



STAFF REPORT

To the Port Commission

DATE: November 18, 2020

SUBJECT

Receive Redwood City Ferry Financial Feasibility Study and Cost-Benefit & Economic Impact Analyses

RECOMMENDATION

Receive the Redwood City Ferry Financial Feasibility Study and Cost-Benefit & Economic Impact Analyses

STRATEGIC PLAN GUIDING PRINCIPLE

Transportation

BACKGROUND

The City of Redwood City (City) and Port of Redwood City (City) have a long history of pursuing ferry service in Redwood City to provide a commute alternative and service recreational trips to San Francisco. In 1997, California State Senate Resolution 19 established a Blue Ribbon Task Force (Task Force) to consider expanding water transit in the San Francisco bay. The Task Force met with leaders in San Mateo County, including Redwood City, to seek input on expanding service south of San Francisco. The Task Force led to the creation of the Water Transportation Authority, which eventually became the Water Emergency Transportation Authority (WETA), and also led to identifying Redwood City as a target for expanded ferry service.

WETA is a regional public transit agency tasked with operating and expanding ferry service in much of the San Francisco Bay and is responsible for coordinating water transit response to regional emergencies. The Golden Gate Bridge, Highway and Transportation District is responsible for ferry

service only between Marin and San Francisco counties. As a ferry transit operator, WETA has assisted the City and the Port to pursue ferry service to and from Redwood City.

In the early 2000s, community leaders across San Mateo County discussed including ferry service in the possible renewal of San Mateo County Measure A, a sales tax measure with the goal of improving transit and relieving traffic congestion in the county. The discussions resulted in including \$30 million for a ferry service program with Measure A's renewal passed by voters in 2004.

In 2012, WETA and the Port completed a terminal locational assessment to determine the best location of a potential ferry terminal. The assessment considered three locations within the Port's jurisdiction, identified biological resources that would need to be evaluated through a future environmental impact review (EIR), and performed a preliminary wake analysis. This assessment resulted in recommending that the best place for a potential ferry terminal would be at the end of Seaport Boulevard.

In 2018, the City received \$450,000 in Measure A Ferry Program Funding and contributed \$60,000 in City capital funds to evaluate the feasibility of ferry service and help the Port Commission and City Council decide next steps in the pursuit of Redwood City ferry service. The City, in coordination with the Port and WETA, selected CDM Smith, Inc. (collectively Project Team) to prepare the Redwood City Ferry Financial Feasibility Study and Cost-Benefit & Economic Impact Analyses (Study).

The Study is a comprehensive effort to understand the ridership market for ferry service, capital and operational costs, and the social and economic benefit to Redwood City and the mid-Peninsula. Work on the Study commenced in May 2019 and concluded in October 2020. The Study includes an existing conditions analysis and outreach in addition to estimating ridership, capital and operational costs, benefits, and impacts. WETA staff presented the results of the Study to their Board on Thursday, November 5, 2020, and the Board accepted the Study and expressed their support for continuing the pursuit of Redwood City ferry service.

The Analysis section summarizes the conclusions of the Study.

ANALYSIS

Financial Feasibility Study

The Study primarily analyzes ferry service as commuter based because the most riders will be those traveling for work. Also, the majority of potential fare revenue and public and private funding for the service will be for providing a commute alternative. The Study discusses the value of riding the ferry recreationally and includes non-commute reasons as a variable in estimating ridership to San Francisco. As will be discussed further, the Study evaluates two routes: San Francisco-Redwood City and Oakland-Redwood City.

As shown in Figure 1, the Study asks and answers five questions to determine feasibility:

Figure 1: Feasibility Perspectives



Source: CDM Smith, 2020

The Study began prior to the onset of the COVID-19 pandemic and many of the assumptions are based on pre-pandemic trends. While there is uncertainty regarding the potential impacts from long-term working-from-home and pandemic-related job losses, it is reasonable to assume that Silicon Valley will be less impacted and also that recovery will be quicker compared to other regions in the state. This is based on the history of economic recovery in Silicon Valley after the dot-com bubble of the early 2000s and the Great Recession of 2007-09.

