of-home channels.
- Plan and execute marketing and public information events including ribbon cuttings, press conferences, groundbreakings and other celebrations.
- Provide ongoing media relations, media monitoring and crisis communications support.
- Provide support for social media management and monitoring.
- Advise WETA staff on trends and changes in the advertising, marketing and public relations industries relevant to WETA objectives and brand positioning.

In 2017, WETA issued a Request for Proposals (RFP) for marketing and public relations services and subsequently entered into contracts with three firms. Two of those contracts have been extended to their maximum terms and will expire on December 31, 2022.

At the September 1, 2022, Board of Directors meeting, staff received Board authorization to release a new RFP for marketing and public relations services.

**Discussion**

WETA released the RFP on September 9, 2022, using its Bonfire procurement portal. While there was no pre-proposal conference, WETA did solicit questions from interested parties and posted an addendum addressing those questions on September 30, 2022.

Twenty-three firms or individuals downloaded the RFP document and seven firms submitted proposals by the October 18, 2022 deadline. All seven proposers were found to meet the minimum submission requirements.

The qualified proposers were:

- BB&B Business Group
- BrandGOV Outreach
- Davis & Associates Communications
- JP Marketing
- MacKenzie
- Robert Anthony Strategic Marketing & Design
- Underground Agency

A panel of three WETA staff members evaluated all seven proposers per the following criteria included in the RFP:

- **Criteria No. 1: Project Understanding and Approach:** Proposer's understanding of the services; proposer's proposed approach to providing the services and working with WETA staff; organization chart of proposed team; and staffing plan (20% of score).
- **Criteria No. 2: Proposer's Qualifications and Experience:** Proposer's qualifications to perform the services; proposer's relevant experience performing work that is the same or similar to the services, including the scope and dollar value of prior projects completed and proposer's references; and sufficiency of proposer's financial strength, resources and capabilities to perform the services (40% of score).
- **Criteria No. 3: Qualifications and Experience of Key Personnel:** Key personnel's qualifications to perform the services and key personnel's relevant experience performing work that is the same or similar to the services (30% of score).
- **Criteria No. 4: Cost Proposal:** Reasonableness of billing rates (10% of score).

For this procurement, significant importance was placed on the qualifications and experience of the proposer and its key personnel (Criteria No. 2 and 3). Because of the varied, dynamic nature of the work to be undertaken on behalf on WETA, a demonstrated record of experience and success working on relevant campaigns, projects for similar clients was of special consideration to the evaluation panel. The proposer's understanding of WETA's needs (Criteria No. 1) was also relevant. Cost (Criteria No. 4) was evaluated via a two-step process considering both the hourly rate of the proposed project manager as well as a cost proposal for the development of a standard marketing pieces. The latter provided the evaluation panel with insight into how projects might be staffed by the agency, a key factor in controlling costs.

A table summarizing average scoring from the panel can be found below.

<b>Proposer</b>	<b>Crit. No. 1</b>	<b>Crit. No. 2</b>	<b>Crit. No. 3</b>	<b>Crit. No. 4</b>	<b>Total Score</b>
Mackenzie	19.67	38.33	28	6	92
Davis & Associates	16.33	36.67	26.67	7	86.67
Underground Agency	16.33	36.33	26.67	6.33	85.67
Robert Anthony SM&D	13.67	33	24	8.33	79
JP Marketing	15	32.67	23.67	6	77.33
BrandGOV Outreach	10.67	27.33	25.33	8.33	71.67
BB&B Business Group	9.33	28.67	23	8.33	69.33

The procurement was highly competitive. The evaluation panel had a clear top scorer among the proposers, but saw benefit from advancing multiple qualified proposers given the wide scope of the services needed and the growing importance of marketing and public relations services in the current transit environment. As such, the panel recommends the Board award contracts to MacKenzie, Davis & Associates Communications, and Underground Agency.

After completing the evaluation process, WETA staff negotiated the terms of an agreement with each of the three finalists. In all cases, the negotiated rates are fair and reasonable based on what WETA has paid for similar services in the past.

WETA has contracted with San Francisco-based MacKenzie over the past decade, and the panel found that the firm's proposal showed a thorough grasp of WETA's marketing and public relations objectives, needs, and opportunities. MacKenzie has been involved in most recent WETA marketing campaigns, including the successful Best Way Back campaign in 2021.

Davis & Associates Communications (D&A) is a San Francisco firm with extensive experience working with public agencies including transit operators in a full-service communications environment. The evaluation panel gave high marks to D&A's qualifications based on a review of their past projects for relevant clients.

Underground Agency is a San Francisco firm that specializes in creative marketing campaigns and works with a variety of clients, including public agencies. The evaluation panel found Underground's work in digital marketing campaigns particularly relevant given the advertising and communications landscape.

Pending Board approval, WETA plans to administer these contracts on a task order basis with specific programs, projects, and campaigns agreed upon prior to work beginning. Per the RFP, the proposed contract length for each firm is an initial 3.5-year term with two optional 2-year extensions at the discretion of the Executive Director, with maximum compensation of \$350,000 annually in the aggregate for all three contracts.

#### **DBE/SBE Participation**

This contract is not federally funded, and as such it is not subject to Federal Transit Administration (FTA) formulas for Disadvantaged Business Enterprise (DBE) or Small Business Enterprise (SBE) goals. However, D&A is a certified California DBE and Underground Agency and MacKenzie Communications qualify as SBEs.

#### **Fiscal Impact**

The 2022/23 budget included sufficient marketing and public relations funds to be expended under these contracts for the remainder of this fiscal year. Funding for future years under these contracts will be included in future budgets.

\*\*\*END\*\*\*

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**

**RESOLUTION NO. 2022-50**

**APPROVE CONTRACT AWARDS TO MACKENZIE, DAVIS & ASSOCIATES  
COMMUNICATIONS, AND UNDERGROUND AGENCY FOR MARKETING AND PUBLIC  
RELATIONS SERVICES**

**WHEREAS**, San Francisco Bay Area Water Emergency Transportation Authority (WETA) requires on-call marketing and public relations consultants to support a wide breadth of work; and

**WHEREAS**, WETA issued a Request for Proposals (RFP) for the required on-call marketing and public relations services in September 2022; and

**WHEREAS**, in accordance with the RFP and WETA's Administrative Code, WETA established an Evaluation Committee that reviewed the seven proposals received by the RFP's due date; and

**WHEREAS**, based on the evaluation criteria in the RFP, the Evaluation Committee recommended three firms for contract award; and

**WHEREAS**, after completion of the ranking process, WETA staff negotiated agreements with the three firms at rates determined to be fair and reasonable; and

**WHEREAS**, WETA staff recommends the Board of Directors award contracts to MacKenzie, Davis & Associates Communications, and Underground Agency with each contract for an initial 3.5-year term with two 2-year extensions to be exercised at WETA's option for an aggregate not to exceed amount of \$350,000 annually for all three contracts; now, therefore, be it

**RESOLVED**, that the Board of Directors hereby awards contracts to MacKenzie, Davis & Associates Communications, and Underground Agency for an initial 3.5-year term with two 2-year extensions to be exercised at WETA's option for a total not to exceed amount of \$350,000 per year in the aggregate for all three contracts; and be it further

**RESOLVED**, that the Board of Directors authorizes the Executive Director to execute agreements with MacKenzie, Davis & Associates Communications, and Underground Agency and to take any other necessary actions consistent with this action.

**CERTIFICATION**

The undersigned, Board Secretary, does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the San Francisco Bay Area Water Emergency Transportation Authority held on December 8, 2022.

YEA:

NAY:

ABSTAIN:

ABSENT:

---

/s/ Board Secretary

2022-50

\*\*\*END\*\*\*

MEMORANDUM

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**TO: Board Members**

**FROM: Seamus Murphy, Executive Director  
Thomas Hall, Public Information & Marketing Manager**

**SUBJECT: Approve Contract Awards to Next Steps Marketing and InterEthnica, Inc.  
for Community Outreach Services**

**Recommendation**

Approve contract awards to Next Steps Marketing and InterEthnica Inc. for community outreach services in an aggregate amount not to exceed \$200,000 per year for both contracts over a seven-and-a-half year term, and authorize the Executive Director to negotiate and execute an agreement and take any other related actions to support this work.

**Background**

In 2021, WETA entered into small agreements with two firms for community outreach services under the Executive Director's authority. At the September 1, 2022 Board of Directors meeting, staff presented results of the community outreach program to date and received Board authorization to release a new request for proposals (RFP) for community outreach services.

**Discussion**

WETA released the RFP on September 9, 2022, using its Bonfire procurement portal. While there was no pre-proposal conference, WETA did solicit questions from interested parties and posted an addendum addressing those questions on September 30, 2022.

Twenty-one firms or individuals downloaded the RFP document and six firms submitted proposals by the October 18, 2022 deadline. All six proposers were found to meet the minimum submission requirements.

The qualified proposers were:

- BB&B Business Group
- BrandGOV Outreach
- InterEthnica, Inc.
- JP Marketing
- Kearns & West
- Next Steps Marketing

A panel of three WETA staff members evaluated all six proposers per the following criteria included in the RFP:

- **Criteria No. 1: Project Understanding and Approach:** Proposer's understanding of the services; proposer's proposed approach to providing the services and working with WETA staff; organization chart of proposed team; and staffing plan (*40% of score*).
- **Criteria No. 2: Proposer's Qualifications and Experience:** Proposer's qualifications to perform the services; proposer's relevant experience performing work that is the same or similar to the services, including the scope and dollar value of prior projects

completed and proposer's references; and sufficiency of proposer's financial strength, resources and capabilities to perform the services (30% of score).

- **Criteria No. 3: Qualifications and Experience of Key Personnel:** Key personnel's qualifications to perform the services and key personnel's relevant experience performing work that is the same or similar to the services (20% of score).
- **Criteria No. 4: Cost Proposal:** Reasonableness of billing rates (10% of score).

For this procurement, significant importance was placed on a clear understanding of WETA's needs and a well-articulated proposed approach to meet those needs (Criteria No. 1), in addition to the qualifications of the proposer (Criteria No. 2). The response to these prompts in the RFP helped the evaluation panel determine proposers highly likely to be successful in developing and executing outreach campaigns on behalf of WETA. Cost (Criteria No. 4) was evaluated by assessing the hourly rate of the proposed project manager.

A table summarizing average scoring from the panel can be found below.

<b>Proposer</b>	<b>Crit. No. 1</b>	<b>Crit. No. 2</b>	<b>Crit. No. 3</b>	<b>Crit. No. 4</b>	<b>Total Score</b>
Next Steps Marketing	39.33	29	19.33	9.33	97
InterEthnica, Inc.	38	28.67	18.67	7	92.33
BrandGov Outreach	36	26	16.67	8.67	87.33
Kearns & West	32.33	25.67	17.67	3.33	79
JP Marketing	29	22	15.67	8	74.67
BB&B Business Group	28	22.67	14.33	8.33	73.33

While the procurement was highly competitive, the evaluation panel reached a consensus on the two top scorers and is recommending the Board authorize contract awards to Next Steps Marketing (NSM) and InterEthnica, Inc. Staff proposes to award contracts to these two top scoring firms to ensure the breadth of WETA's needs in community outreach services over its large service area can be met.

After completing the evaluation process, WETA staff negotiated the terms of an agreement with each of the two finalists. In both cases, the negotiated rates are fair and reasonable based on what WETA has paid for similar services in the past.

The proposals from NSM and InterEthnica showed a high, clear understanding of WETA's community outreach program needs and the evaluation panel found the proposed approaches to be achievable and well-suited to WETA's objectives. Both firms specialize in outreach to underserved and diverse communities, broad geographic reach in the Bay Area, and have prior and current transit clients.

Pending Board approval, WETA plans to administer these contracts on a task order basis with specific programs, projects, and campaigns agreed upon prior to work beginning. Per the RFP, the proposed contract length for each firm is an initial 3.5-year term with two optional 2-year extensions at the discretion of the Executive Director, with maximum compensation of \$200,000 annually in the aggregate for both contracts.

**DBE/SBE Participation**

This contract is not federally funded, and as such it is not subject to Federal Transit Administration (FTA) formulas for Disadvantaged Business Enterprise (DBE) or Small Business Enterprise (SBE) goals. However, NSM is certified California DBE and InterEthnica is certified by the U.S. Small Business Administration (SBA) as an Economically

Disadvantaged Woman-owned Business (EDWOB). Both firms would qualify under WETA's DBE/SBE program were these federally funded contracts.

**Fiscal Impact**

The 2022/23 budget included sufficient community outreach funds to be expended under these contracts for the remainder of this fiscal year. Funding for future years under these contracts will be included in future budgets.

\*\*\*END\*\*\*

**SAN FRANCISCO BAY AREA WATER EMERGENCY TRANSPORTATION AUTHORITY**

**RESOLUTION NO. 2022-51**

**APPROVE CONTRACT AWARDS TO NEXT STEPS MARKETING AND INTERETHNICA, INC. FOR COMMUNITY OUTREACH SERVICES**

**WHEREAS**, San Francisco Bay Area Water Emergency Transportation Authority (WETA) requires on-call community outreach consultants; and

**WHEREAS**, WETA issued a Request for Proposals (RFP) for the required services in September 2022; and

**WHEREAS**, in accordance with the RFP and WETA's Administrative Code, WETA established an Evaluation Committee that reviewed the six proposals received by the RFP's due date; and

**WHEREAS**, based on the evaluation criteria in the RFP, the Evaluation Committee recommended two firms for contract award; and

**WHEREAS**, after completion of the ranking process, WETA staff negotiated agreements with the two firms at rates determined to be fair and reasonable; and

**WHEREAS**, WETA staff recommends the Board of Directors award contracts to Next Steps Marketing and InterEthnica Inc. with each contract for an initial 3.5 year term with two 2-year extensions to be exercised at WETA's option for a total not to exceed amount of \$200,000 per year in the aggregate for both contracts; now, therefore, be it

**RESOLVED**, that the Board of Directors hereby awards contracts to Next Steps Marketing and InterEthnica, Inc. for an initial 3.5 year term with two 2-year extensions to be exercised at WETA's option for a total not to exceed amount of \$200,000 per year in the aggregate for both contracts; and be it further

**RESOLVED**, that the Board of Directors authorizes the Executive Director to execute agreements with Next Steps Marketing and InterEthnica and take any other necessary actions consistent with this action.

**CERTIFICATION**

The undersigned, Board Secretary, does hereby certify that the foregoing is a full, true and correct copy of a resolution duly and regularly adopted at a meeting of the San Francisco Bay Area Water Emergency Transportation Authority held on December 8, 2022.

YEA:

NAY:

ABSTAIN:

ABSENT:

---

/s/ Board Secretary

2022-51

\*\*\*END\*\*\*

MEMORANDUM

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**TO: Board Members**

**FROM: Seamus Murphy, Executive Director  
Thomas Hall, Public Information & Marketing Manager**

**SUBJECT: 2022 Onboard Passenger Survey Report**

**Recommendation**

There is no recommendation associated with this informational item.

**Background**

Prior to the pandemic, WETA undertook onboard intercept surveys every three years in order to gather important data about passengers and San Francisco Bay Ferry to help improve service and increase ridership. The most recent full survey was completed in late 2017, with a supplemental Richmond-only survey completed in 2019 following the launch of that route. WETA produced an onboard intercept survey in February 2021 to get a snapshot of pandemic ridership with only three routes active running minimal service.

WETA contracted with CDM Smith to perform an onboard intercept survey in July and August 2022 and produce a summary report. A key objective in this survey cycle was analyzing whether the Pandemic Recovery Program and shifting travel patterns had changed the characteristics of San Francisco Bay Ferry ridership or passenger sentiments about the service.

WETA staff worked with CDM Smith to refine the pre-pandemic questionnaire to be more relevant in the new environment. The survey was conducted on all routes on July 26-28, 2022, and on active weekend routes on August 27-28, 2022. The summary report is included as Attachment A. Due to the significantly lower ridership during the 2021 survey cycle, the report relies on 2017 data for most comparisons.

The Metropolitan Transportation Commission (MTC) also regularly performs intercept surveys of regional transit riders. WETA is coordinating with MTC staff to ensure additional relevant passenger data is collected in the coming years.

In addition to the rigorous onboard intercept surveys, WETA regularly conducts opt-in digital surveys to get passenger and non-passenger feedback on various relevant topics, including ferry amenities, passenger experience policies, and service schedules.

**Discussion**

Staff will present the major findings from the survey and additional context during the Board of Directors meeting. Notable findings include the following.

- Self-reported ethnic identity of riders has diversified, with the share of passengers identifying as white/Caucasian falling under 50% for the first time since WETA began operating ferry service in 2012.

- Income levels systemwide remained relatively high, on par with data reported in the 2017 survey. In 2022:
  - 29% of passengers reported household income under \$100,000 (32% in 2017)
  - 41% of passengers reported household income between \$100,000 and \$200,000 (33% in 2017)
  - 30% of passengers reported household income above \$200,000 (25% in 2017)
- Ridership frequency has dramatically changed, as expected, with major increases in weekday passengers riding 1-2 days per week (from 8% in 2017 to 22% in 2022) and 3-4 days per week (from 24% in 2017 to 34% in 2022) and a major decrease in weekday passengers riding five days per week (from 49% in 2017 to 26% in 2022).
- While the top three reasons cited for choosing the ferry over other transportation options – to avoid parking and traffic, ride quality, and because the ferry is relaxing – have remained stable, the percentage of passengers citing the ferry as a cheaper option than other modes increased dramatically, from 7% in 2017 to 18% in 2022.
- Passenger satisfaction with their ferry experience reached an all-time high of 99%, up from 88% in 2017 and dramatically higher than other Bay Area transit operators. 98% of passengers reported satisfaction with the San Francisco Bay Ferry service overall.

**Fiscal Impact**

There is no fiscal impact associated with this informational item.

\*\*\*END\*\*\*

**Attachment A** – 2022 WETA On-Board Passenger Survey Summary Report

**Summary Report**  
2022 On-Board Passenger Survey



***San Francisco Bay Ferry***

November 2022

# Acknowledgements

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## **Project Team**

### **WETA Staff**

Seamus Murphy  
Executive Director

Thomas Hall  
Public Information and Marketing Manager

Michael Gougherty  
Principal Planner

### **Consultant Support**

Bill Hurrell  
Project Director, CDM Smith

Piyali Chaudhuri  
Project Manager, CDM Smith

Chiranjivi Bhamidipati  
Transportation Planner, CDM Smith

Michael Rabinowitz  
Transportation Planner, CDM Smith

The logo for WETA, consisting of the letters "WETA" in a bold, blue, sans-serif font.The logo for CDM Smith, with "CDM" stacked above "Smith" in a bold, blue, sans-serif font.

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# Section 1

## Introduction

### 1.1 Project Information

The San Francisco Bay Area Water Emergency Transportation Authority (WETA) is a regional public transit agency providing a water transportation system in the Bay Area. WETA provides ferry services, known by the brand name San Francisco Bay Ferry, connecting San Francisco with the East Bay and North Bay, and South San Francisco with the East Bay. WETA operates San Francisco Bay Ferry using twelve terminals located in the cities of Alameda, Oakland, Richmond, San Francisco, South San Francisco, and Vallejo – four are located in San Francisco (Downtown San Francisco, Pier 41, Oracle Park and Pier 48/Chase Center Terminals), three in Alameda (the Main Street Alameda, Alameda Seaplane and Harbor Bay Terminals), two in Vallejo (the Vallejo and Mare Island Terminals), and one each in Oakland, Richmond and South San Francisco. Currently, San Francisco Bay Ferry operates year-round service for the following six routes:

- Oakland & Alameda: Weekday and weekend service connecting Oakland, Main Street Alameda, and Downtown San Francisco
- Alameda Seaplane: Weekday service between Alameda Seaplane in western Alameda and Downtown San Francisco
- Harbor Bay: Weekday service between Harbor Bay in southern Alameda and Downtown San Francisco
- South San Francisco: Weekday commute service connecting South San Francisco, Oakland, and Main Street Alameda
- Richmond: Weekday and weekend service between Richmond and Downtown San Francisco
- Vallejo: Weekday and weekend service connecting Vallejo, Mare Island and Downtown San Francisco

San Francisco Bay Ferry provides seasonal service between Oakland, Main Street Alameda, Vallejo, and Oracle Park for San Francisco Giants games. It also provides seasonal service between Oakland, Main Street Alameda, and Pier 48/Chase Center in San Francisco for Golden State Warriors games. The existing ferry routes and terminals are illustrated in **Figure 1-1**.

WETA periodically conducts its systemwide on-board passenger survey to gather passenger feedback about the San Francisco Bay Ferry's performance; understand the service/catchment area of each route; review ferry operations; and plan adjustments or improvements to its services, facilities, and connectivity to terminals. This report provides a summary of the results from the 2022 On-board Passenger Survey, the fifth such survey WETA has conducted. The last survey was done in the winter of 2021.



Source: San Francisco Bay Ferry (<https://sanfranciscobayferry.com>)

Figure 1-1 San Francisco Bay Ferry Routes and Terminals

## 1.2 Data Collection Overview

### 1.2.1 Survey Routes

The 2022 On-Board Passenger Survey was conducted for the six ferry routes that are currently in operation:

- Oakland & Alameda
- Alameda Seaplane
- Harbor Bay
- South San Francisco
- Richmond
- Vallejo

The following routes were also surveyed on a weekend:

- Oakland & Alameda
- Richmond
- Vallejo

### 1.2.2 Survey Methodology

The survey was conducted based on guidelines provided by WETA. The survey was designed to:

- Be completed using an online questionnaire
- Be conducted on three consecutive mid-weekdays and two consecutive weekend days
- Capture ferry trips that represent the morning commute, midday, and evening commute.

The ferry vessel trips identified for surveying were selected to maximize passenger access and ensure a variety of departure windows were sampled. The surveys were conducted on Tuesday, July 12, Wednesday, July 13, Thursday, July 14, Saturday, August 27, and Sunday, August 28. The survey sampling plan is included in **Appendix A**.

The survey questionnaire was developed by WETA. The survey questionnaire is included in **Appendix B**.

The on-board surveys were administered by National Data & Surveying (NDS) by distributing cards to ferry riders that had a QR code and link to the online questionnaire. The online survey was available in English, Spanish and Mandarin languages.

## 1.3 Data Analysis Methodology

The survey data was evaluated and summarized by ferry route. The survey was conducted for a sample of ferry patrons intended to sufficiently represent the profile of passengers on each of the in-service routes. Because the response rates differed on each of the routes and because it was desired to meaningfully compare results of one route against the other, a weighting process was used to normalize the data between routes. Survey results are typically weighted when it is required to:

- Have the survey statistics be representative of the underlying population, or
- Compensate for over- or under-sampling of specific cases or for disproportionate stratification.

Weighting the survey involves developing weighting factors for segments of the survey data by comparing it to total ridership data. WETA provided average weekday ridership for each ferry route from July and August 2022 passenger counts. By comparing this ridership count with the number of surveys collected on each route, weighting factors were developed for each ferry route. Weekday data collected on the Oakland & Alameda and Alameda Seaplane routes were combined for the purposes of data weighting due to data limitations.

This same methodology was used for the past three on-board surveys for WETA, so this approach also provides for the ability to accurately compare the results of the 2022 survey with past surveys.

