

*Decarbonizing
the harbor cities
of the world.*



EV MARITIME



Project initiation
Consultancy

Design
Naval Architecture

Electrical Integration
Systems Engineering

Analysis
Data Intelligence

“A developed country is not a place where the poor have cars. It's where the rich use public transportation”

Gustavo Petro, as Mayor of Bogotá
(now President of Colombia)



Auckland, New Zealand



EV MARITIME

Auckland, New Zealand Commuter Ferry Service

1.8 M population
6 M passenger ferry journeys
30 fast passenger ferries
12 urban ferry destinations



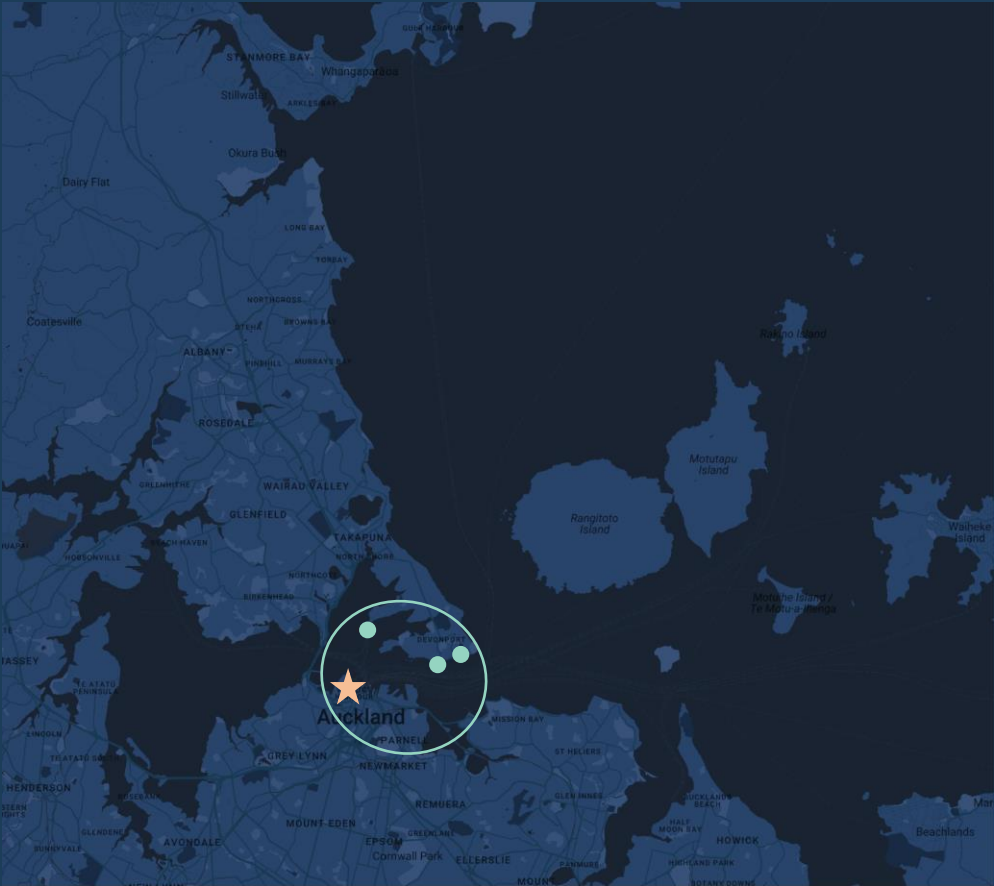
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Auckland, New Zealand Commuter Ferry Service

1.8 M population
6 M passenger ferry journeys
30 fast passenger ferries
12 urban ferry destinations
3.4 M gallons of diesel burned
6% public transport trip share
21% public transport emission share
1.5X ***emissions of private cars for same journeys***

