December 2024

Travel in London 2024
Annual overview

TfL Board meeting 4 December 2024

MAYOR OF LONDON

TRANSPORT FOR LONDON
EVERY JOURNEY MATTERS

Travel in London 2024

Annual overview

TfL Board meeting 4 December 2024

Table of contents

Introduction

Travel in London is Transport for London's (TfL's) annual publication that summarises trends and developments relating to travel and transport in London. Its principal function is to describe how travel is changing and to provide an overview of progress towards implementing the Mayor's Transport Strategy (MTS). It also provides an evidence and analysis base for the general use of stakeholders and policymakers.

In 2023, the structure of these reports was revised to include a separate Annual Overview report, published towards the end of each calendar year, and a series of Update and Focus reports, covering specific topics in greater depth, published throughout the year as data become available.

This Annual Overview report covers trends and developments up to 2023 and into 2024, including historical series and, more recently, reflecting the disruption brought about by the coronavirus pandemic from early 2020 and London's subsequent recovery. The report is broadly structured around the Mayor of London's key aims for transport as set out in the Mayor's Transport Strategy.

For more information about any of the items featured in this report please contact TiLEnquiries@tfl.gov.uk.

2023-2024: an overview

During 2023 and into 2024 the travel demand recovery in London following the coronavirus pandemic continued and, in late 2024, achieved what appear to be broadly settled conditions. In 2023, overall average travel demand (across all modes) was 95 per cent of the 2019 pre-pandemic baseline (90 per cent in 2022). As well as pandemic-related changes in travel behaviour, such as the more widespread adoption of hybrid working, continuing cost-of-living pressures and increasing operational difficulties affecting some of our networks are thought to be acting as impediments to a fuller recovery.

The pace, extent and nature of the recovery has lagged previous expectations, and this is impacting upon progress with some of our key transport goals. Nevertheless, the year saw significant progress in several areas:

- Perhaps most noteworthy was the successful extension of the Ultra Low Emission Zone (ULEZ) to outer London. The combined zone now covers the whole of Greater London and is delivering substantial improvements to the cleanliness of the air that Londoners breathe.
- Active travel continues to consolidate a positive post-pandemic legacy, with five per cent more cycle journeys in 2024 than in 2023, and 26 per cent more than 2019 overall.
- The Elizabeth line continues to deliver transformative public transport capacity benefits, carrying an average of 660,000 journeys per day as of July 2024.
- There was also progress against our Vision Zero targets to reduce and eliminate road danger, with six per cent fewer people tragically killed or seriously injured on London's roads in 2023 compared to 2022. This is a reduction of 24 per cent against the 2010-14 baseline.

The active, efficient and sustainable mode share for all travel in London for 2023 was 63.2 per cent, one percentage point higher than in 2022 (62.2 per cent), but still below the pre-pandemic baseline of 63.6 per cent in 2019.

London's population in 2023 was estimated to be 8.9 million, 1.6 per cent higher than in 2021, and nine per cent higher than in 2011. The changing structure of London's population, notably a shift towards an older average age, could also have longer-term implications for travel demand, given the different travel behaviour of different age groups.

Meanwhile, London's economic recovery since the pandemic has been relatively slow, albeit with some positive indicators beginning to emerge such as a particularly strong bounce back in workforce jobs, up by 11 per cent since 2019. However, the future economic outlook remains uncertain.

Considering the post-pandemic demand recovery on public transport in greater detail (in terms of journey stages), during 2023/24:

- Overall bus demand was 89 per cent of the pre-pandemic baseline.
- Overall London Underground demand was 88 per cent of the pre-pandemic baseline.
- Demand on DLR and London Trams was 85 and 73 per cent of the pre-pandemic baseline, respectively, with asset-related failures thought to be a significant contributor to the latter.
- Demand on the IFS Cloud Cable Car and London River Services, however, was 131 and 100 per cent of the pre-pandemic baseline, respectively.
- Overall demand on the London Overground was 97 per cent of the pre-pandemic baseline, showing a stronger relative recovery.
- Finally, the Elizabeth line became established as a major part of London's public transport network, carrying an average of approximately 660,000 journeys per day (seven-day week average) in July 2024.

Particularly on the London Underground, the concentration of commuter demand on certain days of the week (Tuesday to Thursday) remained a significant feature, although to a lesser extent than in 2022/23.

During 2023/24, the operational performance and reliability of London's public transport networks continued to recover from the impacts of the pandemic. However, this recovery to pre-pandemic performance norms was held back by, on the rail networks, a combination of asset- and industrial action related causes; and on the bus network, increasing traffic congestion.

Average bus speeds in London during 2023/24 were 9.3 miles per hour, a marginal one per cent reduction on 2022/23, despite strenuous efforts to improve this.

Public transport crowding, however, remained below the pre-pandemic norm, with the proportion of passenger kilometres travelled in 'crowded' conditions (defined as standing densities exceeding two people per square metre) at 1.9 per cent in 2023, compared to 8.9 per cent in 2019. The new capacity created by the Elizabeth line would have contributed substantially to this trend, but it also reflects changed patterns of travel throughout the day.

Our London Travel Demand Survey (LTDS) suggests that trip rates (the average number of trips undertaken per person on an average day across a seven-day week) continued to edge slowly downwards, with an average of 1.98 trips in 2023/24 compared to 2.07 in 2022/23 and 2.21 in 2019/20. Although this long-term trend has also been seen nationally,

more recent declines in London have been at a faster pace, and the latest reduction contrasts with a six per cent increase nationally.

Some 47 per cent of London resident workers can now work from home on either a permanent, regular or occasional basis compared to 30 per cent in 2019/20. Although not all take advantage of this there is now little doubt that greater hybrid working has become more embedded since the pandemic.

In 2023/24, 35 per cent of London residents achieved the Mayor's active travel target of 20 minutes per day spent either walking or cycling, but the value for this measure remains below the pre-pandemic (2019/20) average of 42 per cent. The ongoing relative shortfall in public transport demand also remains the major factor holding back progress with this measure, since public transport trips usually involve an active travel stage, for example walking to and from the station. Although there have been sustained increases in both walking and cycling since the pandemic, the LTDS indicates that walking among London residents in 2023/24 fell back significantly from the post-pandemic high seen in 2022/23.

In 2024 there were an estimated 1.33 million daily cycle stages across London, up by 5 per cent from 1.26 million in 2023 and by 26 per cent from 1.05 million in 2019. By October 2024, the strategic cycle network had grown to more than 400 kilometres, compared to 90km in 2016 and reaching 27.4 per cent of Londoners who live within 400 metres of it (up from 24.2 per cent in 2023 and five per cent in 2016). However, in 2023 demand on Santander Cycles dropped by 26 per cent following a sharp decrease in the number of hires by casual users. This reflects the impact of some changes to the fare system in late 2022 and the increased competition from dockless cycle hire schemes in London, both of which are being mitigated through improvements to the Santander Cycles offer.

The slowing overall pace of post-pandemic recovery was also reflected in pedestrian activity in central London. In the first two quarters of 2024 the number of pedestrians observed across an extensive sample of sites was 90 per cent of the equivalent pre-pandemic baseline, continuing what now appears to be an established pattern and broadly mirroring the relative shortfall in London Underground demand.

The year 2023 also saw the successful expansion of the Ultra Low Emission Zone (ULEZ) to outer London, completing a process begun in 2017. The ULEZ policies mean that a larger proportion of vehicles in London are cleaner than they would otherwise be. As of early 2024, over 96 per cent of vehicles seen driving in the London-wide ULEZ met the required emissions standards.

A cleaner fleet means lower emissions from cars and vans. This means that people in London are breathing cleaner air. Nitrogen oxide (NO_X) emissions from cars and vans in outer London were estimated to be 13 and 7 per cent lower, respectively, in 2023 than would have been expected without the London-wide ULEZ, equating to savings of 424 tonnes. Fine particulate matter ($PM_{2.5}$) exhaust emissions from cars and vans are estimated to be 20 per cent lower in outer London.

The combined impact of all phases of the ULEZ has contributed to greater overall air quality improvements across London. Average concentrations of harmful nitrogen dioxide (NO_2) concentrations at roadside locations across London are estimated to be 23 per cent lower on average than they would have been without the ULEZ and its expansions, with even greater improvements in central and inner London where the ULEZ operated earlier. Areas outside London are also seeing the benefits of ULEZ policies, as roadside NO_2 concentrations within 5 kilometres of the Greater London

boundary were on average nine per cent lower in 2023 than in an estimated 'no ULEZ' scenario.

London's transport CO_2 emissions increased in 2022 by three per cent over 2021, reflecting the post-pandemic recovery in travel. Provisional forecasts for 2023 suggest a reduction against 2022 of four per cent. While we are broadly on track to meet the original 2050 ambition, urgent and large-scale action at all levels of Government is needed to meet the accelerated 2030 target.

The total number of electric vehicles (all classes) in London reached 205,000 in quarter 2 2024 (April to June), having risen from 192,400 in quarter 1 2024 (January to March) and 179,300 in quarter 4 2023 (October to December). There were 128,400 battery electric vehicles (BEV) in quarter 2 2024 (April to June), including 116,560 cars and 5,590 vans. Plug-in hybrid electric (PHEV) and range-extended electric vehicles (REEV) totalled 76,550.

In October 2024, there were 21,658 public electric vehicle charging points in London, around one third of all public charging points in the UK, which is a 427 per cent increase in charging infrastructure since April 2020. Despite this continuing progress, the distribution of public charging points exceeding 50kW across London is uneven. Although London averages 234 devices per 100,000 people compared to the UK average of 95.6, the boroughs range from around 30 up to 1,437 devices per 100,000 people, with a clear bias towards inner-west London, showing the scope for improvement.

In 2023, 3,710 people were killed or seriously injured on London's roads, the lowest figure outside the pandemic-affected years, and a six per cent reduction on 2022 (3,961). Overall, 26,176 people were injured on London's roads (all severities), a four per cent reduction from 2022 (22,207). The 2023 modal make-up of people killed or seriously injured was similar to previous years, with 80 per cent being pedestrians, cyclists or motorcyclists.

In 2023 there were no reportable bus occupant (passengers and drivers) fatalities for the first time since 2014, and 33 per cent fewer people were killed or seriously injured on a London bus against the 2010-14 baseline (from 180 to 121). In 2023 there were 137 people killed or seriously injured in collisions involving a bus on London's roads (including six fatalities). This was a 30 per cent decrease against the 2010-14 baseline, but a four per cent increase on 2022.

Overall road traffic levels in 2023 increased by 0.6 per cent over 2022 but remained five per cent below the pre-pandemic baseline (2019). This compares to a two per cent increase nationally, with traffic levels just two per cent lower than in 2019.

Monitoring progress towards the Mayor's Transport Strategy

Travel in London reports are the principal means of tracking progress towards the aims of the Mayor's Transport Strategy. In this strategy and subsequent documents, the Mayor identified specific outcomes, each having a quantified ambition for 2041 (table 1).

Progress towards these is monitored using the Mayor's Transport Strategy Tracker dataset, which is published in full alongside this Annual Overview. Progress against individual goals is addressed in the relevant sections below.

Table 1 Mayor's Transport Strategy outcomes and measures.

Outcome	Measure	2041 aim
Mode share	Proportion of trips undertaken by active, efficient and sustainable modes	80% of all trips
Active	Proportion of Londoners achieving 20 minutes of active travel per day	70% of Londoners
Safe	Number of people killed or seriously injured on London's roads	Zero
Safe	Number of customers killed or seriously injured on or by a London bus	Zero
Efficient	Number of car trips crossing cordons bounding central, inner and outer London	Three million fewer daily
Green	Average roadside nitrogen dioxide (NO_2) concentration in central, inner and outer London	60-70% reduction, 2016 to 2040, equivalent to a 94% emissions reduction
Green	All carbon dioxide (CO_2) emissions from London's transport network	72% reduction
Connected	Proportion of Londoners living within 400 metres of a bus stop	Assumed maintained at existing high level
Accessible	Additional journey time by step-free routes	50% reduction
Quality	Proportion of TfL rail journeys travelled in standing densities above two people per square metre	10-20% reduction
Quality	Average bus speed (within safety and speed limits)	5-15% improvement
New homes and jobs	Proportion of population living in areas with public transport accessibility level of four or higher	36% for Greater London, 56% for Opportunity Areas (by 2030)

Source: Greater London Authority.

Alongside these specific aims, this Annual Overview report covers the broader scope of the Mayor's Transport Strategy and aspects of other strategies related to it, mainly the London Plan and the London Environment Strategy.

Published alongside this Annual Overview there will be a series of complementary, free-standing reports:

- Update reports, covering:
  - Consolidated estimates of total travel demand and mode shares
  - The travel behaviour of London residents based on the London Travel Demand Survey
  - Active travel trends
  - Trends in public transport demand and operational performance
- Focus reports on:
  - Motorcycle travel trends
  - Car ownership trends

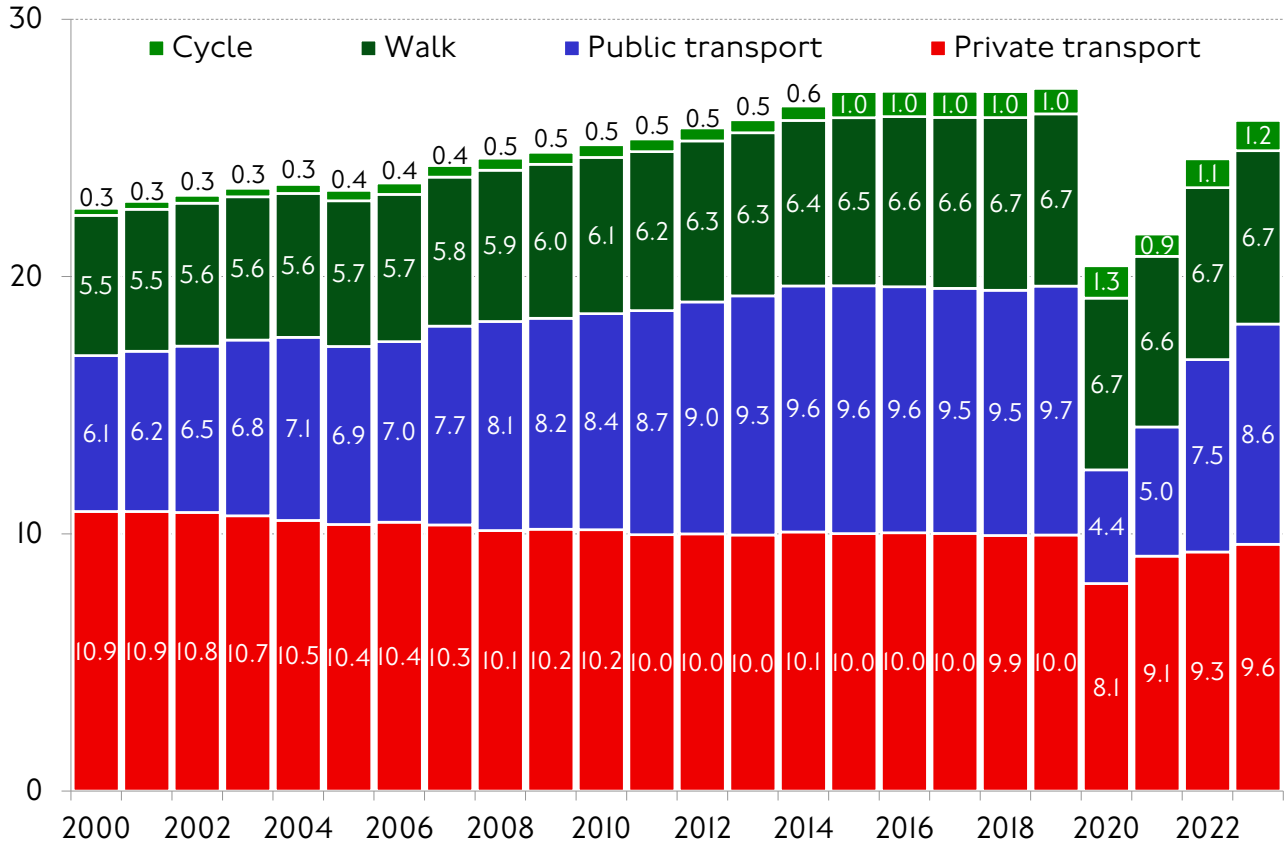
Overall travel demand and mode shares

Recent travel demand trends and the pandemic recovery

During 2023 and into 2024, the travel demand recovery in London following the coronavirus pandemic continued and, in late 2024, achieved what appears to be broadly settled conditions. The pace and extent of the recovery have however lagged previous expectations. During 2023, as an annual average, overall travel demand (all modes) was 95 per cent of the pre-pandemic baseline (2019) at 26.1 million trips per day (seven-day week), compared to 27.3 million trips per day in 2019. This was an increase of six per cent on 2022 (figure 1).

As well as pandemic-related changes in travel behaviour such as the more widespread adoption of hybrid working, continuing cost-of-living pressures and increasing operational difficulties affecting some of our networks are acting as impediments to fuller recovery. It should also be recognised that 2023/24 was some four years after the pre-pandemic baseline (2019/20), by which time previous future forecasts to this point would have expected some growth in demand from the baseline level. Demand growth is therefore falling behind the trajectory assumed in the Mayor's Transport Strategy.

Figure 1 Estimated daily trips (in millions) by mode, seven-day week average, 2000-2023.



Source: TfL Strategic Analysis, Customer & Strategy.

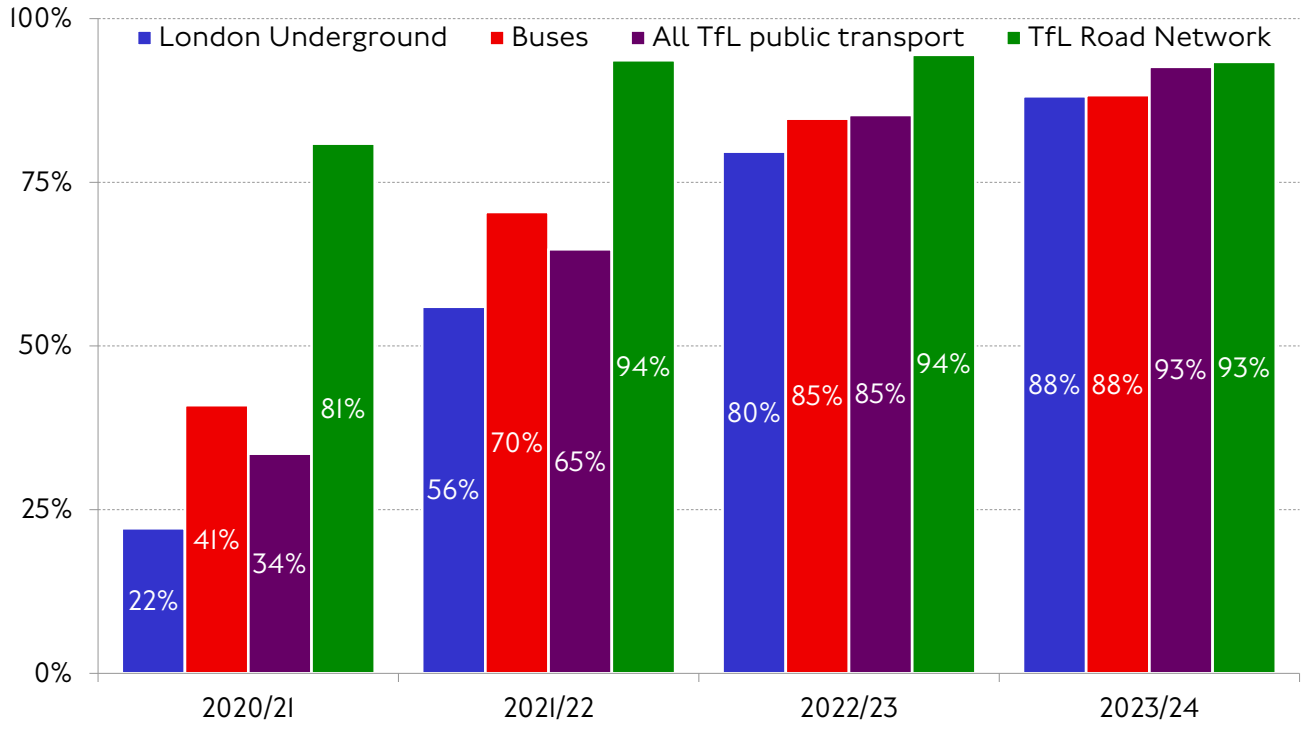
Notes: Trips are complete one-way movements. They may include several modes and journey stages but are classified by the mode that is typically used for the longest distance. Round trips are counted as two trips: an outward and an inward leg.

Recent modal demand trends

Different recovery patterns have been seen across the main transport modes in London. These reflect features specific to each of the modes, but also elements of the pandemic legacy on everyday life in London.

Figure 2 shows that, as of 2023/24, overall annual public transport demand on TfL-operated modes had recovered to 93 per cent of the 2019/20 pre-pandemic level, with London Underground and buses both at 88 per cent. This is an increase of eight percentage points from the overall public transport recovery value of 85 per cent in 2022/23. The level of traffic recovery on the TfL Road Network in 2023/24 was also 93 per cent, but this level has not changed much since 2021/22, reflecting the fact that road traffic recovered much faster than other modes after the first pandemic restrictions in 2020.

Figure 2 Annual demand (journeys) on the main transport networks compared to the 2019/20 pre-pandemic baseline, 2020/21-2023/24.



Source: TfL Strategic Analysis, Customer & Strategy, based on TfL service performance data.

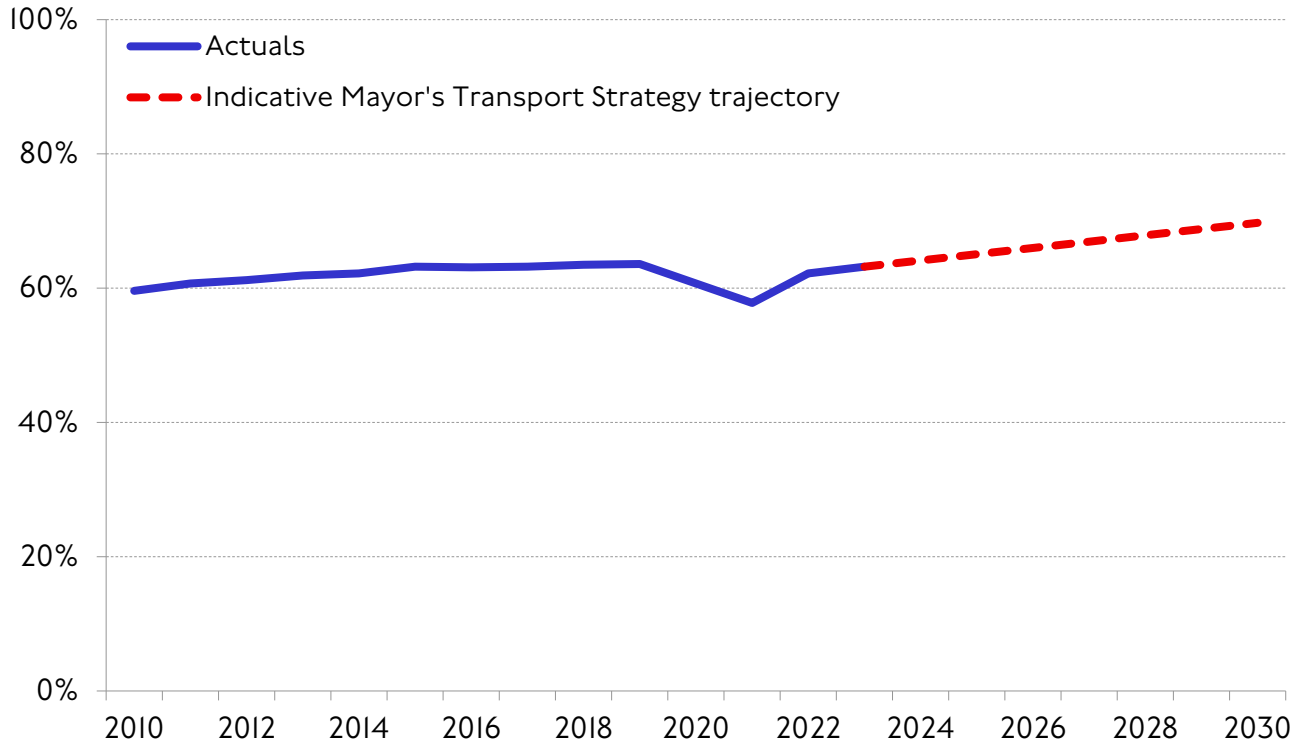
Active, efficient and sustainable mode share

A central aim of the Mayor's Transport Strategy is to increase the active, efficient and sustainable mode share for all trips in London to 80 per cent by 2041. This will enable us to support growth in the capital's population and economy in a sustainable manner. On average, in 2023 the active, efficient and sustainable mode share for all travel in London was estimated at 63.2 per cent, up from 57.8 per cent in 2021 and 62.2 per cent in 2022, but below our prior expectation for the year. This compares to 63.6 per cent in the last pre-pandemic year (2019). While progress towards this aim before the pandemic was slower than required to meet the target, it is also clear that the pandemic legacy of fewer public transport trips is adversely affecting progress towards this measure.

Figure 3 shows the historic trend in the context of the trajectory required to meet the Mayor's 2041 aim (shown as a straight line to 2031). Although the recovery from the pandemic is substantially complete, the loss of previously anticipated growth between 2019 and 2023 will increase the required annual change to meet the trajectory in future.

Both walk and cycle mode shares remained higher than before the pandemic, with 26 per cent of all trips in 2023 being walk trips. Cycle mode share was 4.5 per cent in 2023, up from 3.6 per cent in 2019.

Figure 3 Active, efficient and sustainable trip-based mode share in London, 2010-2030.



Source: TfL Strategic Analysis, Customer & Strategy.

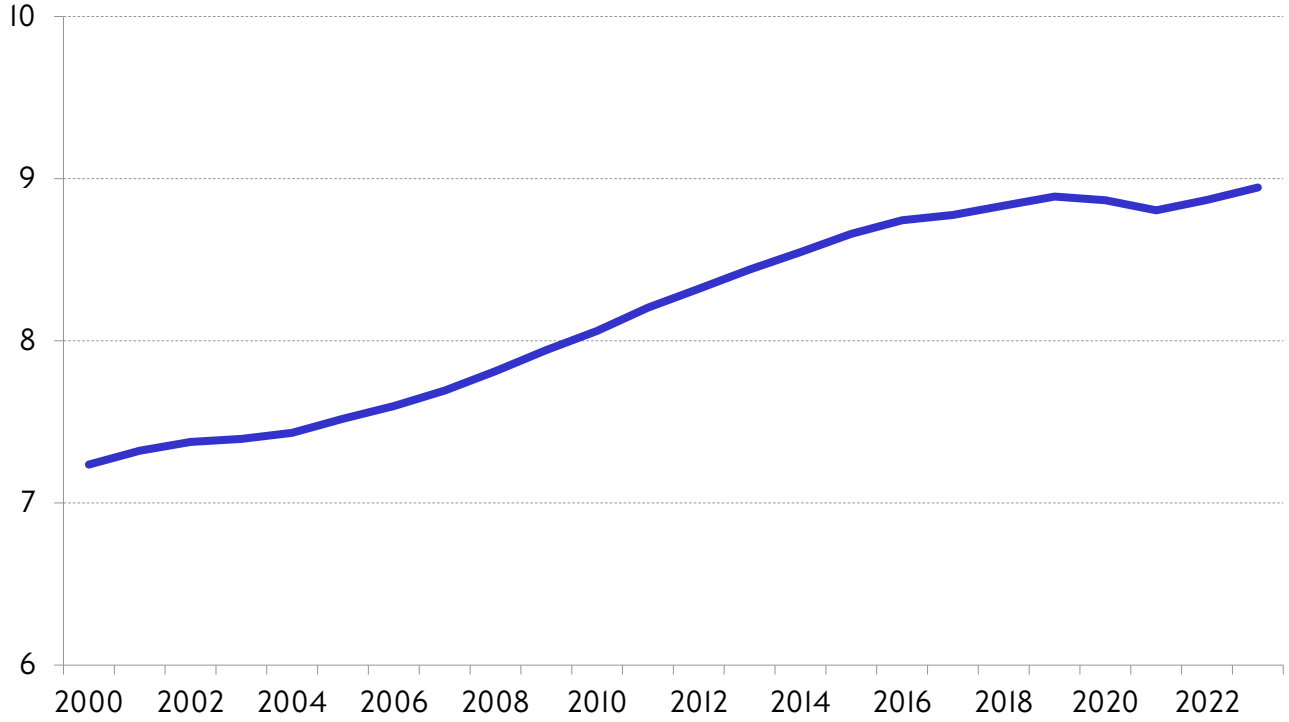
Trends in the principal drivers of travel demand

Travel demand is primarily a reflection of the number of people living in London and economic activity. Both these underlying drivers have been affected by significant developments during the coronavirus pandemic and in the post-pandemic period.

London's population

The latest census of population was conducted across the UK in March 2021, during the latter stages of the pandemic restrictions. The population in London was estimated at 8.9 million (figure 4). Although this was an increase of nine per cent compared with 2011 (8.2 million), this rate of growth was slower than between 2001 and 2011 (12 per cent). This suggests that the rate of population growth may have been relatively overestimated in the latter years of the last decade, which has implications for key indicators such as the active, efficient and sustainable mode share, progress against which was partly predicated on relatively higher population growth resulting in higher densities favouring trips by active, efficient and sustainable modes.

Figure 4 London's population (in millions), 2000-2023.



Source: Office for National Statistics.

After two years of falls in the London population, 2023 marked the second consecutive year of growth, with a 0.9 per cent increase on 2022. However, London's population is just 0.6 per cent higher than in 2019. This growth was mostly due to natural change (accounting for two thirds), with an increase in net international migration almost balanced out by an increase in London residents moving to other parts of the country.

For more information about London's population trends visit the demography pages on the GLA's website.

