Presentations for April 1, 2021 Board of Directors Meeting
Systemwide Daily Ridership
February - March 2021

Day of the Month (Weekdays only)
Ridership by Service
January - March 2021

Average Daily Boardings

<table>
<thead>
<tr>
<th>Location</th>
<th>January</th>
<th>February</th>
<th>March</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alameda/Oakland</td>
<td>206</td>
<td>277</td>
<td>358</td>
</tr>
<tr>
<td>Vallejo</td>
<td>336</td>
<td>403</td>
<td>485</td>
</tr>
<tr>
<td>Richmond</td>
<td>57</td>
<td>69</td>
<td>89</td>
</tr>
</tbody>
</table>
*Assumes the vessels will be limited to about (but not exactly) 25% capacity, due to social distancing requirements
### To Downtown San Francisco
January - March 2021

<table>
<thead>
<tr>
<th></th>
<th>Alameda/Oakland</th>
<th>Vallejo</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:45 AM</td>
<td>28</td>
<td>49</td>
</tr>
<tr>
<td>8:05 AM</td>
<td>32</td>
<td>50</td>
</tr>
<tr>
<td>9:05 AM</td>
<td>31</td>
<td>55</td>
</tr>
<tr>
<td>10:05 AM</td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>21</td>
<td>33</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>29</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>21</td>
</tr>
</tbody>
</table>

*80% - Adjusted Capacity*

*Assumes the vessels will be limited to about (but not exactly) 25% capacity, due to social distancing requirements*
*Assumes the vessels will be limited to about (but not exactly) 25% capacity, due to social distancing requirements*
2021 WETA On-Board Passenger Survey

Board of Directors Meeting
April 1, 2021
WETA On-Board Surveys

Past Surveys
• Every three years (2011, 2014, 2017)
• Postponed the 2020 survey due to COVID

Survey Logistics
• Sampled all three WETA routes on February 24th and February 25th 2021
• 267 completed surveys (Compared to 1,944 in 2017)
• Provided in English, Spanish, and Simplified Chinese
• This survey captures current WETA riders. It does not capture WETA riders who have not been riding during the pandemic, or future WETA riders

Next Steps
• The following slides are preliminary data from the survey
• The Final Survey Report will be published and posted online in April
• Conduct another survey once significant ridership returns (likely Fall 2021)
Income Levels

Higher percentage of lower-income riders vs 2017
• Fewer office workers. More essential workers

Since 2017 (Systemwide)
Annual Household Incomes

- <$50K: +12%
- >$200K: -10%

2021 Annual Household Income
Racial and Ethnic Demographics

Compared to Past Surveys

• Higher percentage of riders identified as Hispanic, African American, Asian/Pacific Islander, Native America, Other, or More Than One Race

• Lower percentage of riders identified as Caucasian
Accessing Alameda Main St and Oakland Terminals

- No significant change in access to Alameda Main Street. Drive alone still the primary mode.
- Walk and bike access share to the Oakland terminal increased 34% from 2017
  - New residential developments near the terminal
Accessing the Vallejo Terminal

- Significant drop in drive alone access share
- Increase in drop-offs, walking, biking, and ridesharing/TNCs
  - New residential developments near the terminal

Since 2017
Vallejo Terminal

<table>
<thead>
<tr>
<th>Mode</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop-offs</td>
<td>+5%</td>
</tr>
<tr>
<td>Walk/Bike</td>
<td>+4%</td>
</tr>
<tr>
<td>TNCs</td>
<td>+4%</td>
</tr>
<tr>
<td>Drive Alone</td>
<td>-17%</td>
</tr>
</tbody>
</table>

- New residential developments near the terminal

- Significant drop in drive alone access share
- Increase in drop-offs, walking, biking, and ridesharing/TNCs

<table>
<thead>
<tr>
<th>Mode</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk</td>
<td>7%</td>
</tr>
<tr>
<td>Drive alone</td>
<td>46%</td>
</tr>
<tr>
<td>Bike</td>
<td>5%</td>
</tr>
<tr>
<td>Carpool</td>
<td>6%</td>
</tr>
<tr>
<td>Public Transit</td>
<td>19%</td>
</tr>
<tr>
<td>Kiss-and-Ride</td>
<td>7%</td>
</tr>
<tr>
<td>TNCs</td>
<td>8%</td>
</tr>
<tr>
<td>Other / Multiple</td>
<td>1%</td>
</tr>
</tbody>
</table>
Accessing the Richmond Terminal

- Increase in driving alone, with decreases in walking, carpooling, drop-offs, and public transit
- Compared to Vallejo and Oakland which have seen drops in drive alone access
How has COVID affected your travel?

