



Residential Car Parking

Part of the London Plan evidence base

December 2017

MAYOR OF LONDON



**TRANSPORT
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EVERY JOURNEY MATTERS

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Introduction

Maintaining and improving London's transport network is vital in catering for the city's rapid population and employment growth. As the draft London Plan sets out, accommodating growth and increasing densities across London will need to be achieved in ways which reduce congestion and vehicle emissions, improve public health and reduce road danger, and encourage more active travel.

It is therefore vital that a new approach is taken to car parking, helping reduce the dominance of vehicles on our streets and supporting higher density development in sustainable locations. Without this, addressing London's housing crisis could come at the expense of increasing the city's health and transport challenges. In particular, pressures on the road network in many areas of London are at the point where the impacts of additional traffic generated by new development could potentially prevent it from being permitted.

Parking policy plays a key role in shaping the type of growth that happens in London as well as the travel patterns of residents and users. This paper outlines some of the evidence supporting the new residential car parking standards contained in the draft London Plan, demonstrating their role in meeting the Mayor's aims for London.

Its key findings are that:

- A. **Car use in London has a host of negative impacts for all Londoners**, including increasing risk of disease from physical inactivity, poorer air quality, more road danger and greater levels of congestion
- B. For much of London, particularly inner London and the better connected parts of outer London, **it is feasible for many people to live without a car**. For many, walking, cycling and public transport would be sufficient, while alternatives such as deliveries from online retailers, taxis, private hire vehicles or car clubs can replace the need for infrequent car trips. Higher density and mixed used development – which are promoted by the draft London Plan, especially near stations and town centres – will reduce the need to own a car further
- C. There is a clear link between providing parking and resulting car use. This relationship can be used to indicate what travel patterns are likely as a result of the proposed standards, which shows **the proposed standards are supportive of the Mayor's ambitions** particularly when combined with complementary measures including those set out in the draft Mayor's Transport Strategy
- D. **The proposed standards will require supporting measures to deliver**, including improvements to walking and cycling conditions, better public transport and the use of Controlled Parking Zones to prevent overspill parking

These are described in more detail in each of the following sections respectively.

Part A: The impacts of car use in London

Key findings:

Car use has significant impacts on every Londoner's experience of what it is like to live in the city:

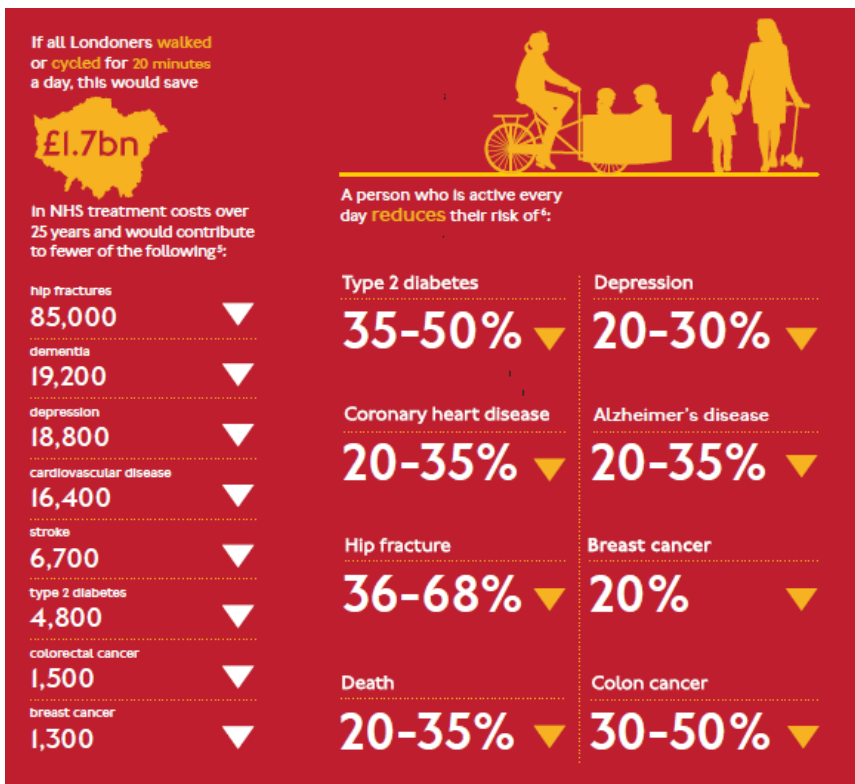
- Car travel involves **much lower levels of physical activity** than walking, cycling or public transport. Car ownership is linked with habitual car use and lower overall activity levels which **significantly increases the risk of a number of physical and mental diseases**
- The scale and urgency of change required for **addressing climate change requires a significant reduction in vehicle kilometres** in the short-medium term before a complete transition to zero-emission vehicles in the long run
- **Noise from road traffic can cause significant health problems** for those exposed to it and nearly a third of Londoners are directly affected by it
- **Poor air quality is also linked to a number of diseases and thousands of premature deaths every year.** This is caused by both nitrogen oxides from petrol and (particularly) diesel vehicles and particulate matter, much of which is from tyre and brake wear from all vehicles (including electric cars)
- **Every car on London's roads presents a risk of collision and resulting injury and death.** In 2015, 2,092 people were killed or seriously injured (KSI) on London's streets, almost 80 per cent of which were in incidents involving cars. Road danger is the key barrier stopping more people from choosing to cycle in London
- **Roads that are busy with vehicular traffic cause severance**, making it hard to reach nearby destinations by foot, deterring people from travelling actively and dividing communities
- **On many of London's roads there are high levels of congestion, three quarters of which is caused by traffic levels being higher than capacity.** Adding to this would have a negative economic impact and make travel times less reliable for freight and essential traffic as London grows
- **The space required to park cars is an inefficient use of space**, preventing the optimal use of London's developable land for other uses such as housing, places of employment, walking and cycling infrastructure or amenity uses

1. Physical inactivity

Physical activity is vital for improving public health

The life expectancy of Londoners has been increasing but adults are living more of their lives in poor health. Adults need at least 150 minutes of physical activity a week to stay healthy and reduce their risk of common, preventable diseases, but in London only 43 per cent meet this requirement.¹ Physical activity reduces the risk of premature death and developing chronic diseases including heart disease, cancer, diabetes and stroke.² It also reduces the risk of depression and Alzheimer’s disease.

Figure 1: Health impacts of physical activity



Source: Draft Mayor’s Transport Strategy (2017)

Transport can enable people to be active every day

Transport plays a vital role in improving health – the easiest way for most people to stay physically active is by incorporating activity, such as walking or cycling, into their daily lives. Currently a third of Londoners achieve the recommended 150 minutes of physical activity each week just through the walking and cycling they do for travel purposes.³ Walking is also a near universal activity in London - there is little difference in walking levels by gender, household income, ethnicity or employment status.⁴ If everyone in London walked or cycled for 20 minutes each day - including travel to and from public transport stations and stops -

¹ Active People Survey January 2012–January 2013

² Start active, stay active: a report on physical activity from the four home countries’ Chief Medical Officers (2011) Department of Health

³ Draft Mayor’s Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

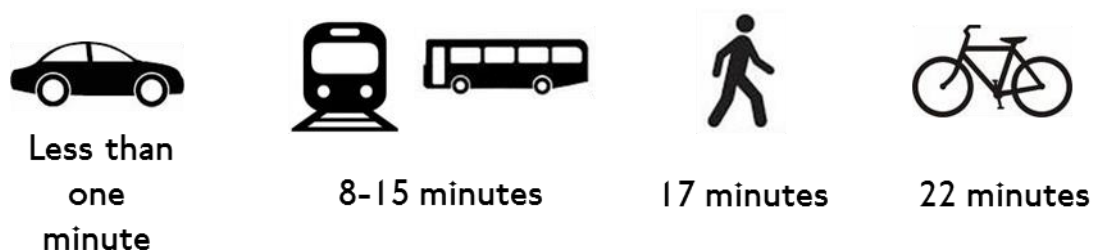
⁴ Travel in London 7 (2014) Transport for London pg. 207-10

this could save £1.7bn in NHS treatment costs over 25 years.⁵ Public transport is another important means of increasing physical activity levels: half of all walking in London is carried out as part of trips by public transport.⁶

Car owners are much less likely to be physically active

Those who own cars are much more likely to be inactive – 70 per cent of people without a car do some active travel in a day, compared to 40 to 50 per cent of car owners. This is partly due to the fact that an average trip in London by car includes less than a minute of active travel, compared to 8-15 minutes by public transport, 17 minutes by foot or 22 minutes by bike.⁷

Figure 2: Amount of time spent active on an average journey by mode



Source: London Travel Demand Survey 2012/13 – 2013/14 (TfL)

Overall, people who own cars are less active, as shown by Figure 3. This is partly due to car use becoming ‘habitual’, reflected by the number of car trips made over short, walkable distances and the 400,000 car trips a day that would be faster by bus (see section B1 for more information). Inactivity and habitual use can be even worse in multi-car households, where residents are half as likely as non-car owners to do enough activity through active travel. In contrast, children living in households without a car are:

- 2.3 times more likely to walk to school
- 1.4 times more likely to walk outside the school commute on a weekday during term time
- 1.8 times more likely to walk during the summer or weekends.⁸

Car ownership is linked to how much walking and cycling Londoners do: walking levels decrease significantly as the number of cars a household owns increases.⁹

⁵ Draft Mayor’s Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

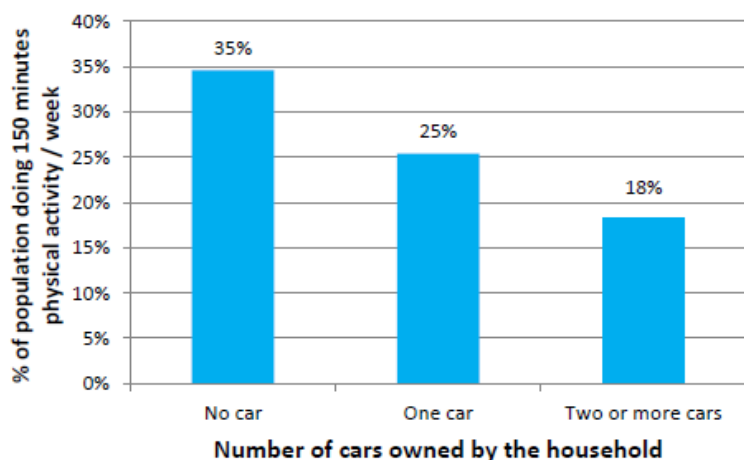
⁶ Improving the health of Londoners. Transport action plan. (2014) Transport for London <http://www.tfl.gov.uk/cdn/static/cms/documents/improving-the-health-of-londoners-transport-action-plan.pdf>

⁷ Draft Mayor’s Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

⁸ Steinbach R, Green J, Edwards P. Look who’s walking: social and environmental correlates of children’s walking in London. (2012) *Health & Place* 18(4):917–927.