London's economy

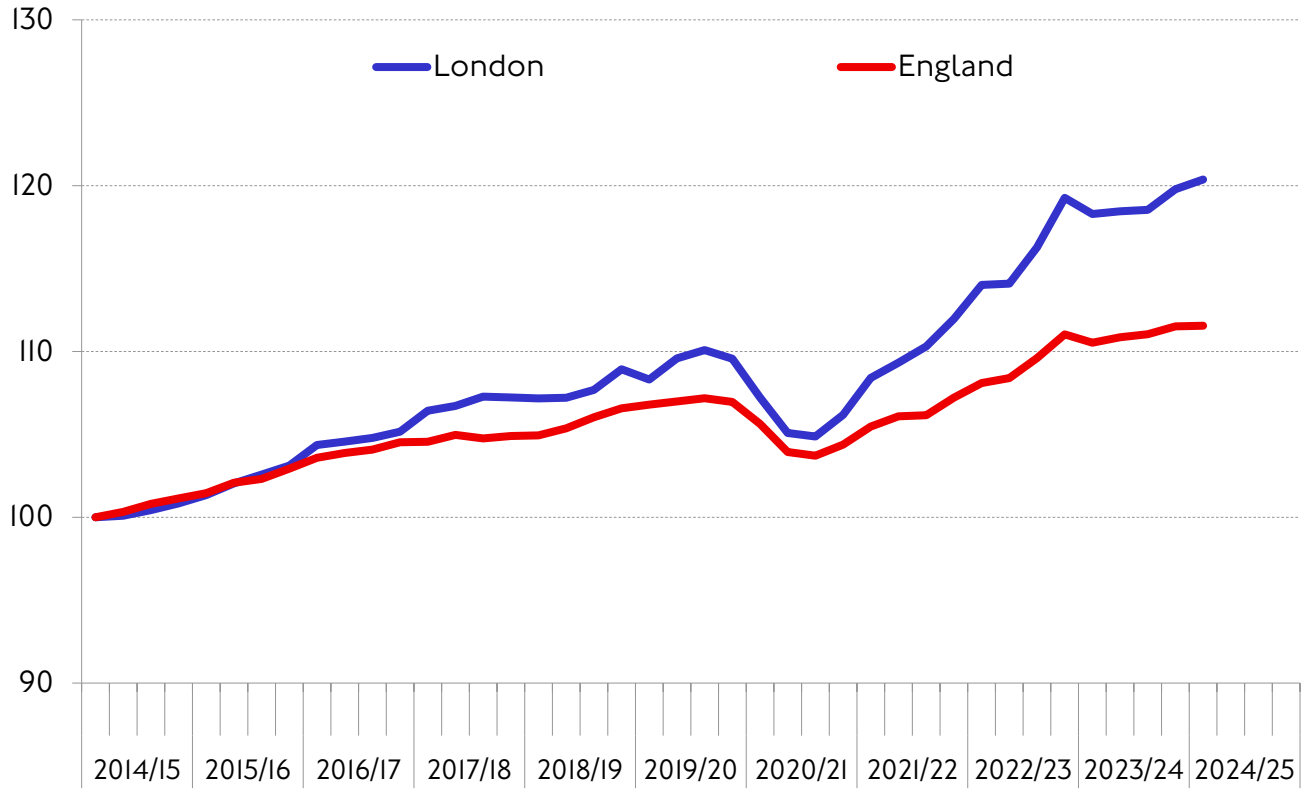
The GLA's London's economic outlook report forecasts that London's real gross value added (GVA) growth rate will be 1.1 per cent in 2024, as high interest rates and the prolonged cost-of-living crisis drags on the economy. While this growth rate is higher than in 2023 (0.7 per cent) and is expected to pick up slightly in 2025 (1.9 per cent) and 2026 (2.2 per cent), it remains below historic averages.

Growth rates are also slow at the national level, and while inflation has fallen from a peak of 11.1 per cent in October 2022, wage growth continued to lag inflation to mid-2023, although in the year to August 2024 regular pay increased 1.9 per cent in real terms. Restrictive monetary policy to help reduce inflation is resulting in slow economic growth, as households reduce spending while disposable incomes are squeezed.

Provisional estimates from the Office for National Statistics (ONS) show that workforce jobs in London increased by two per cent between the first quarter of 2023/24 and the equivalent quarter in 2024/25 and have increased by 11 per cent since the same quarter in 2019/20 (figure 5). This compares to national figures which show an increase of one and four per cent respectively. However, the GLA forecasts that the rate of growth is likely to slow to 1.0 per cent in 2024 and 1.3 per cent in 2025. The strong growth in workforce jobs in London over the last year has largely been driven by the recovery of jobs in the

arts, entertainment and recreation sector (a year-on-year increase of 26 per cent), and some growth in service sectors including transport and real estate, as well as health and social care.

Figure 5 Change (index: quarter 1 2014/15 (Apr-Jun) = 100) in workforce jobs in London and England, by (financial) quarter, quarter 1 2014/15 (Apr-Jun)-quarter 1 2024/25 (Apr-Jun).



Source: Office for National Statistics.

The ongoing cost-of-living crisis has implications for travel demand. National data on disposable incomes shows that between 2019/20 and 2022/23 median disposable household income has fallen by one per cent. The greatest reduction (10 per cent) is for people aged 35 to 44 and households which are in the top 10 per cent based on disposable income (a reduction of four per cent). Higher-income households tend to travel more frequently and therefore even a slight reduction in travel, for example as these groups may choose to make fewer shopping and leisure trips to adapt to the reduction in disposable income, could influence overall trip rates.

While the fall in disposable incomes is greatest for higher-income households, the squeeze is felt most acutely for lower-income households. The GLA's monthly cost-of-living survey shows that in August 2024 almost a fifth (18 per cent) of London residents were struggling to make ends meet or having to go without basic needs or rely on debt, which is referred to as financially struggling. This is a slight decrease compared to a year ago (21 per cent) but remains high.

To manage living costs, 47 per cent of London residents report to be spending less on non-essentials, and 29 per cent report using 'free transport (walking or cycling)'. Both these measures will likely influence the purposes and modes people are using to travel in London. Some of this can be seen in the 2023/24 LTDS data, which shows that London residents were making 11 per cent fewer trips for leisure purposes and eight per cent fewer trips for shopping and personal business compared to the previous year.

The travel behaviour of London residents

TfL conducts a rolling annual survey of London residents' travel behaviour (the London Travel Demand Survey – LTDS). This provides a detailed view of London residents' travel alongside comprehensive socio-demographic data, allowing trends to be examined by social group.

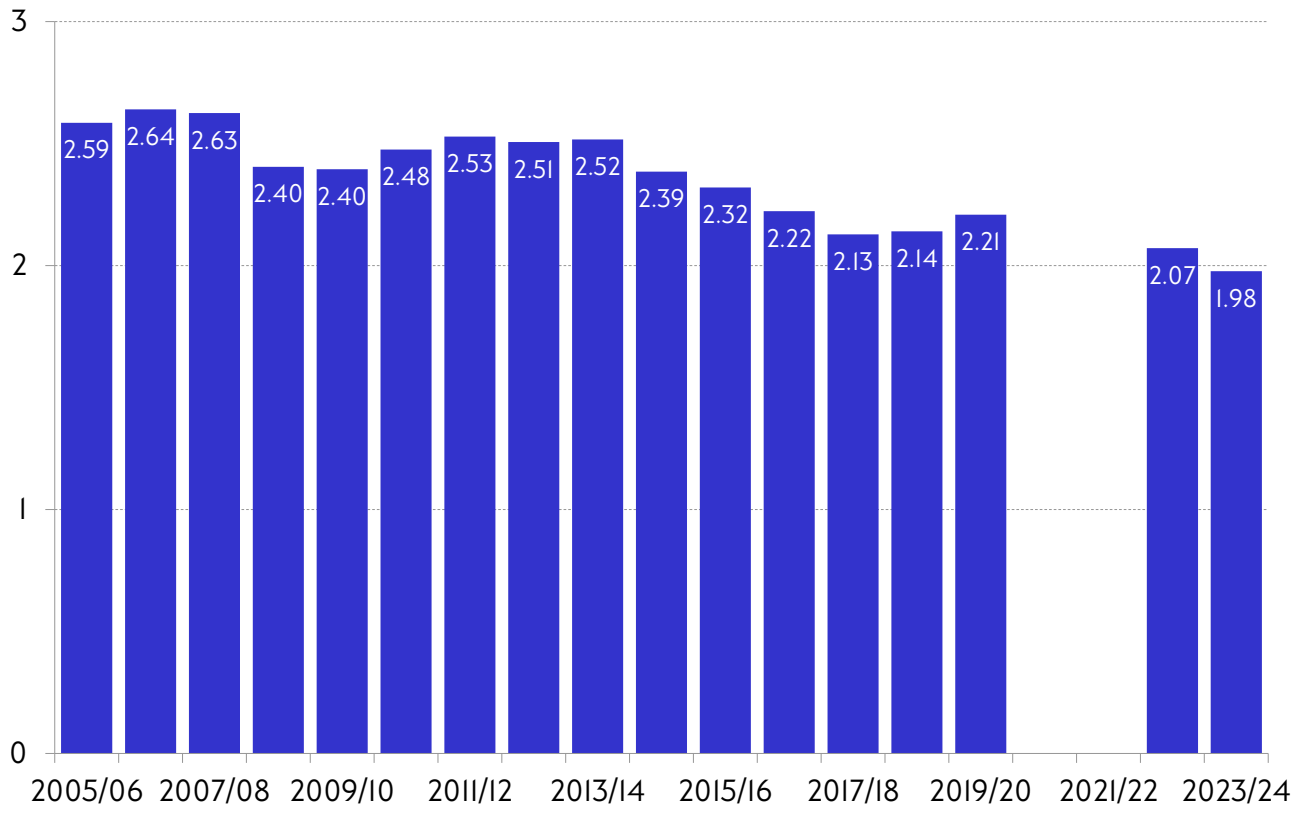
The 2023/24 LTDS provides the second year of post-pandemic travel patterns and is directly comparable with the most recent pre-pandemic survey (2019/20) and the longer-term historical series. This year of data is of particular interest given that 2022/23 was still affected by residual pandemic effects. The data therefore gives us a good view of what might now be regarded as more established post-pandemic trends.

The travel behaviour trends in 2023/24 present a mixed picture in terms of the progress towards the Mayor's Transport Strategy goals and there is evidence that some emerging trends in travel behaviour, which were intensified by the pandemic, have continued to persist. These changes to travel behaviour among London residents underlie some of the trends for all travel described above and have implications for policy and TfL's business.

Trip rates and trip lengths

During the coronavirus pandemic and the accompanying travel restrictions, trip rates reached unprecedented lows. Although trip rates have since recovered, average trip rates in 2022/23 were 6.2 per cent lower than in 2019/20 and there was a further decline of 4.6 per cent in 2023/24, despite what might have been expected to be a year of continuing post-pandemic recovery (figure 6).

Figure 6 Trips per person per day by London residents, LTDS, 2005/06-2023/24.



Source: TfL Strategic Analysis, Customer & Strategy.
Note: Comparable data is missing for 2020/21 and 2021/22 due to the impacts of the coronavirus pandemic.

The average trip rate is now 1.98 trips per person per day across a seven-day week, some 10.5 per cent below the pre-pandemic position. Much of the decline in the most recent year reflects a reduction in walk (all the way) trips, down by 10 per cent, although an element of adjustment since the pandemic may partly explain this. The evidence thus suggests that the long-term pre-pandemic trend of falling demand for travel per person, reflected through trip rates and observed elsewhere in the country, continued in 2023/24.

The average distance travelled in 2023/24 was 11.3 kilometres per person per day (including trips to, from and within Greater London). This was a reduction of 14 per cent compared with 2019/20. The length of time that residents spent travelling decreased from 72 minutes per person per day in 2005/06, when the current survey series started, to 61 minutes in 2019/20. In 2022/23, this declined to 56 minutes, the first time that the average time spent travelling in a day fell under one hour. In 2023/24, there was a further decline to 54 minutes per person per day.

Commuting (usual workplace), education and other trip rates have increased since 2022/23 (by one per cent, 13 per cent and three per cent, respectively). However, other work trips (work-related travel that is not to or from the usual workplace), shopping/personal business and leisure trip rates have all declined in the latest year, by 12 per cent, eight per cent and 11 per cent, respectively. Therefore, the decline in trip rates in the latest year has been driven by a fall in the rate of work-related travel (other than commuting) and discretionary trips. It is thought that these changes in trip rates reflect a range of social, structural and economic factors already present before the pandemic but most likely exacerbated by it.

Mode shares for London residents' travel

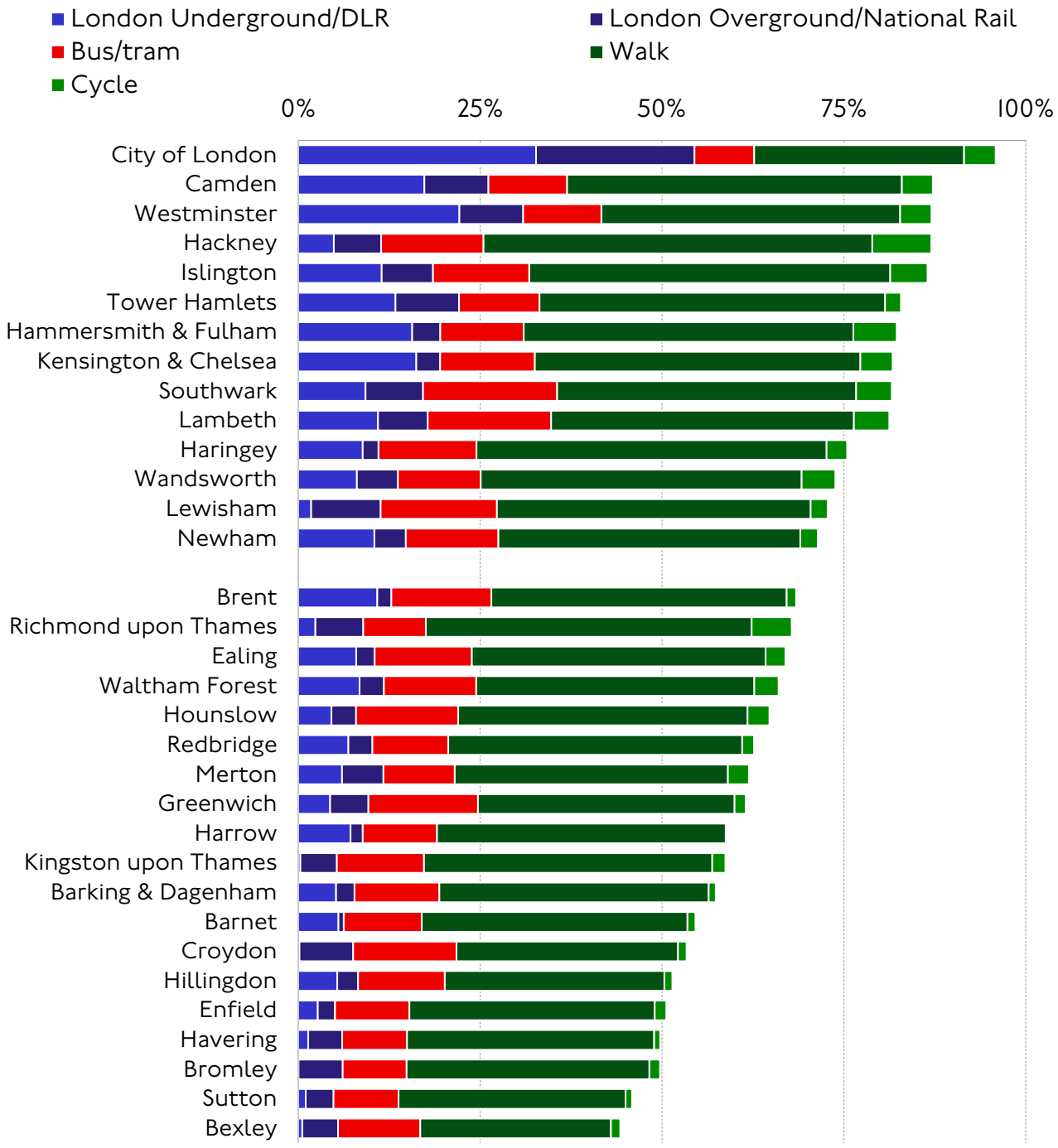
The net outcome in London residents' active, efficient and sustainable mode share for 2023/24 was an increase from 66.7 per cent in 2022/23 to 67.2 per cent. The key changes in travel by mode (based on residents' trips) in 2023/24 with respect to 2022/23 were an increase of three percentage points in the public transport mode share (to 27 per cent), a small decline in the share of trips made by private modes (to 33 per cent) and a decrease in the share of trips made by active modes (to 40 per cent), following strong increases in 2022/23, and particularly affecting walking (down from 39 to 37 per cent of trips, albeit reflecting walk-all-the-way trips only). However, both walking and cycling mode shares remained above 2019 levels and active travel was three percentage points higher than pre-pandemic values, suggesting that some of the increases seen during the pandemic have been sustained. This is all in the context of lower overall trip rates.

Note that this is for London residents only and is not the same as the Mayor's aim for 80 per cent of all trips in London to be made by active, efficient and sustainable modes by 2041 (see above).

Figure 7 shows the active, efficient and sustainable mode share at borough level (for trips by London residents only that start in each borough), and this demonstrates the scope that exists to improve achievement of the 20 minutes of active travel measure.

The proportion of residents' trips made by active, efficient and sustainable modes starting in inner London boroughs ranges from 71 to 96 per cent, compared with 44 to 68 per cent in outer London boroughs. Although each borough has a unique set of circumstances that determine these shares and affect the ability to change them, the scope for change, from smallest to largest, is evident.

Figure 7 Trip-based active, efficient and sustainable mode share by borough of trip origin (inner London boroughs followed by outer London boroughs), LTDS, 2022/23-2023/24 two-year average.



Source: TfL Strategic Analysis, Customer & Strategy.

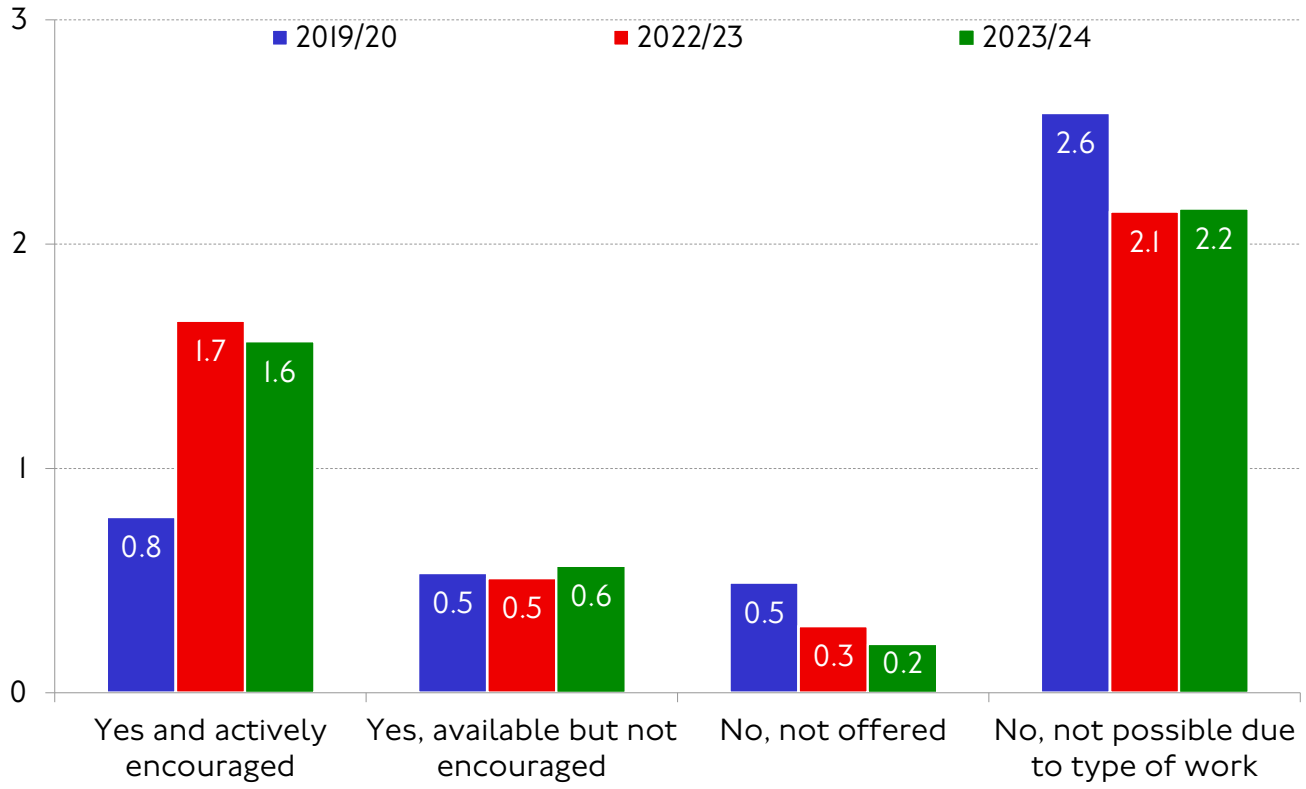
Hybrid working

Figure 8 shows how the ability to work from home has changed since the pandemic among working London residents.

The number of workers that can work from home and are actively encouraged to do so doubled between 2019/20 and 2023/24, from 0.78 million to 1.57 million, although with a slight decline in the latest year. This accounts for around 35 per cent of London resident

workers, albeit focused on certain economic sectors. Around half a million workers (13 per cent) could work from home but are not encouraged to do so. A further 2.37 million workers (53 per cent) are not able to work from home, either because it is not offered or not possible due to the type of work.

Figure 8 London resident workers (in millions) by ability to work from home, LTDS, 2019/20, 2022/23 and 2023/24.



Source: TfL Strategic Analysis, Customer & Strategy.

According to the ONS Opinions and Lifestyle Survey, workers in the highest income bands, those who are educated to degree level or above and those in professional occupations are most likely to work from home (either all the time or as a hybrid worker). Self-employed workers, parents of dependent children and those who commute to work by rail or Underground are also more likely to work from home, whereas younger workers are less likely to work from home compared to older workers. Jobs based in workplaces in London and the South East are much more likely to be possible to do from home compared to the rest of the UK, due to a higher proportion of professional occupations in the region.

The post-pandemic increase in the ability to work from home remains a significant influence on travel patterns in London (particularly on weekdays and for trips to/from central London). The Centre for Cities report Return to the office: how London compares to other global cities, and why this matters shows that while office attendance in London has increased steadily since the pandemic, this lags behind other global cities. In mid-2024 the average number of days worked in the office in London was 2.7, compared to 3.5 days in Paris and 3.1 days in New York.

Furthermore, there is evidence that non-London commuters are more likely to work from home than London resident workers. In June 2024, central London office workers living within Greater London attended the office on 2.9 days per week on average compared to 2.1 days per week for those living outside Greater London.

Healthy streets and healthy people

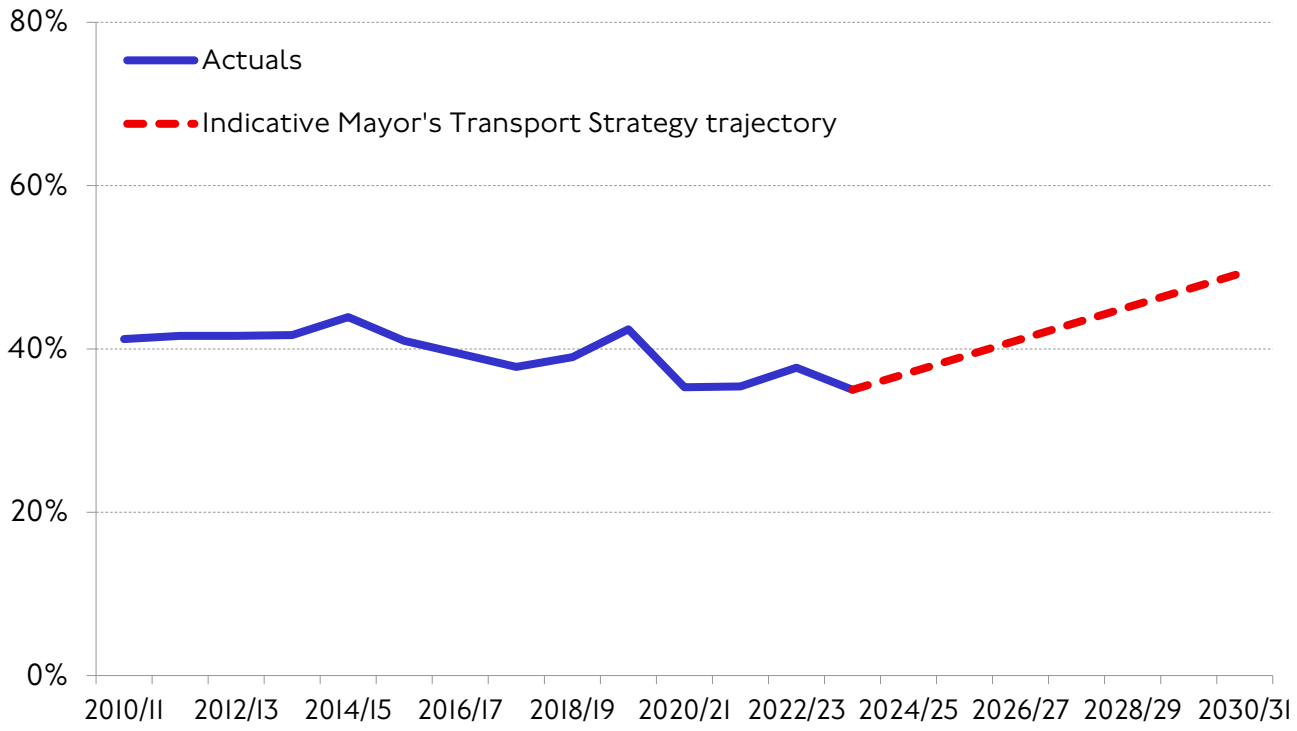
Active travel

Active travel is good for both the environment and people's health. The Mayor aims for 70 per cent of all Londoners to do 20 minutes of active travel (defined as walking or cycling) per day by 2041. Walking and cycling can be used exclusively for many trips, but walking is often used incidentally to access public transport, for example on the daily walk to the local station to catch a train as part of a longer trip for which the train would be the main mode.

Physical activity and travel

Historically, the 20 minutes of active travel measure has been around 40 per cent (figure 9). The pandemic itself had a mixed effect on this indicator. A relative uplift in local and active travel, most notably as part of permitted activities during periods of lockdown, was countered by more general restrictions on mobility, particularly a dramatic reduction in public transport trips. So, achievement against this measure fell slightly during the pandemic, although this reflected a resilient performance given the circumstances.

Figure 9 Proportion of London residents achieving at least 20 minutes of active travel per day, LTDS, 2010/11-2030/31.



Source: TfL Strategic Analysis, Customer & Strategy.

Data for this measure for 2023/24 shows that the percentage of London residents meeting the target stands at 35 per cent, a decline of 2.7 percentage points compared to 2022/23. Although public transport usage (and associated active travel access) has increased in the latest year, there has been a decline in the walking trip rate which has contributed to this most recent fall.

Cycling

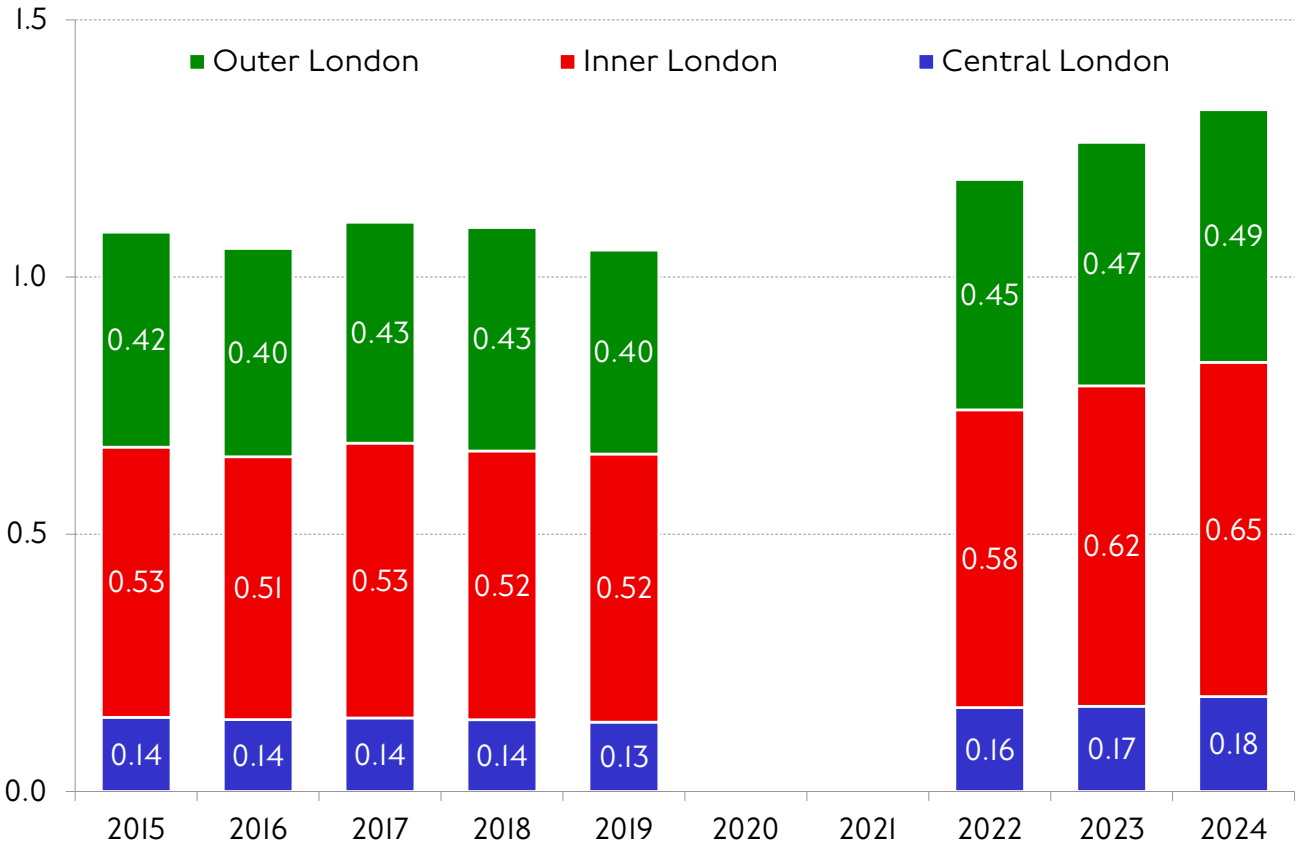
Following a rapid increase in cycling in the 2000s and early 2010s, with little change throughout the late 2010s, the coronavirus pandemic triggered a renewed interest for cycling that has resulted in steady growth between 2022 and 2024 and a net 26 per cent increase in 2024 compared to 2019 before the pandemic.

