



## Introduction

This document supports the latest statistics on light rail and tram systems. It is part of the [Light Rail and Tram](#) series. Detailed [data tables](#) are available from the web site.

For a more detailed commentary on the latest statistics, see the annual release [here](#).

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This note provides definitions used in Light Rail and Tram Statistics. It describes the source of the data and some contextual background for each of the light rail and tram systems.

## 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 guidance section which can be found [here](#).

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

- Docklands Light Railway
- London Tramlink (formerly Croydon Tramlink)
- Nottingham Express Transit
- Midland Metro
- Sheffield Supertram
- Tyne and Wear Metro
- Manchester Metrolink
- Blackpool Tramway
- Edinburgh Trams
- Glasgow Underground

Further details on these systems can be found below.

In addition to the London and Glasgow underground networks, the above ten 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.

## Definitions

For the purposes of published DfT statistics:

### **“Light Rail” covers:**

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

### **“Tram” covers:**

Blackpool Tramway and Edinburgh Trams.

### **“Underground” covers:**

London Underground and Glasgow Subway.

## 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 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 London Tramlink passenger numbers are recorded by an on-tram passenger count system using infra-red door sensors, and Docklands Light Railway figures are based on automatic passenger counts at stations. 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 the pressing of a button on the machine. Only one operator makes an adjustment 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.

Concessionary journeys are those carried out by holders of a concessionary travel pass. These are issued by local authorities for use on buses as part of the English National Concessionary Travel Scheme (ENCTS). In London free travel on light rail systems is a statutory requirement. Local authorities outside of London can offer free travel on light rail systems as a discretionary extra to this scheme and all eight areas with light rail systems currently offer free off-peak travel to older and disabled residences in their local authority area. In order to qualify for a concessionary travel pass, a certain age or disability requirement has to be met as specified by the ENCTS. Some local authorities may also offer concessionary travel for young people.

### **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.

Note, however, that figures for Manchester Metrolink are provided on a different basis to other systems (as described in the footnote to the tables). Comparisons over time and with other systems should therefore be made with caution.

### **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 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.

## **Other Government data sources (LRT0401)**

User profiles are constructed from National Travel Survey data for the eight light rail systems in England. The National Travel Survey is a household survey carried out on over 16,000 individuals every year. For more information see [here](#).

Table LRT0401 shows the proportion of stages on light rail systems in England, England outside London and London by purpose, age, gender, stage time, household car availability and household income quintile. Table LRT0401 also compares the stages for light rail systems with the stages for all public transport modes and all modes. Stages per person per year were calculated by dividing the number of stages by the resident population in each area with light rail systems.

## **NTS data background information**

There are a number of definitional differences between the NTS data on users of light rail systems in the LRT0401 tables and the data on passenger journeys, vehicle kilometres etc sourced directly from operators of light rail and tram systems. These include:

- ▶ The LRT0401 tables give stages per person per year, as the NTS captures travel information of people, and the journeys that they make. The data from operators of light rail and tram systems counts passenger journeys and not the number of individuals. We know from this data that 267.2 million passenger journeys were undertaken on the eight light rail and tram systems in England in 2017/18, but we don't know the number of individuals that made these journeys (some individuals will have made more than one journey over 2017/18).

- ▶ In the NTS, a boarding is when someone changes from one tram to another tram, using the same ticket. If a new ticket is required this would be counted as a new stage of the trip. Therefore, a person who uses one ticket and changes tram once (uses two trams) would be recorded as one stage in the NTS and two boardings. However, in some of the data provided by operators of light rail and tram systems this would be counted as two passenger journeys e.g. London Tramlink which counts a boarding using automatic door counts when passengers go in and out of a tram.
- ▶ In the NTS, journeys in the course of work are excluded. So while journeys for commuting are counted, journeys made by the tram driver, for example, are excluded. No information on whether these kind of journeys are included in the data provided by operators of light rail and tram systems is provided so it is possible that a small number may be included.
- ▶ The NTS tables only include stages carried out by people living in areas with light rail systems i.e. Blackpool, London, Greater Manchester, West Midlands, South Yorkshire, Nottinghamshire and Tyne and Wear. Therefore, stages undertaken by people living outside these areas and using the light rail system will not be included. The reason the analysis is limited in this way is to give a more realistic estimate of journeys per person per year (rather than basing the analysis on the whole population, many of whom would not have easy access to a tram or light rail system).
- ▶ In contrast to the NTS figures, the passenger journey figures sourced from operators of light rail and tram systems will include all journeys regardless of where the individual undertaking the journey lives, including tourists from outside England.

