



Municipality of Skagway

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SENT VIA EMAIL ONLY

April 26, 2021

The Honorable Lisa Murkowski
United States Senate
522 Hart Senate Office Building
Washington, D.C. 20510

RE: **All-Electric Ferry Concept for the Upper Lynn Canal**

Dear Senator Murkowski,

Skagway is pleased to share with you an exciting new concept for an all-electric ferry that could carry passengers and vehicles between Skagway and Haines during our busy summer visitor season. Based on a high-level concept developed by Elliott Bay Design Group, the vehicle shuttle would be an innovative pilot project for renewably-powered marine transportation that takes advantage of Skagway's abundant hydroelectric resources.

The Skagway-Haines route is a key component of our independent visitor market and the highly popular Golden Circle Tour, connecting the Upper Lynn Canal with the Yukon and the rest of continental North America.

The Municipality of Skagway is committed to promoting environmental sustainability through expansion of the local market for renewable hydropower resources. Recently, we completed installation of four electric vehicle charging stations. Work on our Port of Skagway Master Plan is ongoing and we are continually looking for other new and innovative ways to provide clean energy for our community and our port.

Attached is a fact sheet on the electric shuttle ferry concept and the Elliott Bay Design Group spec sheet.

We appreciate your support of renewable energy and thank you for your interest in this project.

Sincerely,

Andrew Cremata, Mayor

mayor@skagway.org

FACT SHEET

Skagway's Electric Shuttle Ferry (15 Vehicle) Proposal

What route will the shuttle sail? The shuttle will provide daily service between Skagway and Haines two to three times a day depending on traffic demand.

What months of the year will it operate? April through September

How many passengers and vehicles can the shuttle carry? 100 passengers and 15 standard sized cars (20ft)

Can the shuttle carry large motorhomes and tour busses? Yes, but fewer than cars.

What will the shuttle cost to build? \$8 million for construction and \$500,000 for design.

How many crew will be needed to operate the shuttle? A captain and two deck hands.

Where will the shuttle homeport? Skagway. Provisions for berthing and charging will be incorporated into Skagway's Port Master Plan, currently under development.

Where will the shuttle be built? The shuttle can be built in the Sitka boat yard, creating local jobs.

How long will it take to charge the ferry? One hour between each Skagway/Haines roundtrip sailing.

Does Skagway have enough hydro power available to charge the ferry? Yes.

How will the shuttle support Haines and Skagway economies? Promoting the independent visitor market reduces our dependence on cruise ships. The Haines/Skagway route is a critical link in the Golden Circle Tour, highly popular with travelers visiting the Yukon and Alaska.

Can the shuttle handle the demand on the Skagway/Haines route? Yes. Three sailings a day would be sufficient to meet the peak historic AMHS traffic demand on the route. Additional sailings could be added.

What makes the shuttle energy efficient? Its small size allows it to adapt to fluctuations in demand by increasing or decreasing the number of sailings. And, because it is powered by electricity, it optimizes the use of Skagway's abundant hydroelectric resources.

How will people get to Juneau in the summer? Skagway travelers bound for Juneau will board the shuttle in Skagway and sail to Haines where they will board the Alaska Marine Highway System (AMHS) ferry. People traveling from Juneau to Skagway on AMHS will disembark in Haines and board the shuttle to Skagway.

How will people get to Juneau in the winter? AMHS would resume its usual winter Lynn Canal service.

How does the shuttle help the Alaska Marine Highway? The shuttle plan will reduce the burden on the state budget by eliminating one route during the busy summer season. This will free up the MV LeConte and other AMHS vessels to serve other communities in the region.

Can the vessel pay for its operations out of the fare box? Preliminary analysis indicates a positive revenue/cost ratio compared to other ferry systems. Over the past five years traffic on the Skagway/Haines route has averaged approximately 30,000 passengers and 11,000 vehicles per summer with average total seasonal revenue estimated to be \$1.5 to \$2 million.

JW 4/18/21



15-Vehicle Electric Ferry

VESSEL DESCRIPTION

This 120' monohull vessel is intended to provide vehicle and passenger transportation between Skagway and Haines. The vessel is intended to be all-electric. The vessel will utilize a lithium-ion battery bank charged by shore power. The estimated contract design cost is \$400-\$500 thousand, with construction cost approximately \$7-\$8 million, not including any shoreside infrastructure changes for charging.

PRINCIPLE DIMENSIONS

Length (O.A.):	120'-0"
Beam (Max):	40'-0"
Draft (DWL):	7'-0"
Depth:	13'-0"
Lightship:	345 LT
Hull Type:	Monohull, drive-through deck arrangement

PERFORMANCE CHARACTERISTICS

Design Speed:	10 kt
Certification:	USCG Subchapter T
Route:	Skagway to Haines
Route Length:	14.5 miles
Design Sea Conditions:	Approximately 25 kts and 6 ft seas
Passenger Capacity:	100
Vehicle Capacity:	15 (Alaska Standard Vehicle – 20ft)
CO2 Savings:	1.1 mt/trip

PROPULSION MACHINERY

Propulsion Motors:	(2) 700 kW, Permanent Magnet
Battery Bank Capacity:	2.7 MWh
Battery Bank Weight:	35 LT
Battery Chemistry:	NMC
Expected Battery Life:	7.5 yr (approx. 2,700 cycles)
Propellers:	(2) 4-bladed, fixed pitch
Rudders:	(2) Balanced

SHORE POWER REQUIREMENTS

Shore Power Available:	2 MW
Approx. Charge Time:	1 hr
Round Trip Energy:	1770 kWh

NOTES

- All charging performed at Skagway between round trips
- The hull and superstructure to be of welded steel construction utilizing a longitudinally stiffened deck
- CO₂ savings based on a comparison to the efficiency of a representative diesel mechanical system and assuming all shore power for the electric version comes from renewable sources.