2020 SHORT RANGE TRANSIT PLAN

San Francisco Bay Area
Water Emergency Transportation Authority

FY 2019–20 to FY 2028–29

Federal transportation statutes require that the Metropolitan Transportation Commission (MTC), in partnership with state and local agencies, develop and periodically update a long-range Regional Transportation Plan (RTP) and a Transportation Improvement Program (TIP) that implements the RTP by programming federal funds to transportation projects contained in the RTP. To effectively execute these planning and programming responsibilities, MTC requires that each transit operator in its region that receives federal funding through the TIP prepare, adopt, and submit a Short Range Transit Plan (SRTP).

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1.1 SRTP BACKGROUND AND PURPOSE

1.1.1 Purpose of the Short Range Transit Plan

Federal statute requires the Metropolitan Transportation Commission (MTC), in partnership with state and with local agencies, to develop and periodically update a long-range Regional Transportation Plan (RTP) and a Transportation Improvement Program (TIP) that implements the RTP by programming federal funds to transportation projects contained in the RTP. To effectively execute these planning and fund programming responsibilities, MTC, in cooperation with Region IX of the Federal Transit Administration (FTA), requires each transit operator receiving federal transit funding to prepare, adopt, and submit a Short Range Transit Plan (SRTP) outlining its public transit services and related operating and capital costs and projects over a ten-year projection period. These plans are used to, among other purposes, verify compliance with various federal requirements and to validate system capital rehabilitation and replacement projects and needs submitted for funding through separate MTC and FTA grant processes. SRTPs must be updated every three to four years in order to incorporate new information about performance and finances.

In January 2013 the San Francisco Bay Area Water Emergency Transportation Authority (WETA) adopted its first SRTP, setting forth an operating and capital improvement plan for FY 2011–12 to FY 2021–22. In February 2016 WETA updated its ten-year SRTP for FY 2015–16 to FY 2024–25. In accordance with MTC guidelines for SRTP updates, this document presents the SRTP for the ten-year period from FY 2019–20 to FY 2028–29. This SRTP provides an overview of WETA's public transit ferry services and recent system performance, as well as a financially constrained ten-year projection of transit operating and capital expenses and revenues for the system.

1.1.2 Relationship to Other Plans and Policies

In addition to this SRTP, WETA carries out planning activities for these agency purposes:

- **Strategic Plan:** Prior to the creation of WETA, its predecessor agency, the Water Transit Authority, developed an Implementation and Operations Plan (IOP) that called for more funding for water-based transit and proposed an ambitious expansion plan for ferry services on the San Francisco Bay. As a strategic plan, the IOP reflects a broad vision for how the agency should position itself over the long term and respond to unanticipated opportunities that may arise. The 2016 Strategic Plan presents a vision for the San Francisco Bay Ferry system over the next twenty years that responds to passenger demand, makes critical infrastructure investments, and increases WETA's ability to respond to emergencies and system disruptions. In contrast, an SRTP must be somewhat more conservative, setting out the near-term expectations for what is possible within existing financial resources under current market conditions.
- **Annual Budget:** Each year, the WETA Board of Directors reviews and adopts a work plan and annual budget, including a detailed forecast of the planned operating and capital expenses for the year and the use of available revenues to cover those costs. The annual budget is not necessarily derived directly from this SRTP as conditions may change after the SRTP is adopted.

- **Emergency Response Plan:** Under its enabling legislation, WETA is responsible for coordinating and providing emergency ferry service in response to emergencies or disasters affecting the Bay Area transportation system. To help develop and maintain an emergency response capability within the organization, WETA has prepared and periodically updates the agency's Emergency Response Plan, which was adopted in 2016 and details the roles and responsibilities of WETA during a regional emergency. This SRTP is intended to address WETA's functional role as an operator of public transit services and does not explicitly detail its activities related to emergency response.
- **Board-adopted policies:** Through its Board of Directors, WETA has adopted a variety of policy documents that provide guidance to staff and stakeholders about how WETA intends to execute its mandates. These policy documents cover topics such as minimum requirements for terminal access, principles for implementing a system-wide fare structure, system expansion, and metrics and standards for managing ferry service performance over time. The text of this SRTP refers to the specific policy guidance where relevant. Further details of each adopted policy are available on WETA's website.

1.2 HIGHLIGHTS OF SRTP

1.2.1 Overview of Transit System

Chapter 2 provides an overall summary of WETA. Topics include a summary of the history and governance structure of the agency, a description of its current organizational structure and management, and a detailed explanation of existing facilities and current services. Separate sections detail each of WETA's five publicly operated ferry routes, the fifteen vessels currently in WETA's revenue fleet, and the twelve terminal, maintenance, and administrative facilities used to provide the services.

1.2.2 Goals, Objectives, and Standards

Chapter 3 discusses WETA's mission, vision, and goals and objectives for the agency, and defines the set of performance standards that are used to measure and manage the system, together with performance targets for each standard, as applicable.

1.2.3 Service and System Performance

Chapter 4 provides an evaluation of route-level and system-wide service statistics and performance metrics for a four-year period from FY 2015–16 to FY 2018–19. During this period, WETA ridership increased by an average of 5 percent per year, surpassing three million total annual passengers for the first time in FY 2018–19. System-wide, service levels increased slightly over the four-year performance period, with annual increases averaging 5 percent per year for vehicle revenue hours and 7 percent per year for vehicle revenue miles. System operating costs have increased, from $26 million in FY 2015–16 to $39 million in FY 2018–19, with service enhancements to existing services, the launch of expansion service, and the modernization of the WETA vessel fleet. Chapter 4 includes an evaluation of other specific statistics and metrics based on both MTC requirements and policy standards set forth by the WETA Board.

1.2.4 Operating Plan and Budget

Chapter 5 provides an overview of the operating costs and revenues anticipated to be available to support WETA's existing ferry system as well as new expansion services that are planned for implementation during the ten-year period. The plan recognizes the importance of maintaining a

core level of existing services while accounting for the new expansion services such as Alameda Seaplane Lagoon, Mission Bay, Berkeley, and Redwood City that are anticipated to be operational prior to FY 2028–29. The plan also includes a set-aside Operating Reserve with funds equal to two months of total ferry operating expenditures to guard against service disruptions in the event of unexpected temporary revenue shortfall or unpredicted one-time expenses.

Overall, the WETA Operating Budget is projected to increase from $50.7 million in FY 2019–20 to $102.2 million in FY 2028–29. Of the $102.2 million in operating costs for FY 2028–29, $3 million will be dedicated to support WETA planning and administration. Of the $102.2 million, $76.9 million will be required for service enhancements and to sustain WETA's existing services, taking into account a planned service increase of 5 percent in vehicle revenue hours, 6 percent in vehicle revenue miles in FY 2020–21, and historical rates of cost inflation averaging approximately 3 percent per year. The remaining $22.3 million will support the operating costs for the expansion services planned from FY 2020–21 to FY 2028–29. The operating costs of expansion services include $6.6 million for the Alameda Seaplane Lagoon, expected to begin operations in FY 2020–21; $2.2 million for the Mission Bay, forecast to start in FY 2021–22; $5 million for Berkeley, anticipated to begin in FY 2025–26; and $8.5 million for Redwood City, anticipated to begin in FY 2027–28. The operating costs for the Treasure Island service, expected to begin operations in FY 2023–24, will be funded entirely through fare revenues and a dedicated source of local operating funds.

It is anticipated that over the course of the ten-year plan WETA will exhaust its current fixed operating subsidies from Regional Measure 1 and Regional Measure 2 on an annual basis due to cost inflation and will rely upon projected increases in ridership and fare revenue as well as new subsidies, such as Regional Measure 3, to maintain existing services. The planned expansion services will also be subsidized in large part by Regional Measure 3. The plan assumes that funding from Regional Measure 3 will be available starting in FY 2022–23.

1.2.5 Capital Improvement Program

Chapter 6 provides an overview of WETA's capital program required to support the Operating Plan presented in chapter 5. The ten-year Capital Improvement Program (CIP) consists of approximately $584.4 million in capital needs from FY 2019–20 to FY 2028–29, including the following four major categories of projects needed to support WETA's existing regional program of public transit services and planned expansion projects:

- **Revenue Vessels:** Approximately $422.7 million is planned for rehabilitation, replacement, and expansion of WETA's ferry vessel fleet, which will consist of a total of 33 revenue vessels by FY 2028–29.
- **Major Facilities Rehabilitation and Replacement:** Approximately $44.9 million is planned for rehabilitation and replacement of WETA ferry terminals, maintenance facilities, and berthing facilities, as well as related dredging activities.
- **Terminal Expansion:** Approximately $111.2 million is planned for the completion of the Central Bay Operations and Maintenance Facility, the downtown San Francisco Ferry Terminal Expansion project, and construction of the new Mission Bay Ferry Terminal, Berkeley Ferry Terminal, and Redwood City Ferry Terminal.
- **Capital Equipment/Small Projects:** Approximately $5.6 million is planned for the operations and maintenance of non-revenue vehicles and for maintenance of miscellaneous terminal projects.

Chapter 6 also describes the capital reserve of $10 million, which is set aside to support unanticipated capital repairs of major systems components. Tables in chapter 6 provide a

high-level summary of each type of capital expense. A more detailed version of the ten-year CIP is presented in appendix A.

1.2.6 Other Requirements

Chapter 7 summarizes some of the additional information that MTC requires in each SRTP. In particular, it shows the status of each WETA project that is a part of the Regional Transit Expansion Program (also known as MTC Resolution 3434 projects) and presents information about WETA's activities related to environmental justice and public involvement.

1.2.7 Future Expansion Services

Chapter 8 discusses WETA's activities to plan future ferry services beyond those listed within the ten-year Operating Plan. The chapter describes the status of potential expansion routes for which some level of formal planning has been initiated but which are not currently expected to be ready to commence design, construction, or operations within the ten-year planning horizon of the SRTP. These projects may be able to move forward in the planning process within the next ten years, but at this time it is not possible to predict when market demand and available funding will make construction and operation of the services financially feasible.

2 OVERVIEW OF TRANSIT SYSTEM

2.1 BRIEF HISTORY

In October 1999 the California state legislature formed the San Francisco Bay Area 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. The enabling legislation (Senate Bill 428) directed the WTA to prepare an Implementation and Operations Plan (IOP) in order to evaluate the ridership demand, cost effectiveness, and environmental impact of an expanded water transit system. In July 2003 the state legislature approved this plan and authorized the WTA to operate a comprehensive public water transit system of ferries, feeder buses, and terminals.

Effective 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 (WETA). This new regional 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. Under SB 976, WETA was directed to assume control over publicly operated ferries in the Bay Area, except those owned and operated by the Golden Gate Bridge Highway and Transportation District. Senate Bill 1093 was subsequently adopted by the state legislature to clarify the transition of existing City of Alameda and City of Vallejo services to WETA, and a Transition Plan was developed and adopted by the WETA Board of Directors in 2009.

In October 2010 the Alameda City Council and WETA Board adopted the transition agreement for the Alameda/Oakland and Alameda Harbor Bay services. The transition was completed in April 2011, transforming WETA into a transit operating entity. In October 2011 the Vallejo City Council and WETA Board adopted the transition agreement for the Vallejo service. Transition of the Vallejo Service was completed in July 2012. In addition to operating the three routes transitioned from the cities of Alameda and Vallejo, WETA initiated its first expansion service to South San Francisco in June 2012 and its second expansion service to Richmond in January 2019.

All ferry services operated by WETA—including the five routes with regularly scheduled service and ballpark and other special event services—are collectively branded and marketed as “San Francisco Bay Ferry.”

2.2 GOVERNANCE

As directed by SB 976 and as amended by SB 1093, the WETA Board comprises five members. Members of the Board are appointed as follows:

- Three members (including the chair and vice chair) are appointed by the governor, subject to confirmation by the Senate.
- One member is appointed by the Senate Committee on Rules.
- One member is appointed by the speaker of the Assembly.

Each Board member has one vote and is appointed for a term of six years. The Board holds regular meetings once a month and additional meetings as required. Its meetings are subject to

public notice and are open to the public. As of January 1, 2020, the WETA Board of Directors consists of the following members:

- Governor's Appointee, Chair: James Wunderman
- Governor's Appointee, Vice Chair: vacant
- Governor's Appointee: Anthony J. Intintoli, Jr.
- Senate Committee on Rules Appointee: Jeff DelBono
- Speaker of the Assembly Appointee: Nicholas Josefowitz

2.3 ORGANIZATIONAL STRUCTURE

2.3.1 Management and Staff

WETA staff consists of seventeen regular employees including the executive director, as shown in the organizational chart in Figure 2-1. The agency is divided into four departments including Operations and Maintenance, Public Information and Marketing, Planning and Development, and Finance and Administration. The current responsibilities of WETA staff include the following:

- Planning for existing service operations and facilities as well as potential future service expansion.
- General agency administration, including identifying, securing, and managing funding for existing and new services.
- Management and administration of system operating and maintenance service contractors and system facilities and assets.
- Customer service support and marketing the ferry system.
- Planning and implementing emergency response and disaster recovery efforts.

2.3.2 Contracted Transportation Services

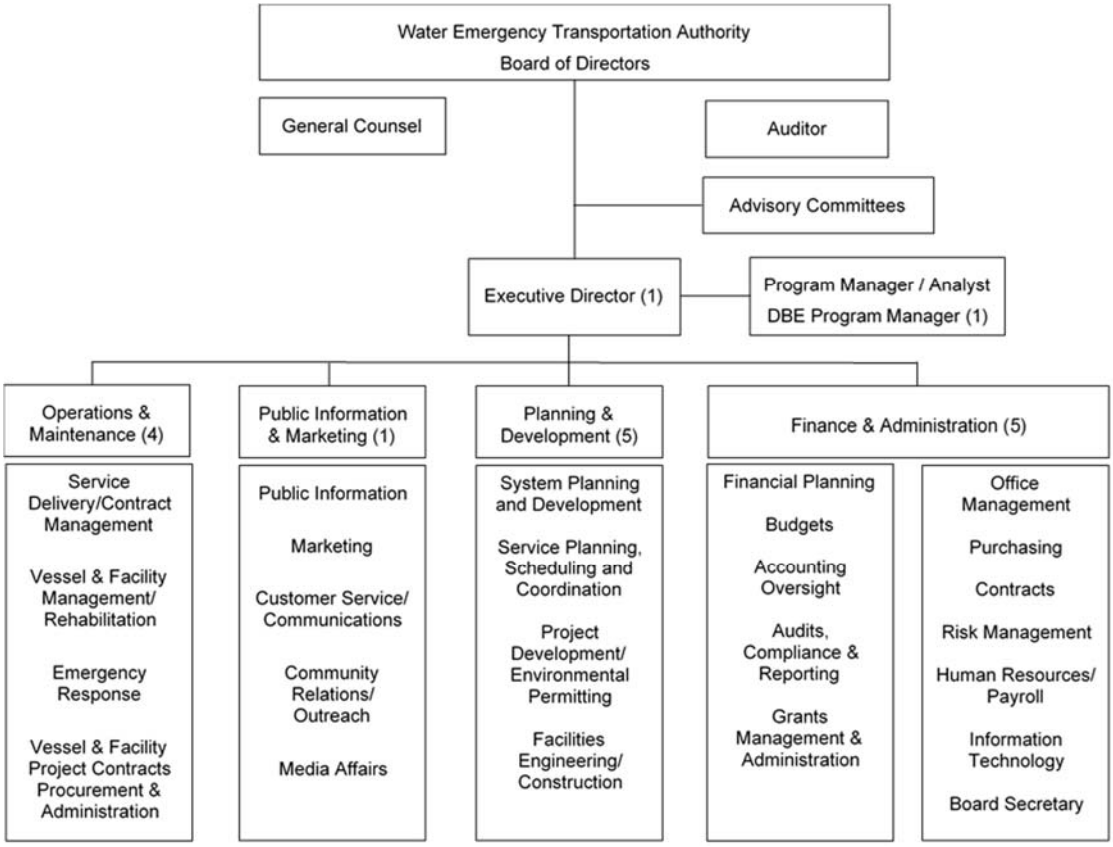
WETA currently contracts with a third-party entity for the daily operations and maintenance of its vessel fleet and facilities. Essential duties of WETA's contract operator include vessel operations and basic maintenance; equipment and facilities management; terminal operations; communications, dispatching, and notification systems; provision of fueling and lubricants; fare collection; and delivery of on-board services such as food and beverage sales. In 2012 WETA awarded a five-year contract for system operations and maintenance to Blue & Gold Fleet. This contract was extended by five additional years, for a total of ten years, by WETA; it will expire in 2022. While WETA plans to continue contracting for its system operations and maintenance, staff will periodically assess the potential advantages of directly providing for some or all of these responsibilities.

2.3.3 Labor Union Representation

WETA employees are not represented by labor unions. Labor unions do represent Blue & Gold Fleet employees as follows:

- International Organization of Masters, Mates & Pilots (MM&P): Represents captains in WETA vessels, engineers, and maintenance workers.
- Inlandboatmen's Union of the Pacific (IBU): Represents deckhands on WETA vessels.

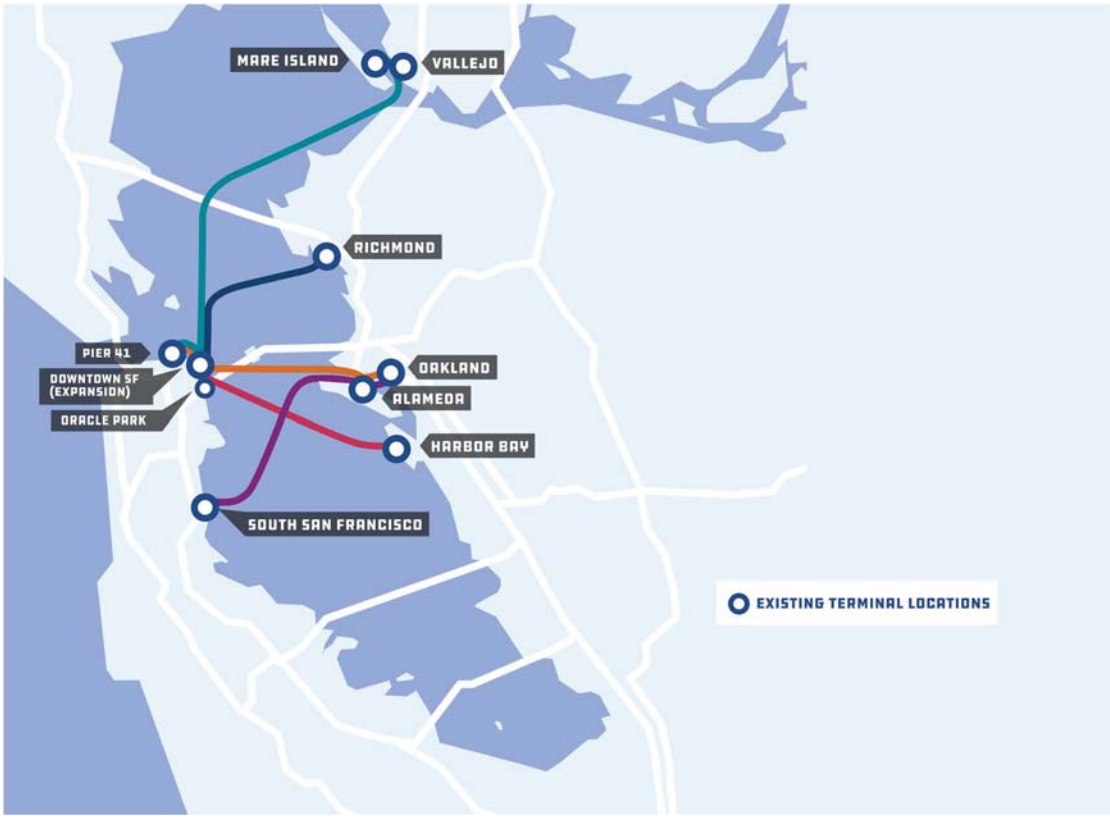
Figure 2-1 WETA Organizational Chart



2.4 DESCRIPTION OF SERVICES

WETA operates five ferry routes on San Francisco Bay, providing transbay service from the East Bay and North Bay to San Francisco and from the East Bay to South San Francisco. Figure 2-2 illustrates the existing routes within the WETA system.

Figure 2-2 San Francisco Bay Ferry Existing Services



2.4.1 Alameda/Oakland Ferry Service

The Alameda/Oakland Ferry Service was started after the Loma Prieta Earthquake on October 17, 1989, in direct response to the collapse of a section of the San Francisco–Oakland Bay Bridge and the nearly month-long closure that followed. In May 2011 the responsibility and ownership of the Alameda/Oakland service was transferred from the City of Alameda to WETA.

The Alameda/Oakland provides all-day weekday and weekend service between the Alameda Main Street and Oakland terminals in the East Bay and the downtown San Francisco Ferry Terminal and San Francisco Pier 41 Terminal. Local "Short Hop" service is provided between Alameda and Oakland and between downtown San Francisco and Pier 41. Special event service is provided to Oracle Park/China Basin terminal for select San Francisco Giants games and other events. New special event service for select Warriors games and concerts from Alameda/Oakland to a temporary facility at Pier 48 1/2 near the Chase Center began in late 2019. The Alameda/Oakland service had an annual ridership of approximately 1,384,000 in FY 2018–19. Figure 2-3 summarizes the Alameda/Oakland service.

Figure 2-3 Alameda/Oakland Route Description

Terminals	Service Hours	Transit Time
Year-Round		
Oakland Alameda Main Street San Francisco downtown Ferry Terminal San Francisco Pier 41	**May through October** Weekdays: 6:00 AM to 10:00 PM Weekends: 8:55 AM to 11:00 PM **November through April** Weekdays: 6:00 AM to 10:00 PM Weekends: 9:45 AM to 7:40 PM	20–30 minutes
Special Event		
Oracle Park/China Basin	One roundtrip for weekday (night) and weekend San Francisco Giants games; Return-trip only for weekday (day) games; other events, as scheduled.	20 minutes
Chase Center	Round trip for events, as scheduled.	20 minutes

2.4.2 Alameda Harbor Bay Service

The Alameda Harbor Bay Ferry Service began service in March 1992 in conjunction with development of Harbor Bay Island near the Oakland International Airport. In January 2012 the responsibility and ownership of the Harbor Bay service was transferred from the City of Alameda to WETA.

The Alameda Harbor Bay Ferry Service provides commute-only weekday service between the Alameda Harbor Bay Terminal and the downtown San Francisco Ferry Terminal. A pilot program for weekday commute service between Alameda Harbor Bay and the South San Francisco Terminal began in 2018. The Alameda Harbor Bay service had an annual ridership of approximately 355,700 in FY 2018–19. Figure 2-4 summarizes the Alameda Harbor Bay Ferry Service.

Figure 2-4 Alameda Harbor Bay Route Description

Terminals	Service Hours	Transit Time
Year-Round		
Alameda Harbor Bay San Francisco Downtown Ferry Terminal	Weekdays: 6:30 AM to 9:30 AM and 4:35 PM to 8:00 PM Weekends: None	25 minutes
Pilot Program		
South San Francisco Alameda Harbor Bay	Weekdays: 8:30 AM to 8:55 AM and 6:30 PM to 6:55 PM Weekends: None	25 minutes

2.4.3 Vallejo Ferry Service

The Vallejo ferry service began operations in 1986 with limited commuter ferry service to San Francisco and midday service from San Francisco to Marine World/Vallejo. In July 2012 the responsibility and ownership of the Vallejo service was transferred from the City of Vallejo to WETA.

The Vallejo service provides all-day weekday and weekend service between Mare Island, Vallejo terminal, downtown San Francisco Ferry Building and San Francisco Pier 41 terminal. Local "Short Hop" service is provided between downtown San Francisco and Pier 41 and between Mare Island and Vallejo. Special event service is provided to Oracle Park/China Basin for select San Francisco Giants games and other events. The Vallejo service had an annual ridership of approximately 1,078,000 in FY 2018–19. Figure 2-5 summarizes the Vallejo service.

Figure 2-5 Vallejo Route Description

Terminals	Service Hours	Transit Time
Year-Round		
Mare Island Vallejo San Francisco downtown Ferry Terminal San Francisco Pier 41	**May through October** Weekdays: 5:10 AM to 9:30 PM Weekends: 8:10 AM to 10:15 PM **November through April** Weekdays: 5:10 AM to 9:30 PM Weekends: 10:00 AM to 8:30 PM	60–70 minutes
Special Events		
Oracle Park/China Basin	One round trip for weekday (day) and weekend games; return-trip only for weekday (night) games; other events as scheduled.	60 minutes

2.4.4 South San Francisco Ferry Service

The South San Francisco Ferry Service was launched by WETA in June 2012 and provides commute-only weekday service between the Alameda Main Street and Oakland terminals in the East Bay and the South San Francisco terminal at Oyster Point. The limited midday service between the South San Francisco terminal and downtown San Francisco Ferry terminal was discontinued in 2018 due to low ridership. The South San Francisco service had an annual ridership of approximately 142,400 in FY 2018–19. Figure 2-6 summarizes the South San Francisco ferry service.

Figure 2-6 South San Francisco Route Description

Terminals	Service Hours	Transit Time
Year-Round		
Oakland Alameda Main Street South San Francisco	Weekdays: 6:25 AM to 8:50 AM 4:20 PM to 7:50 PM Weekends: None	35–40 minutes

2.4.5 Richmond Ferry Service

The Richmond Ferry Service was launched by WETA in January 2019; it provides commute-only weekday service between the Richmond terminal and the downtown San Francisco Ferry terminal. In August 2019 WETA added a summer weekend pilot service between the Richmond terminal and the downtown San Francisco Ferry Terminal. The Richmond service had a ridership of approximately 200,300 during its first twelve months of operation. Figure 2-7 summarizes the Richmond Ferry Service.