Overall trends in cycling

We monitor cycling against the target set in the Cycling Action Plan 2 using estimates of daily cycle journeys (journey stages) derived from a set of representative cycle counts across London undertaken every year in the spring.

Figure 10 shows the trend in daily cycle stages broken down by area of London.

Figure 10 Daily cycle stages (in millions) in London by area, seven day-week average, 2015-2024.



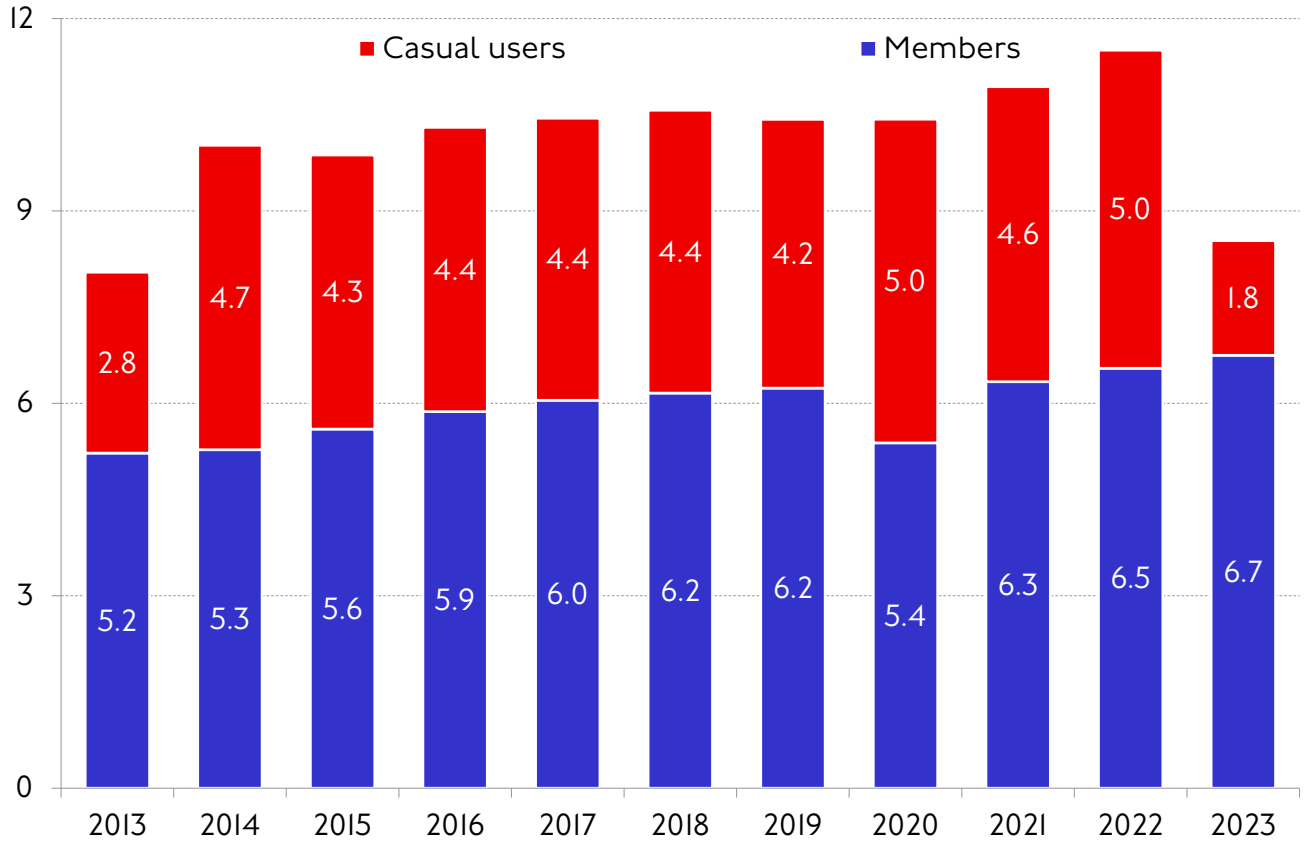
Source: TfL Strategic Analysis, Customer & Strategy.
Note: Comparable data is missing for 2020 and 2021 due to the impacts of the coronavirus pandemic.

In 2024 there were an estimated 1.33 million daily cycle stages across London, up by five per cent from 1.26 million in 2023 and by 26 per cent from 1.05 million in 2019. This growth was strongest in central London (11.6 per cent increase between 2023 and 2024), followed by inner London (4.2 per cent) and outer London (3.8 per cent). In absolute terms, however, inner London continues to see the most cycle stages (almost 650,000).

Santander Cycles

After a decade of sustained growth in demand on Santander Cycles (TfL's cycle hire scheme), in 2023 the total number of hires dropped by 26 per cent to 8.5 million hires (figure 11).

Figure 11 Annual hires (in millions) on Santander Cycles by user type, 2013-2023.



Source: TfL Cycle Hire.

On closer inspection, the drop occurred only in demand from casual users (that is, those who are not registered members), while hires by members continued to increase (by three per cent between 2022 and 2023).

This decrease in casual user hires is thought to reflect two main factors:

- The changes to the fare system that were introduced in late 2022 (of which the full impact is only apparent in the annual 2023 statistics). In particular, the withdrawal of the 24-hour tariff, which was replaced by a single ride fare. To mitigate this, TfL introduced a Day Pass option earlier this year.
- The rise in dockless cycles (particularly e-bikes) from private operators, which compete for the same customer base. The main private operators have between four and five times more cycles than TfL's Santander Cycles and furthermore their dockless nature means that they can often be found near Santander Cycles stations and have the competitive advantage that they can be picked up and dropped off anywhere. TfL is undertaking several initiatives to mitigate this and help win customers back, for example enhancing the on-street and digital offer and increasing the number of e-bikes in the Santander Cycles fleet. Over the summer of 2024 an additional 1,400 e-bikes were introduced, replacing conventional pedal cycles on street, so that currently one in six Santander Cycles available for hire is an e-bike.

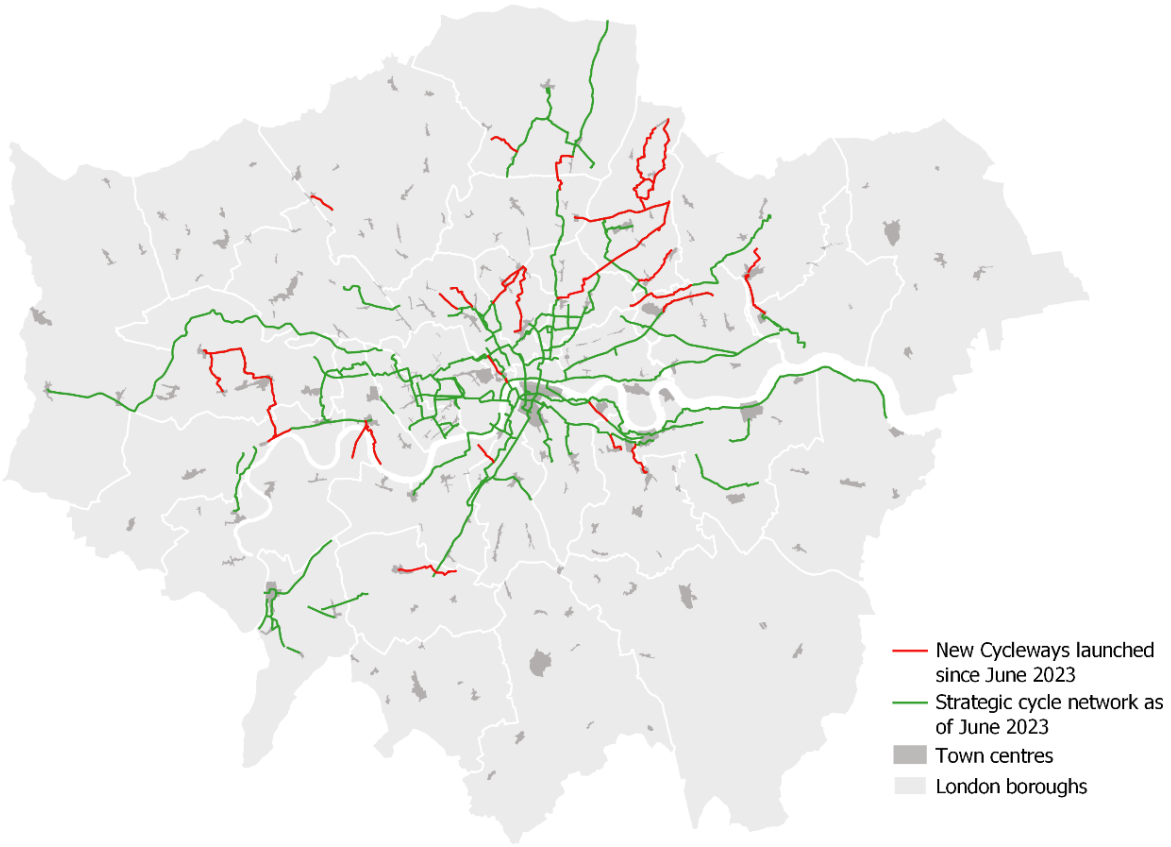
Access to London's Cycleway network

The Cycling Action Plan 2, published in June 2023, highlights the potential of cycling and sets out a comprehensive delivery plan to broaden the appeal of cycling to a wider range of Londoners, including those from groups currently under-represented in cycling.

Expanding the Cycleway network is essential for cycling to become an attractive option for all Londoners, and the Cycling Action Plan 2 sets an ambitious target for 40 per cent of Londoners to live within 400 metres of the strategic cycle network by 2030.

We have made good progress in 2023/24, launching 20 new Cycleway routes connecting over 600,000 Londoners to the network. Working with the boroughs, we have increased the length of the strategic cycle network from 90 kilometres in 2016 to 403 kilometres by September 2024 (figure 12). This means that, as of September 2024, 27.4 per cent of Londoners live within 400 metres of the strategic cycle network, up 3.2 percentage points (from 24.2 per cent) in autumn 2023 and from an estimated five per cent in 2016 (up by 22.4 percentage points).

Figure 12 London's strategic cycle network, September 2024.



Source: TfL Customer & Strategy.

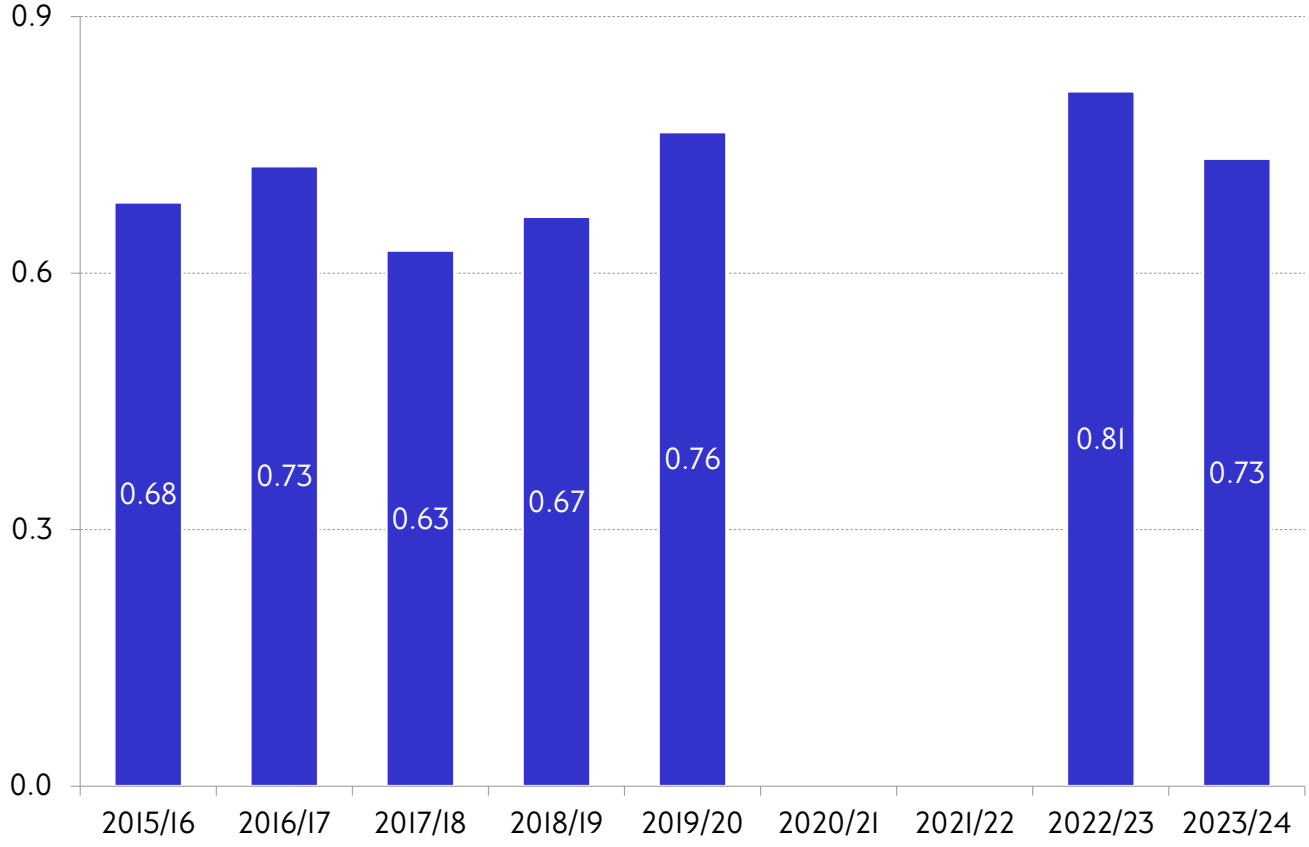
Walking

Walking is the most frequently used mode of travel in London, accounting for an estimated 39 per cent of all trips by London residents. About half of all walking in London is as part of a longer public transport journey, for example walking to a bus stop.

Walking by London residents

Despite fluctuations between 2015/16 and 2017/18, since 2017/18 there was a consistent increase in walking (all the way) trip rates from 0.63 trips per person per day on average in 2017/18 to 0.81 in 2022/23. However, walk trip rates declined in 2023/24 to 0.73 per person per day, a 10 per cent decrease on 2022/23 but still higher than all other years in the past decade except 2019/20 (figure 13).

Figure 13 Walking trips per person per day by London residents, LTDS, 2015/16-2023/24.

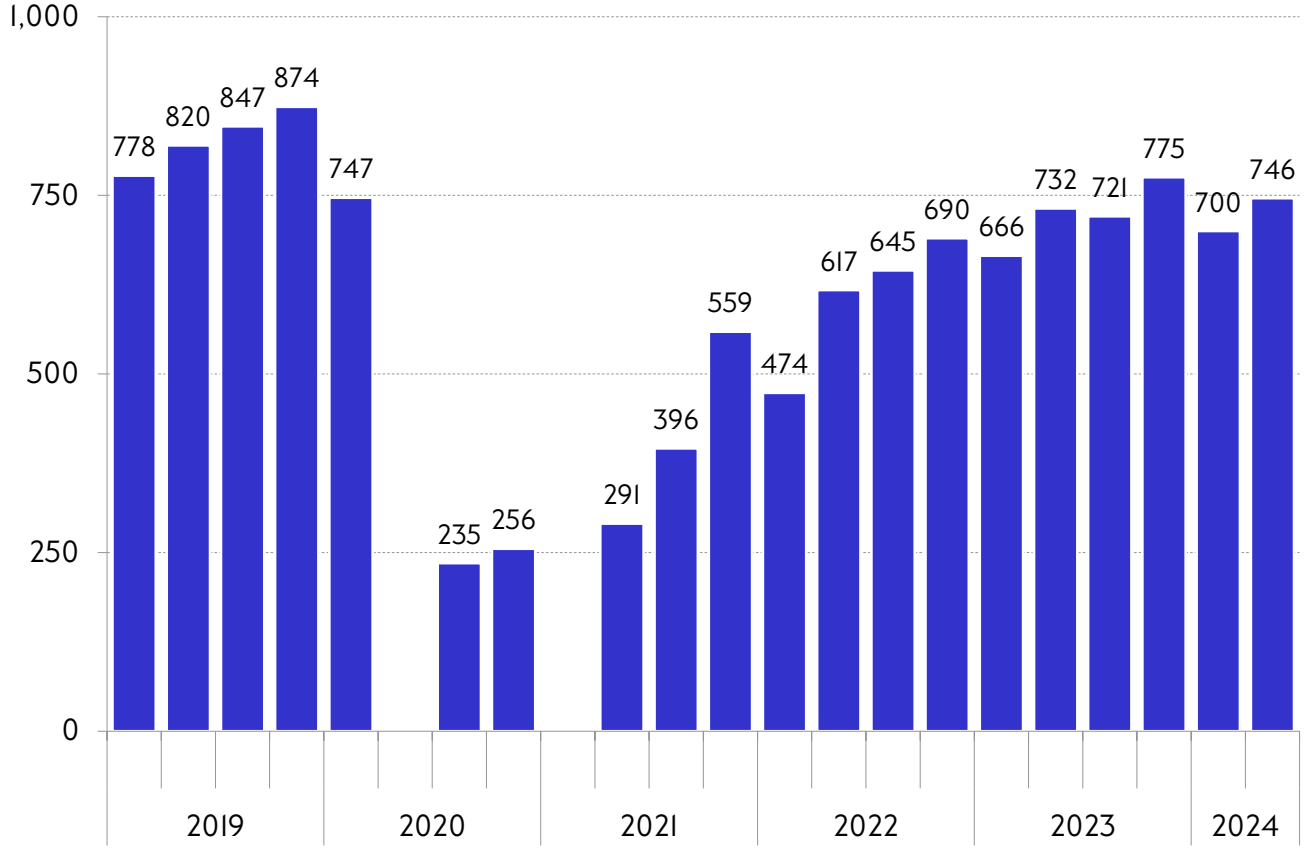


Source: TfL Strategic Analysis, Customer & Strategy.
Note: Comparable data is missing for 2020/21 and 2021/22 due to the impacts of the coronavirus pandemic.

Pedestrian activity in central London

Travel to and around central London was particularly affected by the pandemic. Our quarterly survey of pedestrian activity in central London (within the Congestion Charge zone) provides an interesting trend view of both the pandemic impact and the recovery (figure 14). During the first half of 2024, the number of pedestrians observed in central London settled at about 10 per cent short of pre-pandemic levels, comparable to the ongoing relative patronage shortfall on public transport.

Figure 14 Average hourly pedestrian flow (persons per hour per site) in central London, by quarter, quarter 1 2019 (Jan-Mar)-quarter 2 2024 (Apr-Jun).



Source: TfL Strategic Analysis, Customer & Strategy.
Note: Data from some quarters is missing due to the impacts of the coronavirus pandemic.

Reducing road danger

Vision Zero

The Mayor's Vision Zero action plan sets out the ambition to reduce road danger in London by eliminating all deaths and serious injuries from London's streets by 2041. Progress towards this aim is tracked through collision and casualty statistics collated on an annual basis and published as annual Casualties in Greater London factsheets.

Trend in casualties to 2023

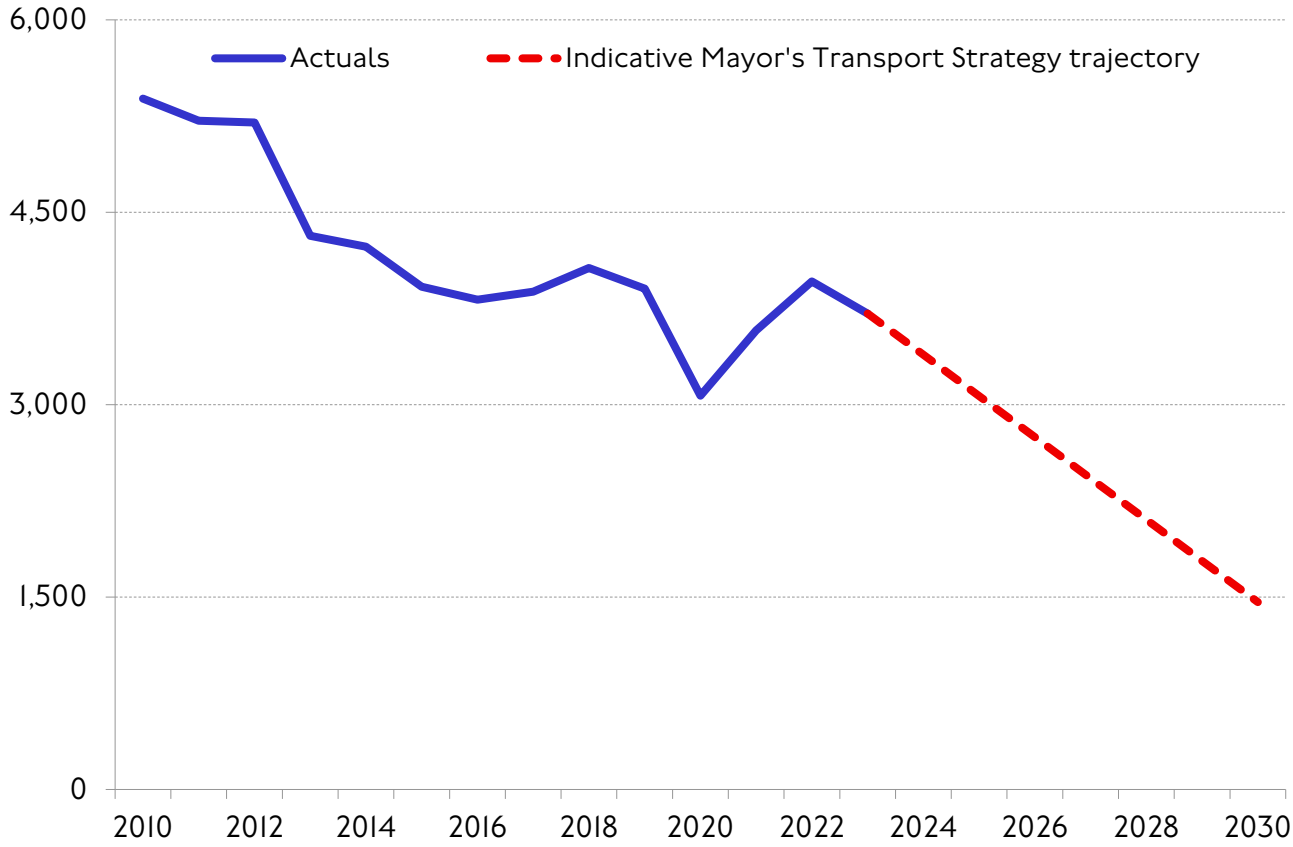
In 2023, 3,710 people were killed or seriously injured on London's roads, the lowest figure outside the pandemic-affected years, and a six per cent reduction on 2022 (3,961 people). Overall, 26,176 people were injured on London's roads (all severities), a four per cent reduction against 2022 (27,207 people).

We have a stretching ambition for reducing road casualties in London: a 70 per cent reduction in the number of people killed or seriously injured on London's roads by 2030, when compared to the Mayor's Transport Strategy baseline of 2010-14 (figure 15). To date there has been noteworthy progress:

- A 30 per cent reduction in the number of people killed in collisions to the lowest number on record except for pandemic-affected 2021.
- A 24 per cent reduction in the number of people killed or seriously injured on London's roads to the lowest number on record outside of pandemic-affected 2020 and 2021.
- A 41 per cent reduction in the number of children (under 16) killed or seriously injured.
- A 16 per cent reduction in the number of people slightly injured, showing a reduction in the total amount of harm from road danger in London.

This is positive and welcome progress. However, we recognise that more needs to be done if we are to meet our ambitious targets for London for 2030.

Figure 15 People killed or seriously injured on London's roads, 2010-2030.



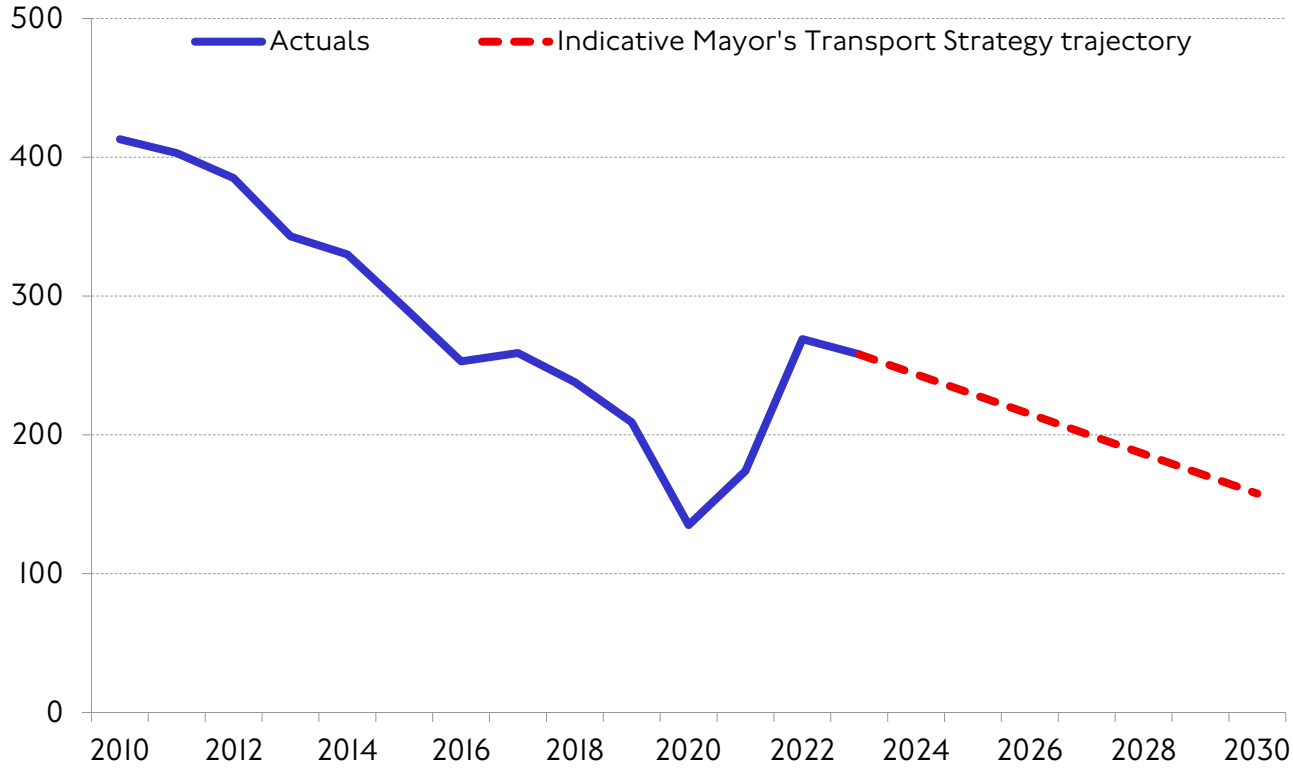
Source: TfL Insights & Direction, Safety, Health & Environment.

Casualties involving TfL buses

In 2023 there were no reportable bus occupant (passengers and drivers) fatalities for the first time since 2014, and 33 per cent fewer people were killed or seriously injured on a London bus against the 2010-14 baseline (from 180 to 121). In 2023 there were 137 people killed or seriously injured in collisions involving a bus on London's roads (including six fatalities). This was a 30 per cent decrease against the 2010-14 baseline, but a four per cent increase on 2022. Figure 16 shows progress towards our target as the sum of these two categories.

More information on TfL's initiatives to improve bus safety, including the design of bus interiors, is set out in our new Bus safety strategy.

Figure 16 People killed or seriously injured on or by a London bus, 2010-2030.



Source: TfL Insights & Direction, Safety, Health & Environment.

Air quality

The Ultra Low Emission Zone

On 29 August 2023 the Mayor of London expanded the Ultra Low Emission Zone (ULEZ) across all London boroughs to help tackle air pollution in the capital and improve air quality for Londoners. The ULEZ boundary is now the same as the boundary for the Low Emission Zone (LEZ) for heavy vehicles. The London-wide zone measures 1,500km^2 and covers nine million people, making it the largest zone of its kind in the world.

The London-wide Ultra Low Emission Zone - Six months report published in July 2024 evaluated the impacts of the scheme to that point, including the important context of pre-emptive change by individuals and businesses in the period leading up to the introduction of the scheme, as well as previous expansions to the ULEZ and the introduction of tighter standards for the (existing) Low Emissions Zone. The key findings from this report are:

- Compared to a scenario where the ULEZ had not been expanded, nitrogen oxides (NO_X) emissions from cars and vans in outer London were estimated to be 13 and 7 per cent lower, respectively, equating to a saving of 424 tonnes of NO_X in outer London. Fine particulate matter ($PM_{2.5}$) exhaust emissions from cars and vans in outer London were estimated to be 20 per cent lower than they would have been had the zone not been expanded to outer London.
- These emissions reductions are improving air quality. In the first six months of operation, roadside nitrogen dioxide (NO_2) concentrations in outer London were up to 4.4 per cent lower than would have been expected without the London-wide ULEZ.

