
Light Rail is a success with passengers

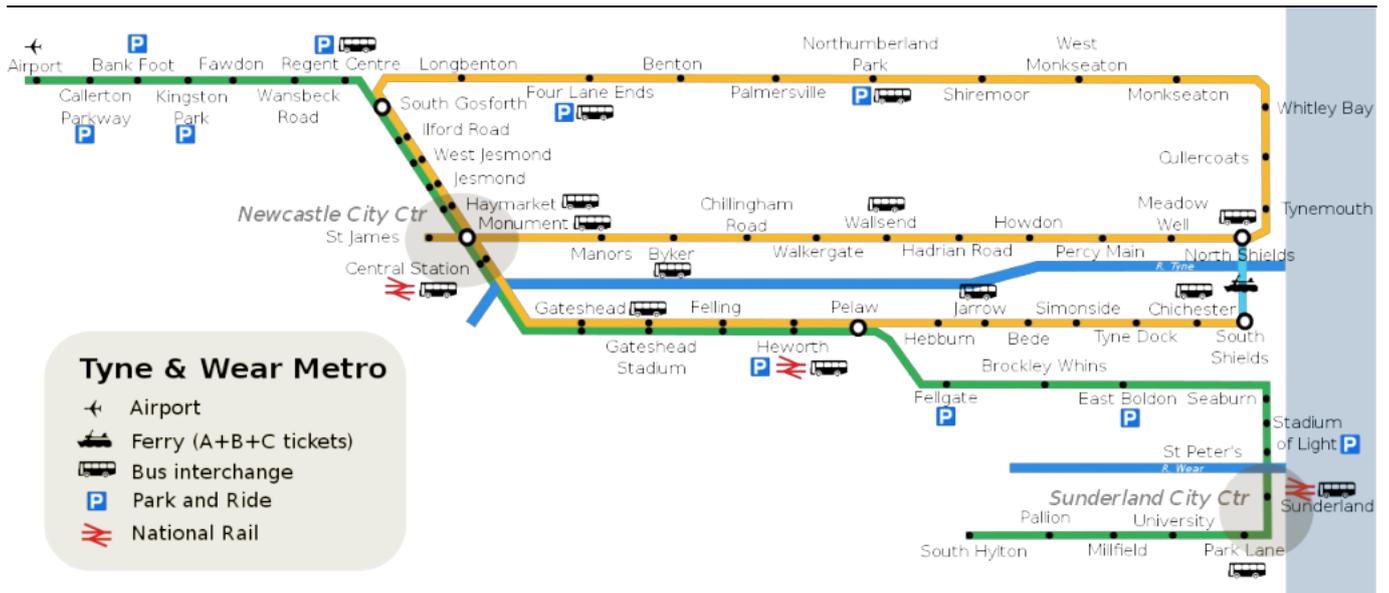
As recently as 1992, the only opportunity to ride on a tram in Britain was at Blackpool where the line was retained as a curiosity for the enjoyment of tourists visiting the resort. It was the last of many tram systems that dated from the Victorian age, which closed as a result of the need for expensive renewals, and incompatibility with increased car usage. Services in Blackpool were re-equipped with modern trams in 2012 (as illustrated), although vintage vehicles have been retained to operate during the famed Illuminations and other holiday periods.

It was increased car usage that caused the Government to launch a 10-year plan in 2000 when there was an expectation that 25 new rapid transit lines would be introduced in major cities and conurbations, which would be paid for by congestion charging, parking levies, and a rise in fuel duty. The plan was not deliverable in the format anticipated because of public resistance to methods of fund raising and far fewer lines were opened as a result. Despite this, a number of Local Authorities pressed ahead with proposals using alternative funding models.

There is a distinction between light rail operations that operate on dedicated infrastructure and tramways that include street running, although in recent times the term “light rail” is used to describe both.

The earliest modern British light rail operation is the Tyne and Wear Metro which opened in 1980 as a result of Government policy to establish Passenger Transport Authorities in urban areas. The network was seen as a solution to an inability to justify the retention of heavy rail electrification in the Newcastle suburban area at a time when this required renewal. A feature is that services use infrastructure shared with heavy rail services. A new initiative to extend this philosophy is the Tram Train extension of the Sheffield Supertram network to reach Rotherham which was implemented in 2018.