⁹ Travel in London 7 (2014) Transport for London pg. 209

Figure 3: Percentage of the population meeting the 150-minutes per week physical activity requirement through active travel, by household car ownership, 2013/14



Source: *Travel in London Report 7 (TfL)*

A reduction in car use and increase in walking and cycling in London would deliver significant health benefits¹⁰ to Londoners:

- Each additional hour spent travelling in a car per day is associated with a 6 per cent increase in the likelihood of becoming obese.
- Each additional kilometre walked per day is associated with a 4.8 per cent reduction in the likelihood of becoming obese.¹¹
- Switching from private motor transport to active travel or public transport is associated with a significant reduction in body mass index (BMI).¹²

¹⁰ Transport and health in London: The main impacts of London road transport on health. (2014) Greater London Authority

¹¹ Frank LD, Andresen MA, Schmid TL Obesity relationships with community design, physical activity, and time spent in cars. (2004) *Am J Prev Med* 27(2):87–96.

¹² Martin A, et al. Impact of changes in mode of travel to work on changes in body mass index: evidence from the British Household Panel Survey. (2015) *J Epidemiol Community Health* 0:1–9. doi:10.1136/jech-2014-205211

2. Environmental impacts

Fossil fuelled cars contribute to climate change and a reduction in use is needed to reduce emissions in the short to medium term

Climate change is the leading threat to public health globally. Carbon dioxide concentration is 40 per cent higher than in pre-industrial times and between 1880 and 2012, the earth's surface warmed 0.85 degrees Celsius.¹³

Improving vehicle technology is predicted to reduce emissions over time, with CO₂ emissions from road transport forecast to reduce by around 50 per cent in 2050 compared to 2013. However, this will be insufficient to meet the Mayor's aim of carbon free travel by 2050, which would require all car travel to be made in electric or other zero emission vehicles. Developments built today will very likely still be in use in 30 years and beyond, and so will need to support the use of these vehicles, where parking is provided.

As well as reaching zero carbon emissions by 2050, London must also follow a trajectory which minimises emissions in the short to medium term, as described in the draft London Environment Strategy. For road transport it is important to both reduce the overall distance travelled by car and support the transition to zero emission vehicles for those that remain as early as possible.

Road traffic is the most common cause of noise disturbance, affecting almost a third of Londoners

There are a number of negative health impacts from noise, including causing sleep disturbance, stress, anxiety and damage to mental health, high blood pressure, cognitive impairment in children (and related impacts on school performance) and increased risk of cardiovascular disease. Indirectly, noise discourages people from doing activities which are good for their physical and mental health, such as walking, cycling and socialising or participating in leisure activities. This means exposure to noise from transport damages the health of Londoners, particularly those living, working or spending time on or near busy roads.

Road traffic is the most common cause of Londoners reporting that they are negatively affected by transport noise and more than 1.6 million people in London are exposed to road traffic noise levels during the day above 55dB, the level defined by the World Health Organisation as causing health problems. 29 per cent of London residents said they are disturbed by traffic noise, including 9 per cent to a great extent.¹⁴

¹³ Draft Mayor's Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

¹⁴ Draft Mayor's Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

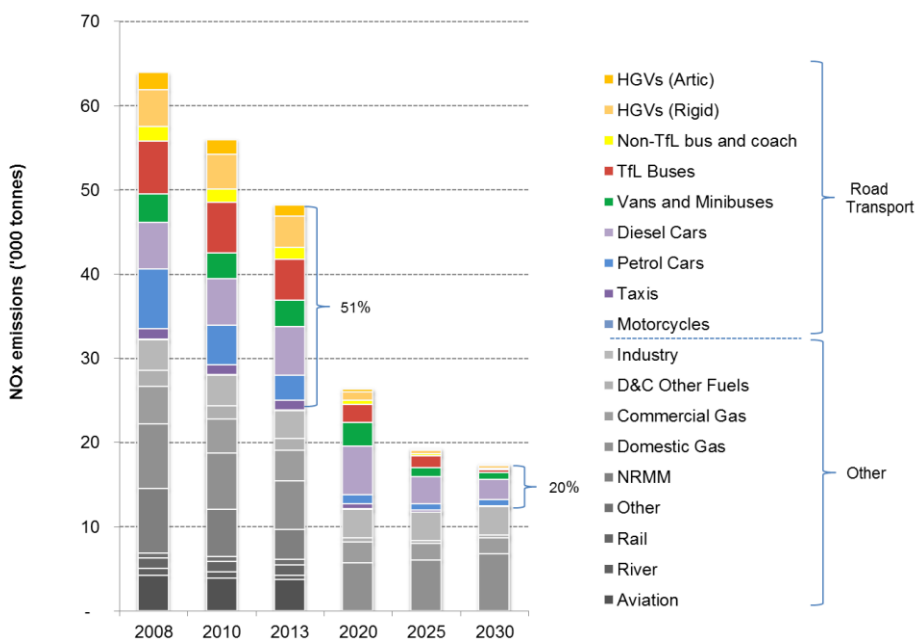
Poor air quality worsens diseases and causes premature death

Air pollution has a significant negative impact on the health of all Londoners. The adverse effects range from worsening respiratory symptoms and poorer quality of life, to premature deaths from cardiovascular and respiratory diseases.¹⁵ Transport is the biggest source of emissions damaging to health in London - around half of emissions (nitrogen oxides and particulate matter) come from road transport. These pollutants are collectively estimated to cause around 9,400 equivalent deaths every year in Greater London and impose an economic cost somewhere between £1.4bn and £3.7bn a year.

The communities suffering most from poor air quality are often the most vulnerable and at least 360 primary schools are in areas exceeding safe legal pollution levels. Air pollution contributes to widening health inequalities as levels of emissions are higher on roads with the heaviest traffic which are used more by disadvantaged people as places where they live, work and shop.¹⁶

Research has estimated that long-term exposure to nitrogen dioxide (NO₂) is responsible for up to 5,900 deaths per year in London. In 2013, around half of nitrogen oxide (NO_x) emissions in London came from ground-based transport, over a third of which is from cars. While this is expected to reduce over time due to an increasing proportion of cleaner vehicles in London, evidence¹⁷ from the World Health Organization (WHO) suggests that exposure to NO₂ concentrations is associated with adverse health effects even below the current EU limit values.

Figure 4: Estimated source of NO_x emissions, 2008 to 2030



Source: TfL City Planning, London Atmospheric Emissions Inventory

¹⁵ Improving the health of Londoners. Transport action plan. (2014) Transport for London <http://www.tfl.gov.uk/cdn/static/cms/documents/improving-the-health-of-londoners-transport-action-plan.pdf>

¹⁶ Transport & health: Briefing statement (2013) UK Faculty of Public Health <http://www.fph.org.uk/uploads/briefing%20statement%20transport%20V2.pdf>

¹⁷ Review of evidence on health aspects of air pollution – REVIHAAP Project (2013) WHO <http://www.euro.who.int/en/health-topics/environment-and-health/air-quality/publications/2013/review-of-evidence-on-health-aspects-of-air-pollution-revihaap-project-final-technical-report>

Long-term exposure to particulate matter (PM) emissions is estimated to be responsible for a further 3,500 deaths per year in London.¹⁸ Although London is currently compliant with EU limit values in terms of levels of particulates smaller than 2.5 micrograms (PM_{2.5}), there is no 'safe' level and current emissions are greater than the maximum recommended by the World Health Organisation (WHO). This is projected to still be the case until well after 2030 without further action.

About 50 per cent of small particle (PM₁₀) pollutants in London come from ground-based transport. Currently, over 75 per cent of all PM emissions from road transport come from tyre and brake wear, and by 2030, estimates suggest this may increase to 90 per cent as exhaust emissions are reduced.¹⁹ While new technologies, including the use of regenerative braking in electric vehicles, have the potential to reduce emissions somewhat, all vehicles, including those that are zero emission from the tailpipe, create PM emissions through their tyres and brakes and thus reducing overall car use is the most effective solution.

¹⁹ Draft Mayor's Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

3. Road danger and severance

Most collisions in London involve a car and fear of road danger deters people from cycling

Every car on London's roads presents a risk of collision and resulting injury and death. In 2015, 2,092 people were killed or seriously injured (KSI) on London's streets, 1,632 (78 per cent) of which in incidents involving cars²⁰. While this is lower than before (42 per cent below the 2005-09 baseline), if progress continued at a similar rate, there would still be around 1,000 people killed or seriously injured in 2040.²¹ People walking, cycling or using motorcycles are particularly vulnerable to road danger, with this group making up 79 per cent of KSIs in 2013.²²

Road danger also has indirect negative effects: fear of road traffic injury is the primary reason people give for not cycling²³ and that parents give for limiting their children's independence.²⁴ Fear of road danger from cars and other motorised vehicles is a key factor in preventing Londoners from being more active.²⁵ Londoners' attitudes towards cycling and road danger may also be reflected in part by the tendency for higher cycling levels in boroughs with lower risk for vulnerable road users, as shown by figure 5.

²⁰ TfL City Planning analysis

²¹ Draft Mayor's Transport Strategy challenges and opportunities report. (2017) Transport for London
<http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

²² Travel in London 7 (2014) Transport for London pg. 165

²³ Attitudes towards cycling (2014) Transport for London
<https://www.tfl.gov.uk/cdn/static/cms/documents/attitudes-to-cycling-2014-report.pdf>

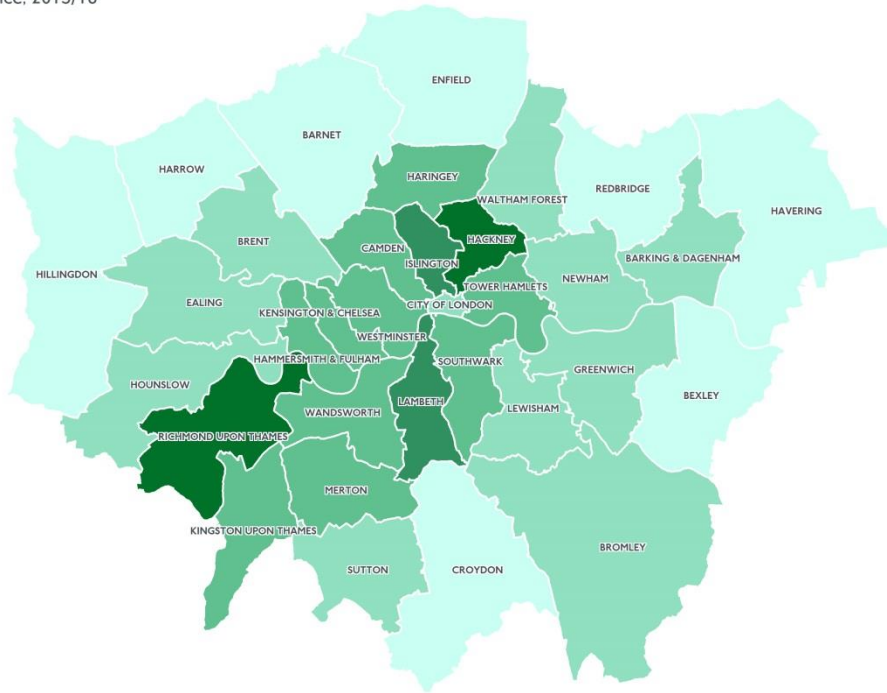
²⁴ Hillman M, Adams J, Whitelegg J. One false move a study of children's independent mobility. (1990)
London: Policy Studies Institute