Figure 2-7 Richmond Route Description

Terminals	Service Hours	Transit Time
Year-Round		
Richmond San Francisco downtown Ferry Terminal	Weekdays: 6:10 AM to 9:15 AM and 4:30 PM to 7:45 PM	30–35 minutes
2019 Summer Pilot Program		
Richmond San Francisco downtown Ferry Terminal	Weekends: 9:30 AM to 11:45 AM and 12:30 PM to 8:55 PM	35 minutes

2.4.6 Paratransit

Under the Americans with Disabilities Act (ADA), requirements for complementary paratransit do not apply to ferry service. As stated in Section 37.121(c) of the ADA, the requirement for complementary paratransit service applies to all fixed-route bus and rail transit service; however, ferries, commuter buses, commuter rail, and intercity rail are exempt. WETA is required to comply with ADA requirements for general nondiscrimination, complaint handling, facility design, vehicle acquisition, and provision of service as a grantee of the U.S. Department of Transportation.

2.4.7 Terminal Access: Connecting Transit Services and Bicycle Facilities

As shown in figure 2-8, WETA terminals are accessible via connecting service and transfer agreements with other transit operators at WETA terminal facilities. As detailed in section 2.5, all WETA vessels have bicycle racks and additional space for passengers standing with bicycles. Passengers wishing to leave their bicycles at the terminal can use bicycle racks and lockers to the extent available, as described further in figure 2-11.

Figure 2-8 Connecting Transit Services

WETA Terminal	Connecting Service	Routes	Transfer Agreement
Alameda Main Street	None	None	None
Harbor Bay	• AC Transit • Harbor Bay Business Park Shuttle	AC Transit: • Line 21 Harbor Bay Business Park Shuttle provides weekday commute-only service between Harbor Bay ferry terminal, Harbor Bay Business Park, and BART.	• AC Transit & WETA offer a $2.25 Adult and a $1.10 Youth/Senior//RTC discount for Clipper users transferring between AC Transit and WETA services.
Oracle Park	• SFMTA • Caltrain (4th & King Station)	SFMTA: • K-Ingleside/ T-Third Street • N-Judah • 10-Townsend • 30-Stockton • 45-Union/Stockton • 47-VanNess	• SFMTA & WETA offer a $0.50 Adult discount for Clipper users transferring between SFMTA and WETA services.
Oakland Jack London Square	• AC Transit • Amtrak • Broadway B Shuttle	AC Transit: • Line 11 • Line 58 • Line 59 • Line 72 • Line 73	• AC Transit & WETA offer a $2.25 Adult and a $1.10 Youth/Senior/RTC discount for Clipper users transferring between AC Transit and WETA services. • Broadway B shuttle is free.
Richmond	• AC Transit	AC Transit: • Line 74	• AC Transit & WETA offer a $2.25 Adult and a $1.10 Youth/Senior/RTC discount for Clipper users transferring between AC Transit and WETA services.
San Francisco Ferry Terminal	• SFMTA • BART (Embarcadero Station) • Golden Gate Ferry	SFMTA: • F-Market & Wharves • California Cable Car • Muni Metro @Embarcadero • 82X-Presidio Express • 2-Clement • 7-Haight • 9-San Bruno • 12-Folsom • 21-Hayes • 71-Haight/Noriega • 14-Mission •14L •14X • 31-Balboa	• SFMTA & WETA offer a $0.50 Adult discount for Clipper users transferring between SFMTA and WETA services

WETA Terminal	Connecting Service	Routes	Transfer Agreement
San Francisco Pier 41	• SFMTA • Blue & Gold Fleet (B&GF) to Sausalito and Tiburon	SFMTA: • F-Market & Wharves • Powell-Mason-Hyde Cable Car • 19-Polk • 30-Stockton • 39-Coit • 47-VanNess • 49-VanNess/Mission	• SFMTA & WETA offer a $0.50 Adult discount for Clipper users transferring between SFMTA and WETA services.
South San Francisco	• Employer Shuttles • Commute.org shuttles	• Employer shuttles & Commute.org shuttles transport employees to/from ferry to employment sites, Oyster Point Business Park, Sierra Point & SSF Caltrain • SFO Ferry Connector Bus offers weekday commute-only service between South San Francisco Ferry and SFO International Airport.	• Employer shuttles only available to company employees. • Commute.org shuttles and SFO Connector are open to general public and free of charge.
Vallejo	• SolTrans • Vine Transit	SolTrans: • Local Routes 1-8, Red Line and Yellow Line • Express Routes 82 VINE Transit: • Route 11-N Vallejo/Redwood PNR • Route 11X- Napa Vallejo Express	• SolTrans & WETA offer a $2.00 Adult, $1.75 Youth, and a $1.00 Senior/RTC discount for Clipper users transferring between SolTrans and WETA services.

2.4.8 Fare Structure

The WETA Board adopted a fare policy in November 2011 that was designed to both support system cost recovery and promote ridership. The policy encourages developing and maintaining a system of fares that maximizes ridership while maintaining target farebox recovery rates and formally articulates the following seven policy principles:

- **System cost recovery**
  - Meet farebox recovery requirements
  - Consider local contributions
  - Maintain operating cost recovery
  - Adjust fares annually
  - Fare surcharge for unanticipated expenses
- **Promote ridership**
  - Provide frequent-rider discounts
  - Offer other fare incentives

In November 2013 staff began a study to assess WETA's current fare structure and identify a program of changes to foster greater consistency. The fare program modifications proposed as a result of this work achieved specific objectives consistent with WETA's fare policy and the

overall objectives of achieving fiscal sustainability and system-wide consistency. The fare program goals were as follows:

- **Standardize Fare Categories:** Define a uniform set of fare categories and related eligibility criteria for all WETA services that were consistent with regional standards.
- **Establish Common Fare Products** – Identify a common set of fare products for all WETA services.
- **Streamline Fare Offerings:** Consider the elimination of certain products based on utilization, redundancy with other products, fraud vulnerability, ease of sale and distribution, and promote Clipper use.
- **Promote Consistent Discount Pricing:** Establish standard discount rates for fare categories and fare products offered by WETA, including frequent riders, youth, senior, disabled, and group fares/fare products.
- **Provide a Multi-Year Fare Increase Program:** Develop a planned set of regular fare increases over a multi-year period that would generally allow revenues to keep pace with the anticipated inflation of operating costs while minimizing impacts to ridership.

The WETA Board approved its FY 2015–2020 Fare Program in September 2014, which established consistent fare categories, streamlined fare products, promoted consistent discount pricing, and provided for an annual fare increase of 3 percent. WETA implemented the following fare changes for passengers on November 1, 2014. The Youth fare eligibility was expanded from 5–12 to 5–18 years of age, and the discount was expanded from 44 percent to 50 percent of the Adult cash fare. The Active Military fare category was eliminated, but a more robust Adult discount was provided through the Clipper Program. The 10-ticket, 20-ticket, and 40-ticket books were discontinued, but a discount comparable to that of the 20-ticket book was provided through the Clipper Program. The School Group fare was set at 66 percent off the Adult cash fare. The first annual 3 percent fare increase (rounded to the nearest dime) took effect on July 1, 2015.

Figure 2-9 shows the WETA fare structure effective July 2019. The current fare program will end in FY 2020. WETA is developing a new fare program that will consider WETA's fare policy, the outcome of the FY 2015–2020 fare program, and current regional efforts concerning transit fares, such as Clipper 2.0.

To improve customer experience and increase efficiency of ticket sales, WETA developed a mobile ticketing platform that allows riders to use their cell phones to purchase tickets for the ferry. WETA selected Hopthru through a procurement process to host and maintain the mobile ticketing application. In October 2019 WETA began selling ferry tickets through Hopthru. Visitors and other infrequent riders who do not have Clipper Cards are the primary users of Hopthru. Mobile ticketing accounts for 3 percent of overall system-wide ticket sales. Mobile ticketing sales grow significantly on holidays and weekends during the summer months, when they average 25 percent of system-wide ticket sales due to the high number of visitors and tourists.

Figure 2-9 WETA Fares FY 2019–20

	Alameda/ Oakland	Alameda Harbor Bay	South San Francisco	Vallejo	Richmond
One-Way	Standard	Standard	Standard	Standard	Standard
Adult	$7.20	$7.50	$9.40	$15.10	$9.30
Adult (Clipper Only)	$5.40	$5.60	$8.10	$11.30	$7.00
Youth (5-18 yrs.)	$3.60	$3.70	$4.70	$7.50	$4.60
Senior/Disabled/Medicare (65+ valid ID) [1]	$3.60	$3.70	$4.70	$7.50	$4.60
Children (under 5 with paying adult)	Free	Free	Free	Free	Free
School Groups [2]	$2.40	$2.50	$3.10	$5.00	$3.10
Short Hop - Adult [3]	$1.70	N/A	$1.70	$1.70	N/A
Short Hop - Youth/Senior/Disabled [3]	$0.80	N/A	$0.80	$0.80	N/A
Monthly Pass	N/A	N/A	N/A	$388.00	N/A
Oracle Park / Chase Center Event Services (one-way)	Special [4]	No Service	No Service	Special [5]	No Service
Adult	$9.60	N/A	N/A	$15.90	N/A
Youth (5-18 yrs.)	$7.20	N/A	N/A	$11.80	N/A
Senior/Disabled/Medicare (65+ valid ID) [1]	$7.20	N/A	N/A	$11.80	N/A
Children (under 5 with paying adult)	Free	N/A	N/A	Free	N/A

1. Seniors, persons with disabilities and Medicare cardholders may ride at a discount if they hold a Regional Transit Connection Discount Card, Medicare card, DMV Disabled Placard ID, or proof of age 65 or older.
2. To qualify, school groups must call (415) 705-8214 for advance approval and reservations.
3. One-way between Oakland and Alameda or between the SF Ferry Building and Pier 41 or between Mare Island and Vallejo.
4. Service between Oracle Park and Alameda-Oakland. Also, service between Chase Center and Alameda-Oakland began in October 2019.
5. Service between Oracle Park and Vallejo. There is no service between Chase Center and Vallejo.

2.5 REVENUE FLEET

The WETA fleet currently consists of fifteen vessels, fourteen of which are in active service and one that was retired at the end of 2019 and is yet to be replaced. Two vessels are under construction and will be added to the fleet in 2020. All vessels have capacity for bike and at least four mobility devices and can accommodate additional devices on a case-by-case basis. Vessel capacity and other key attributes are detailed in figure 2-10.

Figure 2-10 WETA Vessel Fleet

No.	Vessel	Year Built	Passenger Capacity	Bike Capacity	Service Speed (Knots)
1	Bay Breeze	1994	250	50	26
2	Intintoli	1996	349	30	34
3	Mare Island	1996	330	30	34
4	Peralta	2001	331	50	26
5	Solano[1]	2004	320	30	34
6	Gemini	2008	225	50	26
7	Pisces	2009	225	50	26
8	Scorpio	2009	225	50	26
9	Taurus	2010	225	50	26
10	Hydrus	2017	400	50	27
11	Cetus	2017	400	50	27
12	Argo	2018	400	50	27
13	Carina	2018	400	50	27
14	Pyxis	2019	445	30	34
15	Vela	2019	445	30	34
16	Lyra	2020	445	30	34
17	Dorado[2]	2020	300	37	30

1. Solano was retired in December 2019 and will be replaced by 2022.

2. Dorado is scheduled to be delivered and operational in mid 2020.

2.6 EXISTING FACILITIES

Figure 2-11 provides a summary of the WETA system facilities. As noted in the figure, some of the facilities WETA uses are owned and maintained by other entities.

Figure 2-11 Existing WETA Facilities

No.	Facility	Year Built	Location	Features	Bike Racks/ Lockers	Vehicle Parking
1	San Francisco Pier 41	1981	Pier 41, San Francisco, CA 94133	Four slips owned by the Port of SF, leased to Blue & Gold Fleet and licensed for use by Blue and Gold Fleet, WETA's contract operator.	10 / 0	0 [1]
2	Alameda Main Street Terminal	1990	2990 Main Street, Alameda, CA 94501	One berthing slip, covered passenger waiting area, restrooms. The City of Alameda retains ownership of landside facilities; WETA owns waterside facilities including floats and gangways.	106 /12	445
3	Oakland Terminal	1990	10 Clay Street, Oakland, CA 94607	Two berthing slips, covered passenger waiting area, public access pier. The Port of Oakland retains ownership of landside facilities and pier; WETA owns waterside facilities including floats and gangways.	8 / 0	1000 [2]
4	Alameda Harbor Bay Terminal	1992	215 Adelphian Way, Alameda, CA 94502	Two berthing slips, covered passenger waiting area, restrooms. The City of Alameda retains ownership of landside facilities; WETA owns waterside facilities including floats and gangways.	7 / 16	250
5	Vallejo Terminal	1999	289 Mare Island Way, Vallejo, CA 94590	Two berthing slips, bus loading zone, covered passenger waiting areas, ticket sales outlet, restrooms. The City of Vallejo retains ownership of landside facilities; WETA owns waterside facilities including floats and gangways.	12 / 16	1,786 [3]
6	Oracle Park/China Basin Terminal	2000	24 Willie Mays Plaza, San Francisco, CA 94107	One berthing slip. The Port of San Francisco owns all landside and waterside facilities, which are licensed for use by WETA.	20 /0	0
7	Downtown San Francisco Ferry Terminal – Gate B	2003	1 Ferry Building, San Francisco, CA 94105	Two berthing slips and one bus loading zone licensed for WETA use by the Port of San Francisco. The Port of San Francisco owns all landside and waterside facilities, which are licensed for use by WETA.	0 / 0	0
8	San Francisco WETA Administrative Office	2011	Pier 9, Suite 111, The Embarcadero, San Francisco, CA 94111	Administrative offices and two layover berths (no passenger loading). The pier and office facility is owned by the Port of San Francisco and leased to WETA; WETA owns waterside facilities including floats and gangways.	0 / 0	Not Applicable

No.	Facility	Year Built	Location	Features	Bike Racks/ Lockers	Vehicle Parking
9	South San Francisco Terminal	2012	911 Marina Boulevard, South San Francisco, CA 94080	Two berthing slips, covered passenger waiting area, pier, restrooms. The San Mateo County Harbor District retains ownership of landside facilities; WETA owns waterside facilities including floats and gangways.	12 / 12	35
10	Mare Island Terminal North Bay Operations and Maintenance Facility	2016	1050 Nimitz Ave, Vallejo, CA 94592	Passenger terminal and Operation and maintenance base for serving Vallejo. WETA owns landside and waterside facilities, including floats and gangways. WETA leases the land from Lennar/Mare Island.	15 / 0	Shared [4]
11	Downtown San Francisco Ferry Terminal - Gates E, F, G	2020	1 Ferry Building, San Francisco, CA 94105	Six berthing slips. This is the principal terminal for downtown SF WETA services. WETA owns all waterside facilities. Landside facilities are licensed for use by WETA from Port of San Francisco.	0/0	0
12	Central Bay Operations and Maintenance Facility	2018	670 West Hornet Ave, Alameda, CA 94501	Operations and maintenance base serving Alameda, Oakland, Harbor Bay, San Francisco, South San Francisco, and Richmond. Twelve berthing slips for overnight mooring. WETA owns landside and waterside facilities, including floats and gangways. WETA leases this property from City of Alameda.	10 / 0	Not Applicable
13	Richmond Terminal	2019	1453 Harbour Way South, Richmond, CA 94804	One berthing slip; enclosed passenger waiting area. WETA owns the waterside facilities including a float and gangway. WETA leases this property from City of Richmond.	8/12	327
14	Pier 48.5 – Chase Center Temporary Service	2019		One berthing slip. WETA owns the waterside facilities including a float and gangway. WETA leases the waterside property from Port of San Francisco.	0/0	0

[1] Public Parking is available at the Pier 39 Public Parking Garage and other Parking Garages in the Fisherman's Wharf area.

[2] These are public spaces. WETA has validation machines at the terminal that provide up to 12 hours of free parking for ferry riders.

[3] Parking is controlled by the City of Vallejo. There are 1,510 parking spaces in the Waterfront Lot including Vallejo Station Phase A and 276 spots in the recently completed interim lot.

[4] Shared with other users on Mare Island. There is no designated parking for ferry riders at the North Bay Operations and Maintenance Facility and Mare Island terminal.

3 GOALS, OBJECTIVES, AND STANDARDS

3.1 BACKGROUND

In developing this chapter, the agency revisited historical planning studies and the goals and metrics proposed in the agency's previous SRTP (FY 2016–25), as well as more recent planning efforts that inform WETA's overall strategic management approach, including the 2016 Strategic Plan.

3.2 MISSION AND VISION

In January 2016 the WETA Board adopted the following Mission Statement for the organization:

> WETA is a regional agency with responsibility to develop and operate a comprehensive Bay Area regional public water transportation system. WETA shall also provide water transportation services following natural and transportation disruptions.

At the same time, the Board approved a Vision Statement for how WETA will pursue its Mission:

> WETA 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 describe WETA's multiple functional roles in the regional transportation network.

3.3 GOALS AND OBJECTIVES

WETA's 2016 Strategic Plan defined how WETA will perform the functional roles in the regional transportation network by identifying key focus areas. The Strategic Plan also outlined goals and objectives for each of the focus areas, as shown in figures 3-1 through 3-6.

The 2016 Short Range Transit Plan (SRTP) adopted performance measures to address and track the efficiency and effectiveness of existing and expansion services, congruous with the goals and objectives set in the Strategic Plan. The adopted performance measures are described in section 3.4 and further assessed for existing services in chapter 4.

