



Implications of Passenger Ferry Feasibility for Freight Movement in the NCR

NCR Transportation Planning
Board Freight Subcommittee

Tim Payne, Senior Principal

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NYGAARD

Project Overview

Project Purpose

- Continue to work with stakeholders interested in the project
- Build on previous work to create a business plan for implementing passenger ferry service on the Potomac
- Identify a business case for passenger ferry routes that adds diversity and resilience to the transportation system in the NCR while adding value to burgeoning waterfront development
- Build a financial model to test various aspects of service and capital investment and the influence on overall cost
- Identify a governance structure that could carry the business plan into implementation

M-495 Commuter Fast Ferry Stakeholder Group

Federal Government

U.S. Maritime Administration
U.S. Federal Transit Authority
U.S. Federal Highway Administration
U.S. Department of Homeland Security
Federal Emergency Management Administration
U.S. Coast Guard
National Park Service, U.S. Department of Interior
National Oceanic and Atmospheric Administration
U.S. Army Corps of Engineers
U.S. Fish & Wildlife Service

Military

Naval District Washington (NDW)
Fort Belvoir
Joint Base Anacostia-Bolling (JBAB)
Marine Corps Base Quantico
Naval Support for Indian Head & Dahlgren

State & Local Government

DC City Council
DC Department of Transportation
Virginia Department of Transportation
Virginia Dept. of Rail & Public Transportation
Virginia Rail Express
Virginia Marine Resources
Arlington County Department of Planning
Fairfax County Board of Supervisors and Planning
Department
Prince William Department of Planning and
Transportation
Maryland Department of Transportation
Prince George's County, Maryland
Town of Indian Head, Maryland
Charles County, Maryland Department of
Economic Development

Private Industry

Business Improvement
Districts (BIDS)
Hornblower
New York Cruise Lines
Penrose Group
IDI Rivergate
The Wharf
Occoquan Marina
Belmont Bay Marina
Peterson Company
MGM & National Harbor
Metal Shark Boats
Bush Construction Corp.
Washington Gas
DC Water
JBG Smith
Stantec Inc.
Phoenix Infrastructure
Group

Associations (Local and National)

Transportation Research
Board
Metropolitan Washington
Airports Authority
National Capital Planning
Commission
Passenger Vessel Association
Anacostia River Keepers
Anacostia Trust
DC Sail
Alexandria Citizen
Association
Woodbridge Civic
Association

Universities

George Mason University
Virginia Tech
University of Maryland

The Stakeholder Group provides the expertise and funding required to publish studies, advocate support, and engage citizens and the media in support of commuter fast ferry service in the National Capital Region



Previous Work Highlights



M-495 Infrastructure Gap Analysis (NVRC, 2019)

- 11 Terminals examined
- Extended market analysis of Woodbridge to JBAB and DC

Market Analysis Report (NVRC, 2015)

- Identified 6 corridors potentially commercially viable
- Utilized phone survey

Service Study and Route Proving Exercise (Prince William County, 2009)

- Examined 13 terminals and running times between terminals
- Recommended further study to assess market

Ferry Feasibility Study (VDOT, 2001)