²⁵ Improving the health of Londoners. Transport action plan. (2014) Transport for London
<http://www.tfl.gov.uk/cdn/static/cms/documents/improving-the-health-of-londoners-transport-action-plan.pdf>

Figure 5: Cycle mode share by borough (top) and KSI risk for vulnerable road users by borough (April 2011 to March 2015) (bottom)

Cycle Mode Share
By borough of residence, 2015/16

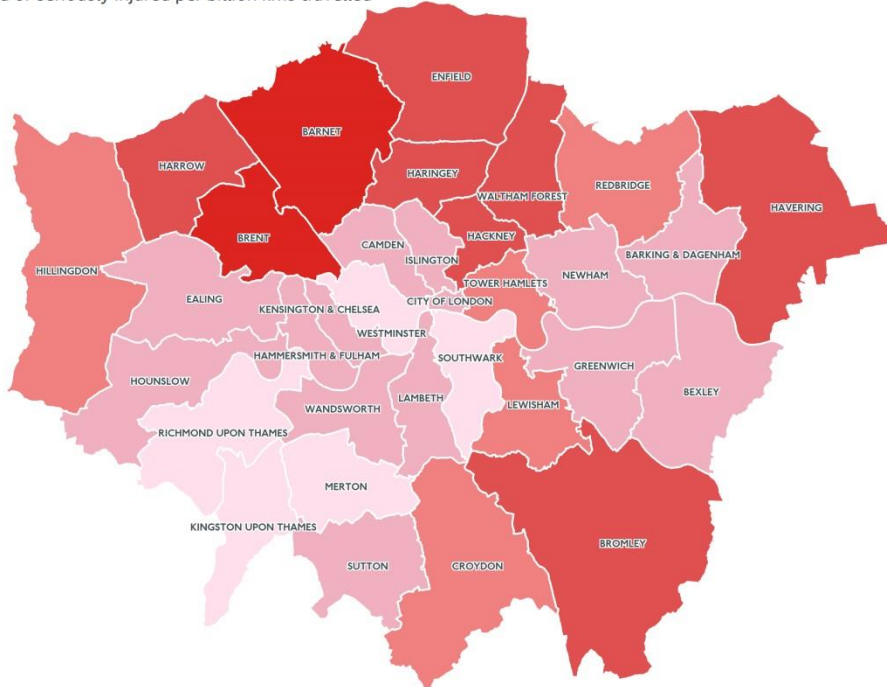
- 6.0 to 7.5%
- 4.5 to 6.0%
- 3.0 to 4.5%
- 1.5 to 3.0%
- 0.0 to 1.5%



Road danger for vulnerable road users

Number of VRUs killed or seriously injured per billion kms travelled

- 600 to 800
- 500 to 600
- 400 to 500
- 300 to 400
- 200 to 300



Source: London Travel Demand Survey 2015/16 and STATS19

Road traffic and fear of road danger cause severance that divides communities and can impact health

Road danger and the perception of it can also make roads act as a barrier that separates and isolates communities, especially the wider and busier they are. Roads that are difficult to cross can make destinations that are geographically close difficult to reach on foot, which has health and quality of life implications.

In particular, severance disproportionately affects people on low incomes and disabled people, as well as restricting the independence of children and young people. Overall, severance reduces the likelihood of active travel, reduces social support and social interaction in the street and can cause stress.²⁶ Any increase in car traffic increases the effects of severance along these roads.

²⁶ Improving the health of Londoners. Transport action plan. (2014) Transport for London
<http://www.tfl.gov.uk/cdn/static/cms/documents/improving-the-health-of-londoners-transport-action-plan.pdf>

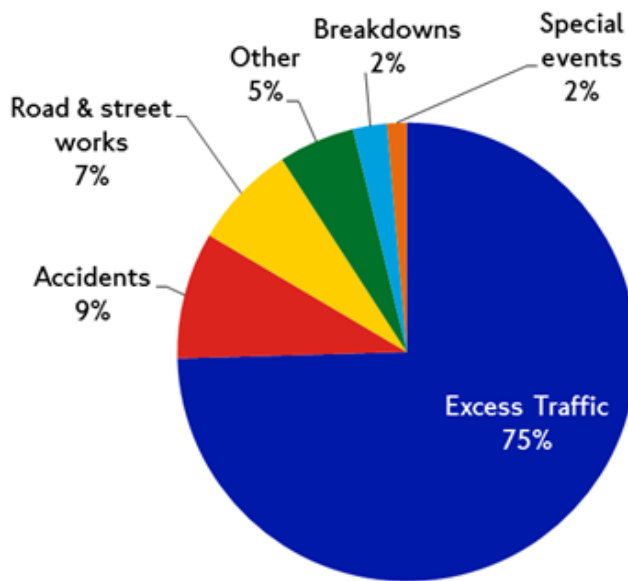
4. Congestion

Congestion is a particular problem in London, has a negative economic impact and is primarily due to excess traffic

Congestion is a particularly acute problem in London: 15 per cent of the UK's road congestion is concentrated in the Capital, despite significantly lower levels of car ownership than the rest of the country. Congestion causes stress and frustration, and limits the amount people can travel because journeys are slow and unpredictable. For businesses, congestion costs money as workers spend time queuing in traffic, it is difficult to make deliveries on time, and an unreliable road network harms the reputation of London.

While accidents and roadworks do cause some congestion, 75 per cent is caused by traffic levels being greater than the road network capacity.²⁷ Delays are greatest in central London, but have the most impact on journey times in outer London, where distances travelled are greater and there are more people travelling. While all motorised modes contribute to traffic levels, car travel is the most space inefficient way of moving people along the highly-constrained space on London's road network.

Figure 6: estimated causes of congestion



Source: Draft Mayor's Transport Strategy challenges and opportunities report (2017)

Congestion deters use of more space efficient modes and will get worse without action

Congestion can make other, more space efficient modes less attractive: bus journeys become slower and less reliable (which disproportionately affects those on low incomes, the elderly and children); while vehicle dominated and traffic clogged streets can put people off walking and cycling (preventing them from improving their health). If people are discouraged from switching to more space efficient modes, there is a risk that car use – and the resulting congestion – is perpetuated.

²⁷ Draft Mayor's Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

Despite a falling car mode share, without further action traffic is expected to rise across much of London, with 8.6 million more kilometres travelled by road on an average day in 2041 compared to 2015. Over the same period, the amount of space available for use by general road traffic is expected to reduce by 3 per cent, with the greatest reductions seen in central London. By 2041 the average Londoner could waste two and a half days each year sitting in congested traffic.

At the same time, London's continued success relies critically on safe, reliable, sustainable and efficient deliveries and servicing – it is estimated that freight adds approximately £7.5 billion to London's GVA.²⁸ As the pace of housing delivery increases to meet need, construction traffic will also increase, adding to the importance of efficient use of London's road network and discouraging car trips that could be made by other modes.

²⁸ Draft Mayor's Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

5. Use of space

Parking for cars takes up a significant amount of land and is an inefficient use of space

London's population is now bigger than it has ever been, with growth set to continue in the coming years. Given the need to accommodate this growth while addressing a historical undersupply of housing, the city must deliver a large number of new homes. As the population grows, the creation of new jobs also needs to be supported in order to maximise opportunities for all Londoners. This need for new homes and new jobs – as well as to avoid unsustainable sprawl and infringing on the Green Belt and other green spaces – means that we must make the best use of developable land in London.

Over time, providing more residential car parking than is needed could use up a significant proportion of available land that could cater for housing. For instance, large approved, allocated and potential sites in London have the capacity to enable 39,600 homes a year,²⁹ covering a total area of 4,000 hectares. If each of these homes were to have its own parking space, the space taken up by parking would equate to around 46 hectares each year, or around 11 per cent of the total area over the 10 year target period.

As well as being a poor use of land, maintaining existing levels of parking at the higher densities required to meet London's housing need would have unacceptable impacts on congestion and air quality. Where local pressures on the road network are great enough, maintaining existing levels of car parking would serve to exacerbate congestion, limiting the development capacity of a site or area and hampering efforts to address London's housing need. Equally, if car parking prevents higher density development, communities could miss out on social benefits that might not otherwise materialise, including the provision of opportunities and amenities within walking or cycling distance, creating vibrant neighbourhoods and increasing social interaction.

Car parking has implications for the use of space, wherever it is located

Car parking in much of London is provided at surface level, which takes up land that could be used for other purposes, including those that are economically productive or offer social benefits, such as green space and play areas for children. Where it is in basements, car parking diminishes the amount of space that can be used for well-designed and easy to use cycle parking.

Where parking is on-street, it effectively privatises what is in reality public space and deprives Londoners who do not own cars of access to that space. This can also prevent changes to the allocation of space on London's streets which allow improvements such as segregated cycle lanes, widened footpaths, bus lanes and amenity uses such as parklets, street art and play space. Without being able to make these changes, the Mayor's mode share target and ambition for Healthy Streets are unlikely to be achieved. On-street parking can also impact everyone using those streets – it can reduce the effectiveness of travelling by bus and cycle, make walking more difficult and unappealing and cause issues for emergency services and essential goods and servicing vehicles.