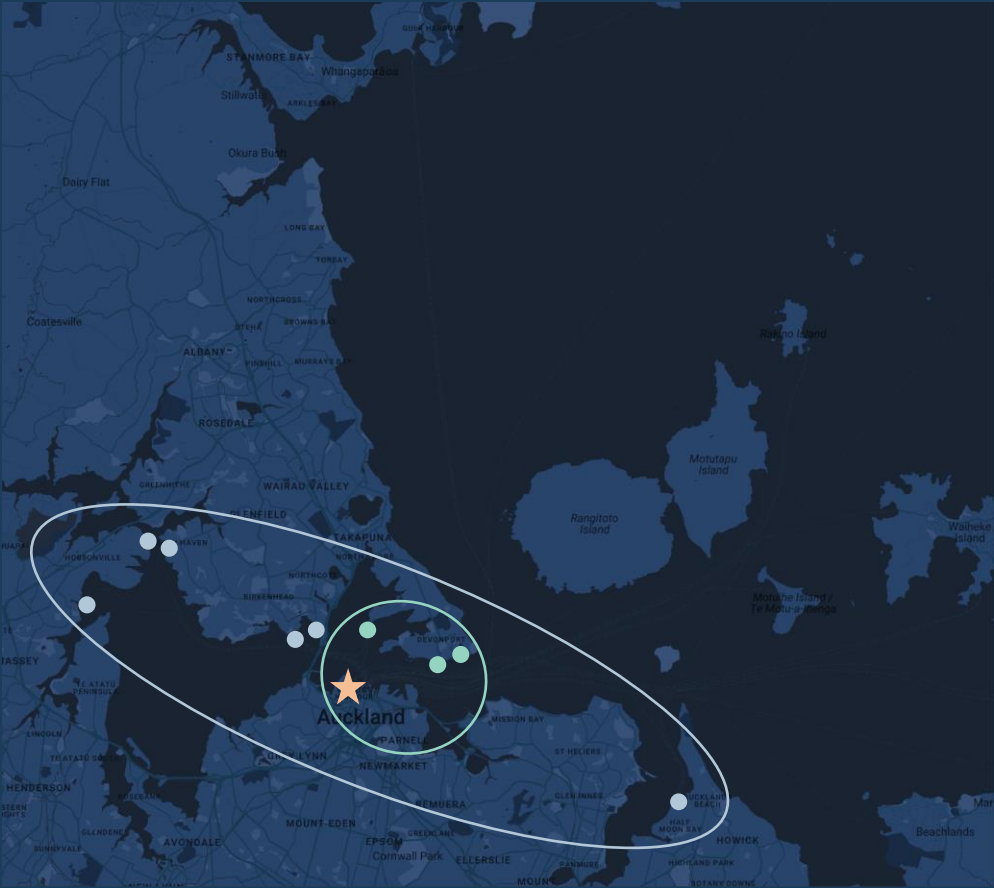


Auckland - ferries overview



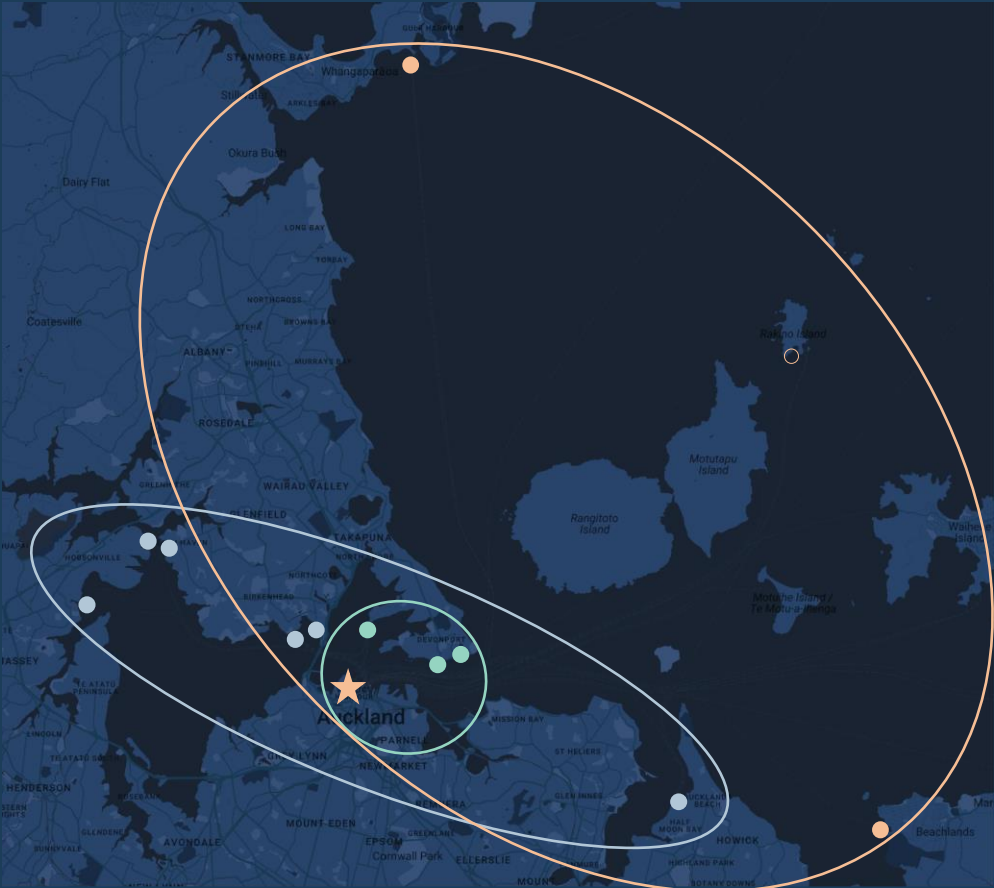
9 commuter routes	sailings share	GHG share	dist. vs road	GHG vs bus	Charge mins
3 inner harbour (0-2 nm)	44%	9%	15%	< 1	1-2

Auckland - ferries overview



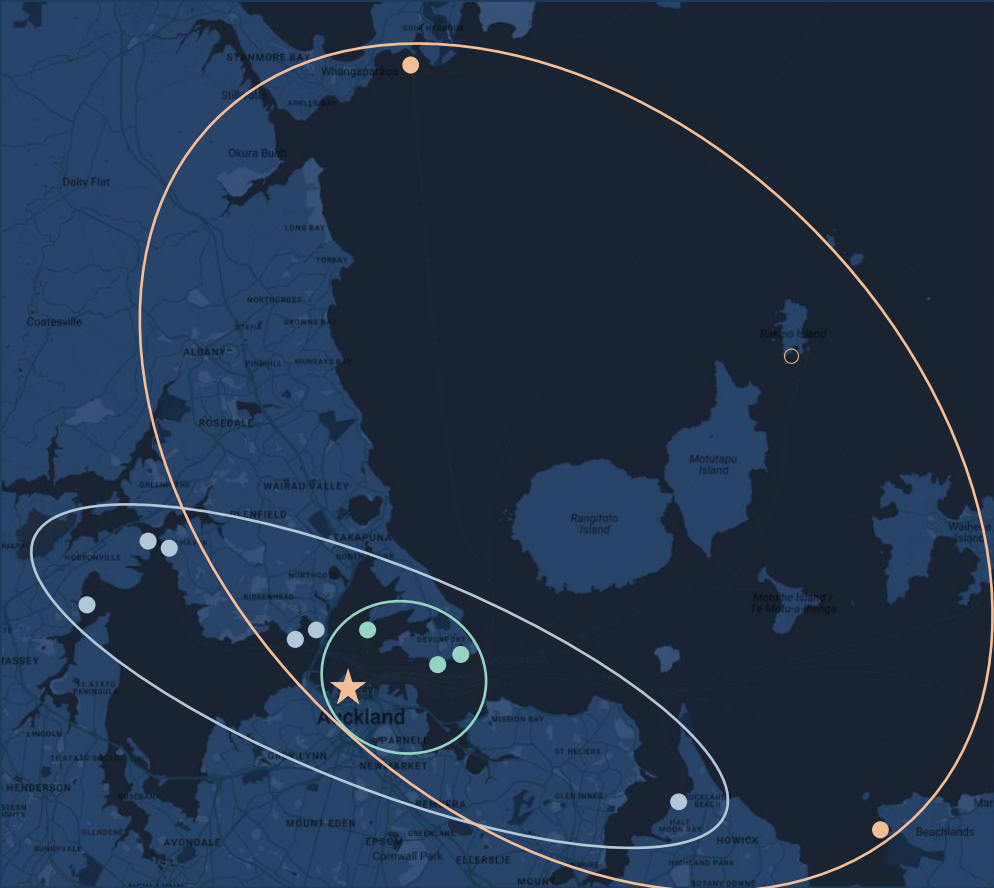
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4 mid harbour (2-8 nm)	38%	39%	55%	x 3	4-10

