

Light Rail and Tram Statistics: Notes and Definitions



1. The Light Rail and Tram Survey

The Light Rail and Tram annual statistical release is compiled from responses to the Light Rail and Tram Survey. A blank questionnaire is provided in the Light Rail and Tram Technical Information section

(<http://assets.dft.gov.uk/statistics/series/light-rail-and-tram/light-rail-questionnaire.pdf>).

These Notes and Definitions include:

1. The Light Rail and Tram Survey
 2. Definitions
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 4. Light Rail and Tram Systems
- Annex: Key Events in the Light Rail and Tram Sector

The survey covers urban systems which are primarily surface running. Questionnaires are sent to the following systems:

- Docklands Light Railway
- Croydon Tramlink
- Nottingham Express Transit
- Midland Metro
- Sheffield Supertram
- Tyne and Wear Metro
- Manchester Metrolink
- Blackpool Tramway

Further details on these systems can be found below.

In addition to the London and Glasgow underground networks, the above eight systems are those which sit outside of the UK National Rail network but carry a large number of passengers on a daily basis in an urban setting. However, this should not be considered an exhaustive list of the light rail systems currently operating in the UK. There are many other such systems, including funiculars, airport transit systems, heritage and tourist railways, which are not covered by these statistics.

The cooperation of the systems is greatly appreciated and the response rate has consistently been 100%, which implies robust statistics are being produced as no imputation (the substitution of some value for a missing data point) is required.

2. Definitions

For the purposes of published DfT statistics:

“Light Rail” covers:

Docklands Light Railway, Croydon Tramlink, Nottingham Express Transit, Midland Metro, Sheffield Supertram, Tyne and Wear Metro and Manchester Metrolink.

“Tram” covers:

Blackpool Tramway

“Underground” covers:

London Underground

Glasgow Subway

3. Notes to tables

The following presents brief details of the source of the figures in this publication, including data quality considerations where relevant. Information relating to individual systems which may affect the figures shown is given in the next section.

Passenger journeys (tables LRT0101 and LRT0102)

Table LRT0101 shows total passenger journeys (both concessionary and non-concessionary), with table LRT0102 showing journeys by concessionary passengers (both elderly/disabled and youth concessionary) separately.

Most operators report that passenger journeys figures are derived from ticket data, either directly from ticket machines (Blackpool, Sheffield, Nottingham and Midland Metro) or based on ticket sales (Manchester Metrolink). However for the Croydon Tramlink passenger numbers are recorded by an on-tram passenger count system using infra-red door sensors, and for the Docklands Light Railway figures are based on automatic passenger counts at stations. For the Tyne and Wear Metro figures are based on surveys of 12-15,000 passengers every four weeks (which the operator reports as providing data accurate to +/- 1% on an annual basis).

Where figures are derived from ticket sales data, assumptions based on passenger surveys are made to estimate the number of journeys per ticket (for example, for season tickets).

For the systems that report using passenger counts from ticket machines, season ticket and pass holder boardings are captured by pressing of a button on the machine. Only one operator makes an adjustment from for under-recording, with the others reporting that they make no adjustment but estimate that the level of under-recording is small (less than 1 per cent).

On occasion, operators may make adjustments to the methods used to estimate journeys. For example, Manchester reported using a revised methodology for concessionary journeys from 2010/11, based on surveys carried out.

Whilst there are differences in the methods used by operators to compile the estimates of journeys and it is difficult to assess the impact of these precisely, data are validated by comparison to previous years and consequently we believe that the broad trends shown are sufficiently robust for the uses of these statistics.

Passenger kilometres (table LRT0103; equivalent in miles LRT0104)

Passenger kilometres travelled are calculated by multiplying the number of passenger journeys by an average journey length. Average journey lengths are estimated from passenger surveys. Typically the same figure is used for a number of years, with periodic revisions for example associated with network changes. As a result, whilst the passenger kilometres figures should reflect broad trends sufficiently, year on year changes should be treated with caution.

Vehicle kilometres (table LRT0105; equivalent in miles LRT0106)

Vehicle kilometres operated are derived from scheduled (timetabled) kilometres, deducting any known lost kilometres. Kilometres run on driver training or special excursions are not included. Given the nature of these systems (operating on a fixed route network) we consider these figures to be a reliable indication of levels and trends.

Average length of journey (table LRT0107)

The figures in this table are calculated by dividing passenger kilometres by vehicle kilometres, and typically reflect operators assumptions about average journey length based on surveys they have carried out.

Infrastructure (LRT0201 to LRT0204)

These tables show the number of stops, vehicles and route length for each system.

Table LRT0201 shows number of stations or stops, counting both directions as one stop. Figures published for the Blackpool tramway prior to the 2011/12 publication counted each direction separately; these figures have now been revised for consistency with other the other systems shown.