### **Symbols used in the tables**

: = data not available

## **Light Rail and Tram Systems (in order of construction)**

### **Blackpool Trams**

- ▶ The traditional Victorian street-running tramway serves Blackpool 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 affected 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) which is the reason for reductions in route kilometres open and number of stops in this year.
- ▶ The year to March 2013 was the first year of operation of the fully modernised Blackpool Tramway, with 16 new vehicles in operation. This is why the 2012/13 figures are considerably higher than the previous year.

- ▶ As this is the first year of the upgraded system there are no comparative figures. Concessionary journeys have been particularly affected by the upgrade. In previous years concessionary travel was allowed for local residents only but from April 2012 all holders of the national concessionary bus pass have been able to travel free on the tram.
- ▶ A number of heritage vehicles continue to run alongside the new vehicles at peak times. There are also special heritage tours during holiday periods.
- ▶ The 2015/16 figures are considerably higher than the previous years due to better management and control including introducing extra trams to meet passengers requirement.
- ▶ Two new stops one in each direction was introduced at Norbreck North in March 2016.
- ▶ Work has started on an extension to Blackpool North railway station which is expected to be completed and opened in 2019.

### **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. The programme started in 2010 and is due to be completed in 2021.
- ▶ There have been various line closures, including for a month over August 2013, to facilitate major track renewals.

### **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.
- ▶ Additional services were provided on the DLR during the 2012 London Olympics.

### **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 system has been extended a number of times.
- ▶ The Eccles extension opened in 2000 with a further 11 stations added to the system.
- ▶ A spur to Media City UK was opened in 2010 adding a new terminal station to the line.
- ▶ The first section of the South Manchester Metrolink extension to St Werburgh's Road opened in July 2011 adding 3 further stations with a further extension to East Didsbury opening in May 2013.
- ▶ The Oldham/Rochdale line and Droylsden lines opened during 2012/13.
- ▶ The extension to Ashton-under-Lyme opened in October 2013 whilst the extension into Rochdale town centre opened in March 2014, all of which have added further stations and route kilometres to the system.
- ▶ The Airport Extension opened in November 2014.
- ▶ The Second City Crossing opened in February 2017
- ▶ The Trafford Park extension is under construction.
- ▶ 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 contributed to the increase in vehicle kilometres shown for 2011/12.
- ▶ New vehicles have been coming on stream as they are delivered and the figures relate to the number in service on 31 March each year.
- ▶ February 2015 saw the re-opening of Metrolink's Victoria station stop after a year-long programme of works with Network Rail and Morgan Sindall to rebuild the railway station and Metrolink stop.

### **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.

- ▶ A five year £32 million rail replacement project began in 2013 and is due to be completed in 2018. These works meant that trams were replaced by buses in certain areas of the tram system, which has affected the figures.

### **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 opened in May 2016.
- ▶ Further extension – to Wolverhampton Station and to Edgbaston – are currently under construction.
- ▶ The line was shut for two weeks in April 2013 for repair works.
- ▶ Between 25 October and 6 December 2015, Snow Hill stop was closed for tie-in works for Birmingham City Centre expansion so a temporary service terminating at St Pauls stop was operated.

### **London Tramlink (formerly 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.
- ▶ Throughout 2015/16, the town centre pedestrian ambience works being carried out by Croydon council required closing the town centre loop service on a number of occasions coupled with extensive further closures for other improvement works resulted in a decline in patronage numbers against last year.
- ▶ In 2015/16, London Trams took delivery of four additional trams in preparation for a service uplift between Croydon and Wimbledon, utilising newly doubled sections of track and an additional platform at Wimbledon, will enable a timetable frequency uplift of 50% in 2016.

### **Nottingham Express Transit (NET)**

- ▶ 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.
- ▶ The removal of the Nottingham City Council Easyrider multi-modal ticket from December 2011, as ruled by the Office of Fair Trading, may have impacted the number of passenger boardings.
- ▶ During the second part of the 2013/14 year an increase in the ticketing range and product pricing that was offered, including NET seasons and mobile ticketing, may have affected passenger boardings

- Nottingham Express Transit Phase 2 (extensions to Chilwell and to Clifton) became operational on 23 August 2015 which added 10.9 miles and 27 new stops to the network.