²⁹ The London Strategic Housing Land Availability Assessment 2017, GLA
https://www.london.gov.uk/sites/default/files/2017_london_strategic_housing_land_availability_assessment_0.pdf

Part B: Potential for living without a car across London

Key findings:

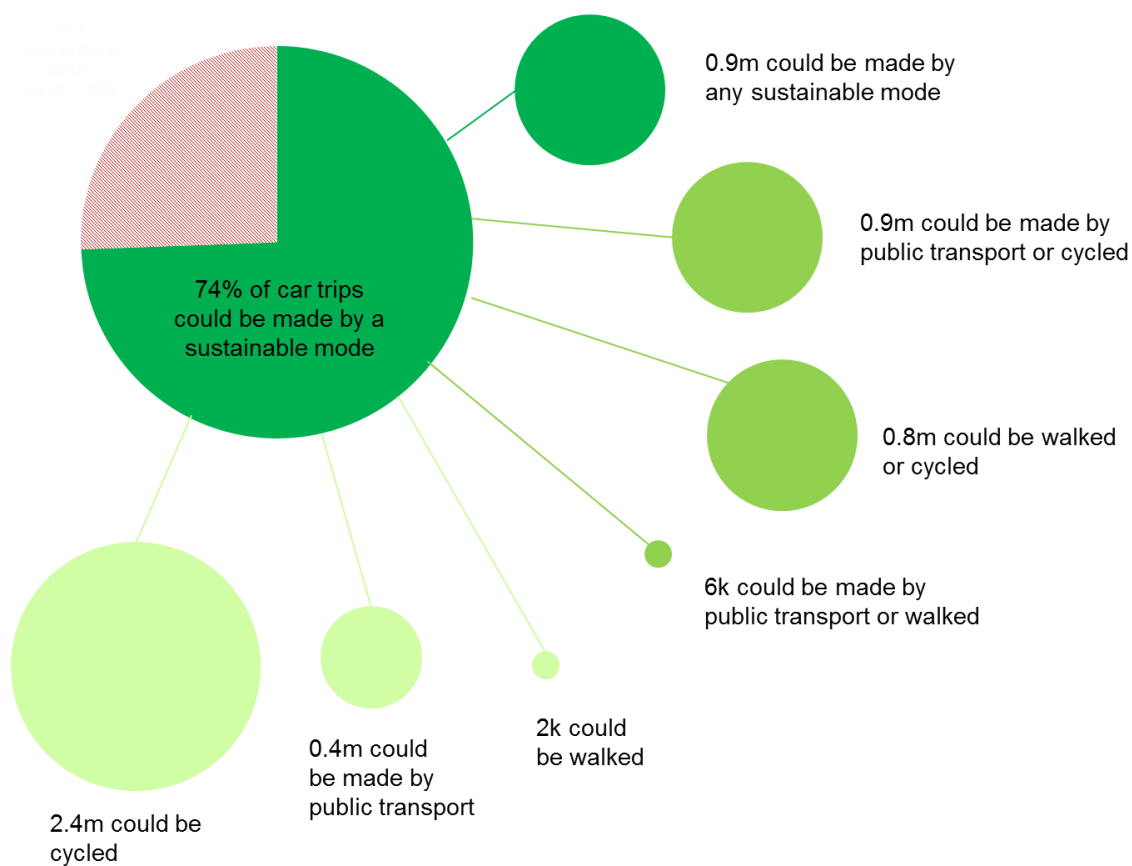
- In many areas of London, it is possible for most residents to make their typical trips without owning a car
- **Three quarters of existing car trips could be made by walking, cycling or public transport**, and most of the people making car trips that cannot be switched easily live in the less well connected parts of outer London
- On a typical weekend day, **two thirds of car owners in the better connected and denser areas of London only make car trips that could potentially be made by a more sustainable mode**. On a typical weekday, even more drivers only make car trips that have a viable alternative
- For those who make non-switchable car trips less frequently, there are potentially viable and more affordable alternatives other than private car ownership, such as deliveries from online retailers, car clubs and conventional and app-based taxi and PHV services
- Well connected destinations can be quickly accessed even from less well connected areas and **the most attractive destinations tend to locate in well connected places** – the quality and variety of public transport links at well connected destinations give them a large catchment within short travel times, including areas with fewer public transport options. Destinations in well connected areas are more popular both among households with a car and those without
- **Most Londoners do not need a car to get to work**. In half of households that own two cars, there is no one who drives to work
- **Many of the car trips in London are made over shorter distances**: two thirds are less than 5 kilometres in length and could be cycled in less than 20 minutes. In much of London, especially inner London and the better connected areas of outer London, many opportunities, amenities and services – such as town centres, GPs and schools – are within a short walk
- Buses could also enable more people to live without a car: **most car trips have a bus alternative and almost a quarter have a better or broadly comparable journey time**. Those choosing to drive over a feasible bus option are disproportionately likely to be on a higher income, indicating that this mode choice may be driven by preference rather than need
- **The draft London Plan will reduce the need to travel by car further** by promoting higher density and mixed used development, concentrated in better connected areas

1. Public transport, walking and cycling as an alternative to ownership

Most car trips in London could be made by walking, cycling or public transport

Car ownership is lower in London than the rest of the UK, with 43 per cent of households not owning a car. One of the reasons for this is the availability of alternatives: analysis suggests that 74 per cent of existing car trips in London have a sustainable alternative available, or are 'switchable trips'. This is based on the known characteristics of the trip (such as distance, purpose or whether the trip is part of a chain) and the trip maker (such as age or whether they are carrying heavy equipment). The different alternatives for these trips are shown in Figure 7.

Figure 7: Potential for existing car journeys to be made by a sustainable mode



Source: Draft Mayor's Transport Strategy challenges and opportunities report (2017)

Those who make non-switchable car trips tend to live in the less well connected areas of outer London

While there are many reasons people choose to use cars rather than available alternatives, this analysis can inform the development of parking policy by establishing broadly what proportion of new residents it is reasonable to assume could live without a car, and particularly how this varies across different areas. Only around a quarter of all car journeys made by London residents have no realistic alternative available and can currently only be

made easily by car. The people who frequently make these trips are those most likely to need to own a car, but they are not spread uniformly across London:

- They are much more likely to live in less well connected parts of outer London with lower Public Transport Access Levels (PTAL – a London-wide measure of public transport connectivity)
- Two thirds of all people in London who make at least one non-switchable car trip on a typical weekday live in less well connected areas of outer London (PTAL 0-2)

This availability of alternatives is reflected in how existing car ownership levels vary across London, with 58 per cent of inner London households not owning a car, compared to 32 per cent of outer London households.

On a typical day, most drivers only make car trips which have a sustainable alternative

These differences between areas are also demonstrated by the number of drivers only making switchable car trips on a given day, both during the week and at weekends.

	Inner London	Outer London PTAL 3-6	Outer London PTAL 0-2
Weekday	77%	71%	66%
Weekend	68%	66%	60%

The table above shows that even on a typical weekend day – when trips tend to be longer – around two thirds of drivers who live in inner London and better connected areas of outer London only make car trips that could be switched to a more sustainable mode. Even in the less well connected areas of outer London, a majority of drivers only make car trips that could potentially be made by other modes (both on a typical weekday and a typical weekend day.³⁰)

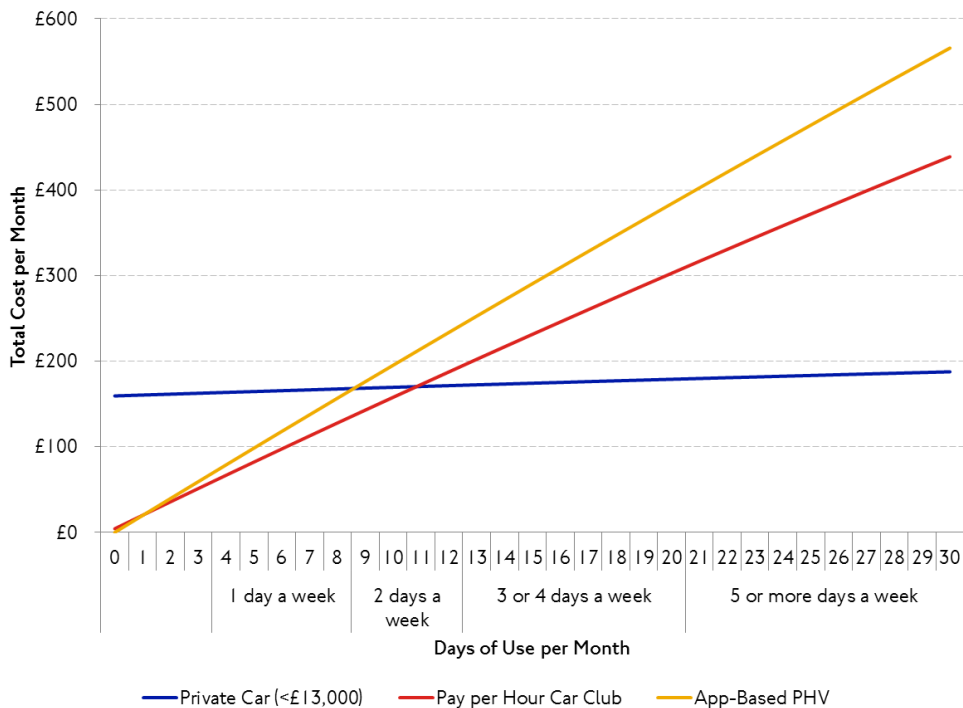
These differences between the better and less well connected areas of outer London are reflected in the proposed parking standards: outside of Opportunity Areas and certain town centres, areas of PTAL 0, 1 and 2 in outer London have maxima no less than 1 space per unit, allowing each household to be able to own a car, should they need one. These maxima are also above the current average levels of car ownership in these areas (see section C2 for more information).

³⁰ TfL City Planning analysis of the London Travel Demand Survey

For infrequent car trips that cannot be made by other modes, there are other, more affordable alternatives

While some Londoners may make more occasional car trips that are difficult to make by walking, cycling or public transport, lower frequencies of car trips become affordable by other alternatives, such as car clubs, taxis or private hire vehicles, relative to the cost of owning a car when depreciation and other costs are included (see section B3 for more detail):

Figure 8: Comparison of monthly cost of private car ownership and use to shared car use based on typical travel patterns, by frequency of use



Source: TfL City Planning analysis of the London Travel Demand Survey, prices from service providers and car ownership and running costs from the AA

The most attractive destinations in London tend to be easier to reach by public transport

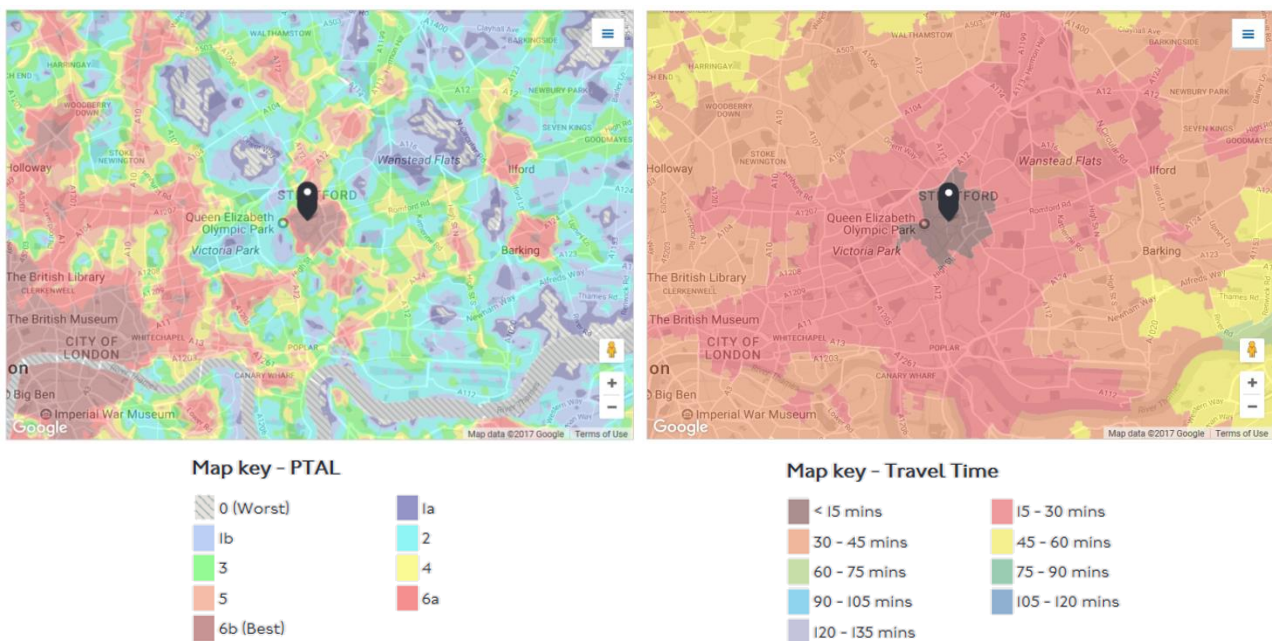
While owning a car does enable access to more destinations within a given travel time, the most popular destinations tend to be in the most well connected places; across all London residents, 56 per cent of trips to destinations other than their home are made to areas of PTAL 4, 5 or 6. This preference for destinations in well connected areas is apparent even among households who own a car, even though they have the option of driving to less well connected destinations and are more likely to live in these areas to start with.