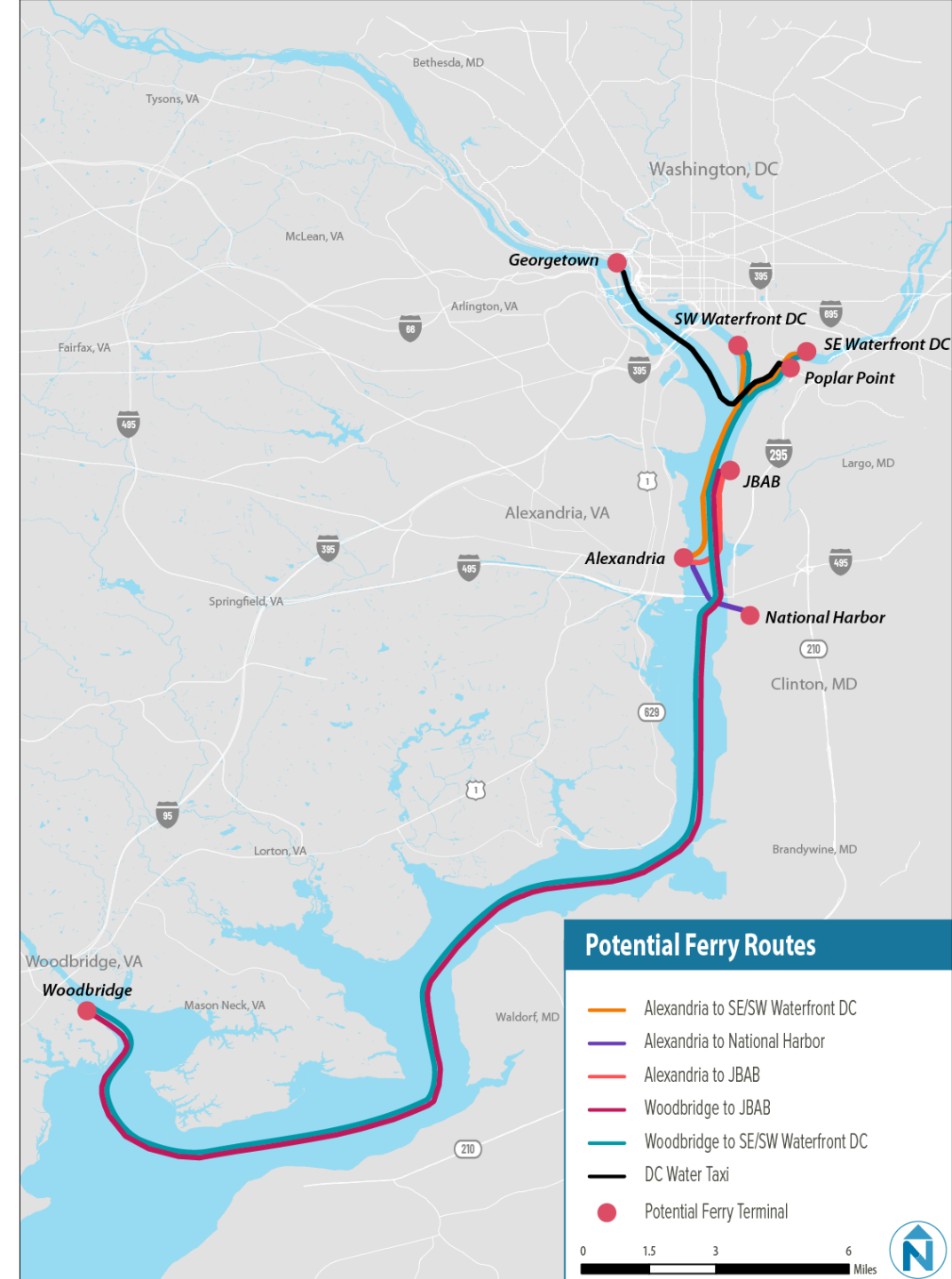
- Recommended Woodbridge to Navy Yard route
- Service must operate at competitive speeds