Table LRT0202 shows number of tram cars or passenger carriages, counting each articulated tram as one vehicle. Special engineering vehicles are excluded.

Tables LRT0203 and LRT0204 show route length in kilometres and miles respectively. These figures relate to track open for passenger traffic.

Revenue (LRT0301 and LRT0302)

Revenue figures are taken from operators financial records.

Table LRT0301 shows total revenue, which includes on and off vehicle fare receipts, concessionary fare reimbursement for both elderly and disabled and (where relevant) youth passengers, and any other payments from local transport authorities. Income from special excursions and other sources (e.g. retail and advertising) is excluded.

Concessionary reimbursement, which represents payments from public authorities, is shown separately in table LRT0302.

4. Light Rail and Tram Systems (in order of construction)

Blackpool Trams

- The traditional Victorian street-running tramway serves Blackpool Unitary Authority and Fleetwood, Lancashire.
- In 2009 DfT announced approval for a scheme to modernise the Blackpool Tramway including upgrade of the entire length of the track and the purchase of new RVAR (Rail Vehicle Accessibility Regulations) compliant trams to run alongside a number of heritage vehicles.
- This work was in progress during the 2010/11 and 2011/12 financial years, and the upgraded route and new trams were brought into service on 3 April 2012. This will affect the figures reported for the 2010/11 and 2011/12 financial years. In 2011/12 part of the network was closed for the whole year (between Starr Gate and Pleasure Beach and Little Bispham and Fleetwood) which is the reason for reductions in route kilometres open and number of stops in this year.

Tyne and Wear Metro

- The original system was conceived in the 1970s and opened in the 1980s
- It has been extended in two further stages namely from Bankfoot to Callerton and Newcastle Airport in November 1991 and from Pelaw to Sunderland and South Hylton in March 2002. On the latter, Metro trains operate on Network Rail infrastructure and share the route with other operators both passenger and freight.
- A £580m modernisation programme is currently underway.

Docklands Light Railway

- The series shows the growth of the DLR which opened in August 1987, and was extended to Bank in 1991 and Beckton in 1994. The Lewisham extension under the Thames at Greenwich was completed in 1999.
- A new line for London City Airport opened in December 2005.
- An extension to Woolwich Arsenal was completed in January 2009 with a further extension to Stratford International opening on 31st August 2011.
- Works to enable the railway to operate three car trains across the whole system was completed in Spring 2011. DLR completed delivery of 55 new railcars in 2010.
- The 2010/11 figures reflect an increase in capacity through the introduction of three car services between Bank and Lewisham from February 2010, as well as increased frequencies and improved reliability. There were also fewer engineering closures on the network than in 2009/10.
- In January 2012 three car services were introduced between Bank and Woolwich Arsenal.

Manchester Metrolink

- Converted and extended from suburban rail, in 1991/92, 26 kilometres and 16 stations were transferred from the national network to the light rail system. It has a mix of segregated track and on-street running. Metrolink was opened in 1992, with the first section running between Bury and Manchester Victoria Station.
- The Eccles extension opened in 2000. A spur to Media City UK was opened in 2010, and the first section of the South Manchester Metrolink extension to St Werburgh's Road opened in July 2011 adding 3 further stations. The first part of the Oldham-Rochdale extension - to Oldham Mumps Station - opened in June 2012.
- More extensions are to be opened over several years from 2012-13 including the East Manchester line and towards Manchester Airport. These extensions will add a further 51 stations and many more kilometres of tramway to the system.
- A change of operator occurred during 2011 from Stagecoach to RATP Dev UK Ltd.
- The introduction of a shuttle service to Media City UK and the opening of the South Manchester Line have contributed to the increase in kilometres shown for 2011/12. New vehicles are coming on stream as they are delivered and the figures relate to the number in service on 31 March.

Sheffield Supertram

- The Supertram was opened in 1994 between Sheffield and Meadowhall.
- Further lines came into service from Malin Bridge to Halfway and Cathedral to Herdings Park. In December 1997, operations were transferred to Stagecoach PLC.

Midland Metro

- This rapid transit system was constructed by the Altram consortium, making use of former rail alignments. The line from Wolverhampton to Birmingham Snow Hill opened in 1999. An extension through Birmingham city centre to New Street Station is under construction.

Croydon Tramlink

- A modern three line tram network in south London, opened in May 2000. Owned by TfL it is operated by London Tramlink, part of TfL.

