

# **Alameda to Oakland Water Shuttle Feasibility Study**

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for  
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and  
City of Alameda**

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## **Background**

A water shuttle or water taxi service that would provide service between Oakland and Alameda via the estuary has long been envisioned by private and public stakeholders in Alameda and Oakland.

The purpose of this study is to examine the economic and operational feasibility of a water shuttle service connecting Alameda Landing and Oakland.

### **Existing Conditions:**

This study was conducted in 2013. The following estuary crossing services were in operation and provided service to West Alameda at the time of this study.

AC Transit The AC Transit route 31 serves western Alameda including Alameda Landing and Alameda Point, operating on half hour frequency. The 31 route, however, serves a much larger geographic area, starting at MacArthur BART station and serving parts of Oakland before entering Alameda through the Webster Tube. Full fare per adult passenger is \$2.10; farebox return for AC Transit has averaged about 85 cents per rider. Average daily ridership (for the entire route) is approximately 3,000 people so the farebox return is approximately \$2500 per weekday; estimated annual operating budget for the 31 line is approximately \$10,000 per day—this is based on 4 buses serving the 2 hour round trip route for 16 hours per day=64 daily hours of operation at \$170/hour or an estimated operational cost of \$10,000 per weekday (for West Oakland, MacArthur BART area and Alameda). To avoid over inflating the operating costs it is safe to approximate half the costs for “Alameda only”, or approximately \$5,000 per day to serve West Alameda. Alameda riders provide over half the ridership (approx 1700 riders) so farebox return for Alameda riders could be estimated at \$1,500 per day. Using the same methodology (half the riders/fare box and half the operating costs for Alameda only), the yearly annual operating costs would be roughly \$1.5 million and about \$450,000 in farebox revenue. So an annual net cost (subtracting farebox) of approximately \$1.1 million for the 31 line to serve West Alameda.

Cross Estuary Shuttle The City of Alameda provides a peak time commute shuttle service between West Alameda and the Lake Merritt BART station in Oakland, operating on half hour frequency. The service is free to all riders; average daily ridership is 351 boardings; yearly operational net costs are approximately \$ 192,000 based on \$94 per hour operational (contractor, turn-key) cost, 8 hours per day and 250 days of operations per year.

The EXS is funded primarily by the City of Alameda through a series of grants from local and federal agencies along with contributions from the private sector through the City-wide TDM fund. Grant writing/reporting and all administrative duties are contributed by City staff. An advisory board consists of City staff, College of Alameda and Wind River representatives.

Alameda Landing Shuttle. The Alameda Landing shuttle began operations in October 2013 and provides peak time commute shuttle service between Alameda Landing and the Oakland 12<sup>th</sup> Street BART station, operating on 20 minute frequencies. The service is currently free to all riders and is subsidized by the West Alameda Transportation Demand Management Association (the primary economic contributor for initial operations is Catellus Corp). Ridership during the initial months of service was approximately 50-60 boardings per day; annual net cost is approximately \$121,000 for shuttle operations only; the AL TDM Manager (through the ALTDMA) handles all administrative responsibilities. Low initial ridership had been expected due

to a limited potential ridership base. Future phases of development at Alameda Landing will produce an additional commercial employee base, increased visitors and additional AL residents. A marketing plan for local residents and AL employees and visitors will also increase awareness and ridership. .

### **Finding #1: Water Shuttle is Feasible, But Not A Cost Effective Commute Solution.**

Operating a water shuttle serving the Oakland/Alameda estuary is feasible, but it will not be a cost effective option for limited public and private funds if the goal of the these expenditures is to reduce peak hour commute trips through the Webster and Posey tubes or Alameda bridges. A water shuttle program is operationally feasible by utilizing existing vessels, infrastructure (docks, ramps, fueling stations) and operators. Commodore provided pricing for either turn-key operations (as detailed below) or an hourly fee to provide certified and licensed operators for any vehicle not owned by them . Either estimated yearly operating budget is significantly less expensive than the operating costs contained in the CalTrans Estuary Crossing Study, though significantly more expensive than similar bus/shuttle service. The most cost effective water shuttle service would include the following characteristics:

Recommended Operator, Estimated Cost: Purchasing new vessels and hiring and training operating staff is costly. Existing operators with proper safety, insurance and operating licenses and permits with a proven record of safety and performance and a working relationship with the Coast Guard are available. Constructing new docks or landing areas is costly, time consuming, and involves numerous public agencies in the approval process. Utilizing existing docks and landings in Alameda and Oakland will reduce costs. Existing operators with proper safety, insurance and operating licenses and permits with a proven record of safety and performance and a working relationship with the Coast Guard are available.

The Commodore Fleet will provide turn-key operations of any proposed water shuttle system crossing the Oakland Estuary. Commodore to provide all inclusive service; under this option Commodore would purchase the vessel, customize it for ferry service, berth it at their facility at Mariner Square, provide crew, maintain the vessel, cover fuel costs throughout the year, and insure the vessel under the company policy. (Commodore would need 180 days notice before implementing service, would require a minimum two year operating contract and is based on a minimum of six hours of operations per day).

Price per hour is quoted at \$145/hour. Six 6 hours of operations per day x 252 days of operation per year=1,512 hours x \$145/hour=\$219,240 estimated operating costs per year.

Fares for water shuttle patrons could be collected by either selling passes (on-line or, possibly, through the TMA or shuttle operator) or by equipping the proposed vessel with credit card or scan payment technology. Farebox return would be insignificant in off-setting operational costs, especially during start-up (first year) of the service; fares would need to be low enough to attract passengers for the short trip across the estuary; \$2 per boarding is similar to other Bay Area transit fares. Thirty 30 boardings per day x \$2/boarding x 252 service days= \$15,120. With a proposed fare of \$2, the service would require a \$205,000 per year subsidy.

Ridership Estimates: Due to the lack of comparable services it is very difficult to estimate potential ridership on a cross estuary water shuttle. Using the current number of daily bicycle patrons of the cross estuary shuttle (approximately 15 patrons per day), an estimated daily ride ship would be 30 boardings.

A water shuttle is not a cost effective means to reduce commute traffic in the tubes. If the City of Alameda's policy goal is to reduce peak hour commute trips through the Webster and Posey Tubes, a water shuttle would not currently be a cost effective solution. A lack of connectivity between the docks on the Alameda and Oakland waterfronts and the regional transportation and BART systems requires multiple transfers for the typical commuter.

Commuters typically resist transportation options that require multiple transfers. In contrast a land based shuttle bus can deliver passengers directly to BART stations. The JLS dock(s) provides limited connectivity options with BART or AC Transit for daily commuters. With the future of the Broadway Shuttle uncertain, even this current option to move commuters to north Oakland work areas (Kaiser Corporate, AC Transit, CalTrans, BART, etc) and/or BART stations (12<sup>th</sup>, 19<sup>th</sup> Street stations) is in question. The Alameda Landing shuttle, the Estuary Crossing Shuttle and several AC Transit lines currently provide effective and timely links between Alameda and Oakland and direct connections to Fruitvale, Lake Merritt, 12<sup>th</sup> and 19<sup>th</sup> Street BART stations. Daily commuters to work sites in Alameda Landing would have to exit a ground shuttle or transit bus to board the Alameda bound water shuttle; an unlikely scenario, especially since the bus/shuttle they were riding most likely has its end destination in Alameda. A niche market might be Capital Corridor commuters that work in Alameda, though it is doubtful this would provide enough ridership for a favorable cost-per-passenger.

Recommended Route: Use existing docking infrastructure is recommended to reduce construction costs and permitting expenses. Pick-up locations should connect to bicycle and pedestrian pathways and be close to automobile parking which is available at JLS and at various Alameda sites include public parking lots at and around the Commodore dock, and addition future opportunities exist at the Alameda Landing site and at the Main Street Ferry Terminal.

