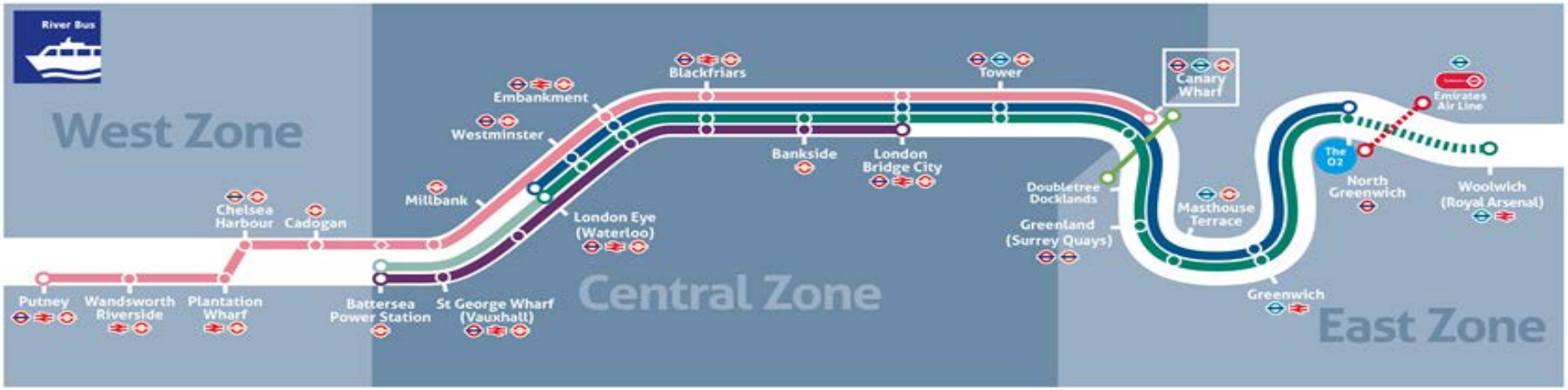
mbna thames clippers

The ‘green’ challenge for high speed craft

MBNA Thames Clippers overview

- Founded in 1999
- Key fleet and route expansion 1999 – 2006, 2015-2019
- Leading River Bus service on the River Thames today
- 4.2 million passengers, 19 vessels, 25km operating area