This may be due to the most attractive destinations, such as workplaces or shops, having an incentive to be located where the highest number of people can access them i.e. places with the highest public transport connectivity. The London Plan will also encourage future trip generating development to be located in better connected areas.

While these destinations may be in particularly well connected areas, even those living in less well connected places can still access many destinations in higher PTALs quickly and easily. Figure 9 shows the example of Stratford, where various retail outlets and employment locations are based, attracting a high volume of trips. The area within a 30 minute travel time by public transport covers a large amount of PTAL 2 and even some PTAL 0 and 1.

Even locations of PTAL 3 as far away as Goodmayes – while not having the highest general connectivity – still have good links to destinations such as those in Stratford and can therefore access the shopping and employment opportunities within 30 minutes by public transport. This shows that across London, many areas of lower PTAL will still have good links to important destinations, such as their nearest town centre, enabling some to live without a car.

Figure 9: Travel time to destinations with high PTAL from areas of low PTAL



Source: TfL WebCAT Planning Tool, <https://tfl.gov.uk/info-for/urban-planning-and-construction/planning-with-webcat/webcat>

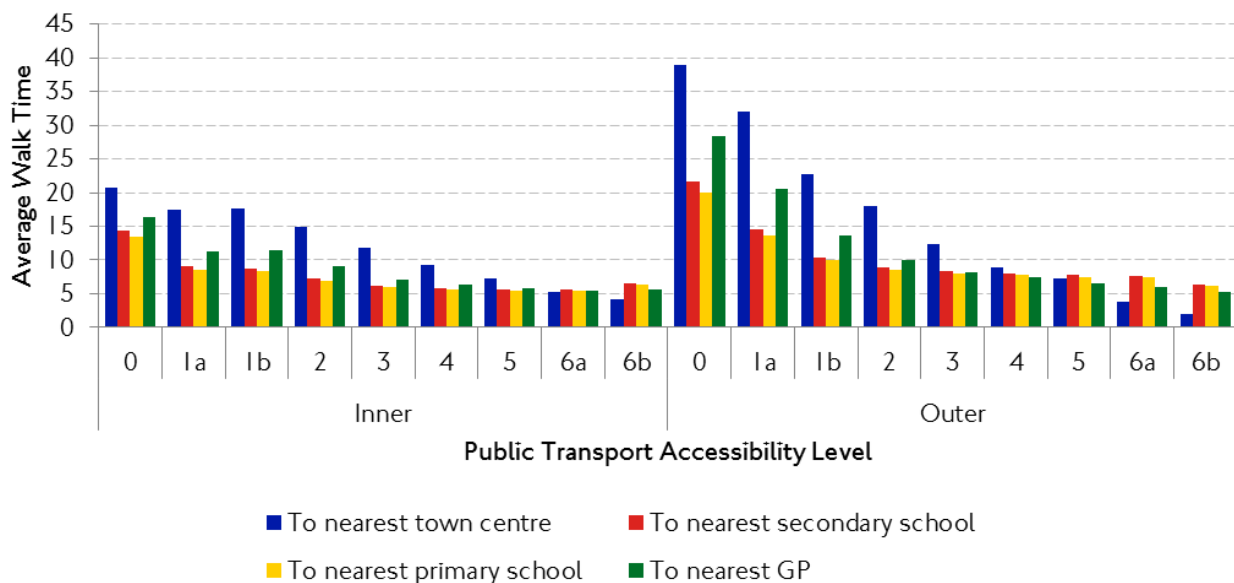
Most Londoners who travel to work are in jobs that can be accessed by walking, cycling or public transport

While car travel can provide access to additional employment opportunities, the majority of those who commute by car choose to work in places that could be reached by walking, cycling or public transport, with 69 per cent of these trips being feasible by sustainable modes. Few two-car households need more than one car for commuting purposes: in fact, in nearly half (48 per cent) of these households, no one drives to work. Only 15 per cent of these households have more than one person driving to work, and in only 1 per cent are there more than one person driving to work without a viable sustainable alternative.

In the denser and better connected areas of London, essential local services tend to be within a short walk

Many of the car trips made by Londoners are short trips: two thirds are less than five kilometres in distance, and could be cycled in less than 20 minutes. Indeed, in many areas of London, particularly inner London and the better connected parts of outer London, a large number of essential services are within easily walkable distances. In outer London, access to health and education services tend to be on average less than a 10 minute walk away in areas of PTAL 3 and higher.

Figure 10: Average walk time to local town centres and services by PTAL and inner/outer London



Source: TfL City Planning

The nearest town centre – where there tend to be more opportunities for employment, shopping and leisure – is also less than a 15 minute walk on average in areas of PTAL 3. While walk times are higher in outer London PTAL 0-2, the proposed maxima for these locations are at least 1 car per unit. In addition to walking, cycling further enhances access to town centres and services, with the average journey time for nearly all of the destinations

above being less than a 10 minute cycle, even at slower speeds³¹, helping to enable car-lite development across much of London.

Bus travel can also help people to live without a car

Buses are also a viable alternative to many car trips. Of the 7.25 million car trips made by Londoners each day, 6 million have an alternative by bus, 1.7 million would be no more than 10 minutes slower than by car (not including the time it can take to park a car in certain locations, nor the time it takes to walk to the destination if parking is not in close proximity) and nearly 400,000 trips per day are actually faster by bus. Much of this potential is in outer London, with 63 per cent of car trips that would be faster by bus starting or ending there.³²

Part of the reason these trips are not currently made by bus may be due to the preferences of those on higher incomes: the people currently travelling by car who could feasibly use a bus instead have a higher income on average than current bus users: 35 per cent had a household income over £50,000 compared to just 19 per cent of existing bus users.³³

³¹ TfL City Planning analysis

³² Draft Mayor's Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

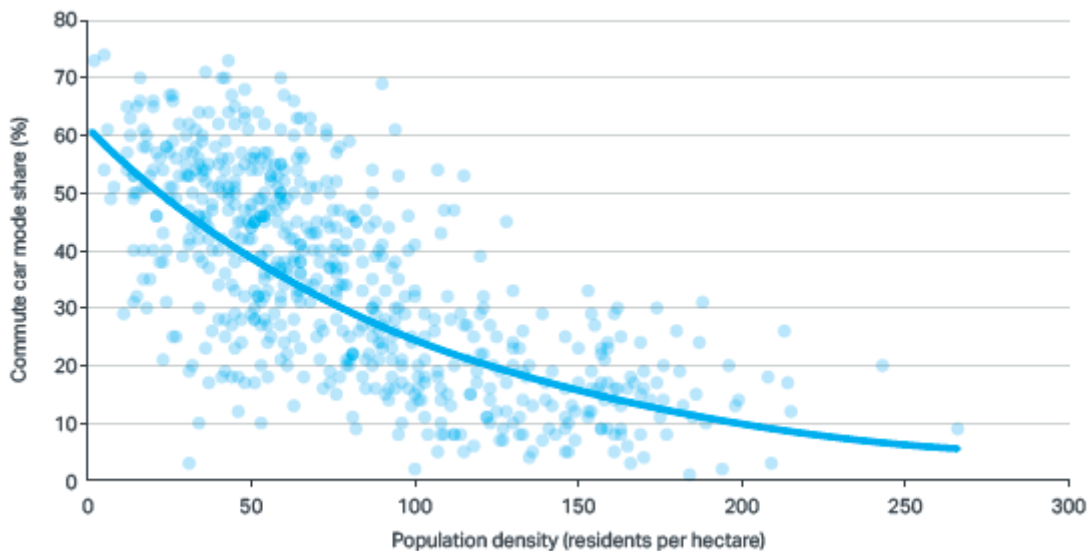
³³ Draft Mayor's Transport Strategy challenges and opportunities report. (2017) Transport for London <http://content.tfl.gov.uk/mts-challenges-and-opportunities-report.pdf>

2. Role of housing density and mixed use development

Greater density of development encourages people to walk, cycle and use public transport

The character of an area has a large influence on the travel decisions of the people living there. In dense communities, where shops and services are within easily walkable distances, people are more likely to choose to walk, cycle and use public transport and are less likely to own a car. This relationship is demonstrated in Figure 11, which shows that as population density rises, the proportion of people driving to work falls. In the most densely populated areas less than 10 per cent of people travel to work by car, whereas more than 70 per cent do so in the least densely populated areas.

Figure 11: Car mode share for travel to work by population density, London residents 2011

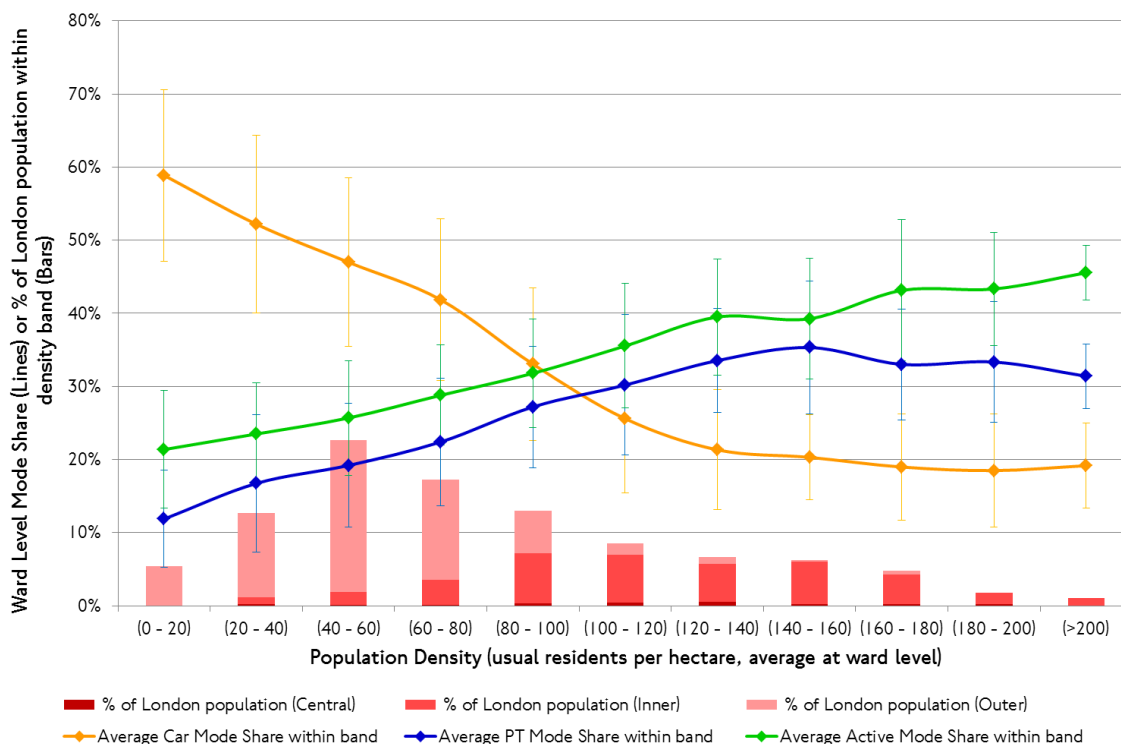


Source: TfL City Planning, 2011 Census

Higher densities can influence travel in a number of ways: people living in densely populated areas typically need to travel shorter distances to access opportunities and services; densely populated areas tend to be better connected by public transport, particularly buses; and car use is less attractive due to increased competition for road space, congestion and parking.