For example, the average midweek ridership for the Richmond route during the survey week was 766 passengers, while 155 survey responses were collected for this route. The weighting factor applied to weekday surveys for this route is 4.9 (766/155), or the average number of riders per survey response. The weighting factors used for the ferry routes surveyed are provided in **Tables 1-1 and 1-2**.

**Table 1-1 Weekday Weighting Factors**

Ferry Route	Number of Survey Responses	Average Daily Ridership <sup>1</sup>	Weighting Factor
Alameda/Oakland & Alameda Seaplane Route	204	2,387	11.7
Vallejo Route	144	2,139	14.9
Richmond Route	155	766	4.9
Harbor Bay Route	91	582	6.4
So. San Francisco Route	36	214	5.9

Notes:

<sup>1</sup>From July 11-15, 2022.

**Table 1-2 Weekend Weighting Factors**

Ferry Route	Number of Survey Responses	Average Daily Ridership <sup>1</sup>	Weighting Factor
Alameda/Oakland Route	177	3,000	16.9
Vallejo Route	125	1,431	11.4
Richmond Route	31	365	11.8

Notes:

<sup>1</sup>From August 27-28, 2022.

Individual survey responses were then multiplied by these weighting factors and multiplied by days in a week factor by day type (five for weekdays, two for weekends), so that when summed, the total number of responses would equal the weekly total ridership and would represent average weekly ridership. By weighting the survey results, totals and percentages for summary statistics better reflect the overall demographics and preferences of ferry riders.

## Section 2

# Survey Findings

A total of 630 weekday and 333 weekend surveys were collected as part of the 2022 On-Board Passenger Survey, for an overall total of 963 surveys. The results obtained by evaluating the survey data using the weighting factors as discussed in Section 1.3 are used in this chapter. The weighted survey results are segregated and illustrated by ferry route.

## 2.1 Demographics

### 2.1.1 Age

The age distribution of passengers by ferry route is illustrated in **Figure 2-1**. Minors (under 18 years of age) accompanied by adults are less likely to respond to the on-board surveys, so they are assumed to be under-represented in the survey sample and results.

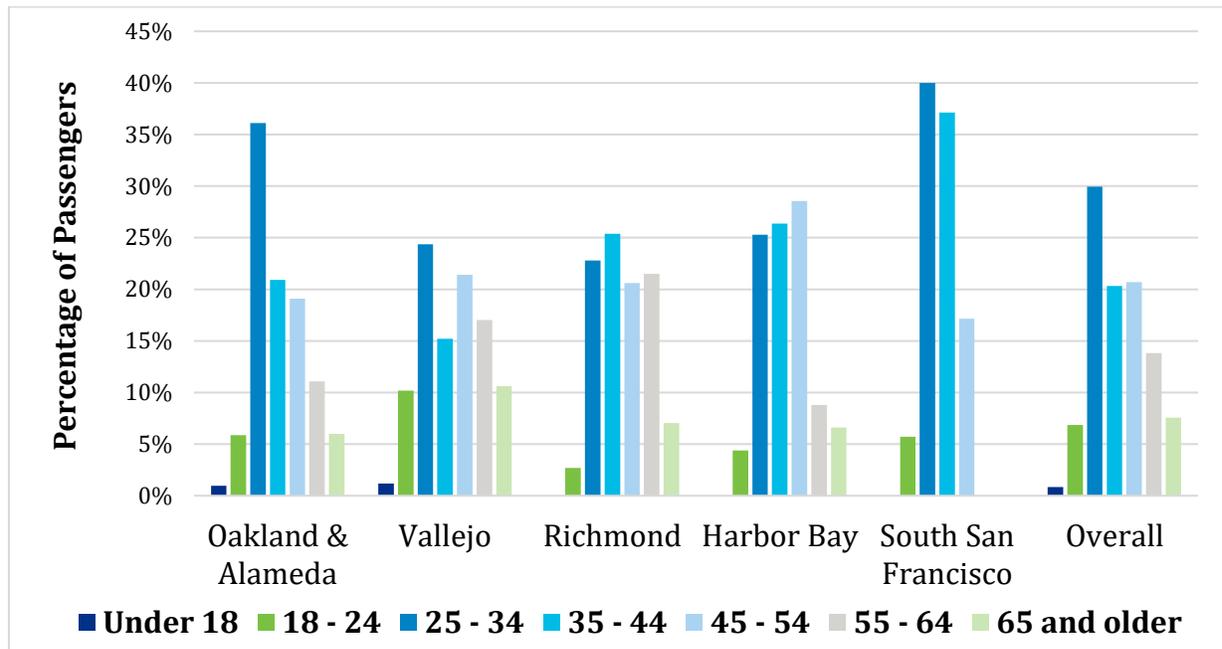


Figure 2-1 Age Distribution by Route

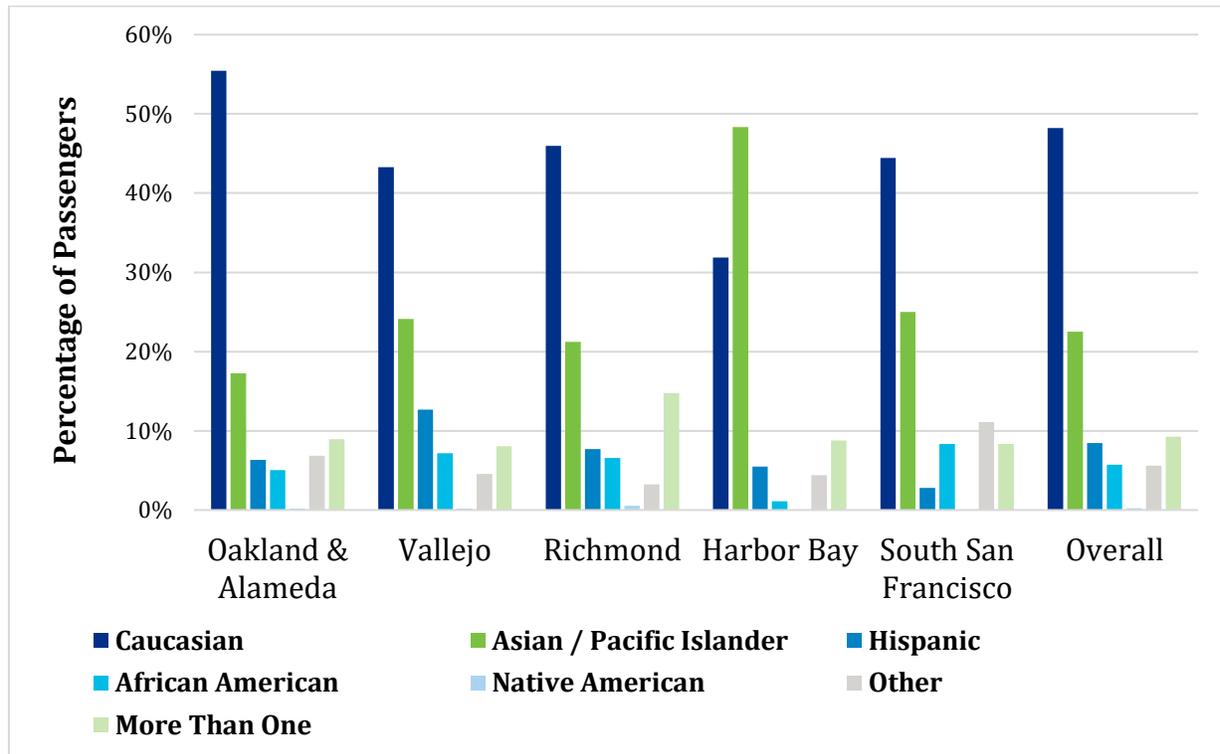
#### Key Results

- Overall, the majority (71 percent) of the riders are between 25 and 54 years of age. Of the remaining 29 percent, 14 percent are from the 55-64 age group, eight percent are 65 years and older, and the rest seven percent are minors (under 18 years of age).
- The 25-54 age group also forms the highest share of riders for all five routes. This age group share for Harbor Bay and South San Francisco routes is above 80 percent, and for the remaining routes the share lies between 61 and 76 percent.

- Non-commute trips include higher shares of riders under 18 years and 55 years and older (10 percent and 31 percent, respectively) compared to commute trips (7 percent and 17 percent, respectively).

### 2.1.2 Race/Ethnicity

The distribution of race/ethnicity of ferry patrons is shown in **Figure 2-2**.



**Figure 2-2 Race/Ethnicity by Route**

#### Key Results

- Overall, Caucasian riders constitute a plurality (48 percent), followed by Asian/ Pacific Islander riders at 23 percent, Hispanic/Latino riders at nine percent, African American riders at six percent, Native American riders at less than one percent, and others at six percent. Nine percent of the riders report more than one race/ethnicity.
- The Harbor Bay route has the highest share of Asian/ Pacific Islander riders of 48 percent, which exceeds the share of Caucasian riders (32 percent) on this route. Other routes show small variations compared to the overall race/ethnicity distribution.
- No discernable differences were found between commuters and non-commuters in the terms of race/ethnicity distribution.
- Ferry riders' race/ethnicity is not always consistent with the demographics of the municipality that the ferry serves. On the Oakland & Alameda route, Caucasians are overrepresented while African Americans and Hispanic/Latinos are underrepresented. For the Richmond route, Caucasians are overrepresented while Asian/Pacific Islanders,

Hispanic/Latinos and African Americans are underrepresented. On the Vallejo Route, Hispanic/Latinos and African Americans are slightly underrepresented<sup>1</sup>. It is important to note that this comparison of ferry passenger versus community demographics does not account for the location of the ferry terminal within the surrounding community as compared to other modes nor does it consider that the terminal may draw ridership from other municipalities outside the one in which the terminal is located

### 2.1.3 Annual Household Income

The distribution of riders' annual household income is illustrated in **Figure 2-3**. The distribution of weekday commute riders' annual income is illustrated in **Figure 2-4**.

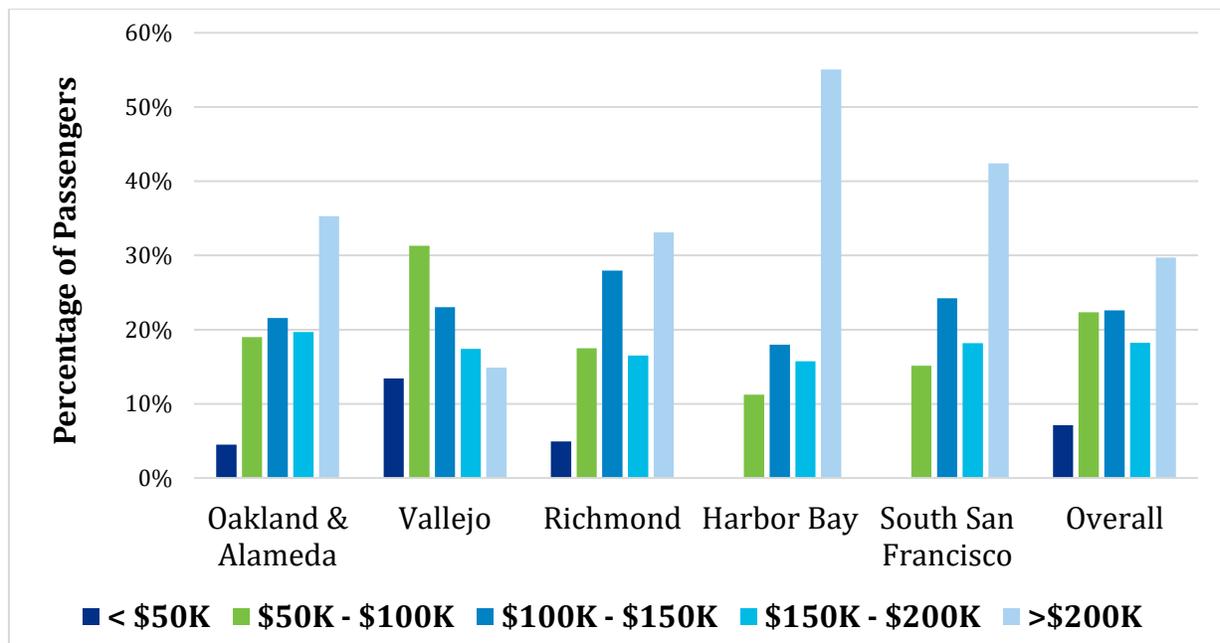
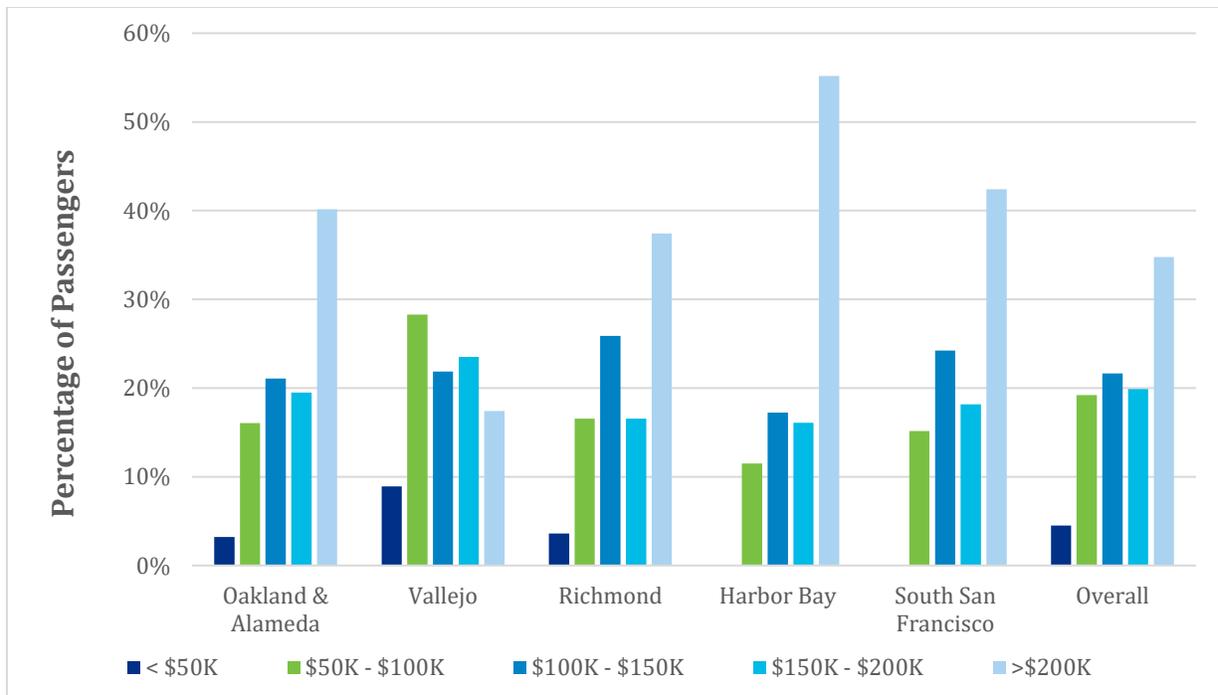


Figure 2-3 Annual Household Income by Route

<sup>1</sup> US Census Quick Facts for Cities of Alameda, Oakland, Richmond and Vallejo: <https://www.census.gov/quickfacts/fact/table/vallejocitycalifornia.richmondcitycalifornia.alamedacitycalifornia.oaklandcitycalifornia.CA/PST045219> (last accessed on November 1, 2021)



**Figure 2-4 Annual Household Income by Route- Commuters**

### Key Results

- Overall, seven percent of ferry riders have an annual household income of less than \$50,000, 22 percent are in the \$50,000-\$100,000 range, 23 percent in the \$100,000-\$150,000 range, 18 percent in the \$150,000-\$200,000 range, and 30 percent in the more than \$200,000 range.
- The Vallejo route has the highest share of riders in the \$50,000-\$100,000 range of annual household income (31 percent). The Harbor Bay and South San Francisco routes have the highest shares of riders in the more than \$200,000 range of annual household income (55 percent and 42 percent, respectively).
- Non-commuters have a higher share (42 percent) of riders with annual household income less than \$100,000 than all users combined (29 percent), while commuters have a slightly higher share (35 percent) of riders with annual household income more than \$200,000 than all users combined (30 percent).
- Compared with the demographics of the closest municipality that the ferry serves, those with an annual household income of less than \$50,000 are underrepresented across all routes while those with an annual household income \$150,000 or more are overrepresented across all routes. However, San Francisco Bay Ferry service is largely structured to provide commute period trips to the economic centers of Downtown San Francisco and South San Francisco, which could skew the income profiles of those who ride as compared to the profiles for the region as a whole.

### 2.1.4 English Proficiency

Every survey respondent indicated that they either speak English very well (95 percent) or well (four percent). Proficiency in English varies over a narrow range of 91-97 percent across the routes. The survey was multilingual in order to facilitate responses from non-English speakers. Out of the 963 survey responses, over 99 percent were filled in English, and less than one percent were filled in Spanish (5 responses) and Mandarin (2 responses).

## 2.2 Ferry Usage

### 2.2.1 Frequency of Ferry Use

The distribution of riders' frequency of ferry use are provided separately for commuters and non-commuters in **Figures 2-5** and **2-6**. Harbor Bay and South San Francisco have limited or no non-commute trips in the survey sample, hence they are not included in **Figure 2-6**.