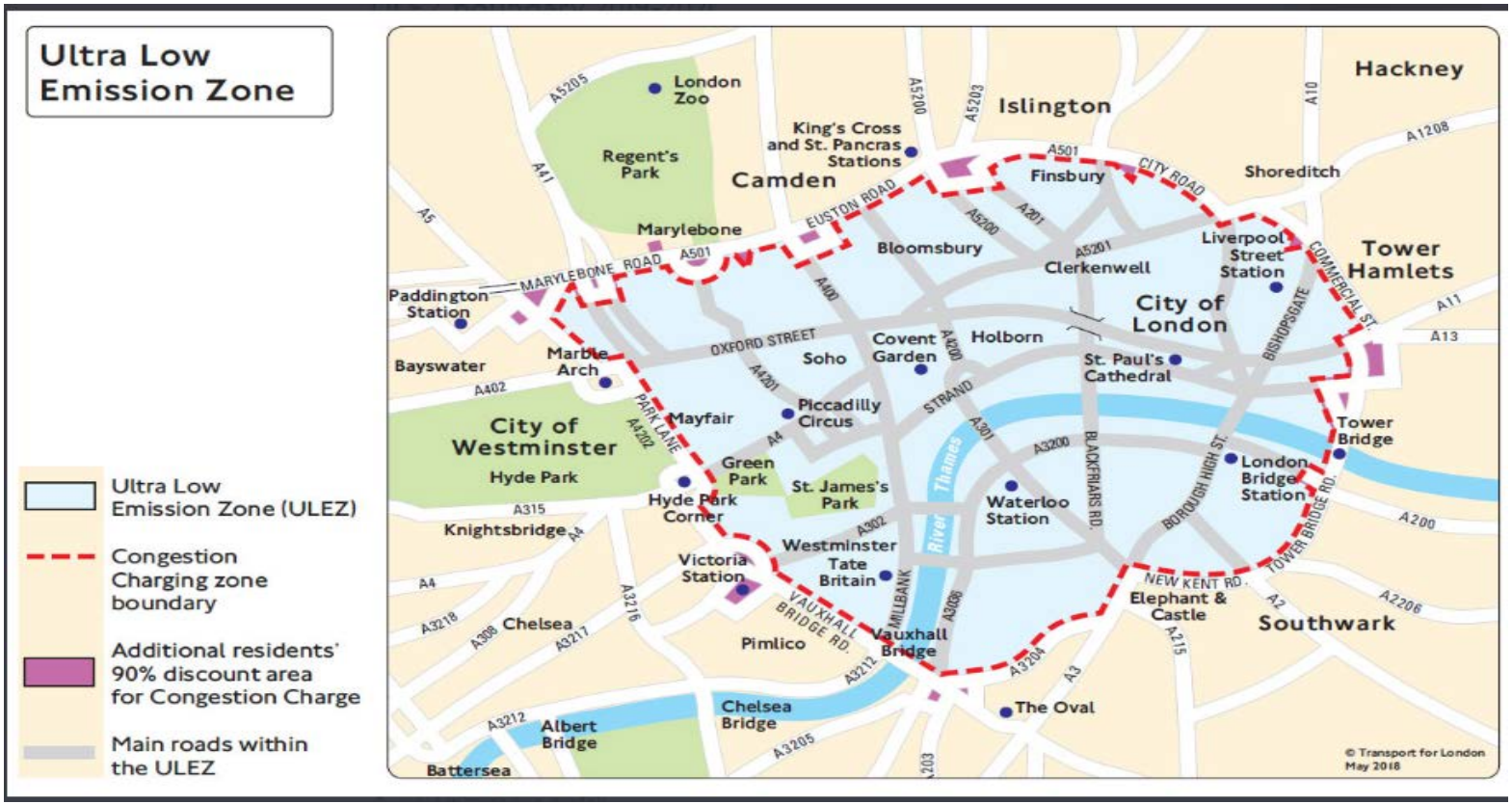


The ‘green’ challenge

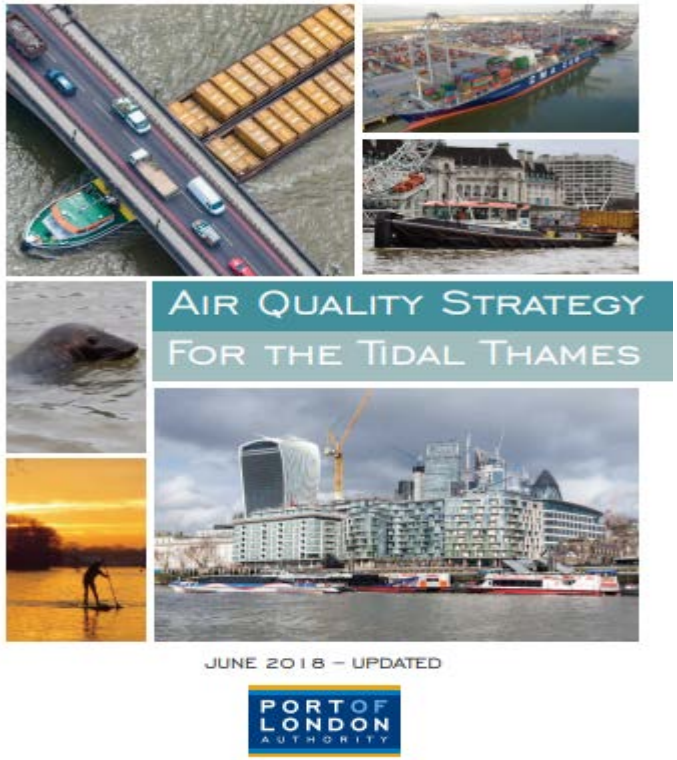
Key facts

- 600,000 pier berths per year (22 piers)
- Average dwell time at piers 2-3 minutes
- 7m tidal range (3 knot tide)
- Water & air draft restrictions
- 18 hour operation – 363 days per year
- 75,000 engine hours per year
- Limited vessel layovers (30 minutes)
- Low wash vessels essential
- Light weight vessels – less than 65 tonnes
- Up to 30 knots / 850hp per hull