Auckland - ferries overview



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Auckland - ferries overview



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- Emissions dominated by long, fast routes
- Full electric vessels are viable for all routes
- Outer harbour has schedule challenges, requiring more boats
- Economic benefits strongest for mid harbour routes

EVM200 Electric Fast Ferry

2 vessels in build for Auckland Transport, launching 2024

Length	80'
Form	Catamaran
Capacity	200 pax seated inside up to 24 bikes
Speed	25 knots
Range	23 miles at EOL
Power	Battery electric
Batteries	1100 kWh Li-Ion
Recharge	2 x 1 MW MCS plugs
Propulsion	4 x HamiltonJet LTX



0% emissions

100% capable

EVM200 Electric Fast Ferry

2 vessels in build for Auckland Transport, launching 2024



EV MARITIME



EVM200 Platform

First two NZ vessels delivering 2024

Optimised **low wash** semi-displacement catamaran hull form

Enhanced operational reliability through dual redundant ships' systems to eliminate single point failure

Extensive PLC alarms, monitoring and control with live ship/shore link and remote data intelligence

Carbon fibre construction for light weight strength & longevity



4 x HamiltonJet LTX36 Waterjets for efficiency, reliability and manoeuvrability

Flexible power electronics package

Long range battery pack options up to 1500 kWh

Displacement reducing **active hydrofoil** option



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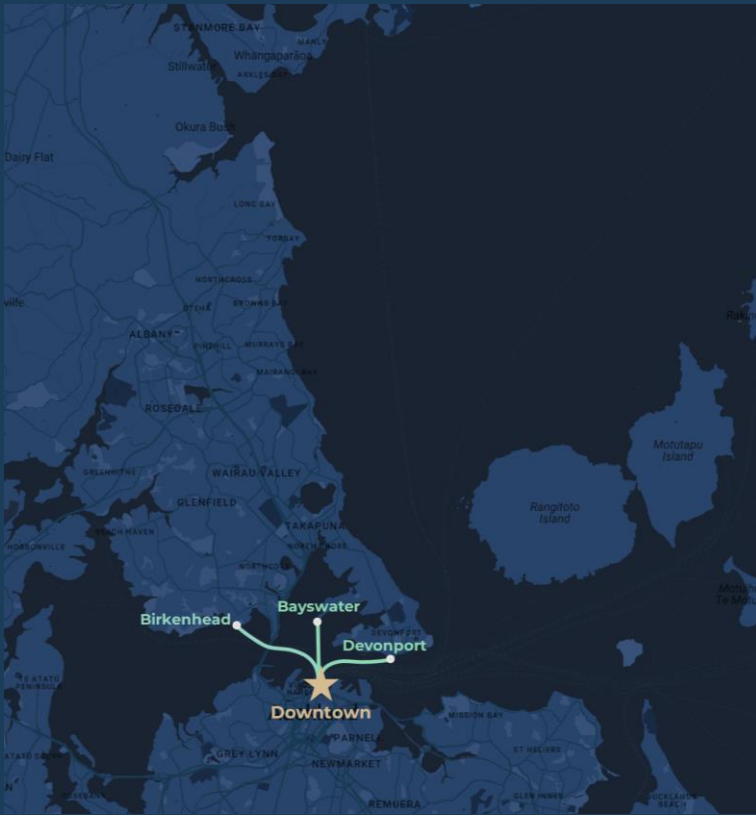
Analysis
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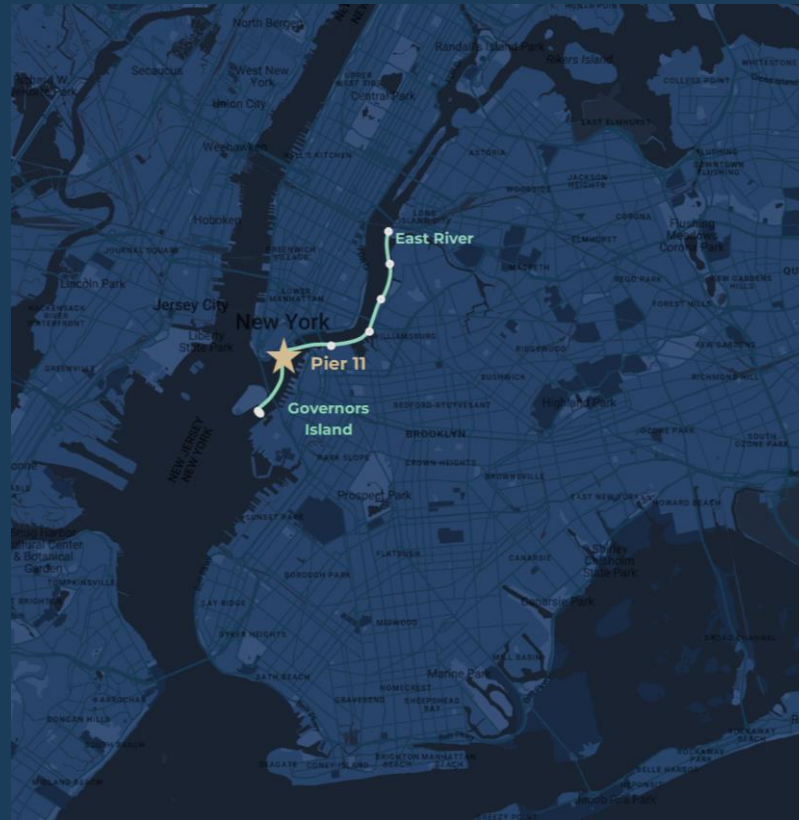
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Auckland, New Zealand



