



Sustainable Urban Ferries: The Halifax Case

CTRF, 13 June 2022

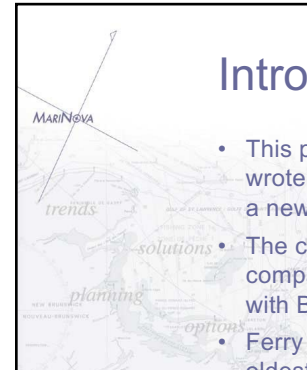
James D. Frost, MariNova Consulting &
Mary R. Brooks C.M., Dalhousie
University

MariNova Consulting Ltd.
6525 Waegwoltic Ave.
Halifax
NS, Canada
B3H 2B5
Tel: 902.429.3121
Fax: 902.429.8342
defrost@marinova.com
www.marinova.com

MARINE
TRANSPORTATION
SPECIALISTS



1



Introduction

- This paper builds on a book chapter we wrote and then presents the beginning of a new study.
- The chapter identified relevant criteria for comparing maritime public transit options with BRT, LRT and other modes.
- Ferry service in Halifax since 1750 – oldest in North America – only 2 routes
- BRT evolving; commuter rail option has been abandoned
- One of fastest growing cities in Canada with limited ways on and off the Peninsula

MARINE
TRANSPORTATION
SPECIALISTS

2

Mode Choice (Not Ferry)

Mode	Advantages	Disadvantages
Bus Rapid Transit (BRT)	Frequent service Low cost of vehicles	To be really effective, BRT needs its own right-of-way or at least signaling
Light rail (LRT)	Latest technology Frequent service	Needs its own corridor More expensive than BRT
Commuter Rail (on existing freight lines)	Corridors and rights-of-way exist	Freight trains may pre-empt public transit at peak times and deter ferry development. Cost of running rights may be too high. Need for double trackage if on a freight corridor. Cost of rolling stock higher than BRT if purchased new.

Source: Table 16.5, p. 217, Frost & Brooks (2021), *The Routledge Handbook of Public Transport*

3

Mode Choice (Ferries)

Mode	Advantages	Disadvantages
Ferries	Vessels are relatively inexpensive. Way costs less than road or rail. Can add vessels as demand increases. Use of usually underutilized corridors. Less expensive to establish than LRT or commuter rail.	Needs 'park and ride' facilities for commuters. Needs to be integrated with other types of transit. Terminal costs are higher than hub facilities for BRT. Waterside environmental impact studies often more onerous than landside development impact studies.

Source: Table 16.5, p. 217, Frost & Brooks (2021), (continued)

4

Many Examples of Successful Ferry Ops

- New York
- Sydney
- Auckland
- San Francisco
- Istanbul
- London
- Bermuda
- Seattle
- Boston

www.marinova.com

MARINE
TRANSPORTATION
SPECIALISTS

5

New York




6

Boston




7

Key Takeaways from Frost & Brooks (2021) [1]

- Importance of connectivity with neighbourhoods and other modes
- Amenities can attract different clientele
- Can spur “Transit Oriented Development” (TOD) or “Ferry Oriented Development” (FOD)