- All ULEZ policies combined have had a positive impact on improving air quality across London. On average, harmful roadside NO_2 concentrations are estimated to be:
  - 21 per cent lower in outer London than they would have been without the ULEZ and its expansions.
  - 53 per cent lower in central London than they would have been without the ULEZ and its expansions.
  - 24 per cent lower in inner London than they would have been without the ULEZ and its expansions.
- Long-term trends indicate that average concentrations in all London zones improved at a faster rate than the average for the rest of England over the same period. This is particularly notable in outer London, where concentrations have improved more rapidly over recent years and are now similar to the average for rest of England, which has historically been lower.
- Areas outside London are also seeing the impacts of the ULEZ, with roadside NO_2 concentrations within five kilometres of the Greater London boundary on average nine per cent lower in 2023 than in an estimated 'no ULEZ' scenario. As this is an average for the whole boundary zone, this means that some roads will be seeing even greater reductions.
- A larger proportion of vehicles recorded driving in London are cleaner. The London-wide compliance rate for vehicles subject to the ULEZ standards after the first six months was 96.2 per cent, up from 91.6 per cent in June 2023 and 39 per cent in February 2017, when changes associated with the ULEZ began.
- Compliance rates have increased for both cars and vans: 97.1 per cent of cars and 88.9 per cent of vans seen driving in the London-wide ULEZ met the standards after six months of operation, up from 93 and 80.2 per cent in June 2023 and 44 and 12 per cent in February 2017.
- There are fewer older, more polluting vehicles driving in the zone. On an average day in February 2024, there were 90,000 fewer non-compliant vehicles detected in the London-wide ULEZ, compared to June 2023. This is a 53 per cent reduction in non-compliant vehicles between those dates.
- In the expanded outer London area, ULEZ vehicle compliance in February 2024 was over 96 per cent, up from 90.9 per cent in June 2023. This is nearly the same level of compliance as seen in inner and central London, with 96.5 per cent and 96.4 per cent, respectively.
- In outer London in February 2024, over 97 per cent of cars met the ULEZ standards, up from 92.4 per cent in June 2023. Van compliance in outer London has increased by 9.5 percentage points, now 89 per cent, up from 79.5 per cent in June 2023.

The impact of the ULEZ can be assessed through three main measures:

- Compliance with the requirements of the scheme.
- Emissions of atmospheric pollutants from road vehicles
- Concentrations of pollutants in the atmosphere.

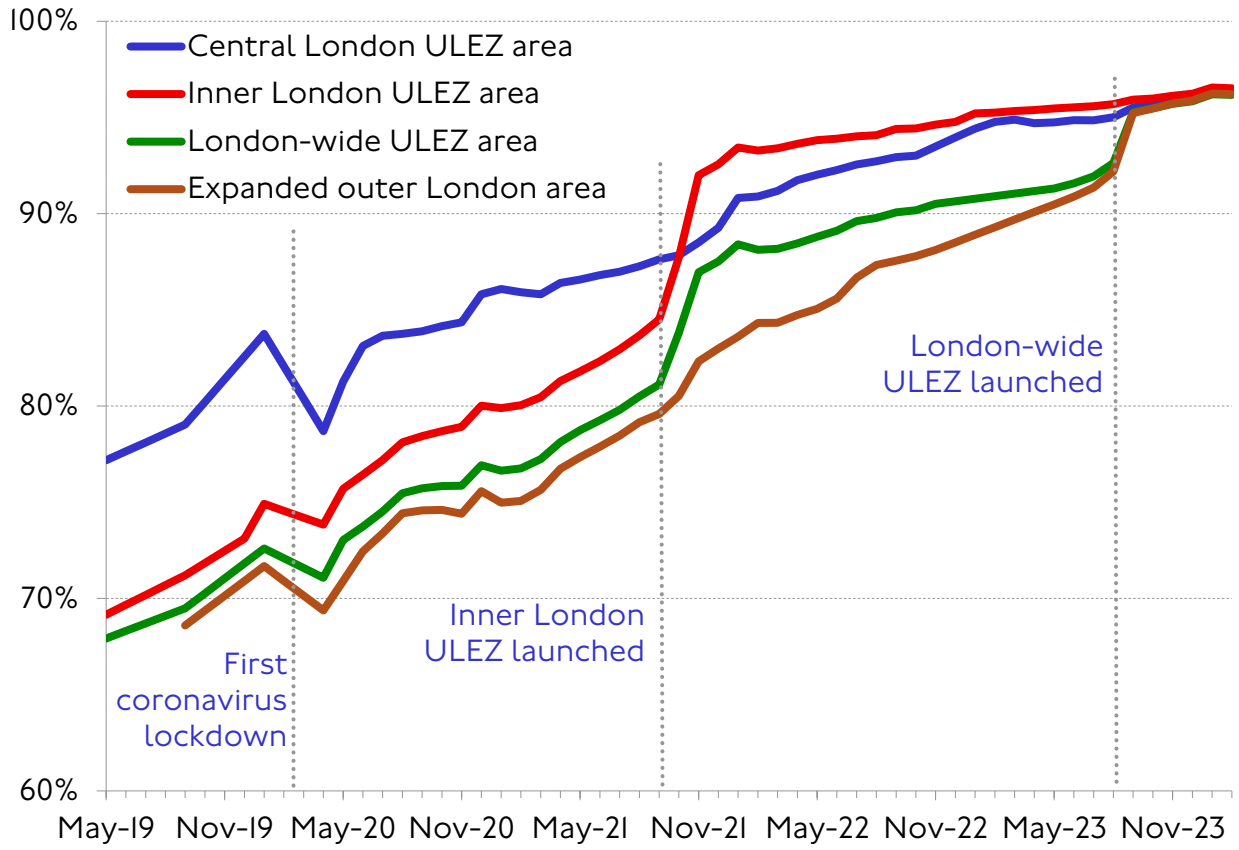
Compliance with the requirements of the scheme

The ULEZ requires individuals, charities, organisations, and businesses with non-compliant vehicles to take action, and either replace a non-compliant vehicle or change how they regularly travel. To help vehicle owners prepare for the London-wide ULEZ, an extensive public information campaign commenced in January 2023 to ensure that

everyone was ready. This was in addition to significant stakeholder and local borough engagement and press activity to raise awareness of the scrappage scheme and other support available. The scrappage scheme was launched in January 2023 as this was a principal mitigation to the scheme. We would therefore expect to see changes in how people travel and vehicle replacements in the build-up to the launch date. However, it is still helpful to compare the immediate impact before and after the scheme launch.

Compliance with the requirements of the expanded scheme in London is monitored through automatic number plate recognition cameras (ANPR). As shown in figure 17, the London-wide expansion of the ULEZ led to a rapid rate of increase in compliance in outer London in 2023, as Londoners and businesses prepared for the scheme. As such, six months after expansion, compliance rates across different areas of London are now similar, and over 96 per cent of all vehicles meet the standards.

Figure 17 Average vehicle compliance with the requirements of the Ultra Low Emission Zone (ULEZ) for vehicles subject to the ULEZ standards (excluding taxis and larger vans/lorries), by month, May 2019-Feb 2024.



Source: TfL Strategic Analysis, Customer & Strategy, based on Greater London Authority data.

Emissions of atmospheric pollutants from road vehicles

The ULEZ is based on road vehicle engine emissions standards and disincentivises the use of older vehicles with higher pollutant emissions in the zone. Therefore, the ULEZ policy directly influences emissions reductions from vehicles. Reducing emissions of pollution is essential to reduce concentrations of harmful pollution in the air, and ultimately to improve the health of all Londoners.

Emissions rates in 2023 reflect the changes in the vehicle fleet that occurred across 2023, including any pre-compliance prior to the London-wide ULEZ expansion on 29 August

and its operation for the rest of the year. Importantly, emissions rates for the 2023 scenario without the London-wide ULEZ reflect that there would have been natural churn in the vehicle fleet, as there is always turnover of vehicles and uptake of newer vehicles, but do not include the additional impacts of the London-wide ULEZ. The difference between the 2023 scenarios (with and without the London-wide ULEZ) therefore represents the impact on emissions of the expansion of the ULEZ.

When looking at London as a whole, it is estimated that NO_X emissions from cars and vans were 11 and 6 per cent lower, respectively, than would have been expected without the London-wide ULEZ expansion. This equates to a saving of 456 tonnes of NO_X emissions across (table 2).

Table 2 Change in car and van NO_X emissions, by area, 2023 with London-wide ULEZ compared to the 2023 scenario without the London-wide ULEZ.

Area	Car emissions (tonnes)	Van emissions (tonnes)	Car and van emissions (tonnes)
Central	1 (3%)	-3 (-5%)	-2 (-3%)
Inner	-7 (-1%)	-23 (-4%)	-30 (-3%)
Outer	-297 (-13%)	-127 (-7%)	-424 (-11%)
London-wide	-304 (-11%)	-152 (-6%)	-456 (-9%)

Source: Greater London Authority.

The biggest impacts on emissions from cars and vans are estimated to have occurred in the outer London zone because the ULEZ already operated in central and inner London. This equates to a saving of 424 tonnes of NO_X in outer London in 2023. The NO_X emissions savings in outer London represent over 90 per cent of the total emission reductions seen in Greater London from the London-wide expansion.

It is estimated that $PM_{2.5}$ exhaust emissions from cars (excluding PHVs) and vans were 18 and 14 per cent lower across Greater London they would have been without the London-wide ULEZ. Overall, $PM_{2.5}$ exhaust emission in London were 17 per cent lower, an estimated saving of six tonnes (table 3).

Table 3 Change in car and van $PM_{2.5}$ exhaust emissions, by area, 2023 with London-wide ULEZ compared to the 2023 scenario without the London-wide ULEZ.

Area	Car emissions (tonnes)	Van emissions (tonnes)	Car and van emissions (tonnes)
Central	0.0 (2%)	0.0 (-5%)	0.0 (-2%)
Inner	0.0 (1%)	-0.2 (-6%)	-0.1 (-2%)
Outer	-4.4 (-22%)	-1.2 (-17%)	-5.6 (-20%)
London-wide	-4.3 (-18%)	-1.4 (-14%)	-5.7 (-17%)

Source: Greater London Authority.

Pollutant concentrations

By reducing the amount of NO_X emitted by vehicles, the ULEZ helps reduce NO_2 concentrations in the zone. This will reduce the health impacts associated with exposure to NO_2, which is the key aim of expanding the zone.

Air pollution concentrations are affected by several factors and follow patterns of seasonal variation. It is therefore preferable to have at least a complete year of data to fully understand the impacts of a scheme on air quality.

In addition to the ULEZ and the London-wide LEZ for heavy vehicles, the Mayor has introduced complementary policies such as procuring zero-emission buses, introducing taxi and PHV age limits and emissions-based licensing requirements and enabling active travel and use of sustainable public transport, all of which contribute to changes in pollution concentrations. Therefore, the analysis of concentrations shows the impacts of not just the ULEZ and its expansions, but all of the Mayor's policies to reduce emissions from transport, including those within the Mayor's Transport Strategy. As such, it is not straightforward to isolate the impact of the ULEZ and its expansion. Therefore, the concentrations analysis reflects collectively on all the Mayor's policies to reduce emissions from transport.

Table 4 shows the estimated reduction in concentrations of NO_2 attributable to the various stages of the ULEZ expansion based on trends analysis of monitoring data and comparison against a scenario where there was no ULEZ.

Table 4 Estimated impact of ULEZ and related policies on average roadside NO_2 concentrations, by area, 2017-2023, based on a comparison with a 'no ULEZ' scenario.

Year	Central	Inner	Outer	All London	Outside
2017	-3%	-3%	-1%	-1%	-1%
2018	-12%	-8%	-2%	-6%	-3%
2019	-31%	-15%	-5%	-12%	-3%
2020	-49%	-19%	-9%	-17%	-1%
2021	-53%	-20%	-13%	-18%	-3%
2022	-52%	-21%	-16%	-20%	-6%
2023	-53%	-24%	-21%	-23%	-9%

Source: Greater London Authority.

In 2023, the average roadside NO_2 concentrations measured in central London were 53 per cent lower than the estimated 'no ULEZ' scenario. In inner London, they were 24 per cent lower and in outer London 21 per cent lower. The impacts on NO_2 concentrations in both inner and outer London are significant given the size of the population in these areas, representing over 95 per cent of people living in London. The impacts observed in central London have been sustained from previous years.

Impacts in 2023 were higher in both inner and outer London compared to 2022 reflecting the phased expansion of the ULEZ. The NO_2 impact of all the ULEZ policies in outer London was five percentage points higher in 2023 than it was in 2022 (21 per cent

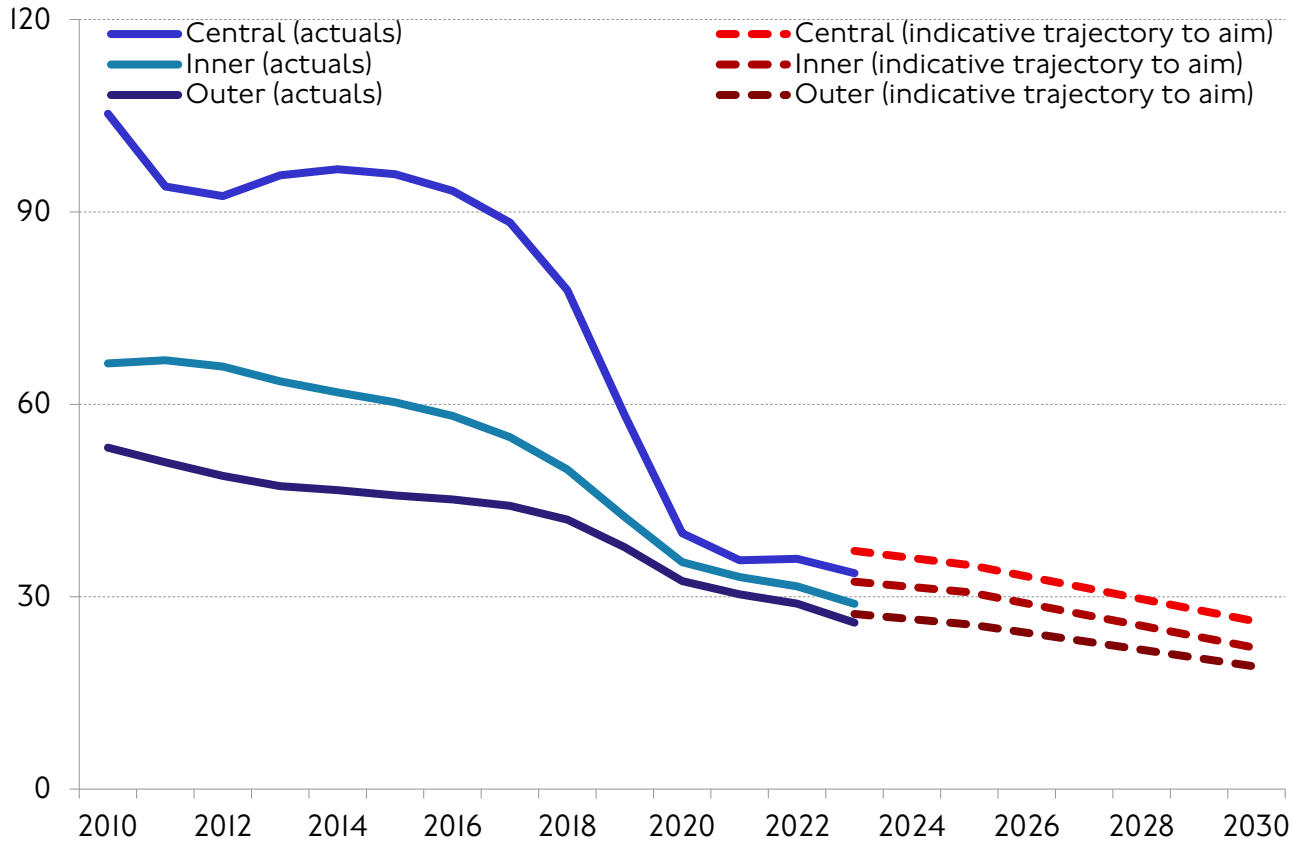
compared to 16 per cent). The analysis of trends of average London concentrations (the whole of London) indicates that the ULEZ has reduced roadside NO_2 concentrations by 23 per cent (equivalent to 8µg·m^{-3}) compared to what they would have been without the ULEZ.

Areas outside London are also seeing the impacts of the ULEZ, with roadside NO_2 concentrations within five kilometres from the Greater London boundary on average nine per cent lower in 2023 than an estimated 'no ULEZ' scenario.

Overall trend in ambient concentrations of nitrogen dioxide (NO_2)

Figure 18 shows historic progress in reducing concentrations of nitrogen dioxide at roadside monitoring sites.

Figure 18 Average roadside nitrogen dioxide (NO_2) concentrations (in µg·m^{-3}) in London, by area, 2010-2030.



Source: TfL Strategic Analysis, Customer & Strategy, based on Greater London Authority data.

Average NO_2 concentrations reduced from 93µg·m^{-3} in 2016 to 34µg·m^{-3} in 2023 at roadside sites in central London (a reduction of 65 per cent), despite the recovery from the pandemic leading to a small increase in concentrations in 2022. Concentrations at roadside monitoring sites in inner London reduced from 58µg·m^{-3} in 2016 to 29µg·m^{-3} in 2023 (a reduction of 55 per cent). During the same period, concentrations at roadside sites in outer London reduced from 45µg·m^{-3} to 36µg·m^{-3} (45 per cent).

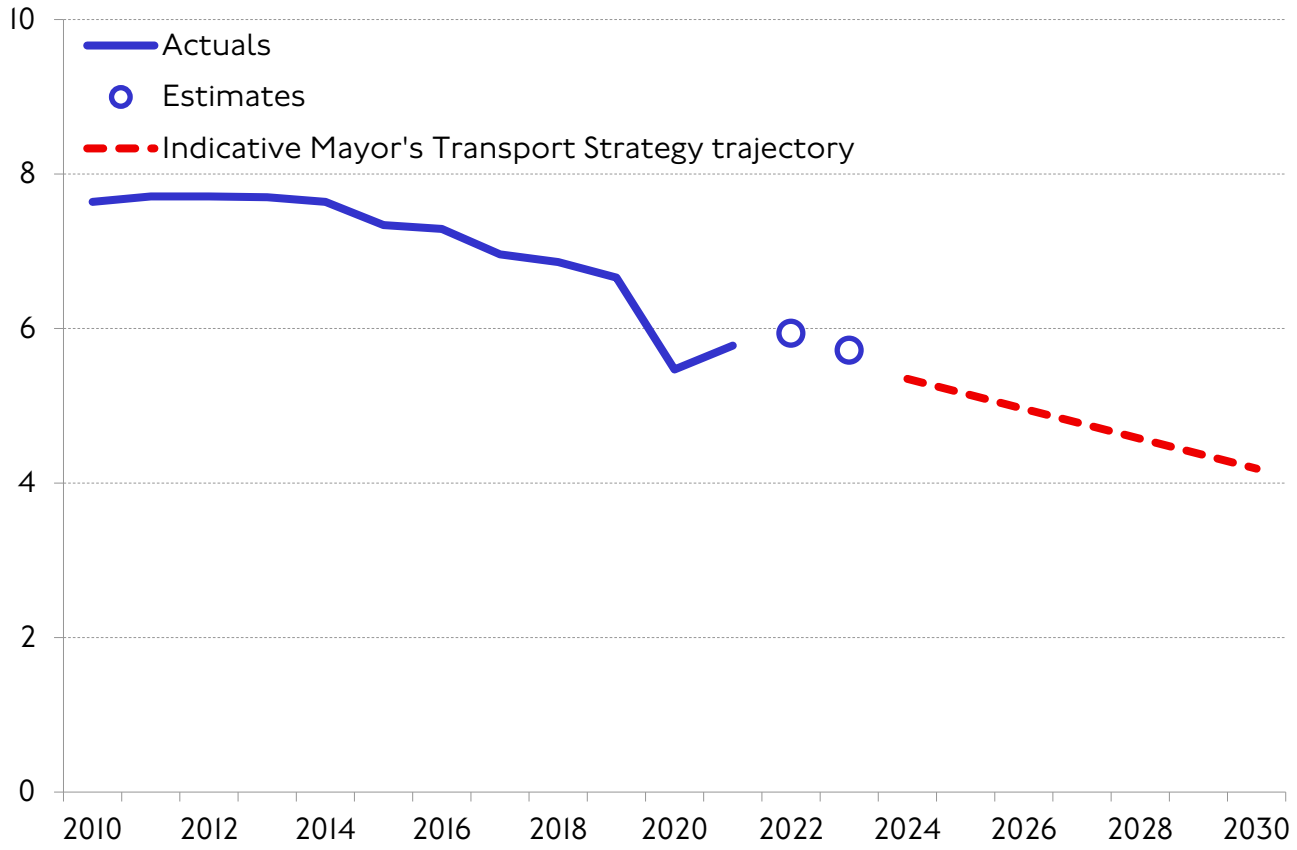
Carbon net zero 2030

The Mayor's Transport Strategy set a target for London to be a zero-carbon city by 2050. However, the Mayor has stated his ambition for London to be net zero by 2030, recognising the urgency of the climate change emergency. Addressing carbon dioxide (CO_2) emissions generated by road transport will be central to meeting the 2030 net zero target, as road transport is the second largest contributor to London's carbon dioxide emissions.

Overall trend in carbon dioxide (CO_2) emissions from transport

Figure 19 shows the overall trend for London's carbon dioxide equivalent (CO_2e) emissions from surface transport, and how they have changed over recent years. Estimates for 2022 and 2023 are based on TfL modelled vehicle kilometres by vehicle type, scaled to those years using average traffic growth factors for central, inner and outer London by vehicle type and road category, derived from DfT road traffic statistics across London. Estimates for 2022 reflect a three per cent increase over 2021, principally reflecting the post- pandemic recovery in travel. Provisional estimates for 2023 suggest a reduction against 2022 of four per cent.

Figure 19 Carbon dioxide (CO_2) emissions from surface transport (in million tonnes) in London (excluding aviation), London Energy and Greenhouse Gases Inventory (LEGGI), 2010-2030.



Source: TfL Strategic Analysis, Customer & Strategy, based on Greater London Authority data.
Notes: The data in this graph includes transport emissions from road, rail and shipping, but not aviation. | Data from 2019-2021 has been revised to align with LEGGI 2021, published December 2023.

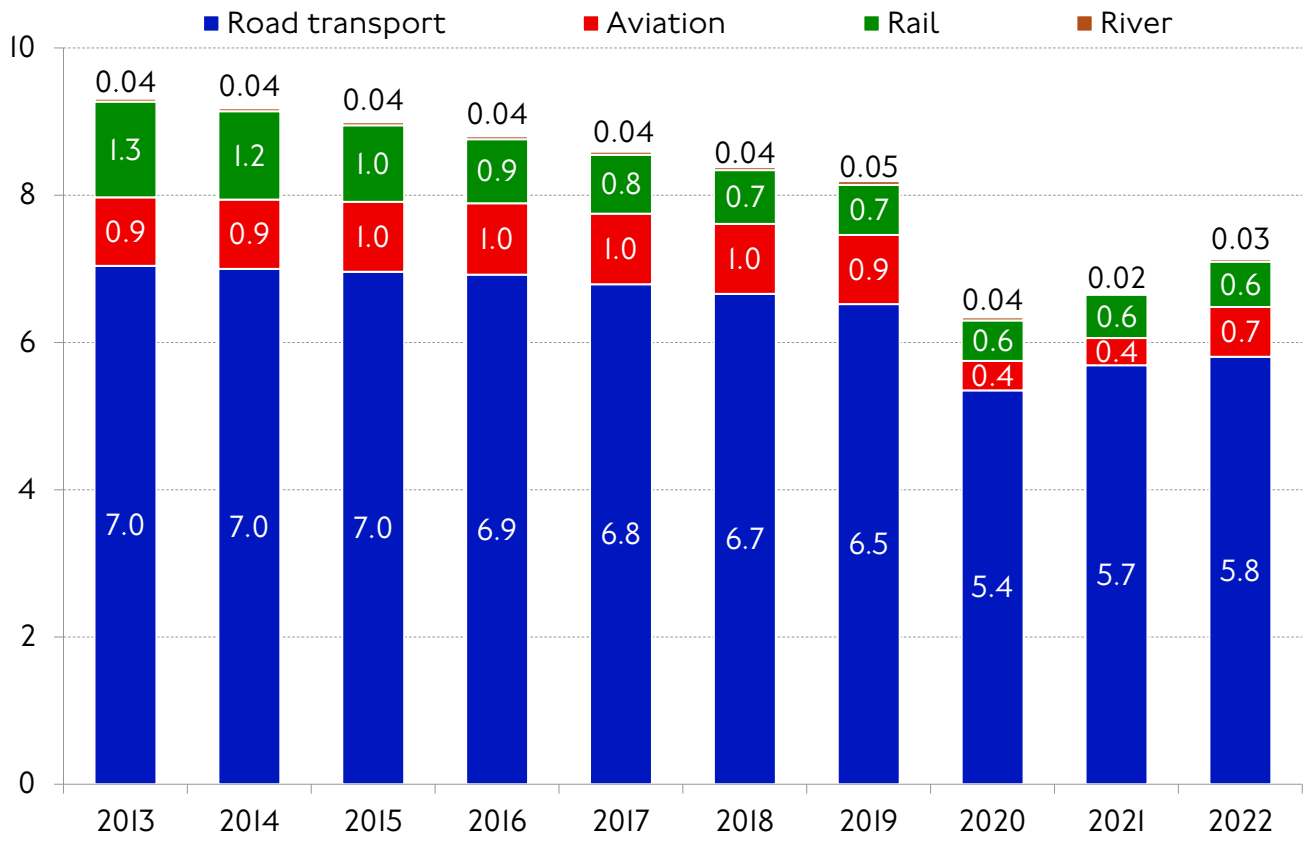
While we are broadly on track to meet the original 2050 ambition, urgent and large-scale action at all levels of Government is needed to meet the accelerated 2030 target. In the interim, we are continuing to cut carbon emissions from our operations and estate, as reported in our Safety, health and environment annual report 2023/24.

Components of London's transport carbon dioxide equivalent (CO_2e) emissions

Figure 20 shows the principal components of London's transport carbon dioxide equivalent emissions and how they have changed over recent years.

London's road transport carbon dioxide equivalent emissions have gradually reduced from seven million tonnes in 2013 to 5.8 million tonnes in 2022, an 18 per cent reduction. However, this significant reduction is partly due to the impact of the pandemic. By comparison, in 2019 road transport emissions were 6.5 million tonnes (a seven per cent reduction compared to 2013), and the 2022 emissions were up by eight per cent compared to 2020, reflecting elements of the pandemic recovery.

Figure 20 Carbon dioxide equivalent (CO_2e) emissions from transport in London (in million tonnes), by transport sector, London Energy and Greenhouse Gases Inventory (LEGGI), 2013-2022.



Source: Greater London Authority.

Carbon dioxide equivalent (CO_2e) emissions per passenger kilometre on TfL services

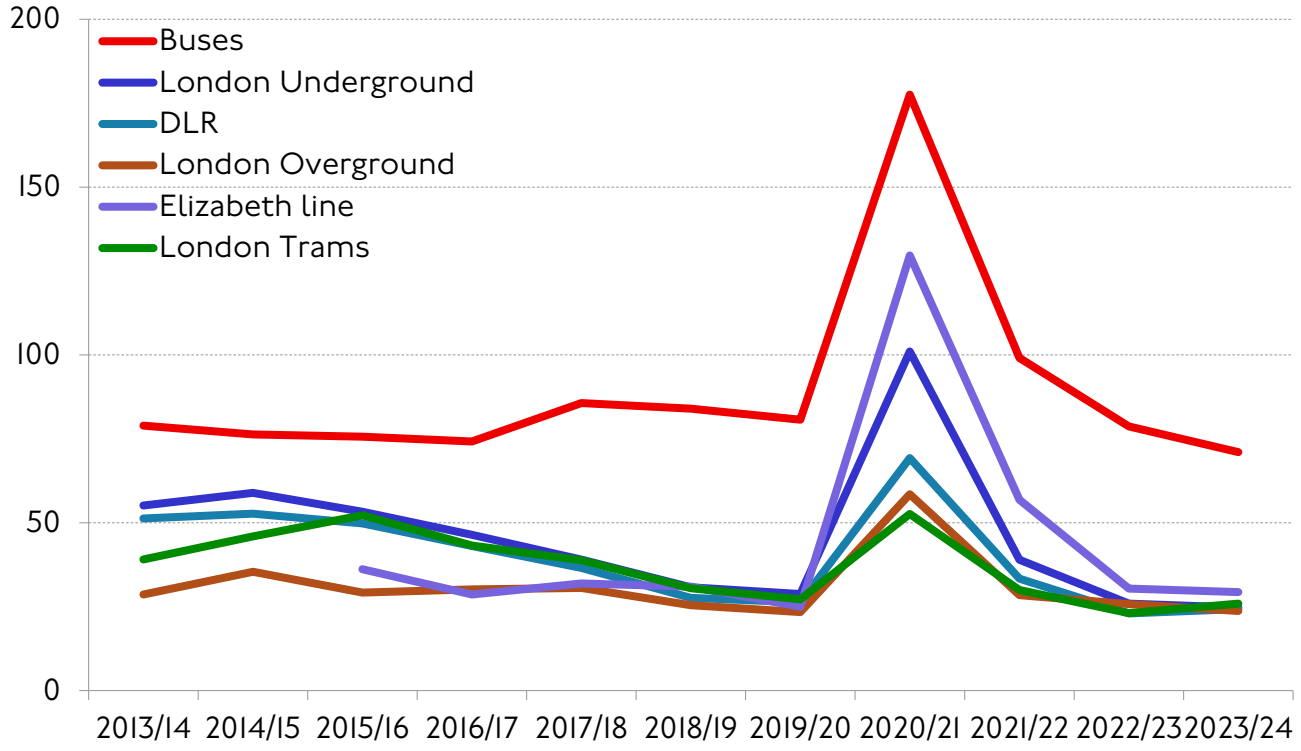
Figure 21 shows the carbon dioxide equivalent emissions by passenger kilometre for each TfL service over the last decade. During the 2023/24 financial year, bus services emitted the most (about 71g CO_2e per passenger-km), compared to other services, which all emit within the range 20-30g CO_2e per passenger-km.