Figure 3-1 Goals, Objectives, and Focus Areas

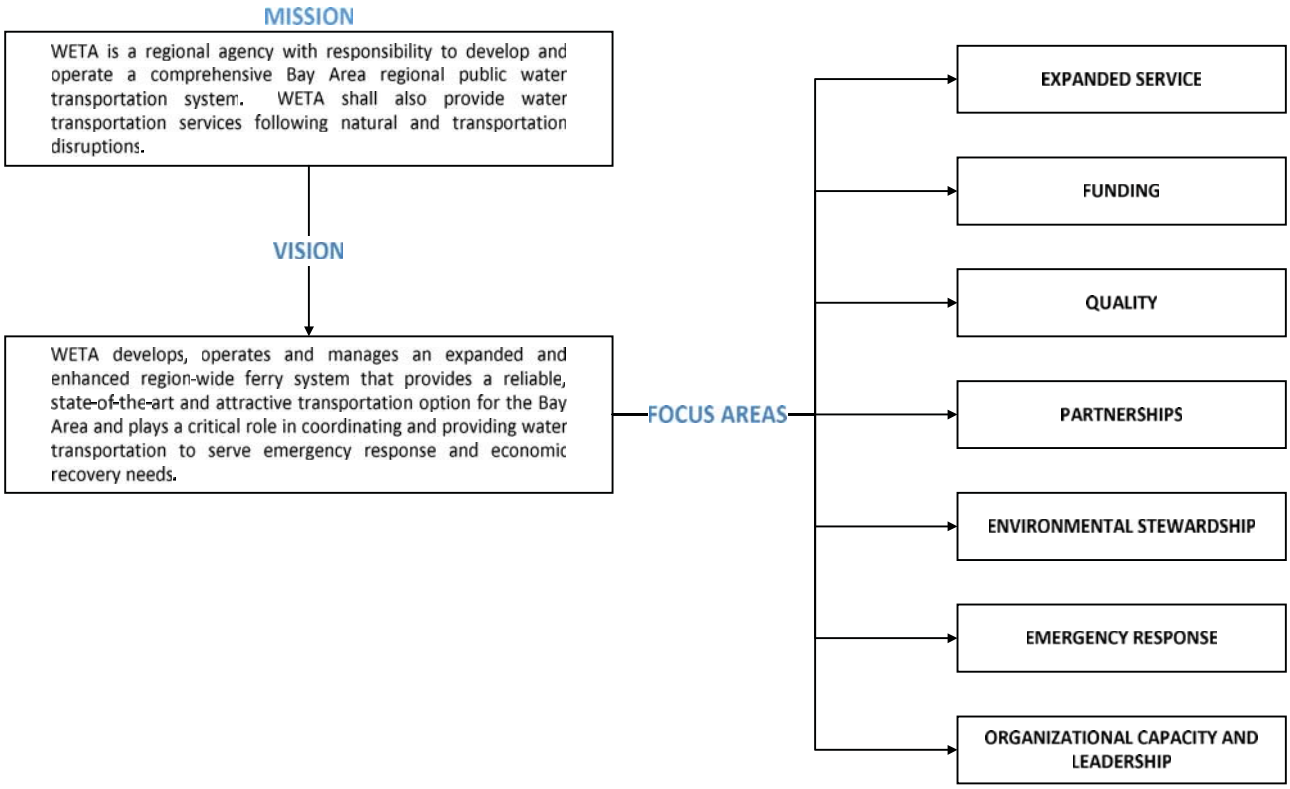


Figure 3-2 Expanded Service: Goals and Objectives

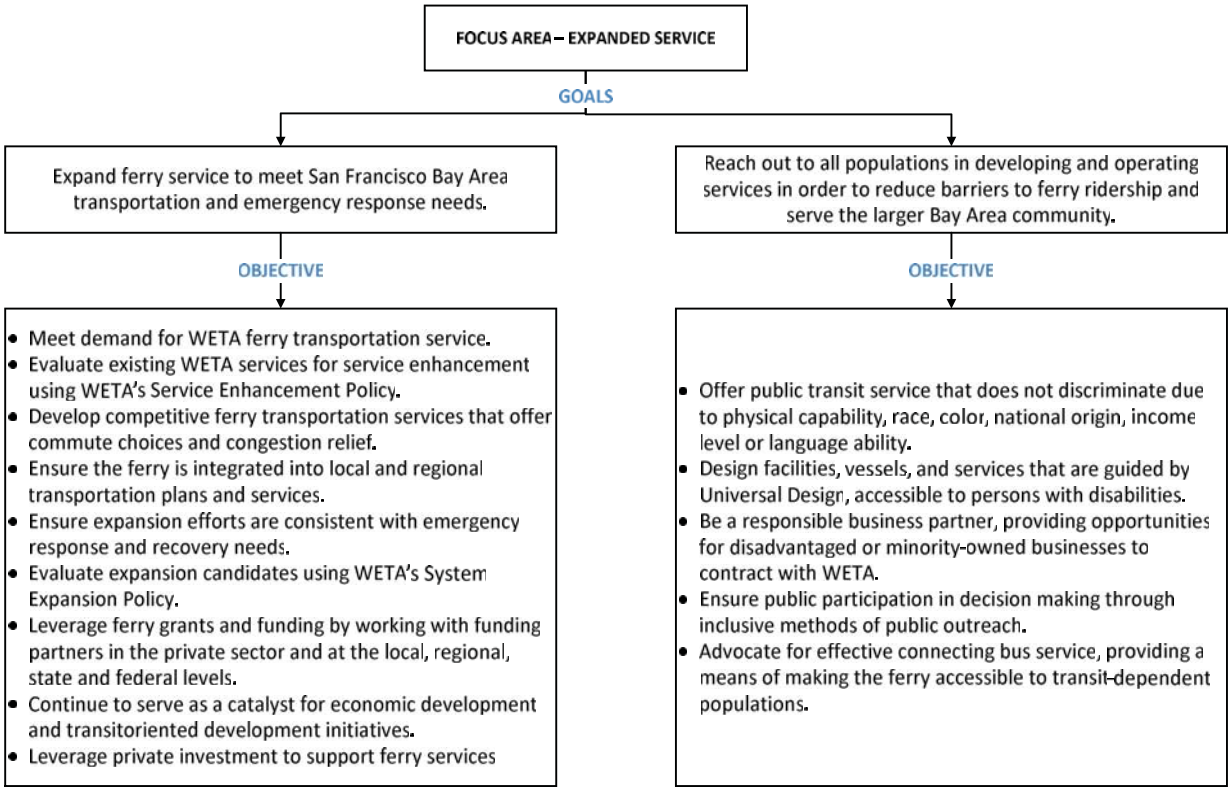


Figure 3-3 Funding: Goals and Objectives

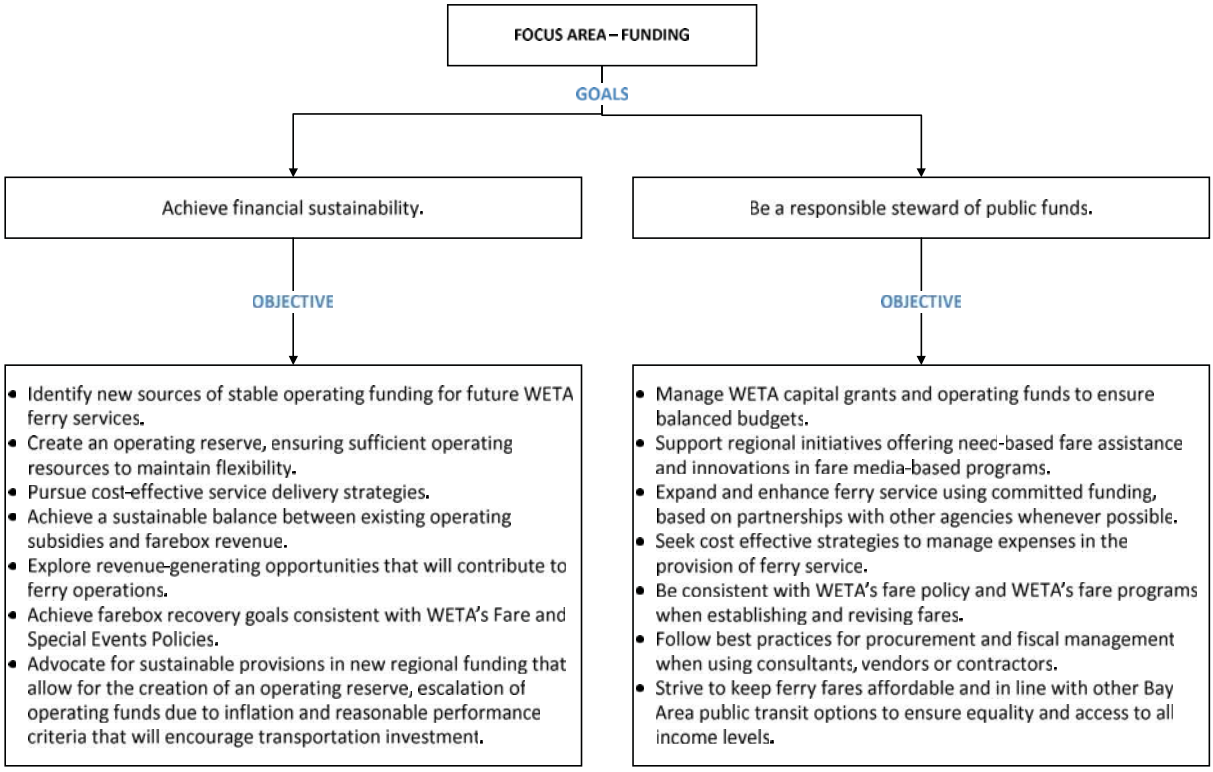


Figure 3-4 Quality: Goals and Objectives

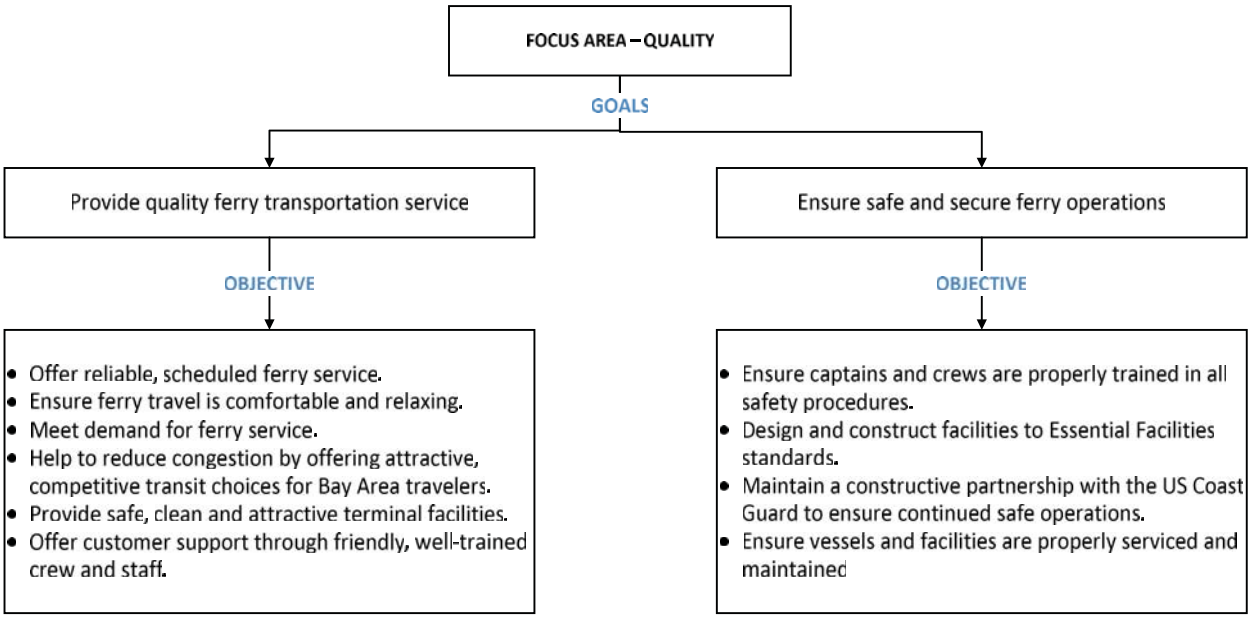


Figure 3-5 Environmental Stewardship: Goals and Objectives

FOCUS AREA – ENVIRONMENTAL STEWARDSHIP

GOALS

Seek continuous environmental improvement

OBJECTIVE

- Ensure vessels meet or exceed federal, state and regional emissions standards.
- Utilize proven technologies to improve environmental performance.
- Reduce automobile travel and congestion by maximizing ferry ridership.
- Encourage alternate mode access to ferry terminals by accommodating bicycles, transit and pedestrians.
- Build facilities that meet LEED standards for environmental efficiency, as applicable.
- Monitor sea level rise and plan for impact of climate change.

Figure 3-6 Emergency Response: Goals and Objectives

FOCUS AREA – EMERGENCY RESPONSE

GOALS

Effectively manage the waterborne transportation response to natural disasters and disruptions to the Bay Area's transportation network.

OBJECTIVE

- Actively maintain and update WETA's Emergency Response Plan.
- Build emergency response capability in conjunction with WETA's enhancement and expansion of transit service.
- Increase the size and capacity of WETA's fleet to absorb surges in ridership due to emergency response and recovery needs or disruption in Bay Area transportation.
- Ensure WETA terminals have sufficient capacity for emergency response operations.
- Develop maintenance and fueling facilities that support emergency response activities.
- Develop emergency preparedness partnerships with public safety officials and transportation operators at the federal, state and regional level.
- Maintain training programs and participate in regional joint exercises to ensure WETA and contract operator staff are prepared for emergency operations.
- Communicate WETA's emergency response capabilities and resource needs to key participants and stakeholders in the emergency response community.

3.4 PERFORMANCE MEASURES AND STANDARDS

3.4.1 System-Wide Performance Targets Policy

Transit system performance measures help provide a consistent framework for measuring the efficiency and quality of transit services and also serve as a tool for the effective management and planning of transit services. In June 2015 the WETA Board developed and adopted a policy[1] for managing the ferry system on a regular basis, using a set of performance measures and related standards for WETA services. The System Performance Targets Policy calls for ferry service to be evaluated against the adopted metrics on a quarterly and annual basis, and for service enhancements to be planned in such a way that performance on existing services is not significantly impaired.

Each of the performance measures defined in the policy includes a minimum value, target value, and maximum value. Services will be managed toward the target, but it is understood that performance fluctuates over time; the minimum and maximum values define a range of acceptable outcomes to allow for variability around the target. The maximum value represents a trigger that will justify new or enhanced service for routes that experience an excess of demand. While service enhancements such as increased frequency or larger vessels provide additional capacity for passengers, they also reduce the productivity of a service for a period of time until the new service or capacity created attracts new riders. Therefore, after an enhancement in service, it may take some time for a service to return to minimum or target levels of productivity.

The performance targets policy establishes minimum levels of performance to provide a goal for expansion projects and also as a threshold of fiscal sustainability for existing services. In the case of a service drop below the minimum standards for a sustained period of time, WETA shall consider service alterations such as cutting service, redesigning schedules, or restructuring routes. WETA will strive to design any remedial actions to minimize effects on passengers and will hold its mission as an emergency response agency above all whenever services are redesigned.

3.4.2 Performance Measures and Standards

The performance evaluation measures from the System Performance Targets Policy and the associated minimum, target, and maximum standards for WETA services are summarized in figure 3-7 and described in more detail below. The performance measures are intended to evaluate the competitiveness and fiscal sustainability of both existing and new WETA ferry services. The measures are expressed in three ways: minimum, target, and maximum (as applicable). Minimum levels are what will be required after the initial ten years of operation. Target levels are consistent with expected performance of mature services such as Alameda/Oakland, Vallejo, and Harbor Bay. When a particular service achieves maximum levels, this indicates that a service enhancement or increase may be justified. After a service enhancement has been introduced, there will be a four-year recovery period, allowing the service to regain minimum and target levels of productivity.

[1] WETA System Performance Targets Policy, adopted June 4, 2015.

Figure 3-7 Summary of Performance Measures and Standards

Measure	Standard
Passengers per Revenue Hour (Commute-only services)	Minimum: 100 Target: 150 Maximum: 250
Passengers per Revenue Hour (All-day services)	Minimum: 100 Target: 125 Maximum: 250
Farebox Recovery	Minimum: 40% Target: 50-70% Maximum: 100%
Peak Hour Occupancy	Minimum: 50% Target: 60-75% Maximum: 80%

Passengers per Revenue Hour: Commute-Only Services

Measures: Ratio of total passenger boardings to total revenue service hours

Standard: *Minimum:* 100

Target: 150

Maximum: 250

Discussion: This measure provides an evaluation of ridership and the efficiency of operating resources. Services that have high two-way ridership along with a short travel time, enabling vessels to offer multiple runs in a given commute period, will be strong performers.

Passengers per Revenue Hour: All-day services

Measures: Ratio of total passenger boardings to total revenue service hours

Standard: *Minimum:* 100

Target: 125

Maximum: 250

Discussion: This measure provides an evaluation of ridership and the efficiency of operating resources. All-day services typically operate seven days per week, generally from 6:00 AM to 8:00 PM. Currently, only Alameda/Oakland and Vallejo are all-day services. The target for Passengers per Revenue Hour is slightly lower, given lower volumes in the midday and off-peak periods.

Farebox Recovery

Measure: Ratio of total fare revenue to total operating cost

Standard: *Minimum:* 40%

Target: 50–70%

Maximum: 100%

Discussion: The farebox recovery ratio reflects ridership and fare levels, operating expense, and financial sustainability. This illustrates service effectiveness, efficiency, and productivity. Note that for special event services, WETA's objective is to recover the full incremental cost of this discretionary service through farebox or other special revenues identified for the event.

Peak Hour Occupancy

Measure: Ratio of the number of boardings to available vessel capacity, measured for all peak direction departures during the highest ridership hour of a given commute service

Standard: *Minimum:* 50%

Target: 60–75%

Maximum: 80%

Discussion: Peak hour occupancy indicates ridership demand and provides guidance for vessel deployment and service planning. High levels of peak hour occupancy indicate the possibility of leave-behinds or standees and would require corrective action.

4 SERVICE AND SYSTEM EVALUATION

4.1 SYSTEM-WIDE EVALUATION

In FY 2012–13 WETA began its first full year operating each of the three ferry services that were transitioned from the cities of Alameda and Vallejo to WETA over the course of 2011 and 2012. WETA began a new service to South San Francisco in June 2012, which has now been in operation for six full fiscal years. WETA also began a new service to Richmond in January 2019. This chapter provides an overview of system-wide changes, service levels, ridership, expenses, revenues, and performance metrics from FY 2015–16 through FY 2018–19, first at a system-wide level and subsequently for each individual route.

4.1.1 System-Wide Changes

During the four-year performance period, WETA was able to foster a relatively high level of ridership growth by adding frequency and capacity sufficient to meet ridership demand, expanding the number of operational and spare vessels in its fleet, and increasing the size of its vessels. Additionally, WETA started services on its new Richmond route in 2019. During this time frame, WETA also opened its North Bay Operations and Maintenance Facility and Central Bay Operations and Maintenance Facility, providing the capacity needed to accommodate its expanding vessel fleet and growing regional water transit system.

The financial impact of these changes has been an increase in total and marginal operating costs, by revenue hour and revenue mile, across the WETA system. Some of the expense increases over the period were temporary one-time expenses associated with commissioning new vessels and new facilities over the review period that will not recur in future years. Other new expenses were associated with the evolution and expansion of WETA's services to meet growing demand and provide increased customer service, the operation of new larger-capacity vessels to meet service demand and comply with more stringent emission requirements, and the expanded maintenance activities associated with the growing fleet, terminals and facilities, including two fueling facilities with new environmental safety requirements. The increased maintenance needs of new WETA vessels, specifically the Pyxis and Hydrus class, are associated with the complexity of newer systems required to meet modern safety, emissions, and performance specifications. Of note, the newer vessels built to replace WETA's older vessels are generally larger, have a higher passenger capacity, and are built with space requirements to accommodate a higher number of bicycles to adjust to changing service needs. Accordingly, WETA's fuel operating costs have grown due to the growing fleet size and utilization of larger vessels with higher fuel consumption. While the cost increase over the period exceeded a normal trajectory as these new capital assets were put into place, they will serve WETA well into the future as the agency's services continue to grow in the coming years.

4.1.2 Service and Usage

During the four-year performance period, system ridership increased by an average of 5 percent per year, from approximately 2.5 million total passengers in FY 2015–16 to approximately 3.1 million in FY 2018–19, as the Bay Area economy expanded and WETA services were adjusted to maximize trips. Service and usage details for the WETA system as a whole are shown in figure 4-1.

The three statistics used for tracking service and usage are vehicle revenue hours, vehicle revenue miles, and total passengers. System-wide, service levels increased over the four-year period, with a per-year average increase in vehicle revenue hours of 5 percent and a per-year average increase in vehicle revenue miles of 7 percent. Though the net change in hours and miles was small, individual routes did experience more significant changes in service levels as schedules and vessel assignments were adjusted to capitalize on growth in passenger demand. Details of these changes are noted in the route-specific sections that follow the system-wide discussion.

Additionally, during the four-year performance period there were changes made regarding the calculation and allocation of system-wide revenue miles, hours, and costs to interlined routes, resulting in varying performance data for individual routes on an annual basis.

4.1.3 Performance

To determine system performance, the operating statistics above are combined with information about operating costs and revenues (both fares and subsidies). The following metrics are used to analyze the service productivity, cost-efficiency, and cost-effectiveness of WETA services:

Service Productivity: Passengers per revenue hour of service
Passengers per revenue mile of service

Cost-Efficiency: Operating cost per hour of revenue service
Operating cost per revenue mile of service

Cost-Effectiveness: Farebox recovery ratio (fare revenues as a percentage of operating costs)
Average fare (fare revenues divided by total passengers)

Peak Occupancy: Number of passenger boardings as a fraction of available vessel capacity for trips departing in the peak hour, in the peak direction
The total number of trips each month that depart with passenger loads above the maximum occupancy standard

Figure 4-1 provides the system-wide operating statistics and performance metrics.

Figure 4-1 System-Wide Operating Statistics and Performance Metrics

	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19 [3]
Service and Usage				
Vehicle Revenue Hours	17,695	20,268	21,180	21,311
Vehicle Revenue Miles	314,046	367,938	394,478	404,012
Total Passengers	2,474,132	2,598,381	2,839,280	3,045,086
Cost				
Total Cost [1]	$26,260,102	$30,445,775	$35,038,757	$39,517,780
Revenue				
Passenger Farebox Revenue [1]	$16,444,611	$18,540,836	$20,403,076	$22,434,942
Other Revenue (Subsidy) [2]	$10,088,804	$12,115,606	$14,635,681	$17,082,838
Performance Metrics				
Service Productivity				
Passengers per Revenue Hour	139.8	128.2	134.1	142.9
Passengers per Revenue Mile	7.9	7.1	7.2	7.5
Cost Efficiency				
Cost per Revenue Hour	$1,484.07	$1,502.16	$1,654.36	$1,854.30
Cost per Revenue Mile	$83.62	$82.75	$88.82	$97.81
Cost Effectiveness				
Farebox Recovery Ratio	62.6%	60.9%	58.2%	56.8%
Average Fare	$6.65	$7.14	$7.19	$7.37
Peak Occupancy				
Peak Hour Occupancy	66.2%	69.3%	68.4%	64.9%

1. Excludes Route 200 bus service from Vallejo to San Francisco for FY 2015–16 and FY 2016–17. Route 200 was discontinued in late 2017.

2. Sum of other revenue and operating subsidy.

3. Over the four-year performance period, Revenue Mile segments were revised to reflect a correction in route miles.

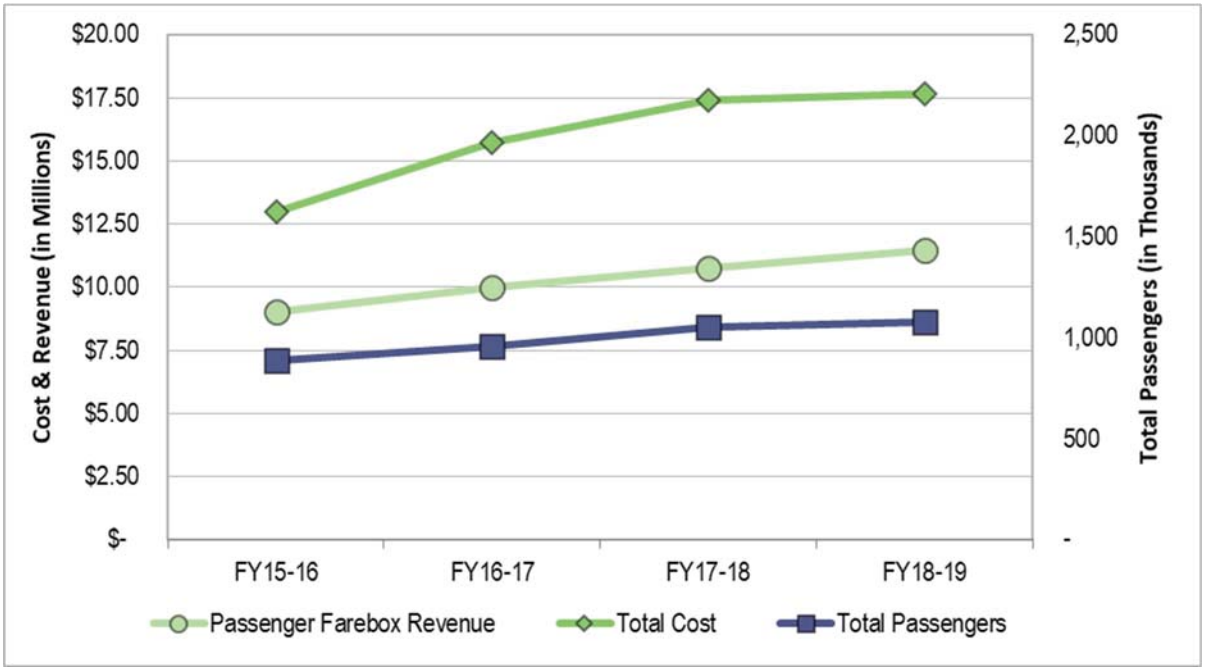
As shown in figure 4-1, the system experienced 23 percent increase in ridership over the four-year review period from FY 2015–16 through FY 2018–19. While the growth in ridership has been significant, it has been outpaced by growth in system operating costs during the four-year performance period as WETA has grown its system of services, vessels, and staff and services for core operations and maintenance facilities. As a result, the annual subsidy required to operate the WETA system has grown from approximately $10 million to over $17 million during the four-year performance period. While WETA service has become more productive in terms of passengers per revenue hour, service productivity has decreased when measured by passengers per revenue mile. In terms of cost-efficiency, WETA's marginal operating expenses have increased when measured by cost per revenue hour and cost per revenue mile over the past four years.

Even with increasing operating costs, the farebox recovery ratio is within the targeted standards (between 50 and 70 percent). Peak period occupancy increased from 66 percent in FY 2015–16 to 69 percent in FY 2016–17, then decreased gradually to 65 percent in FY 2018–19. The decrease in peak period occupancy from FY 2016–17 to FY 2018–19 can be attributed to service enhancements and the addition of larger vessels to the WETA fleet. These enhancements increased total system capacity in order to accommodate strong ridership growth.

4.2 VALLEJO FERRY SERVICE

Overall, growth of total operating costs outpaced both ridership and fare revenue growth during the four-year period. From FY 2015–16 through FY 2018–19, Vallejo ferry service saw a 22 percent increase in total passengers and 27 percent increase in passenger farebox revenue. The total costs for this service experienced a 36 percent increase during the four-year performance period, as shown in figure 4-2. The increase in cost outside of normal cost inflation factors is attributable to the addition of new trips in FY 2016–17 and FY 2018–19, the launch of larger boats beginning in FY 2018–19, a restructuring of the Vallejo ticket office management, and implementation of the new Maintenance and Operations facility with the related increase in staffing and maintenance services.

Figure 4-2 Vallejo Passenger Farebox Revenue, Total Cost, and Total Passengers



4.2.1 Service and Usage

The Vallejo service had a 5 percent average annual growth in total passengers during the four-year performance period, from approximately 887,000 to 1,078,000 total annual passengers, as shown in figure 4-3. Additional trips were added in early 2017 to provide the capacity required for the increasing ridership and to address the discontinuation of the SolTrans route 200 bus. Also, additional service to and from Mare Island started in March 2017. In FY 2018–19, additional trips were added to the existing weekend service for the winter schedule. All of these

service enhancements resulted in a 41 percent increase in vehicle revenue hours and 42 percent increase in vehicle revenue miles between FY 2015–16 and FY 2018–19.

Figure 4-3 Vallejo Service Levels and Usage

	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19
Operating Statistics				
Service and Usage				
Total Passengers	887,051	957,584	1,051,221	1,078,018
Vehicle Revenue Hours	6,231	7,886	8,696	8,755
Vehicle Revenue Miles	169,495	212,100	238,293	240,019
Cost				
Cost	$13,003,274	$15,754,571	$17,393,197	$17,676,924
Revenue				
Passenger Farebox Revenue	$9,044,598	$9,981,147	$10,776,220	$11,481,229
Other Revenue (Subsidy)	$4,231,989	$5,984,090	$6,616,977	$6,195,695

4.2.2 Performance

Figure 4-4 presents performance data for Vallejo service from FY 2015–16 through FY 2018–19. Overall, the passengers per revenue hour and passengers per revenue mile decreased by approximately 14 percent during the performance period. The passengers per revenue hour was 123 in FY 2018–19, which is slightly below WETA's performance target of 125 per hour for all-day service. The Vallejo service had a 3 percent decrease in cost per revenue hour and a 4 percent decrease in cost per revenue mile. The farebox recovery ratio was 65 percent in FY 2018–19, which meets the 50–70 percent performance target set by WETA. Peak hour occupancy in FY 2018–19 was 86 percent, which exceeds the maximum standard of 80 percent.

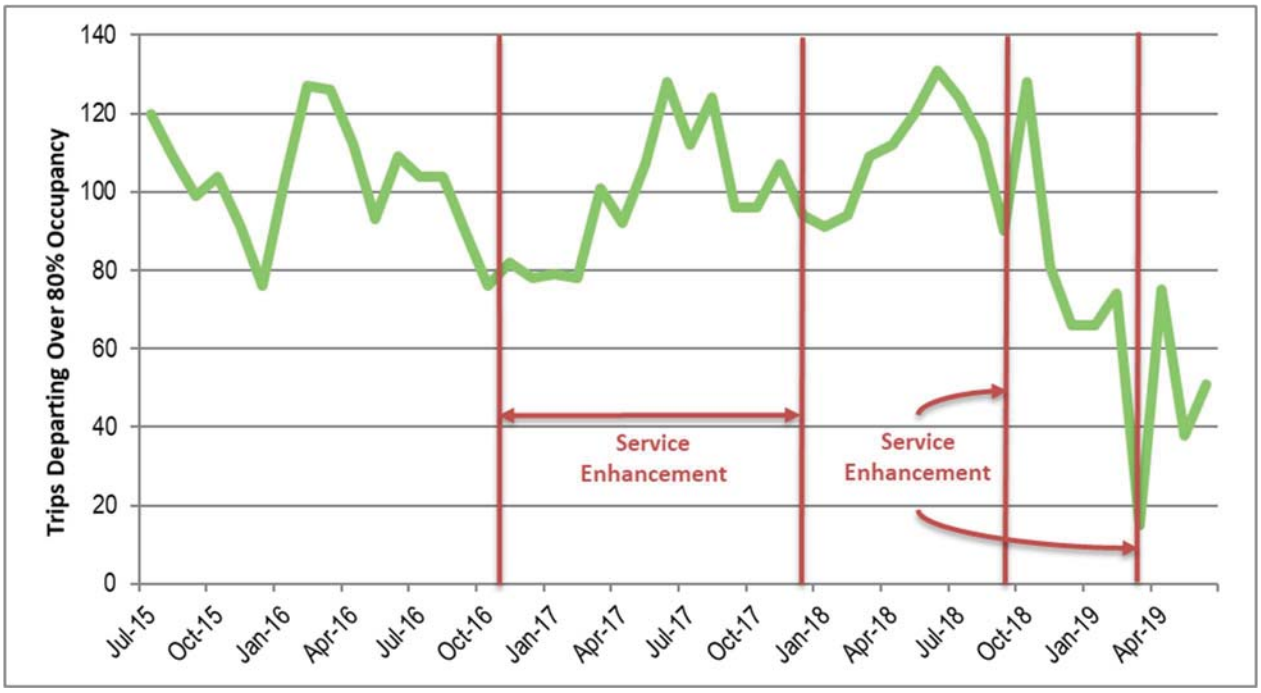
Peak hour occupancy in FY 2017–18 decreased from 91 percent to 86 percent in FY 2018–19, with the placement of the larger-capacity vessels into service.

Figure 4-4 Vallejo Performance Metrics

Performance Metrics	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19	Performance Standards
Service Productivity					
Passengers per Revenue Hour	142.4	121.4	120.9	123.1	Minimum: 100 Target: 125 Maximum: 250
Passengers per Revenue Mile	5.2	4.5	4.4	4.5	
Cost Efficiency					
Cost per Revenue Hour	$2,086.87	$1,997.79	$2,000.14	$2,019.07	
Cost per Revenue Mile	$76.72	$74.28	$72.99	$73.65	
Cost Effectiveness					
Farebox Recovery Ratio	69.6%	63.4%	62.0%	65.0%	Minimum: 40% Target: 50-70% Maximum: 100%
Average Fare	$10.20	$10.42	$10.25	$10.65	
Peak Occupancy					
Peak Hour Occupancy	89.3%	88.0%	91.0%	86.0%	Minimum: 50% Target: 60-75% Maximum: 80%

Figure 4-5 illustrates the number of trips that departed over the maximum occupancy over a quarterly period from FY 2015–16 to FY 2018–19. The figure captures the significant service enhancements that were implemented to address increasing ridership demand and the consequent decrease in the number of trips departing over the maximum occupancy over the four-year period. Service enhancements—namely, the addition of trips between November 2016 and December 2017—and the launch of the larger boat Hydrus in September 2018 and the Pyxis vessel in March 2019 resulted in an overall decrease of trips departing over maximum occupancy over the four-year performance period.