Existing Conditions

CDM Smith examined existing commute conditions and modes, Redwood City characteristics, and the proposed terminal site. A summary of what was evaluated is listed below:

- Regional commute patterns including trends and commute times
- A discussion on what Transportation Demand Management and how it is relevant to ferry service
- Identification of public and private transportation providers
- Anticipated or planned regional transportation projects
- Redwood City in the context of the region
- Redwood City General Plan and Citywide Transportation Plan
- Employers in Redwood City and the surrounding areas
- Completed and anticipated development projects
- Characteristics of the proposed terminal site
- WETA ferry terminal requirements

Outreach

The Project Team conducted two outreach phases:

1. Phase I: Inform the public about the project and the process to evaluate the project
2. Phase II: Separate stakeholder outreach to employers and water-users to receive their feedback on the potential project and answer any questions

Phase I took place between August and September 2019 and included pop-up events at various public events. In addition to informing the public about the Study, the Project Team also issued a questionnaire to the public to understand if people would use a ferry, and if so how they would use it. Phase II took place in April and May 2020. Due to Governor Gavin Newsom's Executive Order N-29-20 to shelter-in-place in response to the pandemic, the Project Team hosted virtual meetings.

Ferry User Demand

Developing a ferry user demand estimate was the most critical task in the Study and consisted of developing service scenarios and modeling ridership. The ridership model serves as the basis for the financial feasibility evaluation and benefit-cost analysis¹. Developing service scenarios required the Project Team to identify a likely schedule and level of service (trip frequency). CDM Smith used data provided by the City and County Association of Governments of San Mateo County (C/CAG), the Silicon Valley Transportation Authority (VTA), and the Metropolitan Transportation Commission (MTC). Additionally, the Project Team received aggregated employment numbers with the assistance of the Redwood City Chamber of Commerce.

CDM Smith developed a realistic scenario for the San Francisco-Redwood City and Oakland-Redwood City routes. San Francisco-Redwood City would have four trips in the morning and four in the afternoon. Oakland-Redwood City would have three morning trips and three afternoon trips. Using this information, CDM Smith was able to estimate the potential ridership from these services:

¹ The title of the Study refers to a cost-benefit analysis. This term is synonymous with benefit-cost analysis. Benefit-cost analysis is used in the study as this is the preferred term by government funding agencies to highlight the role of benefits in evaluations.

Table 1. Results for the Service Scenarios

	2019 Ferry Total Ridership Estimate			2040 Ferry Total Ridership Estimate Change			Total Change	% Change
	Peak Direction	Reverse	Daily Total Boardings	Peak Direction	Reverse	Daily Total Boardings	Daily Total Boardings	Daily Total Boardings
Scenario 1: Oakland - Redwood City (6 Departures per peak)	381	45	852	756	181	1,874	1,022	120%
Scenario 2: San Francisco - Redwood City (8 departures per peak)	441	206	1,294	730	363	2,186	892	69%

Source: CDM Smith

Note: Commuter ridership only for Scenario 1, both commuter and non-commuter ridership for Scenario 2.

The numbers described above were developed using transportation demand modeling methodologies based on transit usage, commuter numbers, travel time, and peak congestion. Though the ridership may look relatively strong, it is important to consider that most new transit services are likely to be short of estimates. There are many reasons for slow starts to transit success which can include lack of awareness of new service, adjusting commute habits, and overall understanding of benefits such as costs, time savings and comfort.

Terminal Facility

This task includes evaluating the possible terminal location, figuration and construction costs. The Project Team determined that the ideal location for the ferry terminal at the end of Seaport Boulevard would be on the western side along Westpoint Slough and would most likely consist of one float. The total estimated cost of the terminal, including a parking lot, is \$16,300,000 in 2022 dollars.

Financial Feasibility

The Project Team developed costs utilizing the terminal estimates above and data from WETA’s operating and capital budget for existing service. The Project Team estimated revenues utilizing the ridership forecast, with WETA providing recommendations and assumptions for fare amounts. In turn CDM Smith used this information to identify a subsidy gap or the amount needed to be funded through private or public sources. The following table summarizes this information.