Constructing new docks or landing areas is costly, time consuming, and involves numerous public agencies in the approval process. Utilizing existing docks and landings in Alameda and Oakland will reduce costs. A contract with Commodore would include a dock and loading area on the on the Alameda side of the estuary (Stop #1 shown on map, Appendix B). Approval from the Port of Oakland for use of a dock on the Oakland side of the estuary would be needed. Daily use of the public docks (stops #2 and #3 on map—Appendix "B") at Jack London Square (JLS) would need to be coordinated and approved by the Port of Oakland and the JLS property managers. WETA will not allow daily use of their existing dock (#3 on map) under any circumstances. The exact role of WETA would need to be determined in the early planning stages of the project. Success of any estuary crossing services will require a partnership with JLS to ensure the use of Oakland docking facilities and the identification and coordination of common interests and goals between Alameda and Oakland. Participation and/or financial contributions from JLS property managers, merchants and the Port of Oakland will expand revenue base, marketing opportunities and potential ridership.

## **Finding #2: Partnerships with Oakland Could Make a Water Shuttle an Economic Development Asset.**

A water shuttle may serve other purposes other than commute traffic reduction. The water shuttle service is a concept that could provide a unique branding opportunity for Alameda and could be used to support commercial and retail businesses on both sides of the Estuary. Alameda Landing, Jack London Square, and Alameda Point are all planned as mixed use waterfront retail centers with weekend and after hours activities and restaurants. Additional retail and restaurant development in these three waterfront areas will increase the

attractiveness of a water shuttle for visitors to these areas. New development will create challenges and provide opportunity for partnerships in common areas such as land use, marketing and transportation. The newly formed West Alameda Transportation Demand Management Association would be an ideal organization to facilitate discussions, especially on transportation issues including land and water shuttles. WETA—Although daily use of their Oakland dock is not an option, WETA could assist in many areas of nautical and political expertise. Additionally, any water shuttle vessels could be incorporated into emergency ferry plans.

### **Finding #3: A City Operated Water Shuttle is Not Recommended**

It is not practical or cost effective for the City of Alameda to purchase, store and maintain the water shuttle vessel; hire, train, license, insure and maintain personnel capable of performing the necessary nautical operations of the vessel. An estimate in the CalTrans Estuary Crossing Shuttle lists purchase price for (2) 80' vessels at approximately \$700,000, minimal details are provided on the style or design of the vehicle. It is also not practical or cost effective for the City to consider construction of new docks or storage areas. The CalTrans report also lists additional costs for independently operated service, including: (a) floating pier (\$320,000), (b) access ramp (\$512,000), (c) railing (\$128,000), (d) canopy (\$80,000). Minimal information is provided on insurance, personnel, storage, maintenance or fuel costs. Other non-operational costs include environmental review, project administration, project design and public outreach. Approximate yearly costs: a. Personnel- \$85 per hour for Captain x 1,512 hours per year=\$128,520/yearly (pending Coast Guard's final decision on number of crew members required) b. Fuel-approximately \$25,000 per year c. Insurance (approximately \$15,000 per year) d. Maintenance (vessel and dock) \$90,000 per year. \$258,520 approximate operating cost (only) per year.

### **Finding #4: A One Year Pilot Program is Not Recommended.**

The 2007 Alameda Landing Transportation Demand Management Program suggests a one year pilot program to establish feasibility. A one year pilot program is not recommended. Most (ground) shuttle programs take 2 to 3 years to obtain acceptable ridership and public awareness. Most operators would require a minimum 2 or 3 year service contract, especially if purchasing a vessel specifically for the service.

### **Finding #5: Marketing for Success:**

Service must be supplemented with an aggressive marketing and public awareness campaign, including branding, brochures, dedicated website and public outreach. The estimated cost for marketing efforts would be approximately \$25,000--\$40,000, which includes several one-time-only costs.