Average emissions per passenger kilometre from bus and London Overground services have remained constant over the years, while the London Underground and DLR emission trends show a reduction of about 50 per cent in emissions, from 51-55g CO_2e per passenger-km in 2013/14 to 25-30g CO_2e per passenger-km in 2019/20 before the pandemic.

The impact of the coronavirus lockdowns is clearly visible during the 2020/21 financial year, with a peak in emissions for all TfL services, especially for buses (180g CO_2e per passenger-km), the Elizabeth line (130g CO_2e per passenger-km) and the London Underground (100g CO_2e per passenger-km), as services continued operating with much lower passenger numbers. All services progressively reverted to their pre-pandemic emission levels over the last couple of years.

It is important to note that the carbon factor for electricity went up last year, which would have had the effect of holding back the decrease for certain modes.

Figure 21 Carbon dioxide equivalent (CO_2e) emissions (grams per passenger kilometre) on TfL public transport services, 2013/14-2023/24.



Source: TfL Strategic Analysis, Customer & Strategy, based on TfL operational data.

Electrifying the road vehicle fleet

The total number of electric vehicles (all classes) in London reached 205,000 in quarter 2 2024 (April to June), having risen from 192,400 in quarter 1 2024 (January to March) and 179,300 in quarter 4 2023 (October to December). There were 128,400 battery electric vehicles (BEV) in quarter 2 2024 (April to June), including 116,560 cars and 5,590 vans. Plug-in hybrid electric (PHEV) and range-extended electric vehicles (REEV) totalled 76,550.

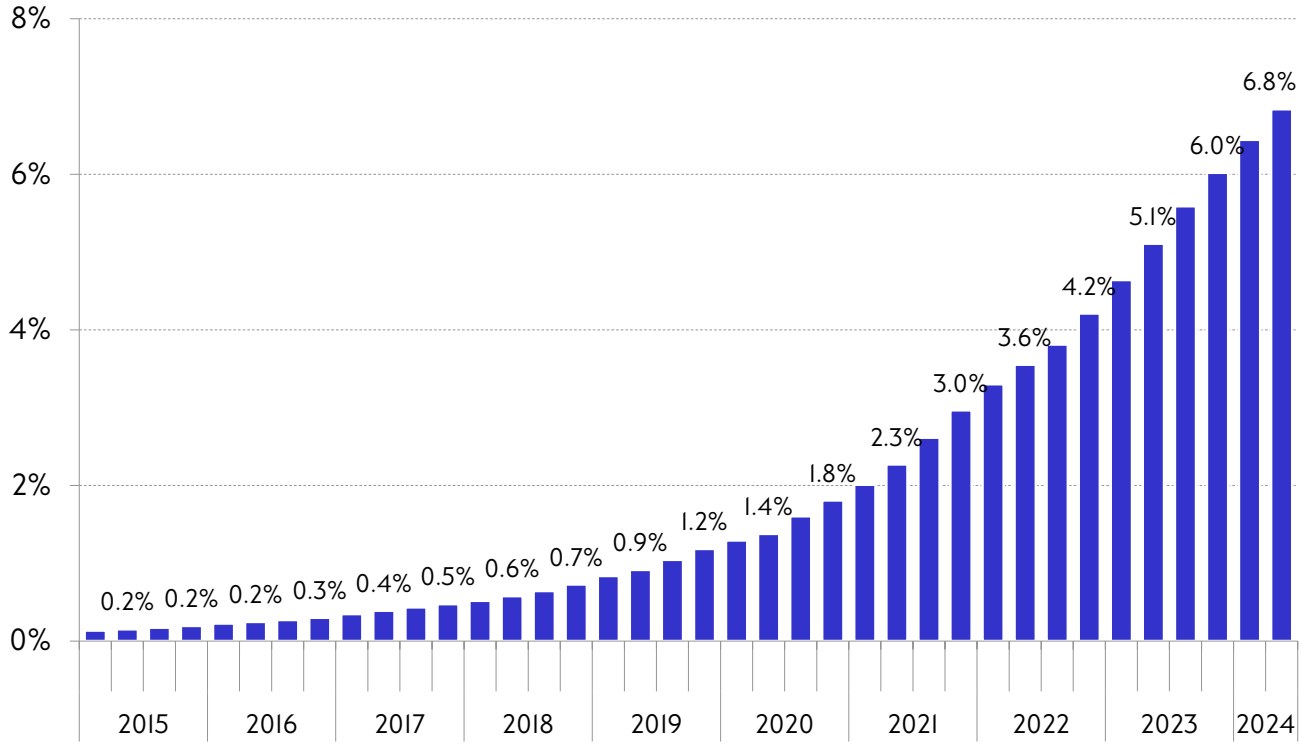
Take-up of electric vehicles

In 2023, newly registered plug-in cars in London totalled 38,247, while newly registered plug-in vans totalled 844. Figure 22 shows the continuing growth in the proportion of

plug-in and battery electric (BEV, PHEV and REEV) vehicles among the total fleet of vehicles in London since 2015.

Recent news coverage of a fall in demand for new battery electric vehicles has been addressed by heavy discounting by vehicle manufacturers to incentivise sales. September is an important month for new car sales as it coincides with a change in the number plate sequence (74 plate). Nationally, the Society of Motor Manufacturers and Traders (SMMT) reports BEVs seeing a 20.5 percent market share in September 2024, while plug-in hybrids take 8.9 percent of the market. This trajectory of growth is insufficient to meet the Government's Zero Emissions Vehicle Mandate, which could potentially mean significant fines for motor manufacturers. The SMMT is lobbying national Government for a package of measures to further stimulate sales of battery electric vehicles.

Figure 22 Proportion of plug-in vehicles registered in London, by quarter, quarter 1 2015 (Jan-Mar)-quarter 2 2024 (Apr-Jun).



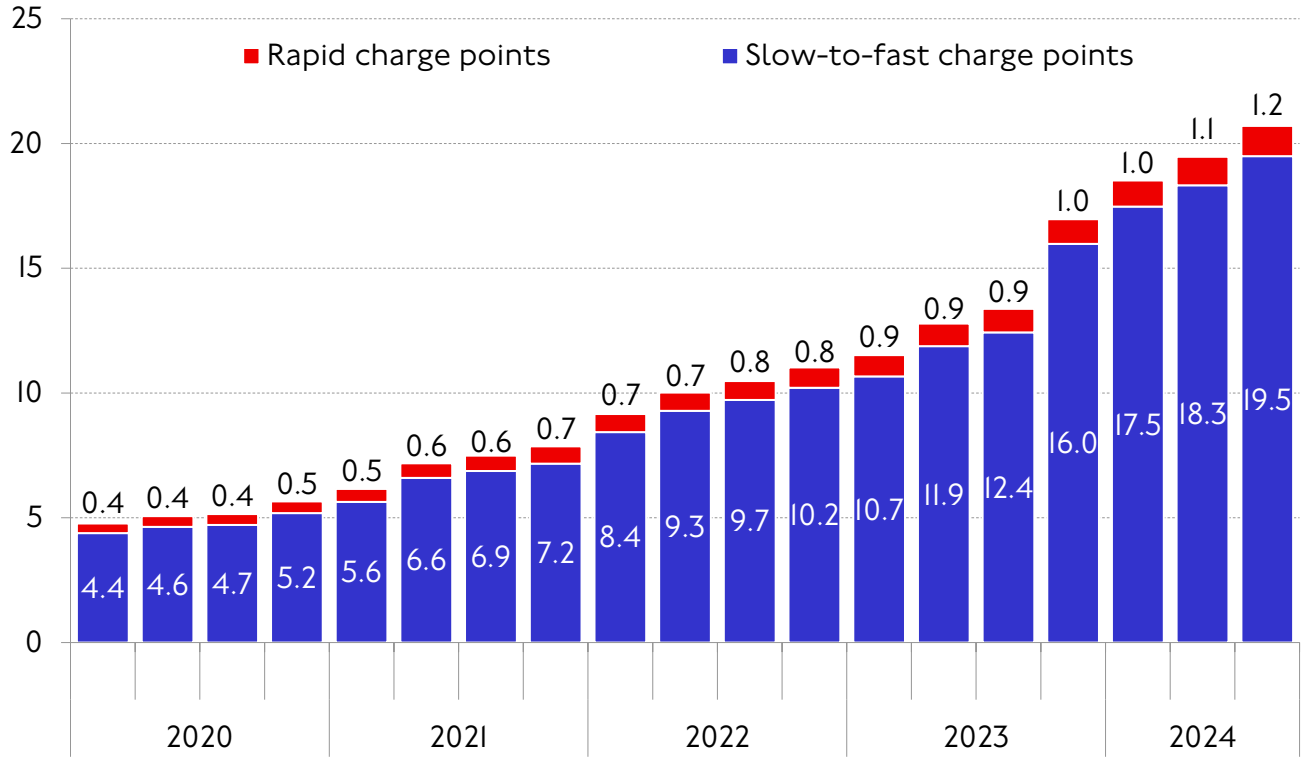
Source: Department for Transport.

Provision of electric vehicle charging infrastructure

Providing suitable charging infrastructure is key to underpinning this transition. Our electric vehicle infrastructure strategy sets out that London will need between 40,000 and 60,000 public charge points by 2030. In October 2024, there were 21,658 public electric vehicle charging points in London, around one third of all public charging points in the UK, which is a 427 per cent increase in charging infrastructure since April 2020 (figure 23).

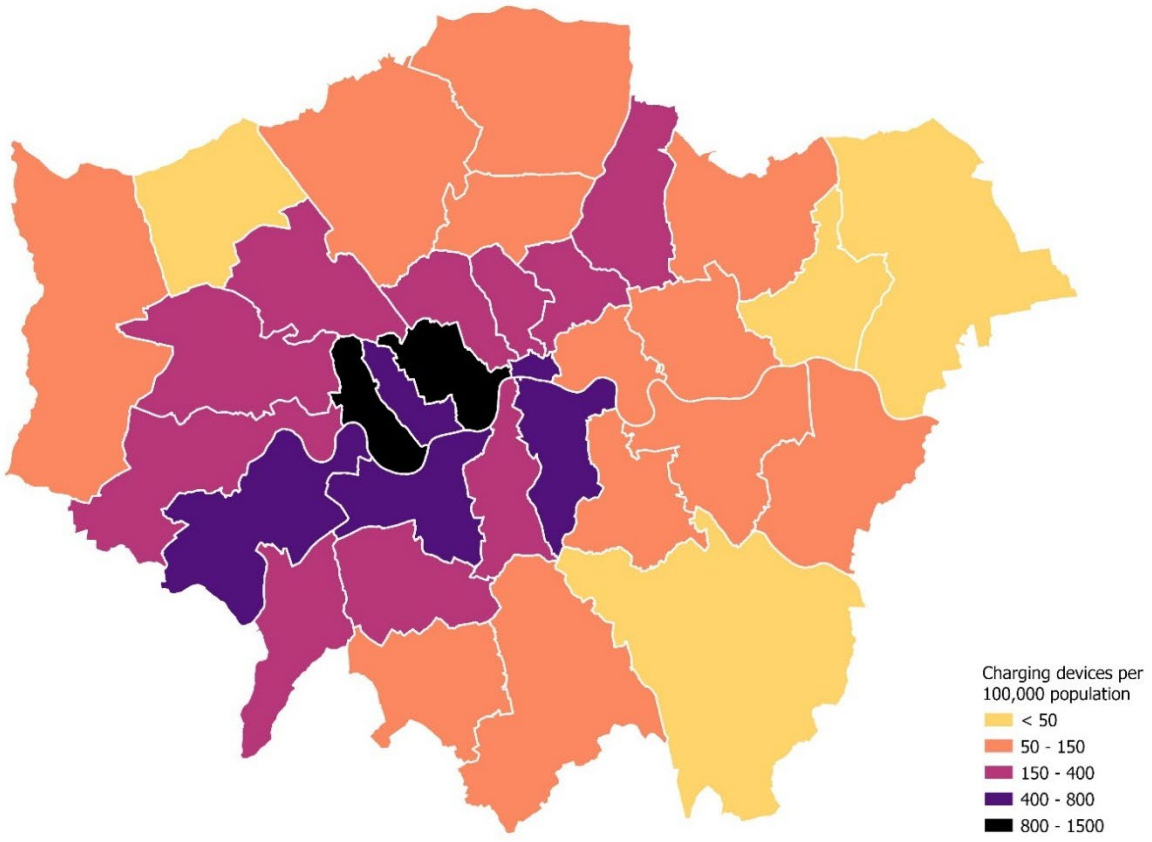
Despite this continuing progress, the distribution of public charging points exceeding 50kW across London is uneven. Figure 24 shows the average number of charging points per 100,000 population for each London borough. Although Greater London averages 234 devices per 100,000 people, compared to the UK average of 95.6 devices, the boroughs range from around 30 up to 1,437 devices per 100,000 people, with a clear bias towards inner-west London, showing the scope for improvement.

Figure 23 Electric vehicle charge points (in thousands), by type, by quarter, quarter 1 2020 (Jan-Mar)-quarter 3 2024 (Jul-Sep).



Source: Zapmap, via Department for Transport.

Figure 24 Distribution of electric vehicle charging points, by borough, July 2024.



Source: Zapmap, via Department for Transport.

Zero-emission bus and taxi fleets

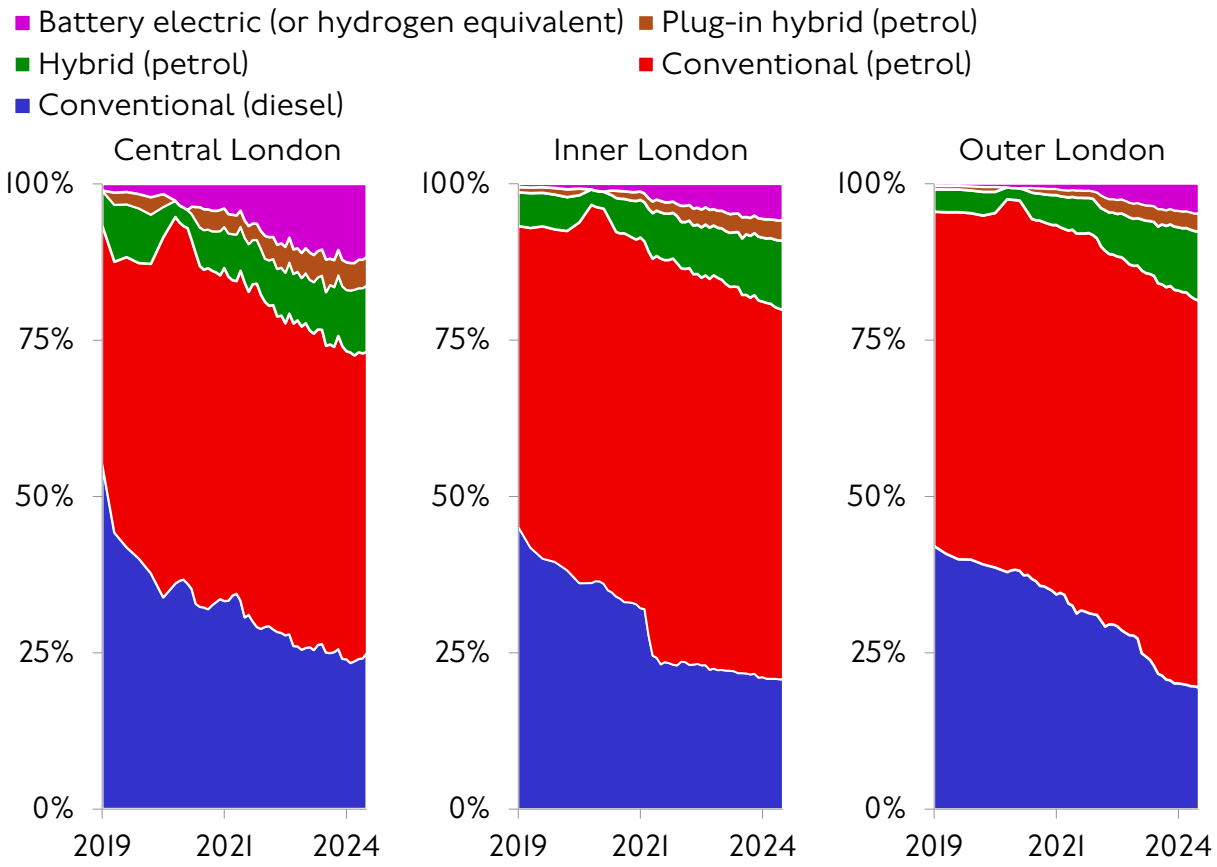
We are also continuing to expand our zero-emission bus fleet, and by October 2024 we had over 1,700 zero-emission buses on over 80 bus routes. The Mayor's ambition is for London to have a fully zero-emission bus fleet by 2030.

London's iconic and historic taxi trade is now leading the way in the early adoption of zero emissions-capable (ZEC) technology and, as a result, helping to reduce harmful emissions. As of October 2024, 60 per cent (nearly 8,700) of 14,600 taxis actively licensed by TfL on London's roads were ZEC. The progress made to clean up the taxi fleet is significant and has come about largely through the introduction of strict licensing requirements. These licensing requirements were introduced in January 2018, and since then all taxis presented for licensing for the first time have needed to be ZEC.

We have taken a similarly ambitious approach with licensing requirements for private hire vehicles. This included introducing emissions-based licensing requirements in 2018. The latest requirement was introduced in January 2023, requiring all private hire vehicles licensed for the first time to be ZEC and to meet the Euro 6 emissions standards. As of October 2024, over a quarter (25 per cent) of the private hire fleet was ZEC (emitting under 75g·km^{-1} of CO_2) and nearly a quarter (23 per cent) was electric.

The increase in uptake of zero emission-capable vehicles across London has translated into an increase in battery electric vehicle (BEV) kilometres. The proportion of car kilometres, excluding private hire vehicles, by BEVs continued to increase in 2023 and 2024, with an average of approximately 12 per cent in central London, around five per cent in inner London and just over four per cent in outer London (figure 25).

Figure 25 Proportion of car kilometres, by engine technology, by area, 2019-2024.



Source: TfL Strategic Analysis, Customer & Strategy

BEV vans accounted for approximately eight per cent of total van vehicle kilometres in the same period in central London, around four per cent in inner London and just two percent in outer London. BEV PHVs accounted for over 30 per cent of all PHV kilometres in central London in 2024, with the share slightly lower in inner London.

Road traffic

Despite rising population, road traffic volumes in London have been broadly stable over the last couple of decades. Towards the end of the last decade, however, traffic levels started to increase, particularly in outer London (which hosts over two thirds of London's traffic by distance driven) and in relation to certain types of vehicles, most notably vans.

During the pandemic, traffic volumes fell in line with restrictions but to a much lesser extent than public transport demand, reflecting long periods of working from home and the relative attractions of private transport in the pandemic context. Road traffic volumes also recovered much more rapidly once pandemic restrictions were eased. However, they also soon levelled out at just below pre-pandemic levels and have been relatively stable since.

Overall trends in road traffic

The most comprehensive indicator of road traffic volumes in London is provided by the Department for Transport (DfT). Travel in London report 15 described how this series was recently re-based, resulting in an increase to the vehicle kilometres assessed to have been driven in London relative to previous estimates from 2009. It is important to recognise that the revisions to the DfT's estimates were mostly due to methodological improvements in the calculation of benchmark estimates for 2009 and 2019, and not due to a change in observed year-on-year trends.

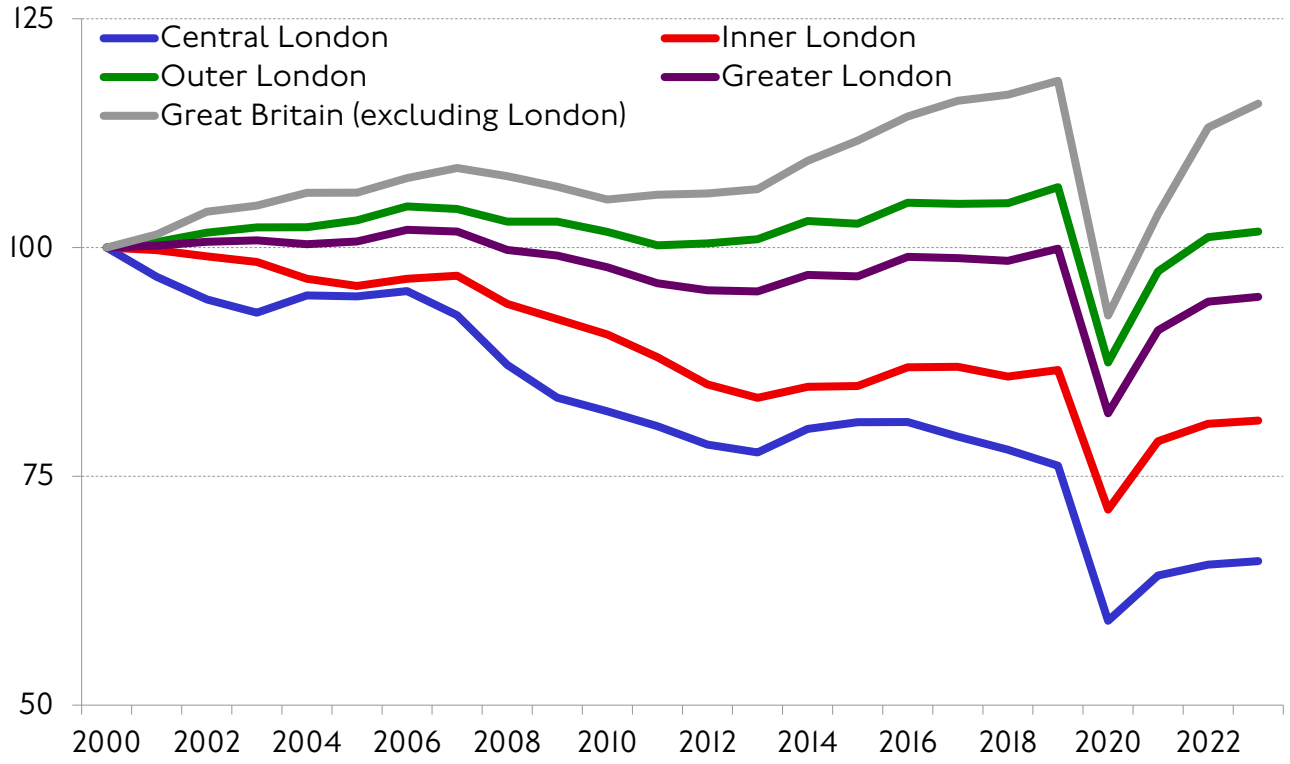
Figure 26 shows the revised long-term trend indexed to 2000. The relative stability of the amount of traffic in London through the early part of the period and increases around the end of the last decade are visible. Values for 2023 had still not yet recovered fully from the pandemic, with total traffic in London being five per cent lower than in 2019.

Of particular interest is the diverging trend in traffic growth between different areas of London. Traffic volumes in central London (using a definition different to, and larger than, the Congestion Charge zone) have fallen relatively consistently year on year, and in 2023 were 14 per cent below 2019 levels. The equivalent value for inner London was six per cent. Traffic volumes in outer London were five per cent below 2019 levels. Across London, the post-pandemic traffic recovery has been lower than in Great Britain.

By vehicle type, car traffic followed a similar trend to overall traffic, and is still seven per cent lower than in 2019. Following strong growth in light goods vehicle (LGV) traffic between 2010 and 2015, LGV traffic remained at the same level between 2015 and 2019. Following the pandemic, LGV traffic was eight per cent lower in 2023 than in 2019.

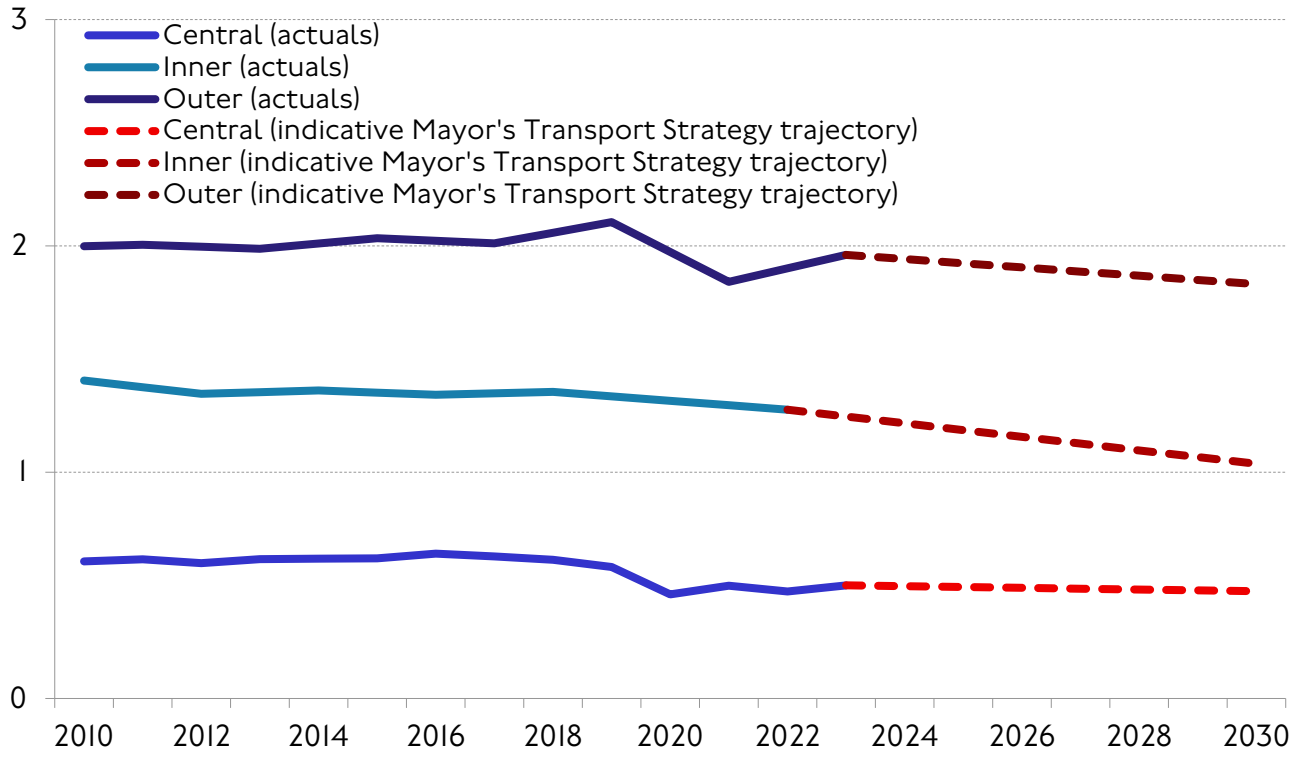
Another measure of traffic trends is given by TfL's counting cordons around central (again, a definition larger than, and not aligned to, the Congestion Charge zone), inner and outer London. This data contributes to a Mayor's Transport Strategy Tracker metric and is shown in figure 27, with an aim to reduce the number of car journeys by three million on an average day by 2041. Although these are less-comprehensive measures than those provided by the DfT, the long-term picture is broadly similar.

Figure 26 Change (index: 2000 = 100) in vehicle kilometres driven by motorised modes, by London area and Great Britain, 2000-2023.



Source: Department for Transport.

Figure 27 Cars (in millions) crossing London's strategic cordons per day, 2010-2030.



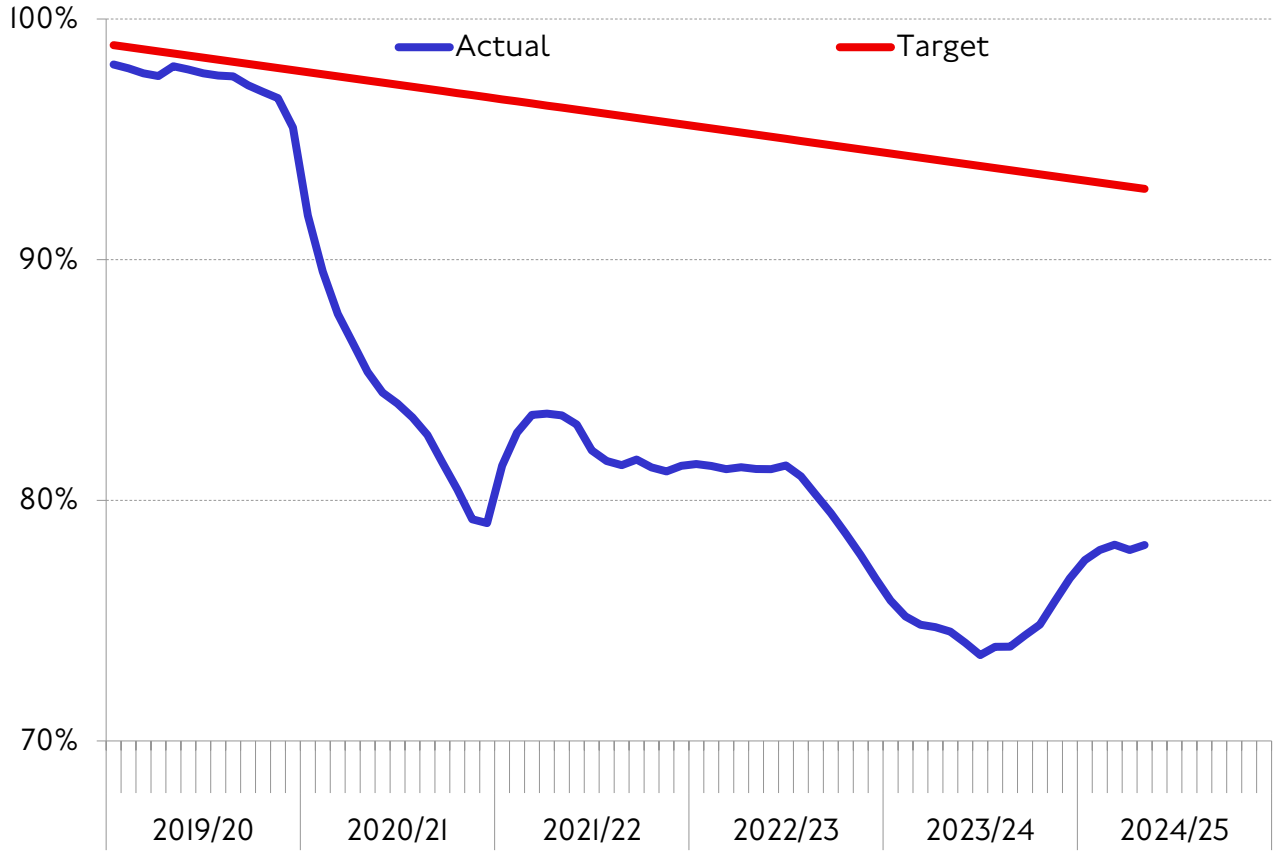
Source: TfL Strategic Analysis, Customer & Strategy, based on TfL traffic data.
Note: The inner and outer cordon counts take place every other year in alternate years, with intermediate values interpolated. Due to the coronavirus pandemic, there were no inner cordon counts in 2020 or 2021 (interpolated from 2018 and 2022) and no outer cordon counts in 2020 (interpolated from 2019 and 2021).