Policy context – from April 2019



Port of London air quality strategy



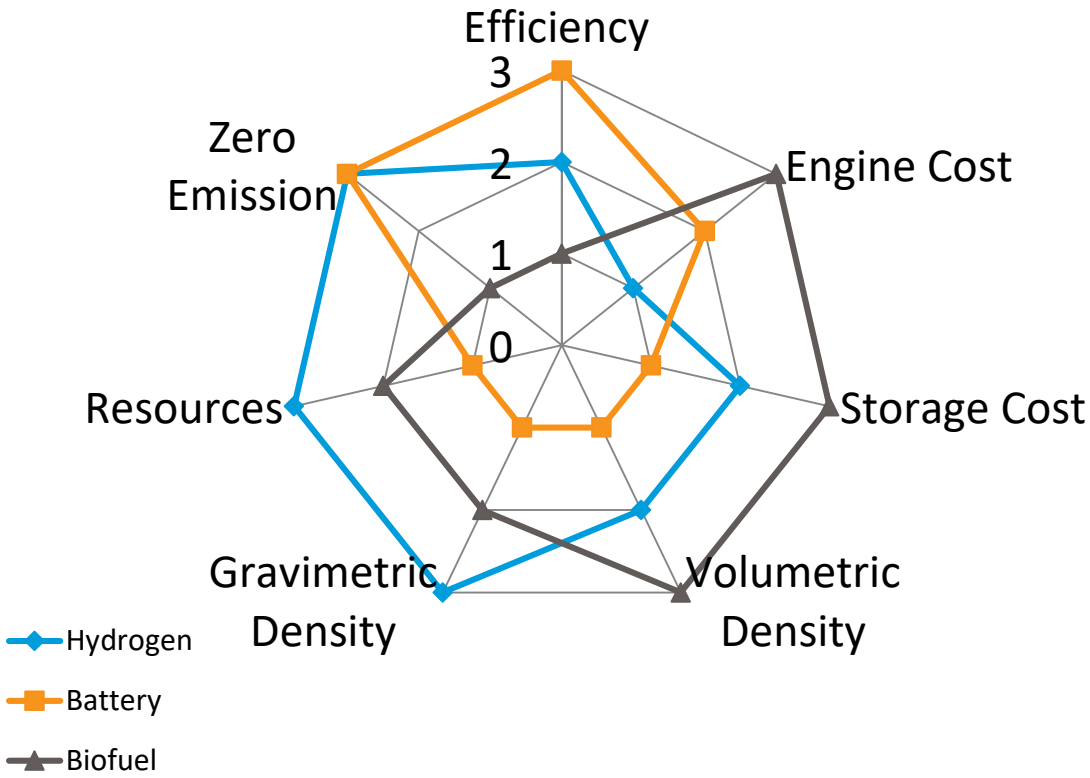
PLA target

2026	2031	2041	Overarching
PM – 20% reduction. NO_x – 20% reduction.	PM – 40% reduction. NO_x – 40% reduction.	PM – 50% reduction. NO_x – 50% reduction.	Reduction in CO2. Reduction in all other emissions produced on the Thames.

Fleet investment 2015-2019

- Built by British Company, WIGHT SHIPYARD CO., Isle of Wight
- Largest fast ferry order for a UK shipyard in over two decades
- Importance of having a ship builder within the UK
- 15% per passenger journey more fuel efficient

Future TC fuel option appraisal



Key factors

- Weight
- Stability
- Passenger capacity
- Hull design & efficiency
- Flag state acceptance
- Bunkering requirements
- Service range
- Vessel availability / test mule?
- Electricity / power networks
- Route operating characteristics

Progress to date…

SCR – short term

- Secured DfT funding to trial SCR system (to reduce Nox)
- Explored retro fitting two hulls on one high speed craft – no able partner / space concerns
- New engines with an integrated SCR system – to be fitted on Hurricane Clipper in 2019
- Engine package approx. 30% more expensive with SCR fitted
- PLA pre and post emission monitoring

Home port upgrade 2019

- Shore side power and foul pump system

HVO Green Diesel - short term

- Possible interim measure possible trial on one vessel
- Used Cooking Oil & waste from Oil production
- Yet to secure manufacturer warranty / approval