Figure 12 highlights the relationship between density and mode shares for car, public transport and walking or cycling.

Figure 12: All journey mode share by population density of home area, London residents, 2011



Source: TfL City Planning

London’s population density has increased in recent years and will continue to do so in future

London’s recent population growth has also resulted in an increase in population density. This growth has been disproportionately accommodated in inner London, meaning that a higher proportion of the population lives in more dense areas, and this has contributed to the increasing proportion of sustainable travel in recent years.

The draft London Plan will look to make the best use of land by encouraging more places to have higher densities, particularly in areas that are well connected by public transport. This will continue to increase London’s population density and a greater proportion of the population will live in higher density areas where car use is lower. It will also encourage a mix of land uses to provide communities with a range of services and amenities within walkable distances. The Plan’s support for generally higher densities in areas with higher PTAL will enable residents to make longer journeys by public transport and means that future public transport improvements can serve more people for the same investment.

3. Other alternatives to car trips

Car clubs, taxis and PHVs can provide occasional access to a car without the need to own one

In recent years, new ways have emerged to access car travel on an infrequent basis without needing to own a car, such as car clubs and taxi and private hire vehicle (PHV) services accessed by apps. There are approximately 186,000 car club members in London, using around 2,800 cars, while the arrival of app-based services have in part driven a drastic growth in the number of PHVs in London, from 52,811 in 2013/14 to 87,409 in 2016/17.

While cars accessed on a shared basis are associated with most of the same negative impacts on London as private cars, they do offer another, potentially more affordable option to those looking to make infrequent car journeys (as well as potentially increasing the speed at which low emission vehicles can be introduced and reducing the amount of space needed for parking). Because the user pays for each trip rather than paying most of the cost up front, they are likely to make fewer unnecessary car trips than if they owned the vehicle (though the overall number of these trips could increase if enough non-car owners start using car services more).

Online deliveries can potentially replace some trips that have traditionally been seen as ‘needing’ a car to make

As well as new car-based services, recent years have also seen a dramatic increase in online shopping and other services. Between 2014 and 2016, total retail e-commerce sales increased from £53 billion to £67 billion. This may be starting to affect travel behaviour in London – in 2005/06, Londoners made on average around 0.8 trips per day for shopping and personal business, before a considerable decline from 2011 onwards to less than 0.6 trips a day on average in 2015. The number of leisure trips has also decreased in the past two years.

Online retail in particular has provided convenient and affordable alternatives to trips traditionally thought of as ‘needing’ a car, such as groceries, home improvement stores, garden centres and furniture shopping. While these deliveries can also have negative impact on congestion and emissions (though with sufficient consolidation, can be more efficient), they could make it easier to live without a car, which would reduce car use for other purposes.

The combined cost of these services tend to be lower than buying and maintaining a car

When all the costs of owning a private car are considered, monthly costs (including depreciation) may total around £150-£175 for less frequent car use.³⁴ This is considerably higher than generous combinations of the some of the above services – for example:

- A priority, next-day delivery subscription from an online general retailer – around £7 a month
- Weekly supermarket deliveries – around £5-6 a month

³⁴ TfL City Planning analysis of the London Travel Demand Survey, prices from services providers and car ownership and running costs from the AA

- A furniture or home improvement store delivery – around £5 to £35, depending on item size
- Two round trips in a car club – around £24-28 (assuming 2 hour rental per trip)
- One day trip in a car club – around £50 (allowing up to around sixty miles of travel)
- Four one-way trips in a PHV – around £30-40 (based on typical trip lengths)

Part C: The role of lower maximum parking standards

Key findings:

- Those with car parking – particularly if it is off street – are more likely to own a car and **those who own a car tend to use it**
- **The proposed maxima are either higher or in line with average levels of car ownership in most of outer London** and the less well connected areas of inner London
- **The proposed residential standards would be expected to result in a car mode share for residents of new development of around 27 per cent** if residents were to make the same travel decisions as existing residents and average ownership is equivalent the maximum standard
- **The standards are supportive of the Mayor’s aim for 80 per cent of trips in London to be made by walking, cycling or public transport by 2041**, particularly alongside complementary measures. The standards are necessary but not sufficient in themselves. With other measures, including those in the draft Mayor’s Transport Strategy, they should result in a sustainable mode share for new development being slightly above 80 per cent. This potential acknowledges the additional opportunities at new development to design in walking, cycling and public transport from the outset
- While lower for general parking, **the standards do provide for Blue Badge holders** by requiring an upfront provision to cater for the proportion of Londoners with a Blue Badge (3 per cent) and space identified for future provision if required

1. Links between car parking, ownership and use

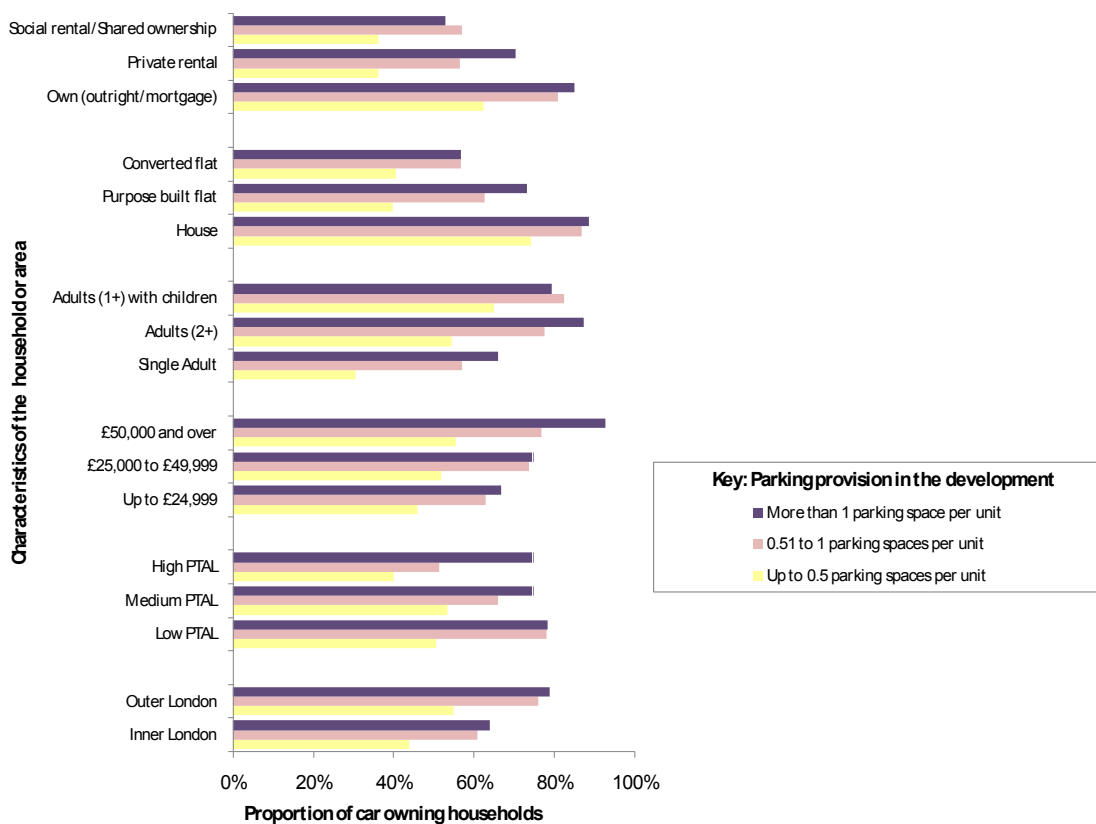
Developments with more car parking have residents who are more likely to own cars; this is consistent across a number of other factors

There is a clear relationship between the availability of car parking at new development and the levels of car ownership of its residents. Research³⁵ conducted with London residents in 2013 found that for all groups, and in all areas, people living in developments with more parking available had higher levels of car ownership than people living in developments with less parking.

In developments with provision of up to 1 space per unit, car ownership varies with the level of public transport connectivity (PTAL) – as people’s alternatives get better, fewer choose to own a car. However, at developments with more than 1 parking space per unit, access to public transport makes relatively little difference to how many households choose to own at least one car.

Income is a key indicator of car ownership, but the effect of parking is in some ways more pronounced: in developments with 0.5 spaces per unit or less, only 56 per cent of people with a high income own a car, while in developments with more parking available, 83 per cent of people with a high income own a car.