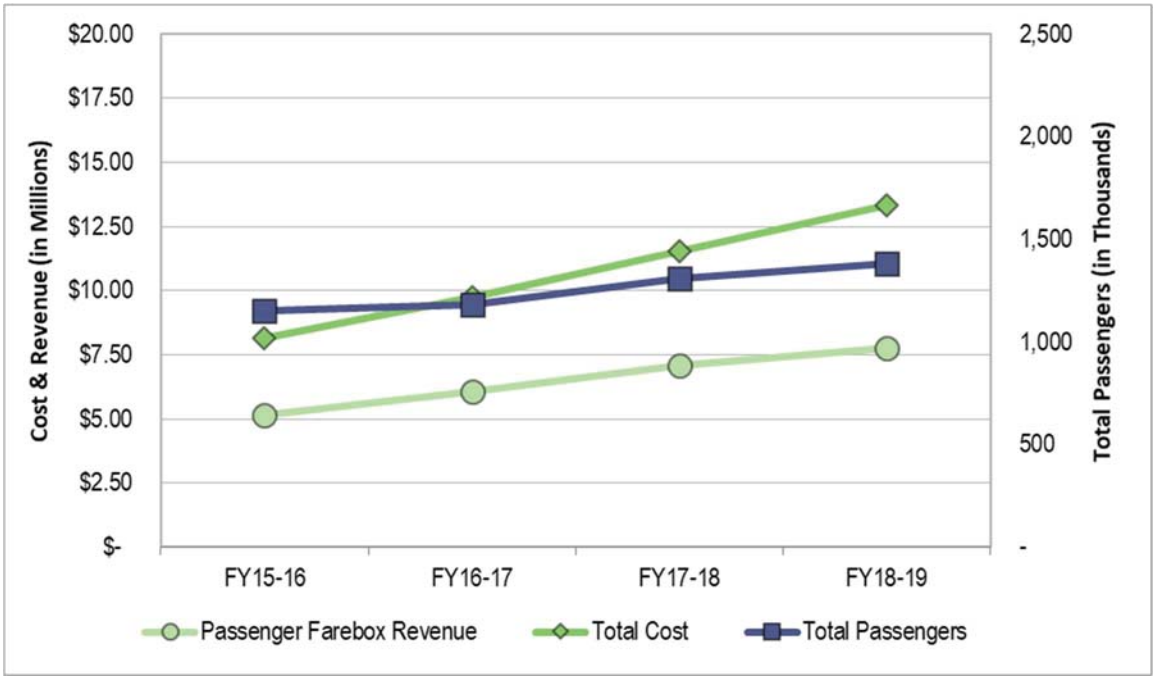
Figure 4-5 Vallejo Maximum Occupancy Trips by Month



4.3 ALAMEDA/OAKLAND FERRY SERVICE

From FY 2015–16 through FY 2018–19, the Alameda/Oakland service saw a 20 percent increase in total passengers and a 51 percent increase in passenger farebox revenue. The total costs for this service increased by 64 percent during the four-year performance period, as shown in figure 4-6. Overall, growth of total operating costs outpaced ridership growth during the four-year period but increased relatively consistently with fare revenues. The increase in costs outside of normal cost inflation factors is attributable to the addition of larger vessels to the WETA fleet, required crew training on the new vessels, and service increases during the performance period. Cost increases are also attributable to high-cost vessel repairs and the startup and operation of the new Central Bay Operations and Maintenance Facility, including the employment of additional engineers and dedicated vessel and facility maintenance managers. WETA also increased the number of Guest Assistance Representatives to improve customer service at terminals.

Figure 4-6 Alameda/Oakland Passenger Farebox Revenue, Total Cost, and Total Passengers



4.3.1 Service and Usage

Over the four-year performance period, the Alameda/Oakland service had a 5 percent average annual growth of total passengers, from approximately 1,150,000 to 1,384,000. Additional trips were added in FY 2016–17 to accommodate the increase in ridership and to reduce the number of leave-behinds. Service was adjusted with the opening of the new Central Bay Operations and Maintenance Facility, resulting in the reduction of revenue miles and hours in FY 2018–19. The net change over the four-year performance period was approximately 1 percent in revenue hours and an increase of 5 percent in revenue miles.

Figure 4-7 Alameda/Oakland Service Levels and Usage

	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19
Operating Statistics				
Service and Usage				
Total Passengers	1,149,822	1,183,188	1,311,041	1,384,300
Vehicle Revenue Hours	8,379	9,093	8,977	8,429
Vehicle Revenue Miles	90,273	99,192	98,433	94,830
Cost				
Cost	$8,140,683	$9,763,332	$11,525,205	$13,329,240
Revenue				
Passenger Farebox Revenue	$5,144,263	$6,052,886	$7,082,576	$7,770,888
Other Revenue (Subsidy)	$2,996,420	$3,710,446	$4,442,629	$5,558,352

4.3.2 Performance

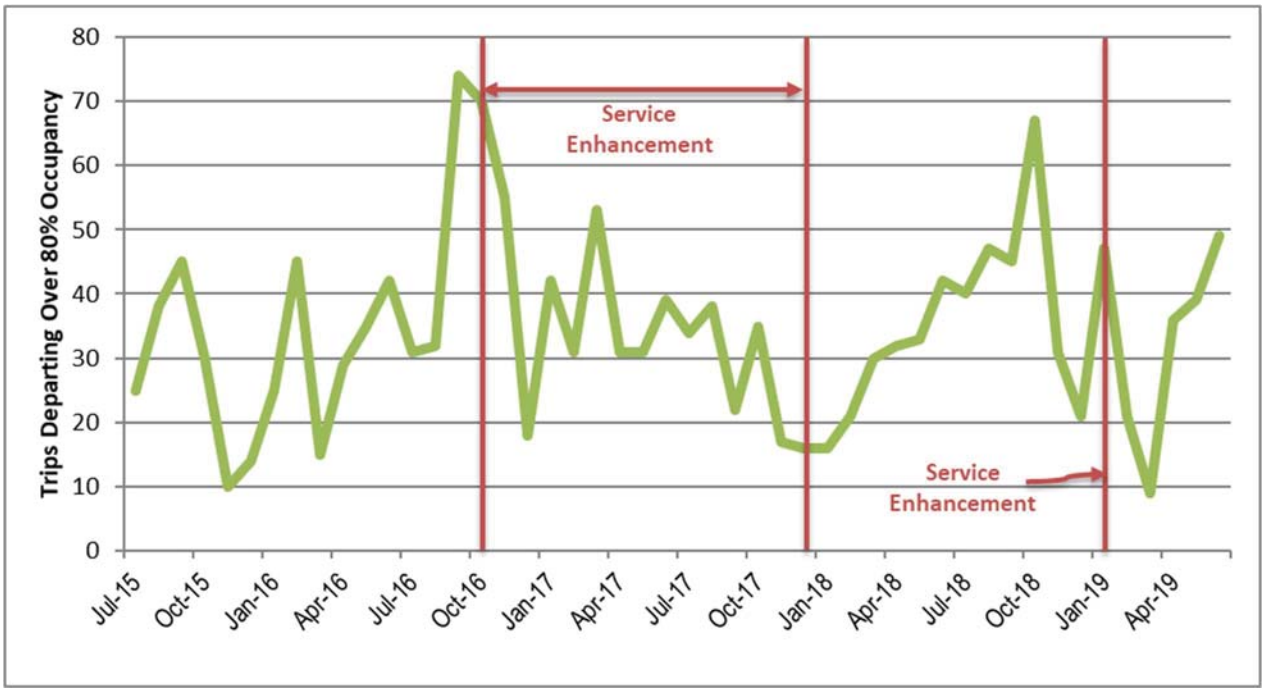
Figure 4-8 presents performance data for Alameda/Oakland service from FY 2015–16 through FY 2018–19. In the four-year performance period, the Alameda/Oakland service experienced a 20 percent increase in passengers per revenue hour and a 15 percent increase in passengers per revenue mile, accounting for a significant portion of WETA's system-wide improvement in service ridership and productivity. The passengers per revenue hour was 164 in FY 2018–19, exceeding the performance target of 125 per hour for all-day service. In contrast, over the four-year performance period, the service experienced a 63 percent increase in costs per revenue hour and a 56 percent increase in costs per revenue mile. Even with a significant increase in ridership, the farebox recovery ratio decreased by an average of 2 percent per year due to high operating costs. The farebox recovery ratio in FY 2018–19 was 58 percent, which met the 50-70 percent performance target set by WETA. Peak hour occupancy in FY 2018–19 was 69 percent, which met the target standard (60–75 percent).

Figure 4-8 Alameda/Oakland Performance Metrics

Performance Metrics	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19	Performance Standards
Service Productivity					
Passengers per Revenue Hour	137.2	130.1	146.1	164.2	Minimum: 100 Target: 125 Maximum: 250
Passengers per Revenue Mile	12.7	11.9	13.3	14.6	
Cost Efficiency					
Cost per Revenue Hour	$971.56	$1,073.72	$1,283.92	$1,581.41	
Cost per Revenue Mile	$90.18	$98.43	$117.09	$140.56	
Cost Effectiveness					
Farebox Recovery Ratio	63.2%	62.0%	61.5%	58.3%	Minimum: 40% Target: 50-70% Maximum: 100%
Average Fare	$4.47	$5.12	$5.40	$5.61	
Peak Occupancy					
Peak Hour Occupancy	61.8%	65.2%	63.3%	69.2%	Minimum: 50% Target: 60-75% Maximum: 80%

Figure 4-9 illustrates the number of trips that departed over the maximum occupancy over a quarterly period from FY 2015–16 to FY 2018–19. Several service enhancements have been implemented, including the addition of trips between November 2016 and December 2017, the launch of larger boats (Cetus and Hydrus) in early 2017, and the launch of another large boat (Carina) in early 2019. Even with these enhancements, the number of peak trips departing over 80 percent occupancy has relatively increased due to a high growth rate of ridership demand. WETA anticipates that the number of trips departing over the maximum occupancy will decrease significantly once the Alameda Seaplane Lagoon service begins in FY 2020–21.

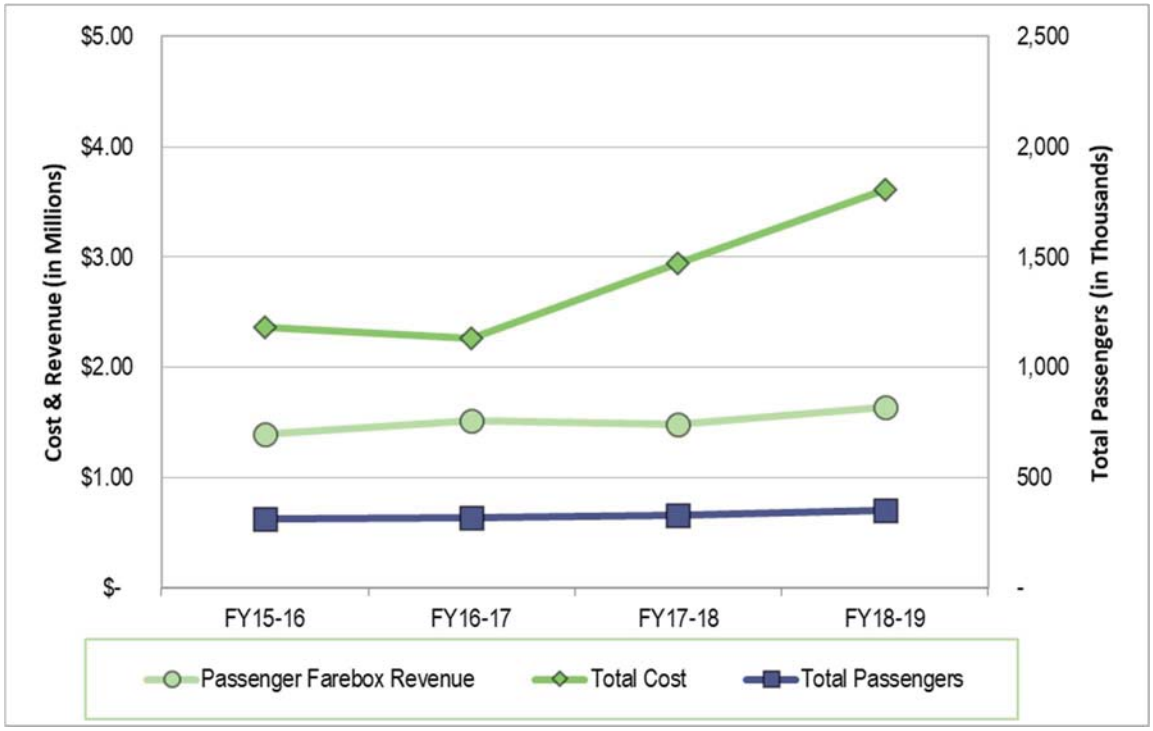
Figure 4-9 Alameda/Oakland Maximum Occupancy Trips by Month



4.4 ALAMEDA HARBOR BAY FERRY SERVICE

Total passengers on the Alameda Harbor Bay service increased by 14 percent, and passenger farebox revenue increased by 17 percent, over the four-year performance period. Total costs for this service showed an increase of 53 percent between FY 2015–16 and FY 2018–19. Overall, growth in operating costs for this service during the four-year period far outpaced growth in ridership and fare revenues. Service enhancements and the launch of pilot service between Harbor Bay and South San Francisco have contributed to the cost increases seen in FY 2017–18 and FY 2018–19, as shown in figure 4-10. Additionally, the service experienced an increase in direct operating expenses attributed to high-cost vessel repairs, an increase in the cost and volume of fuel consumed by the larger vessels to meet increased ridership demands, and the startup and operation of the new Central Bay Operations and Maintenance Facility during the performance period.

Figure 4-10 Harbor Bay Passenger Farebox Revenue, Total Cost, and Total Passengers



4.4.1 Service and Usage

The Alameda Harbor Bay service saw a 3 percent average annual growth in total passengers from 311,000 to 355,500 during the four-year performance period, as shown in figure 4-11.Vehicle revenue hours and vehicle revenue miles slightly increased in FY 2017–18 and FY 2018–19 due to the additional runs during the morning peak period. A twelve-month pilot weekday commute service, consisting of a single morning trip from South San Francisco to Harbor Bay and single evening trip from Harbor Bay to South San Francisco, was added in 2019 to test the market for expanded ferry service to Harbor Bay.

Figure 4-11 Alameda Harbor Bay Service Levels and Usage

	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018-19
Operating Statistics				
Service and Usage [1]				
Total Passengers	311,313	321,289	332,283	355,713
Vehicle Revenue Hours	1,651	1,790	1,834	1,939
Vehicle Revenue Miles	28,391	30,785	31,541	33,342
Cost				
Cost	$2,362,226	$2,260,907	$2,938,772	$3,608,269
Revenue				
Passenger Farebox Revenue	$1,400,638	$1,513,606	$1,480,672	$1,643,882
Other Revenue (Subsidy)	$961,588	$747,302	$1,458,100	$1,964,387

[1] Service data includes Harbor Bay to South San Francisco pilot service.

4.4.2 Performance

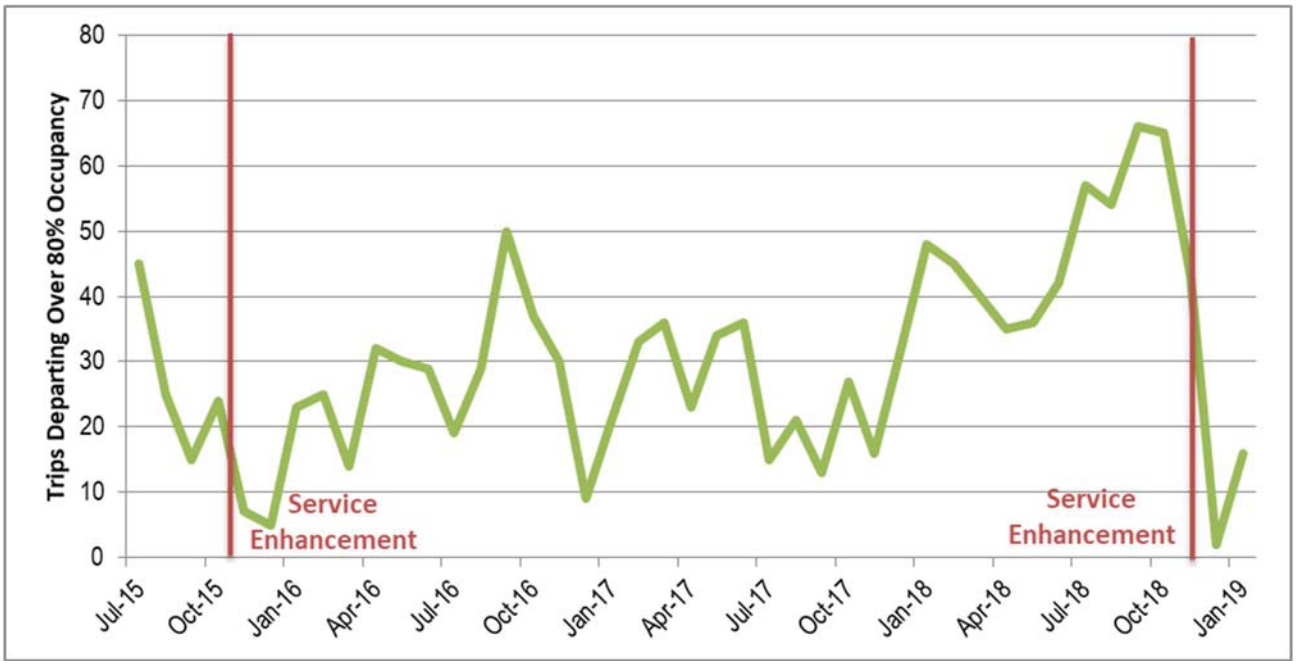
Figure 4-12 presents performance data for Alameda Harbor Bay service from FY 2015–16 through FY 2018–19. Over the four-year reporting period, the Alameda Harbor Bay service declined in terms of both service productivity and cost-efficiency. While the service saw a 3 percent decrease in both passengers per revenue hour and passengers per revenue mile, the passengers per revenue hour was 184 in FY 2018–19, which exceeded the WETA Performance Target of 150 per hour for commute-only service. Marginal operating expenses for the Alameda Harbor Bay service showed a 30 percent increase in cost per revenue hour and cost per revenue mile. The farebox recovery ratio was 46 percent in FY 2018–19, which met the minimum performance target set by WETA. Overall, the average fare per passenger showed a 3 percent increase within the four-year performance period. Peak-hour occupancy in FY 2018–19 was 69 percent, which met the target standard (60–75 percent) for this metric.

Figure 4-12 Alameda Harbor Bay Performance Metrics

	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19	
Performance Metrics					Performance Standards
Service Productivity					
Passengers per Revenue Hour	188.6	179.5	181.2	183.5	Minimum: 100 Target: 150 Maximum: 250
Passengers per Revenue Mile	11.0	10.4	10.5	10.7	
Cost Efficiency					
Cost per Revenue Hour	$1,431.13	$1,263.08	$1,602.38	$1,861.37	
Cost per Revenue Mile	$83.20	$73.44	$93.17	$108.22	
Cost Effectiveness					
Farebox Recovery Ratio	59.3%	66.9%	50.4%	45.6%	Minimum: 40% Target: 50-70% Maximum: 100%
Average Fare	$4.50	$4.71	$4.46	$4.62	
Peak Occupancy					
Peak Hour Occupancy	69.7%	73.1%	67.6%	69.2%	Minimum: 50% Target: 60-75% Maximum: 80%

Figure 4-13 illustrates the number of trips that departed over the maximum occupancy over a quarterly period from FY 2015–16 to FY 2018–19. The figure captures the significant service enhancements that were implemented to address increasing ridership demand and the consequent decrease in the number of trips departing over the maximum occupancy over the four-year period. As shown, the addition of peak-period PM return trip in late 2015 resulted in a decrease in the number of trips departing over the maximum occupancy in FY 2016–17. The same pattern was observed in FY 2018–19 with the addition of peak-period AM departures in December 2018.

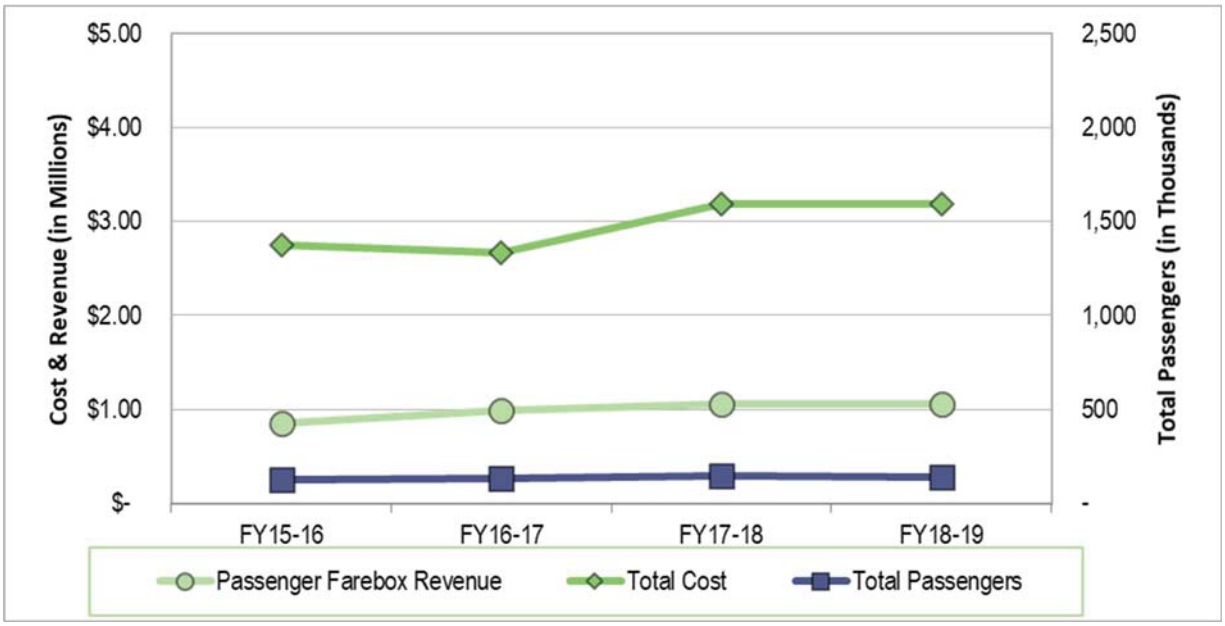
Figure 4-13 Alameda Harbor Bay Maximum Occupancy Trips by Month



4.5 SOUTH SAN FRANCISCO FERRY SERVICE

From FY 2015–16 to FY 2018–19, South San Francisco service experienced an increase of 13 percent in total passengers and an increase of 23 percent in farebox revenue. Total costs for service increased by 16 percent during this four-year performance period, as shown in figure 4-14. Overall, total costs increased, tracked closely with ridership growth over the four-year period. The cost associated with this service has increased at a lower rate than that of WETA's overall system over the period. This can be attributed to the reallocation of crew and vessel costs due to service interlining and to varying methods in the allocation of system-wide expenses. For example, the small size of this service in relation to WETA's overall system resulted in allocation of only a small share of the cost of the new Central Bay Operations and Maintenance Facility to the service. Additionally, this service operates with the use of the relatively low-cost Gemini-class vessels, and the number of trips associated with this service did not change over the performance period, unlike all other services.

Figure 4-14 South San Francisco Passenger Farebox Revenue, Total Cost, and Total Passengers



4.5.1 Service and Usage

The South San Francisco service saw a 3 percent average annual increase in total passengers over the four-year performance period, increasing from approximately 126,000 to 143,000 total annual passengers, as shown in figure 4-15. Ridership decreased by almost 2,000 annual riders during FY 2018–19. Over the performance period, the vehicle revenue hours and vehicle revenue miles showed a 20 percent decrease. Due to low ridership, the limited midday service between downtown San Francisco and South San Francisco was discontinued in FY 2018–19. This service change is reflected in the decrease of revenue hours and miles as shown in the figure.

