

LR-UK-Let-Glasgow-flourish-AGAIN-Mar-2021-V5apdf (applrguk.co.uk)



Courtesy: Strategic Transport Projects Review (STPR20)

Self-powered multi fuel Hydrogen tram car, 100 Passengers

Light Rail (UK) Group

Street level access to the City Centre .
Link to the Railway Station and Bus Station.
Frequent and flexible Service.
10 minute headway, 6 per hour,12 hour day
18,000 pax x 50 weeks,
900,000 PA
A Clean and Green cross city route

A Clean and Green cross city route Proposed Metro connector

No Road/Tyre/Brake Particulates (NEE) (A genuine zero emission vehicle).

## No pollution at Point of Use!

(Manchester Metrolink saved 38·8 million car-km/ year, and avoided 6 700 tonnes of CO<sub>2</sub> into the atmosphere)



City Cars (3) autonomously coupled, 300 passengers

## Hydrogen, The tram Fuel of the Fure, On Board or by Wire

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# Why Green Hydrogen VLR Trams ?

Lower costs than Heavy/Light Rail, Quicker to Construct, Proven technology.



VLR MRC3 in Autonomous mode Doha

This proposal for an East-West Line 1 and a West-East Line 2, apparently omitted from the Glasgow Metro Plan, will address these issues using the latest in Light Rail development (2023), for Very Light Rail (VLR), vehicles, to bring down construction and operating costs, strengthen the home Hydrogen market which is needed for a successful export base and relieve significant transport poverty along the two routes, improve air quality and bring connectivity of

#### 1.8 million passenger journeys per annum

with these two routes alone at a significantly less cost to build than the equivalent road!

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 circa 25% - 32%, this demonstrator line can achieve that target along this corridor

Statistics in Tram integrated Nottingham show that LEZs are not required

Picture Right

Tram and Bus track share former central reservation; Rural buses use the Trambahn as interchanges to avoid running into the city so can give a higher rural frequency of service

Courtesy: MKP Wroclaw Poland https://www.youtube.com/watch?v=MWONniF7Xkc

### High Modal Switch.

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

The modern design's motive power is provided by onboard lithium-ion phosphate batteries with a regenerative braking function. Ancillary power comes from a small onboard generator

#### Legal underground utilities are left in place



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

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

\*Installation, vehicles, and depot less than £10M per Km

#### Samples of road space reallocation





Roadway reduces down to single lane closer to the city centre

Hydrogen/electric buses can only be seen as a welcome interim solution in the longer term, as they remain a source of significant particulate pollution (\*NEE) arising from the friction between tyres and road surfaces while steel wheels running on steel rails create zero emissions of this type.

\*All UK Governments are aware of this (Greenwash) NEE pollution

\*39,000 folk died from Particulates

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