Project Results

Candidate Routes & Routes Selected for Study

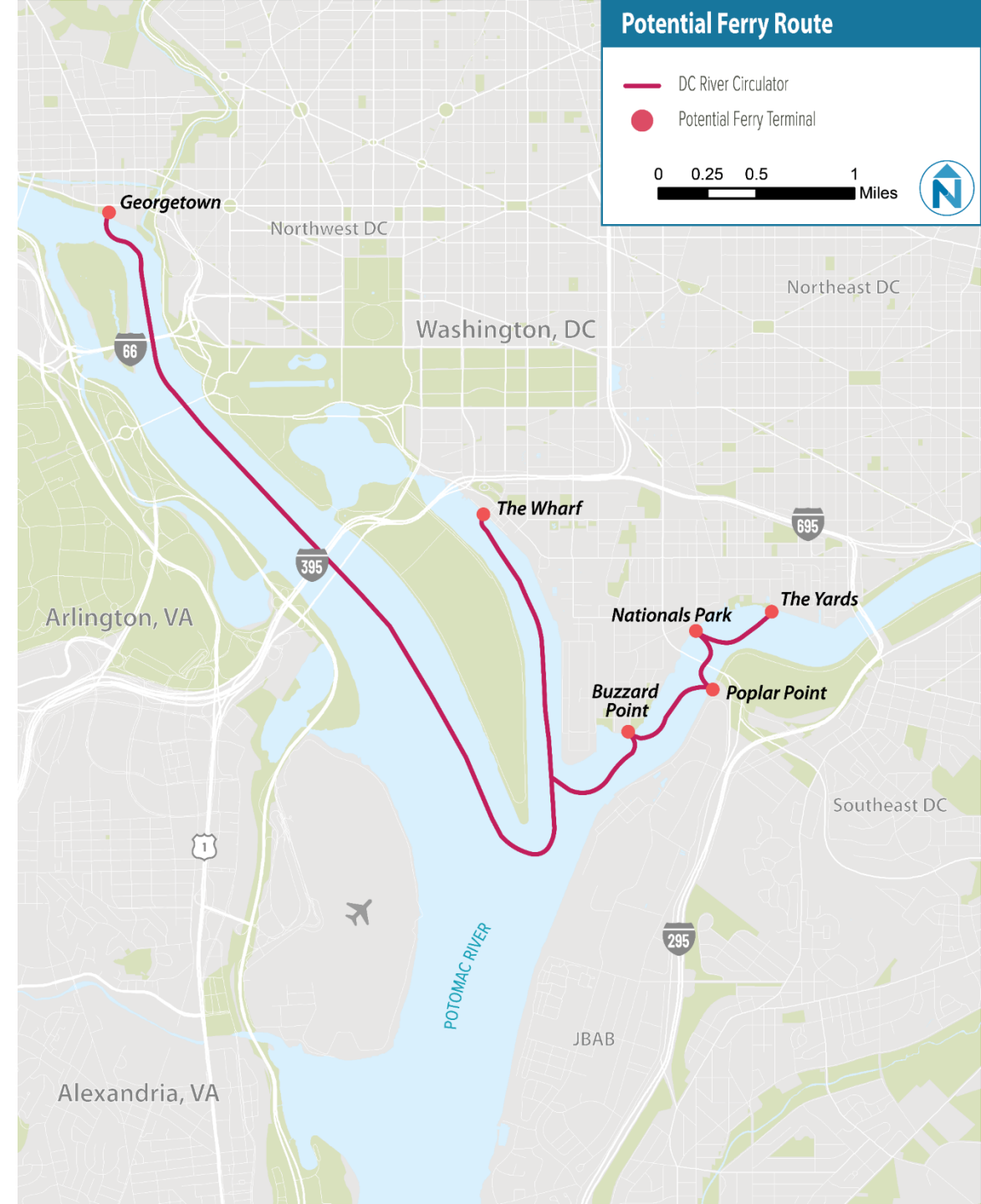
TIER 1
TIER 2

ID	Origin	Destination
1	Alexandria	SE/SW Waterfront DC
2	Alexandria	National Harbor
3	Alexandria	JBAB
4	Georgetown	Poplar Point(DC River Circulator)
5	Woodbridge	SE/SW Waterfront DC
6	Woodbridge	JBAB
7	Charles County	Quantico
8	Charles County	SE/SW Waterfront DC
9	Charles County	Fort Belvoir
10	Charles County	JBAB
11	Crystal City	Poplar Point
12	SE/SW Waterfront DC	Crystal City
13	SE/SW Waterfront DC	Pentagon
14	SE/SW Waterfront DC	National Airport
15	Spotsylvania	Quantico
16	Stafford County	SE/SW Waterfront DC
17	Woodbridge	National Harbor
18	Woodbridge	Alexandria
19	Woodbridge	National Airport



DC River Circulator

- Georgetown
- The Wharf
- Buzzard Point
- Poplar Point
- Nationals Park
- The Yards



DC River Circulator

ESTIMATED DEMAND

Varies based on fare, travel time, and service frequency:

600 to 1,000 daily riders – 4 stops

OPERATING COST – 4 stops

Varies based on vessel size, speed and number

2 VESSELS
4 VESSELS

Time b/w

Sailings

1 HR

\$2.2M Annual Ops Cost

Time b/w

Sailings

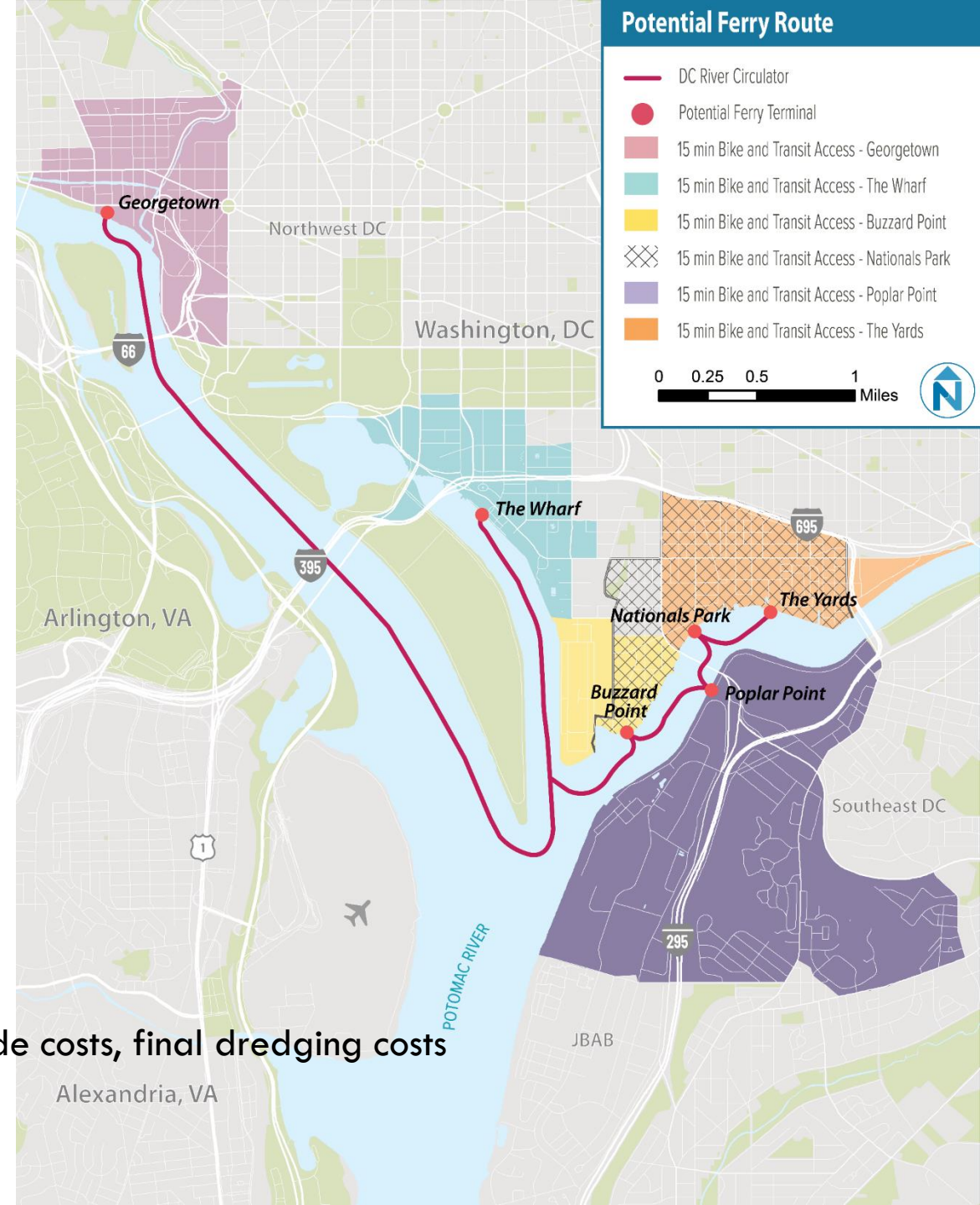
30 MIN

\$3.7M Annual Ops Cost

CAPITAL COST – 4 stops

Varies based on type and size of vessel fleet, final terminal upgrade costs, final dredging costs

\$11.0M - \$32.0M



Financial Summary

Annual Ridership Required at Recovery of OPEX	DC River Circulator (Fare Price: \$5.00) Four vessels - Four stops
Farebox Recovery with estimated ridership	44%
Annual Operating Subsidy Required	\$2.2 million