Freight vehicles entering central London in the weekday morning peak

A specific aim of the Mayor's Transport Strategy is to reduce the number of goods vehicles (both heavy and light goods vehicles) circulating in the central London Congestion Charge zone during the weekday morning peak by 10 per cent from 2016 levels, by 2026. This reflects pressures on the road network at this time and would help to reduce road danger.

Figure 28 shows the observed trend over recent years and sets this in the context of the nominal trajectory required to meet the target. The impact of the pandemic is clearly visible but, as traffic recovered, the number of freight vehicles remained well below the 2026 target. Following a further period of decrease in 2023, the number of freight vehicles entering central London in the weekday morning peak increased during 2024 but remained well below the target value.

Figure 28 Change (from 2016) in freight vehicles entering the Congestion Charge zone, 13-period moving average, period 1 2019/20-period 5 2024/25.



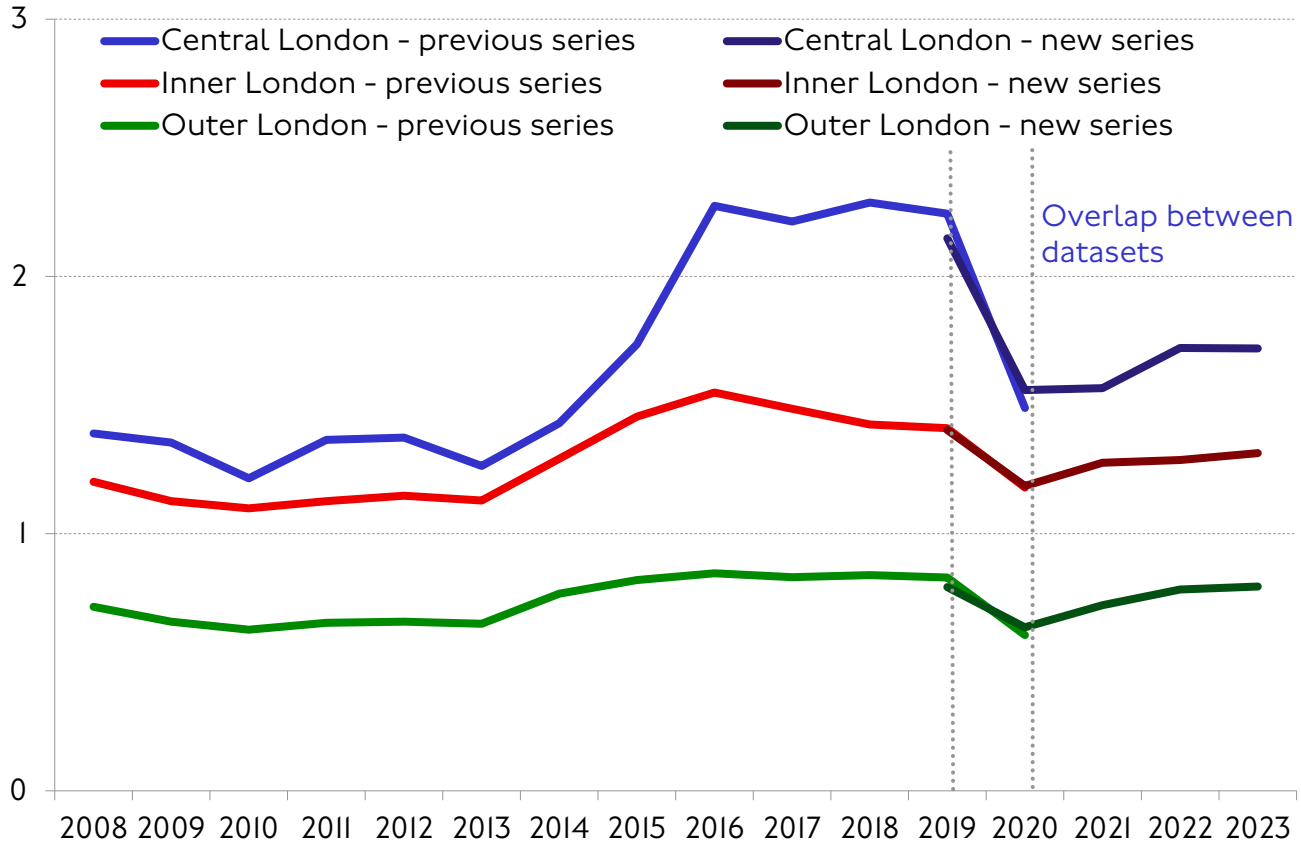
Source: TfL Strategic Analysis, Customer & Strategy, based on TfL traffic data.

Road traffic congestion

Travel in London report 15 described how a re-basing of the DfT's congestion dataset had interrupted the continuity of the long-term time series, with the previous series running until 2020 and the new series starting from 2019. Congestion is conventionally defined in terms of a travel rate (minutes per kilometre) over and above that which might be expected if the network operated under free-flow conditions (for practical reasons, this is taken as the night-time period); that is, an excess delay.

Figure 29 shows a re-based long-term trend for congestion by area of London. While the absolute values between the two data sources should not be regarded as strictly comparable, the long-term trends are of interest. They show a sustained rise in congestion in all parts of London during the years leading up to the pandemic. Following reductions associated with the pandemic, with lower traffic levels, the trend over more recent years has been slowly upward. It is not yet clear from the available time series of data whether the relatively lower values shown by the more recent dataset are reflective of lower overall road traffic demand following the pandemic or recent operational initiatives designed to better manage congestion.

Figure 29 Morning peak average weighted road vehicle excess delay (in minutes per kilometre), by area, 2008-2023.



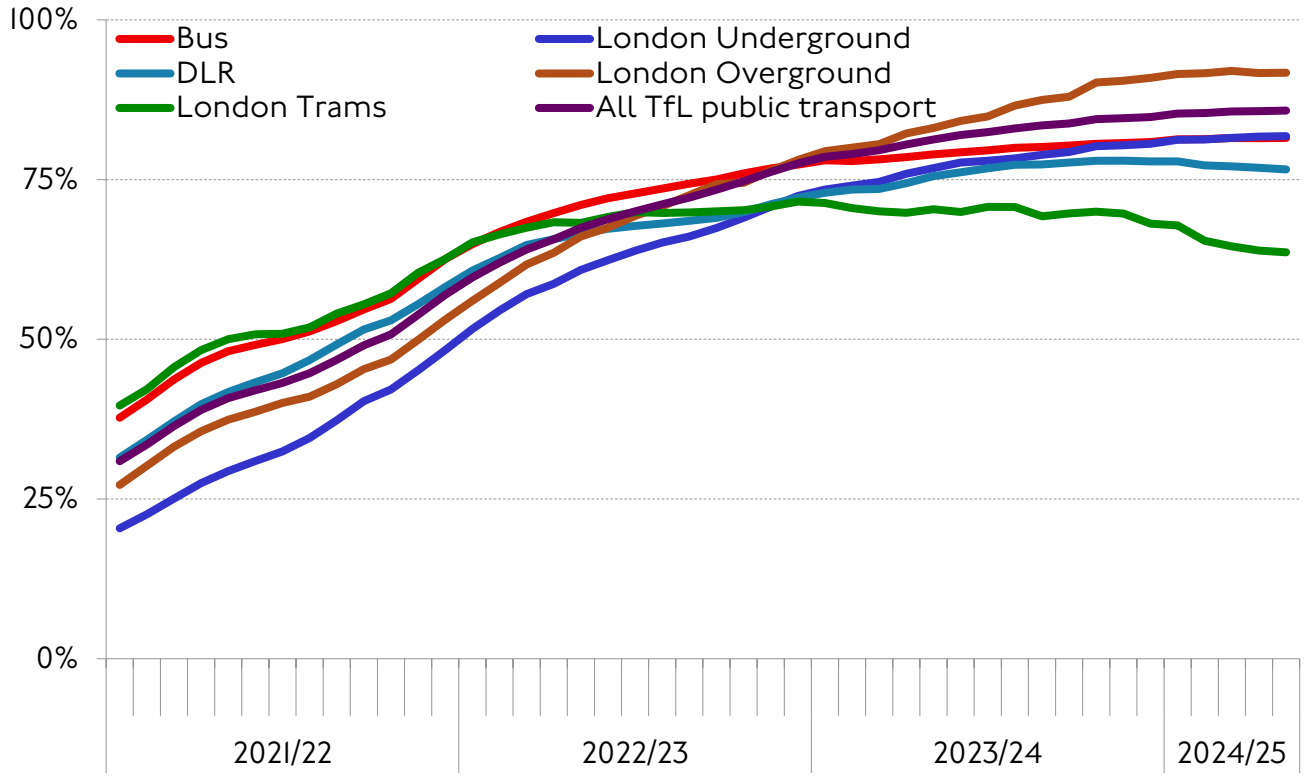
Source: TfL Operational Analysis, Network Performance.

A good public transport experience

Public transport demand and operational performance trends

Public transport demand has continued to recover following the coronavirus pandemic, although unevenly (relative to pre-pandemic conditions) over days of the week and times of the day. The latest position for each TfL mode, relative to the pre-pandemic baseline, is shown in figure 30.

Figure 30 Passenger journeys recovery (from the 2019/20 baseline) on the main TfL public transport modes, by financial period, 13-period moving average, period 1 2021/22-period 5 2024-25.



Source: TfL Strategic Analysis, Customer & Strategy, based on TfL service performance data.
Notes: The Elizabeth line is not shown separately but its demand is included in the 'All TfL public transport' series. | Period 5 2024/25 figures are early estimates and therefore subject to change.

At an aggregate level for the whole year, in 2023/24 there were 3.6 billion journeys across London's main public transport modes, a 9.4 per cent increase from 3.3 billion journeys in 2022/23. This was still below the level of the last pre-pandemic year (2019/20), at 93 per cent, and furthermore the pace of recovery slowed in 2024 relative to prior expectation.

This aggregate trend conceals the fact that the Elizabeth line opened in 2022 and would have attracted many new journeys not previously seen on TfL's public transport networks. A more detailed analysis of total journeys on individual modes, as an average for 2023/24, therefore shows levels of shortfall from the pre-pandemic baseline of between 3 and 15 per cent. For London Underground, the representative recovery percentage as an average in 2023/24 was 88 per cent. For buses, it was 89 per cent.

The Elizabeth line, which opened in May 2022, continued to grow strongly, with a 53.9 per cent increase in journeys in the year to 2023/24. London River Services (up by 13 per cent)

and the IFS Cloud Cable Car (up by 4.5 per cent) both also showed significant patronage growth during 2023/24. Finally, the Office of Rail and Road reports that rail journeys on London and South East franchised National Rail operators (which include a certain amount of travel that does not take place strictly within or across the London boundary) recovered to around 1.1 billion journeys (95 per cent of the pre-pandemic baseline) in 2023/24.

Post-pandemic recovery to the 2023/24 financial year by mode

Table 5 shows the trend in journeys on TfL's public transport modes for the last decade.

Table 5 Journey stages (millions) on TfL's public transport modes, 2013/14-2023/24.

Year	Buses	LU	DLR	LO[1]	EL[1,2]	Trams	Total[3]	River Services	IFS Cloud Cable Car
2013/14	2,382	1,265	102	136	-	31	**3,916**	8.4	1.5
2014/15	2,385	1,305	110	140	-	31	**3,972**	10.0	1.5
2015/16	2,314	1,349	117	183	37	27	**4,028**	10.2	1.5
2016/17	2,262	1,378	122	189	45	30	**4,025**	10.4	1.5
2017/18	2,247	1,357	120	190	42	29	**3,985**	10.0	1.4
2018/19	2,220	1,385	122	188	51	29	**3,995**	9.8	1.4
2019/20	2,112	1,337	117	186	56	27	**3,835**	9.6	1.2
2020/21	865	296	40	59	18	12	**1,290**	1.6	0.4
2021/22	1,491	748	77	127	37	19	**2,499**	5.3	1.4
2022/23	1,785	1,065	92	157	143	21	**3,263**	8.5	1.5
2023/24	1,870	1,181	99	181	220	20	**3,571**	9.6	1.6
Change 2022/23-2023/24	4.8%	10.9%	7.2%	15.5%	53.9%	-4.5%	**9.4%**	13%	4.5%

Source: TfL Strategic Analysis, Customer & Strategy, based on Office of Rail and Road and TfL service performance data.
Note: On all modes except London Overground, a 'journey stage' is a leg of a whole trip by a single mode without additional validation. For example, a trip involving two buses would generate two bus journey stages; but a trip using two lines on the same rail mode without crossing barriers would generate only one journey stage. On London Overground, each train boarding is counted as a separate journey stage.
1: The London Overground and Elizabeth line figures are Office of Rail and Road estimates based on ticket sales, with known limitations especially for the Elizabeth line, so they should be considered only indicative.
2: The Elizabeth line opened in May 2022 so the results up to 2021/22 refer to the former TfL Rail services.
3: This total excludes River Services and the IFS Cloud Cable Car.

- On **buses**, the number of journey stages in 2023/24 recovered to 89 per cent of the pre-pandemic baseline.
- **London Underground** journeys stages in 2023/24 were at 88 per cent of the pre-pandemic baseline.
- On the **DLR**, journey stages in 2023/24 were 85 per cent of the pre-pandemic baseline.

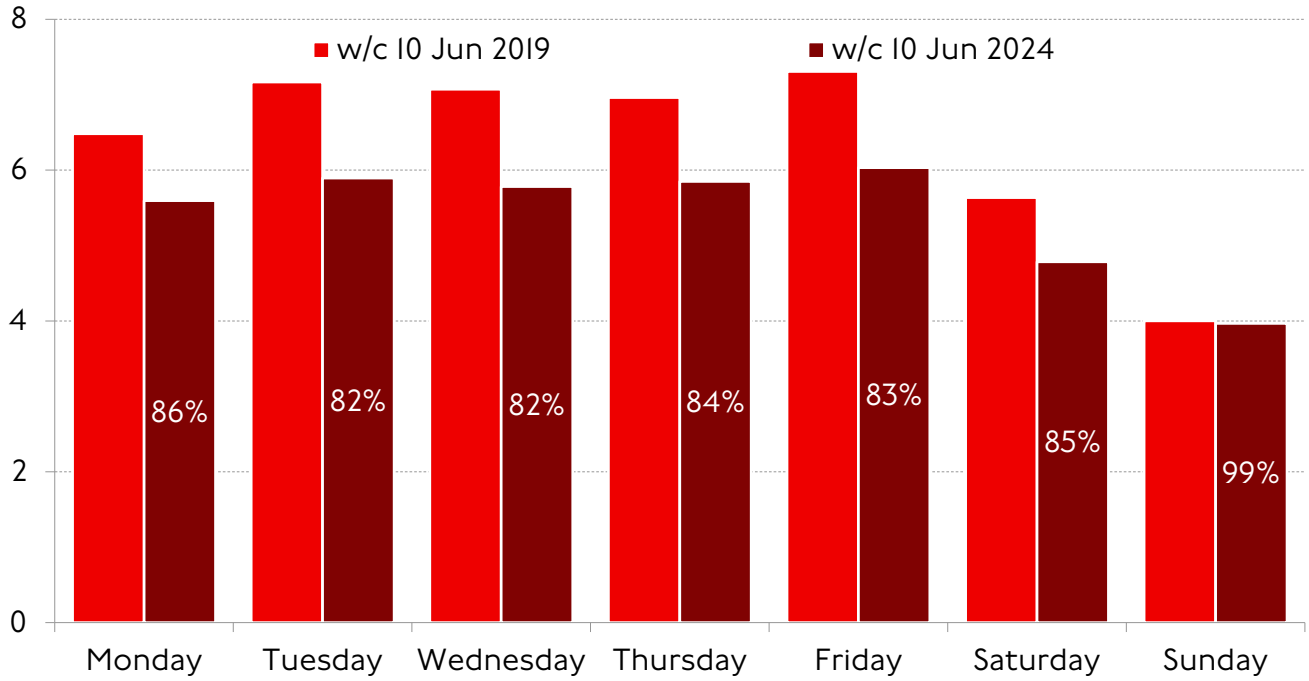
- On **London Overground**, journey stages had recovered to 97 per cent of the pre-pandemic baseline in 2022/23.
- **London Trams** journey stages were at 73 per cent of the pre-pandemic baseline in 2023/24.
- On **London River Services**, the number of journey stages recovered to 100 per cent of the pre-pandemic baseline.
- Finally, the **IFS Cloud Cable Car** saw 31 per cent more journeys in 2023/24 than before the pandemic.

Changes in the distribution of travel demand throughout the week and the day

While changes to the timing (within the week and the day) and location of public transport journeys were a key feature of the earlier stages of the pandemic recovery, the latest data from 2023/24 suggests that these are tending to slowly dissipate over time, although an uneven recovery and preference for certain days of the week is still apparent on some modes (notably the London Underground and to a lesser extent buses).

Figure 31 shows London bus demand by day of the week for a representative week in spring 2024, compared to the equivalent week in 2019 before the pandemic. The proportion of the pre-pandemic baseline for each day is also shown for reference.

Figure 31 Bus journey stages (in millions) by day of the week, week commencing 10 Jun 2019 versus week commencing 10 Jun 2024.



Source: TfL Strategic Analysis, Customer & Strategy, based on TfL service performance data.
Note: On buses, each boarding (even within the same trip) is counted as an additional 'journey stage'.

The overall pattern of relative patronage across the different days of the week in 2024 was broadly similar to before the pandemic. The recovery of bus demand was also relatively even, with proportions between 82 and 86 per cent across all days of the week except Sunday, at 99 per cent on this representative week.

Table 6 shows the state of the pandemic recovery for buses by time of day and day of the week at a representative week in spring 2024.

Table 6 Bus demand recovery by time of day and day of the week, 16-22 Mar 2024 versus 16-22 Mar 2019.

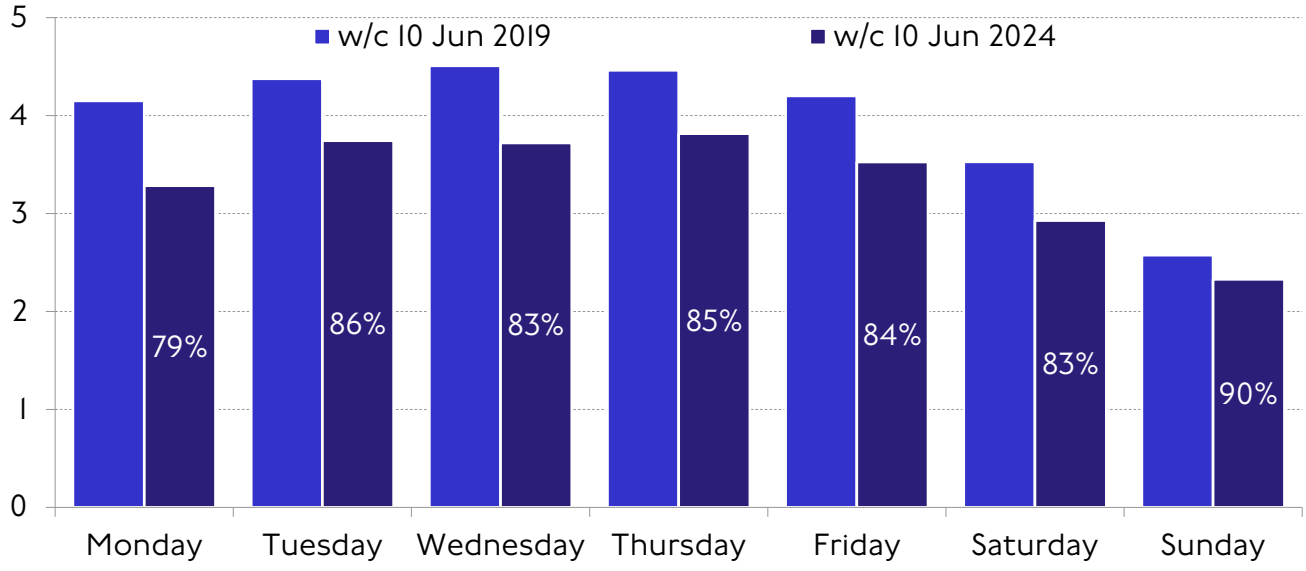
Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Early morning (04:00-07:00)	91%	90%	90%	92%	89%	104%	112%
Morning peak (07:00-10:00)	78%	79%	82%	80%	76%	97%	98%
Early inter-peak (10:00-13:00)	88%	89%	91%	90%	90%	93%	85%
Late inter-peak (13:00-16:00)	87%	88%	89%	89%	88%	97%	89%
Evening peak (16:00-19:00)	82%	84%	84%	85%	83%	97%	100%
Evening (19:00-22:00)	86%	88%	127%	92%	92%	100%	108%
Late evening (22:00-01:00)	96%	98%	123%	105%	95%	107%	112%
Whole day	**84%**	**86%**	**90%**	**87%**	**86%**	**97%**	**96%**

Source: TfL Public Transport Service Planning.
Note: The underlying data includes Oyster and contactless payment but not paper tickets.

The recovery was least advanced in the Monday and Friday morning peaks (at 78 and 76 per cent, respectively), although this was still relatively higher than the level seen on London Underground (see table 7 in the next section), most likely due to school-related trips. Weekends had recovered the most, although in absolute terms they remain materially less busy than weekdays.

Figure 32 shows London Underground demand by day of the week for a representative week in spring 2024, compared to the equivalent week in 2019 before the pandemic. The proportion of the pre-pandemic baseline for each day is also shown for reference.

Figure 32 London Underground journey stages (in millions) by day of the week, week commencing 10 Jun 2019 versus week commencing 10 Jun 2024.



Source: TfL Strategic Analysis, Customer & Strategy, based on TfL service performance data.
Note: On London Underground, a 'journey stage' is a leg of the trip with no additional validation. Hence, one journey stage may involve several lines when the interchange does not require crossing barriers. However, any 'out-of-station' interchange where validation is required is counted as a new journey stage.

Although the overall pattern of relative patronage across the different days in 2024 for the London Underground was broadly similar to before the pandemic, the recovery proportions ranged more widely, from 79 per cent on Monday to 90 per cent on Sunday.

Table 7 shows the state of the pandemic recovery for the London Underground by time of day and day of the week for a representative week in spring 2024.

Table 7 London Underground demand recovery by time of day and day of the week, 16-22 Mar 2024 versus 16-22 Mar 2019.

Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Early morning (04:00-07:00)	76%	77%	76%	77%	74%	83%	87%
Morning peak (07:00-10:00)	70%	79%	79%	79%	62%	88%	91%
Early inter-peak (10:00-13:00)	85%	89%	90%	90%	86%	98%	96%
Late inter-peak (13:00-16:00)	89%	91%	90%	91%	88%	96%	91%
Evening peak (16:00-19:00)	77%	85%	83%	85%	76%	102%	95%
Evening (19:00-22:00)	75%	81%	84%	88%	82%	98%	93%
Late evening (22:00-01:00)	97%	97%	96%	101%	91%	107%	94%
Whole day	**78%**	**84%**	**84%**	**86%**	**78%**	**98%**	**94%**

Source: TfL Public Transport Service Planning.
Note: The underlying data includes Oyster and contactless payment but not paper tickets.

As with buses, the recovery was least advanced in the Monday and Friday morning peaks (at 70 and 62 per cent, respectively). In absolute terms Tuesday and Thursday evening peaks were the busiest three-hour periods. Saturday had recovered the most overall in percentage terms, but in absolute terms remained less busy than Mondays and Fridays.

Service provision and operational performance

Public transport service provision was maintained at a relatively high level on TfL services during the pandemic and recovered quickly afterwards. More recently, however, the negative impacts of deferred asset renewal have begun to be felt, with restrictions to service provision on both the Central and Bakerloo lines, alongside staff availability issues and the resurgence of road traffic congestion affecting bus speeds and reliability.

The roots of these issues can be traced back to the disruptive effect of the coronavirus pandemic and there is a danger of continuing deterioration in the future. The Elizabeth line and London Trams experienced particular reliability challenges in 2023/24, reflecting specific infrastructure issues, the former largely related to Network Rail infrastructure issues on the western branch towards Heathrow and Reading.

In terms of service provision and performance, the year 2023/24 saw improvements relative to 2022/23 on most operator-focused metrics but these were not reflected for all modes on passenger-focused metrics and some key indicators remained below their representative pre-pandemic values. Table 8 provides a summary of key performance indicators. From 2022/23 to 2023/24, the proportion of train kilometres operated on the London Underground increased by 2.5 percentage points to 90.8 per cent of the scheduled kilometres; and by 0.9 percentage points on buses, to 96.9 per cent.

Table 8 Selected performance indicators on the main TfL-operated public transport modes, 2013/14-2023/24.

Year	Buses: kilometres operated	LU: kilometres operated	DLR: services operated	Trams: services operated	LO: PPM[1]	EL: PPM[1]
2013/14	97.7%	97.5%	99.2%	98.9%	95.8%	-
2014/15	97.1%	97.6%	99.3%	97.9%	95.0%	-
2015/16	97.2%	97.5%	98.5%	99.0%	94.4%	91.4%
2016/17	97.4%	96.9%	99.0%	97.1%	94.5%	91.8%
2017/18	98.1%	96.6%	98.4%	98.5%	94.4%	89.8%
2018/19	98.1%	96.8%	99.0%	98.5%	93.8%	93.8%
2019/20	97.8%	94.0%	99.0%	98.2%	92.6%	95.2%
2020/21	98.7%	87.2%	99.3%	98.3%	96.2%	96.0%
2021/22	97.9%	88.2%	98.5%	98.5%	95.2%	94.2%
2022/23	96.0%	88.3%	98.3%	92.2%	93.5%	92.8%
2023/24	96.9%	90.8%	98.3%	93.6%	93.6%	88.0%
Change 2022/23-2023/24	+0.9pp[2]	+2.5pp	0pp	+1.4pp	+0.1pp	-4.8pp

Source: TfL Strategic Analysis, Customer & Strategy, based on Office of Rail and Road and TfL service performance data.
1: Annual average of the Public Performance Measure (PPM), which is a metric that combines punctuality and reliability to represent the proportion of all scheduled trains that are 'on time', which for operators in the London and South-East region means arriving at the destination no later than five minutes after the scheduled arrival time.
2: Percentage points.

Connectivity

Access to bus services

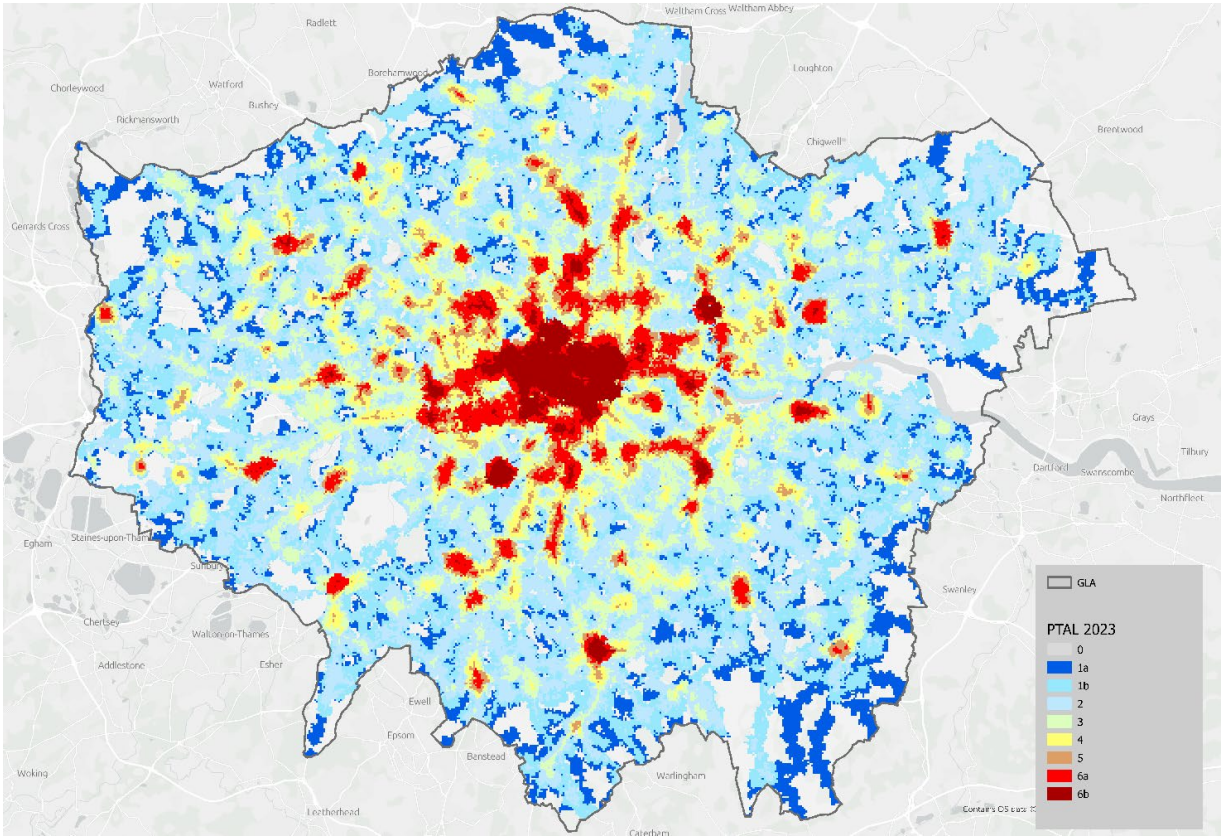
The key connectivity metric we use for public transport is the proportion of Londoners living within 400 metres of a bus stop, which represents the ability of Londoners to access bus services within five minutes of where they live. The Mayor's aim is to maintain this broadly at the high level of 96.5 per cent seen in 2016. Re-calculation of this measure using population data for 2024 shows a slight increase in the proportion of Londoners meeting this criterion, to 96.7 per cent.