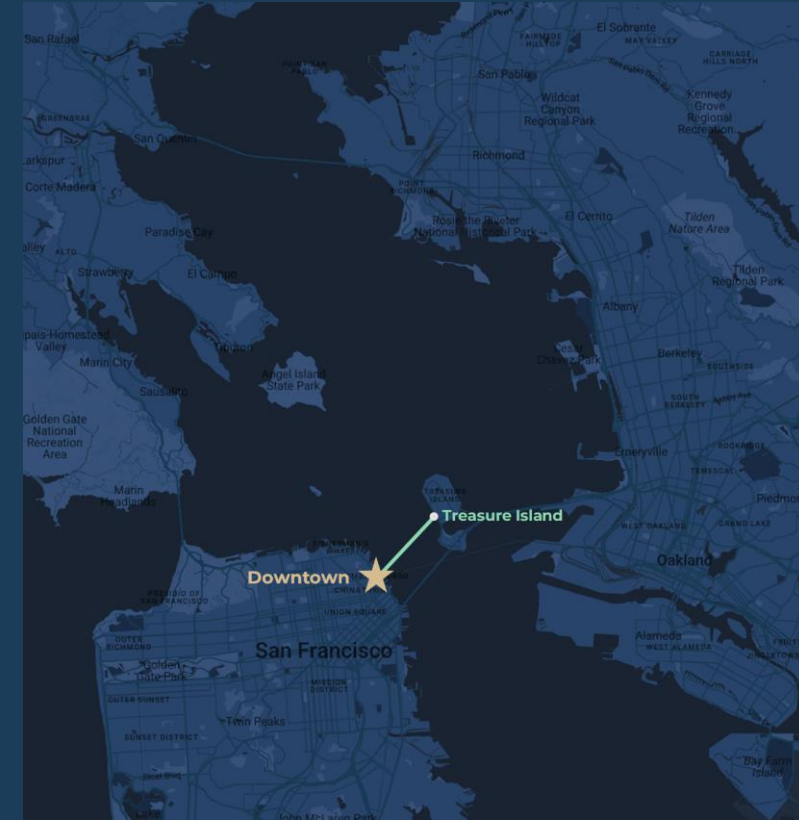
Route	Distance	Duration	Max Speed
Bayswater	1.2 nm	10 mins	10 knots
Devonport	1.9	15	12
Birkenhead	2.3	11	23

New York, USA



Route	Distance	Duration	Max Speed
Governors Island	1.2 nm	8 mins	15 knots
East River	5.3	49	10

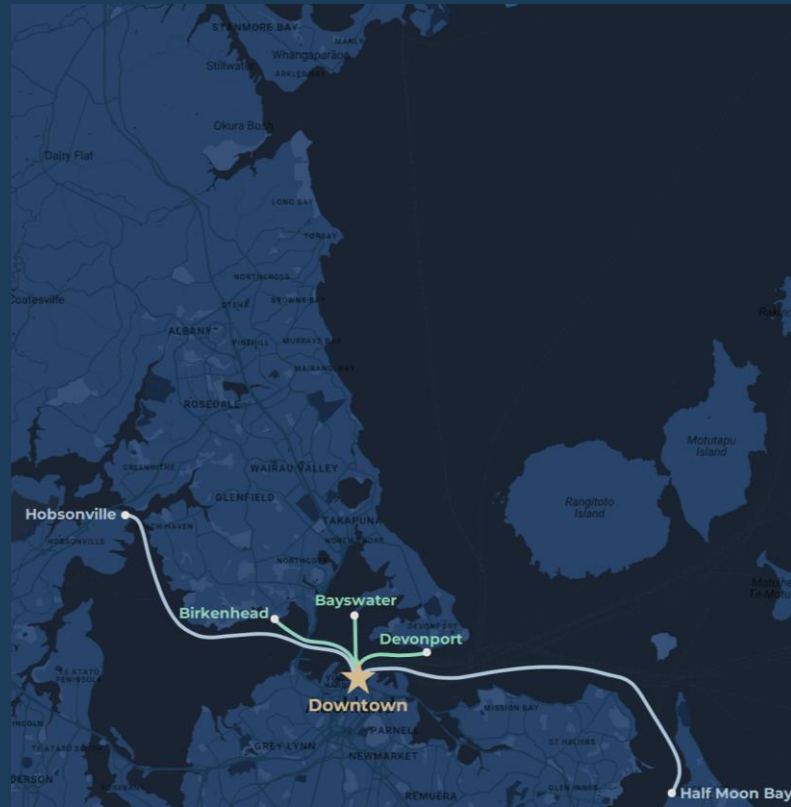
San Francisco, USA



Route	Distance	Duration	Max Speed
Treasure Island	1.5 nm	13 mins	10 knots

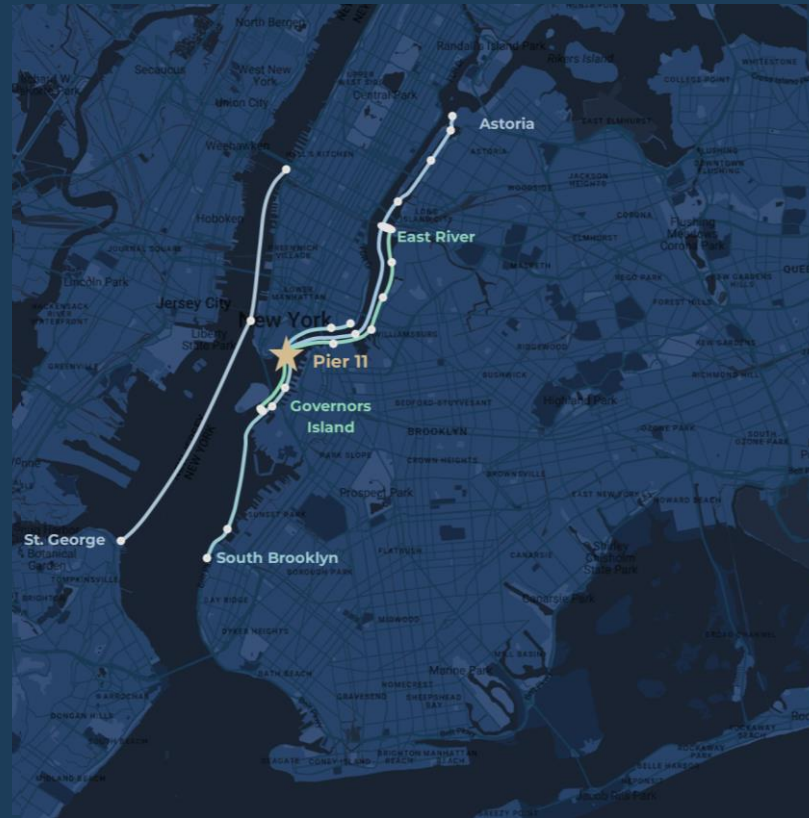
Recharge 2MW: **<4 min**
per one-way trip