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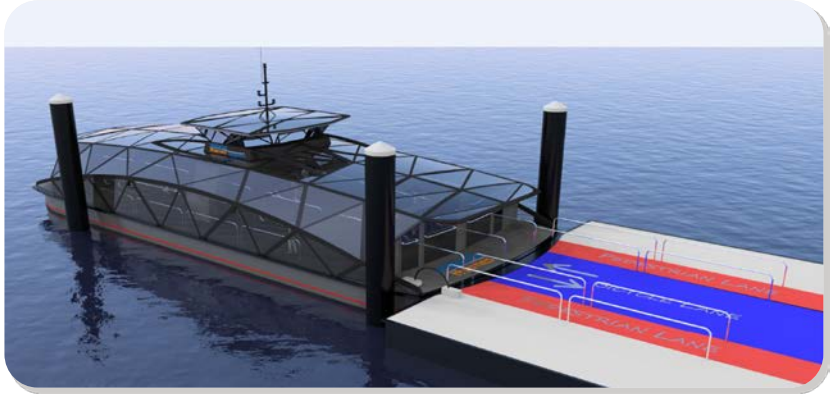
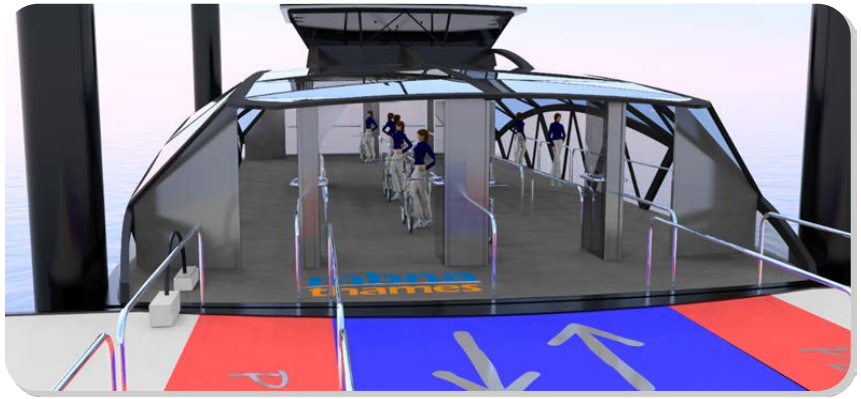
The Mayor wants to build a bridge…

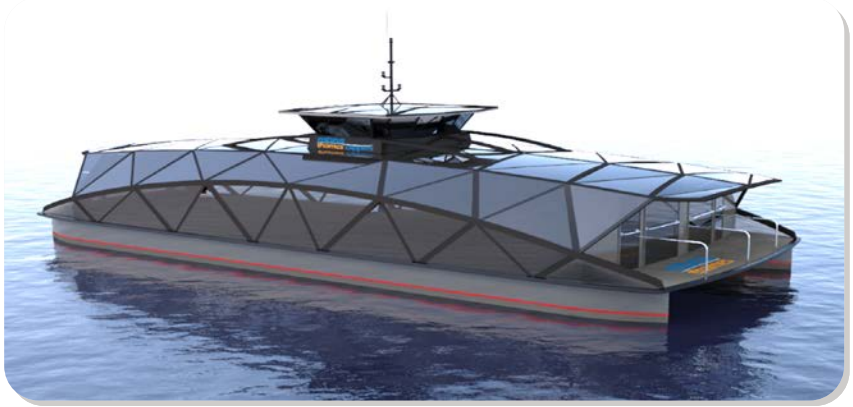
Cross river electric ferries



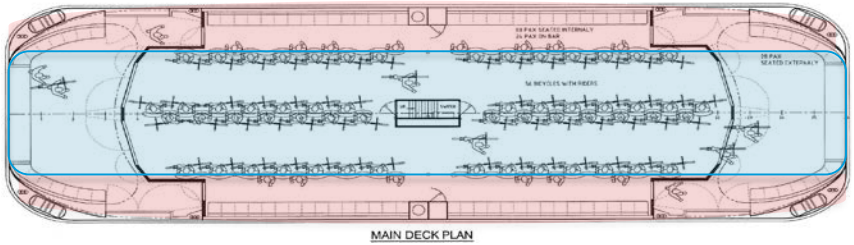
Roll on / roll off



Boarding process / fly through



200 capacity each (up to 100 cycles per vessel)



- Fully DDA compliant / access for all
- = Central cycle thoroughfare
- = Adjacent foot passenger seating

TrAM Project summary

- 11.8 million Euros secured over 4 years (2018 -2022)
- Construction of a fully electric high speed passenger ferry
- Electrical / zero emission powered vessel in protected waters
- Validate a concept for waterborne transport by implementing modular design and production methods
- Construction of a 150 passenger capacity (and 20 bikes)
- Up to 25 knots (HSCC)
- 750kw requirement
- Fully operational by mid 2022
- London to be used as replicator site
- A robust test case

The future…

Hybrid - Medium term

- Diesel electric or Hydrogen (high speed)
- Battery power (low speed)
- Cost, space, weight will be key
- In process of finding a willing partner for London – 2021 delivery

Half term report

- Technical progress is being made
- Doing what we can with current fleet
- Currently not a main priority for engine manufacturers (scalability)
- Little appetite for funding from Government in UK at present
- Cost / weight / space & passenger capacity compromises remain key factors for HSC
- Changes to our operation? (vessel range & layovers)
- TrAM EU project: preferred option with minimal risk- potential legacy use of battery technology
- Continue to develop options for current fleet
- Seek hybrid partner for eastern expansion of larger craft

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Thank you!

Geoff Symonds, Chief Operating Officer