



Tritonex

An absolute game changer for all things hydrogen with 100% Angel share captured and corrosion protected

<https://triton-hydrogen.com/>

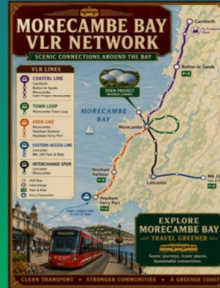
TRITON
Hydrogen
Solving Impossible Problems



Morecambe Bay Line – Heysham – Morecambe – Carnforth & M6 P+R Very Light Rail Lines

NO
Major Pollution First/Last Mile

Map not scale Illustration purposes only



Carnforth Heritage Station



St Patrick's Chapel Heysham

Better value to the Public Purse

An affordable, multi-generational alternative to the Air Pollution (NEE) that will be caused by any bus-based Mass Rapid upgrade.



Podcast @ <https://www.railindustryconnect.co.uk/rail-industry-connected-hydrogen-trams-as-a-service-with-jim-harkins-light-rail-uk>

Morecambe Bay VLR, Town Loop & P+R
(Aug 2026)



Not to scale: initial town-loop demonstrator corridor

No Air Pollution at Point of Use!



Self-powered new build tradition summer tram cars



City Cars (3) autonomously coupled, 300 passengers

Morecambe Bay Coastal Benefits

Improves coastal connectivity between Carnforth, Morecambe and Heysham

Eden Project Morecambe, Heysham and park-and-ride gateways
Enables phased VLR services linking the town loop,

Eden Project Morecambe and future coastal extensions
Increases ridership by offering a clean, convenient alternative to driving

Reduces traffic congestion and CO₂ emissions

Boosts visitor spend, tourism revenue and economic growth across Morecambe, Carnforth, Heysham and Lancaster Bay communities

Raises development confidence and land values along the corridor, especially near VLR stops, interchanges and regeneration sites

Enhances access for non-drivers, older residents, disabled passengers, students, visitors and coastal communities
Demonstrates commitment to sustainable transport and hydrogen innovation

Disclaimer: This document is provided for informational and guidance purposes only and does not constitute legal, financial, technical, or professional advice. Light Rail UK accepts no responsibility or liability for any direct or indirect losses or actions arising from reliance on the content herein

Why Green Hydrogen Trams?

Morecambe Bay VLR: Carnforth, Morecambe, Eden Project, Morecambe & Heysham.



A Coventry VLR running x 56 Pax



Doha VLR in Service x 100 Pax +100 Pax +100 Pax Total 300 Pax

Can be autonomous, can be autonomously coupled x 3 cars

Trams have a proven record of getting people out of their cars, whilst producing zero emissions and particulates at the point of use, and that these very light rail* (VLR) offers significant potential for enabling these benefits to be realised on a significantly larger scale.



Aruba: New build, Old design Hydrogen Tram.
Can be autonomous coupled x 3 Cars

Phase 1: M6 P+R – Eden Project Morecambe – Town Loop

- Indicative delivery cost: £25M–£45M for town-loop demonstrator
- 5-year local uplift: £75M–£150M from Eden access, visitor spend and land-value confidence
- Strategic return: circa 3:1–4:1 including regeneration, access and carbon benefits
- Benefits:
 - Urban regeneration and modal shift
 - Property uplift and civic activation
 - Heritage-sensitive integration
 - Political and planning leverage
- Combined Strategic Value
- Indicative total VLR investment: £85M–£150M for a phased Morecambe Bay corridor
- Indicative combined 5-year uplift: £250M–£450M, aligned to Eden Project Morecambe, visitor access, housing, skills and coastal regeneration benefits
- Corridor Leverage:

Phases 2–3: Carnforth – Eden Project Morecambe – Heysham P+R

- Extension cost: £60M–£105M, subject to route length and highway integration
- 5-year value uplift: £175M–£300M from visitor distribution, station access and regeneration
- Strategic return: circa 3:1 including tourism, modal shift and environmental benefits
- Gateway visibility and tourism uplift
- Industrial estate access and land value growth
- Environmental and health gains
- Strategic demonstrator for innovation funding
- Hydrogen mobility pioneer for visitor and local travel
- Builds momentum for a full Morecambe Bay VLR corridor
- Attracts academic, commercial and Treasury interest
- Cost basis: under £10M per track-km using modular shallow VLR engineering
- Uplift basis: Eden access, town-centre spend, decarbonisation and wider Bay regeneration
- Cost-Benefit Ratio: Circa 2:1



Legal utilities are left in place

Less than £10M per track Kilometre and are a significant Public Transport Legacy.

The national delivery of an integrated transport system will often involve initiatives that span local authority and county boundaries, and mechanisms for coordination at regional levels are needed to help promote and deliver this project.



*Precast Advanced Track
Installation is less than £10M per Km

The new track is laid just 30cm within the road's surface, minimising the need to relocate pipes and cables, which is time-consuming and expensive.

Compatible with current vehicles, including VLR, Light Rail & TramTrain

This is achieved by taking advantage of cutting-edge materials, while still making use of standard rail parts



*Ingerop and its UK subsidiary Rendel.
30 cm into the road surface Installation less than £10M per Km

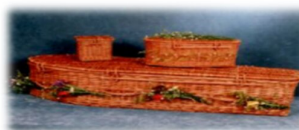
The largest share of transport emissions comes from cars, accounting for 38% a 20% reduction by 2030...Transport Scotland Jan 2022

As Trams have a high modal switch of circa 25% - 32%, this demonstrator line can achieve that target along this corridor

Statistics in Tram integrated Nottingham show that LEZs are not required
Light Rail (UK)
E-mail jimh@jimmyharkins.com

Auchenshuggle Junction, Moore, Warrington,
Cheshire, United Kingdom
01925 740675 07721378223

**Possible coastal link route
Heysham, Eden Project Morecambe and town-centre gateway connections**



*30,000 people died from Particulates and Heavy metals

Light Rail Consultants, Transport Engineers,
Private Enterprise, Politicians, Academics,
Environmentalists and others.

"If you can't get to places, you can't do things, and the things you can't do are important!"

Sponsored by Clean & Green Transport and Funded by Triton Hydrogen Ltd

Disclaimer: This document is provided for informational and guidance purposes only and does not constitute legal, financial, technical, or professional advice. Light Rail UK accepts no responsibility or liability for any direct or indirect losses or actions arising from reliance on the content herein