Auckland, New Zealand



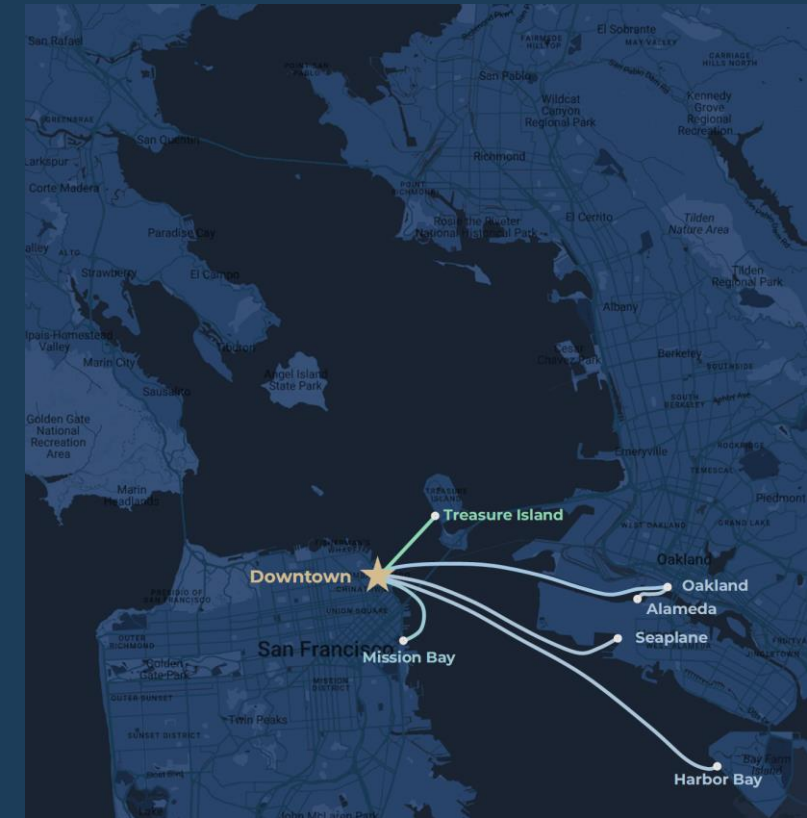
Route	Distance	Duration	Max Speed
Bayswater	1.2 nm	10 mins	10 knots
Devonport	1.9	15	12
Birkenhead	2.3	11	23
Hobsonville	7.9	30	23
Half Moon Bay	8.5	35	23

New York, USA



Route	Distance	Duration	Max Speed
Governors Island	1.2 nm	8 mins	15 knots
East River	5.3	49	10
South Brooklyn	7.8	61	15
Astoria	7.9	49	20
St. George	8.2	35	23

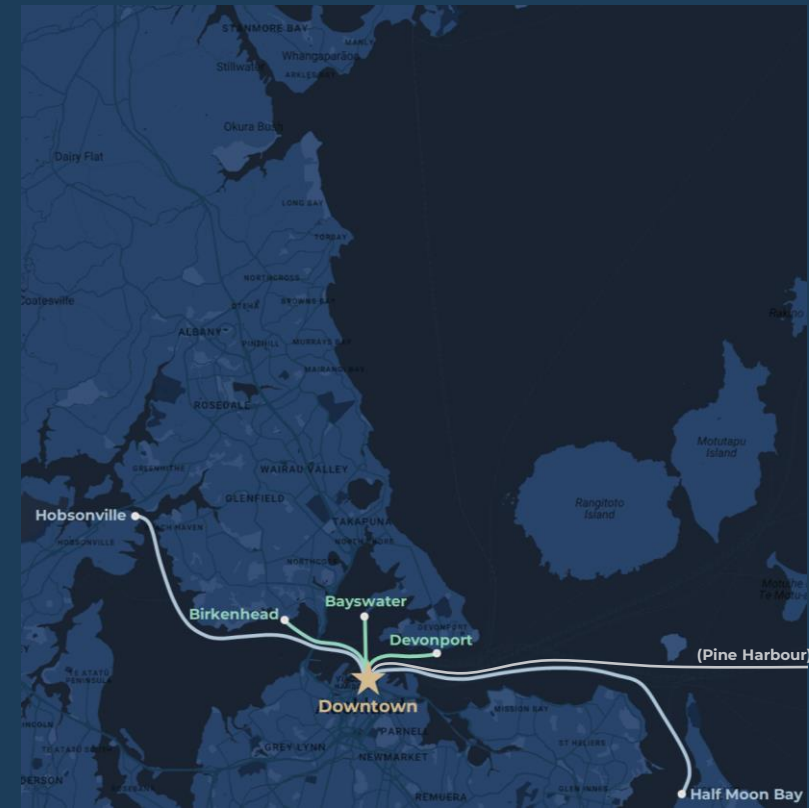
San Francisco, USA



Route	Distance	Duration	Max Speed
Treasure Island	1.5 nm	13 mins	10 knots
Mission Bay	2.1	17	23
Seaplane	4.9	20	23
Alameda via Oakland	6.2	35	23
Harbor Bay	7.4	25	23