Figure 13: Car ownership by parking provision and other key factors, residents of new development, 2012



Source: Residential Parking Provision in New Developments (TfL 2012)

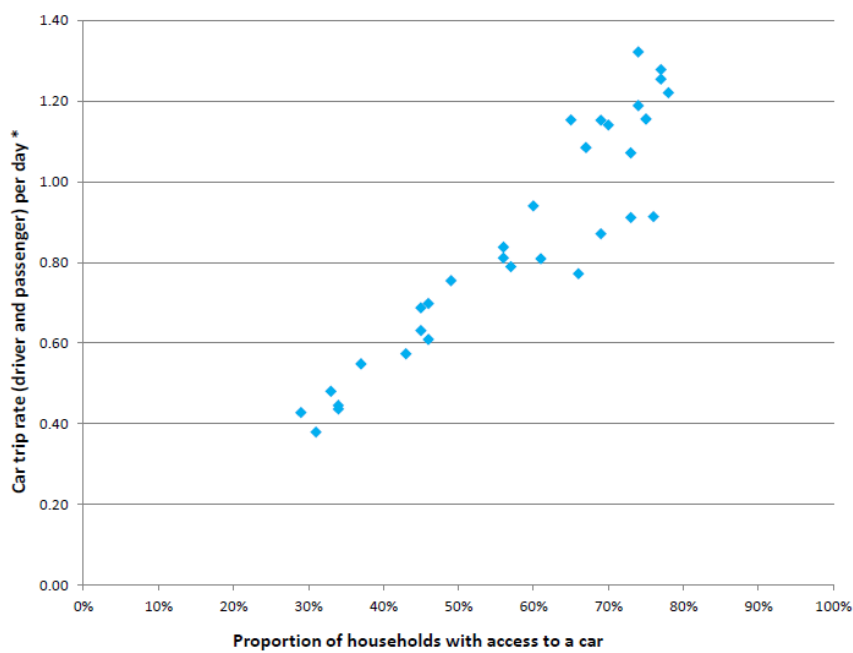
³⁵ Residential Parking Provision in New Developments (TfL 2012)

The availability of off street parking has a particularly strong effect on the probability of car ownership. Analysis of the London Travel Demand Survey shows that households with off-street parking are significantly more likely to own a car and this is the case even when accounting for differences in household locations and incomes, with different numbers of adults and children in the household, and varying access to public transport. For example, the probability of car ownership for two adults with children living in inner London, on a low income, with reasonable access to public transport goes from 34 per cent without off-street parking, to 57 per cent with it, based on analysis of households with similar characteristics.³⁶

Areas with higher levels of car ownership have higher levels of car use

In addition to higher parking provision being associated with higher car ownership, higher levels of car ownership are associated with higher levels of car use: people who own cars tend to use them. Across London’s 32 boroughs, there is a clear linear relationship between the rate at which residents make car trips and the proportion of households that have access to a car:

Figure 14: Relationship between household car ownership and average car trip rate by borough, 2013/14



*based on the average daily trip rate over a seven-day week

Source: London Travel Demand Survey, 2013/14

Reducing the maximum provision of parking could encourage those who could consider a car-free lifestyle to adopt one

The ability to own and park a car can be a major influence for some Londoners when deciding where to live, while others may prefer to prioritise other factors such as local public transport connectivity or proximity of amenities. To some extent at least, the availability of

³⁶ TfL City Planning analysis of the London Travel Demand Survey

parking attracts existing car owners, which in turn increases the car use generated by the development.

However, there are also Londoners who will find the decision to own a car more marginal, such as those who use their car infrequently or those who do not own one but would consider buying one. When surveyed in 2011,³⁷ only a quarter of residents of new development in inner London said their lifestyle depended on owning a car, while a fifth of those who said they were not dependent on a car still owned one. Car parking did not influence the decision of where to live for over half of inner London residents, and while parking does have more of an influence among outer London residents, a majority said access to public transport, work and local services was a major influence.

Combined with measures to make alternatives to private car ownership more attractive, lower levels of parking provision in new development can encourage more Londoners to adopt car-free lifestyles, particularly among those who do not need a car but may or may not decide to own one in future.

While the above analysis and the proposed standards refer to new development, it is worth noting that much of the existing housing stock across London have access to car parking³⁸ and will still be able to cater for those people who require a vehicle for work or prioritise owning one for other reasons (other than disability, which is covered in the next section) This represents around 3.5 million homes and will continue to represent the majority of available housing over the course of the Plan.

³⁷ Residential Parking Provision in New Developments (TfL 2012)

³⁸ London Travel Demand Survey 2015/16

2. Proposed residential parking standards and the Mayor’s mode share target.

The proposed residential parking standards in the draft London Plan vary by location to take into account the level of alternatives to car travel and access to local amenities

As set out in the draft Mayor’s Transport Strategy (MTS), the Mayor’s aim is for 80 per cent of all trips in London to be made by foot, cycle or public transport by 2041, up from 64 per cent in 2015. The MTS sets out a series of measures to encourage this switch among all Londoners, but given the close relationship between car parking and use, residential car parking standards in the London Plan will be a key influence on travel behaviour of residents of new development.

In order to enable higher density development and to encourage a low car mode share for residents of new development, in line with the Mayor’s aims, the following standards are proposed in the draft London Plan for consultation:

Figure 15: Draft London Plan, Table 10.3 – Maximum residential parking standards

Location	Maximum parking provision
Central Activities Zone Inner London Opportunity Areas Metropolitan and Major Town Centres All areas of PTAL 5 – 6 Inner London PTAL 4	Car free
Inner London PTAL 3	Up to 0.25 spaces per unit
Inner London PTAL 2 Outer London PTAL 4 Outer London Opportunity Areas	Up to 0.5 spaces per unit
Inner London PTAL 0 – 1 Outer London PTAL 3	Up to 0.75 spaces per unit
Outer London PTAL 2	Up to 1 space per unit
Outer London PTAL 0 – 1	Up to 1.5 spaces per unit ¹
¹ Where small units (generally studios and one bedroom flats) make up a proportion of a development, parking provision should reflect the resultant reduction in demand so that provision across the site is less than 1.5 spaces per unit	

These standards:

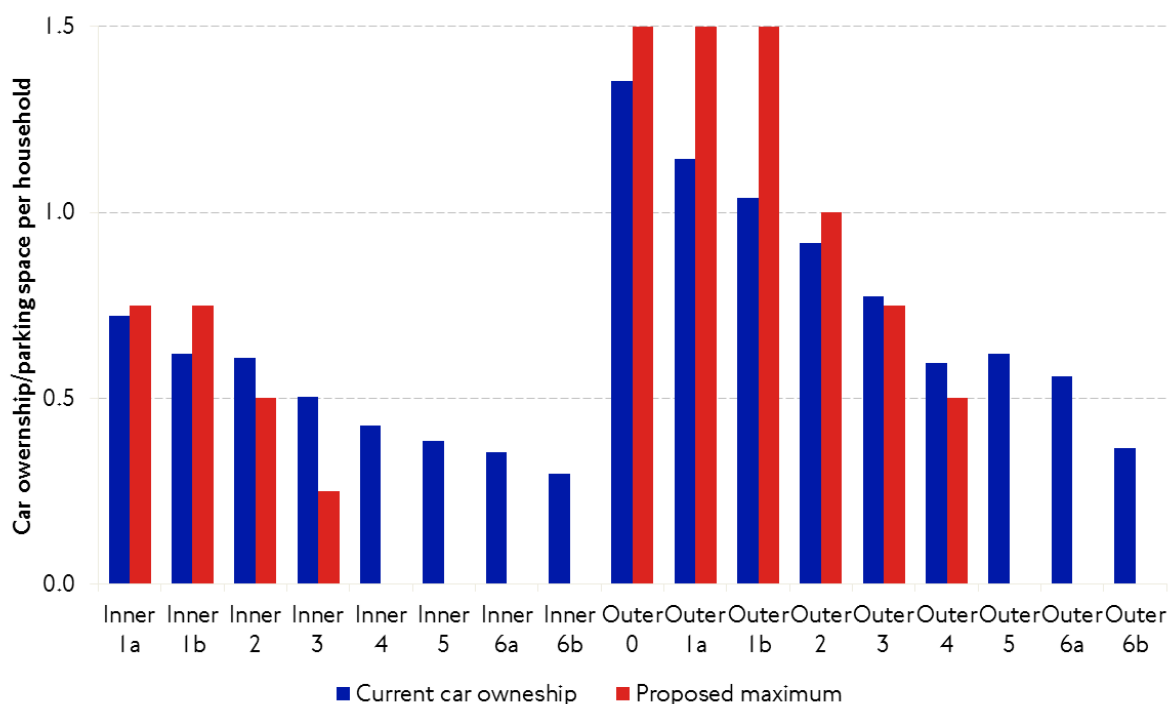
- Set the highest level of ambition for London’s most accessible areas and offer more flexibility where public transport connectivity is less comprehensive
- Take into account the availability of local amenities in the Central Activities Zone and metropolitan and major town centres, reducing the need to travel by car
- Reflect the options open to Opportunity Areas to design in sustainable travel from the outset
- Recognises differences between inner and outer London, such as differences in trip distances, which can sometimes reduce opportunities for walking and cycling

For the less well connected areas of London, the standards are at or above the existing rate of car ownership

The proposed standards also consider existing car ownership levels. In outer London, the proposed maxima are higher than average levels of car ownership at PTAL 2, 1 and 0, and are broadly in line with current car ownership at PTAL 3 and 4. At PTAL 5 and 6, the ambition for a low car mode share for new residents here is higher due to high levels of public transport connectivity, making car-free living for most people a possibility.

In inner London, the level of ambition is higher, with car free development at PTAL 4-6 and some additional restraint at PTAL 3. However, the maxima for PTAL 1-2 are either above or broadly in line with existing car ownership levels.

Figure 16: Comparison of current car ownership levels to maximum parking standard by PTAL and inner/outer London



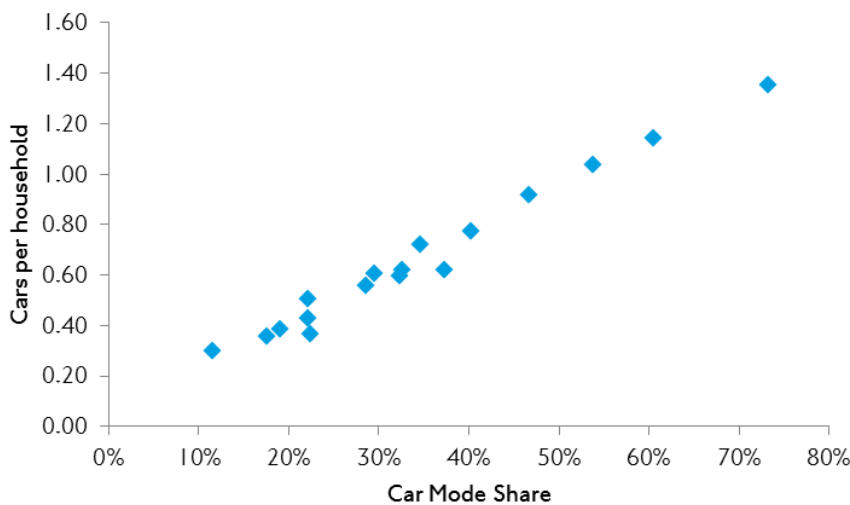
Source: TfL City Planning analysis of the London Travel Demand Survey, Table 10.3 of the draft London Plan

Note: While a small amount of London’s population is located in inner London PTAL 0, there was an insufficient sample size to find current car ownership and mode share, and so has been excluded from the analysis

The relationship between car ownership and use indicates that the standards are supportive of the aims of the Mayor’s Transport Strategy, particularly when paired with complementary measures

Across the 16 areas referred to in Figure 16, there is a clear linear relationship between the mode share and the number of cars per household. This relationship between car ownership and use across different areas of London allows future mode share to be predicted among new developments where car ownership is at the level of the proposed parking maxima and tested against the aims of the Mayor’s Transport Strategy.

