About Light Rail and Tram Statistics

The Light Rail and Tram annual statistical release is compiled from responses to the Light Rail and Tram Survey, which collects information on light rail and tram system use, infrastructure and revenue. A copy of the survey form can be found here.

Quality of the Light Rail and Tram Data

The Light Rail and Tram statistical release is produced to high professional standards set out in the Code of Practice for Statistics, and were confirmed as National Statistics in February 2013.

This report outlines some of the quality aspects of the data.

In this document

Coverage 2
Strengths of the data 2
Limitations 2
Data Quality 3
Other dimensions of quality 3
Other data sources 3
Terminology 4
Factors affecting 2020 figures 6
Key events in the tram sector (to March 2020) 7
Coverage

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

These 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.

Strengths of the data

**Long-term and continuous:** The survey first ran in its current format in 2010 and has been running on an annual basis since, although some data are available back to the 1980s. The data captured has remained largely unchanged, meaning that long-term trends can be monitored.

**Response rates:** In 2020, returns were received from all of the systems, a response rate of 100%. The response rate has consistently been 100%, and the cooperation of the systems is greatly appreciated.

Limitations

**Comparability:** As the figures are provided by different operators, there are some differences in the methods used to count journeys or to estimate passenger or vehicle kilometres, which may affect comparisons between different systems.

**Journeys not Passengers:** The survey captures the number of passenger boardings, or journeys. This is not the same as the number of passengers as one passenger may make multiple trips.
**Journey details:** While the survey captures the number of passenger boardings, it does not capture detailed information about the journeys, such as the origin and destination, or purpose of the journey.

**Passenger details:** The survey does not capture any details of the people using the system, such as their demographics, journey satisfaction, or the reasons behind their travel mode choice.

**Data Quality**

As National Statistics, Light Rail and Tram statistics are produced to high professional standards as set out in the Code of Practice for statistics and many quality control measures are in place to ensure the integrity of the data.

Data collection is by an excel spreadsheet.

Validation checks are used to ensure that any year-on-year large changes are investigated.

Returns are validated by comparison with previous years and seeking explanation where differences are large or unexpected. This means that figures for each system should be broadly comparable over time.

The principles of “RAP” (reproducible analytical pipelines) are used to produce the publication tables.

**Other Dimensions of Quality**

**Response rates:** In 2020 the response rate was 100%, consistent to previous years.

**Respondent burden:** In 2020 we estimate that each respondent spends, on average, 4 hours completing the survey, consistent to previous years.

**Timeliness:** The survey reference period is the year ending March 2020, and the statistical release was published in June 2020.

**Accuracy:** Much of the data captured will be available from the individual systems’ management information systems. Although, with a response rate of 100%, there is no sampling or coverage errors, there remains the possibility that the data captured is incorrect: the form may not be clear, the respondents may make an error when completing the form, or there may be errors in the underlying data. While our quality assurance procedures attempt to mitigate these errors, it does not remove the risk of them entirely. Information not available through management information systems, such as average journey length, will require the respondent to make assumptions.

**Other data sources**

Within the statistical release other data sources have been used in addition to the light rail and tram survey to provide a more complete picture of the light rail and tram sector.

**National Travel Survey (NTS):** The NTS is a household survey of personal travel by residents of England travelling within Great Britain, from data collected via interviews and a seven day travel
 Diary. Data from the NTS can be used to analyse the demographics of light rail and tram systems, which for the NTS covers the Tyne & Wear Metro, Docklands Light Railway, Manchester Metrolink, Glasgow Subway, Sheffield Supertram, Blackpool Tramway, London Tramlink, Nottingham Express Transit (NET) and Midland Metro. However the sample size for light rail and tram users is low: eight years worth of data were combined to achieve a large enough sample size (2011 to 2018). Data from the NTS have been designated as National Statistics. More details of the NTS can be found [here](https://www.gov.uk/government/publications/light-rail-and-tram-statistics-quality-report-2020).

**Transport Focus:** Transport Focus is an independent transport user watchdog that runs the Tram Passenger survey, a survey which captures the satisfaction of tram users. Transport Focus statistics are not National Statistics. More details of the Tram Passenger Survey can be found [here](https://www.gov.uk/government/publications/)

**Office of Road and Rail (ORR):** The ORR publish information on passenger injuries on trams, metros and other non-Network Rail networks in Great Britain. ORR statistics are National Statistics. More details can be found [here](https://www.gov.uk/government/publications/)

**Terminology**

*“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.


*Concessionary journey:* 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. Local authorities outside of London can offer free travel on light rail systems as a discretionary extra to this scheme. In London, this is a statutory requirement.

*Journey stage:* Every trip can consist of one or more stages. A new stage is defined when there is a change in the mode of transport.

*Average journey length:* Passenger kilometres divided by passenger journeys. This calculation reflects operators’ assumptions about average journey length, based on their own surveys and research.

*Journeys per head:* Passenger journeys divided by the population in the respective Passenger Transport Executive or higher tier authority, using the mid-year population estimates produced by the Office of National Statistics.

*Average vehicle occupancy:* Passenger kilometres divided by vehicle kilometres. This calculation reflects operators’ assumptions about average journey length, based on their own surveys and research.

**Passenger journeys**

Most operators report that their 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**

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**

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.