Figure 4-15 South San Francisco Service Levels and Usage

	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19
Operating Statistics				
Service and Usage				
Total Passengers	125,946	136,320	144,735	142,479
Vehicle Revenue Hours	1,434	1,499	1,470	1,139
Vehicle Revenue Miles	25,887	25,861	25,357	20,701
Cost				
Cost	$2,753,919	$2,666,965	$3,181,583	$3,179,777
Revenue				
Passenger Farebox Revenue	$855,112	$993,197	$1,063,608	$1,055,561
Other Revenue (Subsidy)	$1,898,807	$1,673,768	$2,117,975	$2,124,216

4.5.2 Performance

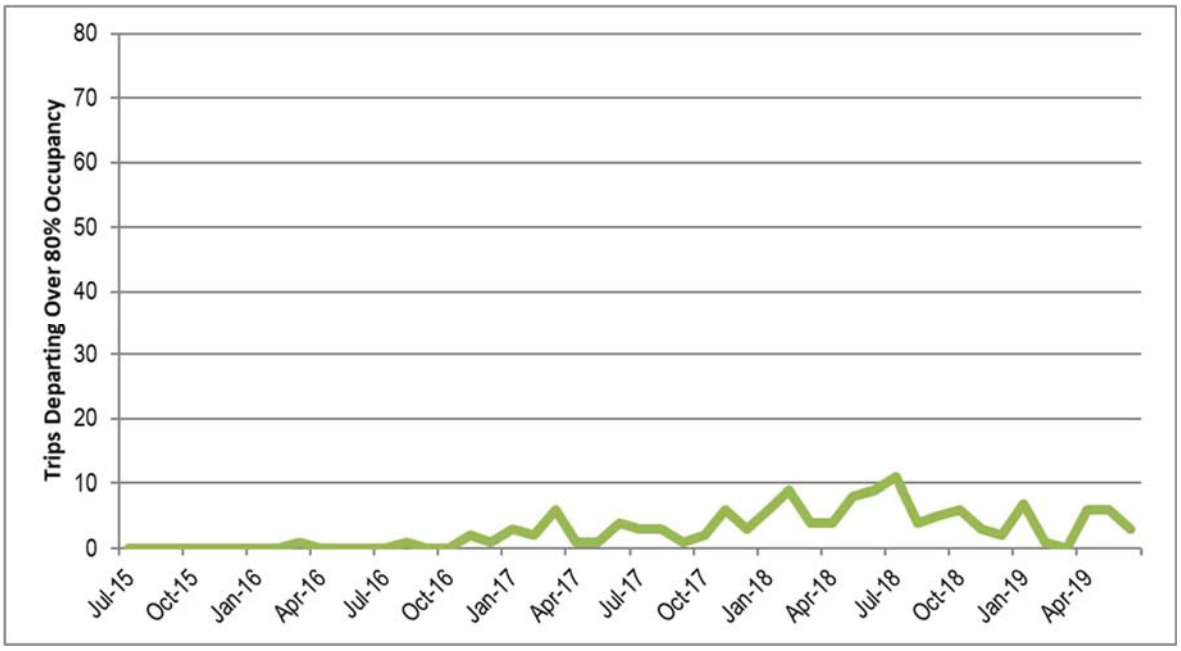
Figure 4-16 presents performance data for the South San Francisco service between FY 2015–16 and FY 2018–19. In the four-year performance period, this service saw a 42 percent increase in both passengers per revenue hour and passengers per revenue mile. The passenger per revenue hour was 125 in FY 2018–19, which did not meet the WETA performance target of 150 passengers per revenue hour for commute-only service. Over the performance period, the service saw an increase of 45 percent in cost per revenue hour and an increase of 44 percent in cost per revenue mile. The farebox recovery ratio increased slightly, from 31 percent in FY 2015–16 to 33 percent in FY 2018–19, which did not meet the 50–70 percent farebox recovery performance target set by WETA. Overall, the average fare per passenger increased by 9 percent during the four-year performance period. Peak-hour occupancy in FY 2018–19 was 53 percent, which was above the minimum standard (50 percent) for this metric.

Figure 4-16 South San Francisco Performance Metrics

	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19	
Performance Metrics					Performance Standards
Service Productivity					
Passengers per Revenue Hour	87.8	90.9	98.5	125.1	Minimum: 100 Target: 150 Maximum: 250
Passengers per Revenue Mile	4.9	5.3	5.7	6.9	
Cost Efficiency					
Cost per Revenue Hour	$1,920.45	$1,779.16	$2,164.34	$2,791.11	
Cost per Revenue Mile	$106.38	$103.13	$125.47	$153.60	
Cost Effectiveness					
Farebox Recovery Ratio	31.1%	37.2%	33.4%	33.2%	Minimum: 40% Target: 50-70% Maximum: 100%
Average Fare	$6.79	$7.29	$7.35	$7.41	
Peak Occupancy					
Peak Hour Occupancy	46.0%	52.4%	54.3%	53.0%	Minimum: 50% Target: 60-75% Maximum: 80%

Figure 4-17 illustrates the number of trips that departed over the maximum occupancy over a quarterly period from FY 2015–16 to FY 2018–19. At this time, very few trips on this route are full enough to prompt consideration for service additions.

Figure 4-17 South San Francisco Maximum Occupancy Trips by Month



4.6 RICHMOND FERRY SERVICE

This new weekday commute-only service between Richmond and downtown San Francisco Ferry terminal began in January 2019. In August 2019 WETA added a summer weekend pilot service between Richmond Terminal and downtown San Francisco Ferry Terminal. The weekend service is not included in the service and performance evaluations of this SRTP.

4.6.1 Service and Usage

As shown in Figure 4-18, the total passengers in FY 2018–19 was approximately 84,500. This service reached a milestone of 100,000 passengers for the period of January 10, 2019, to July 25, 2019, and in December 2019 the service carried 200,000 passengers.

Figure 4-18 Richmond Service Levels and Usage

	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19
Operating Statistics				
Service and Usage				
Total Passengers*	-	-	-	84,576
Vehicle Revenue Hours	-	-	-	1,050
Vehicle Revenue Miles	-	-	-	15,120

*Partial year from January 10, 2019, to June 30, 2019

4.6.2 Performance

After only six months in service, the passenger per revenue hour for FY 2018–19 was 81, which is close to the minimum performance target of 100 set by WETA. Peak hour occupancy in FY 2018–19 was 47 percent, which is below the minimum standard (50 percent) for this metric. The performance measures are projected to improve as the ridership increases and as the service matures. The service performance will be monitored and evaluated in the next SRTP.

Figure 4-19 Richmond Service Performance Metrics

Performance Metrics	FY 2015–16	FY 2016–17	FY 2017–18	FY 2018–19	Performance Standards
Service Productivity					
Passengers per Revenue Hour	-	-	-	80.6	Minimum: 100 Target: 150 Maximum: 250
Passengers per Revenue Mile	-	-	-	5.6	
Cost Efficiency					
Cost per Revenue Hour	-	-	-	$1,641.50	
Cost per Revenue Mile	-	-	-	$113.99	
Cost Effectiveness					
Farebox Recovery Ratio	-	-	-	28.1%	Minimum: 40% Target: 50-70% Maximum: 100%
Average Fare	-	-	-	$5.72	
Peak Occupancy					
Peak Hour Occupancy	-	-	-	47.0%	Minimum: 50% Target: 60-75% Maximum: 80%

4.7 OTHER SERVICE PLANNING ACTIVITIES

4.7.1 Small Vessel Study

In early 2018 WETA conducted a study to explore the possibility of using small vessels as a supplement to existing WETA ferry services and as an opportunity to explore new markets. The final Small Vessel Exploratory Study was presented to the WETA Board in March 2019. The study examined the capabilities of small vessels within WETA's service area while exploring initial design types for both vessels and facilities. The study developed implementation principles for future small-vessel service and suggested performance metrics as well as conceptual plans for service and fleets and the associated costs. The study recommended a set of potential routes and market opportunities for future small-vessel service.

4.7.2 Hovercraft Feasibility Study

In April 2019 WETA prepared a preliminary study that considers the feasibility of operating hovercrafts as part of WETA's water transit system. The scope of this study includes updating an initial study that was conducted in 2011, assessing potential hovercraft service corridors,

estimating capital and operating costs, and providing recommendations. A Technical Advisory Committee and a Stakeholder Committee will be created to invite regulators, public agencies, nonprofits, and private businesses to provide feedback throughout the course of the study. In September 2019 WETA awarded the consulting service AECOM a contract to begin the hovercraft feasibility study. WETA anticipates that the study will be completed in late 2020 or early 2021.

4.7.3 Fare Program Renewal Study

The current fare program FY 2015–20, was adopted in 2014 to promote consistent fare structure and to implement small fare changes annually to ensure that WETA fares kept pace with cost inflation. The current fare program runs through the end of FY 2020, and a new program must be adopted for WETA to continue implementing annual fare changes in future fiscal years. WETA is working with the consulting service Four Nines Technologies to develop a new multiyear fare program. It is anticipated that the new program will be adopted in Spring 2020 for implementation beginning in FY 2020–21.

4.7.4 Title VI Analysis

As a recipient of federal funds, WETA prepared its 2019–2022 Title VI Program in accordance with FTA Circular 4702.1B, dated October 1, 2012. Circular 4702.1B provides guidance for transit agencies and other federal funding recipients to ensure that services are provided in a manner that is nondiscriminatory and without respect to the minority or income status of its current or potential riders. Title VI of the Civil Rights Act of 1964 specifies that "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

WETA strives to ensure that equal opportunities are afforded to all individuals in its service area without regard to race, color, religious creed, or national origin, as they relate to community participation in local transit planning, policy, and decision-making processes. Meaningful public outreach and involvement opportunities are created at initiation of planning efforts, consideration of fare or service changes, and implementation of new services. Participation is sought from all community members including minority, low-income, and LEP populations.

The 2019–2022 Title VI Program includes a Language Assistance Plan (LAP) for Limited English Proficient (LEP) populations, a Public Participation Plan aimed at engaging minority and low-income riders, a Major Service Change Policy, and Service Standards and Policies. The WETA Title VI Program was adopted by the Board on May 10, 2018, and can be found on the WETA website or provided by WETA staff.

4.7.5 FTA Triennial Review

Required by Chapter 53 of Title 49, United States Code, Section 5307, the Triennial Review is the Federal Transit Administration's (FTA) assessment of WETA's compliance with federal requirements. The 2018 Triennial Review, performed July 19 through July 20, 2018, focused on WETA's compliance with award requirements in twenty areas. No deficiencies were found in any of the reviewed areas.

5 OPERATING PLAN AND BUDGET

This chapter outlines the proposed Operating Plan and Operating Budget for WETA's existing ferry system and potential new ferry services expansions that are expected to be implemented over the ten-year horizon of the SRTP. The Operating Plan recognizes the importance of offering a core level of existing services, service enhancements required to accommodate projected ridership demand, and continued progress of expansion services, while also maintaining an operating reserve that will preserve flexibility in the future. The Operating Budget includes a description of major budget assumptions, a discussion of system operating revenues assumed to be available over the SRTP period, and a summary of system expenses by route.

5.1 OPERATING PLAN

This section describes plans for the continuation of existing ferry services as well as the implementation of six new services within the ten-year horizon of the SRTP. Figure 5-3 (presented later in this chapter) provides further details on the Operating Plan for each year of the forecast period, including the timing of anticipated service changes and the revenue vehicle hours and service miles required to operate the ferry services described below.

5.1.1 Existing Services

In FY 2012–13 WETA began its first full year operating each of the three ferry services that were transitioned from the cities of Alameda and Vallejo to WETA over the course of 2011 and 2012. WETA began its first expansion service to South San Francisco in June 2012 and a second expansion service to Richmond in January 2019. A brief operating profile of each service is provided in figure 5-1.

Figure 5-1 WETA Existing Service, FY 2018–19

Service	Service Began	Service Type	Vehicle Revenue Hours	Vehicle Revenue Miles	Total Passengers
Alameda/Oakland	April 29, 2011	All Day, Weekday & Weekend	8,429	94,830	1,384,300
Alameda Harbor Bay*	April 29, 2011	Weekday peak only	1,939	33,342	355,713
Vallejo	July 1, 2012	All Day, Weekday & Weekend	8,038	241,381	1,078,018
South San Francisco	June 4, 2012	Weekday peak	1,139	20,701	142,479
Richmond	January 10, 2019	Weekday peak	1,050	15,120	84,576**

* Includes Harbor Bay–South San Francisco pilot service, which began April 29, 2019.

**Represents a partial year of just under six months of service.

Alameda/Oakland Ferry Service

The Alameda/Oakland Ferry Service continues to be productive. This route has experienced an annual average growth in ridership of 5 percent over each of the past four years, benefiting from increasing economic growth in San Francisco. Job growth and high housing prices in San Francisco have led to a rapid rise in workers living in the East Bay who wish to commute

across the Bay each day. Transbay demand is so high that other transportation options, such as bridges and other transit operators, are seeing record crowding, and increasing numbers of commuters from Alameda Island and downtown Oakland are choosing WETA service. Based on recent ridership trends, WETA assumes an annual ridership growth of 6 percent for the Alameda/Oakland Ferry Service from FY 2019–20 to FY 2028–29. Based on the assumed ridership growth and vessel capacity, service enhancement would be required in FY 2023 to accommodate projected ridership demand.

The following changes are expected with the opening of the Alameda Seaplane Lagoon Ferry Terminal in FY 2020–21:

- The Alameda/Oakland estuary service will be modified to provide preferential service times from Oakland during peak periods.
- Most of the peak-period riders from Alameda are anticipated to shift from the current Alameda Main Street terminal to Seaplane Lagoon, decoupling the peak-period Alameda and Oakland services to downtown San Francisco Ferry Terminal.

Details of the Alameda Seaplane Lagoon Ferry Service are provided in section 5.1.2.

Alameda Harbor Bay Ferry Service

Ridership on the Alameda Harbor Bay Ferry Service has shown an annual average growth of 3 percent over the past four years. It is the most productive of the commute-only services, having served 184 passengers per revenue hour in FY 2018–19. Similar to the market trends for the Alameda/Oakland service, passenger growth on the Alameda Harbor Bay service is driven largely by the strong employment growth and high housing costs in San Francisco. Bay Farm Island is relatively isolated from other transit options such as BART or AC Transit, making the ferry an attractive alternative for nearby residents. Based on current ridership trends, WETA is planning for annual growth of 5 percent from FY 2019–20 to FY 2028–29. Based on the assumed ridership growth and vessel capacity, service enhancement would be required in FY 2024 to accommodate projected ridership demand.

Vallejo Ferry Service

Over the past four years, ridership on the Vallejo service has experienced an annual average growth of 5 percent. During this period, service enhancements were made to address the leave-behinds and the increasing ridership on this route. Continued peak-period congestion on the I-80 corridor makes the ferry service highly time competitive with other travel modes, including automobile and transit options, during commute periods between Vallejo and San Francisco. Based on current ridership trends, annual ridership is expected to grow at a rate of 4 percent per year from FY 2019–20 to FY 2028–29. Based on the assumed ridership growth and vessel capacity, service enhancement would be required in FY 2023 to accommodate projected ridership demand.

South San Francisco Ferry Service

The South San Francisco Ferry Service provides a competitive transit option for East Bay residents working in the Oyster Point area of South San Francisco. Other transit options would require a transfer from BART or transbay buses and are not as direct or time competitive as the ferry. With increasing congestion on area freeways and the Bay Bridge, the ferry also offers a travel time and reliability advantage over automobile commutes from the East Bay to Oyster Point.

Ridership on the South San Francisco service has shown an annual average growth of 3 percent over the past four years. However, this service experienced a slight decline in ridership in FY 2018–19, likely due to construction in the terminal area that was disruptive to local transportation to and from the terminal. While the South San Francisco service carries fewer riders than WETA's more established services, it has still met minimum WETA standards for passengers per revenue hour, and ridership is expected to increase as commercial development continues to bring more jobs to the South San Francisco area. WETA is assuming a 4 percent annual increase in ridership on this service from FY 2019–20 to FY 2028–29. Based on the assumed ridership growth and vessel capacity, service enhancement would be required in FY 2027 to accommodate projected ridership demand.

Richmond Ferry Service

The terminal is located on the industrial strip near the Bay Trail and offers direct connections to I-580. Nearby local transit services make this ferry service an attractive option for workers traveling from Richmond to downtown San Francisco. Continued peak-period congestion on the I-580 and I-80 corridors and saturated BART occupancies have made the ferry service highly time competitive and appealing during commute periods. Within twelve months of starting operation, this commute-only weekday service surpassed 200,000 total passengers. Productivity levels are projected to increase as the service matures. WETA is assuming a 10 percent annual increase in ridership on this service from FY 2019–20 to FY 2028–29. Based on the assumed ridership growth and vessel capacity, service enhancement would be required in FY 2026 to accommodate projected ridership demand.

5.1.2 Expansion Services

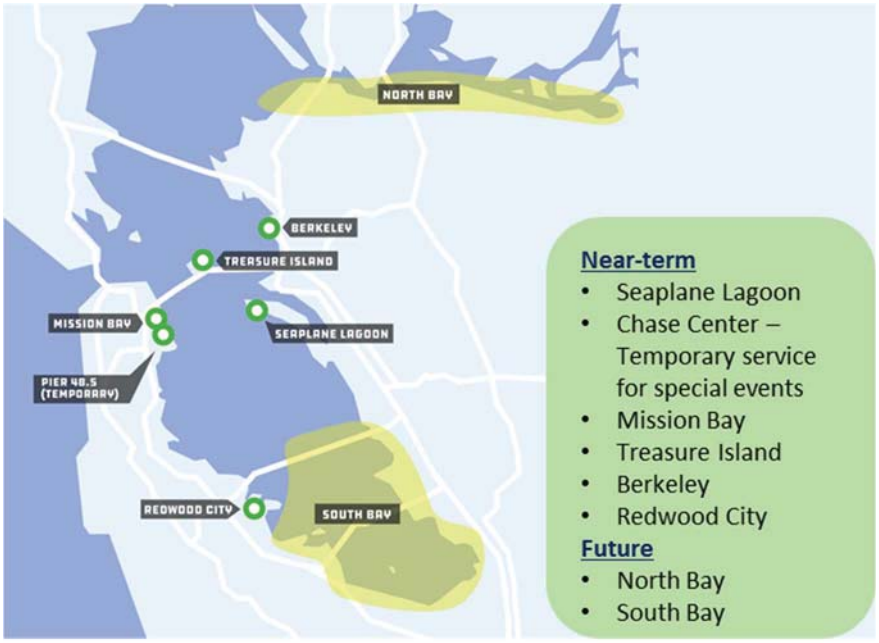
In June 2015 the Board of Directors approved the WETA System Expansion Policy and performance measures and standards. The policy defines service goals and metrics, which are shared with project partners in an effort to fund, develop, and implement future WETA services. These policies provide a template for WETA staff and serve as an integral part of WETA's plans to expand service.

Service expansion projects in WETA's development pipeline are at different implementation stages because of a variety of factors, including availability of capital and operational funding. Projects can be generally grouped into two types:

- **Near-term expansion projects:** These projects are active or have ongoing or completed major planning milestones. Near-term projects are expected to begin construction and operation within the ten-year horizon of this SRTP, provided that work continues to progress on these projects as planned. Capital and operating costs for these projects are included in the financially constrained Operating Plan and Capital Improvement Program (CIP).
- **Future expansion projects:** These projects are still in preliminary planning or have been proposed and studied in the past but are not currently in active development due to issues such as financial feasibility concerns, environmental constraints, or shifting priorities from local sponsors. Because of implementation uncertainty, these projects are not assumed to begin operations within the SRTP planning horizon and are not currently in the financially constrained Operating Plan and CIP.

Both near-term expansion projects and future expansion projects are depicted in figure 5-2. Near-term expansion projects are described in more detail in section 5.1.3 below. Future expansion projects are discussed separately in chapter 8.

Figure 5-2 Map of Near-Term and Future Terminals and Facilities



The Operating Plan assumes that the Alameda Seaplane Lagoon, Mission Bay, Treasure Island, Berkeley, and Redwood City services will be operational within the ten-year planning period of the SRTP. The current status of each project is presented below.

5.1.3 Near-Term Expansion Services

Alameda Seaplane Lagoon Ferry Terminal

A new terminal is being constructed for the Alameda Seaplane Lagoon service on the former Naval Air Station at Alameda Point. This new terminal was pursued by the City and its developer as part of the construction of the first phase (Site A) of a major planned mixed-use development project at Alameda Point. This development project is to be located near the terminal and includes high-density residential and commercial development.

The Alameda Seaplane Lagoon Ferry Terminal will not replace the Alameda Main Street Ferry Terminal used by the Alameda/Oakland service but will instead provide the opportunity to expand service to western Alameda. The Alameda Seaplane Lagoon service will provide commute-only service between the new terminal located at the former Naval Air Station in Alameda and the downtown San Francisco Ferry Terminal. This service is anticipated to start operation in August 2020 and to shift some of the peak-period Alameda service from the current Main Street Alameda terminal to the Seaplane Lagoon terminal, largely decoupling the Alameda and Oakland services during the commute period.

The projected ridership growth for the Alameda Seaplane Lagoon service considers an assumed ridership rate that would be diverted from the current estuary service (service between Alameda and Oakland) and takes into account the anticipated ridership growth from Alameda Point Transit-Oriented Development (TOD).

Pier 48.5: Interim Service to Golden State Warriors Games and Chase Center Events

Prior to the construction of the planned permanent Mission Bay Ferry Landing, a new interim service is offered between Chase Center and Alameda/Oakland for special events including concerts and Golden State Warriors games. This temporary terminal is located at Pier 48 1/2 on the south side of Pier 48. The terminal was constructed in September 2019, and service began in October 2019. Ridership growth for this new service is monitored, and its performance will be evaluated once the permanent Mission Bay Ferry Landing begins service.

Mission Bay Ferry Landing

A temporary ferry terminal located at Pier 48 1/2 was developed by WETA to serve events at the new Chase Center for up to two years before a permanent terminal is built on the Mission Bay waterfront at 16th Street. The Mission Bay Ferry Landing has been included in area and citywide plans for the redevelopment of the Mission Bay neighborhood. The construction of the Chase Center has accelerated the need for a ferry facility in the Mission Bay neighborhood to serve not only events but also a growing commuter population traveling to area employers such as the University of California San Francisco, Kaiser, and high-tech and biotech firms.

WETA is working with the Port of San Francisco, the project's lead agency, to fund and construct the Mission Bay Ferry Landing and begin operations by early 2022. An initial project Memorandum of Understanding (MOU) between the Port of San Francisco and WETA was adopted in January 2017 and subsequently updated in February 2019. The project funding plan relies on sources identified by the City and the Port of San Francisco along with anticipated Regional Measure 3 (RM3) revenues.

Treasure Island Ferry Service

The proposed Treasure Island Ferry Service is being implemented by the Treasure Island Development Authority (TIDA) [1] and the San Francisco County Transportation Authority (SFCTA), acting in its capacity as the Treasure Island Mobility Management Authority (TIMMA). This project is being developed in conjunction with a large-scale proposed development project on Treasure Island that will ultimately include 8,000 new housing units, restaurants, retail establishments, and entertainment venues. Ferry service between Treasure Island and the San Francisco Ferry Building is required as a condition of approval for the project, to address transportation impacts associated with the project. WETA is not responsible for any capital or operating costs of the project. However, WETA is currently pursuing grant opportunities for zero-emission vessels for potential use on this service with the support and cooperation of SFCTA. The Treasure Island Ferry Terminal is currently under construction and is expected to be operational by Fall 2021. The current assumption is that a public ferry service operated by WETA will start in FY 2024.

Berkeley Ferry Service

The proposed Berkeley service would provide an alternative transportation link between Berkeley and downtown San Francisco. In May 2019 the City of Berkeley and WETA executed a Memorandum of Understanding (MOU) to proceed with the planning phase of this project, which will include a study to evaluate the feasibility of constructing a dual-use pier facility at or near the Berkeley Municipal Pier that would serve as both a ferry terminal and public access space. This service is expected to begin operations in FY 2025–26.

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[1] More information about the project can be found here: www.sftreasureisland.org

Redwood City Ferry Service

The Redwood City ferry service has been included in regional and local planning studies as a future transportation improvement for the Mid-Peninsula area of San Mateo County. Funding from San Mateo's Measure A transportation sales tax has been made available for the development and construction of a Redwood City ferry terminal. The City and the Port of Redwood City have entered into an agreement with the San Mateo County Transportation Authority to conduct a Feasibility Study and Business Plan as a first step toward future project development. WETA and the City of Redwood City are planning to enter into a Memorandum of Understanding by spring 2020 that defines the partnership between the two agencies as the project goes through the development process. This service is assumed to begin operations in FY 2027–28.

5.2 OPERATING BUDGET

Projected system operating expenses and revenues for the existing services and near-term expansion services are shown in figures 5-3 and 5-4, respectively. The following discussion presents the assumptions underlying the projection and provides more detail on the anticipated revenue sources and available reserve funding.

5.2.1 Budget Assumptions

Operating expenses and revenues for the ten-year period are based on actual FY 2018–19 expenses, utilizing the major assumptions identified below:

- Unit costs for Purchased Transportation services to increase 4 percent annually.
- Fuel cost is projected to increase 2 percent annually.
- Fares are expected to increase 3 percent annually.
- Annual ridership increases on each service between 3 percent and 10 percent are based on recent ridership trends for each individual route.
- Service costs and fare revenues for Alameda Seaplane Lagoon, Mission Bay, Berkeley, and Redwood City are based on anticipated service levels and ridership demand projections.

5.2.2 Revenue Sources

A variety of state and local funding sources are programmed and available to support nearly $751.1 million in operating costs required to deliver services in this ten-year service plan. All revenue sources in the Operating Budget are fully committed. These include the following:

Fare Revenue

Passenger fares are based on current ridership and anticipated future growth to provide $395.6 million in revenues to support system operation over the next ten years. To ensure that fares marginally keep up with system cost inflation, fare levels are planned to increase 3 percent annually.

Regional Measure 1: 5% Program

These funds are derived from an increase in tolls on the Bay Area's state-owned bridges that was approved by voters in November 1988. This plan assumes that these funds do not escalate over time, consistent with MTC projections. It is assumed that this source will contribute $35.9 million to the Operating Budget over the next ten years.

Regional Measure 2 Program

In 2004 voters passed Regional Measure 2 (RM2), which provides WETA with $19.5 million annually to support existing services and fund WETA's service expansion plans. Of this amount, $3 million is available specifically to support WETA planning and administration, and $16.5 million is available to support service development and operation. The Operating Budget does not escalate RM2 funds over time, consistent with MTC projections. This plan assumes that RM2 funds are used to support operating deficits for the existing Alameda/Oakland, Harbor Bay, Vallejo, and South San Francisco services.