As originally conceived, the Tyne and Wear Metro was designed to connect with bus services radiating from the larger population centres they served but experience has shown there are benefits in providing car parks to promote the network as a park and ride facility.



As well as bus interchanges the Tyne and Wear Metro has developed a number of park and ride locations to reflect opportunities to increase network use.

The redevelopment of the London Docklands required transport links and a light railway solution was adopted. For the greater part, the network used closed heavy rail lines that served the dock complex which were re-engineered to provide connectivity with new commercial developments. The curvature requirement was not compatible with heavy rail infrastructure design and the system is automated without the need for drivers. It first opened in 1987.

The other lines that have opened, which incorporate street running are located in Manchester (1992), Sheffield (1994), Birmingham (1999), Croydon (2000), Nottingham (2004), and Edinburgh (2013).



Street running in Edinburgh was part of a project with an estimated cost of £375 million in 2003 which increased to £776 million by the time trams started running in 2013 over a shorter route than planned.

The evidence is that once established, modern-day light rail is popular with users with 280 million journeys being made last year, which represents an increase of 44% over ten years. But care is needed in the specification for building new systems. The Edinburgh Tram project had a significant cost over-run in part because enabling works revealed below street utilities infrastructure that were unknown to contractors. Since opening, revenue has exceeded expectations and therefore an extension to the system is proposed, which restores earlier setbacks but the financial outcome has been a wake-up-call for other Local Authorities planning light rail systems. It also illustrated that different funding models are needed that do not rely on income from congestion charging which was rejected by residents in Edinburgh and Manchester.

Manchester Metrolink has the most extensive network in Britain with 62 miles of track serving 93 stops. An 8-year £1.5 billion expansion programme was completed in 2017 and a £350 million extension to Trafford Park is under construction. Further investment is planned as part of the 2040 Transport for Greater Manchester strategy that includes a cross-city tunnel

linking the main line Piccadilly and Victoria stations. The system achieved passenger growth of 6.1% in the most recent financial year.

Dublin's light rail opened for passenger services in 2004 under the brand LUAS (Gaelic for speed). There are two main lines; the Green Line, and the Red Line, and both have been extended since opening and split into different branches further out of the city whilst intersecting to connect within Dublin City Centre.

Luas is operated by Transdev, under tender from Transport Infrastructure Ireland (TII) and was a major part of the National Transport Authority's strategy (2000–2016). There are now plans to develop a 19km north-south route, known as Metrolink, a large part of which will be underground, to pass under the city centre and Dublin Airport.

There will be 15 new stations, 3,000 additional park and ride spaces and a journey time of approximately 25 minutes from Swords to the city centre. The expectation is that there will be 50 million annual users.



The Luas light rail system in Dublin is to be extended with a new north – south axis route providing 15 new stations and 3,000 additional park and side spaces

UK Light Rail Safety Standards Board established

Operational light rail systems are not standardised, although driving by sight rather than a controlled process of movement authority is the most common method of working apart from the automated Docklands Light Railway (DLR). Indifferent performance compared to business plan expectations led to an investigation by the National Audit Office which recommended that unified standards be adopted which resulted in the formation of UK Tram in 2004 tasked with the development of defined technical standards.

The need was emphasised by an accident on the Croydon tram system in November 2016 as a result of over-speeding on a sharply curved section of route that resulted in fatalities. The response has been the formation of a Light Rail Safety Standards Board where former Manchester Metrolink Director (and FCP Associate), Peter Cushing has been appointed as the Chief Executive.

A risk model is to be developed by the use of event data that identifies pre-cursors to incidents as well as conducting research into driver vigilance and speed control systems to enable more informed decisions to be made about risk mitigation.

Another aim is to provide more support to new market entrants in order to avoid past pitfalls and advise on a more standardised approach to operational and safety standards, including whether overhead current collection or the ground level system as used on the DLR, is the most appropriate choice.

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