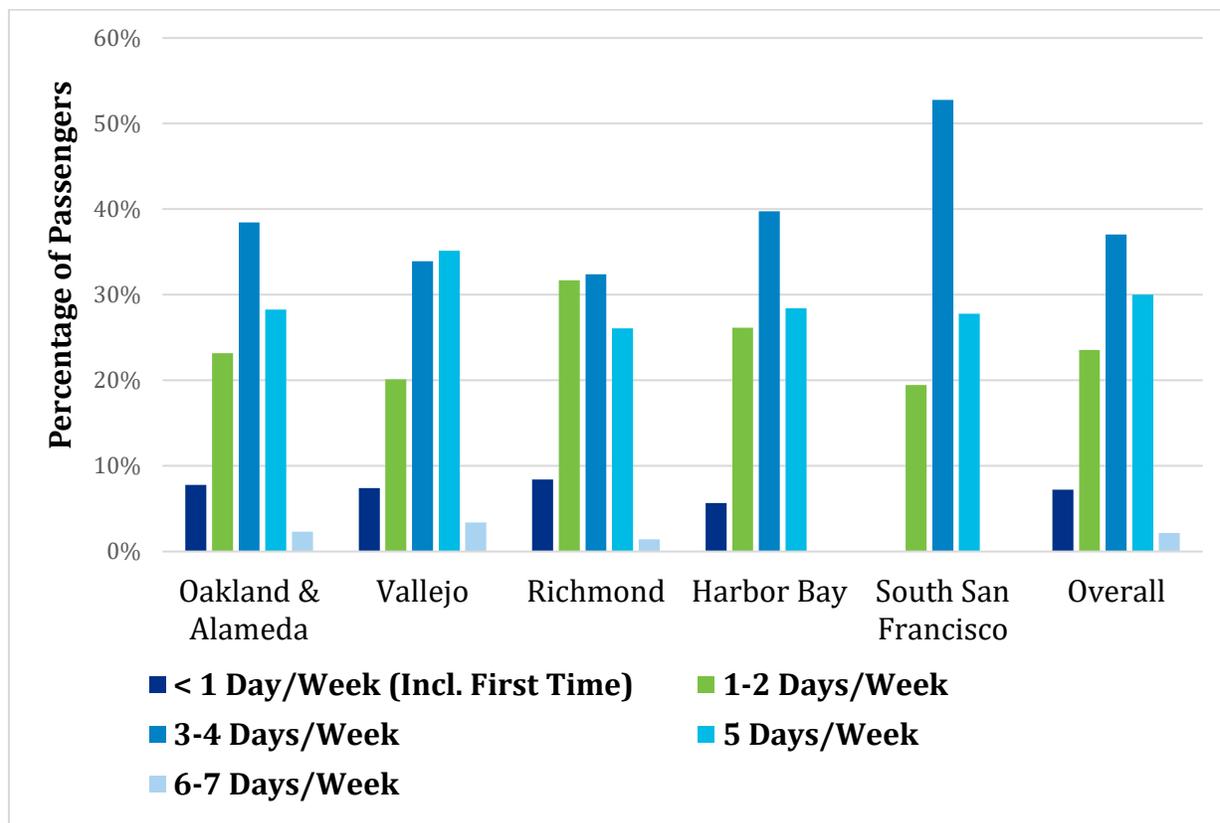


Figure 2-5 Frequency of Ferry Use by Route - Commuters

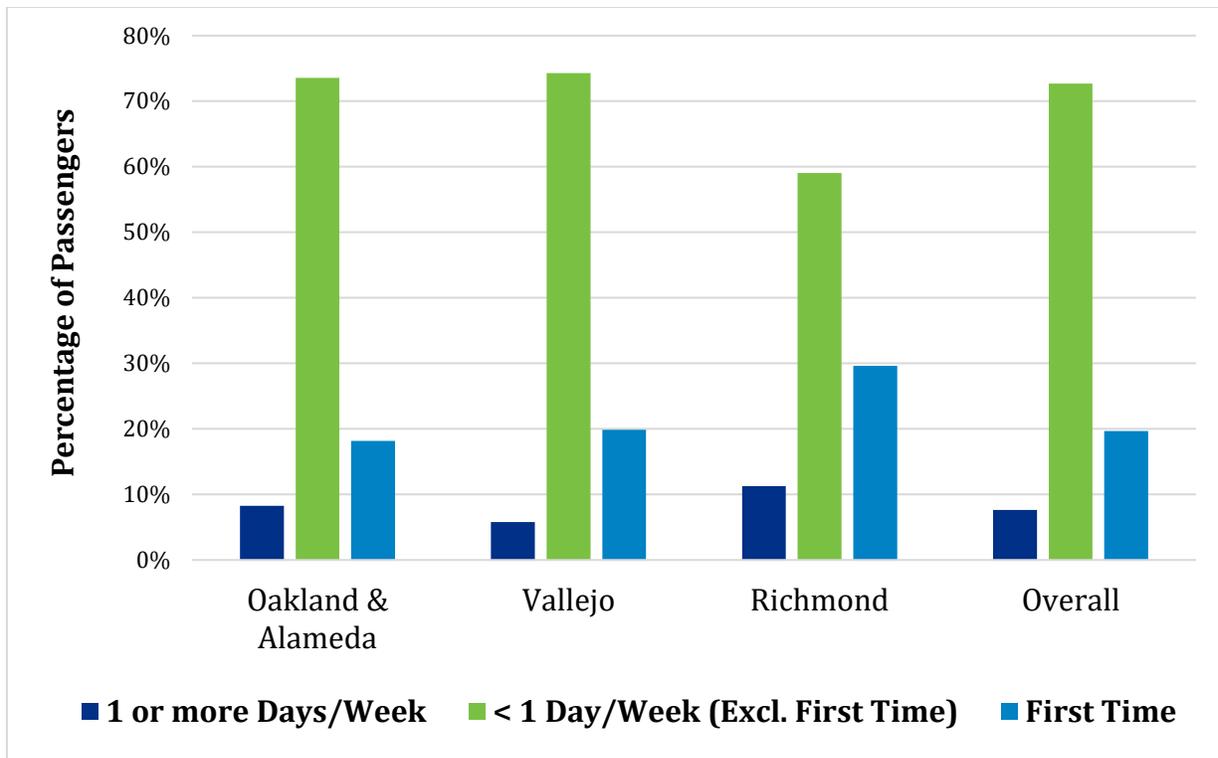


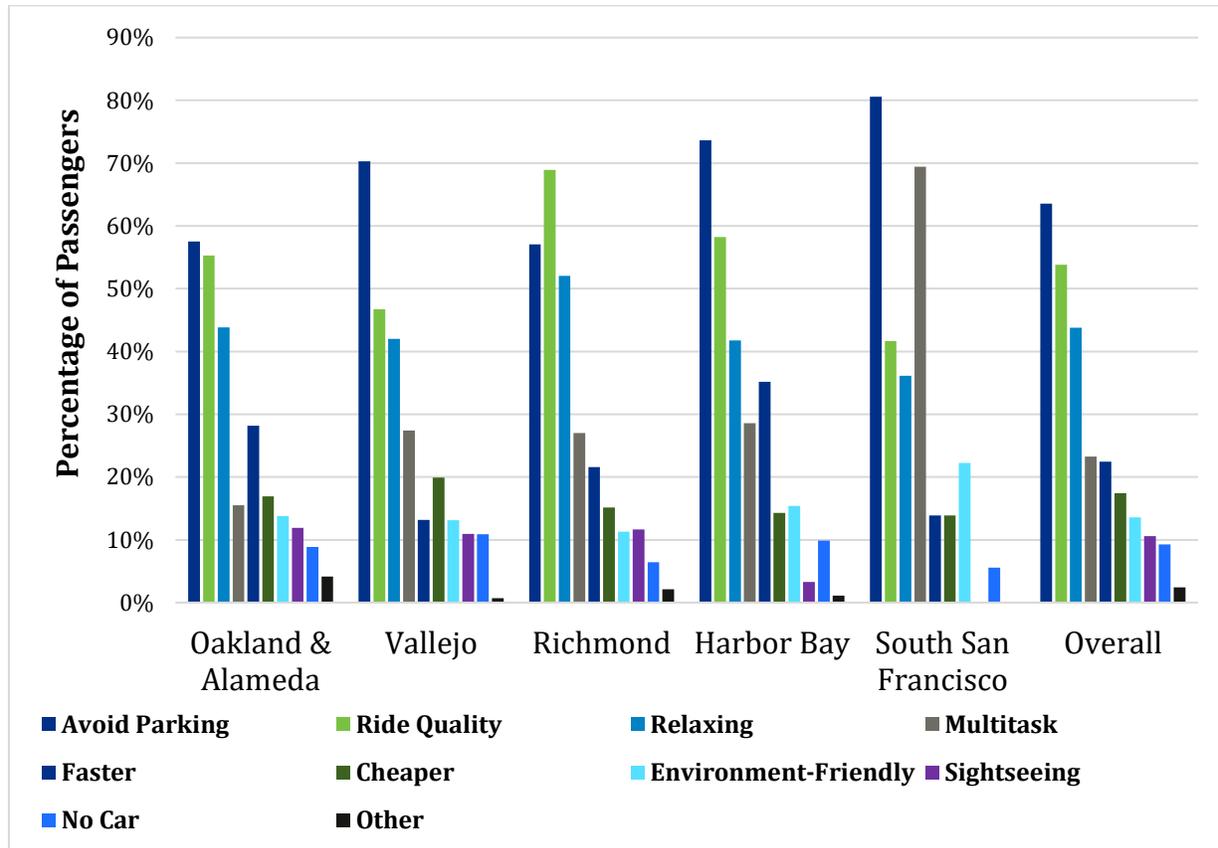
Figure 2-6 Frequency of Ferry Use by Route – Non-Commuters

#### Key Results

- Systemwide, 69 percent of all commuters ride three days or more per week. This percentage is the highest for the South San Francisco route (81 percent) and ranges between 60-72 percent for the remaining routes.
- Twenty four percent of commuters ride the ferry one-to-two days a week, likely reflecting a continued post-pandemic remote and hybrid work environment offered by many large employers in the commute markets served by the ferry.
- The remaining seven percent of the commuters are occasional users of ferry for work, riding less than 1 day per week (including first time users) for commute. The Richmond route has the highest share of occasional riders of 40 percent and ranges between 19-32 percent for the remaining routes. This can also likely be attributed to employers offering continued remote and hybrid work environments
- Among non-commuters across all routes, 73 percent of the riders use ferry less than 1 day per week (excluding first time users). First-time riders for non-commute trip purpose constitute 20 percent of the patronage, with the highest of 30 percent for the Richmond route.

## 2.2.2 Reasons for Ferry Use

Riders' reasons for riding a ferry are illustrated in **Figure 2-7**. These include multiple selections by passengers, who were allowed to indicate more than one reason in their response.



**Figure 2-7 Reasons for Ferry Use by Route**

### Key Results

- Overall, the top three reasons for choosing the ferry are avoiding traffic and parking issues (64 percent of the riders), the quality of the ride in comparison to other modes (54 percent of the riders) and reducing stress due to the relaxing nature of a ferry ride (44 percent of the riders).
- Individual routes share mostly the same top three reasons for using the ferry, the exception being South San Francisco where the ability to multitask (69 percent) is ranked second by riders below avoiding traffic and parking issues (81 percent).
- Twenty-three percent of riders indicated that the ability to multitask on the ferry was most important to them. Also, 23 percent of riders responded that their most important reason for using the ferry was that the ferry is faster, and 17 percent of riders find that ferry is cheaper than other options available for their travel and thus played a role in their decision to use the ferry. These ranked fourth, fifth and sixth overall, respectively.

- The Harbor Bay route had the highest share of riders that consider that the ferry is a faster option than other modes (35 percent).

## 2.3 Trip Characteristics

### 2.3.1 One-Way Trips

Overall, ten percent of riders took one-way trips. The Vallejo route had the highest share with 15 percent of riders taking one-way trips and the South San Francisco route had the lowest share; no survey respondents took one-way trips.

### 2.3.2 Ticket Type

The distribution of ticket type used by passengers is shown in **Figure 2-8**.

#### Key Results

- Overall, 80 percent of passengers use a Clipper Card, 13 percent use a mobile ticket, and seven percent use a paper ticket.
- The proportion of passengers using a Clipper Card is the highest on the South San Francisco, Richmond, and Harbor Bay routes (97 percent, 93 percent, and 91 percent, respectively) and the lowest on the Vallejo route (69 percent). Eighty three percent of Oakland & Alameda and Alameda Seaplane route passengers use a Clipper Card.
- The survey sample was collected during WETA's transition to a new integrated ticketing system for non-Clipper fare payment, which occurred in July 2022. While ticket types available remained the same in the new system, this change has made mobile tickets a more convenient option for passengers, particularly on the Vallejo route.

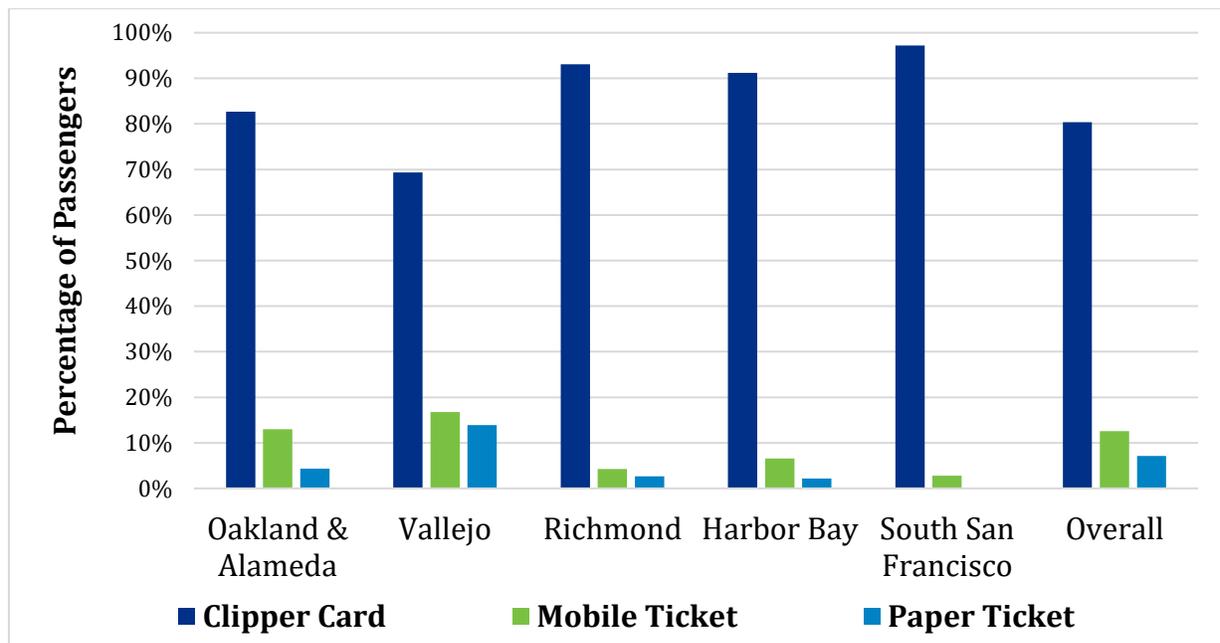


Figure 2-8 Ticket Type by Route

### 2.3.3 Fare Type

The majority of ferry riders, 91 percent, use the “adult” fare type. This varies from the lowest of 87 percent on the Vallejo route to 97 percent on the South San Francisco route. The “senior” fare type is the most common “non-adult” fare type used by patrons averaging six percent of overall ridership. The top three busiest routes (Oakland & Alameda, Vallejo, and Richmond) have similar rates of customers utilizing “senior” fare type. While the percentage share of “youth” fare type is less than 1 percent, minors (under 18 years of age) are under-represented in the survey sample, as previously mentioned. As such, “youth” ticket sales make up a higher share of overall fare types. “Disabled/Medicare” fare types also accounted for less than one percent of all riders.

### 2.3.4 Ferry Terminal Access

A summary of transportation modes used to access the ferry terminals is provided in **Figures 2-9** and **2-10**. This assumes that a rider would use the same mode for ingress and egress at a given ferry terminal. For example, if a survey respondent answered that they drove alone to the Vallejo terminal, it is presumed that when they returned to the Vallejo terminal later in the day, they drove alone to depart the terminal area.

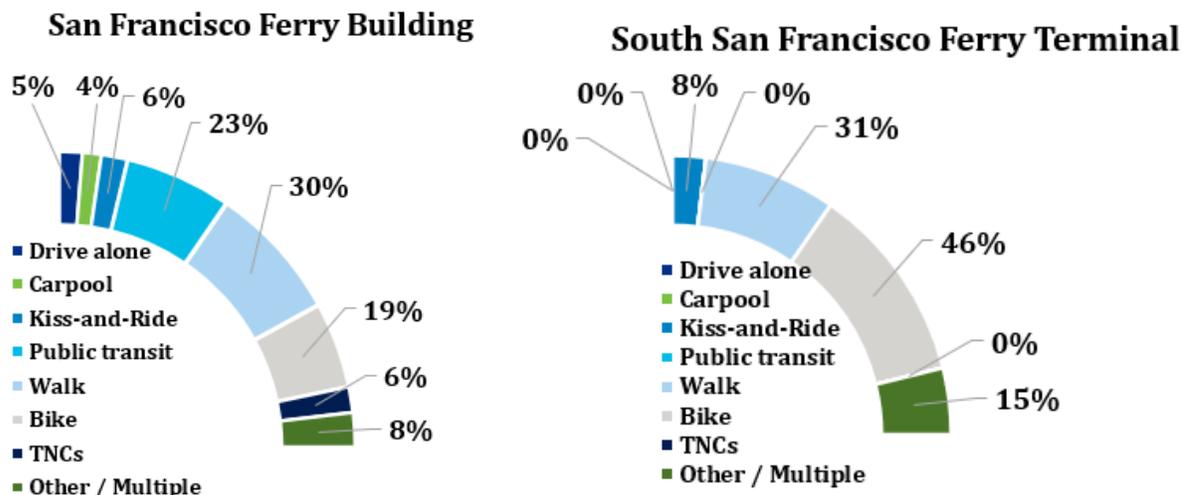


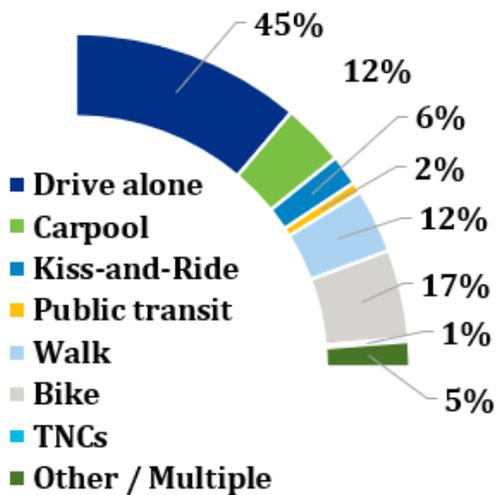
Figure 2-9 Access Mode – Destination Terminals

#### Key Results

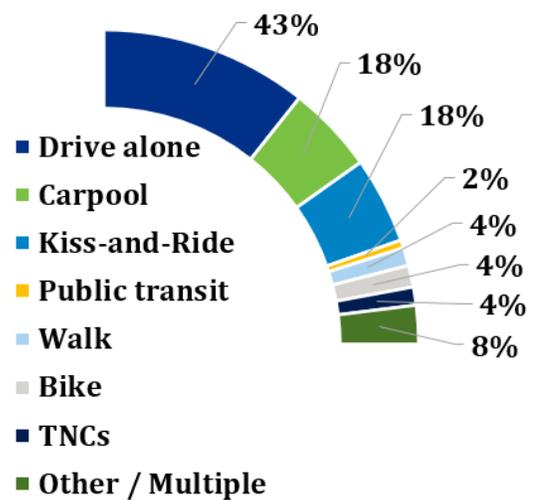
- At the San Francisco Ferry Building and the South San Francisco Ferry Terminal, which serve as the destination for most commute trips:
  - Walking and bicycling are the most common access modes with a combined mode share of 49 percent for the San Francisco Ferry Building and 77 percent for the South San Francisco Ferry Terminal.
  - For the San Francisco Ferry Building, public transit has the next highest mode share of 23 percent.

- Eight percent of customers accessing the San Francisco Ferry Building and 15 percent of customers accessing the South San Francisco Ferry Terminal use multiple modes or modes that required a write-in answer. An example of a common write-in answer is an electric scooter.
- Transportation network companies (TNCs), drive alone, carpool and kiss-and-ride mode shares range between 4-6 percent each at the San Francisco Ferry Building. Kiss-and-ride forms eight percent of the access mode share at the South San Francisco Ferry Terminal. TNCs refer to companies like Uber, Lyft, Gig Car Share, and other mobility service providers.

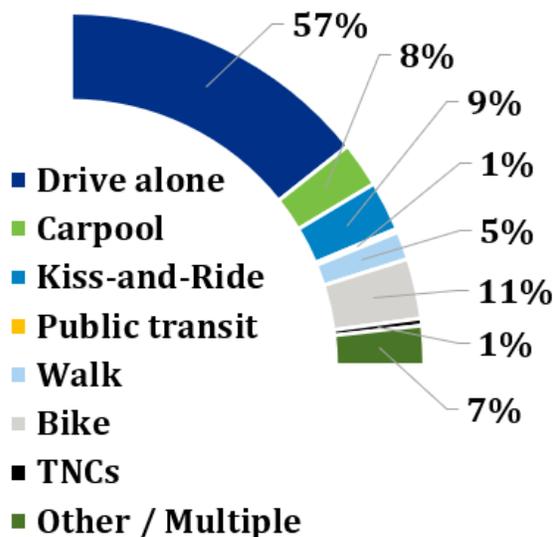
### Oakland & Alameda Ferry Terminals



### Vallejo Ferry Terminal



### Richmond Ferry Terminal



### Harbor Bay Ferry Terminal

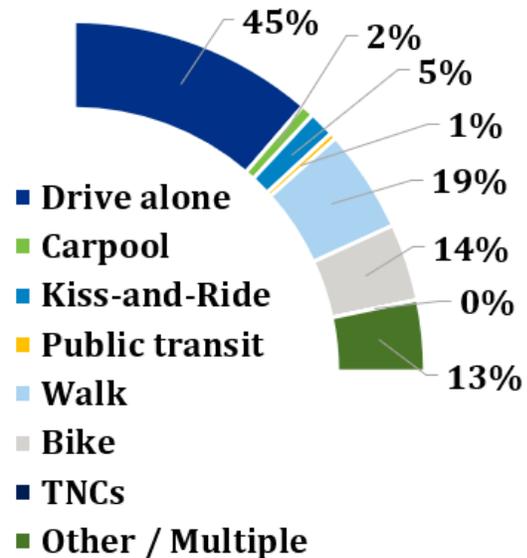


Figure 2-10 Access Mode – Origin Terminals

- At the East Bay and North Bay terminals, where most of the commute trips originate:
  - Overall, fewer than half of the trips to these terminals are drive alone trips (mode share ranges from 43 percent at the Vallejo Ferry Terminal to 57 percent at the Richmond Ferry Terminal).
  - Walking and bicycling (up to 33 percent mode share) are the second most used modes at the East Bay terminals, particularly at the Oakland & Alameda and Harbor Bay Ferry Terminals. Comparably, at the Vallejo terminal, this proportion is lower (8 percent).
  - Carpool and kiss-and-ride are the second most used mode at the Vallejo terminal (36 percent), while the East Bay terminals have a share ranging from seven to 18 percent.
  - Public transit has a negligible mode share at these terminals.

### 2.3.5 Trip Purpose

The distribution of passengers' trip purpose on weekdays and weekends are provided in **Figures 2-11** and **2-12**. There are no weekend services to South San Francisco and Harbor Bay, therefore these routes are not shown in **Figure 2-12**.

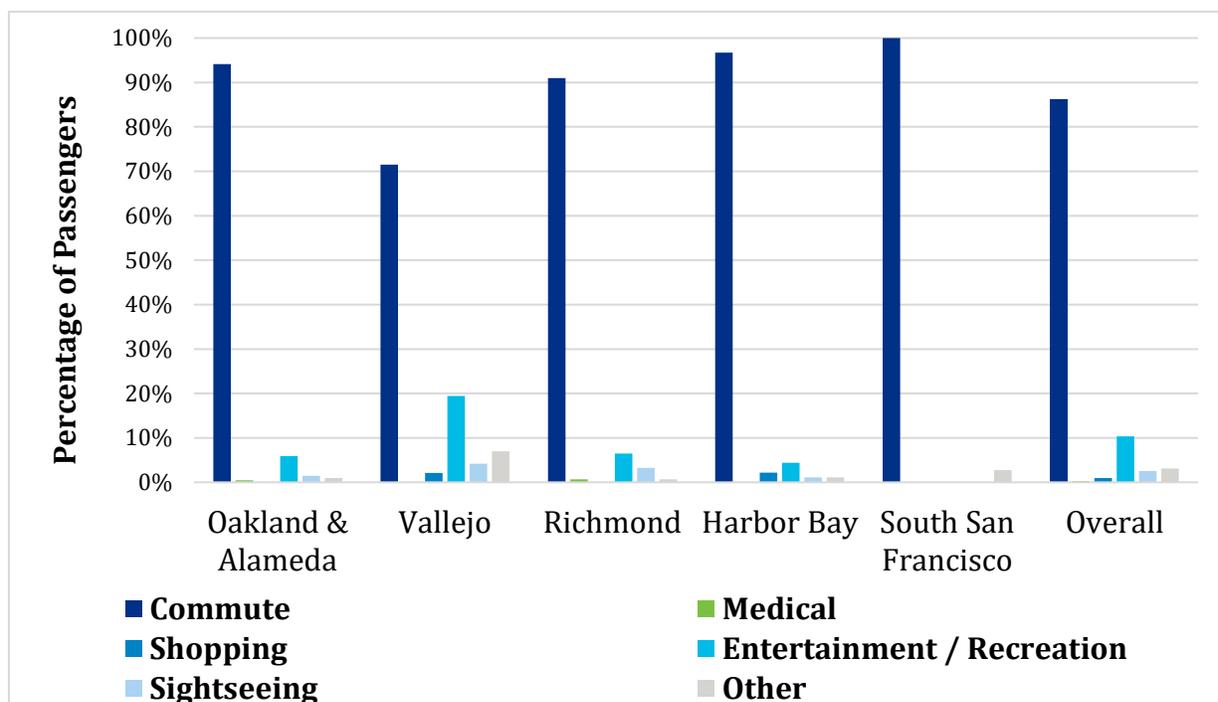


Figure 2-11 Trip Purpose by Route - Weekdays

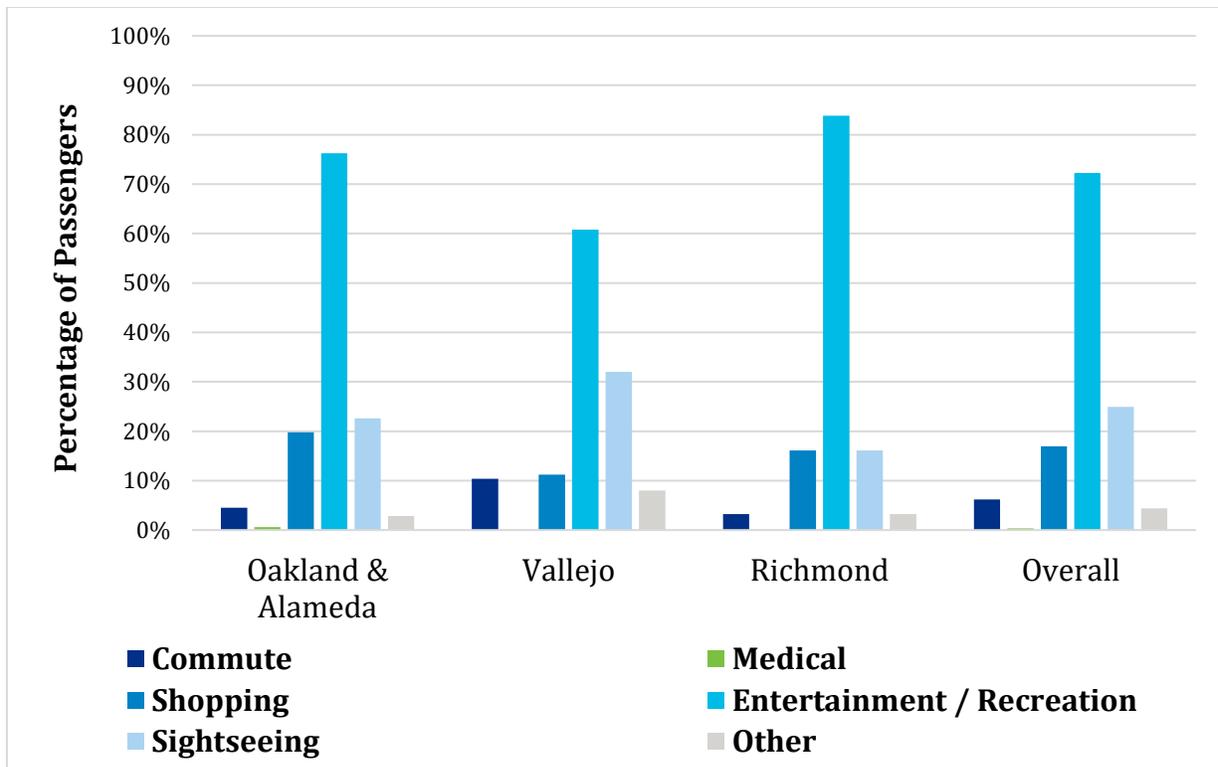


Figure 2-12 Trip Purpose by Route - Weekends

### Key Results

- On weekdays, the survey results show commuting is the most common trip purpose; 86 percent of ferry riders are commuters. This proportion is higher than 91 percent for most routes, the Vallejo route has the lowest value of 72 percent.
- Entertainment/Recreation is the next most common trip purpose for ferry riders on weekdays. At 19 percent, the Vallejo route has the highest proportion of entertainment/recreation-related riders.
- For all routes, other trip purposes on the weekdays together make up seven percent of the riders, with sightseeing being the highest contributor at three percent.
- Overall, on weekends entertainment/recreation forms the highest share of riders (72 percent). This varies in the range of 61 percent for the Vallejo route to 84 percent for the Richmond route.
- Sightseeing and shopping follow entertainment/recreation (25 percent and 17 percent, respectively) as top weekend trip purposes. Commute trips also form six percent of the ferry users on the weekends. Sightseeing and commute shares are the highest on the Vallejo route (32 percent and 10 percent, respectively). Shopping shares are the highest on the Oakland & Alameda routes (20 percent).