Lo/No Emissions Vessels

Examples of Lo/No Emission Vessels

Ferry / Location	Passenger	Propulsion System	Route Speed	Trip Time	Length
MS Medstram 1 Stavenger, Norway	147	All Electric	23 knots (1hr) Max: 27 knots	~35-40 minutes	~ 6 miles
Ika Rere 2 Wellington, NZ	132	All Electric	20 knots	~ 35 minutes	~6.5 miles
Sea Change 3 San Francisco, CA	75	Hydrogen Fuel Cell	~12 knots; ~20 knots w/batteries	~15 minutes	~ 2 miles



Implications For Freight

What are the Implications for Freight?

- For the “passenger” element, to date, there is no secured funding source(s)
- DC River Circulator has the most likely freight application as an alternate method to serve rapid residential development along the riverfront
- This possibility is most likely best suited for micro-freight deliveries, e.g. waterborne e-bikes or micro-containers
- However, to date, there is little understanding of the potential volume or the economics of such a possibility
- Private sector, freight, interest very difficult to attract as search is for near-term financial improvement, not longer-term planning
- Way more likely to tag onto existing infrastructure and services

Why might this work?

- NYC, specifically, Manhattan, looking for freight alternatives.
- <https://waterfrontalliance.org/2023/11/30/weaving-a-blue-ribbon-boats-will-ferry-freight-to-bikes/>

“The goal of building a ferry freight network to carry some of the bulk currently hauled over streets by smog-belching trucks has been embraced by New York policymakers for more than a decade, but to little tangible effect thus far. That may be about to change.”

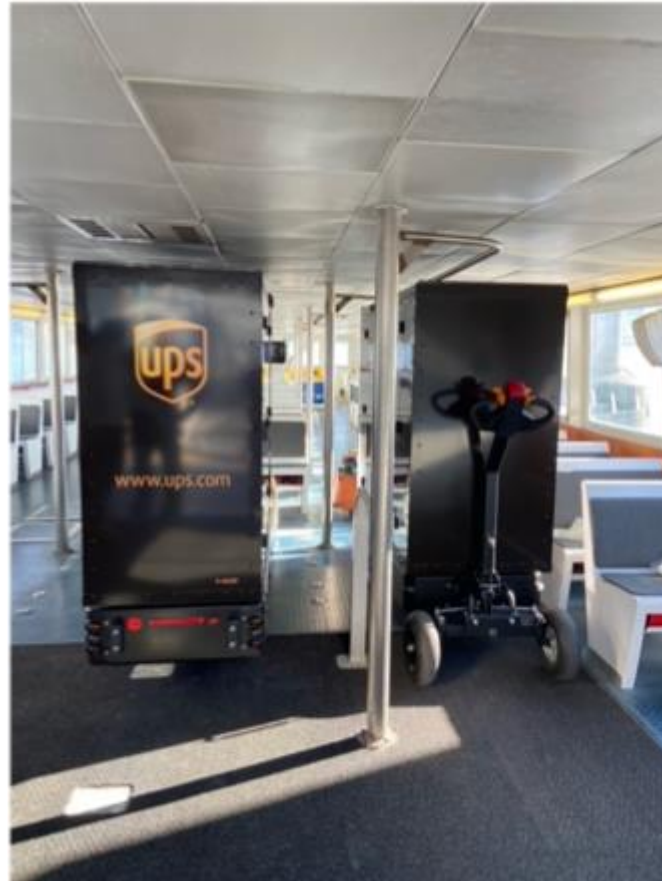
- NYC DOT and NYCEDC – “Blue Highways Initiative”
<https://www.nyc.gov/html/dot/html/pr2023/blue-highways-rfei.shtml>

“Newly released Request for Information and Expressions of Interest (RFEI) seeks input from private sector on how to reactive waterways for safer, greener freight deliveries

Utilizing waterways, cargo bikes, and low and zero emission vehicles for goods movement can reduce congestion, support safer, and more environmentally friendly deliveries.”