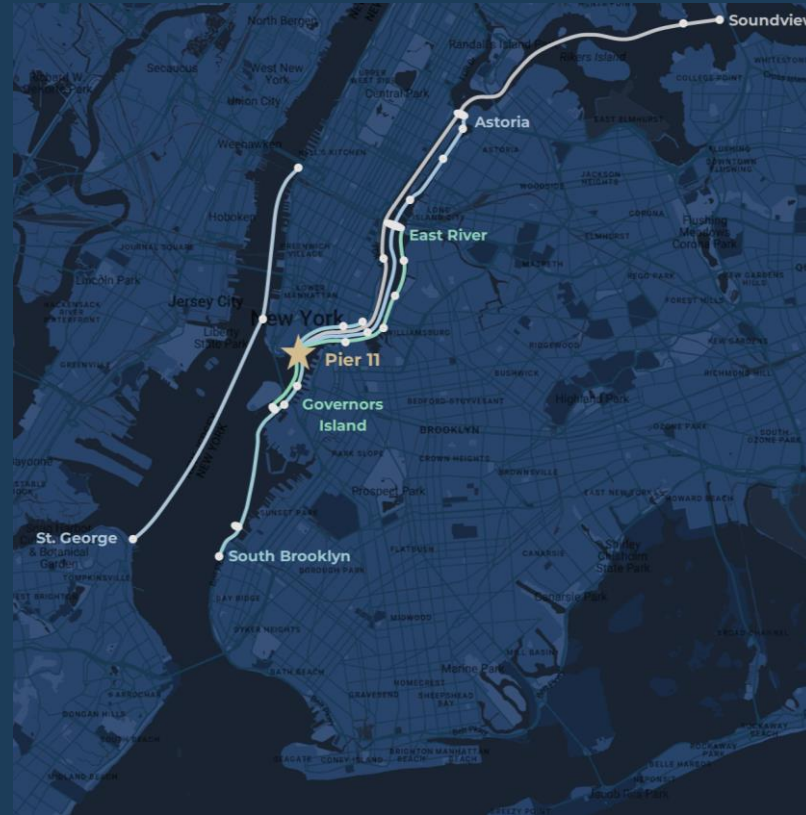
Recharge 2MW: **6-12 min**
per one-way trip

Auckland, New Zealand



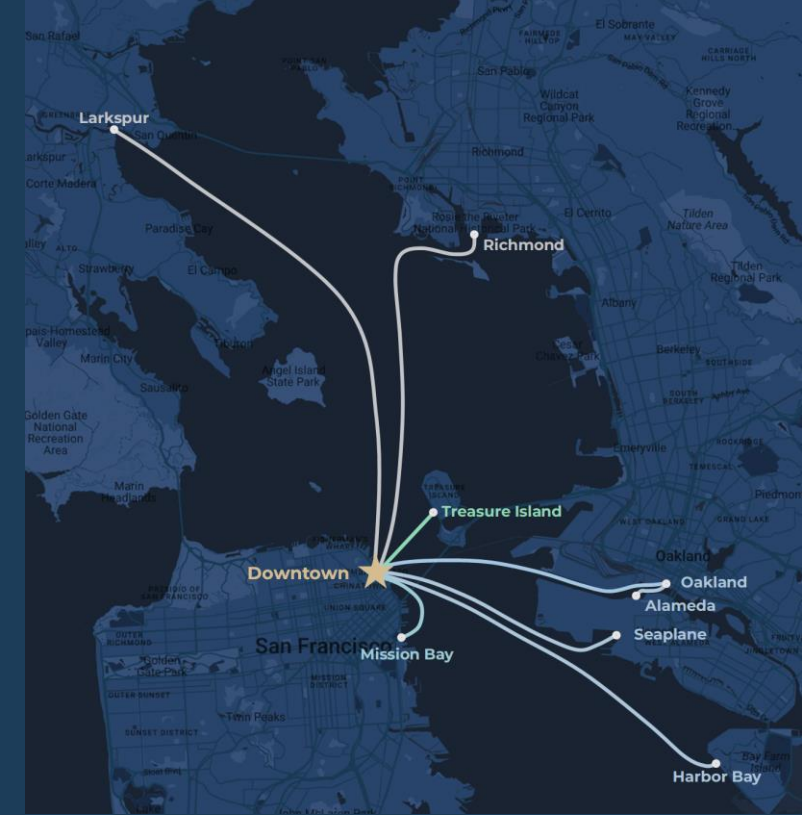
Route	Distance	Duration	Max Speed
Bayswater	1.2 nm	10 mins	10 knots
Devonport	1.9	15	12
Birkenhead	2.3	11	23
Hobsonville	7.9	30	23
Half Moon Bay	8.5	35	23
Pine Harbor	12	35	30

New York, USA



Route	Distance	Duration	Max Speed
Governors Island	1.2 nm	8 mins	15 knots
East River	5.3	49	10
South Brooklyn	7.8	61	15
Astoria	7.9	49	20
St. George	8.2	35	23
Soundview	11.5	56	23

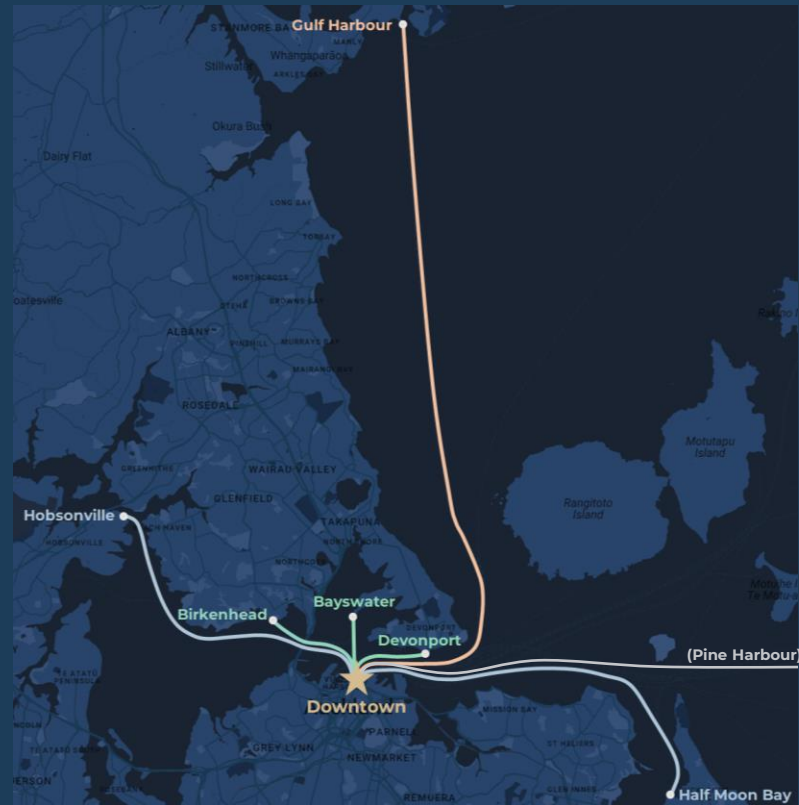
San Francisco, USA



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Treasure Island	1.5 nm	13 mins	10 knots
Mission Bay	2.1	17	23
Seaplane	4.9	20	23
Alameda via Oakland	6.2	35	23
Harbor Bay	7.4	25	23
Richmond	9.5	35	23
Larkspur	10	30	23