**Revenue**

Revenue figures are taken from operators’ financial records. Total revenue 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.

**Symbols used in the tables**

. = data not available

**Factors affecting 2020 figures**

**Nationwide factors**

**Coronavirus (COVID-19) impact:** The period covered by the 2019/20 release includes the eight days of nation-wide lockdown, and the seven days prior work-from-home message in March 2020. These measures led to traincrew shortages, reduced timetables and significantly reduced passenger journeys across all networks.

**System factors**

**Blackpool Tramway:** Work started in 2017 on an extension to Blackpool North railway station, which is expected to be completed and opened in 2021.

A bus replacement service operated from 29th April – 17th May 2019 between Bispham & Fleetwood Ferry for maintenance work.

In February 2020 the tramway was shut for a day, and two weeks of stormy weather in the 2019 Summer meant heavy reductions, both in travel within Blackpool, but also in tourists visiting Blackpool.

COVID-19 led to full closure of the tramway from mid-March 2020.

**Tyne and Wear Metro:** One Metrocar, which was subject to major damage in a derailment in 2017, was written off in 2019.

Overhead line failures in April 2019 led to service suspension across part of the network for several days.

Traincrew industrial action in December 2019 led to cancellations throughout the month and two days of no service.

**Docklands Light Railway:** Extinction Rebellion protests halted services on 17th October 2019.

Revenue figures from 2011/12 to 2018/19 have been revised due to a reporting error, where TfL were supplying the gross revenue with concessionary reimbursement included, when the survey
requests revenue without concessionary reimbursement included. This led to concessionary reimbursement being counted twice in the gross revenue figures (LRT0301). In addition, upon review, TfL reported that the 2012/13, 2016/17 and 2017/18 concessionary reimbursement figures were incorrect, so these have also been revised.

**Manchester Metrolink:** The Trafford Park line opened on 22nd March 2020, adding 6 new stops with a route length of 5.4km.

**Sheffield Supertram:** Service suspended on 9-10 April and from 14-17 December 2019 owing to a fault on class 399 trams.

Rail replacement work in the summer of 2019 as well as flooding around the system has resulted in an impact on passenger numbers and revenue.

The increase in concessionary journeys in spite of the decline in total passenger journeys is due to Rail Replacement works and flooding primarily affecting those travelling for work. Replacement buses increased journey times, and therefore the decline in passenger numbers is due to more time-conscious commuters using other forms of transport instead.

**Midland Metro:** A new extension at Centenary Square in Birmingham was opened in December 2019, with 2 new stops and an additional 0.7km of route. An enhancement to the timetable provided more frequency in the peak period.

**London Tramlink (formerly Croydon Tramlink):** Replacement of Blackhorse Lane Bridge affected services in October 2019 & February 2020.

---

**Annex: Key Events in the Light Rail and Tram Sector (to March 2020)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>August</td>
<td>Tyne and Wear Metro opened to the public.</td>
</tr>
<tr>
<td>1984</td>
<td>August</td>
<td>Contract for construction of Docklands Light Railway was awarded to GEC Mowlem.</td>
</tr>
<tr>
<td>1987</td>
<td>August</td>
<td>Docklands Light Railway opened to passenger traffic.</td>
</tr>
<tr>
<td>1991</td>
<td>July</td>
<td>Docklands Light Railway extension to Bank underground station opened.</td>
</tr>
<tr>
<td>1992</td>
<td>July</td>
<td>Phase 1 of Manchester Metrolink opened in full with services between Bury and Altrincham.</td>
</tr>
<tr>
<td>1994</td>
<td>March</td>
<td>Docklands Light Railway extension from Poplar to Beckton opened. First section of Sheffield Supertram opened.</td>
</tr>
<tr>
<td>1995</td>
<td>January</td>
<td>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.</td>
</tr>
<tr>
<td>June</td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>
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.

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.
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.

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.

2013 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.

2014

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 day tickets 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.

2015

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.

2016

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.

2017

January

Work started on the Manchester Metrolink Trafford Park Extension.
February 2017
Manchester Metrolink’s Second City Crossing was opened in February 2017. This incorporates some additional track and a new stop “Exchange Square”.

May 2018
Work started on Centenary Square and Edgbaston extension to Midland Metro.

November 2017
Work started on Blackpool tram North Station extension.

2018
February
New timetable on London Tramlink giving direct service from Beckenham Junction and Elmers End to Wimbledon and the New Addington service reduced to West Croydon.

June
Midland Metro Ltd commenced operation (previously operated by National Express). For this reason, figures from 2018/19 onwards may not be comparable with previous years.

Summer
Rail replacement works throughout summer on Sheffield Supertram.
Tyne and Wear Metro had a new Railway Traffic Management System installed.

October
Sheffield Supertram Tram Train Operations started on 25th October linking Rotherham and Sheffield, the first time that tram trains have operated within UK.

2019
January
Manchester Metrolink extended Media City - Velopark service on to Ashton town centre to provide six minute frequency between Anchorage and Ashton.

Summer
Rail replacement works throughout summer on Sheffield Supertram.

December
Midland Metro opened a new extension at Centenary Square in Birmingham in December 2019, with 2 new stops and an additional 0.7km of route.

2020
March
The Manchester Metrolink Trafford Park line opened on 22nd March 2020, adding 6 new stops with a route length of 5.4km.