### **Finding #6 Boat Design:**

All boats should be equipped with roof enclosure, passenger seating, bicycle racks and be ADA compliant for passengers with disabilities. For proposed Water Shuttle Vessel details and picture see Appendix "A" The use of DUKW style land/water vehicles does not appear to be viable.. Although the land and water capabilities of these vehicles could address vital connectivity issues by providing direct service to BART, preliminary investigation produced several concerns, including:

- the vessels are not ADA accessible;
- the manufacturer maintains exclusive control of operations for these vehicles; and

- to be effective ramps would need to be constructed.

**Conclusions:**

In conclusion, if funding for commute hour transit services between Alameda and Oakland is limited, then the author of this study does not recommend that those limited resources be used to fund a commute hour water shuttle. For the same cost, a traditional land based shuttle system will provide more service to more riders per dollar spent.

However, the City of Alameda and the City of Oakland's local waterfront businesses at Jack London Square and Alameda Landing should continue to discuss and evaluate the potential economic development benefit of a water shuttle between the two waterfront districts. Although only 100 feet wide at this point, the Oakland Alameda Estuary creates a natural barrier between the two waterfront locations that could be easily breached by a water shuttle that might be attractive to shoppers and diners in Oakland and in Alameda who might be interested in crossing the 100 foot wide barrier to explore shopping and dining opportunities in the neighboring jurisdiction.

**Appendix "A"**  
**Proposed Water Shuttle Vessel Specifications and Picture**

LOA: 30'

Beam: 10' – 12'

Motor: Twin 4-Stroke Outboards (Likely 115HP Mercury)

Fuel Capacity: TBD

Hull: Aluminum

After reviewing several different designs, manufacturers, and models, Commodore believes a pontoon boat to be the most feasible design, both operationally and economically. The pontoon boat provides a quick, comfortable, and accessible ride across the calm waters of the Oakland Estuary. Design can be adjusted based on estimated ridership, but assuming a 20-24 person capacity Subchapter T vessel to form operational estimates.

The vessel would have bus style seating for passengers, a ceiling over most of the deck to protect from weather, and a bicycle rack designed for convenient loading and offloading. An aluminum ramp would be customized to make the vessel wheelchair accessible.

The vessel would be propelled by twin low emission Mercury 4-stroke engines, horsepower to be determined. These engines are very quiet, consume less fuel, and offer great dependability. Approximate cost: \$350,000.

(Photo of similar vessel as the proposed water shuttle)



