



Light Rail (UK)

All Party Parliamentary Light Rail Group

House of Commons
London SW1A 0AA

Trams, a catalyst for Clean Air, Connectivity, Jobs & Growth



Report of a meeting hosted by the Royal Overseas League (ROSL) in its Evelyn Wrench Lecture Series

**Held via Zoom.
Wednesday 28 April 2021, 1800h**

**A video of this meeting is available on Youtube at
<https://www.youtube.com/watch?v=Ew794PECoD0>**

Chair

Andy Carter MP, Chair APPLRG

Speakers

Baroness Vere of Norbiton, Minister of State for Transport
Nicola Small, Senior Programme Manager, Coventry City Council
Coventry Very Light Rail (VLR)

Beverley Nielsen, Chair, Ultra-Light Rail Partners
Ultra-Light Vehicles: a growing place in the tramway world

Dan Giblin, Financial Director, Light Rail (UK), & Lightweight Community Transport Ltd
Ultra-Light Rail: funding a new industry.

Brad Read, President, TIG/m

Brian Lewis of the Royal Overseas League opened the meeting.

Andy Carter then introduced the speakers.

Baroness Vere began by thanking the light rail industry for keeping services going during the pandemic, backed by £200m of government support. The pandemic has brought new challenges and we cannot now allow ourselves to rely on a car-led recovery. Light rail is one of the cleaner, faster, and cheaper alternatives. Prior to the pandemic, light rail usage rose by 41% over ten years. Light rail, carrying up to 200,000 passengers per hour, brings economic stimulation. For example, the Metrolink line through Salford Quays and the new lines in Nottingham have boosted the local economy to a level over and above their cost.

This meeting by invitation only, where MPs, Stakeholders etc., within the Light Rail industry and invited members of the Public will have a chance to discuss debate and raise questions concerning Light Rail & Trams.



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Secretariat provided by Light Rail (UK), Warrington, Cheshire, England, United Kingdom WA4 6UE

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**Next Meeting: 13th October
2021**

Details to follow:

RSVP jimh@jimmyharkins.com



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The government fully supports light rail through the Transforming Cities Fund and now the Intra-City Transport Settlement which provides £4bn to major city regions for innovation and network expansion. The government is also supporting the Coventry Very Light Rail initiative. All in all, there is lots of opportunity for light rail.

Questions to Baroness Vere

Q: Are hydrogen-powered trams being considered by government?

A: Hydrogen is an interesting development, but a sizeable set-up would be needed to support a distribution network. The UK Hydrogen Strategy will include trams as well as other transport modes, heating etc.

Q: Is there a real commitment to light rail?

A: Government is committed to public transport and a move away from cars and has launched the National Bus Strategy. Light rail must be wanted by the local authority and local promoters should approach government for support. There is no specific fund for light rail, but government is committed to fully integrated transport systems.

Q: How is light rail defined?

A: There is a range from BRT to heavy rail, but the government is open minded on specific transport modes.

Q: How do we get trams into Bristol?

A: The impetus must come from the local transport authority which should be looking to an integrated transport system.

Q: Could some of the lines in the Beeching Reversal programme be light rail?

A: I absolutely hope so. Some of those so far looked at should be suitable for light rail.

Q: Is light rail suitable for inter-city connections?

A: Light rail is looked on as an intra-city mode and inter-city journeys are provided by heavy rail. Light rail certainly improves connectivity within cities.

Q: Why is government supporting buses, which produce NEE pollution from road and tyre wear, as well as having a shorter life than light rail vehicles?

A: Government does not want to pit one transport mode against another and not all transport needs can be met by light rail. An integrated transport system involving all modes is needed.

Q: Can light rail vehicles be used on heavy rail lines?

A: The more use that can be made of the same infrastructure the better.

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Nicola Small then spoke with a slide presentation about the Very Light Rail project in Coventry.

The project contributes to decarbonisation and the levelling up agenda in Coventry where post-Covid traffic congestion is increasing. It complements existing light rail technology by applying automotive technology to light rail to give an affordable infrastructure for smaller cities. For example, the West of England Mayor has just visited Coventry to hear about the project.

The project is seen as the flagship for a new UK-based VLR industry. Spending on the project is 40% local (West Midlands), 27% rest of UK and 33% non-UK.

The locally manufactured prototype VLR vehicle, which was completed in March, is battery operated and therefore requires no overhead infrastructure. Currently light rail systems are costing £25-100m/km of which £9m/km is on moving utilities. The project uses a novel, shallow trackform, which is easy to install and remove. The track will be tested at the Very Light Rail National Innovation Centre at Dudley over the next year.