Table 2. Summary Assumptions, Costs, and Financial Metrics

Item	OAK/RWC	SF/RWC	Combined ¹
	Jack London Sq.	Ferry Building	
Service Assumptions			
AM Trips (Peak Dir./Rev.)	3/3	4/4	7/7
PM Trips (Peak Dir./Rev.)	3/3	4/4	7/7
Capital Costs			
Vessels ²	\$40,000,000	\$40,000,000	\$80,000,000
Terminal	<i>estimates range from \$15 million to \$20 million³</i>		
Operating Metrics (2019/20 Dollars)			
<i>Expenses</i>			
Year 1 (2025)	\$6,100,000	\$6,700,000	\$12,800,000
Year 10 (2034)	\$8,200,000	\$9,000,000	\$17,200,000
<i>Revenues</i>			
Year 1 (2025)	\$3,200,000	\$4,500,000	\$7,700,000
Year 10 (2034)	\$5,800,000	\$7,300,000	\$13,100,000
<i>Subsidy Gap</i>			
Year 1 (2025)	\$2,900,000	\$2,200,000	\$5,100,000
Year 10 (2034)	\$2,400,000	\$1,700,000	\$4,100,000
Farebox Recovery Ratio			
Year 1 (2025)	52%	67%	60%
Year 10 (2034)	71%	81%	76%

Sources: CDM Smith; WETA; Economic & Planning Systems

¹“Combined” service assumes both routes start operation at the same time. If both services are pursued, it may be that start dates are staggered.

² Assume two vessels and a shared spare for each route, resulting in five new vessels for both routes. Estimate ferry costs at \$16 million each, depending on size and technology.

³Costs for terminal are in FY 2019\$

For capital related costs there is local money available through Measure A and Measure W. Program requirements for Measure W, adopted by voters in 2018, are still under development so it is not yet certain how much money may be available for a Redwood City ferry terminal project. Regional Measure 3 (RM3) funds are available for ferry capital infrastructure through WETA. RM3, passed by voters in 2018, increased bridge tolls to support regional transportation improvements for transit and highways. RM3 is currently under court review, so the availability of this as a funding source is not yet secure.

Farebox recovery is a common variable used to evaluate feasibility and considers the revenue generated by the service divided by the cost of providing it. WETA’s target farebox recovery ratio for their system is 40%. The projections for Redwood City ferry service indicate that achieving the 40% ratio is possible and likely to be exceeded. Funding would need to be identified and secured for the remaining operating costs. For operations costs, the above table assumes WETA would operate the ferry service and relies on their ability as a transit operator to use RM3 funding to help subsidize operations.

Other costs to consider are for shuttles operations to provide last mile connections between the ferry terminal and places of employment which is necessary for transit success, but funding for shuttles is not widely available. It is anticipated that the City may pursue private and other public funding to support shuttle operations. Overall funding for ferry and shuttle service may come in the form of employer-paid fares, employer-provided but publicly accessible shuttles, and grants.

Benefit-Cost Analysis

Benefit-cost analyses (BCA) are often required by government funding agencies to evaluate whether a potential project confers enough economic benefit to users prior to approving discretionary funding for the project. City staff requested that this analysis to provide a base understanding of the project's ability to meet the requirements of BCA based funding requirements. RM3 may not require a BCA, but if the City, Port, or WETA decide to pursue these sources, the results may be helpful for future grant seeking efforts.

The BCA compares monetized benefits (savings in travel time, passenger vehicle operating costs, accidents, emissions, and parking fees/tolls) to the costs of constructing a terminal, acquiring ferries, and annual operating costs. The BCA also evaluated the routes in isolation and in combination with each other and found that the benefits of ferry service are generally positive. The biggest factor in determining benefit is how ferry users value time on the ferry and if their time on the ferry could be productive for them (i.e. they choose and are able to work while in transit).