### 2.3.6 Alternative Transportation Options

Alternative transportation options available to the ferry riders are summarized in **Figure 2-13**.

*Key Results*

- About 11 percent of all patrons surveyed indicated that ferry is the only transportation mode available to them; this is highest for the Vallejo route at 13 percent.
- Bay Area Rapid Transit (BART)/Rail Transit is the topmost alternative mode for all routes combined. This ranges from 24 percent of passengers on the Vallejo route to 53 percent of passengers on the Richmond route.
- “Drive alone” is the second highest-ranking alternative mode for all routes combined. This varies from 27 percent of passengers on the Oakland & Alameda routes to 50 percent of passengers on the South San Francisco route.
- The remaining transportation options account for less than ten percent of the passengers each for all routes combined. The bus is an important option for the Oakland & Alameda routes at 10 percent and for the Harbor Bay route at 21 percent. Carpool and “casual” carpool are important options for the Vallejo route at a total of 18 percent.
- Employer shuttle is a typical write-in answer under other mode.

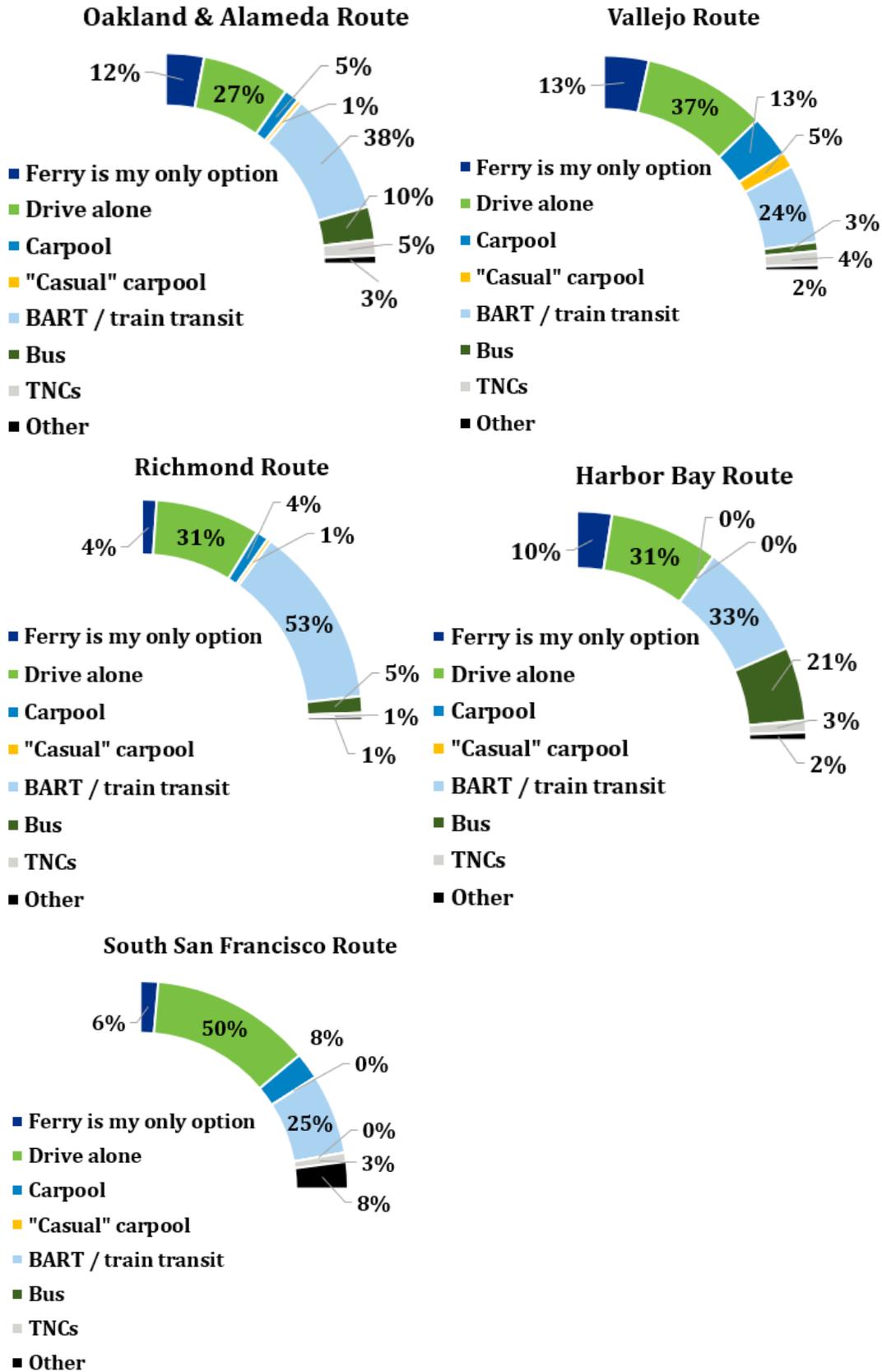


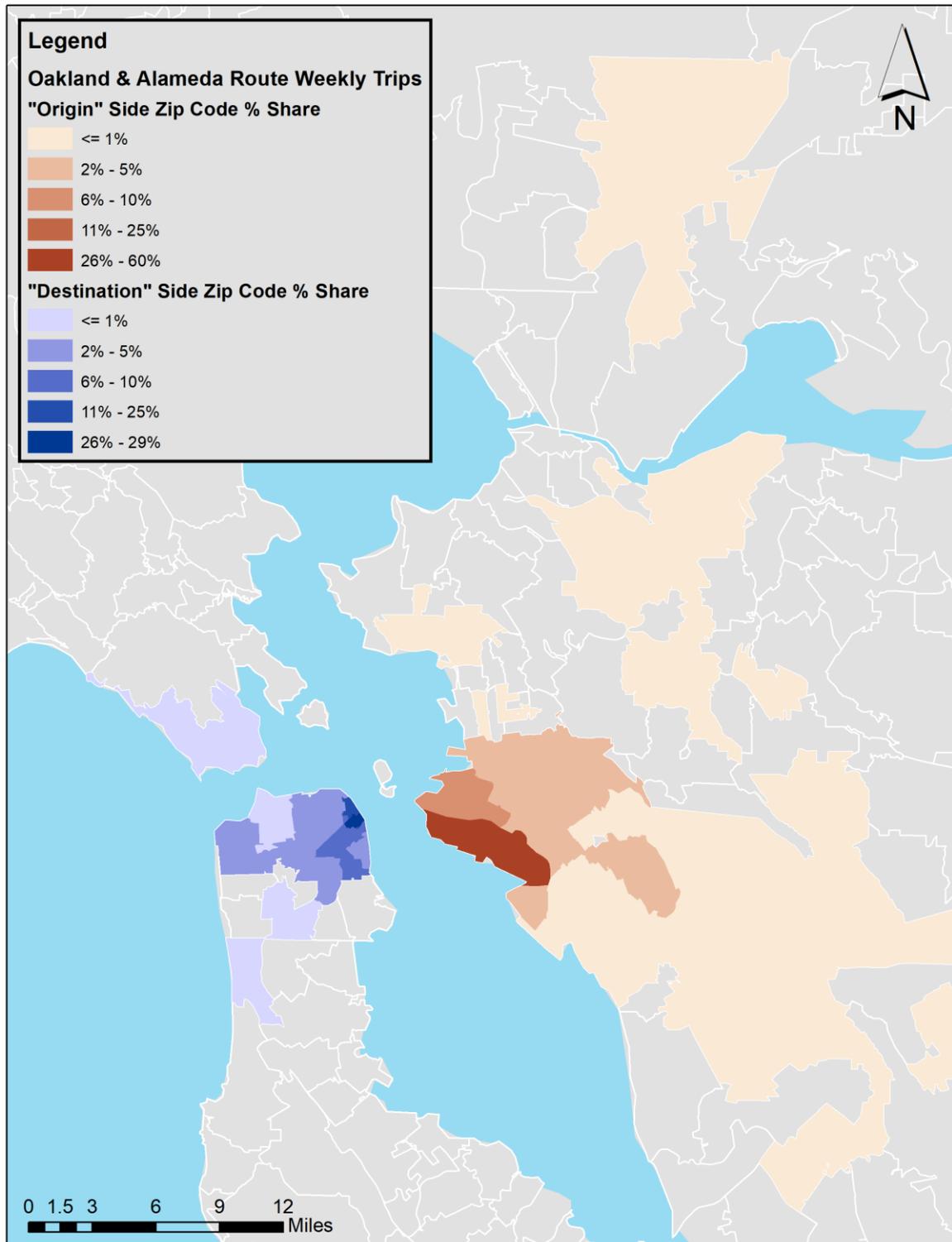
Figure 2-13 Alternative Transportation Options by Ferry Route

### 2.3.7 Origins and Destinations

The origins and destinations at zip code level for all surveyed passengers (commuters and non-commuters combined) on each ferry route are mapped in **Figures 2-14 through 2-18**. The percentage values reported in the maps represent the proportion of all surveyed riders for a particular route on a weekly total basis. Aside from the zip code data, customers were also asked whether they lived in San Francisco Bay Area or visited from elsewhere.

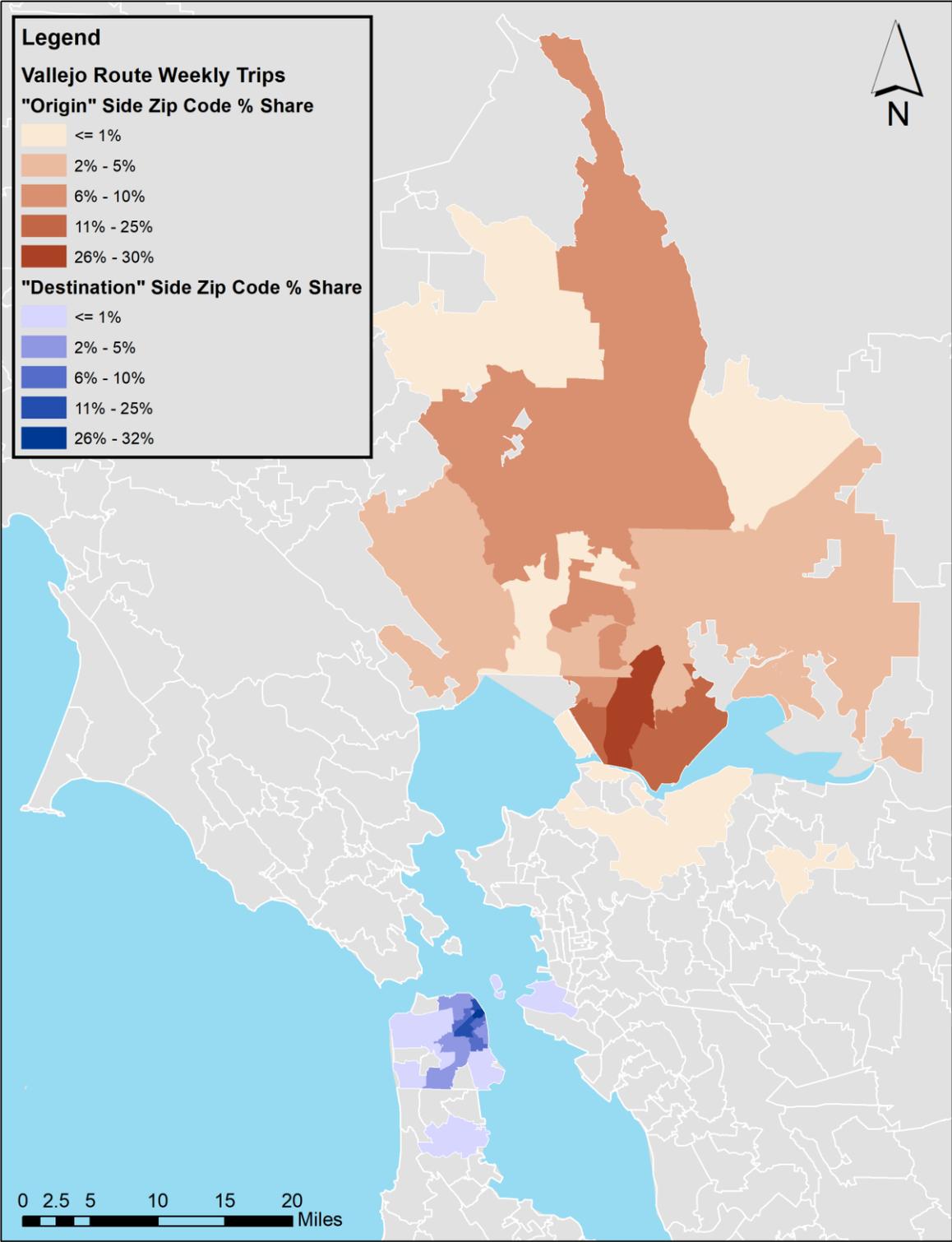
#### *Key Results*

- The San Francisco Ferry Building primarily serves downtown San Francisco and secondarily serves other parts of San Francisco.
- The Oakland and Alameda terminals primarily serve Oakland and Alameda, and secondarily serve the communities bordering Oakland, like Berkeley and San Leandro.
- The Harbor Bay terminal primarily serves Alameda, and secondarily serves East Bay communities like Oakland and San Leandro.
- The Richmond terminal primarily serves Richmond and secondarily serves neighboring communities such as San Pablo, El Cerrito, and Hercules.
- The Vallejo terminal has the largest service area, covering much of Solano County including Vallejo, Benicia, Fairfield, Vacaville, as well as Sonoma and Napa Counties.
- The South San Francisco terminal entirely serves South San Francisco. Riders on this route largely originate in Oakland and Alameda.
- About 86 percent of the customers lived in San Francisco Bay Area, and the remaining 14 percent are visitors to the Bay Area. The percentage of visitors was the highest on the Vallejo route (24 percent) followed by the Oakland & Alameda route (10 percent). The remaining routes have a visitor share of 5 percent or lesser.



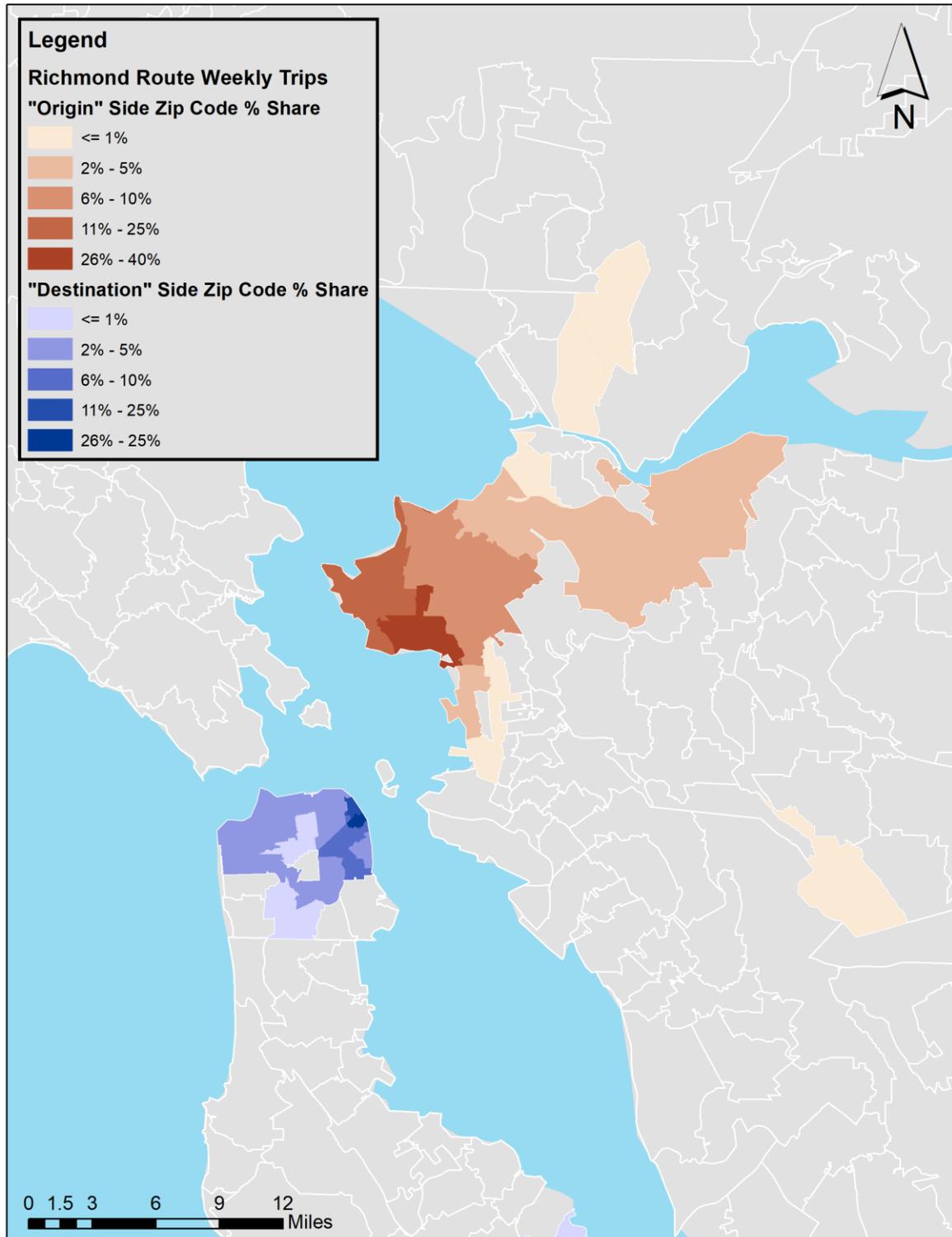
**Figure 2-14 Origins and Destinations: Oakland & Alameda and Alameda Seaplane Routes**

Note: "Origin" side is mostly the East Bay zip codes and includes departures from and arrivals to these zip codes. "Departure" side is mostly San Francisco zip codes and includes arrivals to and departures from these zip codes. Based on the survey data on this route, 1.1 percent of "Origins" and 13.2 percent of "Destinations" are unknown zip codes. Also, 1.8 percent of "Origins" and 0.0 percent of "Destinations" are zip codes outside San Francisco Bay Area. Weekly trips relating to the unknown zip codes and outside Bay Area zip codes are not included in the map above.



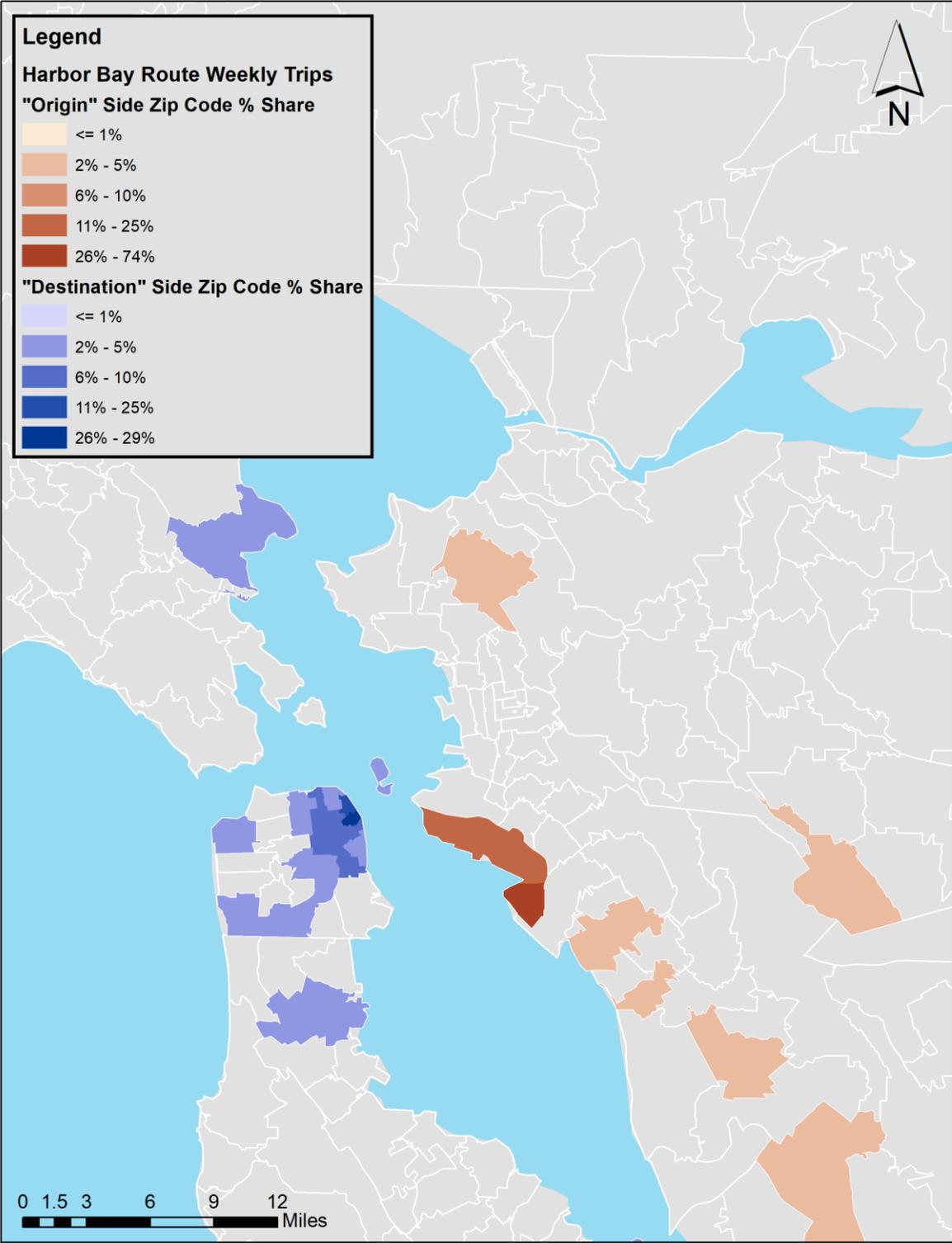
**Figure 2-15 Origins and Destinations: Vallejo Route**

Note: "Origin" side is mostly the North Bay zip codes and includes departures from and arrivals to these zip codes. "Departure" side is mostly San Francisco zip codes and includes arrivals to and departures from these zip codes. Based on the survey data on this route, 0.0 percent of "Origins" and 17.4 percent of "Destinations" are unknown zip codes. Also, 12.5 percent of "Origins" and 0.7 percent of "Destinations" are zip codes outside San Francisco Bay Area. Weekly trips relating to the unknown zip codes and outside Bay Area zip codes are not included in the map above.