## Appendix “B”

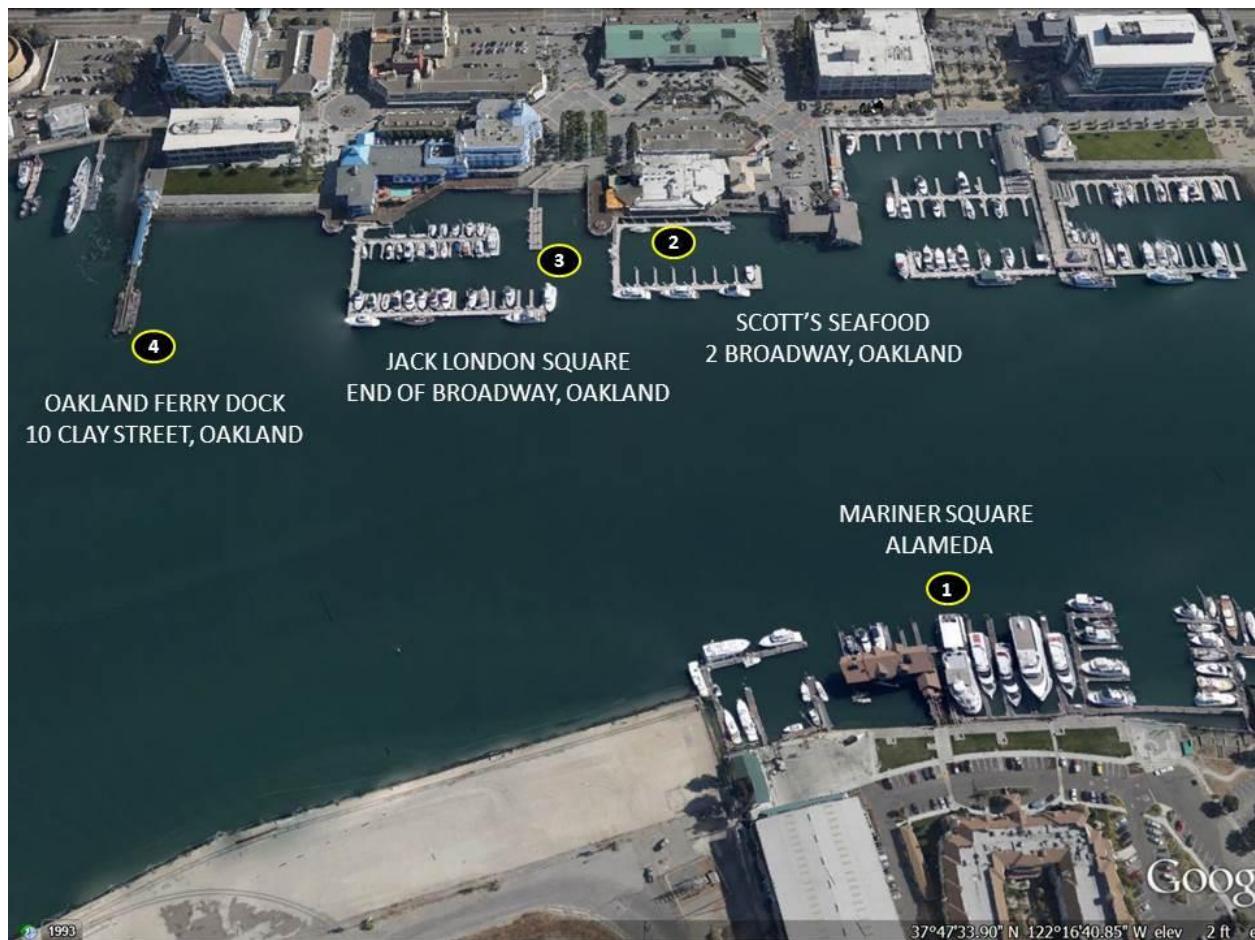
### Map of current Alameda and Oakland docks

#### Dock #1 Mariner Square Alameda

Assumes operations by Commodore; north of this dock (open space in the photo) is the site of a dock and/or pier area that could, potentially, be designed and constructed as part of the Alameda Landing Master Plan—there are no conceptual plans or timeline at this point.

Docks #2 and #3 are public docks, but details for daily operations would need to be finalized and approved by the Port of Oakland and/or Jack London Square property management.

Dock #4 Oakland ferry dock aka the WETA dock is not an option for daily use.



**Exhibit "C"**  
**Informal Proposal for Oakland/Alameda Water Taxi**  
**August 2013, Commodore Yachts, Morgan Proescher**

**Daily Operation & Assumptions**

Our proposal and assumptions are based on 252 operating days and a minimum of 6 hours of operation each day, including morning and evening runs. We believe roundtrips could be made every 10 minutes as needed during our periods of operation. Should the vessel break down, we would provide service aboard one of our larger yachts, likely the 65' Zinfandel Commodore, until regular service is restored. This would slow down service by 5 to 10 minutes but could be implemented immediately without requiring a service outage.

The quoted hourly rates are valid as of 7/15/13, with future adjustments to be made with a mutually agreeable cost of living index using 2013 as the base year. An additional \$15 per hour will be charged for overtime (defined as weekday work exceeding 8 hours in a day and any work performed during weekend service).