Public transport access level (PTAL)

Our public transport access level (PTAL) metric provides a wider measure of Londoner's access to public transport. The familiar pattern of relatively higher connectivity towards

inner and central London, town centres and along radial rail lines is visible. As of October 2024, 33 per cent of London's population lived in areas with a PTAL connectivity score of four or above, which is considered to represent 'high' connectivity. This is identical to the value for 2023. Figure 33 shows London PTAL as of autumn 2023.

Figure 33 Public transport access level (PTAL) in London, autumn 2023.



Source: TfL Strategic Analysis, Customer & Strategy.

Public transport safety

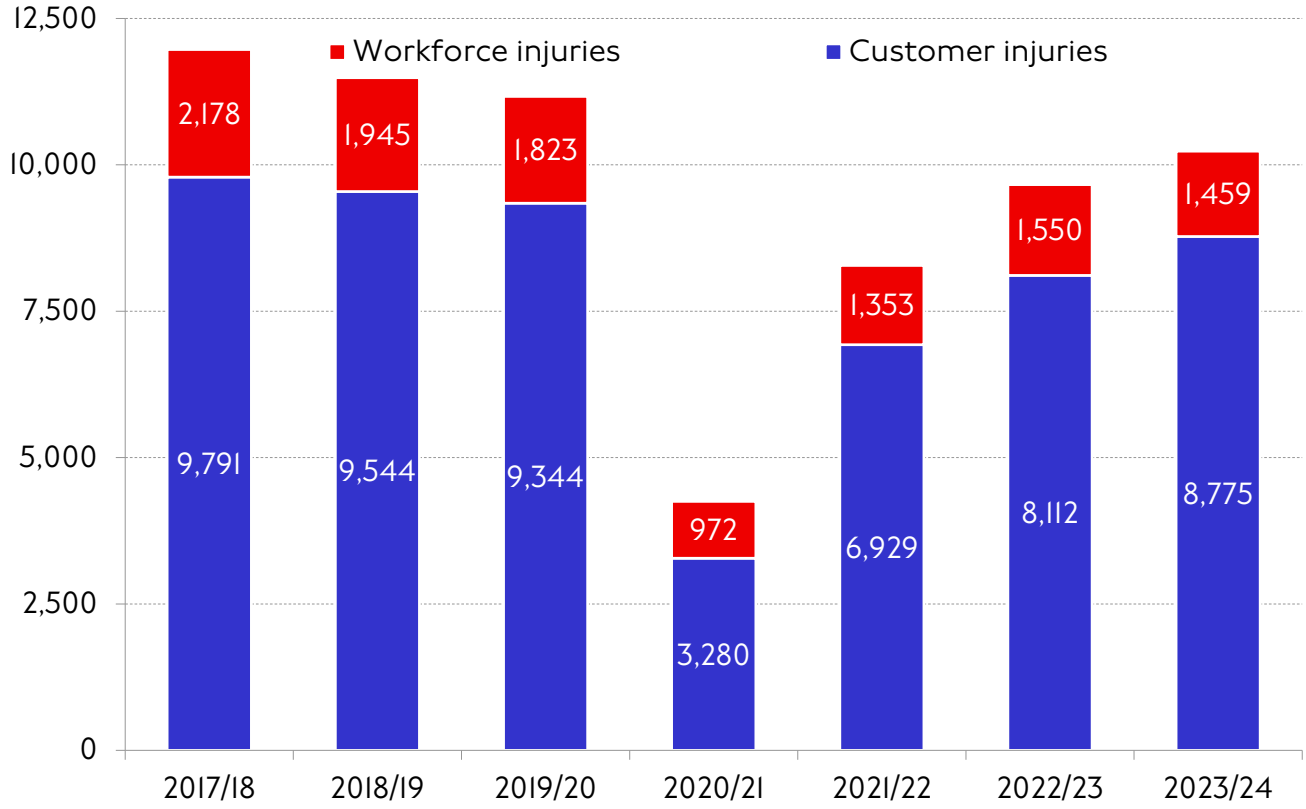
Customer and workforce injuries

Although millions of journeys are made safely every day, in 2023/24 there were 8,775 customer injuries and 1,459 injuries among our workforce, both of which remain lower than before the pandemic (figure 34).

Figure 35 shows that in 2023/24 there were 219 customer and workforce killed or seriously injured casualties. Nine people (eight customers and one colleague) lost their lives on our public transport network in the 2023/24 financial year. There were 193 serious injuries sustained by our customers and 17 by colleagues on the network. This represents a decrease in the number of customers and colleagues killed or seriously injured compared to the previous financial year and shows that we are broadly in line with the reduction required to meet the Mayor's Transport Strategy Vision Zero target by 2041.

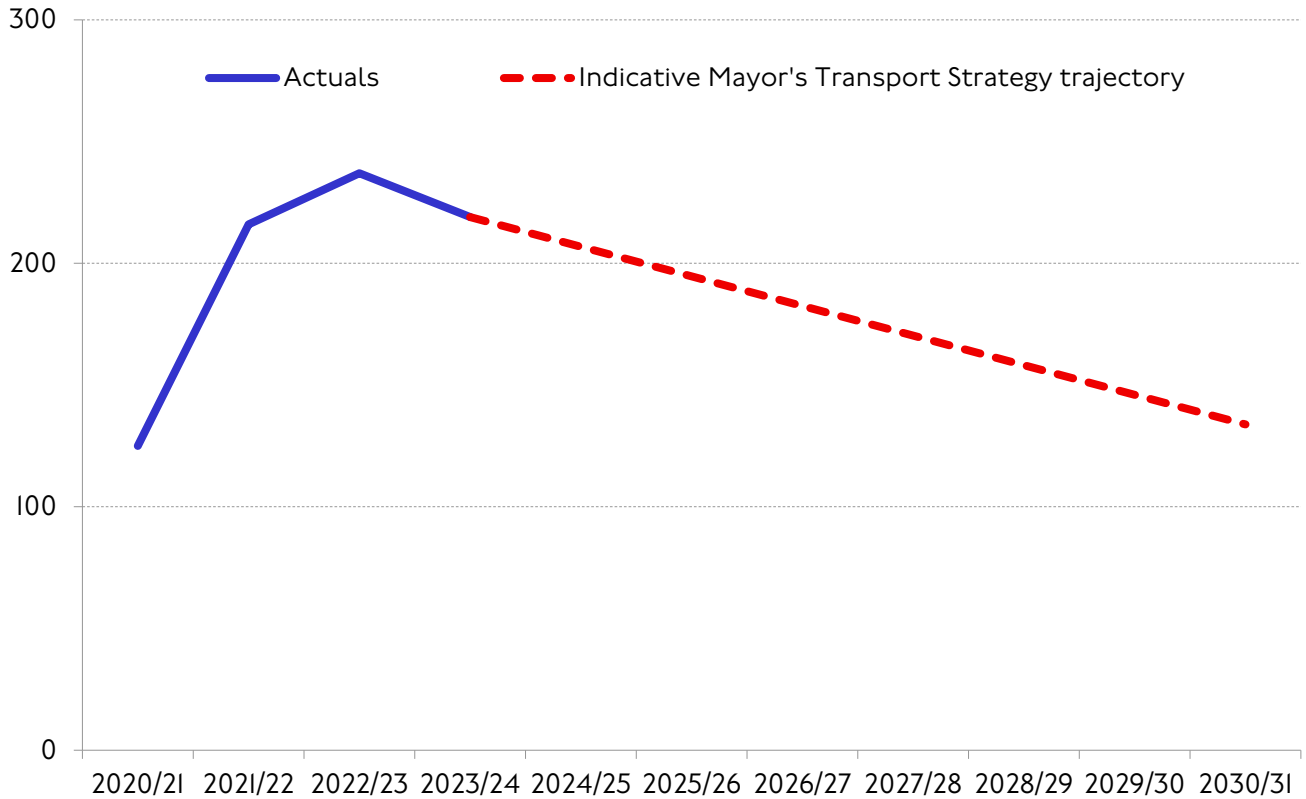
To achieve the Mayor's ambition of eliminating all deaths and serious injuries on London's transport network by 2041 we are prioritising action on those risks that lead to the greatest number of injuries and harm. We are also working to improve controls and operational processes that prevent harm from occurring.

Figure 34 Customer and workforce injuries (all severities), 2017/18-2023/24.



Source: TfL Insights & Direction, Safety, Health & Environment.

Figure 35 Killed or seriously injured customer and workforce casualties, 2020/21-2030/31.



Source: TfL Insights & Direction, Safety, Health & Environment.

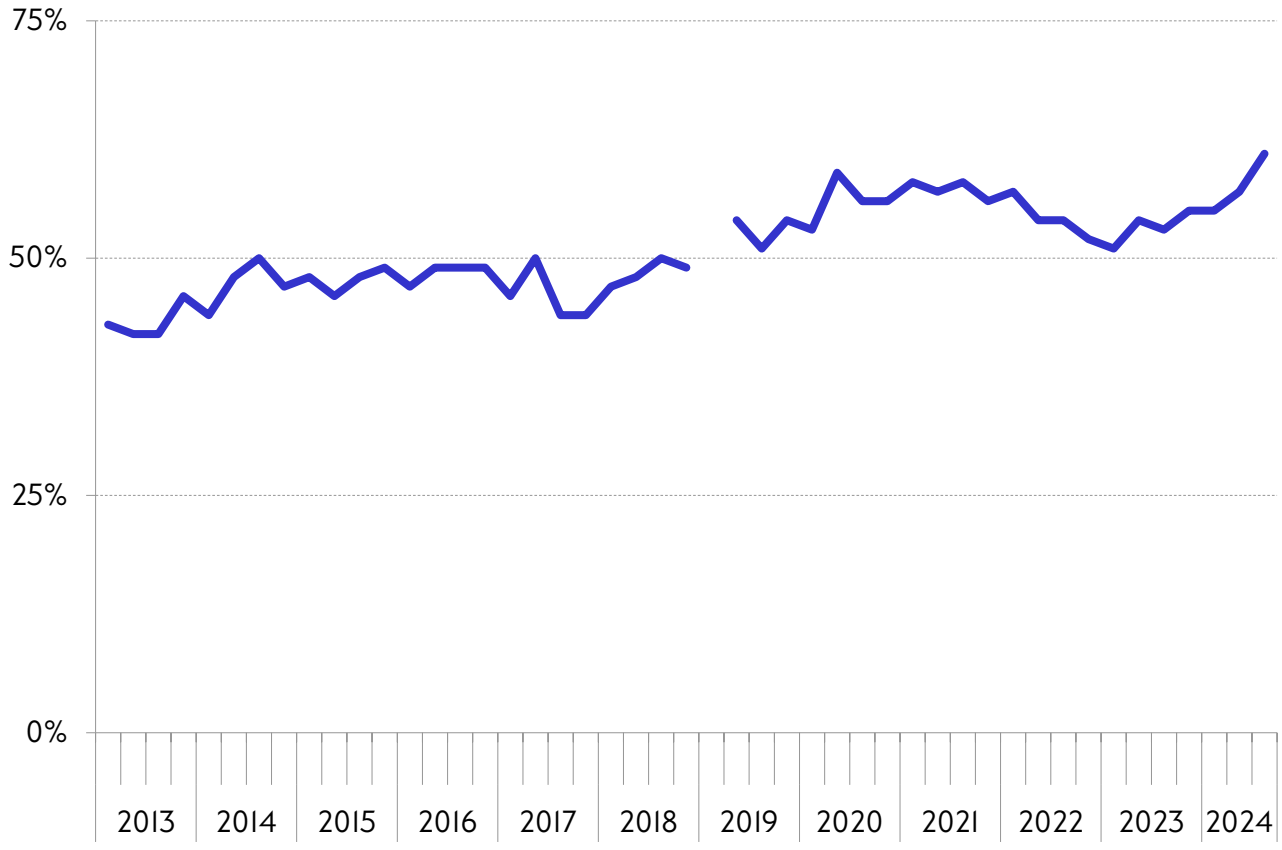
Customer Care

Care and customer satisfaction are our primary measures for understanding the quality of the customer experience that TfL delivers, from a customer perspective. They are complementary elements in determining how TfL is working for our customers, providing a rounded picture of our performance.

'TfL cares about its customers' is the measure used to understand whether TfL is meeting expectations and making Every Journey Matter for our customers. Care measures Londoners' overall perceptions of TfL and is the best reflection of how TfL meets expectations in every interaction with customers (for example all journeys, interactions with the Contact Centre and communications such as email updates), not just the last journey. A continuing focus on Care helps TfL understand, in the short-term, how TfL works for our customers, and in the longer term, how to encourage greater use of active, efficient and sustainable modes.

Our key Care measure performed well throughout the pandemic, with quarterly results lying in the high 50 per cent of Londoners agreeing that 'TfL cares about its customers' (figure 36). Since the pandemic, the score has been suppressed by customers adjusting to the increased busyness of the network following a period of lower public transport use, a period of sustained industrial action and the launch of the ULEZ expansion. External factors such as the cost-of-living crisis also contributed to lower scores. At the start of 2024/25 the Care score returned to and exceeded pre-pandemic levels, as industrial action has eased, and operational performance stabilised.

Figure 36 Agreement with 'TfL cares about its customers' (Care score), by quarter, quarter 1 2013 (Jan-Mar)-quarter 3 2024 (Jul-Sep).



Source: TfL Customer Insight, Customer & Strategy.
Note: The series break in 2018/19 reflects a change of data supplier.

Physical accessibility

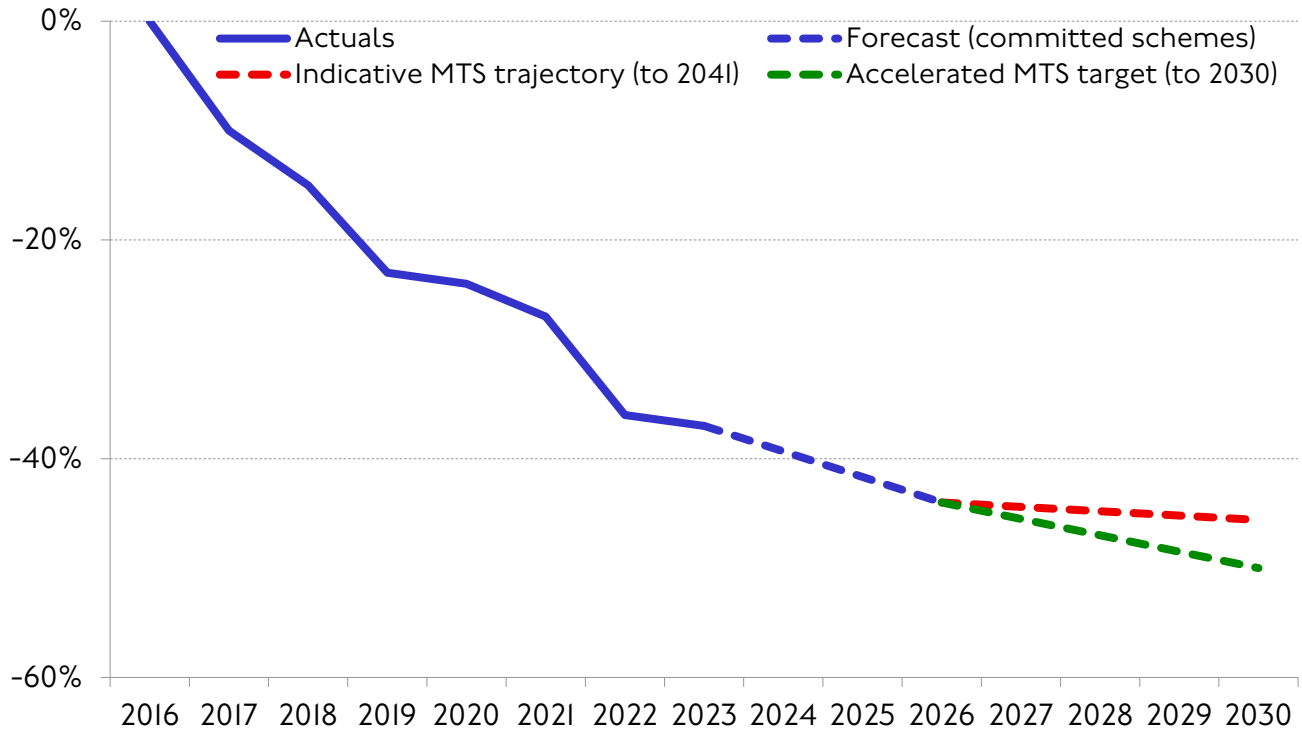
Improving the physical accessibility of public transport is key to creating a fully inclusive network for all. People who are older or disabled or who are travelling with luggage or young children can sometimes find it hard to get around and often face longer journeys if they are only able to use the step-free network.

The Mayor's Transport Strategy aims to reduce this journey time differential, with a working aim of a 50 per cent reduction from a 2016 baseline by 2041. Despite funding challenges, we are ahead of trajectory to meet this target. We have therefore set a stretch target to achieve the 2041 ambition by 2030 (figure 37).

Today, more than a third of London Underground stations across the city provide step-free access, with the Mayor's ambitious goal set at making 50 per cent of London Underground stations step-free by 2030.

In the context of rapid progress in recent years however, there were no new additions to the step-free network in 2024. Knightsbridge London Underground station is the next step free station set to open in 2025.

Figure 37 Reduction (from the 2016 baseline) in the additional journey time using only the step-free transport network, 2016-2030.

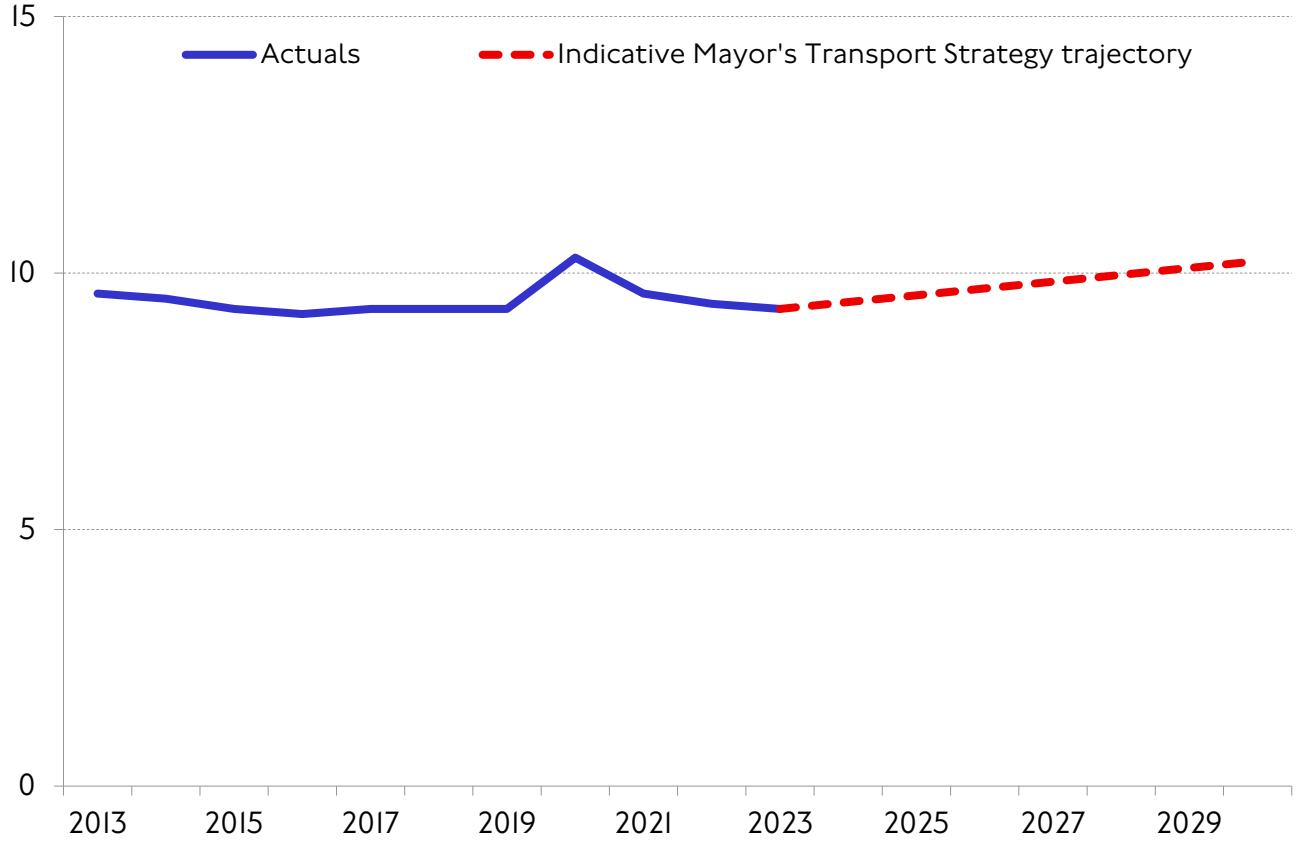


Source: TfL Strategic Analysis, Customer & Strategy.

Bus speeds

Bus speeds are a key indicator for perceived quality of service and are increasingly affected by general traffic congestion. Figure 38 shows a historical trend of slow decline. While bus speeds increased during the pandemic because of lower traffic levels, in the years since 2020 bus speeds have returned to 2019 pre-pandemic levels. The average bus speed in 2023/24 was 9.3 miles per hour, a small reduction of one per cent on 2022/23.

Figure 38 Average London bus network speed (in miles per hour), 2013-2030.



Source: TfL Strategic Analysis, Customer & Strategy, based on TfL service performance data.

A more holistic measure of bus performance is based on a generalised journey time metric that reflects the customers' perception of the average time taken to make a journey, including waiting, travel and interchange times, also considering crowding and bus journey time variability. The value of this metric in 2023/24 was 34.0 minutes, slightly higher than the target of 33.9 minutes.

Falling bus speeds are driven by delays and incidents associated with the impact of street works, traffic congestion, staff shortages, vehicle breakdowns and passenger impacts, among many others. They are improved for example by giving buses priority through techniques such as technology to optimise traffic signal cycles, infrastructure such as dedicated bus lanes for some or all of the day, bus gates or by operating limited-stop services.

Public transport crowding

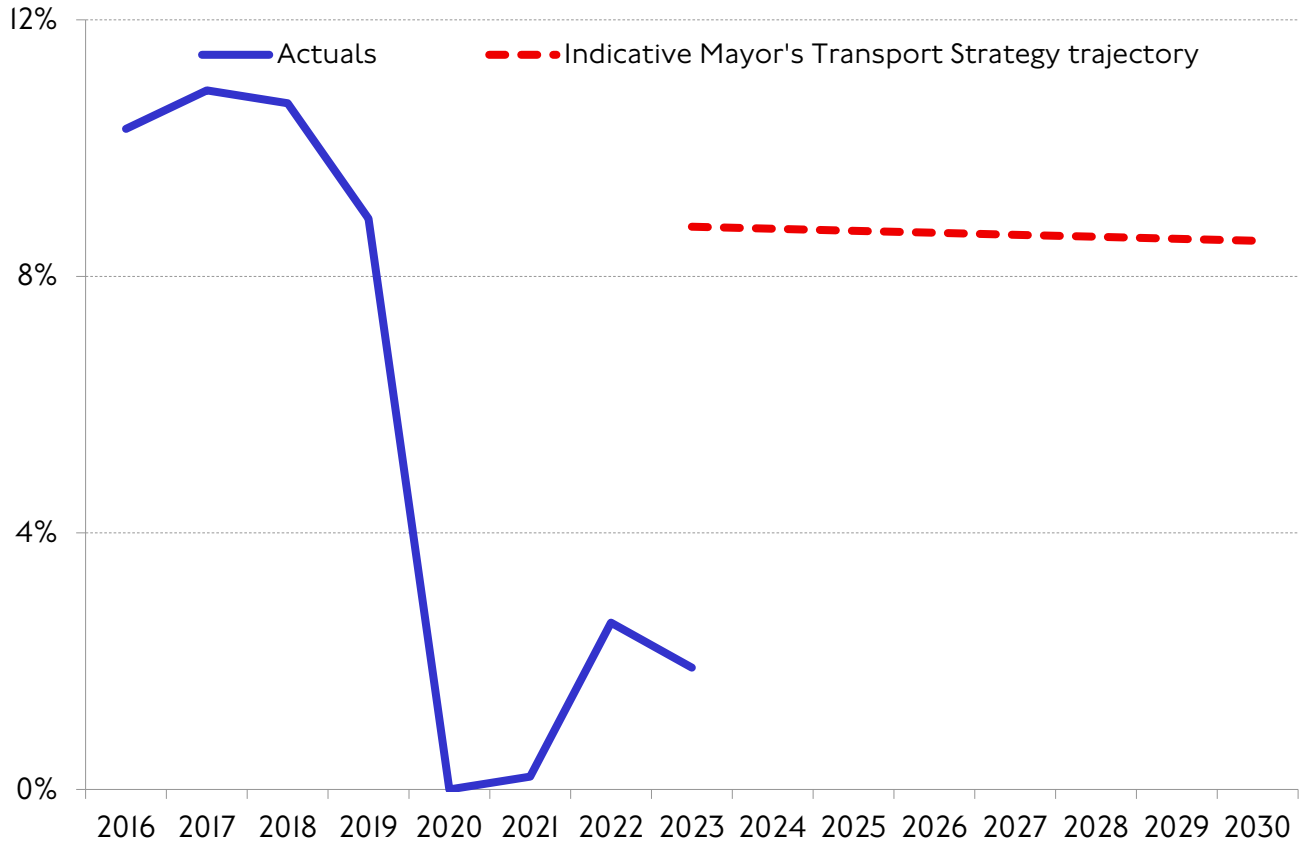
The Mayor's Transport Strategy sets an ambition to reduce the proportion of rail kilometres travelled in crowded conditions by 10-20 per cent compared to a 2016 baseline of 10.3 per cent.

This measure has proven to be highly sensitive to pandemic demand fluctuations (figure 39). In 2020 it effectively fell to zero, but in 2022 it recovered to 2.6 per cent, and in 2023 it fell slightly to 1.9 per cent.

Post-pandemic patterns of customer demand, particularly during the peak period, are driving this reduction in crowding compared to pre-pandemic levels. Furthermore, the

introduction of the Elizabeth line provided additional capacity and is also alleviating crowding on the London Underground network. However, although we remain comfortably ahead of target, without further investment in capacity on our network it is expected that crowding will increase with continuing population growth.

Figure 39 Proportion of passenger kilometres travelled on TfL rail services in standing densities above two people per square metre, 2016-2030.



Source: TfL Public Transport Service Planning.
Note: The method for calculating this metric was updated in 2023 and retrospectively applied to the figures for previous years for consistency. This led to a slight decrease in the proportion of passenger kilometres in crowded conditions compared to previously reported figures. Since the 2041 target is based on the 2016 baseline, this has now been revised downwards to account for the method change.

Superloop

In summer 2023 TfL launched the Superloop network of express bus routes connecting outer London town centres and transport hubs, providing substantial reductions in customer journey time and various other enhancements to the customer experience compared to regular TfL buses.

The Superloop network consists of ten express bus routes (of which nine are currently in operation) that connect key outer London town centres and transport hubs, offering improved connections and journey times (figure 40). The current Superloop stretches 179 kilometres (of which 138 kilometres are for the outer London 'loop' only) and connects 23 boroughs, providing interchanges with 310 other TfL bus routes and 23 rail lines across 49 rail stations.

Overall, Superloop has had a net positive impact on bus demand (even accounting for abstraction from parallel routes) and Superloop routes are generally showing better demand outcomes than the rest of the bus network. Furthermore, perception surveys conducted after the new services were introduced showed positive results, with most respondents (between 92 and 99 per cent) recognising the brand, thinking that Superloop services were better than other buses (88 per cent) and saying that they would use the service again (93 per cent), thus indicating that Superloop is a valued new product.

Figure 40 Map of the Superloop network.

Source: TfL Public Transport Service Planning.

A combination of factors such as shorter wait times, new direct connections and quicker on-board journeys has led to substantial reductions in customer journey time since the launch of the Superloop network. For illustration, table 9 shows some examples of these reductions on selected sections of the network.

Table 9 Weekday daytime journey time reductions since the introduction of Superloop services on selected sections of the network.

Route	Section	Journey time reduction
SL1	Walthamstow to Arnos Grove	21-27%
SL2	Walthamstow to Bell Corner and Ilford station	5-19%
SL2	Barking town centre to Gallions Reach	50-57%
SL3	Bexleyheath Library to Bromley, Widmore Road	10-20%
SL5	East Croydon to Bromley South station	25-37%
SL10	Hendon station to Harrow bus station	21-28%

Source: TfL Public Transport Service Planning.