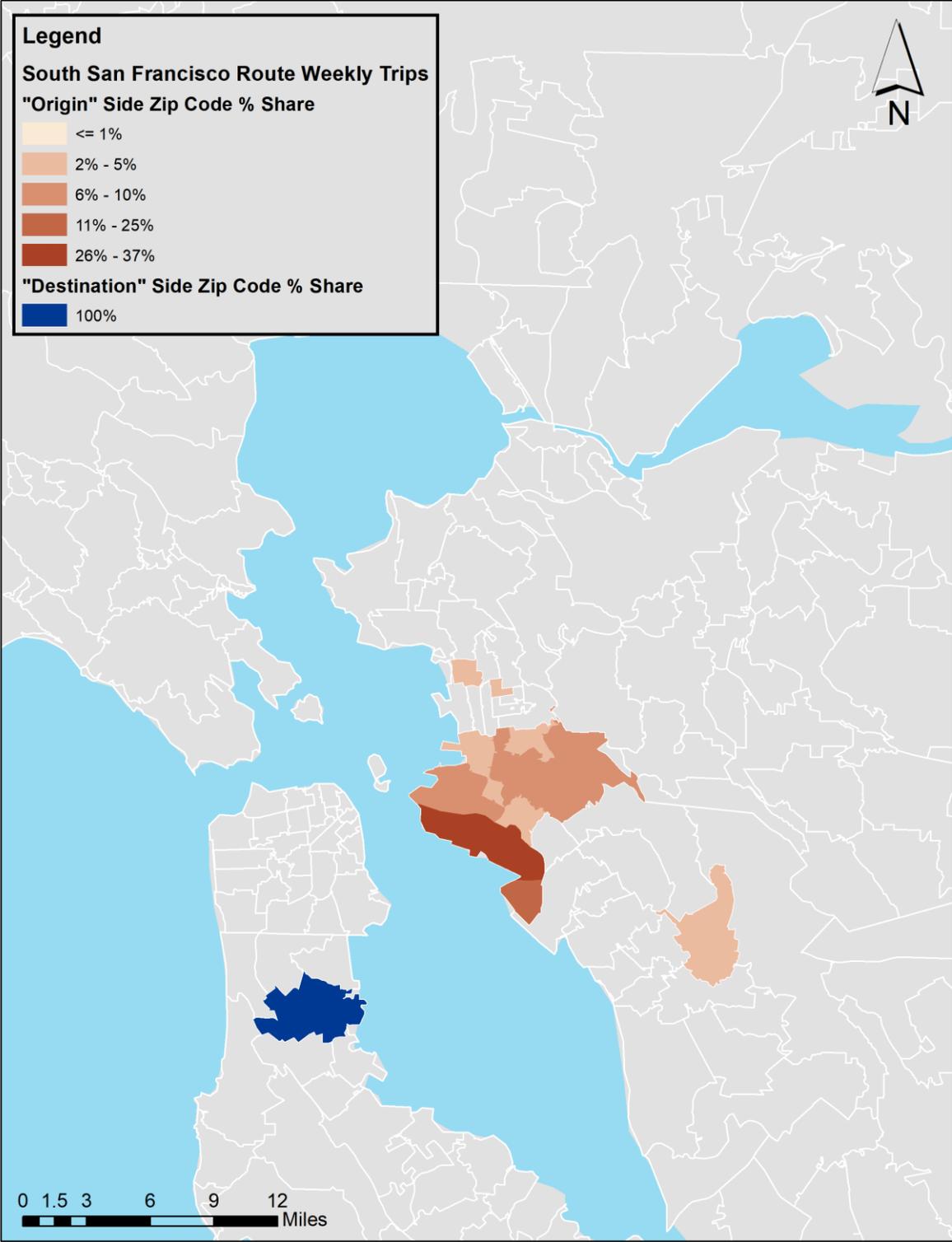
**Figure 2-16 Origins and Destinations: Richmond Route**

Note: "Origin" side is mostly the East Bay zip codes and includes departures from and arrivals to these zip codes. "Departure" side is mostly San Francisco zip codes and includes arrivals to and departures from these zip codes. Based on the survey data on this route, 3.7 percent of "Origins" and 7.5 percent of "Destinations" are unknown zip codes. Also, 0.0 percent of "Origins" and 1.0 percent of "Destinations" are zip codes outside San Francisco Bay Area. Weekly trips relating to the unknown zip codes and outside Bay Area zip codes are not included in the map above.



**Figure 2-17 Origins and Destinations: Harbor Bay Route**

Note: "Origin" side is mostly the East Bay zip codes and includes departures from and arrivals to these zip codes. "Departure" side is mostly San Francisco zip codes and includes arrivals to and departures from these zip codes. Based on the survey data on this route, 0.0 percent of "Origins" and 12.1 percent of "Destinations" are unknown zip codes. There are no "Origins" or "Destinations" with zip codes outside San Francisco Bay Area. Weekly trips relating to the unknown zip codes and outside Bay Area zip codes are not included in the map above.

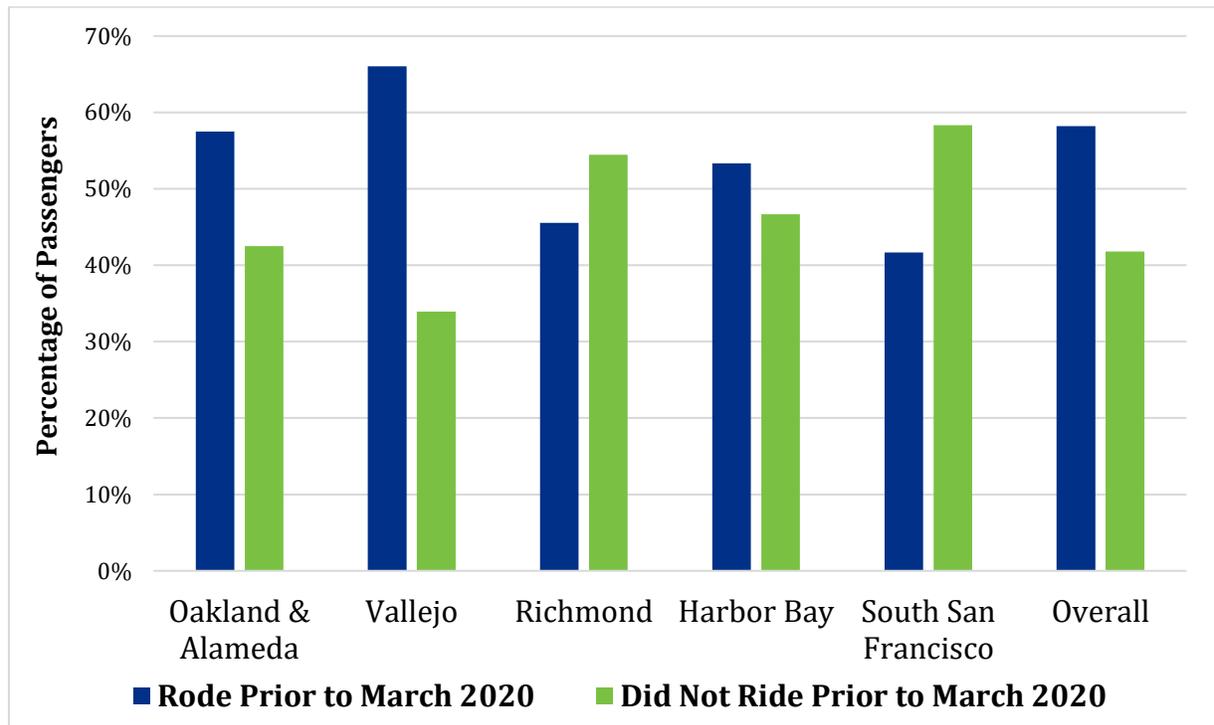


**Figure 2-18 Origins and Destinations: South San Francisco Route**

Note: "Origin" side is mostly the East Bay zip codes and includes departures from and arrivals to these zip codes. "Departure" side is 100% South San Francisco zip code of 94080 and includes arrivals to and departures from this zip code. Based on the survey data on this route, 2.8 percent of "Origins" and 0.0 percent of "Destinations" are unknown zip codes. There are no "Origins" or "Destinations" with zip codes outside San Francisco Bay Area. Weekly trips relating to the unknown zip codes and outside Bay Area zip codes are not included in the map above.

## 2.4 Ferry Usage prior to COVID-19 Pandemic

The 2022 On-Board Survey asked a question related to the COVID-19 pandemic and how it affected passenger behavior. The survey found that 58 percent of customers rode the ferry prior to the March 2020 COVID shelter-in-place order. This percentage varied across the routes from the lowest of 42 percent for the South San Francisco route to the highest of 66 percent for the Vallejo route. This is summarized in **Figure 2-19**.



**Figure 2-19 Ferry Usage Comparison Before and After March 2020**

## 2.5 Ferry Satisfaction

Two areas of customer satisfaction were surveyed: the experience of riding the ferry (ferry ride quality and experience) and the sentiment of San Francisco Bay Ferry as a transit provider. The former question is intended to reflect satisfaction with amenities, ease of use, crew member interactions, comfort, cleanliness, and customer service. The latter question is intended to draw broader information on how riders feel about the service overall, including those factors that may not weigh on their individual trip. The distribution of satisfaction levels among are summarized in **Figures 2-19** and **2-20**, respectively.

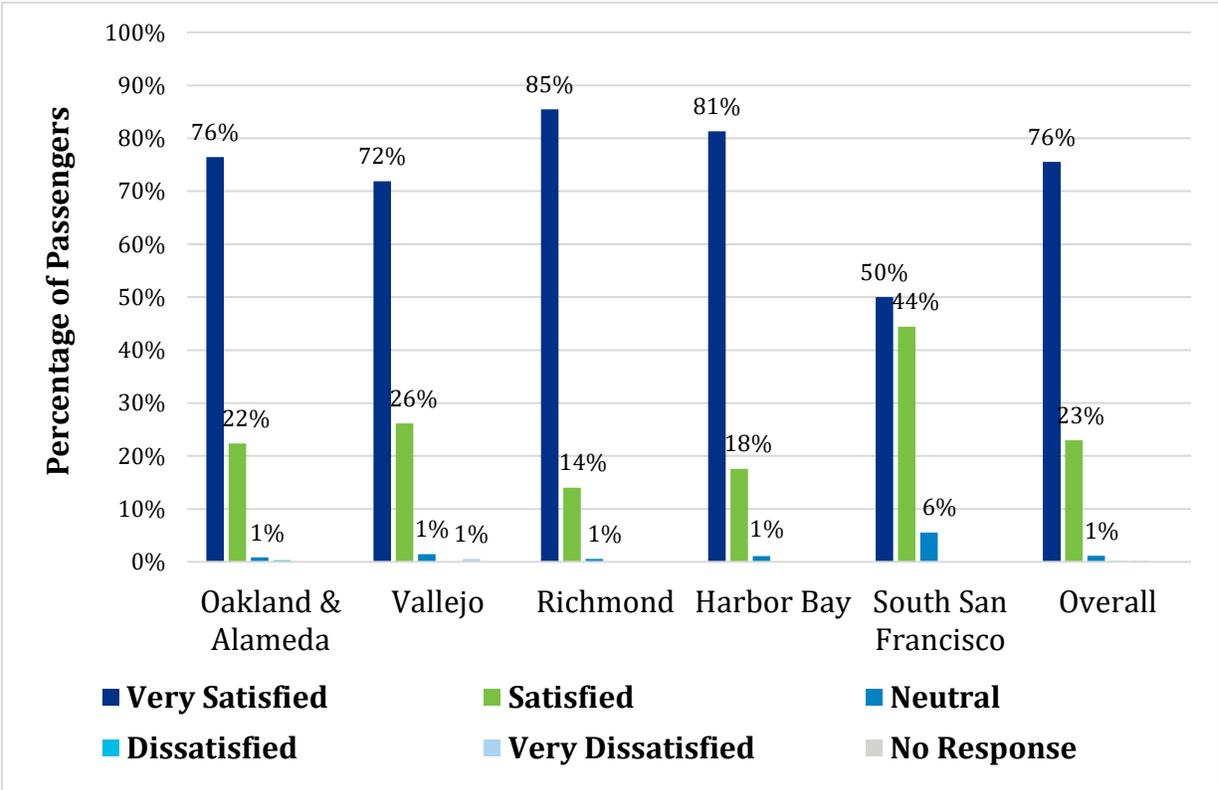


Figure 2-19 Distribution of Overall Ferry Experience Satisfaction Ratings

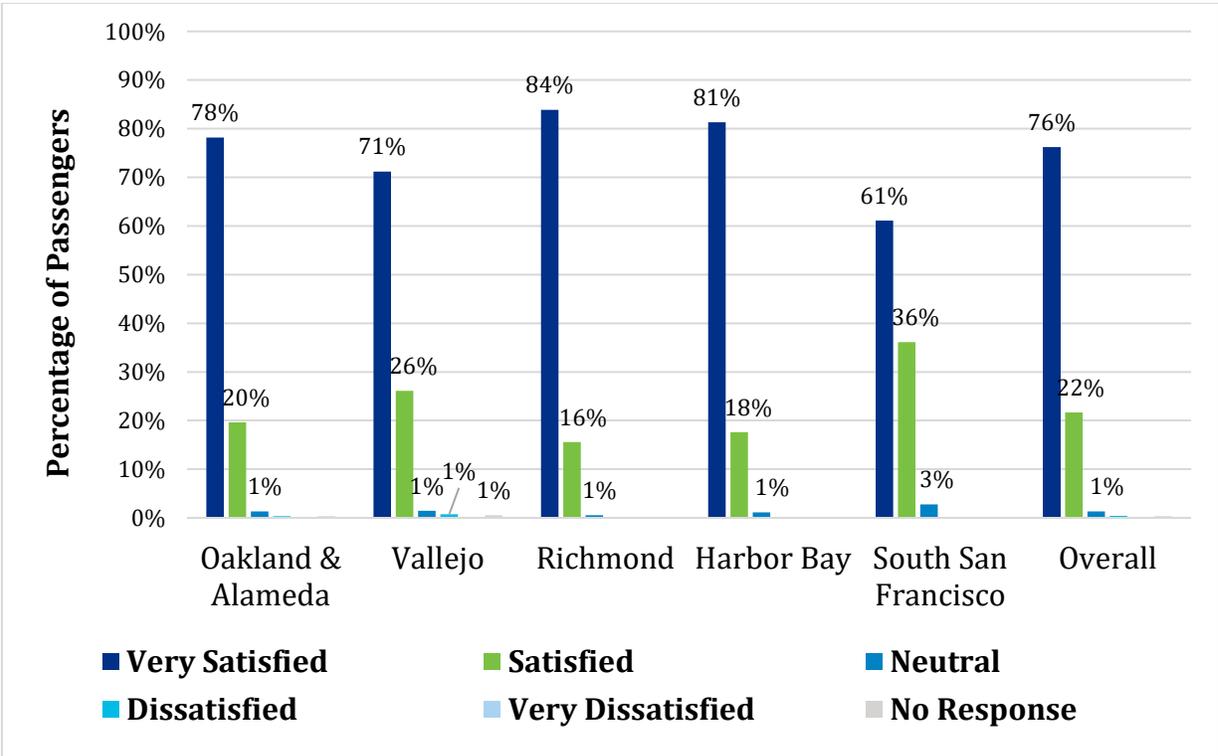


Figure 2-20 Distribution of San Francisco Bay Ferry Satisfaction Ratings

### Key Results

- A total of 99 percent of riders are satisfied with the overall experience of riding the ferry (responding either “very satisfied” or “satisfied”). This value is notably higher when compared to the latest ratio of satisfied riders reported by BART (72 percent)<sup>2</sup>, Caltrain (77 percent)<sup>3</sup>, and Valley Transportation Authority (77 percent)<sup>4</sup> riders. The percentage of satisfied patrons is uniformly high across all routes. The Richmond route has the highest proportion of very satisfied customers (85 percent) the South San Francisco route has the lowest proportion (50 percent).
- A total of 98 percent of riders are satisfied with the San Francisco Bay Ferry overall (“very satisfied” or “satisfied”). The percentage of satisfied patrons is uniformly high across all routes. The Richmond route has the highest proportion of very satisfied customers (84 percent) the South San Francisco route has the lowest proportion (61 percent).

## 2.6 Public Feedback

The most common complements, complaints, and specific suggestions received from ferry riders during the on-board survey are listed below.

### Common Compliments

- Friendly and helpful onboard crews,
- 2021 fare reduction,
- Cleanliness of ferries,
- Bike-first egress policy,
- Commute quality in comparison to other modes, and
- Multiple passengers mentioned that proximity to a ferry terminal was a factor when they relocated.

### Common Complaints

- Additional trips would be beneficial, especially during commuting hours and weeknights,
- Large gaps in service during portions of the schedule,
- Lack of weekend service on weekday only routes,
- Inconsistent Wi-Fi, and

<sup>2</sup> Source: 2020 BART Customer Satisfaction Survey (webpage: [https://www.bart.gov/sites/default/files/docs/CS2020\\_Report\\_Issued032221.pdf](https://www.bart.gov/sites/default/files/docs/CS2020_Report_Issued032221.pdf))

<sup>3</sup> Source: 2019 Caltrain Triennial Customer Survey (webpage: [https://www.caltrain.com/Assets/MarketDevelopment/pdf/2019\\_Caltrain+Triennial+Customer+Survey+Report+\\_v2.pdf](https://www.caltrain.com/Assets/MarketDevelopment/pdf/2019_Caltrain+Triennial+Customer+Survey+Report+_v2.pdf))

<sup>4</sup> Source: VTA On-Board Survey 2017 (webpage: <https://data.vta.org/datasets/7947777e998642c097abf82249604915>)

- Bike-first egress policy.

#### *Specific Suggestions*

- Re-introduce coffee service for morning trips,
- Expand ferry service to new markets and connect existing terminals with direct service, and
- Return to checking tickets during boarding process instead of during egress.

## 2.7 Comparison to Previous Surveys

Results from the 2022 On-Board Passenger Survey were compared to those obtained from the previous surveys conducted in 2021, 2017, 2014 and 2011 for the following factors – demographics (gender, age, annual household income, race/ethnicity, and English proficiency), ferry usage (frequency and reasons of ferry use), trip characteristics (fare type, ticket type, and access modes of terminals), and overall rating of ferry. For tables related to specific terminals, data from the 2019 Richmond Route Survey has been included. The 2021 survey results were heavily affected by the Covid-19 pandemic and associated government health orders with limited ferry service available weekdays only on only three routes and significantly lower ridership. Comparisons to the 2017 and 2019 Richmond survey are more appropriate; 2021 data is provided only for contextual purposes. The Alameda Seaplane route launched in 2021. Data from this survey for Alameda Seaplane is combined with Oakland & Alameda riders to provide comparison and due to data limitations. Survey instruments, methodologies, and sampling plans vary across all surveys.

### 2.7.1 Demographics

A comparison of the distribution of demographics from 2011, 2014, 2017, 2021 and 2022 passenger surveys is provided in **Table 2-1**.

#### *Key Results*

- From 2017 to 2022, there was an uptick of eight percentage points in riders aged between 25-34. This was compensated by slight decreases in older age groups.
- There were some differences in annual household income from 2017 to 2022. In 2017, 25 percent of passengers had an annual household income of \$200,000 or higher; in 2022, that cohort grew to 30 percent. In this same time period, the share of \$50,000-\$99,999 fell four percentage points and \$150,000-\$199,999 fell two percentage points. With some variation, this continues the pattern of ridership trending towards a higher annual household income since 2011.
- There were also notable shifts in race/ethnicity. Sixty-one percent of the respondents in 2017 identified as Caucasian/White; in the 2022 survey that share fell to 48 percent. Other shares remained consistent except for a growth in Asian/Pacific Islander passengers from 15 percent to 23 percent and nine percent of respondents selecting more than one race, which was an option introduced in the 2021 survey.

**Figures 2-21 and 2-22** show comparisons for annual household income and race/ethnicity by route between the past surveys (2017 for Oakland & Alameda and Vallejo routes, 2019 for Richmond route) and the present survey (2022).

### Key Results

- All routes show drops in shares of passengers earning less than \$100,000 per year. The largest drop is on the Richmond route with the share of passengers earning \$50,000-\$99,999 falling from 31 percent in 2019 to 18 percent in 2022. There are slight changes in both directions for the \$100,000-\$200,000 shares, with no single group changing more than seven percentage points. Shares of passengers earning more than \$200,000 have grown across all routes with the South San Francisco route showing the smallest change (40 to 42 percent) and the largest being for the Harbor Bay Route (40 to 55 percent).
- The share of Caucasian/White passengers has decreased across all routes, with the largest decreases seen on the Harbor Bay route (21 percentage points), South San Francisco route (18 percentage points) and Richmond route (17 percentage points). Caucasian/White passengers are now only the majority group on the Oakland and Alameda routes. The share of Asian/Pacific Islander passengers have increased on every route, with the most notable increase being on the Harbor Bay route (37 percent in 2017 to 48 percent in 2022). Hispanic/Latino, African American and Native American shares have only changed by a handful of percentage points between surveys.