Since March 2020,
• 20% of surveyed riders are new to the ferry
• 41% of surveyed riders have used the ferry less frequently
• 20% of surveyed riders have used the ferry more frequently

How frequently do you ride the ferry compared to before March 2020?

Did you ride the Ferry prior to March 2020?
How often do our riders use the Ferry?

A smaller percentage of riders are using the ferry at least 5 days per week than in the past, down 7% from 2017.

How often do you ride the ferry?

- 6-7 Days/Week: 35%
- 5 Days/Week: 21%
- 3-4 Days/Week: 14%
- 1-2 Days/Week: 14%
- 1-3 Days/Month: 9%
- < 1 Day/Month: 1%
- First Time: 5%
Why do our riders use the Ferry?

Commute share was up while recreational trips were expectedly down.

Despite lower traffic levels during the pandemic, riders still ranked “Avoid Traffic/Parking” as their top reason for riding the ferry. Overall, reasons for riding the ferry did not change significantly from 2017.
How will you ride after the Pandemic?

- 84% of surveyed riders plan to use the ferry the same amount of more in 2021
- Desire for all-day service, including midday and late-night trips
Rider Satisfaction

74% of riders are Satisfied or Very Satisfied with the Ferry, down from 88% in 2017

**Primary Compliments** – Ride quality, helpful crews, and clean vessels

**Primary Concerns** – Low service levels, lack of late-night service, lack of weekend service, and high fares
Program Goals

• Primary objective is to increase ridership
• Restore service, build system back better
  ➢ Equitable, broad market appeal
  ➢ Integrated with regional network
• Temporary program for FY 2022
• Create pathway to re-establishing financial sustainability as long-term core system goal
Challenges

• When will recovery start and how fast it will progress?
• Evolving marketplace, how will new workplace policies alter commute patterns?
• Strength of regional economy?
• How soon will congestion return to bridge and BART?
• Other unknowns?
13 Core Principles

• Adopted by WETA Board at February 2021 meeting
• Focus areas:
  ➢ Service
  ➢ Fares
  ➢ Coordination
  ➢ Process
Proposed FY 2022 Pandemic Recovery Program

- Public outreach process authorized by WETA Board at March 2021 meeting
- Program highlights:
  - Service restart and enhancement
  - New service design approach
  - Lower fares
  - Regional integration
Media Outreach

• Major stories in Chronicle, East Bay Times
• Local television and radio coverage
Community Outreach

• Partner toolkit sent to 33 local community organizations
• Distributed to Bay Area legislative delegation and local elected officials from communities we serve
• Social media campaign resulted in 52,000 impressions and 960 engagements
• Appeared in multiple e-blasts, newsletters and more
Passenger Outreach

• Postings on all vessels and at Vallejo Ferry Ticket Office
• 2 BayAlerts sent to approx. 10,000 former ferry riders
• Virtual Open House held on March 16
  ➢ A main presentation followed by breakout Q&A sessions by route or route cluster
  ➢ 23 participants with lots of questions and feedback
Public Comment Takeaways

• Comments via email, social media (91)
  ➢ Covered multiple areas
  ➢ Service plan: Support – 40; Oppose – 0
  ➢ Fare change: Support – 18; Oppose – 0
  ➢ Support weekend service – 17

• Common questions from virtual open house (49)
  ➢ What will be the route schedule?
  ➢ When will the service start?
Public Comment Snapshots

“As someone who lives in SF without a car, I was thrilled to see your plan to actively come back with lower fares and expanded service”…..

“Please add off commute hours to the Richmond ferry.”

“I am a Richmond resident who works in SF, and I commute across the Bay primarily via the ferry”....