Nottingham Express Transit

- NET is a modern street running tram system running north-south through the city. It runs parallel to suburban rail north of the centre. It was opened in March 2004.
 - There was a change of operator in December 2011, with Tramlink Nottingham replacing the Arrow Consortium. Revenue figures for 2011/12 include estimation for the period covered by the previous operator, though journeys and kilometres figures cover data from both operators.
 - Extensions to Chilwell and to Clifton are currently under construction.
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Annex: Key Events in the Light Rail and Trams Sector (to July 2012)

1980	August	Tyne and Wear Metro opened to the public.
1984		Contract for construction of Docklands Light Railway was awarded to GEC Mowlem.
1987	August	Docklands Light Railway opened to passenger traffic.
1991	July	Docklands Light Railway extension to Bank underground station opened.
1992	July	Phase 1 of Manchester Metrolink opened in full with services between Bury and Altrincham.
1994	March	Docklands Light Railway extension from Poplar to Beckton opened. First section of Sheffield Supertram opened.
1995	January	Croydon Tramlink was approved by the Secretary of State for Transport. Government was to contribute about half of the £154 million cost. Provisional approval was given by the Secretary of State for Transport for West Midland Metro.
	June	A consortium led by FirstBus Transit Developments was shortlisted to tender for the design, construction and operation of the first route of the Leeds Supertram scheme.
	August	Altram, a consortium consisting of West Midland Travel, Laing and the Italian company Ansaldo Trasporti, was awarded the contract for the construction and operation for 23 years of Midland Metro Line 1 (Birmingham – Wolverhampton). Sheffield Supertram was fully opened.
1996	November	Tramtrack Croydon, a consortium consisting of London bus operator Centrewest, Bombardier (a European train manufacturer), two UK construction companies and the Royal Bank of Scotland was awarded the contract for the construction and operation for 99 years of the 28km Croydon Tramlink scheme, under the government's Private Finance Initiative.
1997	December	Stagecoach bought South Yorkshire Supertram Ltd for £1.15 million.

1998	June	The Secretary of State approved construction of an extension to the Docklands Light Railway to London City Airport, estimated to cost £35 million.
1999	May	West Midland Metro opened from Wolverhampton to Birmingham Snow Hill.
	November	Docklands Light Railway extension to Lewisham was opened.
	December	Phase II of Manchester Metrolink opened in part with services to Salford Quays. Docklands Light Railway extension from Island Gardens to Lewisham opened.
2000	May	Croydon Tramlink, a light rail network in south London, opened.
	July	Phase II of Metrolink was extended to Eccles.
2003	July	Mayor of London obtained control of London Underground on 15 July. Transport for London took responsibility for the strategic operations of LU, London's buses, DLR, Croydon Tramlink, taxis, private hire vehicles and their operators, and also riverbus services.
2004	March	Nottingham Express Transit opened to the public. Operated by Nottingham City Transport, it was integrated with bus routes at points along its 14km length.
	July	DfT withdrew funding approval for Leeds Supertram and South Hants Rapid Transit System projects due to cost increases.
2005	September	TfL introduced free bus and tram travel for those aged under 16.
	November	Serco Docklands Ltd was named as the preferred bidder for the new DLR franchise, from April 2006 to 2013. Serco had held the franchise from 1997. The new franchise was worth £400m. DfT declined to fund Merseytram project due to cost increases.
	December	DLR extension to London City Airport opened, with a temporary terminus at King George V.

2007	November	The Local Transport Bill was introduced in the House of Lords. The Bill aimed to support the Government's strategy to tackle road congestion and improve public transport, ensuring local authorities have the right powers to take local action to meet local transport needs.
2008	May	DfT announced Full Approval for Phase 3A of Manchester Metrolink. DfT approved maximum contribution of £244.3m towards gross scheme cost of £382.4m. Planned lines would be extended to Oldham, Rochdale and Chorlton.
	November	The Local Transport Act 2008 secured Royal Assent.
2009	January	An extension of the Docklands Light Railway to Woolwich Arsenal was opened.
	June	DfT announced Full Approval for scheme to modernise Blackpool Tramway, with maximum contribution of £68.3m towards total cost of £100m.
2010	February	Nexus was awarded up to £580 million to modernise and operate the Tyne and Wear Metro
	March	DfT announced full approval for Phase 3B of Manchester Metrolink. DfT approved maximum contribution of £120.89 million towards the total scheme costs of £161.19 million. This funding would provide extensions to Ashton and East Didsbury.
	June	Following a review of a number of transport projects, Government confirms re-approval of the funding for Manchester Metrolink 3B to continue.
2011	March	A revised funding package for the Nottingham Express Transit extensions scheme was agreed.
	July	The first section of the South Manchester Metrolink extension scheme - to St Werburgh's Road - opened. A change of operator occurred during 2011 from Stagecoach to RATP Dev UK Ltd.
	September	DfT published a report entitled 'Green Light for Light Rail' following a review into the costs of light rail in England which Transport Minister, Norman Baker, commissioned in 2010. The report can be accessed from the following weblink: http://assets.dft.gov.uk/publications/light-rail/green-light-for-light-rail.pdf

2012	April	New trams enter service on the modernised Blackpool Tramway.
	June	The first part of the Oldham/Rochdale extension of the Manchester Metrolink – to Oldham Mumps Station – opened.