**Table 2-1 Historical Comparison of Demographics' Distribution**

Demographic	Option	2022 Survey	2021 Survey	2017 Survey	2014 Survey	2011 Survey
Age	Minor (under 18)	1%	1%	1%	2%	2%
	18-24	7%	7%	5%	4%	6%
	25-34	30%	22%	23%	22%	17%
	35-44	20%	22%	25%	22%	22%
	45-54	21%	19%	22%	21%	22%
	55-64	14%	14%	16%	15%	21%
	65+	8%	6%	8%	10%	10%
	Blank	0%	9%	0%	4%	0%
Annual Household Income	Under \$50,000	7%	18%	6%	11%	17%
	\$50,000 - \$99,999	22%	32%	26%	29%	31%
	\$100,000 - \$149,999	23%	22%	23%	24%	22%
	\$150,000 - \$199,999	18%	13%	20%	17%	13%
	\$200,000 or more	30%	15%	25%	19%	17%
Race/Ethnicity	Caucasian/White	48%	44%	61%	65%	73%
	Asian/Pacific Islander	23%	18%	15%	16%	18%
	Hispanic/Latino	8%	12%	10%	10%	-
	African American/Black	6%	9%	6%	7%	7%
	Native American	0%	1%	1%	1%	2%
	Other	6%	4%	2%	1%	0%

	More than One	9%	11%			
English Proficiency	Very Well	95%	95%	94%	93%	95%
	Well	4%	5%	4%	5%	4%
	Not Well	0%	0%	2%	1%	1%
	Not at all	0%	0%	0%	1%	0%

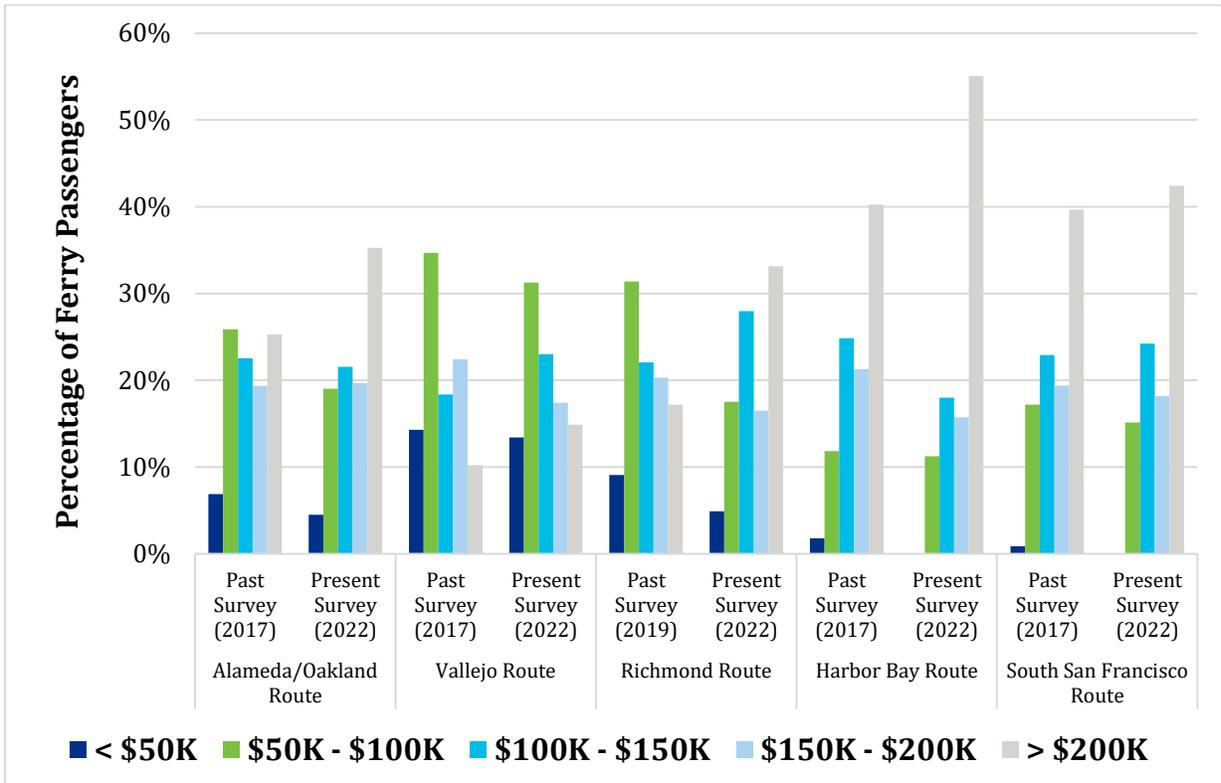


Figure 2-21 Comparison of Annual Household Income by Route between Past Surveys (2017/2019) and Present Survey (2022)

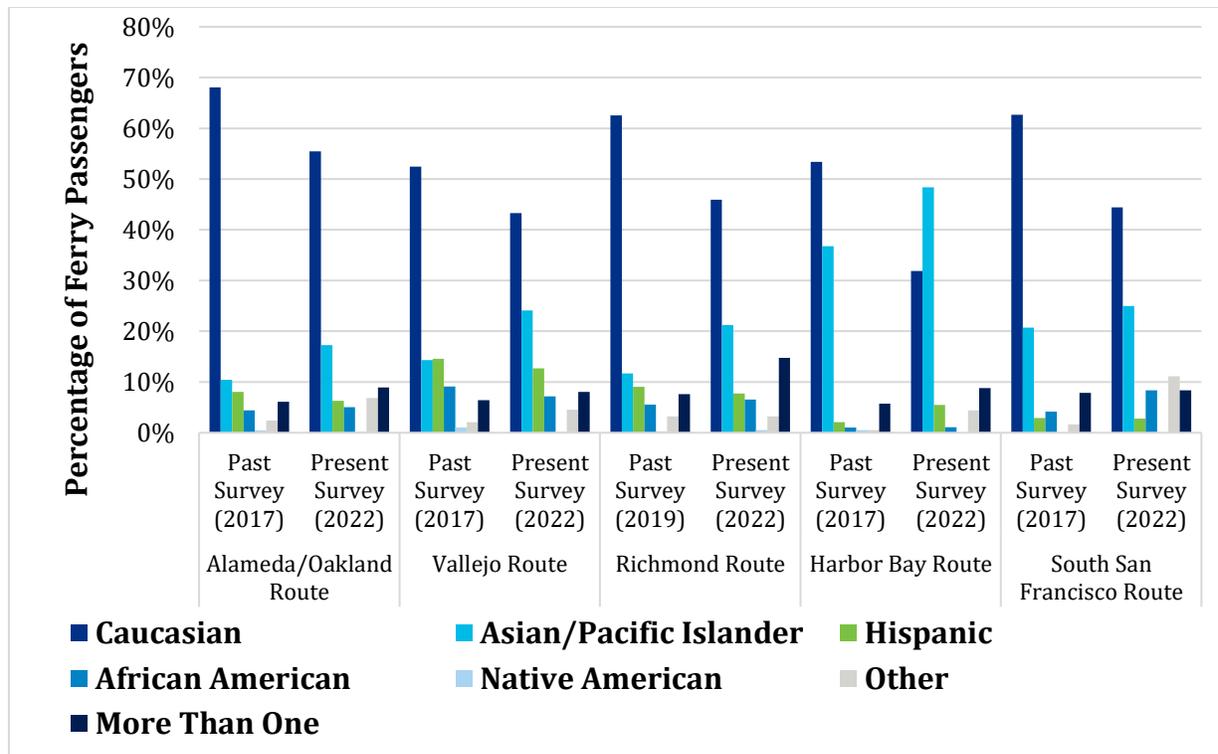


Figure 2-22 Comparison of Race/Ethnicity by Route between Past Surveys (2017/2019) and Present Survey (2022)

## 2.7.2 Ferry Usage

The historical distributions of ferry usage metrics – frequency and reasons of ferry use – are provided in **Tables 2-2**.

### Key Results

- The share of weekday patrons riding the ferry five days per week has been consistently dropping (62 percent in 2011, 58 percent in 2014, and 49 percent in 2017, 26 percent in 2022). The large drop from 2017 to 2022 has been magnified by the effects of the Covid-19 pandemic.
- The share of weekday passengers that ride the ferry 3-4 days per week rose eight percentage points from 2017 to 2022. The share of weekday passengers that ride the ferry 1-2 days per week rose 13 percentage points in the same time frame.
- For weekday and weekend riders, the top three reasons listed for riding the ferry were to avoid traffic/parking, the quality of the ride, and the relaxing nature of the ride. This has held consistent from 2017 to 2022 for both weekday and weekend riders.
- The following reasons for ferry use also increased or decreased by greater than ten percentage points compared to the 2017 survey:
  - Cheaper (Weekday: 11 percentage point increase from 2017; Weekend: 13 percentage point increase from 2017)

- Multitasking (Weekend: 13 percentage point decrease from 2017)

**Figure 2-23** shows comparisons for frequency of ferry use by route between the past surveys (2017 for Oakland, Alameda, and Vallejo routes, 2019 for Richmond route) and the present survey (2022).

#### *Key Results*

- The trends of ridership frequency by route largely mirror the overall trends described above. The following cases stand out:
  - All routes but the Richmond route had 20+ percentage point drops in 5 day per week riders (Richmond went from 25 percent to 20 percent from 2019 to 2022).
  - The South San Francisco route's share of 3-4 day per week riders rose from 32 percent to 53 percent from 2017 to 2022.
  - The Richmond route, Harbor Bay route and South San Francisco route all saw their shares of 1-2 days per week riders increase by 14 to 22 percentage points.
  - The Alameda/Oakland routes and the Vallejo route had increases in the share of customers that ride less than one day per month.

**Table 2-2 Historical Distribution of Ferry Usage**

Ferry Usage Metric	Option	2022 Survey		2021 Survey		2017 Survey		2014 Survey		2011 Survey	
		Weekday	Weekend								
Frequency of Ferry Use	6-7 days/week	2%	2%	1%	N/A	3%	3%	2%	1%	3%	1%
	5 days/week	26%	1%	34%	N/A	49%	14%	58%	1%	62%	0%
	3-4 days/week	32%	3%	20%	N/A	24%	12%	17%	2%	19%	1%
	1-2 days/week	21%	7%	13%	N/A	8%	5%	9%	2%	6%	3%
	1-3 days/month	7%	22%	9%	N/A	7%	17%	4%	13%	3%	17%
	< 1 day/month	9%	47%	13%	N/A	5%	30%	4%	45%	3%	49%
	First time	3%	19%	5%	N/A	4%	18%	4%	34%	4%	29%
	No Response	0%	0%	4%	N/A	1%	2%	0%	0%	0%	0%
Reasons for Ferry Use <sup>1</sup>	No Car	8%	13%	15%	N/A	5%	9%	8%	9%	N/A	N/A
	Avoid Traffic/Parking	69%	45%	65%	N/A	70%	53%	66%	39%	N/A	N/A
	Multitasking	28%	8%	42%	N/A	35%	21%	36%	10%	N/A	N/A
	Faster	26%	12%	29%	N/A	32%	20%	24%	12%	N/A	N/A
	Environment-Friendly	14%	12%	32%	N/A	16%	13%	17%	11%	N/A	N/A
	Cheaper	18%	17%	18%	N/A	7%	5%	8%	9%	N/A	N/A
	Relaxing	42%	48%	62%	N/A	50%	51%	49%	42%	N/A	N/A
	Sightseeing	5%	29%	19%	N/A	7%	27%	7%	49%	N/A	N/A
	Ride Quality	59%	39%	60%	N/A	56%	41%	56%	24%	N/A	N/A
Other	3%	2%	8%	N/A	5%	5%	0%	1%	N/A	N/A	

Note:

<sup>1</sup>This includes multiple selections by passengers; as such, totals will be more than 100 percent.

N/A – Not applicable

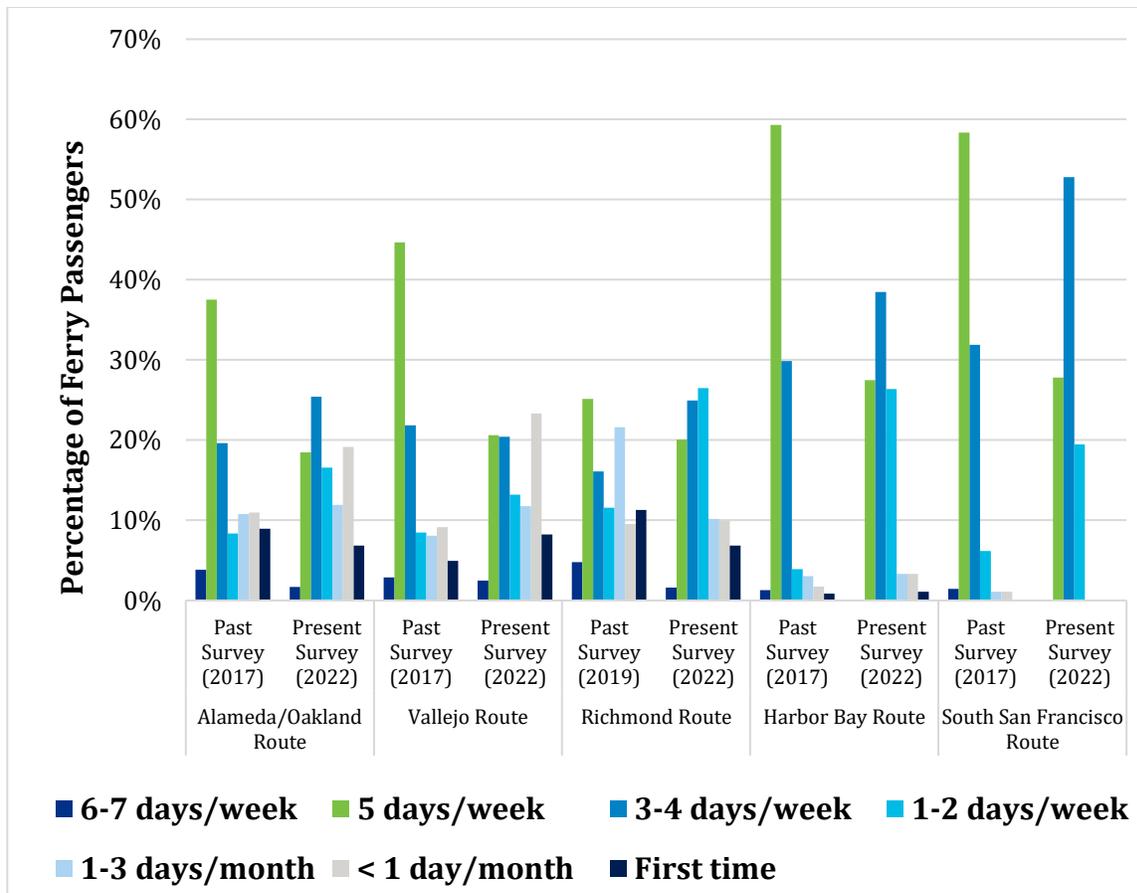


Figure 2-23 Comparison of Frequency of Ferry Use by Route between Past Surveys (2017/2019) and Present Survey (2022)

### 2.7.3 Fare and Ticket Types

The historical distribution of fare and ticket type used by passengers is provided in **Table 2-3**.

**Table 2-3 Historical Distribution of Fare and Ticket Types**

Fare Type/ Ticket Type	Option	2022 Survey		2021 Survey		2017 Survey		2014 Survey		2011 Survey	
		Weekday	Weekend								
Fare Type	Adult	94%	83%	85%	N/A	91%	81%	92%	75%	95%	74%
	Youth	0%	3%	2%	N/A	1%	9%	0%	1%	0%	5%
	Senior	5%	11%	7%	N/A	6%	14%	5%	1%	5%	17%
	Disabled/Medicare	1%	1%	4%	N/A	1%	3%	0%	7%	0%	0%
	Group	0%	0%	-	N/A	0%	0%	0%	1%	0%	0%
	Military	0%	0%	-	N/A	0%	0%	0%	2%	0%	2%
	Other	0%	1%	1%	N/A	1%	1%	1%	1%	0%	1%
	Blank/No Response	0%	0%	2%	N/A	1%	1%	1%	12%	0%	0%
Ticket Type	Clipper Card <sup>1</sup>	86%	62%	77%	N/A	77%	57%	51%	21%	-	-
	Mobile Ticket <sup>3</sup>	9%	24%	9%	N/A						
	Single Ride/One-Way/Paper Ticket	5%	14%	6%	N/A	9%	33%	6%	32%	5%	35%
	Multi-Ticket Booklet/Punch Card <sup>2</sup>	N/A	N/A		N/A	-	-	17%	4%	56%	9%
	Day-Pass/Roundtrip <sup>2</sup>	N/A	N/A	0%	N/A	-	-	3%	33%	5%	56%
	Monthly Pass	N/A	N/A	6%	N/A	13%	0%	21%	1%	34%	0%
	Other	N/A	N/A		N/A	1%	8%	1%	8%	0%	0%
	Blank/No Response	0%	0%	2%	N/A	0%	2%	1%	1%	0%	0%

**Note:**<sup>1</sup>Not in use at the time of the 2011 Survey.<sup>2</sup>Not in use at the time of the 2017 Survey.<sup>3</sup>Not in use at the time of the 2011, 2014, and 2017 Surveys.

### *Key Results*

- The historical distribution of fare types for all passenger surveys did not have significant changes.
  - The “adult” fare type is most predominantly used in 2022 for both weekdays and weekends.
  - As youth are likely undercounted by this survey, youth fares are also undercounted.
- Since the 2014 Survey, the use of Clipper Card has increased from 51 percent to 86 during weekdays and 21 percent to 62 percent on weekends. This share increased for weekdays and weekends from 2017 to 2022.
- Paper tickets decreased from nine percent to five percent on weekdays and 33 percent to 14 percent on weekends from 2017 to 2022.

### **2.7.4 Access Modes to Terminals**

The historical distribution of access modes to ferry terminals is provided in **Tables 2-4 and 2-5**.

**Table 2-4 Historical Distribution of Access Modes to Terminals – East Bay and North Bay**

Access Mode					2021 Survey				2019 Survey	2017 Survey				2014 Survey				2011 Survey			
	Harbor Bay	Richmond	Vallejo	Oakland & Alameda	Richmond	Vallejo	Alameda	Oakland	Richmond	Harbor Bay	Vallejo	Alameda	Oakland	Harbor Bay	Vallejo	Alameda	Oakland	Harbor Bay	Vallejo	Alameda	Oakland
Drive Alone	45%	57%	43%	45%	55%	46%	57%	29%	45%	36%	63%	58%	45%	62%	86%	75%	52%	61%	67%	62%	51%
Kiss-and-Ride/ Carpool	7%	17%	36%	18%	16%	26%	17%	10%	29%	23%	22%	15%	9%	6%	7%	13%	3%	8%	16%	20%	14%
Transit/ Employer Shuttle <sup>1</sup>	1%	1%	2%	2%	0%	1%	0%	0%	3%	4%	4%	0%	6%	2%	3%	0%	1%	2%	2%	1%	3%
Walk Only	19%	5%	4%	12%	8%	7%	4%	38%	14%	21%	4%	5%	18%	24%	4%	8%	26%	18%	4%	3%	11%
Bike	14%	11%	4%	17%	16%	5%	15%	19%	16%	12%	2%	17%	15%	6%	0%	4%	18%	8%	1%	9%	15%
Taxi	N/A	N/A	N/A	N/A	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TNC	0%	1%	4%	1%	0%	7%	0%	5%	4%	1%	3%	3%	6%	0%	0%	0%	0%	0%	0%	0%	0%
Other	13%	7%	8%	5%	5%	8%	6%	0%	2%	3%	1%	2%	1%	0%	0%	0%	0%	3%	10%	5%	6%

Note:

<sup>1</sup>In 2022 Survey, "Employer Shuttle" is part of "Other" access mode. The percentage shown is for Public Transit only.

**Table 2-5 Historical Distribution of Access Modes to Terminals – San Francisco and South San Francisco**

Access Mode	2022 Survey		2021 Survey	2019 Survey	2017 Survey			2014 Survey		2011 Survey
	Ferry Building	South San Francisco	Ferry Building	Ferry Building	Ferry Building	Pier 41	South San Francisco	Ferry Building	South San Francisco	Ferry Building
Drive Alone	5%	0%	3%	10%	0%	0%	0%	0%	0%	3%
Kiss-and-Ride/ Carpool	10%	8%	2%	4%	7%	8%	7%	2%	1%	0%
Transit/ Employer Shuttle <sup>1</sup>	23%	0%	19%	26%	19%	21%	24%	17%	18%	12%
Walk Only	30%	31%	45%	53%	56%	32%	38%	75%	45%	75%
Bike	19%	46%	16%	7%	12%	31%	26%	5%	33%	7%
Taxi	N/A	N/A	1%	0%	0%	0%	0%	0%	0%	0%
TNC	6%	0%	2%	0%	5%	5%	3%	1%	3%	1%
Other	8%	15%	12%	0%	1%	3%	2%	0%	0%	2%

Note:

<sup>1</sup>In 2022 Survey, "Employer Shuttle" is part of "Other" access mode. The percentage shown is for Public Transit only.

### Key Results

- Vallejo recorded a reduced share of passengers accessing the terminal by driving alone, dropping from 63 percent to 43 percent from 2017 to 2022.
- Oakland and Alameda experienced decreases in passengers driving alone to the terminals with increases in carpool/kiss-and-ride passengers.
- The share of Richmond riders that selected “drive alone” rose from 45 percent in 2019 to 57 percent in 2021. There was a 12-percentage point drop in the “Kiss-and-Ride/Carpool” share and a nine-percentage point drop in the “Walk Only” share.
- Harbor Bay saw a nine-percentage point increase in the “Drive Alone” share from 2017 to 2022, with a 16-percentage point drop in the “Kiss-and-Ride/Carpool” share. The largest increase is a ten-percentage point rise in “Other,” which in the 2022 survey includes employer shuttles as well as scooters.
- At the San Francisco Ferry Building, the most common access modes continue to be walking, biking, and transit. These three modes combined to account for 72 percent of all options, a decrease from 87 percent in 2017. The largest increase outside of these modes is Other from one percent to eight percent, which includes scooters.
- South San Francisco had a significant increase in cycling access rising from 26 percent to 46 percent from 2017 to 2022. It also had a total drop in Transit/Employer Shuttle from 24 percent to 0 percent; this is because employer shuttles were transferred to “Other” in the 2022 survey, which had a 15 percent share.

### 2.7.5 Overall Ferry Satisfaction

The historical distribution of systemwide ferry satisfaction ratings is provided in **Table 2-6**. The satisfaction ratings in this survey (2022) are based on the overall experience of riding the ferry.

**Table 2-6 Historical Distribution of Overall Ferry Satisfaction Ratings**

Satisfaction Level	Rating	2022 Survey	2021 Survey	2017 Survey	2014 Survey	2011 Survey
Satisfied	Very Satisfied	76%	48%	38%	39%	58%
	Somewhat Satisfied	23%	26%	50%	52%	34%
Neutral	Neutral	1%	16%	10%	8%	6%
Dissatisfied	Somewhat Dissatisfied	0%	7%	2%	1%	2%
	Dissatisfied	0%	3%	0%	0%	0%

The overall ferry satisfaction ratings obtained from the 2022 survey are noteworthy when compared to previous passenger surveys – 99 percent of patrons were considered satisfied with the majority of which having selected ‘Very Satisfied’. In 2017, 88 percent of patrons were satisfied, with more having selected ‘Somewhat Satisfied’. For the 2022 survey, ‘Somewhat Satisfied’ was changed to ‘Satisfied’.

## Section 3

### Conclusions

Major conclusions from the 2022 On-Board Passenger Survey conducted for the San Francisco Bay Ferry are as follows:

- **Satisfaction**
  - High Rider Satisfaction – Overall passenger satisfaction was the highest it has been compared to all past iterations of the On-Board Passenger Survey.
  - Areas for Improvement – Through their comments, passengers have indicated a desire for increased frequencies and weekend service on routes that do not have it.
- **Demographic Profile**
  - Working-age Commuters – The majority of ferry riders are between 25 to 54 years old and use the ferry to get to and from work.
  - Higher Income – Ferry riders, especially commuters, typically have higher annual household incomes than the average household in the municipalities where ferry terminals are located.
  - Racial and Ethnic Representation – The percentage of non-white passengers rose to above 50 percent for the first time since this survey began in 2011.
- **Use Characteristics**
  - Emerging Travel Frequencies – The share of riders using the ferry five days/week has fallen significantly, while the share of riders that are using the ferry between one and four days/week has risen in response. This change is likely a product of shifting work patterns brought on by the COVID-19 pandemic, with a greater share of office-based employees working remotely more frequently than before.
  - Alternate Modes – Most riders choose the ferry for their trip rather than BART or driving alone. A notable share of riders reported that the ferry is their only option.
  - Primary Reasons for Use – The most common reasons for ferry use are avoidance of traffic/parking, the relaxing nature of the ride and the ride quality compared to other modes. This has been consistent feedback since the question was first asked in 2014.
  - Effect of reduced fares - The share of riders citing cheaper costs increased significantly in 2022, reflecting the lower fares that were established in 2021.