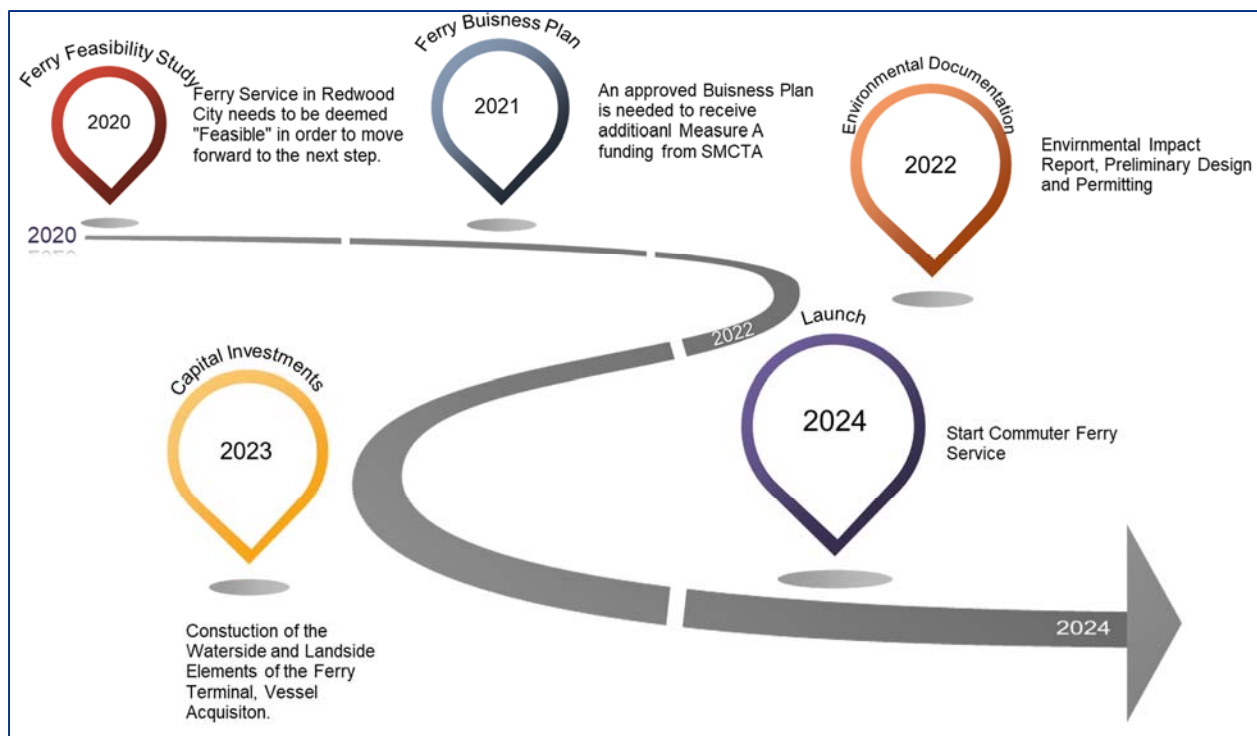
Economic Impact Analysis

The Economic Impact Analysis compares the economic quantitative and qualitative impacts of the proposed ferry service. It includes examining the impacts of terminal construction, terminal operations, and ferry operations. The analysis also considers how employers in the mid-Peninsula region are affected. The Project Team found the quantifiable impacts, jobs created from terminal construction or for terminal maintenance, to be relatively modest. The qualitative impacts rely on many different factors, such as last-mile connections and future residential and office development in the mid-Peninsula, but may be much greater. The qualitative impacts are that employers in the mid-Peninsula are able to access a larger labor pool from the East Bay.

Conclusions

Answering the questions of Feasibility Perspectives (Figure 1), the Project Team concludes that the Redwood City Ferry Project is feasible based on the results of the different analyses. There is a need for a commute alternative to and from the mid-Peninsula and that could possibly be ferry service. However, the project requires a significant and ongoing public investment. Though the Study has identified possible funding sources, many of these have not been secured, and the most significant funding source (RM3) is tied up in courts as of the date of this report. Additionally, while it is too early to understand the effects of the COVID-19 pandemic, it is clear that the success of the ferry will rely on commuters.

As shown in Figure 2, the Study is just one step towards eventual realization of a ferry project.



Source: CDM Smith, 2020

FISCAL IMPACT

There is no financial impact from accepting the findings of the Study; however, future phases of the Redwood City ferry project would require additional funding which has not been allocated to date, and proceeding to construction and operation would require substantial resources which have not been secured.

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