The timetable for the building of the initial line is completion of research and development by 2022; planning and obtaining of all necessary consents 2022-23; construction 2024-25; opening 2025. The initial route, between the mainline station and Walsgrave Hospital, is planned to be the beginning of a larger network which will be fully integrated with other transport modes to reduce car use, congestion, and pollution.

Further information on the Coventry Very Light Rail Project can be found on the Coventry City Council website at <https://www.coventry.gov.uk/verylightrail>

Beverley Nielsen spoke about Ultra-Light Rail Partners. The organisation is looking to build on the success of the Stourbridge shuttle to develop options for affordable, sustainable, lightweight rail systems and so help counteract the poor connectivity which is holding back many British cities.

A lightweight railbus operated in Bristol from 1998 to 2000, while the Stourbridge railbus has been operating since 2008. A biomethane powered version has now been trialled at Long Marston and both a larger capacity vehicle and a low-floor tram option are under development.

Biomethane not only has low emissions but its production from food and animal waste takes a potent greenhouse gas out of the environment. It thus helps meet decarbonisation/climate change targets as well as reducing dangerous particulate pollution.

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The hybrid biomethane/electric vehicle has a greater range than pure battery equivalents and lower refuelling costs, being lighter (fewer batteries). For new installations, LR55 track is proposed, which has been satisfactorily in use in an installation in Sheffield for 20 years. It is of shallow profile, requires no moving of utilities and can be installed for £1m/km. The running costs of the vehicle are around £2000/day and all components, apart from the batteries, are sourced from the UK.

Further information on Ultra-Light Rail Partners can be found on their website at <https://ulrpartners.com/>

Dan Giblin spoke about the options for funding Ultra Light Rail initiatives. So far support has come mainly from small investors, but funds are available through the banks to support “build back better” initiatives. APPLRG has been talking to institutional investors including the major British and European banks and there is considerable interest in advanced technologies, especially as ULR vehicles have a longer life and lower maintenance costs than buses. Local funding is also an important option. APPLRG will soon be restarting its seminars for potential investors. There are many opportunities for the application of ULR in places such as Bath, Cirencester and Warrington and details of potential locations can be found in the Tram Tracker on the APPLRG website.

APPLRG has also had discussions with Highways England on the potential for trams linking park and ride at major motorway junctions with nearby towns. It should be remembered that highways are not just for cars, they can be for trams too.

So far ULR has not benefited to any great extent from government investment but APPLRG is pushing for the levelling of the playing field between trams and buses through initiatives such as the updating of Webtag.

Brad Read gave a slide presentation on TIG/m. The company, based in California and operating since 2000, offers a low-cost light rail solution on a Design-Build-Operate-Maintain basis. Vehicles are self-powered hydrogen/battery hybrids available in a variety of types to cater for 80-200 passengers. Vehicles can be linked to carry 300-400 passengers with one driver. The vehicles are lightweight but do not sacrifice crashworthiness; they comply with current US and European requirements.

Brad summarised the advantages of steel wheel over rubber-tyred traction as well as self-powered over external power supply. As well as the vehicles showing a 40% reduction in build cost over conventional light rail vehicles, the system uses a low-cost, low impact trackform. This

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is only ten inches deep and does not require movement of utilities, with removable panels being used over utility areas. Infrastructure shows a 50% reduction in cost compared with conventional systems.

Hydrogen production is on-site using cheaper overnight electricity. Surplus power can be sold back to the grid at other times. Installations are usually joint ventures with the host city, but TIG/m can arrange all planning and finance. Much of the construction can be done using local labour.

Further information on TIG/m can be found on their website at <https://www.tig-m.com/>

Questions

Q: What is the demand for the TIG/m system in the USA?

Brad Read: The company is currently under contract to two Californian cities and there are proposals under investigation in four other US cities. There is not much private financing of transport projects in the USA even though it is much quicker than the usual government funding route.

Q. Is the Coventry project publicly or privately funded?

Nicola Small: Funding is through the West Midlands Combined Authority and the Coventry Local enterprise Fund. Business cases will be made to other government sources as they arise. Coming out of Covid is not a good time to be seeking private investment but it is an option for future expansion.

Q. If utility repairs are needed, will the trams be stopped?

Nicola Small: The frequency with which this arises is not great. It will be possible to remove sections of track, and this may involve splitting the tram service to run either side or bus replacement. It is not seen as a significant barrier.

Andy Carter thanked the speakers and the APPLRG Secretariat and **Brian Lewis** then closed the meeting.

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