■ **Terminal Access**

- **Driving Alone** – Driving alone has the highest share among passengers among the modes passengers use to access their origin terminal. Richmond and Harbor Bay had increases in this share from previous surveys while Vallejo had a significant drop.
- **Cycling and Scooters are Popular** – The cycling share at destination terminals continues to grow as compared to previous surveys. In addition, based on an analysis of write-in answers to terminal access questions, the use of electric scooters is an emerging access mode for ferry riders.
- **“Last Mile” Shift** – The proportion of riders walking to their destination terminal (San Francisco and South San Francisco) is decreasing while the shares of riders using bikes, scooters and public transit are increasing. This shift is likely related to rider demand for access to destinations that are farther away from the San Francisco Ferry Building.

# Appendix A

## Sampling Plan

Highlighted trips were surveyed

### Weekdays

#### **Alameda/ Oakland – San Francisco Route**

Westbound			Eastbound		
Dep Ala	Dep Oak	Arr SF	Dep SF	Arr Oak	Arr Ala
---	6:30 AM	6:55 AM	7:05 AM	7:30 AM	---
---	7:35 AM	8:00 AM	7:30 AM	7:55 AM	---
---	8:00 AM	8:25 AM	8:10 AM	8:35 AM	---
---	8:40 AM	9:05 AM	8:35 AM	9:00 AM	---
---	9:05 AM	9:30 AM	9:25 AM	10:00 AM	9:45 AM
9:50 AM	10:10 AM	10:35 AM	10:15 AM	---	10:35 AM
10:40 AM	---	11:00 AM	10:25 AM	10:50 AM	
---	11:00 AM	11:25 AM	11:20 AM	11:55 AM	11:40 AM
11:45 AM	12:05 PM	12:30 PM	1:10 PM	1:35 PM	1:50 PM
12:20 PM	12:35 PM	1:00 PM	2:05 PM	2:30 PM	2:45 PM
1:55 PM	1:40 PM	2:15 PM	2:25 PM	2:50 PM	3:10 PM
2:50 PM	2:35 PM	3:10 PM	3:25 PM	3:40 PM	4:00 PM
3:15 PM	3:00 PM	3:35 PM	4:25 PM	4:50 PM	---
4:05 PM	3:50 PM	4:25 PM	5:25 PM	5:50 PM	6:05 PM
---	4:55 PM	5:20 PM	6:25 PM	6:50 PM	7:05 PM
6:10 PM	5:55 PM	6:30 PM	7:35 PM	8:00 PM	8:15 PM
7:10 PM	6:55 PM	7:30 PM	8:00 PM	8:25 PM	8:40 PM
8:45 PM	8:30 PM	9:05 PM	9:10 PM	9:35 PM	9:50 PM
9:55 PM	9:40 PM	10:15 PM	---	---	---

**Alameda Seaplane – San Francisco Route**

Westbound		Eastbound	
Dep Ala S	Arr SF	Dep SF	Arr Ala S
6:30 AM	6:50 AM	6:55 AM	7:15 AM
7:00 AM	7:20 AM	7:50 AM	8:10 AM
7:25 AM	7:45 AM	8:45 AM	9:05 AM
8:20 AM	8:40 AM	9:40 AM	10:00 AM
9:15 AM	9:35 AM	10:05 AM	10:25 AM
10:10 AM	10:30 AM	10:55 AM	11:15 AM
10:30 AM	10:50 AM	11:50 AM	12:10 PM
4:00 PM	4:20 PM	3:30 PM	3:50 PM
5:00 PM	5:20 PM	4:30 PM	4:50 PM
6:00 PM	6:20 PM	5:30 PM	5:50 PM
6:50 PM	7:10 PM	6:25 PM	6:45 PM
8:25 PM	8:45 PM	7:00 PM	7:20 PM
---	---	8:25 PM	8:45 PM
---	---	10:20 PM	10:40 PM

**Harbor Bay – San Francisco Route**

Westbound		Eastbound	
Dep Har Bay	Arr SF	Dep SF	Arr Har Bay
6:30 AM	6:55 AM	7:00 AM	7:25 AM
7:30 AM	7:55 AM	8:00 AM	8:25 AM
8:30 AM	8:55 AM	9:00 AM	9:25 AM
9:00 AM	9:25 AM	10:45 AM	11:10 AM
9:30 AM	9:55 AM	11:30 AM	11:55 AM
10:20 AM	10:45 AM	1:25 PM	1:50 PM
11:15 AM	11:40 AM	3:40 PM	4:05 PM
12:00 PM	12:25 PM	4:40 PM	5:05 PM
4:10 PM	4:35 PM	5:40 PM	6:05 PM
5:10 PM	5:35 PM	6:40 PM	7:05 PM
6:10 PM	6:35 PM	---	---
7:55 PM	8:20 PM	---	---

**Richmond – San Francisco Route**

Southbound		Northbound	
Dep Richmond	Arr SF	Dep SF	Arr Richmond
6:30 AM	7:05 AM	7:15 AM	7:50 AM
7:00 AM	7:35 AM	7:45 AM	8:20 AM
8:00 AM	8:35 AM	9:55 AM	10:30 AM
9:00 AM	9:35 AM	10:25 AM	11:00 AM
10:40 AM	11:15 AM	3:00 PM	3:35 PM
11:10 AM	11:45 AM	4:00 PM	4:35 PM
3:40 PM	4:15 PM	4:25 PM	5:00 PM
4:45 PM	5:20 PM	5:30 PM	6:05 PM
5:05 PM	5:40 PM	6:00 PM	6:35 PM
6:15 PM	6:50 PM	7:00 PM	7:35 PM
7:25 PM	8:00 PM	8:00 PM	8:35 PM
8:25 PM	9:00 PM	---	---

**South San Francisco – Oakland/Alameda Route**

Westbound			Eastbound		
Dep Ala	Dep Oak	Arr So SF	Dep So SF	Arr Oak	Arr Ala
6:05 AM	6:20 AM	7:00 AM	7:10 AM	8:10 AM	7:50 AM
7:05 AM	7:20 AM	8:00 AM	3:20 PM	4:00 PM	4:20 PM
8:00 AM	8:20 AM	9:00 AM	4:20 PM	5:00 PM	5:20 PM
4:25 PM	4:10 PM	5:05 PM	5:20 PM	6:00 PM	6:20 PM

**Vallejo – San Francisco Route**

Southbound		Northbound	
Dep Vallejo	Arr SF	Dep SF	Arr Vallejo
5:30 AM	6:30 AM	6:35 AM	7:35 AM
6:00 AM	7:00 AM	7:05 AM	8:05 AM
7:15 AM	8:15 AM	8:20 AM	9:20 AM
7:45 AM	8:45 AM	9:50 AM	10:50 AM
8:15 AM	9:15 AM	11:00 AM	12:00 PM
9:30 AM	10:30 AM	11:30 AM	12:30 PM
11:00 AM	12:00 PM	12:10 PM	1:10 PM
1:00 PM	2:00 PM	2:20 PM	3:20 PM
2:00 PM	3:00 PM	3:35 PM	4:35 PM
3:30 PM	4:30 PM	4:35 PM	5:35 PM
4:45 PM	5:45 PM	5:20 PM	6:20 PM
6:40 PM	7:40 PM	6:00 PM	7:00 PM
---	---	8:00 PM	9:00 PM

Weekends

**Alameda/Oakland – San Francisco Route**

Westbound			Eastbound		
Dep Ala	Dep Oak	Arr SF	Dep SF	Arr Oak	Arr Ala
8:30 AM	8:50 AM	9:15 AM	9:20 AM	9:40 AM	9:55 AM
9:45 AM	10:05 AM	10:30 AM	10:35 AM	10:55 AM	11:10 AM
---	10:45 AM	11:10 AM	11:30 AM	11:50 AM	12:10 PM
11:00 AM	11:20 AM	11:45 AM	12:50 PM	1:10 PM	1:25 PM
12:00 PM	12:20 PM	12:45 PM	1:50 PM	2:10 PM	2:25 PM
1:15 PM	1:35 PM	2:00 PM	2:30 PM	2:50 PM	3:05 PM
2:15 PM	2:35 PM	3:00 PM	3:30 PM	3:50 PM	4:05 PM
2:55 PM	3:15 PM	3:40 PM	4:30 PM	4:50 PM	5:05 PM
3:55 PM	4:15 PM	4:40 PM	5:00 PM	5:20 PM	5:35 PM
4:55 PM	5:15 PM	5:40 PM	5:50 PM	6:10 PM	6:25 PM
6:15 PM	6:35 PM	7:00 PM	7:10 PM	7:30 PM	7:45 PM
7:35 PM	7:55 PM	8:20 PM	8:30 PM	8:50 PM	9:05 PM
8:55 PM	9:10 PM	9:35 PM	9:40 PM	10:00 PM	10:15 PM

**Richmond – San Francisco Route**

Southbound		Northbound	
Dep Richmond	Arr SF	Dep SF	Arr Richmond
9:50 AM	10:25 AM	11:15 AM	11:50 AM
12:00 PM	12:35 PM	2:05 PM	2:40 PM
5:15 PM	5:50 PM	4:30 PM	5:05 PM
6:45 PM	7:20 PM	6:00 PM	6:35 PM
---	---	8:10 PM	8:45 PM

**Vallejo – San Francisco Route**

Southbound		Northbound	
Dep Vallejo	Arr SF	Dep SF	Arr Vallejo
9:20 AM	10:20 AM	10:30 AM	11:30 AM
10:20 AM	11:20 AM	11:30 AM	12:30 PM
11:40 AM	12:40 PM	1:50 PM	2:50 PM
12:40 PM	1:40 PM	2:50 PM	3:50 PM
3:00 PM	4:00 PM	4:10 PM	5:10 PM
3:45 PM	4:45 PM	5:10 PM	6:10 PM
4:00 PM	5:00 PM	6:30 PM	7:30 PM
7:40 PM	8:40 PM	8:50 PM	9:50 PM

## Appendix B

### Survey Questionnaire

# On-Board Passenger Survey 2022

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## About this trip

### 1) Where did you board your ferry?

- Alameda Main Street
- Alameda Seaplane
- Harbor Bay
- Oakland
- Richmond
- San Francisco
- South San Francisco
- Vallejo

### 2) Where will you exit your ferry?

- Alameda Main Street
- Alameda Seaplane
- Harbor Bay
- Oakland
- Richmond
- San Francisco
- South San Francisco
- Vallejo

**3) Where did your trip start before you arrived at the ferry terminal?**

- My home
- My work
- Somewhere else

**4) Please enter your approximate start location**

Street Address: \_\_\_\_\_

Apt/Suite/Office: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

**5) Where will you go after exiting this ferry?**

- My home
- My work
- Somewhere else

**6) Please enter your approximate end location**

Street Address: \_\_\_\_\_

Apt/Suite/Office: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

**7) How did you get to the ferry terminal?**

- Walk all the way
- Bike

- Drive alone
- Carpool
- Dropped off/Picked up by car
- Public transit (Bus/Rail)
- Private/Employer shuttle
- Taxi
- Uber/Lyft
- Other - Write In: \_\_\_\_\_

**8) How will you get to your final destination after you exit the ferry?**

- Walk all the way
- Bike
- Drive alone
- Carpool
- Dropped off/Picked up by car
- Public transit (Bus/Rail)
- Private/Employer shuttle
- Taxi
- Uber/Lyft
- Other - Write In: \_\_\_\_\_

**9) What is the purpose of your trip today?**

- Commute to/from work/school
- Medical/Dental
- Shopping
- Entertainment/Recreation
- Sightseeing
- Other - Write In: \_\_\_\_\_

**10) What OTHER TYPE of transportation would you most likely have used if you didn't take the Ferry for your trip today?**

- Ferry is my only option
- Drive alone
- BART / train transit
- Bus
- Carpool
- "Casual" carpool
- Uber/Lyft
- Other - Write In: \_\_\_\_\_

**11) What OTHER TRANSIT SYSTEMS do you use in addition to San Francisco Bay Ferry (not just for this particular trip)?**

- AC Transit
- BART
- Caltrain
- Golden Gate Ferry and Bus
- MUNI
- Samtrans
- SolTrans
- Vine Transit
- Other - Write In: \_\_\_\_\_

**12) What type of fare did you pay for this trip?**

- Adult
- Disabled/Medicare
- Youth
- School groups
- Senior
- Other - Write In: \_\_\_\_\_

**13) What type of ticket did you use?**

- Clipper card/app
- Single ride/one-way paper ticket
- Passage mobile ticket

**14) Are you making a round-trip on the ferry today?**

- Yes (rode ferry earlier today or will ride later today)
- No

**15) How often do you typically use the ferry?**

- 6-7 days a week
- 5 days a week
- 3-4 days a week
- 1-2 days a week
- 1-3 days a month
- Less than once per month
- This is my first time on the ferry

**16) What are the main reasons you ride the ferry (select up to three)**

- Don't have a car/don't drive
- Don't want to deal with parking/traffic
- Ability to do other things (read, sleep)
- Faster than other options
- Help the environment
- Save money
- Relax/reduce stress
- Sightseeing

Quality of ride much better than BART/bus

Other - Write In: \_\_\_\_\_

**17) Did you ride the ferry prior to March 2020 (COVID shelter-in-place)?**

Yes

No

**18) Do you live here or are you a visitor?**

Live in San Francisco Bay area

Visitor

**19) Please rate the overall experience of riding the ferry, from the best rating (Very satisfied) to the worst rating (Very Dissatisfied)**

Very Satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very Dissatisfied
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**20) Please rate your sentiment of San Francisco Bay Ferry overall, from the best rating (Very satisfied) to the worst rating (Very Dissatisfied)**

Very Satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very Dissatisfied
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**21) Age**

12 or younger

13 - 17

- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 & older

**22) Annual household income**

- Under \$15,000
- \$15,000 - \$24,999
- \$25,000 - \$49,999
- \$50,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 - \$149,999
- \$150,000 - \$199,999
- \$200,000 or more

**23) Including yourself, how many people live in your household?**

- 1 (just you)
- 2
- 3
- 4
- 5
- 6+

**24) Race/Ethnicity (*Please mark all that apply*)**

- Caucasian/White
- Hispanic/Latino
- African American/Black
- Asian/Pacific islander

Native American

Other - Write In: \_\_\_\_\_

**25) What is your home zip code**

\_\_\_\_\_

**26) How well do you speak English?**

Very well

Well

Not well

Not at all

**27) Language(s) spoken at home (other than English)**

Mandarin

Cantonese

Spanish

Other - Write In: \_\_\_\_\_

**28) Would you be interested in participating in a rider focus group?**

Yes

No

**29) Contact information**

Name: \_\_\_\_\_

Email Address: \_\_\_\_\_

**30) Additional comments**

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Thank You!

MEMORANDUM

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**TO: Board Members**

**FROM: Seamus Murphy, Executive Director  
Lauren Gularte, Government & Regulatory Affairs Manager  
Terence Candell, Government & Regulatory Affairs Specialist**

**SUBJECT: Review and Provide Input on WETA's Draft 2023 Legislative Program**

**Recommendation**

This is an informational item only. Staff is requesting Board member input on WETA's Draft 2023 Legislative Program.

**Discussion**

Staff has worked with our state and federal legislative representatives, Shaw Yoder Antwih Schmelzer & Lange (Shaw-Yoder) and FBB Federal Relations/Lindsay Hart, LLP (FBB Federal Relations) to develop a state, regional and federal legislative program for 2023, provided as **Attachment A**. The program establishes the principles that will guide WETA's legislative and regulatory advocacy efforts during the calendar year. It is intended to be broad enough to cover the wide variety of issues that are likely to be considered during that time and flexible enough to allow WETA to respond swiftly and effectively to unanticipated developments. Adoption of the program will provide our state and federal delegation and regional partners with a clear statement of WETA's priorities and will provide a guide for staff and our legislative representatives in carrying out our legislative efforts.

The legislative program is structured to guide WETA's actions in support of the following general principles:

1. Build awareness about WETA programs and services among key regional, state and federal decision makers;
2. Preserve and enhance funding opportunities to maintain and expand WETA programs and services;
3. Seek regulatory reform that streamlines project delivery and maximizes WETA's ability to meet ferry service demands; and
4. Support WETA projects including:
  - WETA 2050 Service Vision & Business Plan
  - Transition to zero emissions fleet
  - Mission Bay Terminal construction and service expansion
  - Treasure Island Service Expansion
  - Berkeley Service Expansion
  - Redwood City Service Expansion

Issues covered by the 2023 Legislative Program fit within two primary categories: 1) funding opportunities and 2) legislative, regulatory and administrative issues. These categories include a detailed list of legislative initiatives and a corresponding set of advocacy strategies that WETA will implement. To support the programs, WETA staff and legislative consultants will employ a variety of engagement strategies including direct advocacy with policymakers and relevant agencies, coalition-based engagement and public communications to build awareness about specific issues.

With the changing legislative landscape, WETA staff created the 2023 Legislative Program by updating the *strategies* under each *issue/background* section. These updates continue to be in line with the guiding principles and ensure that WETA's legislative strategies remain relevant and effective. Staff has included two new areas that should be highlighted: a statewide effort to provide short-term state transit operations funding and a WETA bill proposal to exempt the purchase of zero emission public transportation ferries from the state sales and use tax. Both of these are described in more detail in the Regional and State Legislative Program.

WETA positions on issues not covered in the 2023 Legislative Program will be guided by the four principles listed above. Should recommendations emerge that call for advocacy on issues outside of these principles, WETA staff will confer with the Board Chair to determine appropriate direction, which may include bringing recommendations to the full Board for consideration. WETA's legislative representatives will provide monthly updates to the Board on the status of WETA positions, relevant issues, outreach activities, strategy, and results.

Staff is bringing this draft legislative program forward to the Board in December for review and input. Staff will incorporate the Board's input into the final program which will be brought to the Board for approval in January 2023.

**Fiscal Impact**

There is no fiscal impact associated with this informational item.

\*\*\*END\*\*\*

## **ATTACHMENT A**

### **DRAFT 2023 Regional, State, and Federal Legislative Program San Francisco Bay Area Water Emergency Transit Authority**

#### **Introduction**

The 2023 Legislative Program establishes the principles that will guide the San Francisco Bay Area Water Emergency Transportation Authority's (WETA) legislative advocacy efforts through the 2023 calendar year. Legislative and regulatory actions have the potential to significantly benefit WETA's programs and services, but can also present challenges that threaten WETA's ability to meet ferry service demands.

The program is intended to be broad enough to cover the wide variety of issues that are likely to emerge and flexible enough to allow WETA to respond swiftly and effectively to unanticipated developments.

#### **Principles**

The 2023 Legislative Program is organized to guide WETA's actions and positions in support of four primary principles:

1. Build awareness about WETA programs and services among key regional, state and federal decision makers;
2. Preserve and enhance funding opportunities to maintain and expand WETA programs and services;
3. Seek regulatory reform that streamlines project delivery and maximizes WETA's ability to meet ferry service demands;
4. Support WETA projects including:
  - WETA 2050 Service Vision & Business Plan
  - Transition to zero emissions fleet
  - Mission Bay Terminal
  - Treasure Island Service Expansion
  - Berkeley Service Expansion
  - Redwood City Service Expansion

#### **Advocacy Process**

Issues covered by the 2023 Legislative Program fit within two primary categories: 1) funding opportunities and 2) legislative, regulatory and administrative issues. These categories include a detailed list of legislative initiatives and a corresponding set of advocacy strategies that WETA will implement.

WETA positions on issues not covered in the categories below will be guided by the four principles listed above. Should recommendations emerge that call for advocacy on issues outside of these principles, WETA staff will confer with the Board Chair to determine appropriate direction, which may include bringing recommendations to the full Board for consideration. WETA's legislative representatives will provide monthly updates to the board on the status of WETA positions, relevant issues, outreach activities, strategy, and results.

WETA staff and legislative consultants will employ a variety of engagement strategies to support the 2023 Legislative Program, including:

**Direct Advocacy:** WETA will engage state and federal policy makers directly; submit correspondence and provide public testimony that communicates and advances WETA's legislative priorities and positions.

**Coalition Engagement:** WETA will engage relevant stakeholders to build coalitions of support that amplify WETA's advocacy efforts and expand WETA's influence beyond the Bay Area. These efforts will include engagement of transit advocacy organizations, suppliers and shipyards, employers, labor organizations and other stakeholders that would benefit from advancement of WETA's 2023 Legislative Program.

**Public Communications:** WETA will build public awareness about the agency's advocacy priorities by actively seeking media attention and maximizing the use of social media to highlight the need for actions consistent with the 2023 Legislative Program.