**Proposed Weekday Service Hours**

Morning Service: 7:00am – 10:00am

Evening Service: 4:00pm – 7:00pm

**Ferry Specifications**

LOA: 30'

Beam: 12'

Motor: Twin 4-Stroke Outboards (Likely 115HP Mercury)

Fuel Capacity: TBD

Hull: Aluminum

After reviewing several different designs, manufacturers, and models, we believe a pontoon boat to be the most appropriate design, both operationally and economically. The pontoon boat provides a quick, comfortable, and accessible ride across the calm waters of the Oakland Estuary. Design can be adjusted based on estimated ridership, but we're assuming a 24-28 person capacity Subchapter T vessel will be sufficient and will use this assumption to form our operational estimates. One important variable yet to be determined is whether the San Francisco MSO will require an additional crew person aboard the vessel during ferry operation. Based on our route we don't believe this will be the case, but it is a factor that could increase the cost of service and is not included in our proposed hourly rates below.

The vessel we envision would have bus-style seating for passengers, a ceiling over most of the deck to protect from weather, and a bicycle rack designed for convenient loading and offloading. Our crew would also fashion an aluminum ramp to make the vessel wheelchair accessible.

The vessel would be propelled by twin low emission Mercury 4-stroke engines of a to be determined horsepower. These engines are very quiet, consume relatively low amounts of fuel, and offer great dependability.

Additional Options & Potential Add-ons include:

\* Custom wrapping on the exterior of the vessel to promote the ferry service

\* Fare box

\* Possibility of building/operating a smaller or larger craft

**Crew Requirements**

We assume the boat will be crewed by one captain, holding a 50 GT license at the very minimum. Our full-time captains and sizable relief roster include some of the most diligent mariners on the Bay and all possess 100+ GT licenses. They are trained in first aid, CPR, life saving techniques, and Man Overboard procedures. Almost as

importantly, they are fun loving and will interact well with passengers to make even the shortest trips pleasant each day.

### **Dock Requirements**

A pontoon boat could easily access the Broadway Dock at the foot of Jack London Square or the public dock directly in front of Scott's Seafood Restaurant, boarding on either the port or starboard side of the vessel. We will further investigate and confirm a site on the Oakland side of the Estuary once we've received initial acceptance of this proposal. On the Alameda side, the vessel could actually embark/disembark from the bow with the engine idled ahead, pushing the vessel against the dock at our Mariner Square location. This reduces the amount of dock space required and reduces turnaround time needed to ferry passengers back and forth across the Estuary. Another benefit of this procedure is that it would be easy to load and unload bicycles and wheelchairs from the bow.

### **Pricing**

We propose two options:

*Option 1 – Owner & Operator \$145 per hour (2 year term minimum)*

Under this option Commodore Cruises & Events will purchase the vessel, customize it for ferry service, berth it at our facility at Mariner Square (this assumes pick up/drop off on the Oakland side would be free), provide crew, maintain the vessel, cover fuel costs throughout the year, and insure the vessel under the company policy (currently \$20 million in coverage). Our cost model assumes gasoline prices will stay below \$6.00 per gallon. Should gasoline prices rise above \$6.00 per gallon at the Jack London Fuel Dock, Commodore will invoice the difference on a monthly basis. We would like 180 days of notice before implementing this service.

*Option 2 – Operator \$85 per hour*

As the operator, Commodore will provide crew, regularly scheduled maintenance/upkeep, insurance coverage, and a spot to dock in Alameda. We would like 90 days of notice before implementing this service. In the event of a break down, a back-up boat could be arranged at an agreed upon price.

### **Concerns/Items to Discuss**

- Exact docking location on Oakland side of the Estuary
- ADA accessibility/ramp on Oakland side of the Estuary
- How ADA accessibility and bike racks would affect passenger capacity
- Adding additional pick up/drop off locations along the Estuary
- Determining whether the US Coast Guard would require an additional mate aboard

### **About Us**

Commodore Cruises & Events was founded over 25 years ago at the Embarcadero Cove Marina in Oakland. In 1994 the company moved its operations to its current location at Mariner Square in Alameda and started acquiring new yachts as the business grew. We currently own and operate six Coast Guard inspected charter yachts, the largest of which is certified to carry 400 passengers. Our team works hard to ensure safety and comfort afloat. Our maintenance staff prides itself on keeping the yachts in immaculate condition.