Regional Measure 3 Program

Approved by voters in June 2018, Regional Measure 3 (RM3) raised tolls on the region's state-owned toll bridges by $1 beginning January 1, 2019. Tolls will rise by another $1 in January 2022, with another $1 increase in January 2025. RM3 includes a $35 million annual operating subsidy (ramping up over a five-year period) to support WETA's ferry system. RM3 toll increases are currently being placed into an escrow account managed by an independent trustee, pending final resolution of all litigation. This plan assumes that RM3 funding will be available starting in FY 2022–23.

Contra Costa Measure J

On November 2, 2004, Contra Costa voters approved Measure J, which extended the half-percent cent local transportation sales tax first established by Measure C in 1988 for another twenty-five years, in order to provide funding for continued and new transportation projects in the county. This program included $45 million to support capital development or transit operations for new ferry services to Richmond and Hercules. Approximately $27.8 million will be provided to support Richmond ferry operations from FY 2019–20 through FY 2028–29, by agreement between WETA and the CCTA.

City of Alameda Property Tax/Assessments

The plan assumes that the City of Alameda continues to provide funds from its property tax assessments, a total of $0.7 million over the ten-year planning period, to support operation of the Alameda Harbor Bay service.

5.2.3 Other Potential Revenue Sources

WETA will continue to work with local, regional, and state officials to pursue new transit operating funds to support existing and expanded ferry services over time. New and expanded revenue sources are especially critical since WETA's largest sources of funding subsidy do not increase with inflation. Some potential sources of additional funding are described below.

San Mateo Sales Tax

In 2004 San Mateo County voters approved an extension of the existing Measure A transportation sales tax measure to provide funding for continued and new transportation projects in the county. This program included $30 million to support capital development of new ferry services to South San Francisco and Redwood City. WETA expended $8 million of this amount to develop the South San Francisco terminal. WETA will work with the San Mateo County Transportation Authority to determine whether the remaining Measure A funds dedicated to the South San Francisco project could be flexed to support South San Francisco service operating costs in future years.

Regional Funds

This plan assumes no growth of regional toll dollars available to support ferry services over the ten-year planning horizon. However, as the economy picks up and toll revenues increase, WETA anticipates potential discussions with MTC regarding cost inflation increases that were previously planned but never offered to WETA services. WETA will also advocate for a portion of any future bridge toll, sales tax, gas tax, or other transit operating increases planned by the region to support transit services.

New Local Sales Tax Initiatives

WETA will work with local entities and county transportation authorities, such as the Alameda County Transportation Commission, Contra Costa Transportation Authority, Solano County Transportation Authority, San Francisco County Transportation Authority, San Mateo Transportation Authority, and Santa Clara Valley Transportation Authority, as they develop and pursue countywide transportation sales tax initiatives in future years to support continued ferry transit operations.

Bay Area communities are currently considering tax measures that would fund both transportation and housing. The largest of these proposals, FASTER, would generate revenue by increasing the sales tax across all nine Bay Area counties by one cent indefinitely. These measures may be a future source of capital and operating revenue for WETA.

5.2.4 Reserves

In addition to the previously described efforts to enhance overall revenues, WETA has worked to establish sufficient reserve funds to allow for operating flexibility and to buffer against unanticipated capital maintenance expenses. Although individual funding sources have different restrictions on the types of projects they can fund, WETA has developed the following guidelines for the amount of reserve funding needed:

- **Operating Reserve:** The purpose of the Operating Reserve is to accumulate sufficient reserve funds necessary to guard against service disruption in the event of unexpected temporary revenue shortfall or unpredicted one-time expenses. The target fund level for the Operating Reserve is to maintain a balance, as of July 1 of each fiscal year, equal to two months (or 17 percent) of total ferry operating expenditures. For FY 2019–20 the target fund level is $8.1 million.
- **Capital Reserve:** The purpose of the Capital Reserve is to accumulate sufficient reserve funds necessary to support unanticipated capital repairs of major system components. The target fund level for the Capital Reserve is to maintain a balance, as of July 1 of each fiscal year, of $10 million.

Figure 5-3 WETA Operating Plan (Actuals), FY 2015–16 through FY 2018–19

	FY 2015-16 Actual	FY 2016-17 Actual	FY 2017-18 Actual	FY 2018-19 Actual
REVENUE VEHICLE HOURS				
Alameda/Oakland Ferry Service	8,379	9,093	9,180	8,429
Alameda Harbor Bay Ferry Service	1,651	1,790	1,834	1,939
Vallejo Ferry Service	6,231	7,886	8,696	8,755
South San Francisco Ferry Service	1,434	1,499	1,470	1,139
Richmond Ferry Service				1,050
TOTAL REVENUE HOURS	**17,695**	**20,268**	**21,180**	**21,312**
REVENUE MILES				
Alameda/Oakland Ferry Service	90,273	99,192	99,288	94,830
Alameda Harbor Bay Ferry Service	28,391	30,785	31,541	33,342
Vallejo Ferry Service	169,495	212,100	238,293	240,019
South San Francisco Ferry Service	25,887	25,861	25,357	20,701
Richmond Ferry Service				15,120
TOTAL REVENUE MILES	**314,046**	**367,938**	**394,479**	**404,012**
OPERATING COSTS				
WETA Planning & Administration	$2,592,500	$2,473,168	$2,841,400	$2,353,081
Alameda/Oakland Ferry Service	$8,140,683	$9,763,332	$11,525,205	$13,329,240
Alameda Harbor Bay Ferry Service	$2,362,226	$2,260,907	$2,938,772	$3,608,269
Vallejo Ferry Service	$13,513,833	$16,079,304	$17,393,197	$17,676,924
South San Francisco Ferry Service	$2,753,919	$2,666,965	$3,181,583	$3,179,777
Richmond Ferry Service				$1,723,570
TOTAL	**$29,363,161**	**$33,243,676**	**$37,880,157**	**$41,870,861**
OPERATING REVENUES				
Fare Revenues	$16,681,858	$18,567,319	$20,403,076	$22,434,943
Local - Bridge Tolls / RM1 5% Ferry Ops				
Local - Bridge Tolls / RM2 WETA Plan & Admin	$2,592,500	$2,473,168	$2,841,400	$2,353,081
Local - Bridge Tolls / RM2 Ferry Ops	$10,088,803	$12,112,981	$14,620,371	$15,822,253
Local - Bridge Tolls / RM3 Ferry Ops				
Local - Sales Tax Measure J				$1,240,188
Local - Alameda Property Tax / Assessments				
Local - Landing Fees / Advertising / Other		$90,208	$15,310	$20,396
Other Funding (TBD) for Treasure Island service				
TOTAL	**$29,363,161**	**$33,243,675**	**$37,880,157**	**$41,870,861**
NET INCOME (DEFICIT)	**$0**	**$0**	**$0**	**$0**
System-wide Farebox Recovery	***62%***	***60%***	***58%***	***57%***

Figure 5-4 WETA Operating Plan and Budget, FY 2019–20 through FY 2028–29

	FY 2019-20 Budget	FY 2020-21 Projected	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected	FY 2025-26 Projected	FY 2026-27 Projected	FY 2027-28 Projected	FY 2028-29 Projected	TOTAL 10-Year
PLANNED REVENUE HOURS & MILES											
Major Service Changes:		*Seaplane Lagoon (Aug 2020)*	*Mission Bay (Jan 2022)*	*VJO and AOFS Enhancement*	*HB Enhancement; Treasure Island (Jul 2023)*		*SPL and RCH Enhancement; Berkeley (Jul 2025)*	*SSF Enhancement*	*Treasure Island Enhancement; Redwood City (Jul 2027)*		
REVENUE VEHICLE HOURS											
Alameda/Oakland Ferry Service	8,673	7,966	7,966	8,689	8,689	8,689	8,689	8,689	8,689	8,689	85,425
Alameda Harbor Bay Ferry Service	2,133	2,133	2,133	2,133	3,847	3,847	3,847	3,847	3,847	3,847	31,615
Vallejo Ferry Service	8,862	8,862	8,862	9,616	9,616	9,616	9,616	9,616	9,616	9,616	93,896
South San Francisco Ferry Service	1,705	1,705	1,705	1,705	1,705	1,705	1,705	2,989	2,989	2,989	20,902
Richmond Ferry Service	2,496	2,685	2,685	2,685	2,685	2,685	4,028	4,028	4,028	4,028	32,033
Seaplane Lagoon		1,665	1,816	1,816	1,816	1,816	3,027	3,027	3,027	3,027	21,041
Mission Bay Ferry Service			416	832	832	832	832	832	832	832	6,242
Berkeley Ferry Service							1,957	1,957	1,957	1,957	7,827
Redwood City Ferry Service									3,070	3,070	6,141
Treasure Island Ferry Service					TBD	TBD	TBD	TBD	TBD	TBD	
TOTAL REVENUE HOURS	**23,869**	**25,016**	**25,583**	**27,476**	**29,191**	**29,191**	**33,701**	**34,985**	**38,055**	**38,055**	**305,122**
REVENUE MILES											
Alameda/Oakland Ferry Service	106,027	97,377	97,377	106,213	106,213	106,213	106,213	106,213	106,213	106,213	1,044,272
Alameda Harbor Bay Ferry Service	36,696	36,696	36,696	36,696	66,187	66,187	66,187	66,187	66,187	66,187	543,906
Vallejo Ferry Service	241,114	241,114	241,114	261,634	261,634	261,634	261,634	261,634	261,634	261,634	2,554,782
South San Francisco Ferry Service	23,640	23,640	23,640	23,640	23,640	23,640	23,640	41,443	41,443	41,443	289,809
Richmond Ferry Service	34,824	37,464	37,464	37,464	37,464	37,464	56,196	56,196	56,196	56,196	446,928
Seaplane Lagoon		30,855	33,660	33,660	33,660	33,660	56,100	56,100	56,100	56,100	389,895
Mission Bay Ferry Service			5,087	10,175	10,175	10,175	10,175	10,175	10,175	10,175	76,309
Berkeley Ferry Service							23,919	23,919	23,919	23,919	95,676
Redwood City Ferry Service									83,538	83,538	167,076
Treasure Island Ferry Service					TBD	TBD	TBD	TBD	TBD	TBD	
TOTAL REVENUE MILES	**442,301**	**467,145**	**475,038**	**509,482**	**538,973**	**538,973**	**604,064**	**621,867**	**705,405**	**705,405**	**5,608,654**
OPERATING COSTS											
WETA Planning & Administration	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$30,000,000
Alameda/Oakland Ferry Service	$14,916,400	$13,831,010	$14,171,898	$18,356,492	$18,907,187	$19,474,403	$20,058,635	$20,660,394	$21,280,206	$21,918,612	$183,575,235
Alameda Harbor Bay Ferry Service	$3,976,300	$3,749,003	$3,864,014	$3,987,634	$5,707,863	$5,879,099	$6,055,472	$6,237,136	$6,424,250	$6,616,977	$52,497,747
Vallejo Ferry Service	$20,966,000	$23,331,871	$24,119,153	$28,615,182	$29,473,638	$30,357,847	$31,268,582	$32,206,640	$33,172,839	$34,168,024	$287,679,776
South San Francisco Ferry Service	$3,392,600	$3,836,215	$3,960,036	$4,095,975	$4,236,903	$4,383,010	$4,534,494	$6,710,726	$6,912,047	$7,119,409	$49,181,415
Richmond Ferry Service	$4,450,600	$3,810,647	$3,909,853	$4,041,099	$4,177,093	$4,318,013	$6,442,884	$6,636,170	$6,835,255	$7,040,313	$51,661,927
Seaplane Lagoon		$3,596,304	$4,059,867	$4,201,552	$4,348,491	$4,500,885	$6,030,333	$6,211,243	$6,397,581	$6,589,508	$45,935,764
Mission Bay Ferry Service			$862,703	$1,785,944	$1,848,733	$1,913,861	$1,981,418	$2,051,497	$2,124,196	$2,199,616	$14,767,969
Berkeley Ferry Service							$4,554,600	$4,708,054	$4,867,071	$5,031,864	$19,161,589
Redwood City Ferry Service									$8,198,542	$8,473,555	$16,672,098
Treasure Island Ferry Service					$0	$0	$0	$0	$0	$0	$0
TOTAL	**$50,701,900**	**$55,155,050**	**$57,947,524**	**$68,083,880**	**$71,699,908**	**$73,827,117**	**$83,926,417**	**$88,421,859**	**$99,211,988**	**$102,157,878**	**$751,133,520**
OPERATING REVENUES											
Fare Revenues	$24,520,000	$27,275,351	$29,960,146	$32,895,458	$35,829,868	$39,050,263	$43,954,790	$47,892,806	$54,687,039	$59,548,074	$395,613,796
Local - Bridge Tolls / RM1 5% Ferry Ops	$2,642,300	$6,019,724	$6,221,502	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$35,883,525
Local - Bridge Tolls / RM2 WETA Plan & Admin	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$30,000,000
Local - Bridge Tolls / RM2 Ferry Ops	$16,500,000	$16,500,000	$16,500,000	$16,500,000	$16,500,000	$16,500,000	$16,500,000	$16,500,000	$16,500,000	$16,500,000	$165,000,000
Local - Bridge Tolls / RM3 Ferry Ops				$10,510,327	$11,304,123	$10,351,209	$13,739,716	$14,464,846	$18,670,673	$17,013,899	$96,054,793
Local - Sales Tax Measure J	$3,308,200	$2,356,475	$2,262,276	$2,174,394	$2,062,117	$1,921,745	$3,727,912	$3,560,107	$3,350,075	$3,091,605	$27,814,906
Local - Alameda Property Tax / Assessments	$728,000										$728,000
Local - Landing Fees / Advertising / Other	$3,400	$3,500	$3,600	$3,700	$3,800	$3,900	$4,000	$4,100	$4,200	$4,300	$38,500
Other Funding (TBD) for Treasure Island service											$0
TOTAL	**$50,701,900**	**$55,155,050**	**$57,947,524**	**$68,083,880**	**$71,699,908**	**$73,827,117**	**$83,926,417**	**$88,421,859**	**$99,211,988**	**$102,157,878**	**$751,133,520**
NET INCOME (DEFICIT)	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
System-wide Farebox Recovery	*51%*	*52%*	*55%*	*51%*	*52%*	*55%*	*54%*	*56%*	*57%*	*60%*	*55%*

6 CAPITAL IMPROVEMENT PROGRAM

The ten-year Capital Improvement Program (CIP) provides an overview of capital projects that will be needed to support WETA's current regional program of public transit and emergency response ferry services as well as WETA's planned system expansion. The CIP provides a basis for annual capital budgeting, long-term financial planning, and grant application development. It will be revised periodically as projects develop and future system funding becomes more certain. A detailed table of project costs and revenues by year is provided in appendix A.

6.1 CIP PROJECTS AND CAPITAL COSTS

The Capital Improvement Program (CIP) is organized to reflect the multiyear nature of capital projects and the recurring cycles of many capital improvements. The program of projects in the CIP includes both rehabilitation and replacement needs for existing services and planned near-term expansion projects based on WETA's system expansion plans described in chapter 5. All projects contained in the plan support WETA's state-mandated mission to operate a comprehensive water transportation system and to coordinate and operate the water transportation response to regional emergencies.

Project categories included in the CIP are summarized in figure 6-1 and are described in more detail in the following pages.

Figure 6-1 Types of Capital Projects

Program	Description
Revenue Vessels	Rehabilitation, replacement, and expansion of ferry vessel fleet
Major Facilities Projects	Rehabilitation and replacement of passenger ferry and vessel mooring facilities and maintenanc facilities (e.g., terminals, maintenance facilities, floats, docks)
Service Expansion	Ferry terminals necessary for near-term ferry expansion services and operations
Capital Equipment/Small Projects	Purchase of non-revenue vehicles and equipment and implementation of small projects

6.1.1 Revenue Vessel Projects

WETA currently owns and maintains a fleet of fifteen vessels. Two additional vessels are under construction and will be added to the fleet in 2020. The plan assumes that WETA's combined ferry fleet will consist of thirty-three vessels by FY 2028–29, including sixteen new vessels for service enhancements and expansions. The details of the current fleet and the details of replacement, rehabilitation, service enhancement, and expansion vessels are shown in figure 6-2 and appendix B.

This fleet configuration allows for sufficient spare vessel capacity to be available to provide backup service when vessels must undergo dry-dock inspections required by the Coast Guard or when regularly scheduled or unanticipated maintenance or rehabilitation or repair work is needed. The entire fleet is available to serve the Bay Area's transportation needs in the event of an emergency. Revenue vessel project needs are described below and organized into rehabilitation, replacement, and expansion needs of the fleet.

Vessel Expansion

WETA's vessel fleet expansion program includes the purchase of up to sixteen new ferry vessels to operate planned service, for a total of approximately $229.4 million[1]. It is anticipated that these vessels will be funded through a combination of Regional Measure 3 (RM3), state Transit and Intercity Rail Capital Program (TIRCP), and state Proposition 1B funds. The details of the vessels to be placed for expansion, service enhancements, and estimated costs over the planning horizon are shown in appendix B (Service Enhancement and Expansion Program).

Appendix B is a snapshot of the WETA fleet plan, in terms of WETA's current and expected fleet. Several factors create the context for this plan and influence planned investment over the SRTP period. The WETA fleet has historically been characterized by vessel subfleets: groups of vessels that have been designed to provide optimal service for specific routes but that are not necessarily interchangeable within the system. In addition, specific WETA terminals were restricted in their ability to handle larger vessels due to navigational constraints or water depth at the terminal. WETA has made a conscious effort in its capital improvement program in recent years to build terminals and vessels that are more universal, allowing greater flexibility and interchangeability between vessels and services. This emphasis will continue into the SRTP period as vessels are able to serve multiple terminals because they have low draft, have higher speeds and so are able to meet travel time goals throughout the system, and have sufficient capacity for most demand periods. WETA requires sufficient backup vessels to reliably operate regular transit service. Due to high demands for maintenance, vessels are often out of service for both predictable and unpredictable reasons throughout the year. As a result, WETA has strived for a higher level of spare capacity in its fleet than may be seen in other modes of transit, such as buses or rail. The WETA Strategic Plan has a goal of achieving a spare ratio of 50 percent, in other words, a fleet that has a 50 percent greater number of vessels than those in peak service. Historically, WETA has operated with very low numbers of spare vessels. This trend is being reversed as WETA has aggressively pursued vessel procurement that will build the fleet and spare capacity. In 2019 WETA completed a Small Vessel Feasibility Study that identified the need for smaller 100-passenger capacity vessels in specific upcoming services, such as Mission Bay and Treasure Island. Building on that study, WETA has pursued grant funds to purchase small zero-emission vessels that are propelled by electric battery power. As WETA expands its small vessel fleet and as technology improves, more and more larger vessels will be electric or use some other form of zero-emission propulsion.

Vessel Rehabilitation

Vessel rehabilitation includes projects to provide periodic rehabilitation and replacement of ferry boat components such as haul-outs, engines, generators, propulsion systems, and other major components required to keep the vessels in service. The total estimated cost of vessel rehabilitation over the course of the ten-year plan is $101.5 million. The details of the vessels to be rehabilitated over the planning horizon and the estimated costs are shown in appendix A. All vessel rehabilitation work will be performed by third-party vendors under contract to WETA.

[1] This number includes some of the cost of constructing the Cetus, Argo, Lyra, Vela, and Dorado, since their construction costs were split between FY 2018–19 and FY 2019–20, as reflected in appendix A (Capital Improvement Plan). However, these five vessels are not listed as part of the expansion fleet because they will be in service in FY 2019–20.

Vessel rehabilitation work is divided into two major categories for financial planning purposes, as described below.

- **Major Component Rehabilitation/Replacement**: Vessels are required to undergo periodic haul-out and rehabilitation work to remain in working order during their twenty-five-year lifespan. Major component rehabilitation or replacement work can include propulsion systems, navigation systems, onboard monitoring and alarm systems, interior components, and boarding apparatus. The need for this type of rehabilitation is often cyclical and can be planned. For example, engine overhauls are generally required every 12,000 hours of operation. Other major component work, including rehabilitation or retrofit of passenger amenities, is determined by a preventive maintenance program and inspection process. WETA has identified $50.2 million of major component rehabilitation/replacement work that will be needed over the next ten years across the current and future fleet.
- **Quarter-Life/Mid-Life/End-of-Life Repower/Refurbishment**: A quarter-life repower/refurbishment is scheduled when a vessel reaches 6.5 and approximately 19 years of service life; this includes major dry-docking, overhauls to drive train running gear, passenger cabin refurbishment, and HVAC and main engine overhaul work. A midlife repower/refurbishment is scheduled when a vessel reaches 12.5 years of service life. Vessels are repowered at this point to ensure continued safe and reliable operation. This work generally includes replacement of major vessel systems such as engines, electronics, and propulsion systems; refurbishment of the passenger cabins; and sandblasting and repainting vessels. End-of-life repower/refurbishment may be undertaken to keep vessels operational beyond the typical 25 years of useful service life. End-of-life work activities are the same as quarter-life activities, except that the main engine is replaced rather than overhauled. Equipment service hours and specific vessel needs may affect the timing of the repower/refurbishment projects. The total anticipated cost for these projects is $51.3 million within the ten-year planning period of the SRTP.

Vessel Replacement

Passenger ferry vessels are expected to have a useful life of twenty-five years. Vessel replacement is necessary when a vessel is nearing the end of its useful life and major component rehabilitation and replacement is no longer cost-effective. WETA anticipates the replacement of five vessels over the next ten years, including the Solano, Bay Breeze, Peralta, Intintoli, and Mare Island, at an estimated cost of $91.8 million. The details of the vessels to be replaced in service over the planning horizon and their estimated costs are shown in appendix A.

Figure 6-2 Current Revenue Vessel Fleet

ID Name	ID #	MFG	Year of MFG	Length of Vessel (Meters)	Capacity: Seated/ Wheelchairs	Vessel Type	Mode of Power	Major Rehab/ Years Added	Anticipated Replacement
Bay Breeze	1020550	Nichols	1994	29.6	250 / 4	Catamaran	diesel	yes/12	2021
Peralta	1118810	Nichols	2002	37	326 / 4	Catamaran	diesel	yes/13	2029
Intintoli	1050665	Dakota Creek	1997	41.27	349 / 4	Catamaran	diesel	yes/ 11	2024
Mare Island	1053103	Dakota Creek	1997	41.27	349 / 4	Catamaran	diesel	yes/ 11	2024
Solano*	1155022	Dakota Creek	2004	41.27	320 / 4	Catamaran	diesel	yes/11	2019
Gemini	1213097	Nichols/ Kvichak	2008	35.9	225 / 4	Catamaran	diesel	yes/12	2033
Pisces	1213095	Nichols/ Kvichak	2008	35.9	225 / 4	Catamaran	diesel	yes/ 13	2034
Scorpio	1215086	Kvichak/ Nichols	2009	35.9	225 / 4	Catamaran	diesel	yes/ 13	2034
Taurus	1215087	Kvichak/ Nichols	2009	35.9	225 / 4	Catamaran	diesel	yes/ 13	2033
Hydrus	1275311	Vigor	2017	41.26	400	Catamaran	diesel	no	2042
Cetus	1277145	Vigor	2017	41.26	400	Catamaran	diesel	no	2042
Argo	1282716	Vigor	2018	41.26	400	Catamaran	diesel	no	2043
Carina	1290482	Vigor	2018	41.26	400	Catamaran	diesel	no	2043
Pyxis	1286883	Dakota Creek	2019	44	445	Catamaran	diesel	no	2044
Vela	1286882	Dakota Creek	2019	44	445	Catamaran	diesel	no	2045
Lyra**	1286881	Dakota Creek	2020	44	445	Catamaran	diesel	no	2045
Dorado**	TBD	Maverick	2020	38	300	Catamaran	diesel	no	2047

*The Solano was retired from service in December 2019 and will be replaced by 2022.

**The Lyra and Dorado are under construction and are to be delivered in 2020.

6.1.2 Major Facilities Projects

The WETA ferry system includes seven terminals, one vessel mooring facility owned and maintained by WETA, and two operations and maintenance facilities, as identified in figure 6-3. Programmed rehabilitation and maintenance of these facilities is critical to ensure that the facilities remain operable at all times. This program also ensures that major WETA facilities are

prepared and ready to serve the Bay Area in the event of an emergency. Facility projects include maintenance and rehabilitation of floats and gangways, dredging, and general terminal facility maintenance.

Figure 6-3 WETA Terminal and Mooring Facilities

Facility	Year Built
Vallejo Terminal	1999
Oakland Terminal	1990
Alameda Main Street Terminal	1990
Alameda Harbor Bay Terminal	1992
South San Francisco Terminal	2012
Pier 9 Layover Berths	2011
North Bay Operations and Maintenance Facility	2016
Central Bay Operations and Maintenance Facility	2018
Richmond Terminal	2019
Downtown San Francisco Terminal Expansion	2020

Dredging

The Vallejo, South San Francisco, Harbor Bay, and Central Bay Operation and Maintenance facilities all require dredging to remove silt and buildup that would otherwise prevent vessels from operating in these areas. The timing of maintenance dredging depends on previous dredging depths and variable sedimentation rates. Dredge work for the Vallejo service is scheduled to take place in FY 2021–22, FY 2024–25, and FY 2027–28. Dredging in South San Francisco is scheduled to take place in FY 2022–23. Dredging in Alameda Harbor Bay is scheduled to take place in FY 2022–23. Dredging in the Central Bay Operations and Maintenance Facility is scheduled to take place in FY 2028–29. No other channels are anticipated to require dredging during this SRTP period. The total planned dredge work is estimated to cost $14.5 million.