## Regional and State Legislative Program

### Funding Opportunities

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>State Transit Operations Funding</b></p> <p>While Congress stepped in within months of the onset of the COVID-19 pandemic to provide billions of dollars in COVID relief assistance, this assistance is running out and there will not be an appetite for additional aid in a divided Congress. Ridership, while on the upswing, is still well below 2019 levels yet costs to run transit systems are subject to the same inflation pressures affecting the rest of the economy. Looking to FY 2023-24 and beyond, transit systems across California are facing multi-million dollar shortfalls as they approach the day when their federal COVID relief funds run out. WETA will have fully expended COVID relief funds by the beginning of FY 25 and will be incurring a deficit in FY 25 without additional operating funds.</p> <p>The Metropolitan Transportation Commission (MTC), transit agencies and advocacy groups are working together to advocate for “bridge funding” to support transit operations as federal COVID relief dollars are being fully expended and while region prepares to put a transportation ballot measure forward to voters in 2026 or 2028. This funding is anticipated to support operations while ridership continues to recover from the pandemic and will be targeted to assist those agencies that have expended federal COVID relief funding and are facing a deficit as well as for implementation of strategies seeking to increase ridership</p>	<ul style="list-style-type: none"> <li>• In coordination with MTC, the California Transit Association, and other Bay Area transit agencies and advocacy groups, advocate for funding from the FY 2023-24 State budget to support transit operations to bridge the gap between the expenditure of federal COVID relief funds and the creation of new, permanent funding to support transit operations.</li> <li>• Continue to work with MTC and our transit agency partners to ensure that MTC’s advocacy program includes long-term investment in transit operating funds for WETA’s continued operating needs.</li> <li>• Build coalition of support for the allocation of funds to State programs that support WETA projects and plans in addition to direct allocations to WETA priority projects.</li> <li>• Seek transit funding equity by ensuring water transit is eligible for all programs available to other transit modes.</li> </ul>

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>Enhancing Equity</b></p> <p>In July 2021, WETA implemented the Pandemic Recovery Program (PRP) guided by core principles focused on enhancing equity and access to ferry service and increasing service levels to expand access to transit dependent riders and incentivizing demand to support the region’s economic recovery. The PRP expanded service and temporarily reduced fares. The PRP has been extended through June 30, 2023.</p>	<ul style="list-style-type: none"> <li>• Work with transit coalitions to identify and advance opportunities for new operating funding to enhance equity and expand access to transit dependent riders.</li> <li>• Advocate for the preservation and expansion of current programs that make transit more affordable and accessible to low-income riders.</li> </ul>
<p><b>Regional Funding Measures</b></p> <p>In June 2018, 55% of Bay Area voters passed Regional Measure 3 (RM3), which increased toll revenues to support transit and traffic relief improvements. RM3 included an expenditure plan that would provide WETA with \$300 million in capital funds and \$35 million per year in operating subsidy. Allocation of RM3 funding is on hold while the California Supreme Court considers a legal challenge related to the measure’s voter approval threshold. On January 1, 2019 the Bay Area Toll Authority began collecting the first dollar of the approved toll increase. Toll revenues collected are being placed into an escrow account and will not be allocated to project sponsors until the legal challenge is settled.</p> <p>MTC is collaborating with transit agencies and other stakeholders to evaluate the potential for a regional transportation funding measure in 2026 or 2028.</p>	<ul style="list-style-type: none"> <li>• Advocate for alternative funding to reduce or eliminate delays to RM3-dependent WETA projects.</li> <li>• Build a coalition that supports a development of a regional ballot measure that replaces RM3 investments if needed.</li> <li>• Support planning for additional regional funding opportunities that maximize investment in WETA programs and services.</li> </ul>

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>SB 1 Gas Tax Funding</b></p> <p>In 2017, the State enacted SB 1, which authorized more than \$700m per year for public transit. This was the largest increase in dedicated transit funding in more than 40 years. In addition to augmenting the State Transit Assistance program, SB1 created new programs such as the State of Good Repair (SGR) program that have benefitted WETA. Complimentary to SB 1 is ACA 5 (passed by voters in June 2018), which protects new and existing sources of transit funding from future diversions by the Legislature.</p>	<ul style="list-style-type: none"> <li>• Oppose the elimination or diversion of any State or regional funds that support WETA.</li> <li>• Identify and advocate for opportunities to secure investment from ongoing SB1 programs to support WETA’s priorities.</li> <li>• Monitor efforts to study alternative funding mechanisms that would shift the state away from its reliance on fuel taxes to fund transit and transportation (e.g. VMT fees).</li> </ul>
<p><b>State Transit Assistance Funds</b></p> <p>State Transit Assistance (STA) funds are generated by a sales tax on fuel and diesel fuel. The amount of money available for transit agencies varies from year to year based on fluctuations in diesel prices. STA funds are appropriated by the State Controller’s Office (SCO) and allocated to WETA through a grant agreement with MTC. The formula used by the SCO allocates 50% of the funds according to population and the remaining 50% is allocated according to operator revenues from the prior fiscal year.</p> <p>The Fiscal Years 2020-21 and 2021-22 State Budget included relief measures to ensure that STA funds are not decreased during the pandemic due to lower reported operating revenues due to reduced ridership. These relief measures are set to expire at the end of FY 2022-2023, which could adversely impact current funding.</p>	<ul style="list-style-type: none"> <li>• Work with the California Transit Association to secure an extension of these relief measures through Fiscal Year 2024-25.</li> <li>• Work with MTC and regional transit partners to secure continued STA funding that WETA is eligible to receive and oppose efforts to change the distribution formula in a way that disadvantages WETA service and/or capital programs.</li> </ul>

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>Cap-and-Trade Revenues – Greenhouse Gas Reduction Fund</b></p> <p>In 2012, the State began implementing the cap-and-trade market-based compliance system approved as a part of the California Global Warming Solutions Act of 2006 (AB 32). Since the program began selling allowances, the program has generated billions of dollars. In 2014, legislation was enacted creating a long-term funding plan for cap-and-trade which dedicates 60 percent of cap-and-trade revenues to transportation. The remaining 40 percent is subject to annual appropriation through the state budget process. In 2017, the legislature extended the program from 2020 to 2030. WETA is eligible for funding through the Low Carbon Transit Operations Program (LCTOP), the Transit and Intercity Rail Capital Program (TIRCP), and various new programs for zero-emission commercial harborcraft and ferries at the California Air Resources Board. TIRCP was created to fund capital improvements for transit agencies that significantly reduce emissions, vehicle miles traveled, and congestion. There have been five cycles of TIRCP funding, awarding \$6.6 billion in funding throughout the state. WETA has been awarded two TIRCP grants, totaling \$24 million to support the agency’s efforts to transition to zero emissions.</p>	<ul style="list-style-type: none"> <li>• Work with the Administration to secure appropriation of cap-and-trade revenues to support WETA’s capital needs, including the agency's efforts to transition to zero emission vessels.</li> <li>• Support legislation and regional action that makes WETA’s emissions-reducing projects and services eligible for investment from relevant programs.</li> <li>• Work to direct additional revenues to programs that support WETA priorities, including efforts to secure funding from the remaining discretionary funds.</li> <li>• Identify and develop a project related to the agency’s efforts to transition to zero emissions and have it ready to submit for the next cycle of TIRCP funding and for forthcoming funding opportunities at CARB.</li> <li>• Continue to work with our legislative advocates to secure additional funding in future TIRCP cycles.</li> </ul>
<p><b>Emergency Response Funding</b></p> <p>WETA’s enabling legislation directs the agency to provide comprehensive water transportation and emergency coordination services for the Bay Area region. Despite this mandate, no operating funds have been received by WETA to support this requirement. A new State Assembly Select Committee was created to evaluate how transportation infrastructure and systems are prepared to respond in emergencies. The committee is chaired by Assemblymember Lori Wilson, and WETA has worked productively with her office to discuss how the agency can be helpful in guiding the work of the committee.</p>	<ul style="list-style-type: none"> <li>• Work with partner organizations to advocate for funding that enhances WETA’s ability to effectively carry out the responsibilities detailed in the agency’s Emergency Response Plan.</li> <li>• Advocate for the inclusion of enhanced emergency response capability to be included as criteria in relevant discretionary grant opportunities.</li> <li>• Continue to work with Assm. Lori Wilson and her office to advance WETA’s opportunities for emergency response funding and support the accomplishment of the two previous strategies.</li> </ul>

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>Other funding opportunities</b></p> <p>Transit agencies have increasingly partnered with private sector entities to create investment in infrastructure and enhanced or expanded services. WETA is poised to offer transit solutions that support new waterfront development, job growth, and congestion relief that local jurisdictions and private sector entities will benefit from.</p>	<ul style="list-style-type: none"> <li>• Support policies that facilitate public private partnerships that advance the implementation of WETA capital projects and operation of enhanced services.</li> <li>• Advocate for policies and projects that benefit WETA priorities through the creation of transit-oriented development and first and last mile connections.</li> <li>• Support other innovative funding strategies and policies that will enhance investment opportunities and revenues that support WETA programs and services.</li> </ul>

## Legislative, Regulatory and Administrative Issues

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>General</b></p> <p>Every year a variety of policies are pursued that would affect regulations governing transportation-related service operations, administration, planning and project delivery. In addition, opportunities exist to reform or update existing regulations that are outdated or can be improved to address potential burdens on transportation agencies without affecting regulatory goals.</p>	<ul style="list-style-type: none"> <li>• Support opportunities to remove barriers to, and improve the ability to conduct, safe, efficient transportation operations, administration, planning and project delivery, including alternative project delivery methods that provide flexibility to the agency.</li> <li>• Oppose efforts to impose unjustified and burdensome regulations or restrictions on WETA’s ability to conduct efficient transportation operations, administration, planning and project delivery efforts.</li> <li>• Support efforts to advocate against Dept. of Labor 13c related FTA funding delays.</li> </ul>
<p><b>California Air Resources Board’s (CARB) Proposed Amendments to the Commercial Harbor Craft (CHC) Regulations</b></p> <p>CARB approved amendments to the Commercial Harbor Craft Regulations in March 2022. The regulations set standards to reduce toxic and criteria emissions to protect public health. The new regulations are effective January 1, 2023.</p>	<ul style="list-style-type: none"> <li>• Continue to work with CARB to ensure implementation of the CHC regulations are operationally feasible and in line with WETA’s plan to comply with the CHC regulations by transitioning a portion of the fleet to zero emissions.</li> <li>• Work with CARB and the California Energy Commission to identify and expand funding opportunities to implement WETA’s plan to comply with the CHC regulations.</li> </ul>
<p><b>Streamlining Environmental Clearance &amp; Permitting</b></p> <p>Projects located in or adjacent to the bay require permits from up to fourteen different regulatory agencies. Many of these agencies do not review permits concurrently which can add up to two years to the project timeline.</p> <p>The complexity of the permitting process creates time delays in the development of ferry projects. A modernized process would minimize unnecessary delays.</p>	<ul style="list-style-type: none"> <li>• Explore opportunities to modernize the permitting process, without compromising the effectiveness of the review as an environmental protection policy.</li> </ul>

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>Bridge Toll Revenue Requirements</b></p> <p>WETA’s use of certain bridge toll revenues is subject to meeting and maintaining a minimum level of farebox recovery. Pandemic impacts and challenges during recovery have compromised the ability for all agencies to maintain pre-pandemic farebox recovery ratios. Additionally, efforts to refocus services on equity and enhancing access for riders from all income levels have led many agencies to reconsider the value of farebox recovery as a metric for the successful delivery of services.</p>	<ul style="list-style-type: none"> <li>• Advocate for relaxed farebox recovery requirements tied to the use of regional bridge toll revenues.</li> <li>• Given the uncertain timeframe for the return of pre-pandemic ridership levels, advocate for the creation of new funding to support the increased subsidy needed to maintain service during recovery.</li> </ul>
<p><b>Regional Transit Integration and Transformation Action Plan</b></p> <p>During the pandemic, MTC appointed a Blue Ribbon Task Force to facilitate transit survival and recovery, and to assess options for improving integration of the region’s transit network. The Task Force recommended proceeding with near-term, already underway efforts to improve integration and evaluating longer-term options for more transformational change.</p>	<ul style="list-style-type: none"> <li>• Advocate that new funding be identified to support implementation of longer-term transformational policy recommendations.</li> <li>• Support efforts to better integrate and connect regional transit services.</li> </ul>
<p><b>State Sales and Use Tax Exemption for the Purchase of Zero Emission Public Transportation Ferry Vessels</b></p> <p>WETA is proposing legislation that would amend Section 6377 of the Revenue and Taxation Code to exempt any zero-emission public transportation ferry technology sold to a city, county, city and county, transportation or transit district, or other public agency that provides transit services to the public, from state sales and use taxes on the technology’s sale, storage, use, or other consumption. The adoption of this bill would affect the replacement and conversion of half of WETA’s fleet, exempting and saving WETA close to \$15 Million in state sales and use tax.</p>	<ul style="list-style-type: none"> <li>• Sponsor the legislation to exempt ferry procurements from state sales tax.</li> <li>• Petition transit allies that would benefit from this legislation to support and advocate for the State legislature to adopt the proposed legislation.</li> <li>• Lobby and work with the appropriate legislative bodies that can provide the best guidance and support for passing and enacting the proposed tax code amendment.</li> </ul>

## Federal Legislative Program

### Funding Opportunities and Challenges

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>Increase Funding for the Federal Highway Administration (FHWA) Construction of Ferry Boats and Ferry Terminal Facilities Formula Program (FBP)</b></p> <p>FHWA distributes funding to eligible public ferry systems based on a formula that accounts for the number of passengers and vehicles carried by each ferry system and the total route nautical miles serviced by each system. The Infrastructure Investment and Jobs Act (IIJA) increased funding for the FHWA formula program from \$80,000,000 per year to:</p> <p>\$110,000,000 for FY 22;            \$112,000,000 for FY 23;            \$114,000,000 for FY 24;            \$116,000,000 for FY 25; and            \$118,000,000 for FY 26.</p> <p>After the passage of the IIJA, Congressman John Garamendi (D-CA) and Senator Patty Murray (D-WA) introduced the Ferry Service Expansion Act, which WETA helped to develop, and which would increase funding for the FHWA program to \$160,000,000 per year.</p>	<ul style="list-style-type: none"> <li>• Work with Public Ferry Coalition members, organized labor, and other WETA advocates to encourage members of the House and Senate to co-sponsor the Ferry Service Expansion Act.</li> <li>• Engage directly with Congressional leadership and relevant Congressional committees.</li> <li>• Coordinate outreach to Congressional leadership and relevant Congressional Committees by members of the California Congressional delegation.</li> <li>• Work with Public Ferry Coalition members, organized labor, and other WETA advocates, to encourage key Senators and House members to advocate for additional funding outside the Ferry Service Expansion Act.</li> </ul>

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>Seek Funding Excluded from the Infrastructure Investment and Jobs Act (IIJA)</b></p> <p>The Infrastructure Investment and Jobs Act (IIJA) was supposed to include an additional \$1.25 billion for passenger ferry grants but the funding was omitted due to a drafting error. WETA's Congressional champions continue to seek opportunities to include this funding in other legislation (including the annual appropriations bill), although the more time that passes, the more difficult this will be.</p> <p>After the passage of the IIJA, Congressman John Garamendi (D-CA) and Senator Patty Murray (D-WA) introduced the Ferry Service Expansion Act, which WETA helped to develop, and which would provide \$1.25 billion for passenger ferry grants.</p>	<ul style="list-style-type: none"> <li>• Work with Public Ferry Coalition members, organized labor, and other WETA advocates to encourage members of the House and Senate to co-sponsor the Ferry Service Expansion Act.</li> <li>• Engage directly with Congressional leadership and relevant Congressional committees.</li> <li>• Coordinate outreach to Congressional leadership and relevant Congressional Committees by members of the California Congressional delegation.</li> <li>• Work with Public Ferry Coalition members, organized labor, and other WETA advocates, to encourage key Senators and House members to advocate for this funding outside the Ferry Service Expansion Act.</li> </ul>
<p><b>Increase Funding for the Federal Transit Administration (FTA) 5307(h) Passenger Ferry Grant Program and Build Support for WETA Grant Applications.</b></p> <p>The FTA 5307(h) ferry grant program provides competitive funding for passenger ferry projects. Program funding was unfortunately not increased as part of the Infrastructure Investment and Jobs Act (IIJA), and annual funding remains at \$30,000,000.</p> <p>After the passage of the IIJA, Congressman John Garamendi (D-CA) and Senator Patty Murray (D-WA) introduced the Ferry Service Expansion Act, which WETA helped to develop, and which would increase funding for the FTA ferry grant program to \$90,000,000 per year.</p> <p>WETA seeks funding from the FTA ferry grant program every year.</p>	<ul style="list-style-type: none"> <li>• Work with Public Ferry Coalition members, organized labor, and other WETA advocates to encourage members of the House and Senate to co-sponsor the Ferry Service Expansion Act.</li> <li>• Engage directly with Congressional leadership and relevant Congressional committees.</li> <li>• Coordinate outreach to Congressional leadership and relevant Congressional Committees by members of the California Congressional delegation.</li> <li>• Work with Public Ferry Coalition members, organized labor, and other WETA advocates, to encourage key Senators and House members to advocate for additional funding outside the Ferry Service Expansion Act, including through the annual appropriations process.</li> <li>• Work to identify future projects and work with the Congressional delegation to support WETA grant applications.</li> </ul>

<i>Issue / Background</i>	<i>Strategy</i>
<p><b>Increase Funding for the Electric or Low-Emitting Ferry Grant Program Opportunities and Build Support for WETA Grant Applications.</b></p> <p>The Infrastructure Investment and Jobs Act (IIJA) directs the U.S. Department of Transportation (DOT) to establish a pilot program to provide grants for the purchase of electric or low-emitting (methanol, natural gas, liquified petroleum gas, hydrogen, coal-derived liquid fuels, biofuels) ferries. The IIJA provides \$50 million per year FY22-FY26 (\$250 million total) in advanced appropriations (i.e. guaranteed funding) and authorizes Congress to appropriate an additional \$50 million per year through 2026. WETA will likely seek funding from the Electric or Low-Emitting Ferry Grant Program every year.</p>	<ul style="list-style-type: none"> <li>• Work with Public Ferry Coalition members, organized labor, and other WETA advocates to seek additional funding through the annual appropriations process.</li> <li>• Engage directly with Congressional leadership and relevant Congressional committees.</li> <li>• Coordinate outreach to Congressional leadership and relevant Congressional Committees by members of the California Congressional delegation.</li> <li>• Work to identify future projects and work with the Congressional delegation to support WETA grant applications.</li> </ul>
<p><b>Funding Opportunities Through Other Competitive Grant Programs</b></p> <p>The Infrastructure Investment and Jobs Act (IIJA) provides funding for various other transit grant programs for which WETA is eligible.</p>	<ul style="list-style-type: none"> <li>• Identify possible projects for which to seek funding.</li> <li>• Develop coalitions of support for WETA grant applications.</li> </ul>
<p><b>Funding for Emergency Response</b></p> <p>The Transit Security Grant Program is an annual competitive grant program through the Department of Homeland Security and the Federal Emergency Management Agency (FEMA) which funds transportation infrastructure security activities. WETA is an eligible recipient of this program.</p>	<ul style="list-style-type: none"> <li>• Identify possible projects for which to seek FEMA grant program funding.</li> <li>• Develop coalitions of support for WETA grant applications.</li> </ul>
<p><b>Avoiding Cuts to Transit Funding</b></p> <p>The "Rostenkowski" rule (Sec. 9503(e)(4) of the Internal Revenue Code of 1986) requires the Treasury secretary to withhold transit money from states and transit agencies if the amount of unfunded transit authorizations exceeds projected Highway Trust Fund receipts for the next four years. Waivers were needed in previous appropriations bills in order to avert cuts to transit programs. Funding included in the Infrastructure Investment and Jobs Act (IIJA) has likely addressed this issue in the near term.</p>	<ul style="list-style-type: none"> <li>• Support legislation, as needed, to waive the Rostenkowski rule.</li> </ul>

<b>Legislative, Regulatory, and Administrative Issues</b>	
<i>Issue / Background</i>	<i>Strategy</i>
<p><b>General</b></p> <p>Monitor legislation or regulatory action that will affect WETA’s ability to provide ferry service, implement its program of projects, administration or funding from federal agencies.</p> <p>Take advantage of opportunities to reform or update existing regulations or processes that are outdated or can be improved to address potential burdens on transportation agencies without affecting regulatory goals.</p>	<ul style="list-style-type: none"> <li>• Support opportunities to remove barriers to, and improve the ability to conduct, safe, efficient transportation operations, administration, planning and project delivery.</li> <li>• Oppose efforts to impose unjustified and burdensome regulations or restrictions on the WETA’s ability to conduct efficient transportation operations, administration, planning and project delivery efforts.</li> </ul>
<p><b>Permitting</b></p> <p>Any WETA project on the water requires permits from numerous regulatory agencies. Several federal agencies review such permits sequentially and not concurrently, adding months and sometimes years to project timelines and associated cost for time spent managing the permit review process.</p>	<ul style="list-style-type: none"> <li>• Analyze the time required to obtain permits from federal agencies on past WETA projects and determine the impact of delays on project completion.</li> <li>• Identify strategies to streamline the federal permitting review process.</li> <li>• Work with permitting agencies and the Congressional delegation to seek resolution of specific issues that are causing delay to important projects.</li> </ul>
<p><b>U.S. Department of Labor Section 13(c) Determination</b></p> <p>On October 28, 2021 the United States Department of Labor (USDOL) released a letter, nullifying their previous 2019 determination on the impact of PEPR on collective bargaining rights and prohibiting the further certification of federal transit grants owed to California transit agencies.</p> <p>The State of California, with support by the California Transit Association, secured temporary injunctive relief against implementation of the United States Department of Labor’s October 28 determination, permitting federal transit grants to continue to flow to California transit agencies. As of the drafting of this program, this injunctive relief remains in place. WETA has not been previously impacted by this issue due to the agency having no represented public employees.</p>	<ul style="list-style-type: none"> <li>• Support State and California Transit Association efforts to secure long-term relief to ensure FTA funding remains available to California agencies.</li> </ul>



MEMORANDUM

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**TO:** Board Members

**FROM:** Seamus Murphy, Executive Director  
Timothy Hanners, Operations & Maintenance Manager

**SUBJECT:** WETA Fleet Electrification Study: Future Battery Technology, Cost Projection, Environmental Impact

**Recommendation**

There is no recommendation associated with this informational item.

**Background**

WETA Staff along with Aurora Marine Design (AMD) is working with the Bay-Area Environmentally Aware Consulting Network (BEACN), a student-run consulting group at UC Berkeley that works with start-ups, non-profits, and government agencies, in developing comprehensive environmentally sustainable and socially responsible solutions. The goal of this project is to enhance and inform WETA's fleet electrification plan. Because Marine Battery Technology for Battery Electric Vessels is a new market, WETA needs to have reasonable expectations about the potential changes that will affect vessel systems, such as whether battery replacement costs will lower over time, or if technology improvements will drastically change operability, as well as when these changes are expected to happen. We need to additionally be sure that our electrification plan addresses concerns about waste stream and material sourcing.

Through WETA's collaboration with BEACN, our main objectives are:

1. Provide an overview and outlook for future marine battery improvements, particularly with respect to cost, energy density, C rate, and cycle life. Include information on in-development technologies and estimates of market availability dates, as well as estimates of how parameters for existing technologies will change over time.
2. Develop an environmental impact and material sourcing summary for the existing battery technologies and provide an outlook of future sourcing and impacts.
3. Determine a recycle, reuse, or disposal plan for the fleet's planned battery uptake of the next 10 years.

**Fiscal Impact**

There is no fiscal impact associated with this informational item.

\*\*\*END\*\*\*

MEMORANDUM

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**TO:** Board Members

**FROM:** Seamus Murphy, Executive Director  
Timothy Hanners, Operations & Maintenance Manager  
Jeffery Powell, Engineering & Maintenance Administrator

**SUBJECT:** Authorize Release of a Request for Proposals – Construction of a New Float to Support a Transition to Zero Emission Vessels

**Recommendation**

Authorize release of a Request for Proposals (RFP) for Construction of a Float to Support a Transition to Zero Emission Vessels

**Background**

WETA is committed to operating the cleanest vessels possible and has developed a plan to shift 50% of the vessel fleet to zero emissions by 2035. Aside from the cost of the vessels themselves, significant investment will be needed to equip ferry terminals with the shoreside charging infrastructure to support a high volume, high frequency system.

**Discussion**

In order for WETA to make progress towards a transition to zero emission vessels, WETA will need a float to support the charging of electric vessels. The float will house electrical equipment such as batteries, transformers, switchgear, and fire suppression to allow rapid charging of the vessels. This will also allow WETA to charge batteries and store energy during off peak utility demand times, significantly lowering the cost of electricity. Although this float's primary purpose will be to assist with charging electric vessels, it will also be compatible with current diesel vessels. This float will be interchangeable with several other floats in WETA's inventory, allowing WETA to rotate floats through the modification process without impacting service.

This item authorizes staff to prepare and release an RFP to solicit proposals from qualified firms for construction of the needed float. The preparation of the RFP will take into consideration the ongoing WETA Zero Emission Study to ensure WETA is in alignment with the transition to zero-emission vessels. WETA has also issued a Request for Information (RFI) to industry to gain feedback in design and development of a float to support the Zero Emission initiative. The results of the RFI will inform the preparation of the subject RFP. Once the highest ranked proposer is identified, staff will return to the Board for authorization to award a contract for this work.

**Fiscal Impact**

There is no fiscal impact associated with the release of this Request for Proposals.

\*\*\*END\*\*\*