www.marinova.com

MARINE
TRANSPORTATION
SPECIALISTS

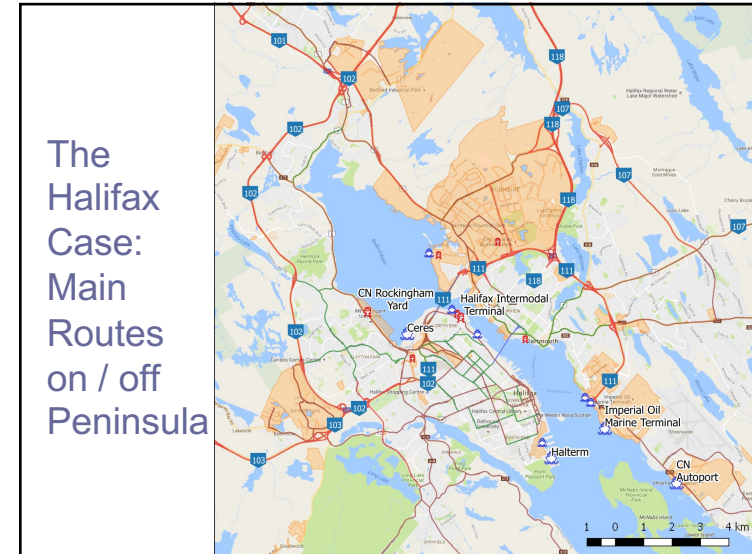
8

Key Takeaways from Frost & Brooks (2021) [2]

- Parking or park 'n ride ideal but not essential in large urban markets
- Need shuttle buses to / from terminal - Seattle
- Many operated by private contractors e.g., NYC and Auckland

www.marinova.com
MARINE TRANSPORTATION SPECIALISTS

9



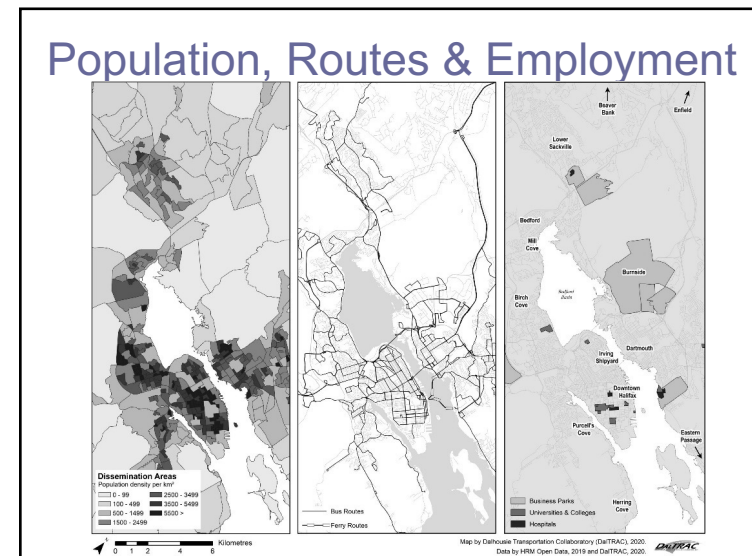
10

The Halifax Case

- Problem of 5 roads on and off peninsula (including two bridges) + 2 ferry routes
- Congestion on Bedford Highway (to the left of the Basin)
- Congestion on Route 102
- Significant growth in suburbs – Bedford
- Employment not located near population centres

www.marinova.com
MARINE TRANSPORTATION SPECIALISTS

11

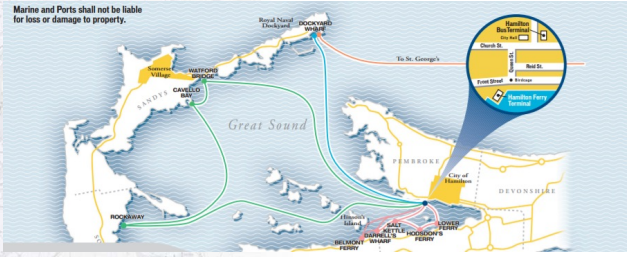


12

The Beginning of the Fast Ferry Idea

- Jim's Honeymoon in Bermuda – 1996

Marine and Ports shall not be liable for loss or damage to property.