“Please resume Harbor Bay ferry services during peak hours.”

“Happy to hear that the Harbor Bay Ferry Service is planned to begin service again”...

“Please bring back the weekend ferry. We use the ferry often and really miss it!”

“I support the proposed changes that are being considered by WETA. In particular more routes and lower fares”....
Program Revisions

- Weekend service
  - Oakland, Alameda
  - Vallejo
  - Richmond
- Earlier launch – Harbor Bay
- Short Hop fare adjustment

<table>
<thead>
<tr>
<th>Short Hops</th>
<th>Current Fares</th>
<th>Initial Proposed Fares (March 2021)</th>
<th>Revised Proposed Fares (April 2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clipper</td>
<td>$1.70</td>
<td>$2.25</td>
<td>$1.00</td>
</tr>
<tr>
<td>Discount Clipper</td>
<td>$0.80</td>
<td>$1.00</td>
<td>$0.50</td>
</tr>
<tr>
<td>Paper Ticket</td>
<td>$1.70</td>
<td>$2.75</td>
<td>$1.25</td>
</tr>
<tr>
<td>Discount Paper Ticket</td>
<td>$0.80</td>
<td>$1.25</td>
<td>$0.50</td>
</tr>
</tbody>
</table>
Anticipated impacts of implementing proposed fares:
- 13-14% increase in ridership
- 11% decrease in fare revenue

Preliminary service plan cost budget estimate = $45 million
Marketing and Community Outreach Plan

• Aggressive broad-based marketing plan in development
  ➢ Out-of-home billboard advertising (freeway and within communities)
  ➢ Radio advertising (English and Spanish)
  ➢ Digital (social, search and video) advertising to reach younger demographics
  ➢ Activation events to earn attention and build goodwill
Marketing and Community Outreach Plan

• Community outreach plan in development
  ➢ Working with consultants with local expertise to tailor broad-based campaign to local communities (Vallejo, Richmond, Oakland and Alameda)
  ➢ Goal is to reach new riders for whom cost or schedule was previously a barrier
  ➢ Raise awareness of Clipper START discount

• Full marketing and community outreach plan to be presented in May
Presentation Overview

• California Air Resources Board’s (CARB) proposed amendments to the Commercial Harbor Craft (CHC) regulations

• In-use and new vessel requirements
  o Diesel Emissions Control System

• Status of WETA fleet

• How will the CARB regulations affect WETA?

• WETA’s Alternative Compliance Pathway (ACP)
  o Zero emission vessels and infrastructure study
  o Cost and funding opportunities
  o Future actions
CARB’s Proposed Amendments - CHC Regulations

- CARB is amending the existing CHC regulations to attain more emission reductions from the maritime industry
- If approved, regulations would start in 2024 with phased implementation through 2037
- Proposed amendments include:
  - Zero-emission vessel requirement for short routes (less than 3 miles)
  - Idling restrictions at terminals
  - Opacity testing requirements
  - Operating reporting requirements
  - $1.9 million in new fees to be paid by the industry
  - In-use and new vessel requirements: cleaner engines and emission reduction systems
In-use and New Vessel Requirements

• In-use vessels, including all WETA vessels, are required to be repowered with Tier 4 engines and a diesel particulate filter (DPF) - referred to as the Tier 4 + DPF standard.

• Alternative Compliance Pathway (ACP):
  • Alternatively, vessel owners can develop an ACP that achieves equal or greater emission reductions as the Tier 4 + DPF standard.
Diesel Emissions Control System

- Exhaust gases leave engine
- EPA Tier 0-3
- CARB PROPOSED ADDITION
- DPF
- Particulates (PM) trapped in diesel particulate filter
- DEF injected into exhaust
- EPA Tier 4
- Reduced volume of emissions leaves tailpipe. PM and NOx near zero levels.
- NOx reduction in SCR Catalyst
## Status of WETA Fleet