New homes and jobs

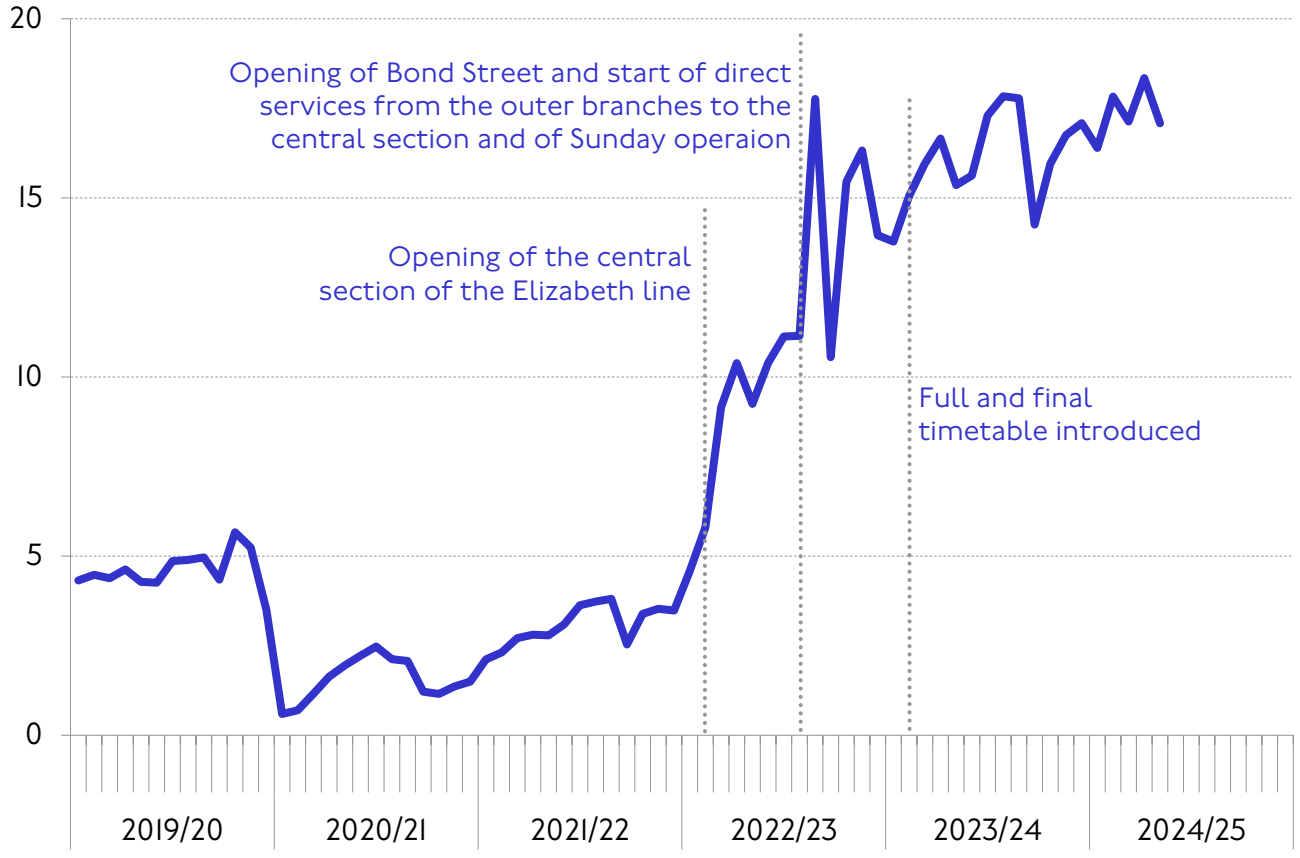
The Elizabeth line

The Elizabeth line officially opened in May 2022 with the start of services through the central tunnelled section, and the full and final timetable was introduced a year later in 2023, marking the end of the phased opening. However, services on what are now the outer branches of the Elizabeth line had been running under the TfL Rail brand since 2015.

In 2022/23 (slightly less than a full year since the opening), the Elizabeth line saw an estimated 143 million journey stages. This increased by 54 per cent to an estimated 220 million in 2023/24. The Elizabeth line continues to deliver transformative public transport capacity benefits, carrying an average of 660,000 journeys per day as of July 2024.

Figure 41 shows the trend in passenger journeys by financial period since the year before the coronavirus pandemic. Demand has been continuously increasing and often with boosts around the key milestones in the phased opening.

Figure 41 Periodic journeys (in millions) on the Elizabeth line, by financial period, period 1 2019/20-period 5 2024/25.



Source: TfL Strategic Analysis, Customer & Strategy, based on TfL service performance data.
Note: Period 5 2024/25 figures are early estimates and therefore subject to change.

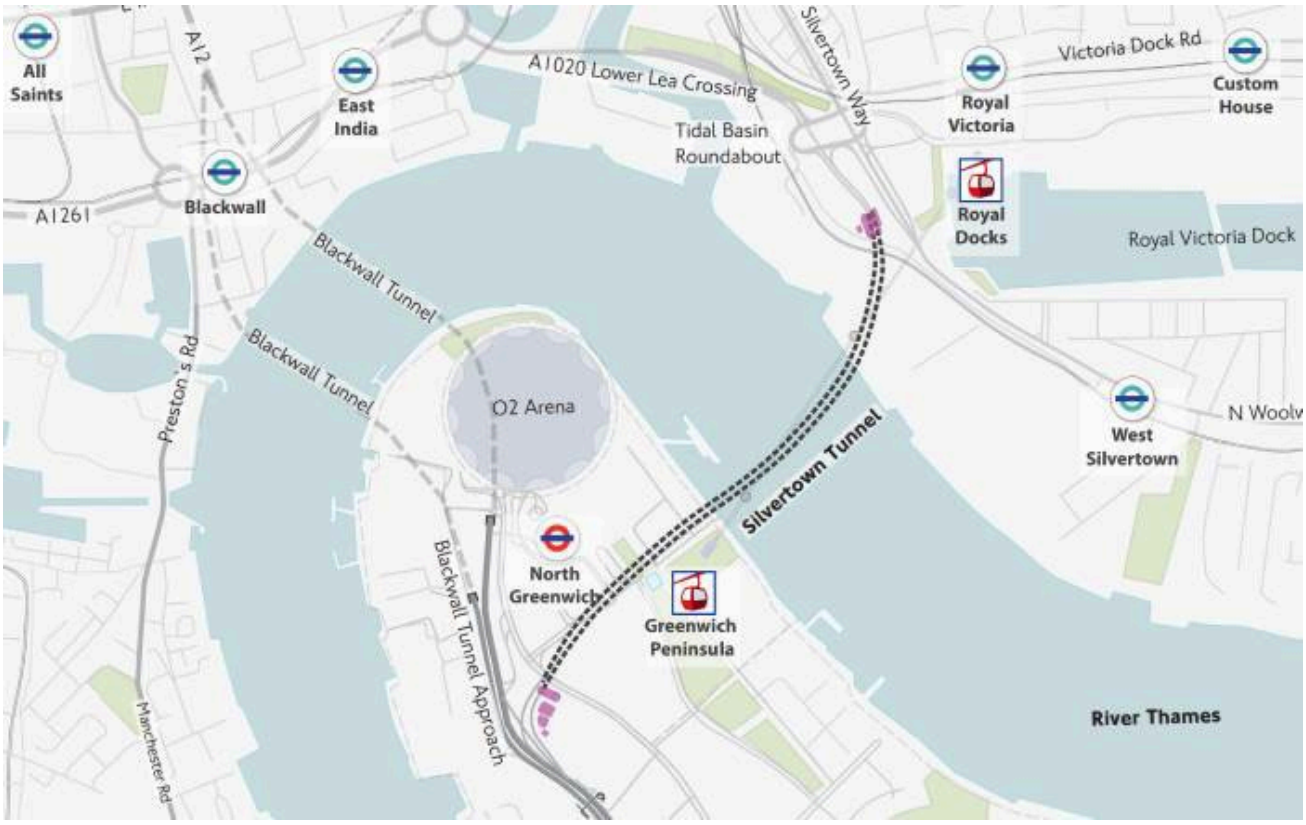
The Elizabeth line has also been instrumental in unlocking development in the areas around its stations. While updated estimates are being prepared, early findings suggest

that, between 2008 and 2021, before the full opening, 54,725 new homes were delivered within one kilometre of Elizabeth line stations.

Silvertown tunnel

The Silvertown tunnel is expected to open in spring 2025 and will link Silvertown to the Greenwich Peninsula in east London (figure 42).

Figure 42 Map of the Silvertown tunnel.



Source: Transport for London.

This new 1.4-kilometre road tunnel with a dedicated bus lane was first proposed in 2012 and plans were approved by the Secretary of State for Transport in 2018. The new tunnel capacity is expected to help make the road network more reliable, cut congestion, make journeys faster for drivers and improve overall air quality around the Blackwall Tunnel. It also enables a significant improvement in the public transport offer in this part of the capital, with an increase in bus services from four buses an hour to 21 buses per hour. The scheme also includes improvements for walking and cycling around the tunnel entrances as part of major regeneration on both sides of the river. Further details of the expected benefits and impacts of the new tunnel can be found on the Silvertown tunnel page on TfL's website.

The impacts of the tunnel on road traffic, air quality and wider social and economic conditions will be of significant interest and TfL has put in place a comprehensive programme of monitoring to measure and assess these impacts. This work responds directly to the monitoring requirements set out in the Development Consent Order for the scheme but is also intended, over time, to provide a rounded evaluation of the impacts of the tunnel.

As part of this work, pre-opening baseline conditions have been measured in the area around the new tunnel expected to see material impacts. This measurement commenced 2-3 years before the expected opening date and will extend for at least three years following the opening of the tunnel. A baseline monitoring report will be published by TfL as part of the Travel in London reports series. This will contain a summary of trends in the variables of primary interest up to (broadly) late 2024 and will provide the baseline against which to assess change, along with other data relating to trends (for example, in road traffic) more widely across London. Comprehensive supporting data will also be available to stakeholders.

Once the tunnel is open and data relating to post-opening impacts begins to accumulate, TfL will publish a series of updates. These will be consolidated into annual Silvertown tunnel impacts monitoring reports produced as part of the Travel in London series.

London Overground extension to Barking Riverside

In summer 2022 a new station (Barking Riverside) was opened on the extended London Overground line from Gospel Oak to give service to the district centre at the heart of the Barking Riverside development.

This is a further example of the potential of new transport infrastructure to unlock new homes and jobs, with the masterplan for the site including 10,800 new homes, half of which would be affordable. As of autumn 2024, 2,891 of these homes had been completed, with 607 under construction or due to start shortly, and 3,504 with full planning permission.

Building on the early growth in the Barking Riverside development, the developer (Barking Riverside Limited) has begun planning discussions with the intention to increase the number of homes in the masterplan to up to 20,000. Discussions are taking place between TfL, the London Borough of Barking and Dagenham and the developer to understand the transport impacts of the revised masterplan through the usual Transport Assessment process. As a positive endorsement of the Barking Riverside rail extension, the additional homes would come forward with much lower car parking with the aim of maximising sustainable travel to and from the area.

Opportunity Areas

Opportunity Areas are designated through the London Plan as areas with particular development potential. They have an important role in delivering the 66,000 extra homes per year that London needs. TfL's monitoring work in Opportunity Areas is based around the Mayor's Transport Strategy principles of Good Growth, focusing on housing delivery, access to public transport and travel by active, efficient and sustainable modes.

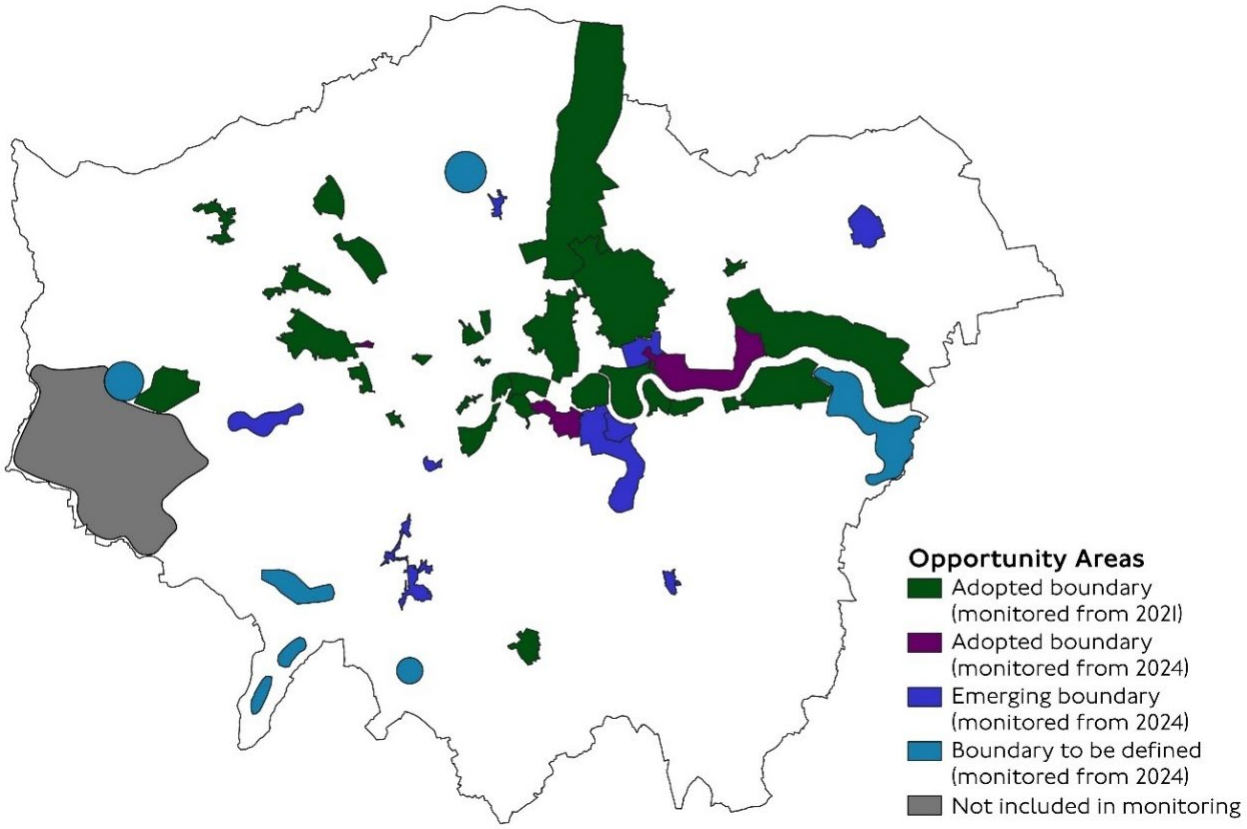
Public transport access level (PTAL) in Opportunity Areas

The Mayor's ambition is to increase the number of Londoners living in areas that are well connected by public transport, as measured by the public transport access level (PTAL). To monitor this, we have developed a measure of the proportion of Londoners living in areas with 'high' PTAL (four or higher) both in London and in Opportunity Areas.

This measure was first reported in Travel in London report 14, with only Opportunity Areas with 'adopted' boundaries in 2021 monitored, as these boundaries were defined and would remain consistent in future years. However, it is also important to monitor Opportunity Areas with an 'emerging' boundary or those with a 'boundary to be defined', while also noting that to ensure consistent monitoring across the years boundaries need to be fixed at some point in time. Therefore, for this year's monitoring, data is shown for the 28 Opportunity Areas previously monitored until 2023, including updated data for 2024, as well as an additional data point in 2024 for when Opportunity Areas classified as 'emerging' and 'boundaries to be defined' are included, as well as those with 'adopted' boundaries since 2021.

The boundaries used are fixed as of April 2024 to ensure consistency for monitoring purposes. The live status of Opportunity Areas and boundaries is available on this Opportunity Areas map. Note the Heathrow Opportunity Area has been excluded for monitoring purposes due to the large geographic area and the small capacity identified for new homes and jobs relative to the existing population, which would otherwise lead to distortions in the metric (figure 43).

Figure 43 Opportunity Area boundaries monitored from 2021 and additional boundaries included in the monitoring from 2024, April 2024.

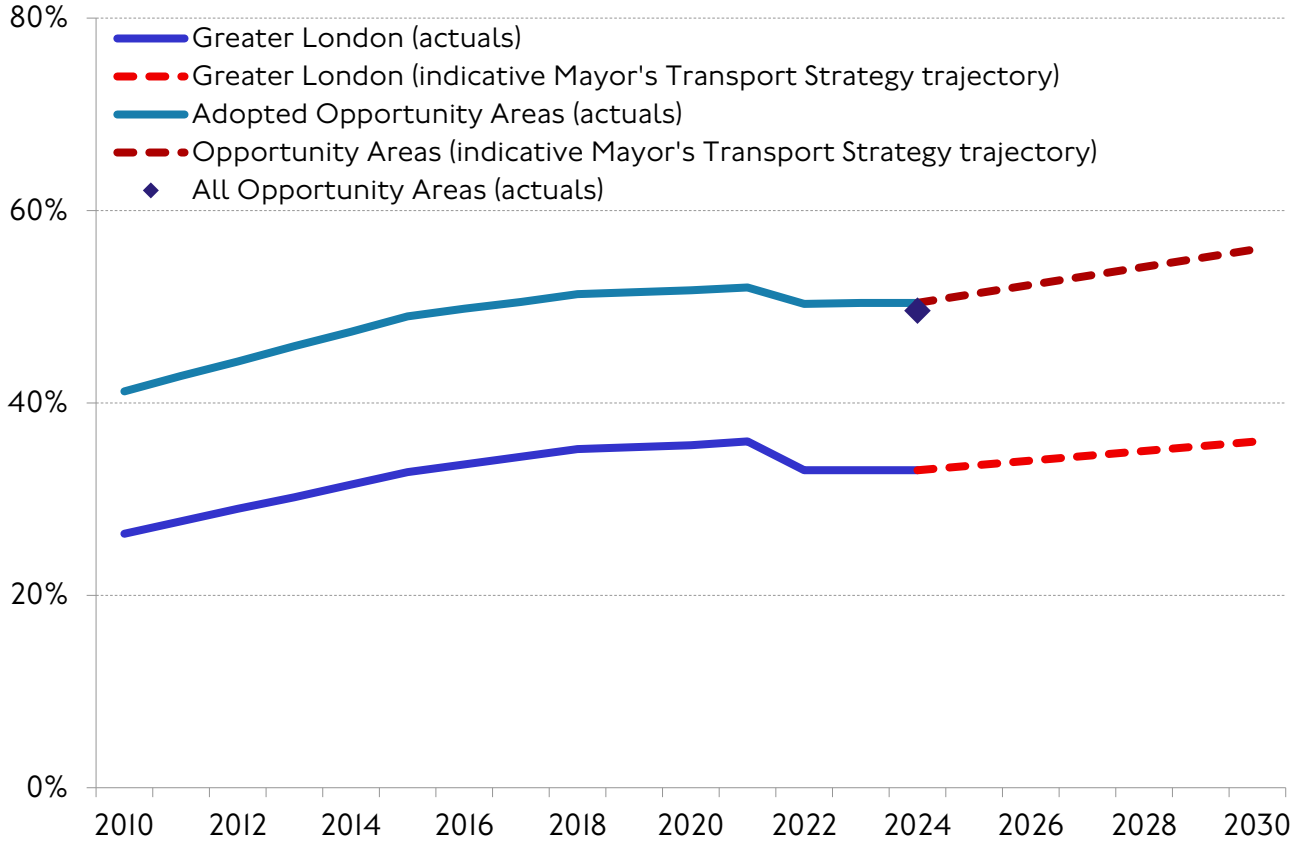


Source: Greater London Authority.

Figure 44 shows that, before 2022, the proportion of London residents and residents of (adopted) Opportunity Areas living in high PTAL areas had been steadily increasing due to improvements to the public transport network as well as to the delivery of homes in well-connected locations. However, in 2022 the proportion of Londoners living in areas with a high PTAL decreased, mainly due to timetable changes on the National Rail network and, to a lesser degree, on the bus network. This continued into 2023 and 2024, resulting in a similar proportion of Londoners living in high PTAL areas as in 2022.

In 2024, 50.4 per cent of Londoners living in adopted Opportunity Areas (monitored since 2021), lived in high PTAL areas. The proportion for the new metric which includes all Opportunity Areas was 49.6 per cent. This compares to a Greater London total of 33 per cent.

Figure 44 Proportion of the population living in areas of high (4-6) public transport access level (PTAL), London's Opportunity Areas versus Greater London, 2010-2030.



Source: TfL Strategic Analysis, Customer & Strategy.
Note: 2024 figures are provisional and may be revised once finalised 2024 PTAL data is available.

Mode shares in Opportunity Areas

Figure 45 shows the active, efficient and sustainable mode share of London resident trips with an origin or destination in an adopted Opportunity Area. The Opportunity Areas monitored as part of this metric are the 28 locations with adopted boundaries as of 2021, when this metric was defined.

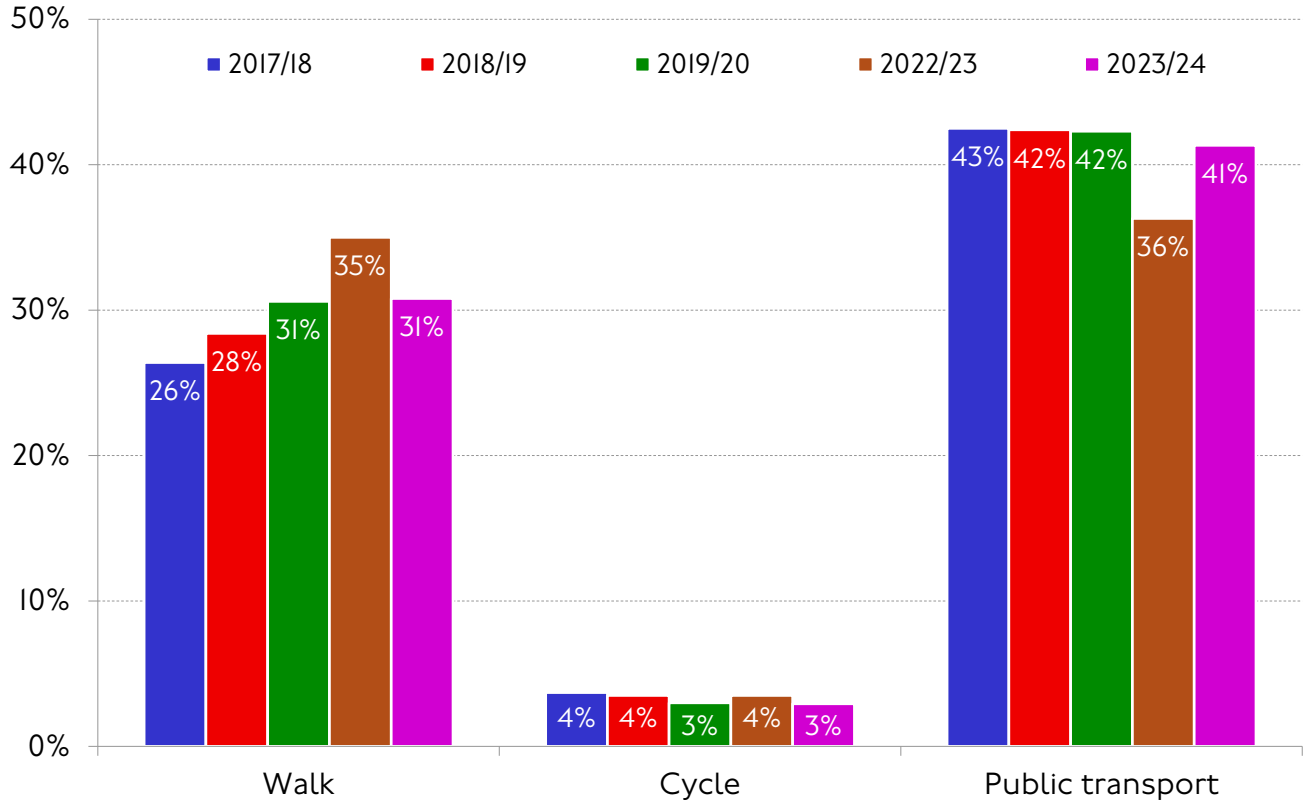
Before the pandemic there was a steady increase in the walk mode share in Opportunity Areas. By 2022/23 there was a noticeable step change compared to 2019/20, increasing by four percentage points to 35 per cent in 2022/23, although this decreased in 2023/24 with walk mode share returning to 31 per cent.

Cycle mode share in Opportunity Areas fell slightly in 2023/24 compared to 2022/23, to 2.9 per cent of trips.

Public transport mode share increased by five percentage points in 2023/24, to 41 per cent, although this remains slightly lower compared to 2019/20.

Overall, the active, efficient and sustainable mode share in 2023/24 was 75 per cent, the same as in 2022/23, but higher than the London resident trip mode share of 67 per cent.

Figure 45 Walking, cycling and public transport mode share in London's Opportunity Areas, LTDS, 2017/18-2023/24.



Source: TfL Strategic Analysis, Customer & Strategy.

Housing delivery in Opportunity Areas

A total of 81,008 homes were delivered in adopted Opportunity Areas over the period from April 2019 to March 2024, of which 25 per cent were affordable homes. The delivery of homes over this period was in line with the rate required to deliver the London Plan indicative housing capacity in adopted Opportunity Areas by 2041.

The Opportunity Areas with the highest number of homes delivered over this period were Isle of Dogs (8,066), Olympic Legacy (7,683), and Lee Valley (7,163). The highest number of affordable homes were delivered in Royal Docks and Beckton Riverside (2,219), accounting for 36 per cent of all homes delivered in the Opportunity Area. Overall, 25 per cent of the homes delivered in Opportunity Areas between April 2019 and March 2024 were affordable, totalling 19,988 homes.

Places for London

Places for London is TfL's property company and aims to meet the growing needs of the Capital by delivering new homes and providing new offices on our land. With over 5,500 acres of land across the Capital, TfL is one of London's largest landowners, providing workspaces for 1,500 customers, of which 90 per cent are small businesses. Places for London is wholly TfL-owned and has a programme to start 20,000 homes by

2031, targeting half of these homes to be affordable to help transform London in line with the Mayor's Transport Strategy.

All operating profits made from recurring revenues will continue to be returned to TfL as a dividend, creating a growing long-term revenue stream that can be reinvested into the transport network. More information can be found on the Places for London website.

We have now completed 1,324 new homes, 54 per cent of which (710 homes) are affordable, and have a further 3,000 under construction, of which 47 per cent will be affordable. In 2024/25 we expect to submit applications for up to a further 8,600 homes. Planning permissions that were granted last year included:

- 50 homes (36 per cent affordable) at South Kensington station in Kensington and Chelsea
- 351 build-to-rent homes (40 per cent affordable) at Cockfosters in Enfield
- 74 homes (100 per cent affordable) at Snaresbrook station in Redbridge

Our joint venture partnership with Barratt London is making great progress. Last year, 350 homes (including 50 per cent affordable housing) were built at Blackhorse View in Waltham Forest. Throughout the construction we supported around 300 new jobs, including apprenticeship opportunities, and 25 per cent of those employed came from within the local borough. Construction is advancing at our second project with Barratt London at Wembley Park in Brent, delivering 454 homes (40 per cent affordable). Construction is expected to start at Bollo Lane in Ealing in 2024, which will provide up to 900 highly sustainable homes (50 per cent affordable) and new pedestrian and cycle links. Working alongside Barratt London, we could deliver an additional 2,300 homes over the next 10 years.

Last year we also announced a strategic partnership with Network Rail that aims to accelerate the delivery of regeneration and development activity across London, particularly where there are TfL or other public sector landowners adjacent. It combines our expertise, experience and knowledge, enabling us to unlock the potential of sites near railways and develop thousands of new homes on Network Rail sites.

Other reports in the Travel in London 2024 series

Further reports in the Travel in London series will be published on the Travel in London reports page according to the indicative schedule below:

Report title	Expected publication
Update report: Consolidated estimates of total travel and mode shares	December 2024
Update report: The travel behaviour of London residents based on the London Travel Demand Survey	December 2024
Update report: Active travel trends	December 2024
Update report: Trends in public transport demand and operational performance	December 2024
Focus report: Motorcycle travel trends	December 2024
Focus report: Car ownership trends	December 2024
Focus report: Travel to the Isle of Dogs and Canary Wharf	Early 2025
Update report: Road traffic trends	Early 2025

About Transport for London (TfL)

Part of the Greater London Authority family led by Mayor of London Sadiq Khan, we are the integrated transport authority responsible for delivering the Mayor's aims for transport. We have a key role in shaping what life is like in London, helping to realise the Mayor's vision for a 'City for All Londoners' and helping to create a safer, fairer, greener, healthier and more prosperous city. The Mayor's Transport Strategy sets a target for 80 per cent of all journeys to be made by walking, cycling or using public transport by 2041. To make this a reality, we prioritise sustainability, health and the quality of people's experience in everything we do.

We run most of London's public transport services, including the London Underground, London Buses, the DLR, London Overground, Elizabeth line, London Trams, London River Services, London Dial-a-Ride, Victoria Coach Station, Santander Cycles and the London Cable Car. The experience, reliability and accessibility of these services is fundamental to Londoners' quality of life.

We manage the city's red route strategic roads and, through collaboration with the London boroughs, we are helping to shape the character of all London's streets. These are the places where Londoners travel, work, shop and socialise. Making them places for people to walk, cycle and spend time will reduce car dependency, improve air quality, revitalise town centres, boost businesses and connect communities. As part of this, our expanded Ultra Low Emission Zone and fleets of increasingly environmentally friendly and zero-emission buses are helping to tackle London's toxic air.

We have constructed many of London's most significant infrastructure projects in recent years, using transport to unlock much needed economic growth. This includes major projects like the extension of the Northern line to Battersea Power Station and Nine Elms in south London, as well as our work at Barking Riverside and the Bank station upgrade.

Working with Government, we opened the Elizabeth line in time for Queen Elizabeth II's Jubilee. This transformational new railway adds 10 per cent to central London's rail capacity and supports the delivery of high-density, mixed-use developments, which are planned around active and sustainable travel to ensure London's growth is good growth. We also use our own land to provide thousands of new affordable homes and our own supply chain creates tens of thousands of jobs and apprenticeships across the country.

We are committed to being an employer that is fully representative of the community we serve, where everyone can realise their potential. Our aim is to be a fully inclusive employer, valuing and celebrating the diversity of our workforce to improve services for all Londoners.

We are constantly working to improve the city for everyone. This means using intel, data and technology to make services intuitive and easy to use and doing all we can to make streets and transport services accessible to all. We reinvest every penny of our income to continually improve transport networks for the people who use them every day. None of this would be possible without the support of boroughs, communities and other partners who we work with to improve our services. By working together, we can create a better city as London's recovery from the pandemic continues.