Terminal and Facility Maintenance

Terminal facilities— including terminal buildings, parking lots, and shelters— require periodic rehabilitation and replacement work to support ongoing ferry operations. WETA anticipates a variety of terminal maintenance projects over the next ten years to ensure that ferry services are not interrupted and the facilities can function properly in the event of an emergency. Floats and gangways provide passenger access as well as facilities to moor WETA vessels when they are out of service. Periodic haul-out, inspection, and repair of existing floats are scheduled to occur as a part of this plan. Nearly all of WETA's float and gangway facilities will require some maintenance funding over the next ten years. The estimated cost of terminals and facilities is approximately $30.3 million.

6.1.3 System Expansion Projects

Over the ten-year planning horizon of this SRTP, the following capital needs are anticipated to support existing services and the near-term expansion projects described in chapter 5.

Downtown San Francisco Ferry Terminal Expansion Project

The Downtown San Francisco Ferry Terminal Expansion Project has been developed by WETA to expand and improve facilities at the Downtown San Francisco Ferry Terminal. WETA is working in close partnership with the Port of San Francisco to implement this project.

The project includes construction of three new ferry gates and vessel berthing facilities that will support new ferry services. The project will also improve landside conditions at the Ferry Terminal by the provision of new amenities such as weather-protected canopies, the construction of a new plaza area south of the Ferry Building, the extension of pedestrian promenade areas, and other public access improvements. The new gates and amenities will significantly improve waiting and queuing conditions for riders and expand the space available for WETA to stage emergency water transit services in the event of a regional transportation disruption or disaster. Construction began in February 2017 and is scheduled to be fully completed by mid-2020. The total estimated cost of the full project is $98.0 million.

Alameda Seaplane Lagoon Ferry Terminal

The construction of Alameda Seaplane Lagoon terminal began in September 2019. WETA and the City of Alameda are in the process of developing an operational agreement and a service plan that anticipates the start of operation in August 2020. WETA authorized a commitment of $2 million to the project to close a capital-funding gap and keep the project on schedule for construction. The total estimated cost of the terminal project is $22 million.

Mission Bay Ferry Terminal

The Port of San Francisco anticipates beginning construction of the Mission Bay terminal in early 2020 and completing construction in time for service start-up in 2022. WETA's commitment to terminal construction is $25 million. The estimated cost of the project is $46.2 million.

Treasure Island Ferry Terminal

The proposed terminal will provide ferry service between Treasure Island and the downtown San Francisco Ferry Terminal. This project is developed as part of the 2011 Treasure Island Transportation Implementation Plan, in conjunction with a large-scale proposed development project on Treasure Island that will include 8,000 new housing units, restaurants, retail establishments, and entertainment venues. San Francisco County Transportation Authority (SFCTA) is exploring funding opportunities to implement this planned transportation program.

WETA is not required to allocate any funding for capital or operating costs of this service but has planned for accommodation of the new vessels in its downtown San Francisco Ferry Terminal Expansion and Central Bay Operations and Maintenance Facility projects.

Berkeley Ferry Terminal

The proposed Berkeley terminal will accommodate ferry service between the Berkeley terminal, downtown San Francisco, and potentially other destinations such as South San Francisco. WETA and the City of Berkeley entered into a Memorandum of Understanding in spring 2019 that details project development activities such as an evaluation of landside and waterside options for developing a terminal at the existing recreational pier site on the Berkeley waterfront.

The assumed estimated cost of the project is $30.3 million. It is assumed that 50 percent of the capital costs for this project will be funded with RM3 and the remaining covered by other local funding sources. This service is assumed to begin operations in FY 2025–26.

Redwood City Ferry Terminal

The proposed Redwood City terminal will accommodate ferry service to and from Redwood City.

The projected cost of the project is $28.6 million. It is assumed that $15 million of the capital costs for this project would be funded through San Mateo sales tax and the remaining with Regional Measure 3 (RM3) funds. This service is assumed to begin operations in FY 2027–28.

6.1.4 Capital Equipment/Small Projects

WETA currently owns and operates fourteen non-revenue vehicles to support various operations and maintenance activities, including two work skiffs, one boat trailer, two shop trucks, two crew vans, five utility carts, and two forklifts. Small-scale capital expenditures are periodically required for new or replacement non-revenue vehicles and equipment.

Over the time frame of this SRTP, WETA will incur $5.6 million in expenditures for capital equipment, non-revenue vehicles, and miscellaneous terminal maintenance projects.

6.1.5 Asset Management

WETA is required to establish and carry out a Transit Asset Management (TAM) Plan to monitor and manage public transportation capital assets to achieve and maintain a State of Good Repair (SGR), improve safety, and increase reliability and performance. As part of the Moving Ahead for Progress in the 21st Century Act (MAP-21), and the subsequent Fixing America's Surface Transportation (FAST) Act, the Federal Transit Administration has enacted regulations for transit asset management that require transit service providers to establish asset management performance measures and targets as well as to develop a TAM plan. The goal of improved transit asset management is to implement a strategic approach for assessing needs and prioritizing investments to ensure that WETA assets are maintained in the State of Good Repair necessary to provide safe, reliable, on-time service to its riders.

WETA has worked with the Metropolitan Transportation Commission (MTC) to develop a TAM plan that meets this new federal requirement.

6.1.6 Summary of CIP Costs

The CIP identifies projects requiring a total investment of approximately $584.4 million over the ten-year plan period as illustrated in figure 6-4.

Figure 6-4 Capital Improvement Program Summary

Program	Ten-Year Total Cost
Revenue Vessel Projects	**$422.7 million**
Vessel Rehabilitation	$101.5 million
Vessel Replacement	$91.8 million
Vessel Expansion [1]	$229.4 million
Major Facilities Rehabilitation/Replacement	**$44.9 million**
Dredging	$14.5 million
Terminal Maintenance, Floats, and Gangways	$30.3 million
Service Expansion Projects	**$111.2 million**
Central Bay Ops & Maintenance Facility	$6.3 million
San Francisco Ferry Building South Basin [2]	$19.0 million
Alameda Seaplane Lagoon Terminal	$2.0 million
Mission Bay Terminal	$25.0 million
Redwood City Terminal	$28.6 million
Berkeley Terminal	$30.3 million
Capital Equipment/Small Projects	**$5.6 million**
Total	**$584.4 million**

[1] New expansion vessels added after FY 2019–20. The total cost on this table does not include any costs of constructing the Cetus, Hydrus, Vela, Lyra, or Dorado. These costs are, however, included in the overall Vessel Expansion cost, as indicated in appendix A and appendix B.
[2] This is not the full project cost, only the ten-year cost from FY 2020 to FY 2029.

6.2 CIP REVENUES

A variety of federal, state, and local funding sources can reasonably be projected to be available to support the approximately $584.4 million Capital Improvement Program (CIP) contained in this plan, as discussed below.

6.2.1 Federal Sources

Federal Grants

The majority of Federal funds that WETA receives and utilizes to fund rehabilitation and replacement projects in the CIP are Federal Section 5307 and 5337 formula program funds

programmed annually by the Metropolitan Transportation Commission (MTC) based on regional criteria and secured through direct grant application and contract with the Federal Transit Administration (FTA). The FTA formula funds provide up to 80 percent funding to support critical vessel replacement, rehabilitation and midlife refurbishment work, float and gangway rehabilitation and replacement work, and periodic dredging.

WETA has also been successful in securing FTA Passenger Ferry Grant Program funds to support construction of the Central Bay Operations and Maintenance Facility, construction of the Downtown San Francisco Terminal Expansion, and rehabilitation of the MV Solano. Additional federal funds assumed in this plan include future award of FTA Passenger Ferry Grant Program and FHWA Ferry Boat Formula Program funds. Across all federal sources, Federal Sections 5307 and 5337, FTA Passenger Ferry Grant Program, and FHWA Ferry Boat Program are designated for particular capital projects and uses and cannot be transferred to other capital needs that may arise. Considering formula and discretionary sources together, the CIP forecasts the use of a total of $166.4 million in federal funds over the ten-year forecast period in this SRTP. WETA anticipates the use of $5 million in already-awarded FTA Passenger Ferry Grant Program funds in FY 2019–20. WETA also anticipates the use of $3.9 million in FTA Passenger Ferry Grant Program funds in FY 2024–25, but this funding has not yet been fully secured. If these funds are not received, they will be backfilled with available State Transit Assistance funds (a state-level revenue source).

6.2.2 State Sources

Proposition 1B

The Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act, approved by voters in 2006, allows the state to sell up to $1.475 billion in bonds for security and disaster preparedness projects throughout the state. Over the ten-year period from FY 2007–08 to FY 2016–17, this program promises to provide WETA with $245 million in Proposition 1B funds to support implementation of its regional emergency response ferry system. This plan assumes use of the remaining Proposition 1B funds to construct new vessels. A total of $41.4 million in Proposition 1B funds are anticipated to be used for capital projects during the SRTP forecast period.

State: Low Carbon Transit Operations Program

The Low Carbon Transit Operations Program (LCTOP) provides operating and capital assistance for transit agencies to reduce greenhouse gas emissions and improve mobility. The funding program is part of the state's Greenhouse Gas Reduction Fund. A portion of the LCTOP funds are allocated to operators based on the State Transit Assistance (STA) Revenue-Based formula. LCTOP funds can to be used to support capital and operating expenses that enhance transit service and reduce greenhouse gas (GHG) emissions. These funds can also be used to support new or expanded transit services, or expanded intermodal facilities and equipment, fueling, and maintenance for those facilities. This plan assumes use of $3.5 million in LCTOP funds for capital purposes over the ten-year planning period.

Transit and Intercity Rail Capital Program

Administered by the California State Transportation Agency (CalSTA), the Transit and Intercity Rail Capital Program (TIRCP) was created by Senate Bill (SB) 862 to provide grants from the Greenhouse Gas Reduction Fund (GGRF) to fund transformative capital improvements that will modernize California's intercity, commuter, and urban rail systems and bus and ferry transit systems to significantly reduce greenhouse gas emissions, vehicle miles traveled, and congestion.

Assembly Bill (AB) 398 extended the Cap and Trade Program that supports the TIRCP from 2020 through 2030. This plan assumes use of $6.9 million in TIRCP funds to support the construction of new vessels over the ten-year planning period.

State Transit Assistance

State Transit Assistance (STA) funds are derived from the statewide sales tax on gasoline and diesel fuel and are used for mass transportation purposes. STA funds are appropriated by the State Controller's Office on a revenue and population formula basis and allocated annually to WETA through grant agreement with MTC to support transit capital and operating needs. This plan assumes use of $32.6 million in STA funds for capital purposes over the ten-year planning period.

State Transit Assistance: State of Good Repair (STA-SGR)

The State of Good Repair (SGR) Program provides funds to transit operators in California for eligible transit maintenance, rehabilitation, and capital projects. SGR is funded from a portion of a new Transportation Improvement Fee (TIF) on vehicle registrations due on or after January 1, 2018. A portion of this fee is transferred to the State Controller's Office for the SGR Program. These funds are allocated under the State Transit Assistance (STA) Program formula to eligible agencies. Half of the funds are allocated according to population and half according to transit operator revenues. This plan assumes use of $3.7 million in STA-SGR funds for capital purposes over the ten-year planning period.

6.2.3 Regional and Local Sources

Assembly Bill 664

Assembly Bill 664 funds are programmed annually by MTC to provide a partial local match to Federal Section 5307 and 5337 formula grant funds for projects serving the Bay Bridge transbay corridor. This plan assumes WETA eligibility for these funds for ferry rehabilitation and replacement projects and the use of $2.5 million for capital purposes over the ten-year forecast period.

Regional Measure 1 – 2% Program

In November 1988 Bay Area voters approved Regional Measure 1 (RM1), authorizing a $1 toll increase for all seven state-owned Bay Area toll bridges. Approximately $1 million RM 1 – 2% funds are available annually from this program, through MTC, to support capital expenses associated with transbay ferry services in the Carquinez and Bay Bridge corridors. The funding amount does not escalate over time, consistent with MTC projections. However, the funds can be banked year to year, and annual use of this revenue source fluctuates depending on the level of capital needs and the availability of other funding sources. This plan assumes the use of $12 million in RM1 – 2% funds over the next ten years.

Regional Measure 1 – 5% Program

These funds are derived from an increase in tolls on the Bay Area's state-owned bridges that was approved by the voters in November 1988. WETA receives $3 million annually for ferry capital improvement projects and ferry operations. This plan assumes that these funds do not escalate over time, consistent with MTC projections. These funds can be banked from year to year, so annual use of this revenue source fluctuates depending on the level of capital needs and the availability of other funding sources. Over the next ten years, WETA has programmed $5.7 million in funding from this source.

Regional Measure 3 Program

Approved by voters in June 2018, Regional Measure 3 (RM3), raised tolls on the region's state-owned toll bridges by $1 beginning in January 1, 2019. Tolls will rise by another $1 in January 2022 with another $1 increase in January 2025. RM3 includes $300 million capital to support WETA's ferry system. RM3 toll increases are currently placed into an escrow account managed by an independent trustee pending final resolution of all litigation. This plan assumes RM3 funds will be available beginning in FY2022-23 and has programmed $246.8 million in capital funding over the next ten years.

Alameda County Measure B, Measure BB

In 2000, Alameda County voters approved Measure B, the half-cent transportation sales tax and an accompanying 20-year expenditure plan. Alameda CTC administers Measure B funds to deliver transportation improvements and services in Alameda County and to address congestion in every major commute corridor in the county. Measure B funds are allocated annually to support the Alameda ferry services. On November 4, 2014 Alameda County voters passed Measure BB, a 30-year Transportation Expenditure Plan which extends the existing 0.5 percent Measure B sales tax, scheduled to terminate on March 31, 2022. Measure BB also augments the tax by 0.5 percent and dedicates the full 1 percent to transportation expenses. Measure BB will expire in 2045 without voter renewal.

This plan assumes the use of $24.6 million Measure B and Measure BB funds for capital projects over the 10-year SRTP period.

Other Miscellaneous Regional/Local Funds

Other grant funds assumed to be available to support WETA projects include City of Alameda Local Funds to support capital needs at the Alameda terminals, and other minor contributions and grants. Together these miscellaneous funds total $7.8 million over the 10-year forecast period in this SRTP.

6.2.4 Summary of CIP Revenues

Over the ten-year period covered by this SRTP, WETA is projected to have sufficient revenues available to cover the entire $584.4 million capital program described earlier in this chapter. A summary of the funding sources planned to be used to support the CIP is provided in figure 6-5.

Figure 6-5 Summary of Capital Revenue Sources

Funding Program	Ten-Year Revenue Total
Federal Sources	**$ 166,372,700**
FTA Sources	$155,720,700
FHWA Sources	$10,652,000
State Sources	**$88,051,100**
Proposition 1B	$41,392,600
State Transit Assistance (STA)	$32,577,500
State Transit Assistance State of Good Repairs (STA-SGR)	$3,718,500
LCTOP Sources	$3,487,900
TIRCP Sources	$6,874,600
Regional / Local Sources	**$329,953,700**
Bridge Toll Funding	$271,079,500
Sales Tax Measures	$39,858,400
Other Regional / Local	$19,015,800
Total	**$584,377,500**

6.2.5 Capital Funding Reserves

As discussed in chapter 5, WETA is building reserve funding in order to be prepared for unexpected capital maintenance expenses such as replacements of engines and floats or gangways. The purpose of the Capital Reserve is to accumulate sufficient reserve funds necessary to support unanticipated capital repairs of major system components. The target fund level for the Capital Reserve is to maintain a balance, as of July 1 of each fiscal year, equal to $10 million.

7 OTHER REQUIREMENTS

7.1 MTC RESOLUTION 3434: REGIONAL TRANSIT EXPANSION

MTC Resolution 3434 (the Resolution) was a cornerstone of the Metropolitan Transportation Commission's (MTC) 2001 Regional Transportation Planning process and its 2008 Strategic Plan. It was designed to allow the region's transit operators and planning agencies to "speak with one voice" in prioritizing large-scale regional transit expansion projects seeking discretionary funding support. The original resolution included nine new rail extensions, significant service expansions, and a comprehensive regional bus program, totaling roughly $10.5 billion.

An update of the Resolution (effective April 26, 2006) included an expansion of ferry service based on a subset of WTA's Implementation and Operations Plan (IOP), including expansion of the Alameda, Oakland, and Harbor Bay services and implementation of the following new ferry services and related support facilities:

- South San Francisco from Alameda/Oakland
- Berkeley to San Francisco
- Richmond to San Francisco
- Hercules to San Francisco

MTC did not include the Treasure Island to San Francisco ferry service in Resolution 3434, under the assumption that the developer or development would fund the cost of the terminal, vessels, and service and that no regional discretionary funds allocated by MTC would therefore be needed.

Of the four expansion services included in Resolution 3434, two services are in operation. The South San Francisco service began on June 4, 2012, and the Richmond service began on January 10, 2019. The Berkeley service is expected to be operational in FY 2025–26, as discussed in chapter 5. The City of Berkeley General Plan designates the site and vicinity as Waterfront/Marina and Open Space/Recreation. There are also limitations on the property due to public tidelands designation by the State of California. These land-use designations limit the Transit Oriented Development (TOD) opportunities in the immediate vicinity of this terminal. The City is currently engaged in a Master Planning effort for the Berkeley Marina and vicinity. WETA will continue to work with the City of Berkeley, as planning progresses, on opportunities to improve transit, pedestrian, and bicycle connections from residential and employment areas in the city.

Hercules is not expected to be operational within the next ten years due to several barriers to funding and implementation, as discussed in chapters 5 and 8. Therefore, the work assumed to be completed under this SRTP is limited to planning. The City of Hercules has completed various plans associated with the development of Hercules Intermodal Station and the Hercules Waterfront.

7.2 ENVIRONMENTAL JUSTICE AND PUBLIC INVOLVEMENT

7.2.1 Environmental Justice and Title VI

In order to integrate considerations expressed in Executive Order 12898 on Environmental Justice, WETA integrates environmental justice analysis into the National Environmental Policy Act (NEPA) documentation for its expansion projects, as required. As noted previously in the discussion of WETA's Title VI policy in chapter 4, WETA actively seeks out and considers the viewpoints of minority and low-income populations in the course of conducting public outreach and involvement activities.

7.2.2 Major Service Change Policy

Federal Transit Administration regulations require that transit operators develop and use a process for soliciting and considering public comments before increasing fares or making significant changes in service. WETA defines a major service change as one that affects 25 percent or more of the trips within a route that WETA operates at the time it is considering making the service modifications.

As adopted by the WETA Board of Directors, WETA will undertake the following actions as part of the process for receiving public comments, ideas, and feedback on proposed fare changes or major service changes:

- WETA will begin the public notification process for proposed changes at least thirty days, as feasible, before holding a public hearing to consider public comments.
- The public notification process will provide information about the proposed fare increase or service modification in sufficient detail that a member of the general public could readily understand the specifics of the change. This information may be contained in materials that are referenced in the Public Notice as space and the need for clarity and simplicity in communication of information reasonably dictate.
- At a minimum, the Public Notice will clearly explain how the public can obtain details of the proposed changes, how to comment on them, and the date, time, and location of the public hearing.
- The Public Notice will be posted on the applicable vessels used for the affected services, published on WETA's website, and circulated using forms of mass media that will provide economical and effective announcements to the public.
- Any comments made before the public hearing will be transmitted to the Board at the official public hearing and will be considered, for all intents and purposes, a part of the official record.

The above policy reflects the agency's commitment to a process that is open, transparent, and considerate of public input. It requires that WETA establish procedures that the public can use to provide input besides attending and testifying at a formal public hearing, recognizing the value of personal time as well as the variety of options for receiving input through online or social media accounts. The policy is flexible to allow use of informal public meetings, written comments via email or letter, and other ways the public can voice comments to the Board concerning any proposed fare increase or major service change.

7.2.3 Other Public Involvement

In addition to outreach conducted as part of capital and operations planning, WETA regularly surveys passengers to learn about their concerns and issues. The most recent system-wide onboard survey was conducted in October 2017. The survey asked a series of questions on travel patterns, rider demographics, rider attitudes, and rating of various services. This was a follow-up to the previous on-board surveys completed in 2011 and 2014. For the 2017 survey, WETA selected trips on each service to achieve a representative cross section of riders during all time periods, including weekday peak, weekday off peak, and weekends. WETA also conducted an onboard passenger survey in October 2019 for the new Richmond service. This survey followed the same format and methodology as the 2017 system-wide survey. WETA will continue to seek outreach and public involvement for riders to provide feedback on ferry service.

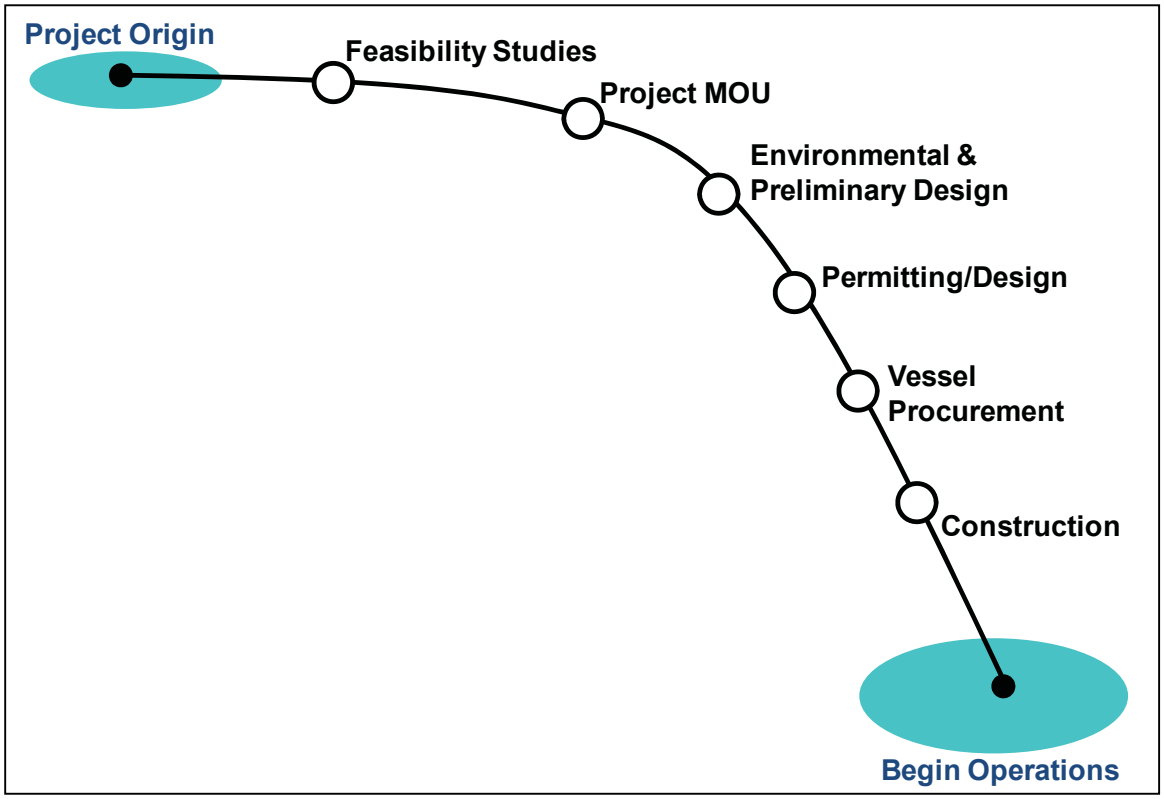
8 FUTURE EXPANSION PROJECTS

8.1 PLANNING OF EXPANSION SERVICES

In addition to the near-term expansion services described in chapter 5, there are a number of potential additional expansion services in various stages of local and regional development that could move forward over the next ten years in order to expand water transit services for both regular commuting and disaster recovery needs. These include Carquinez Strait (Antioch, Martinez, or Hercules) in Contra Costa County.

Developing and ultimately implementing new ferry services and associated facilities require an extensive process, including environmental review, design, and construction, as well as securing funding and developing long-term operating plans for new services. This process is illustrated in figure8-1.

Figure 8-1 WETA Project Implementation Timeline



8.2. DESCRIPTION OF POTENTIAL SERVICES EXPANSION AND ENHANCEMENT

The following areas of study are not anticipated to lead to projects that will begin operations within the budget horizon of this SRTP (FY 2028–29). However, if a project emerges that has the

potential to begin operations within the SRTP period, WETA will update this document and subsequent SRTPs to reflect the new conditions.

8.2.1 North Bay Expansion Opportunities

The 2002 Implementation and Operations Plan (IOP) identified many locations in the North Bay as candidates for future ferry service, including communities along the Carquinez Strait and the Napa and Petaluma rivers. Cities located along the Carquinez Strait or the Sacramento River Delta—Hercules, Martinez, Antioch, Benicia, and Rio Vista—have expressed interest in studying the possibility of small-scale private ferry service, conventional WETA ferry service, or hovercraft service. WETA has worked with local partner agencies to study the feasibility of new ferry service in either the conventional model of large-scale vessels or alternative technologies and smaller vessels.

The Contra Costa Transportation Authority (CCTA) conducted a Financial Feasibility Study of Contra Costa Ferry Service (completed June 2014) to identify site constraints and design requirements and to better understand project feasibility and costs associated with development of terminals and services to cities such as Hercules, Martinez, and Antioch. The report concluded that conventional WETA ferry service from these communities would be financially infeasible due to significant capital and operating costs together with low ridership and fare revenue estimates. Findings from the report regarding other potential Contra Costa County ferry terminal sites along the Carquinez Strait can be found on Contra Costa Transportation Authority website [1].

The Solano Transportation Authority (STA) conducted a ferry feasibility study[2] in 2019 that explored the possibility of conventional WETA ferry service or small-scale ferry service between Solano County communities such as Rio Vista, Benicia, and Vallejo and destinations including Antioch, Martinez, Oakland, San Francisco, and Larkspur. The study concluded that enhanced service between Vallejo and San Francisco would be warranted but that other potential ferry services would not attract enough ridership to support the significant capital and operating investment.

