

Skagit County

1800 Continental Place
Mount Vernon, WA 98273

ALL-ELECTRIC FERRY REPLACEMENT PROJECT



Investing in Clean Energy & The Future of Marine Transportation



The first electric car and passenger ferry in the world, Ampere, entered service in Norway, in early 2015. With three battery packs, one on board and one at each pier, it is completely free of emissions.

PROJECT TYPE:

Ferry Vessel Replacement

LOCATION:

County & State:

Skagit County, Washington

Legislative District:

40th District

- Sen. Kevin Ranker
- Rep. Kristine Lytton
- Rep. Jeff Morris

Congressional District:

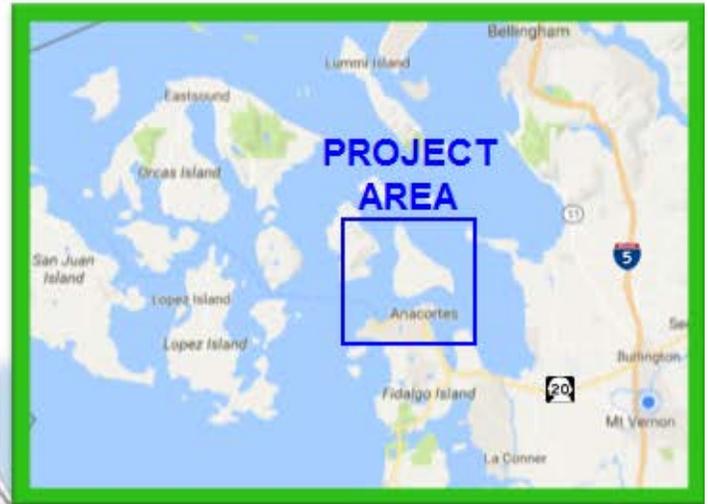
WA-2 (Washington State 2nd District)

- U.S. Rep. Rick Larsen
- U.S. Sen. Maria Cantwell
- U.S. Sen. Patty Murray



The Skagit County Ferry System operates between Anacortes and Guemes Island, WA. The route is approximately 5/8 mile; a round-trip crossing takes roughly 20-25 minutes.

ALL-ELECTRIC FERRY REPLACEMENT PROJECT



EXECUTIVE SUMMARY

Skagit County has operated a vehicle and passenger ferry service between Anacortes and Guemes Island, WA since the early 1960s. Only one vessel services this route. The current vessel, the M/V



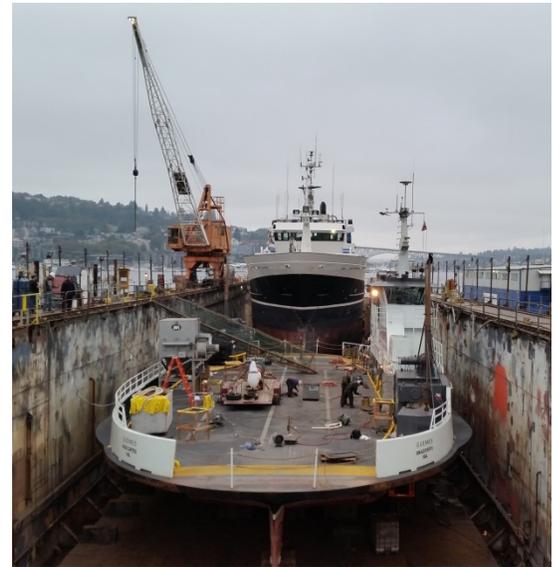
GUEMES, is a 21-vehicle, 99-passenger, diesel-powered ferry that was built and put into service in 1979. Today, the ferry operates 365 days a year and transports roughly 200,000 vehicles and 400,000 passengers annually.

There are no alternative roads or highways that provide access to Guemes Island; as such, the Skagit County ferry system serves as a vital transportation link for its ridership. In addition to transporting commuters, the ferry also carries tourist traffic, construction and logging trucks, essential services trucks and emergency vehicles and personnel to and from the Island.