<table>
<thead>
<tr>
<th>Vessels</th>
<th>Qty</th>
<th>Tier Status</th>
<th>Primary Route</th>
<th>Can Accommodate DPF?</th>
<th>Compliance Year</th>
<th>End of Useful Life*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Fleet (15)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrus Class</td>
<td>4</td>
<td>Tier 3</td>
<td>Alameda</td>
<td>?</td>
<td>2026</td>
<td>2044-2046</td>
</tr>
<tr>
<td>Pyxis Class</td>
<td>3</td>
<td>Tier 4</td>
<td>Vallejo</td>
<td>?</td>
<td>2027</td>
<td>2045-2047</td>
</tr>
<tr>
<td>Gemini Class</td>
<td>4</td>
<td>Tier 2</td>
<td>SSF/Richmond</td>
<td>Yes</td>
<td>2024</td>
<td>2035-2037</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Tier 4: 2022)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peralta</td>
<td>1</td>
<td>Tier 2</td>
<td>Harbor Bay</td>
<td>?</td>
<td>2024</td>
<td>2030</td>
</tr>
<tr>
<td>Bay Breeze</td>
<td>1</td>
<td>Tier 2</td>
<td>Harbor Bay/Alameda</td>
<td>?</td>
<td>2024</td>
<td>2020</td>
</tr>
<tr>
<td>Intintoli &amp; Mare Island</td>
<td>2</td>
<td>Tier 2</td>
<td>Vallejo</td>
<td>?</td>
<td>2024</td>
<td>2024-2025</td>
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<tr>
<td><strong>Under Construction (4)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dorado 1 &amp; 2</td>
<td>2</td>
<td>Tier 4</td>
<td>Universal</td>
<td>?</td>
<td>2028</td>
<td>2048-2049</td>
</tr>
<tr>
<td>Dorado 3 &amp; 4</td>
<td>2</td>
<td>Tier 4</td>
<td>Universal</td>
<td>Yes</td>
<td>2029</td>
<td>2049-2050</td>
</tr>
<tr>
<td><strong>Future (1)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Bay</td>
<td>1</td>
<td>Electric</td>
<td>SF-Mission Bay</td>
<td>N/A</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

*25 year useful life plus 2 years for construction
How will the CARB Regulations Affect WETA?

**Hydrus Class (4)**
- Compliance Year: 2026
- Convert from Tier 3 to Tier 4 + DPF
- Cost: $46M

**Pyxis Class (3)**
- Compliance Year: 2027
- Install DPFs
- Cost: $29M

**Gemini Class (4)**
- Compliance Year: 2024
- Install DPF
- Cost: $2.5M

**Peralta (1)**
- Compliance Year: 2024
  - Apply for 6 yr extension
  - Useful life ends in 2030
  - Replace with CARB compliant vessel
- Cost: FTA Funded
How will the CARB Regulations Affect WETA?

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Compliance Year</th>
<th>Useful life ends</th>
<th>Replace with</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay Breeze</td>
<td>2024</td>
<td>in 2024</td>
<td>CARB compliant vessel</td>
<td>FTA Funded</td>
</tr>
<tr>
<td>Mare Isl. &amp; Intintoli</td>
<td>2024</td>
<td>2024 &amp; 2025</td>
<td>CARB compliant vessel</td>
<td>FTA Funded</td>
</tr>
<tr>
<td>Dorado 1 &amp; 2</td>
<td>2027</td>
<td></td>
<td>DPFs</td>
<td>$21M</td>
</tr>
<tr>
<td>Dorado 3 &amp; 4</td>
<td>2028</td>
<td></td>
<td>DPFs</td>
<td>$3M</td>
</tr>
<tr>
<td>Mission Bay</td>
<td></td>
<td></td>
<td>All Electric Vessel</td>
<td>Funded</td>
</tr>
</tbody>
</table>

Total Cost: $101.5M
WETA Alternative Compliance Pathway

- Preserve flexibility/minimize risk
- Availability of DPF technology
- Cost and funding opportunities
- Advancement of zero emission technology
- Cost effective?
- Operationally feasible?
WETA’s ACP Plan

**Hydrus Class (4)**
- Convert to zero emissions
  - Hydrus: 2030
  - Cetus: 2031
  - Argo: 2032
  - Carina: 2033
- Cost: $25M