By 2019, 1800 HS ferries worldwide? Why not Halifax?

www.marinova.com

MARINE TRANSPORTATION SPECIALISTS

13

The Fast Ferry Idea

- Halifax has an underutilized corridor
- First study: LEA Consulting – 2003
 - Charter a vessel
 - Buy a new one if popular
 - Temporary docks & wharves
 - \$5M tops


www.marinova.com

MARINE TRANSPORTATION SPECIALISTS

14

The Fast Ferry Idea

- Second study: TDV Global – 2006
 - Chartered demonstration vessel –



- New ferries, park 'n ride, shuttle buses
 - became a \$30M ferry!
- Market research in favour

www.marinova.com

MARINE TRANSPORTATION SPECIALISTS

15

Roadblocks

- Ready to implement by 2010 when a new transit manager said to focus on BRT
 - Still had the same number of access roads with 'widening' issues
- New councilor enamoured with commuter rail
 - Spent 10 years and gave up

www.marinova.com

MARINE TRANSPORTATION SPECIALISTS

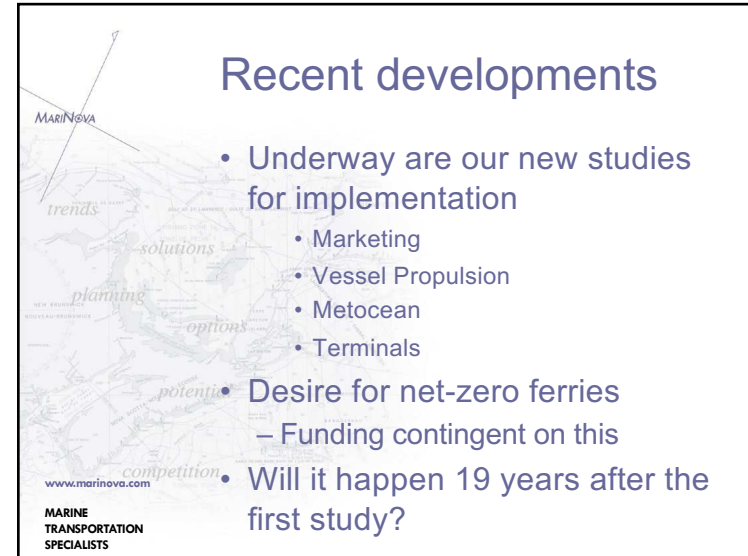
16



Recent developments

- 15 more studies 2005–2019
- WSP – 2019-2020
- Rapid Transit Strategy - 2020
– Includes 3 routes

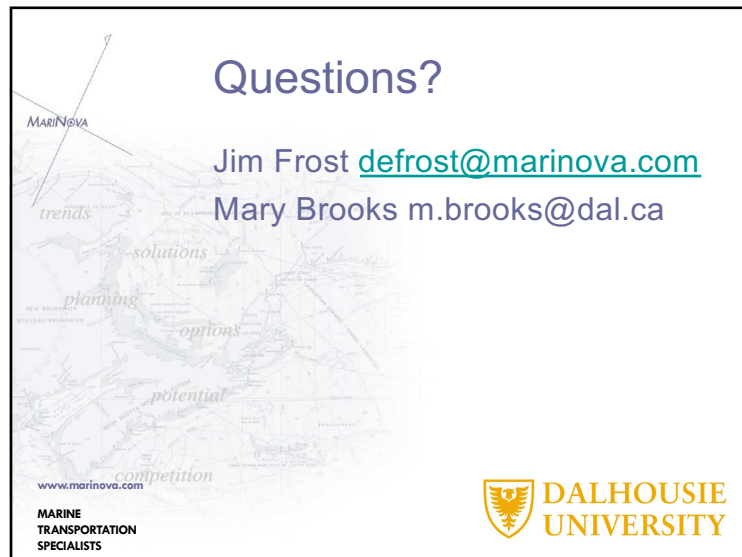
17



Recent developments


- Underway are our new studies for implementation
 - Marketing
 - Vessel Propulsion
 - Metocean
 - Terminals
- Desire for net-zero ferries
– Funding contingent on this
- Will it happen 19 years after the first study?

18



Questions?

Jim Frost defrost@marinova.com
Mary Brooks m.brooks@dal.ca



DALHOUSIE UNIVERSITY

19