The M/V GUEMES with Guemes Island in the background.

In the last few years, haul-out and dry dock costs have increased substantially. Since 2014, the Ferry Division has spent nearly half of its annual \$2.5 million operating budget on maintenance of the vessel and associated machinery and repair projects. This has become increasingly burdensome on Skagit County's road fund with the annual subsidy from that fund contributing approximately \$1 million per year in the last few years.

In 2013, Skagit County began the process of studying vessel replacement when they hired Elliott Bay Design Group to publish a Ferry Replacement Plan for the M/V GUEMES. The study looked at the existing cost of operation then formulated replacement scenarios to determine the most economic replacement option. The conclusion was that immediate or near-term replacement of the vessel will minimize the overall cost of ownership and provide environmental improvements in vessel operation. The report also recommended that The M/V GUEMES would require a major overhaul or replacement by the year 2023 due to the continual deterioration of the vessel.



The M/V Guemes in dry dock

Currently the Ferry Division does not have a replacement fund for the vessel, and grant funding for ferries are increasingly challenging to obtain. Aging equipment is becoming more difficult and costly to maintain for the 37-year old ferry. Realizing the immediate need to replace the M/V GUEMES, Skagit County has the opportunity to look 40 years into the future and potentially utilize new technology to replace imported diesel fuel as a means for propulsion with electric power, generated from sustainable resources within the state.

Skagit County has determined a need to replace its diesel-powered vehicle and passenger ferry. A newly constructed, all-electric vessel would reduce operational and maintenance costs, increase energy independence and reduce harmful CO₂ (Carbon dioxide) air emissions by 619,359 kg. A propulsion/feasibility study, completed by Art Anderson Associates in 2016, concluded, "...an all-electric propulsion system for a new concept vessel to replace the M/V GUEMES is highly feasible for this particular route and its unique environmental conditions...It is recommended that all-electric

propulsion be considered for the design of a replacement vessel that will provide safe and reliable service.”

Currently, no state in the U.S. operates an all-electric vehicle ferry; however, the technology has been proven in Norway. Development of the all-electric ferry demonstrates that Skagit County and Washington State are technology leaders willing to invest in safe, environmentally conscious, clean energy projects that benefit both the local community and the global environment.

Benefits – This very important project will:

- Allow Washington State and Skagit County to become a pioneer in electric ferry technology in the United States;
- Support clean energy technology that reduces costs, saves energy, increases energy independence and reduces harmful CO₂ (Carbon dioxide) emissions by nearly 620,000 kg reducing the social cost of carbon;
- Increase the competitiveness of Washington-based businesses and facilitates the creation of new technology and jobs in marine manufacturing, marine architecture, energy storage and development, and electric motor construction;
- Provide an opportunity for Washington State to demonstrate technology that can be expanded to other vessels and projects which will further stimulate Washington’s economy;
- Result in a much-needed reduction in Skagit County’s annual maintenance costs; and
- Directly benefit Washington State residents, taxpayers, the local community and all stakeholders.

In the coming months, the Public Works Department will be hiring a Naval Architecture firm to complete a design study and conceptual design of the new vessel. Skagit County is planning to aggressively seek grant funding in 2017 in order to move the project into the final design phases. Skagit County has not yet received any federal or state grant funding for the project.

With limited resources and increasing infrastructure needs, Skagit County respectfully requests the State consider appropriating \$500,000 in funding for preliminary design of this project. The preliminary design will assist Skagit County with applying for federal grant assistance for final design and construction of the project.

CURRENT PROJECTED FUNDING

- Federal Allocations (FBP) \$ 200,000
- Federal Grant Assistance \$ 1,125,000

FUNDING REQUESTED: \$ 500,000

TOTAL EST. DESIGN COST: \$ 1,825,000

PROJECT CONTACT INFORMATION:

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