**Pyxis Class (3)**
- Continue to operate until the end of useful life in 2045-2047
- Cost: $0

**Gemini Class (4)**
- Install DPF in 2024-26
  - Cost: $2.5M
- Replace with zero emission vessels
  - Gemini: 2035
  - Pisces: 2036
  - Scorpio: 2036
  - Taurus: 2037
- Cost: FTA funded

**Peralta (1)**
- Continue to operate until end of useful life in 2030
- Replace with CARB compliant vessel
- Cost: FTA funded
### WETA’s ACP Plan

<table>
<thead>
<tr>
<th>Ship</th>
<th>Status</th>
<th>Action Details</th>
<th>Cost Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay Breeze (1)</td>
<td></td>
<td>Retire at end of useful life in 2024</td>
<td>FTA funded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace with CARB compliant vessel</td>
<td></td>
</tr>
<tr>
<td>Mare Isl. &amp; Intintoli (2)</td>
<td></td>
<td>Retire at end of useful life in 2024 &amp; 2025</td>
<td>FTA funded</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Replace with CARB compliant vessel</td>
<td></td>
</tr>
<tr>
<td>Dorado 1 &amp; 2 (2)</td>
<td>Under Construction</td>
<td>Continue to operate until the end of their useful life 2048-2049</td>
<td>$0</td>
</tr>
<tr>
<td>Dorado 3 &amp; 4 (2)</td>
<td></td>
<td>Install DPFs</td>
<td>$2M</td>
</tr>
<tr>
<td>Mission Bay (1)</td>
<td>Future</td>
<td>All Electric Vessel</td>
<td>Funded</td>
</tr>
</tbody>
</table>

**Total Cost**: $29.5M
WETA ACP vs CARB Regulations

WETA Fleet in 2037 -- Draft ACP
- Zero Emissions: 9 vessels (48%)
- Tier 4: 5 vessels (26%)
- Tier 4 with DPF: 5 vessels (26%)

WETA Fleet in 2037 -- Draft CARB Regulations
- Zero Emissions: 1 vessel (5%)
- Tier 4 with DPF: 18 vessels (95%)
Cost and Funding Opportunities

- No funds are identified for the work required under CARB’s proposal
- The majority of the cost of the vessel work in WETA’s ACP plan is eligible for Carl Moyer funding
- Shoreside infrastructure costs are unknown at this time

<table>
<thead>
<tr>
<th></th>
<th>CARB’s Proposal</th>
<th>WETA Draft ACP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total vessel cost</td>
<td>$101.5M</td>
<td>$29.5M</td>
</tr>
<tr>
<td>Eligible for Carl Moyer funds</td>
<td>$0</td>
<td>$25.3M</td>
</tr>
<tr>
<td>Shoreside infrastructure cost</td>
<td>$0</td>
<td>$?</td>
</tr>
<tr>
<td>Potential Funding Gap</td>
<td>$101.5M</td>
<td>$?</td>
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</table>
Shoreside infrastructure study started in March 2021

Goal of the study is to evaluate existing infrastructure and capacity to determine electric needs to support zero emission vessels

Initial phase: Downtown SF Terminal, Central Bay Operations Facility and Alameda Main St Terminal

All other existing WETA terminals and expansion terminals will be evaluated in subsequent phases

Retrofitting existing WETA vessel and construction of new vessels cannot be fully defined until initial infrastructure study is complete
## Future Actions

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARB Releases revised regulatory language</td>
<td>March 2021</td>
</tr>
<tr>
<td>Agency comment on revised regulatory language</td>
<td>April 16, 2021</td>
</tr>
<tr>
<td>Shoreside Infrastructure Study Board presentation</td>
<td>June/July 2021</td>
</tr>
<tr>
<td>Interim findings of Shoreside Infrastructure Study</td>
<td>August 2021</td>
</tr>
<tr>
<td>Completion of Shoreside Infrastructure Study</td>
<td>Fall 2021</td>
</tr>
<tr>
<td>CARB 45-day public comment period</td>
<td>September 20, 2021</td>
</tr>
<tr>
<td>CARB Commission meeting to consider approval of proposed regulations</td>
<td>November 4, 2021</td>
</tr>
<tr>
<td>WETA Board consideration of fleet plan based on study results and regulations</td>
<td>Early 2022</td>
</tr>
</tbody>
</table>