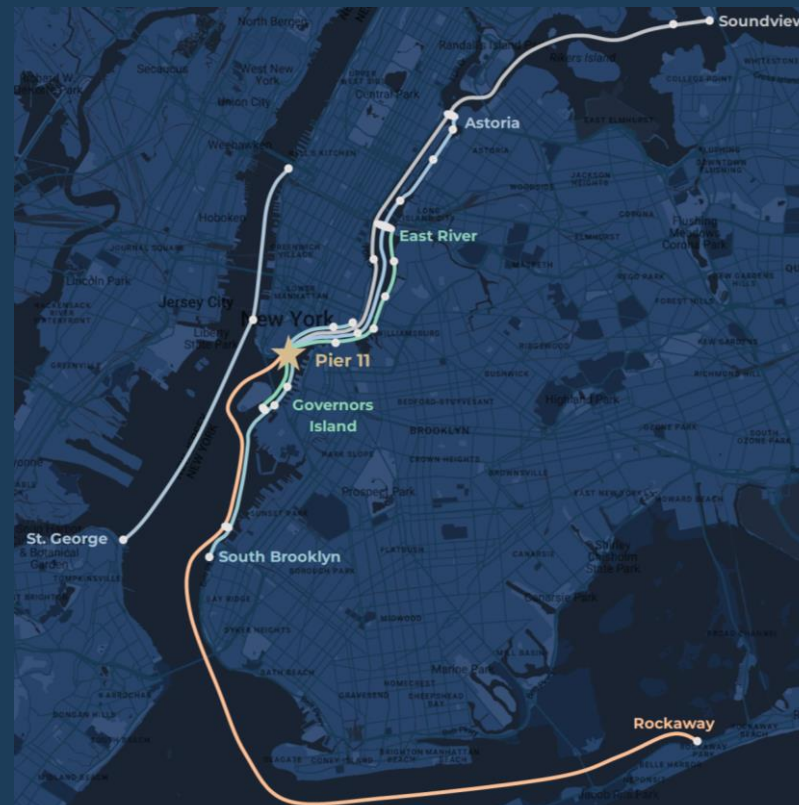
Recharge 2MW: **12-18 min**
per one-way trip

Auckland, New Zealand



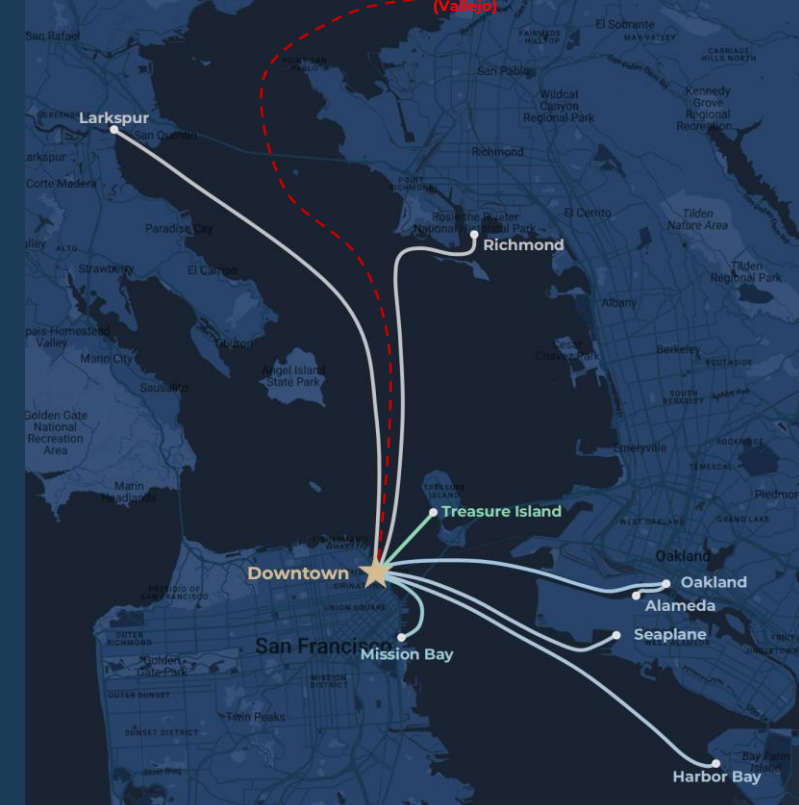
Route	Distance	Duration	Max Speed
Bayswater	1.2 nm	10 mins	10 knots
Devonport	1.9	15	12
Birkenhead	2.3	11	23
Hobsonville	7.9	30	23
Half Moon Bay	8.5	35	23
Pine Harbor	12	35	30
Gulf Harbour	16.5	53	23

New York, USA



Route	Distance	Duration	Max Speed
Governors Island	1.2 nm	8 mins	15 knots
East River	5.3	49	10
South Brooklyn	7.8	61	15
Astoria	7.9	49	20
St. George	8.2	35	23
Soundview	11.5	56	23
Rockaway	17.9	57	23