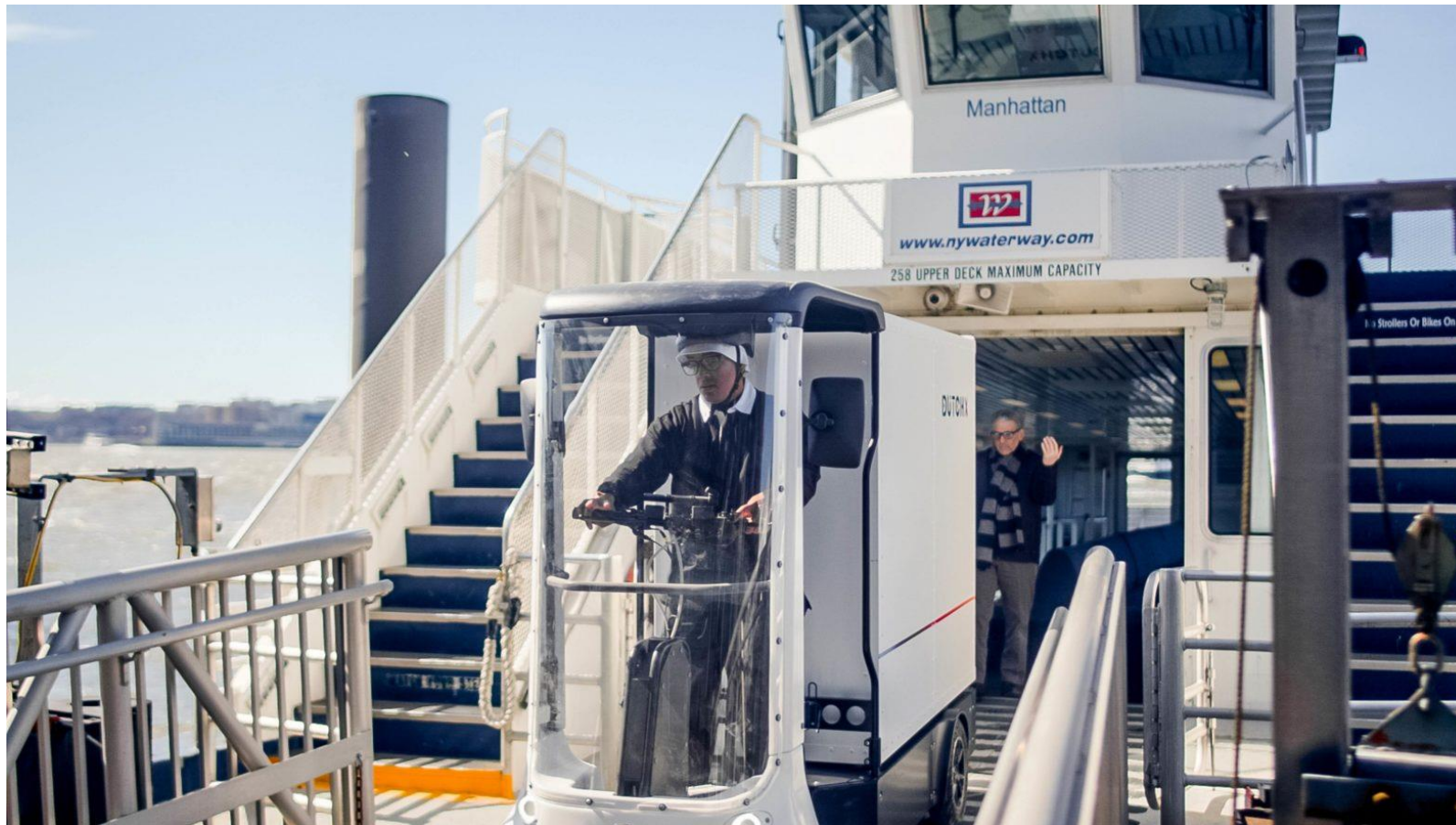
Why might this work?

- <https://hudsonreporter.com/weehawken-news/ny-waterway-on-board-with-nycs-new-freight-plan/>



Why might this work?

- <https://cities-today.com/ferry-to-e-bike-delivery-service-launching-soon-in-new-york/>



Discussion



Tim Payne

tpayne@nelsonnygaard.com