## Annex: Key Events in the Light Rail and Tram Sector (to March 2018)

<b>1990</b>	August	Tyne and Wear Metro opened to the public.
<b>1984</b>		Contract for construction of Docklands Light Railway was awarded to GEC Mowlem.
<b>1987</b>	August	Docklands Light Railway opened to passenger traffic.
<b>1991</b>	July	Docklands Light Railway extension to Bank underground station opened.
<b>1992</b>	July	Phase 1 of Manchester Metrolink opened in full with services between Bury and Altrincham.
<b>1994</b>	March	Docklands Light Railway extension from Poplar to Beckton opened. First section of Sheffield Supertram opened.
<b>1995</b>	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.
<b>1996</b>	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.
<b>1997</b>	December	Stagecoach bought South Yorkshire Supertram Ltd for £1.15 million.
<b>1998</b>	June	The Secretary of State approved construction of an extension to the Docklands Light Railway to London City Airport, estimated to cost £35 million.
<b>1999</b>	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.
<b>2000</b>	May	Croydon Tramlink, a light rail network in south London, opened.
	July	Phase II of Metrolink was extended to Eccles.
<b>2003</b>	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.
<b>2004</b>	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.
<b>2005</b>	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.
	December	DfT declined to fund Merseytram project due to cost increases. DLR extension to London City Airport opened, with a temporary terminus at King George V.
<b>2007</b>	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.
<b>2008</b>	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.
<b>2009</b>	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.
<b>2010</b>	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.

<b>2011</b>	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 <a href="#">here</a> .
<b>2012</b>	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.
<b>2013</b>	February	East Manchester Metrolink extension from Piccadilly to Droylsden in Tameside opened.  The line to Shaw and Crompton (opened in December 2012) opened to Rochdale Railway Station.
	May	The Manchester Metrolink extension from St Werburgh's Road to East Didsbury opened.
	July	A five year £32 million rail replacement project began in 2013 and is due to be completed in 2018. Between July and November 2013 rail replacement works meant that trams were replaced by buses in certain areas of the tram system affecting figures.
	August	Tyne and Wear Metro had line closures lasting all of August 2013 due to major track renewals.
<b>2014</b>	May	Edinburgh Trams Limited commences commercial operations on the 31 May 2014. The line of route runs from Edinburgh Airport to York Place a distance of 14 kilometres. Operating 7 days a week the journey time is around 35 minutes from start to finish. A variety of tickets are offered ranging from single journey tickets to family daytickets and the Trams are 100% wheelchair accessible.
	November	Manchester Metrolink extension to Manchester Airport opened on 3 November 2014 adding 15 stops and many more route miles.
<b>2015</b>	February	Manchester Metrolink re-opened Victoria station which had been closed due to rebuilding the railway station and Metrolink stop for over a year.
	March	March Sheffield Supertram engineering works meant trams were replaced by buses at different times in all areas of the tram system.
	April	Town centre pedestrian ambience works being carried out by Croydon council required the close of town centre loop as well as improvement works on London Tramlink occurred throughout 2015/16 and is still ongoing.
	August	Nottingham Express Transit Phase 2 became operational on 23 August 2015 which added 10.9 miles and 27 new stops to the network.

	October	Between 25 October and 6 December 2015, Snow Hill stop on Midland Metro was closed for tie-in works for Birmingham City Centre expansion so a temporary service terminating at St Pauls stop was operated.
	December	The first phase of Manchester Metrolink's Second City Crossing was opened on 6 December 2015.
<b>2016</b>	March	Two new stops, one in each direction, were added to Blackpool Trams at Norbreck North.
	April	A new Elmers End -Wimbledon service commenced operation in April 2016 utilising new additional platform at Wimbledon and 4 additional trams. Two further new trams entered service late 2016.
	May	An extension to Midland Metro through Birmingham city centre to New Street Station became fully operational from 30th May 2016.
	November	On 9 November 2016, a tram operated by London Tramlink and running from New Addington to Wimbledon derailed on the approach to Sandilands tram stop.
<b>2017</b>	January	Work started on the Manchester Metrolink Trafford Park Extension.
	February	Manchester Metrolink's Second City Crossing was opened in February 2017. This incorporates some additional track and a new stop "Exchange Square".
	May	Work started on Centenary Square and Edgbaston extension to Midland Metro.
	November	Work started on Blackpool tram North Station extension.