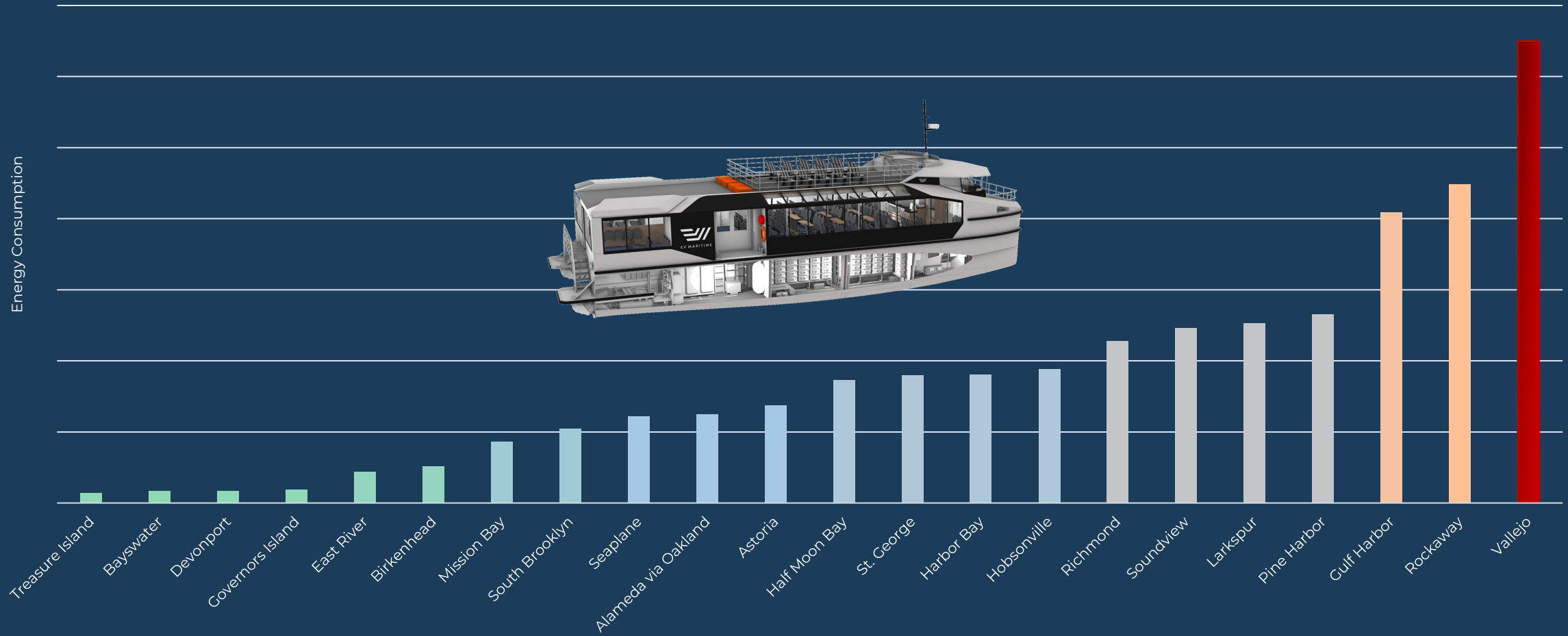
San Francisco, USA



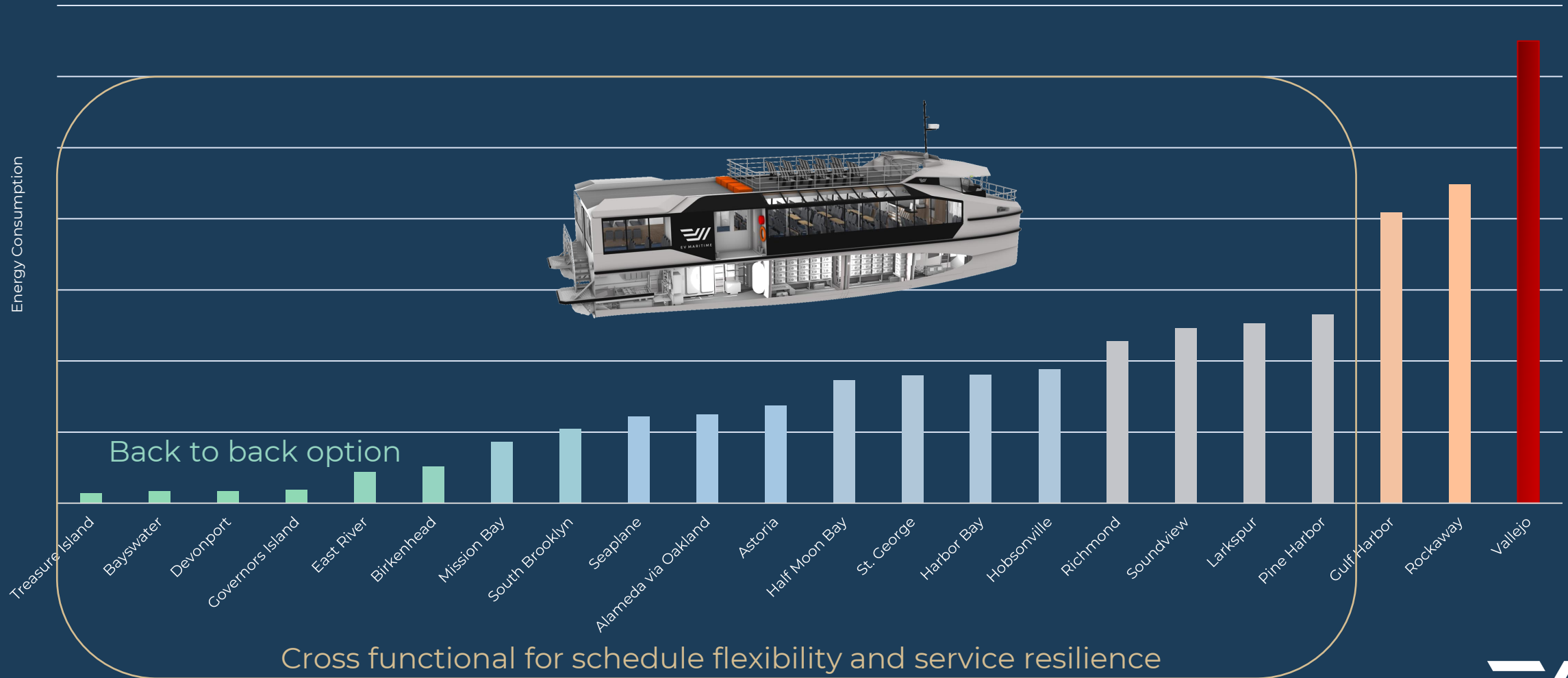
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Treasure Island	1.5 nm	13 mins	10 knots
Mission Bay	2.1	17	23
Seaplane	4.9	20	23
Alameda/Oakland	6.2	35	23
Harbor Bay	7.4	25	23
Richmond	9.5	35	23
Larkspur	10	30	23
Vallejo	25	60	30

Recharge 2MW: **25-30 min**
per one-way trip

Route Comparison: Energy Demand (if delivered by EVM200 platform vessels)



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