WETA is currently engaged in a study of hovercraft as a potential new technology that may be appropriate for communities where conventional ferry service has been found to be too expensive or not feasible for other reasons such as dredging or environmental obstacles. WETA is currently updating a 2011 study that examined the possibility of hovercraft ferry service in some of these locations. The Hovercraft Feasibility Study is expected to be completed in late 2020 or early 2021.

8.2.2 South Bay Expansion Opportunities

The 2002 Implementation and Operations Plan (IOP) identified many locations south of San Francisco as candidates for future ferry service, such as Peninsula communities including South San Francisco, Redwood City, and Mountain View. Other East Bay and South Bay locations identified in the IOP included San Leandro and Alviso. WETA has worked with San Mateo County to develop a ferry terminal at South San Francisco and is currently working directly with the Port and City of Redwood City to explore the potential for a Redwood City terminal and service.

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[1] http://www.ccta.net/_resources/detail/45/1

[2] https://sta.ca.gov/wp-content/uploads/2019/07/Water-Transit-Services-Feasibility-Study-7-22-19-2.pdf

WETA is currently engaged in a study of hovercraft as a potential new technology that may be appropriate for communities where conventional ferry service has been found to be too expensive or not feasible for other reasons such as dredging or environmental obstacles. WETA is currently updating a 2011 study that examined the possibility of hovercraft ferry service in some of these locations. The Hovercraft Feasibility Study is expected to be completed in late 2020 or early 2021.

8.2.3 WETA System Service Enhancement Opportunities

The WETA system currently carries over 11,000 passengers on an average weekday. Recent actions have, to some extent, alleviated peak-period crowding in the Vallejo and Harbor Bay services through the deployment of larger vessels and more frequent departures. The upcoming addition of the Alameda Seaplane Lagoon Ferry Terminal and the subsequent shift of commute service that will add capacity in both Alameda and Oakland would address some of the capacity issues in those two services. Richmond and South San Francisco services are currently not experiencing capacity shortfalls. However, with the assumed rates of growth and current trends observed on these services, service enhancement opportunities have been identified and incorporated in the planning period of this SRTP.

WETA's Strategic Plan identifies a goal of achieving peak-period frequencies of fifteen and thirty minutes for the entire WETA system in the future. This SRTP accounts for service enhancements to address the increasing ridership demand, and WETA will continue to monitor the services periodically to evaluate their performance. In addition, midday and weekend demand is strong in many parts of the Bay Area, so WETA may explore the possibility of adding or enhancing ferry service during non-peak periods as capital and operating funding becomes available.

APPENDIX A: DETAILED CAPITAL IMPROVEMENT PLAN

	FY 2019-20 Budget	FY 2020-21 Projected	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected	FY 2025-26 Projected	FY 2026-27 Projected	FY 2027-28 Projected	FY 2028-29 Projected	TOTAL 10-Year
TERMINALS & FACILITIES:	**$ 386,500**	**$ 6,268,300**	**$ 8,584,500**	**$ 5,923,300**	**$ -**	**$ 6,686,600**	**$ 1,419,500**	**$3,749,600**	**$ 6,378,400**	**$ 5,474,900**	**$ 44,871,600**
San Francisco Ferry Building South Basin - Rehab										$ 2,347,610	$ 2,347,610
North Bay Operations & Maintenance Facility - Rehab		$ 230,450						$ 582,714			$ 813,164
Central Bay Operations & Maintenance Facility - Rehab									$ 3,049,969		$ 3,049,969
Facility Dredging										$ 1,343,916	$ 1,343,916
Pier 9 Berths - Rehab				$ 1,361,991							$ 1,361,991
Alameda Main Street - Rehab		$ 3,226,506	$ 2,901,190			$ 187,146					$ 6,314,842
Alameda Harbor Bay - Rehab	$ 251,500	$ 2,811,385	$ 2,895,727	$ 2,808,737		$ 869,778					$ 9,637,127
Terminal Dredging				$ 844,132							$ 844,132
Oakland (JLS) - Rehab						$ 2,583,689					$ 2,583,689
South San Francisco - Rehab				$ 908,469							$ 908,469
Terminal Dredging								$3,166,925			$ 3,166,925
Vallejo - Rehab										$ 1,075,133	$ 1,075,133
Terminal Dredging			$ 2,787,547			$ 3,046,027			$ 3,328,476		$ 9,162,050
Richmond - Rehab							$ 388,261			$ 708,226	$ 1,096,487
Spare Regional Float - Rehab							$ 1,031,223				$ 1,031,223
Terminal Signage and Wayfinding - East Bay Terminals	$ 135,000										$ 135,000
Expansion Terminals*	**$27,351,900**	**$ -**	**$ -**	**$25,000,000**	**$ -**	**$28,994,500**	**$ 29,864,300**	**$ -**	**$ -**	**$ -**	**$111,210,700**
San Francisco Ferry Building South Basin - Constructio	$19,049,249										$ 19,049,249
Central Bay Operations & Maint Facility - Construction	$ 6,302,601										$ 6,302,601
Seaplane Lagoon - Construction	$ 2,000,000										$ 2,000,000
Mission Bay - Construction				$25,000,000							$ 25,000,000
Redwood City - Construction						$14,068,860	$ 14,490,926				$ 28,559,786
Berkeley - Construction						$14,925,654	$ 15,373,423				$ 30,299,077

Assumptions / Notes:

* Expansion projects show WETA's portion of the capital costs and does not include the cost of the full project.

APPENDIX A: DETAILED CAPITAL IMPROVEMENT PLAN (CONTD.)

	FY 2019-20 Budget	FY 2020-21 Projected	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected	FY 2025-26 Projected	FY 2026-27 Projected	FY 2027-28 Projected	FY 2028-29 Projected	TOTAL 10-Year
VESSELS	**$48,892,800**	**$50,658,700**	**$ 7,305,800**	**$54,921,100**	**$113,227,100**	**$42,327,900**	**$ 59,207,000**	**$4,465,400**	**$15,535,900**	**$26,179,500**	**$422,721,200**
MV Gemini											
Engine Overhaul	$ 515,350										$ 515,350
Vessel Mid-Life Refurbishment / Engine Major				$ 5,010,428							$ 5,010,428
Engine Major and Gearbox Overhaul								$ 627,051			$ 627,051
MV Pisces											
Vessel Mid-Life Refurbishment / Engine Major					$ 5,160,740						$ 5,160,740
Engine Major and Gearbox Overhaul		$ 525,146									$ 525,146
MV Taurus											
Vessel Mid-Life Refurbishment						$ 4,903,615					$ 4,903,615
Engine Major and Gearbox Overhaul	$ 601,072						$ 608,788				$ 1,209,860
Engine Major Overhaul	$ -			$ 388,301							$ 388,301
MV Scorpio											
Vessel Quarter-Life Refurbishment	$ 2,935,288										$ 2,935,288
Vessel Mid-Life Refurbishment							$ 5,050,723				$ 5,050,723
Engine Major and Gearbox Overhaul								$ 627,051			$ 627,051
Engine Major Overhaul				$ 388,301							$ 388,301
MV Bay Breeze											
Engine Major and Gearbox Overhaul		$ 491,319									$ 491,319
MV Hydrus											
Engine Half-Life Overhaul		$ 419,056							$ 500,374		$ 919,430
Injectors Overhaul			$ 131,127					$ 147,585		$ 161,270	$ 439,982
Vessel Quarter-Life Refurbishment				$ 2,251,018							$ 2,251,018
Engine Major and Gearbox Overhaul					$ 1,405,040						$ 1,405,040
MV Cetus											
Construct New Vessel - project completion	$ 228,036										$ 228,036
Engine Half-Life Overhaul		$ 419,056							$ 500,374		$ 919,430
Injectors Overhaul				$ 135,061				$ 147,585		$ 161,270	$ 443,916
Vessel Quarter-Life Refurbishment						$ 2,388,105					$ 2,388,105
Engine Major and Gearbox Overhaul					$ 1,405,040						$ 1,405,040

APPENDIX A: DETAILED CAPITAL IMPROVEMENT PLAN (CONTD.)

	FY 2019-20 Budget	FY 2020-21 Projected	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected	FY 2025-26 Projected	FY 2026-27 Projected	FY 2027-28 Projected	FY 2028-29 Projected	TOTAL 10-Year
MV Argo											
Construct New Vessel - project completion	$ 228,036										$ 228,036
Engine Half-Life Overhaul			$ 431,627						$ 515,385		$ 947,012
Injectors Overhaul	$ 120,000			$ 135,061			$ 147,585				$ 402,646
Vessel Quarter-Life Refurbishment					$ 2,318,548						$ 2,318,548
Engine Major and Gearbox Overhaul						$ 1,447,191					$ 1,447,191
MV Carina											
Engine Half-Life Overhaul			$ 431,627						$ 515,385		$ 947,012
Injectors Overhaul	$ 120,000				$ 139,113			$ 152,012			$ 411,125
Vessel Quarter-Life Refurbishment						$ 2,388,105					$ 2,388,105
Engine Major and Gearbox Overhaul						$ 1,447,191					$ 1,447,191
MV Peralta											
Vessel Quarter-Life Refurbishment						$ 1,105,394					$ 1,105,394
Engine Major and Gearbox Overhaul			$ 1,089,285								$ 1,089,285
Engine Half-Life Overhaul							$ 271,802				$ 271,802
MV Intintoli											
Engine Major Overhaul	$ 1,061,021										$ 1,061,021
Engine Half-Life Overhaul			$ 355,136								$ 355,136
Injectors Overhaul		$ 127,308		$ 135,061							$ 262,369
MV Mare Island											
Engine Major Overhaul	$ 1,061,020										$ 1,061,020
Engine Half-Life Overhaul				$ 365,790							$ 365,790
Injectors Overhaul			$ 131,127								$ 131,127
MV Pyxis											
Engine Quarter-Life Overhaul		$ 414,812					$ 480,881				$ 895,693
Vessel Quarter-Life Refurbishment					$ 2,898,185						$ 2,898,185
Engine Major and Gearbox Overhaul					$ 1,878,024				$ 2,113,733		$ 3,991,757
Injectors Overhaul	$ 170,000	$ 180,353	$ 185,764			$ 202,989		$ 215,351			$ 954,457
MV Vela											
Construct New Vessel - project completion	$ 8,986,823										$ 8,986,823
Engine Quarter-Life Overhaul			$ 427,256				$ 480,881				$ 908,137
Vessel Quarter-Life Refurbishment						$ 2,985,131					$ 2,985,131
Engine Major and Gearbox Overhaul					$ 1,878,024					$ 2,177,145	$ 4,055,169
Injectors Overhaul		$ 180,353		$ 191,336			$ 209,079	$ 215,351			$ 796,119

APPENDIX A: DETAILED CAPITAL IMPROVEMENT PLAN (CONTD.)

	FY 2019-20 Budget	FY 2020-21 Projected	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected	FY 2025-26 Projected	FY 2026-27 Projected	FY 2027-28 Projected	FY 2028-29 Projected	TOTAL 10-Year
MV Lyra											
Construct New Vessel - project completion	$ 8,986,822										$ 8,986,822
Engine Quarter-Life Overhaul			$ 427,256				$ 480,881				$ 908,137
Vessel Quarter-Life Refurbishment						$ 2,985,131					$ 2,985,131
Engine Major and Gearbox Overhaul					$ 1,878,024					$ 2,177,145	$ 4,055,169
Injectors Overhaul		$ 180,353		$ 191,336			$ 209,079	$ 215,351			$ 796,119
MV Dorado											
Construct Replacement Vessel - *project completion*	$ 7,878,391										$ 7,878,391
Engine Quarter-Life Overhaul					$ 365,171						$ 365,171
Vessel Quarter-Life Refurbishment						$ 1,865,707					$ 1,865,707
Engine Major and Gearbox Overhaul								$1,623,999			$ 1,623,999
Injectors Overhaul				$ 146,316		$ 155,227					$ 301,543
MV Bay Breeze II											
Construct Replacement Vessel - *project completion*	$ 6,000,000	$12,000,000									$ 18,000,000
Engine Half-Life Overhaul							$ 485,800				$ 485,800
Injectors Overhaul						$ 155,227			$ 169,621		$ 324,848
Vessel Quarter-Life Refurbishment									$ 2,283,353		$ 2,283,353
MV Solano II											
Construct Replacement Vessel - project completion	$10,000,901	$14,322,150									$ 24,323,051
Engine Half-Life Overhaul							$ 485,800				$ 485,800
Injectors Overhaul						$ 155,227			$ 169,621		$ 324,848
Vessel Quarter-Life Refurbishment									$ 2,283,353		$ 2,283,353
MV Intintoli II											
Construct Replacement Vessel - *project completion*					$ 15,650,200						$ 15,650,200
Engine Half-Life Overhaul										$ 530,847	$ 530,847
Injectors Overhaul									$ 169,621		$ 169,621
MV Mare Island II											
Construct Replacement Vessel - *project completion*					$ 15,650,200						$ 15,650,200
Engine Half-Life Overhaul										$ 530,847	$ 530,847
Injectors Overhaul									$ 169,621		$ 169,621
MV Peralta II											
Construct Replacement Vessel - project completion										$18,142,871	$ 18,142,871
Catamaran #18											
Construct New Vessel - *project completion*	$ -	$11,086,875	$ 3,695,625								$ 14,782,500
Engine Half-Life Overhaul							$ 485,800				$ 485,800
Injectors Overhaul						$ 155,227			$ 169,621		$ 324,848
Vessel Quarter-Life Refurbishment									$ 2,283,353		$ 2,283,353

APPENDIX A: DETAILED CAPITAL IMPROVEMENT PLAN (CONTD.)

	FY 2019-20 Budget	FY 2020-21 Projected	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected	FY 2025-26 Projected	FY 2026-27 Projected	FY 2027-28 Projected	FY 2028-29 Projected	TOTAL 10-Year
Catamaran #19											
Construct New Vessel - *project completion*				$15,194,369							$ 15,194,369
Engine Half-Life Overhaul									$ 515,385		$ 515,385
Injectors Overhaul								$ 164,680			$ 164,680
Catamaran #20											
Construct New Vessel - *project completion*				$15,194,369							$ 15,194,369
Engine Half-Life Overhaul									$ 515,385		$ 515,385
Injectors Overhaul								$ 164,680			$ 164,680
Catamaran #21											
Construct New Vessel - *project completion*				$15,194,369							$ 15,194,369
Engine Half-Life Overhaul									$ 515,385		$ 515,385
Injectors Overhaul								$ 164,680			$ 164,680
Catamaran #22											
Construct New Vessel - *project completion*					$ 15,650,200						$ 15,650,200
Engine Half-Life Overhaul										$ 530,847	$ 530,847
Injectors Overhaul									$ 169,621		$ 169,621
Catamaran #23											
Construct New Vessel - *project completion*					$ 15,650,200						$ 15,650,200
Engine Half-Life Overhaul										$ 530,847	$ 530,847
Injectors Overhaul									$ 169,621		$ 169,621
Catamaran #24											
Construct New Vessel - *project completion*						$16,119,706					$ 16,119,706
Injectors Overhaul										$ 174,709	$ 174,709

APPENDIX A: DETAILED CAPITAL IMPROVEMENT PLAN (CONTD.)

	FY 2019-20 Budget	FY 2020-21 Projected	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected	FY 2025-26 Projected	FY 2026-27 Projected	FY 2027-28 Projected	FY 2028-29 Projected	TOTAL 10-Year
Catamaran #25											
Construct New Vessel - *project completion*					$ 15,650,200						$ 15,650,200
Engine Half-Life Overhaul										$ 530,847	$ 530,847
Injectors Overhaul									$ 169,621		$ 169,621
Catamaran #26											
Construct New Vessel - *project completion*					$ 15,650,200						$ 15,650,200
Engine Half-Life Overhaul										$ 530,847	$ 530,847
Injectors Overhaul									$ 169,621		$ 169,621
Catamaran #27											
Construct New Vessel - *project completion*							$ 16,603,297				$ 16,603,297
Catamaran #28											
Construct New Vessel - *project completion*							$ 16,603,297				$ 16,603,297
Catamaran #29											
Construct New Vessel - *project completion*							$ 16,603,297				$ 16,603,297
Small Vessel #1											
Construct New Vessel - *project completion*		$ 3,437,316									$ 3,437,316
Vessel Quarter-Life Refurbishment									$ 489,290		$ 489,290
Small Vessel #2											
Construct New Vessel - *project completion*		$ 3,437,316									$ 3,437,316
Vessel Quarter-Life Refurbishment									$ 489,290		$ 489,290
Small Vessel #3											
Construct New Vessel - *project completion*		$ 3,437,316									$ 3,437,316
Vessel Quarter-Life Refurbishment									$ 489,290		$ 489,290
Small Vessel #4											
Construct New Vessel - *project completion*						$ 3,868,729					$ 3,868,729
Capital EQuipment/Small Projects	**$ 185,000**	**$ 530,500**	**$ 546,400**	**$ 562,800**	**$ 579,600**	**$ 597,000**	**$ 614,900**	**$ 633,400**	**$ 652,400**	**$ 672,000**	**$ 5,574,000**
Capital Equipment / Small Projects	$ 185,000	$ 530,450	$ 546,364	$ 562,754	$ 579,637	$ 597,026	$ 614,937	$ 633,385	$ 652,387	$ 671,959	$ 5,573,899
TOTAL	**$76,816,200**	**$57,457,500**	**$16,436,700**	**$86,407,200**	**$113,806,700**	**$78,606,000**	**$ 91,105,700**	**$8,848,400**	**$22,566,700**	**$32,326,400**	**$584,377,500**

APPENDIX A: DETAILED CAPITAL IMPROVEMENT PLAN (CONTD.)

	FY 2019-20 Budget	FY 2020-21 Projected	FY 2021-22 Projected	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected	FY 2025-26 Projected	FY 2026-27 Projected	FY 2027-28 Projected	FY 2028-29 Projected	TOTAL 10-Year
REVENUES											
Federal											
FTA Section 5307/5337 - Rehab	$8,267,700	$6,937,600	$5,118,200	$9,962,100	$12,455,900	$11,717,000	$6,442,700	$5,102,600	$6,948,700	$8,307,400	$ 81,259,900
FTA Section 5307/5337 - Replace Vessels	$16,383,300	$9,600,000	$0	$0	$25,040,300	$0	$0	$0	$0	$14,514,300	$ 65,537,900
FTA Passenger Ferry Grant Program	$5,000,000	$0	$0	$0	$0	$3,922,900	$0	$0	$0	$0	$ 8,922,900
FHWA Ferry Boat Program	$3,898,700	$1,848,500	$0	$0	$3,004,800	$0	$1,900,000	$0	$0	$0	$ 10,652,000
Subtotal Federal Reveues	**$33,549,700**	**$18,386,100**	**$5,118,200**	**$9,962,100**	**$40,501,000**	**$15,639,900**	**$8,342,700**	**$5,102,600**	**$6,948,700**	**$22,821,700**	**$ 166,372,700**
State											
Proposition 1B (CTSGP-RPWT)	$29,839,100	$11,086,900	$466,600	$0	$0	$0	$0	$0	$0	$0	$ 41,392,600
State Cap & Trade - LCTOP	$422,000	$1,265,900	$0	$0	$0	$0	$0	$0	$0	$1,800,000	$ 3,487,900
State Cap & Trade - TIRCP	$0	$6,874,600	$0	$0	$0	$0	$0	$0	$0	$0	$ 6,874,600
State Transit Assistance (STA)	$0	$4,940,900	$0	$0	$7,011,300	$7,751,000	$1,398,400	$681,500	$7,622,300	$3,172,100	$ 32,577,500
State Transit Assistance - State of Good Repairs (STA-S	$301,300	$308,800	$343,600	$0	$375,600	$289,400	$0	$324,800	$975,000	$800,000	$ 3,718,500
Subtotal State Reveues	**$30,562,400**	**$24,477,100**	**$810,200**	**$0**	**$7,386,900**	**$8,040,400**	**$1,398,400**	**$1,006,300**	**$8,597,300**	**$5,772,100**	**$ 88,051,100**
Local											
Bridge Toll AB664	$120,200	$645,300	$0	$0	$463,700	$609,200	$121,800	$86,100	$422,700	$0	$ 2,469,000
Bridge Toll RM1-2%	$2,493,400	$1,060,100	$718,100	$869,400	$1,242,600	$980,700	$869,800	$1,309,900	$1,149,400	$1,295,600	$ 11,989,000
Bridge Toll RM1-5%	$2,004,800	$760,900	$546,400	$562,800	$579,600	$597,000	$614,900	$0	$0	$0	$ 5,666,400
Bridge Toll RM2 - Capital	$4,114,100	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ 4,114,100
Bridge Toll RM3 - Capital	$0	$0	$0	$70,583,100	$62,600,800	$41,482,900	$72,174,200	$0	$0	$0	$ 246,841,000
Sales Tax - San Francisco Prop K	$220,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$ 220,000
Sales Tax - Alameda Measure B / Measure BB	$3,365,100	$2,722,300	$2,901,200	$4,261,000	$1,032,100	$2,590,700	$0	$1,343,500	$4,050,000	$2,372,500	$ 24,638,400
Sales Tax - San Mateo Measure A	$0	$0	$0	$0	$0	$7,500,000	$7,500,000	$0	$0	$0	$ 15,000,000
Alameda Transportation Improvement Funds (TIF)	$135,000	$1,405,700	$1,139,700	$0	$0	$703,900	$0	$0	$1,192,400	$64,500	$ 4,641,200
Alameda Lighting & Landscape Assessment District (LL/	$0	$0	$761,000	$0	$0	$74,000	$83,900	$0	$103,100	$0	$ 1,022,000
Harbor Bay Business Park Association (HBBPA)	$251,500	$0	$1,212,800	$168,800	$0	$387,300	$0	$0	$103,100	$0	$ 2,123,500
Vessel Sales Proceeds	$0	$8,000,000	$3,229,100	$0	$0	$0	$0	$0	$0	$0	$ 11,229,100
Subtotal Local Reveues	**$12,704,100**	**$14,594,300**	**$10,508,300**	**$76,445,100**	**$65,918,800**	**$54,925,700**	**$81,364,600**	**$2,739,500**	**$7,020,700**	**$3,732,600**	**$ 329,953,700**
TOTAL CAPITAL REVENUES	**$76,816,200**	**$57,457,500**	**$16,436,700**	**$86,407,200**	**$113,806,700**	**$78,606,000**	**$91,105,700**	**$8,848,400**	**$22,566,700**	**$32,326,400**	**$ 584,377,500**

APPENDIX B: SERVICE ENHANCEMENT AND EXPANSION PROGRAM (FY 2019-20 – FY 2028-29)

Year	Service Changes	ID Name	Year of MFG	Passenger Capacity	Vessel Type	Mode of Power	Assumed Cost	Total Vessels in Operation	Total Fleet
FY 2019-20		Bay Breeze	1994	250 / 4	Catamaran	diesel		12	15
		Intintoli	1997	349 / 4	Catamaran	diesel			
		Mare Island	1997	349 / 4	Catamaran	diesel			
		Peralta	2002	326 / 4	Catamaran	diesel			
		Solano	2004	320 / 4	Catamaran	diesel			
		Gemini	2008	225 / 4	Catamaran	diesel			
		Pisces	2008	225 / 4	Catamaran	diesel			
		Scorpio	2009	225 / 4	Catamaran	diesel			
		Taurus	2009	225 / 4	Catamaran	diesel			
		Hydrus	2017	400	Catamaran	diesel			
		Cetus	2017	400	Catamaran	diesel			
		Argo	2018	400	Catamaran	diesel			
		Carina	2018	400	Catamaran	diesel			
		Pyxis	2019	445	Catamaran	diesel			
		Vela	2019	445	Catamaran	diesel			
FY 2020-21	Seaplane Lagoon Opens	Lyra	2020	445	Catamaran	diesel		12	17
		Dorado	2020	300	Catamaran	diesel			
FY 2021-22	Mission Bay Opens	Catamaran #18	2021	~300	Catamaran	diesel	$14,782,500	13	21
		Small Vessel #1	2021	~100	Small Vessel	TBD	$3,437,297		
		Small Vessel #2	2021	~100	Small Vessel	TBD	$3,437,316		
		Small Vessel #3	2021	~100	Small Vessel	TBD	$3,437,316		

Year	Service Changes	ID Name	Year of MFG	Passenger Capacity	Vessel Type	Mode of Power	Assumed Cost	Total Vessels in Operation	Total Fleet
FY 2022-23	VJO and AOFS Enhancement	-	-	-	-	-	-	14	21
FY 2023-24	HB Enhancement; Treasure Island Opens	Catamaran #19	2023	~300	Catamaran	TBD	$15,194,369	16	23
		Catamaran #20	2023	~300	Catamaran	TBD	$15,194,369		
FY 2024-25	-	Catamaran #21	2023	~300	Catamaran	TBD	$15,194,369	16	25
		Catamaran #22	2024	~300	Catamaran	TBD	$15,650,200		
FY 2025-26	SPL and RCH Enhancement; Berkeley opens	Catamaran #23	2024	~300	Catamaran	TBD	$15,650,200	19	28
		Catamaran #24	2024	~300	Catamaran	TBD	$15,650,200		
		Catamaran #25	2024	~300	Catamaran	TBD	$15,650,200		
FY 2026-27	SSF Enhancement	Catamaran #26	2025	~300	Catamaran	TBD	$16,119,706	20	30
		Small Vessel #4	2025	~100	Small Vessel	TBD	$3,868,729		
FY 2027-28	Treasure Island Enhancement and Redwood City opens	Catamaran #27	2026	~300	Catamaran	TBD	$16,603,297	23	33
		Catamaran #28	2026	~300	Catamaran	TBD	$16,603,297		
		Catamaran #29	2026	~300	Catamaran	TBD	$16,603,297		