Figure 17: Current relationship between average number of cars per household and average car mode share



Source: TfL City Planning analysis of the London Travel Demand Survey

Given the maximum standards are lower than previously, it may be more likely for new development to provide parking at the maximum allowed, and that this provision is fully taken up. If this is case, and if these residents were to exhibit the same travel behaviours as current residents, this relationship between ownership and use would predict an overall car mode share for residents of new development of around 27 per cent.³⁹

This figure gives an indication that while the proposed standards are supportive of the Mayor’s aim for mode shift to walking, cycling and public transport, they do not meet the 80 per cent target in isolation. However, in effect, the proposals of the Mayor’s Transport Strategy look to change the relationship between car ownership and use so the former generates less of the latter, in order to meet the 80 per cent mode share target. If this relationship does change sufficiently at a London wide level, then the sustainable mode share of residents of new development would likely meet – and potentially exceed – the 80 per cent target. This potential acknowledges the additional opportunities at new development to design in walking, cycling and public transport from the outset.

³⁹ TfL City Planning analysis - includes projections for standards for inner and outer London by PTAL band and by opportunity area. Standards for metropolitan and major town centres and the Central Activities Zone are excluded on the basis that correlate enough with higher PTAL to not have a significant effect on the resulting mode share

The parking standards proposed in the draft London Plan are therefore necessary but not sufficient in themselves to achieve the mode share target - a series of complementary measures will be required alongside them. This includes improving the attractiveness of walking, cycling and public transport and measures to prevent higher levels of car ownership than the standards cater for. These are described in more detail in section D.

3. Providing for Blue Badge holders

Blue Badge holders will be catered for at all new development

To cater for those disabled persons who require a car, the draft London Plan sets out the following requirements at residential development:

- G Disabled persons parking should be provided for new residential developments. Residential development proposals delivering ten or more units must, as a minimum:
- 1) Ensure that at least one designated disabled persons parking bay per dwelling for three per cent of dwellings is available from the outset.
 - 2) Demonstrate on plan and as part of the Car Parking Design and Management Plan, how the remaining bays to a total of one per dwelling for ten per cent of dwellings can be requested and provided when required as designated disabled persons parking in the future. If disabled persons parking provision is not sufficient, spaces should be provided when needed either upon first occupation of the development or in the future.

2.8 per cent of Londoners hold a Blue Badge⁴⁰, which is reflected in the requirement for a disabled persons parking bay from the outset per three per cent of dwellings.

A flexible approach allows Blue Badge parking to be provided where it is needed

Beyond this initial requirement, developments are required to identify how further disabled persons parking bays to a total of one per ten per cent of dwellings would be provided. This:

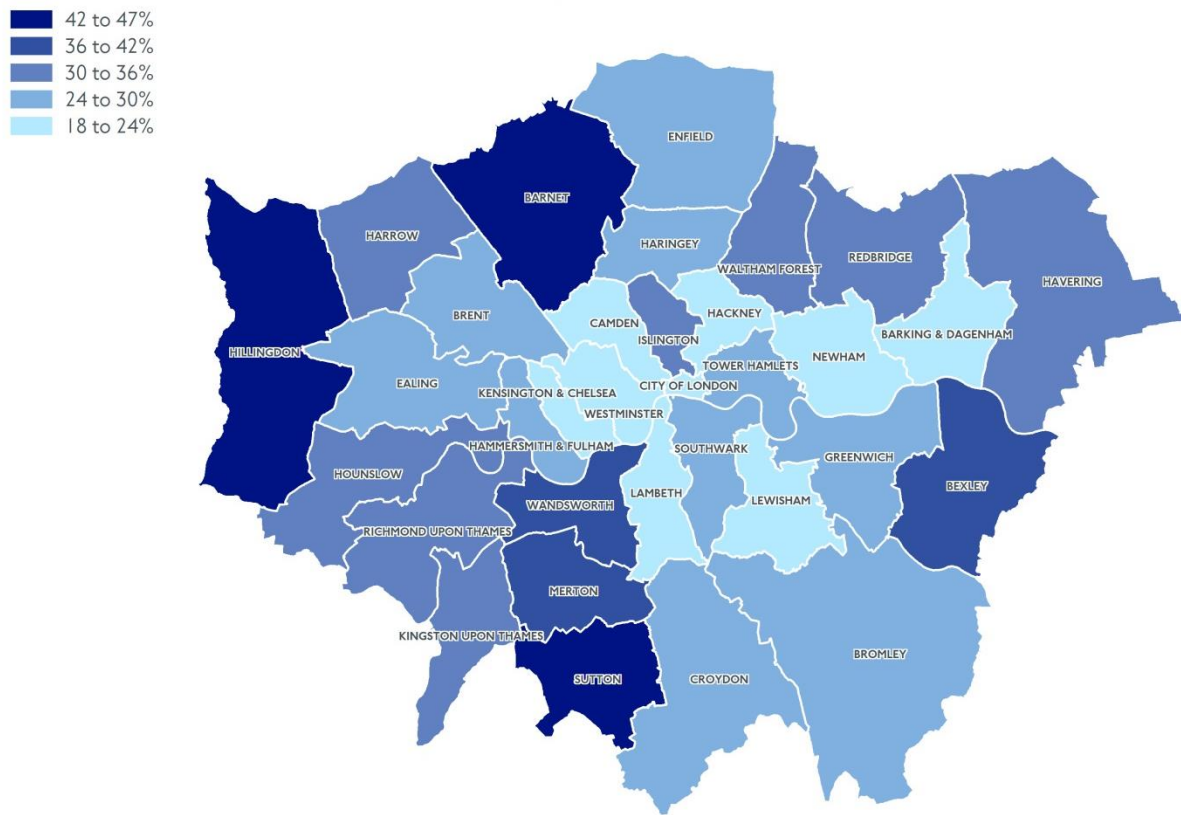
- Caters for the fact that the proportion of the population with a Blue Badge in some boroughs is higher than the London average (for example, 4.4 per cent of the population of Bexley holds a Blue Badge, the highest in London)
- Reflects the requirement for 10 per cent of new dwellings to be either accessible or easily adaptable to be used by a wheelchair user, to increase housing choice for those who need these facilities. As many wheelchair users will qualify for a Blue Badge, this means that any development where all the wheelchair user dwellings are occupied by wheelchair users with a Blue Badge will be able to support those residents

The flexibility in the policy also reflects the current and potential for future variation in need for disabled persons parking across London. Different boroughs have different proportions of their disabled population who hold a Blue Badge. Where this proportion is lower, it tends to be in areas that are less car dependent and more densely developed, meaning local amenities are easier to access and public transport such as buses (which are accessible from 95 per cent of bus stops and free to use for those with a Freedom Pass) are more of a viable option. Income may also be a factor, given the expense of purchasing and maintaining a car.

⁴⁰ Office for National Statistics Blue Badge scheme statistics

Figure 18: Estimated proportion of Londoners with a disability who hold a Blue Badge, by borough

Blue Badge holders as an estimated proportion of population with a disability, by borough



Source: TfL City Planning analysis of the London Travel Demand Survey and Office for National Statistics Blue Badge scheme statistics

This approach ensures Blue Badge spaces wherever there are needed, while not requiring a one-size fits all standard across the whole of London.

Part D: Delivering lower residential parking maxima

Enhancements to public transport, walking and cycling infrastructure can help support more people to live without a car

The draft Mayor's Transport Strategy (MTS) sets out how the Mayor and Transport for London, working with other bodies and organisations, will improve and enhance public transport and walking and cycling infrastructure to 2041. This is expected to result in one million more people living in places with the best transport connections.⁴¹

Improvements to walking and cycling conditions across London will support the adoption of car-free and car-lite living across the city. Providing the right infrastructure and environments to encourage people to choose to walk and cycle is central to the Mayor's mode shift aim, and will be supported through initiatives such as:

- The Liveable Neighbourhoods programme, which will improve the public's experience of walking, cycling and using public transport across London, offering new opportunities to use streets as public spaces and to encourage fewer trips by car
- Providing 'Healthy Routes', which will create attractive, safe and accessible walking routes to schools and other local destinations will make walking a more attractive option for many local trips
- Transforming town centres and iconic places such as Oxford Street by reducing the dominance of vehicles, which will improve the experience of walking and cycling in London
- Developing a truly London-wide strategic cycle network to get more people to cycle and unlock the substantial potential for more cycling in outer London. By 2041 the aim is for 70 per cent of Londoners to live within 400m of a high-quality, safe cycle route

The MTS recognises that a good public transport experience means catering for the whole journey, with all its stages. This 'whole journey approach' looks to address barriers to walking, cycling and public transport use for all parts of a journey to support people to make more sustainable travel choices. This includes:

- Ensuring public transport fares are set at a level that enables affordable access to travel for all Londoners
- Improving customer service through staff training, providing a consistent level of service and making the most of new technology
- Enabling all Londoners to travel spontaneously and independently, making the transport system navigable and accessible to all. Step-free access at stations, inclusive design of stations, improved journey planning tools, travel mentoring, and improved accessibility training will all mean that public transport is more accessible to more people
- Transforming bus services through: more bus priority to improve reliability and journey times; redistributing bus capacity to where it is needed; and considering new types of bus service (such as express routes or demand responsive services)

⁴¹ Draft Mayor's Transport Strategy (2017)

- Tackling crowding on rail by providing more capacity and improving connectivity. Crossrail 2, London Suburban Metro and improved orbital services in inner and outer London will be supported by multi-modal interchanges at key locations
- Increasing capacity on Docklands Light Railway (DLR) and London Trams and provide more and better public transport at night

Taken together, this holistic approach to improving sustainable transport across the whole of London will support more residents of new developments to live without owning a car.

Enhancements to travel planning and transport assessments will further embed sustainable modes in the planning process

To deliver the proposals set out in the Mayor's Transport Strategy, Transport for London will embed the Healthy Streets Approach in all of its work, including in its role as a statutory consultee in the planning process. This means that the guidance for Travel Planning and Transport Assessments will be updated to reflect the new policy context. Changes to these will result in greater attention being given to streets as places and how people experience them. The Healthy Streets indicators will be considered during the planning process and new developments should result in improvements to the environment so that walking, cycling and public transport are more attractive, safer and prioritised over cars.

Traffic reduction strategies and managing the supply of parking will help support the delivery of the new parking standards

The draft MTS sets out how boroughs can help deliver mode shift to walking, cycling and public transport by developing traffic reduction strategies. These are to be done as part of the Local Implementation Plan process and will be borough-led so they can be tailored to suit different parts of London.

The strategies could include demand management measures such as local congestion charges or workplace parking levies, but can also include physical interventions such as using bollards to reduce rat running and make neighbourhoods more attractive for walking and cycling.

Other measures might include timed access for freight vehicles, filtered permeability, vehicle-free areas or events, play streets, using green infrastructure to reduce vehicle dominance or speeds, consolidating, moving or removing parking to reallocate space to other uses, etc.

As London grows, and in particular, as outer London densifies, how existing residents are affected by new development will need to be carefully managed to prevent any adverse impact from overspill parking. In some areas, where parking supply does not meet 'demand', measures, such as Controlled Parking Zones (CPZs), may be required to ensure parking is carried out in a safe and regulated way. CPZs can be funded by developers when secured as mitigation for their development.

While parking permits would represent a new cost for existing residents who choose to own a car, in some places maintaining the status quo may be incompatible with a growing and changing London and with increasing London's housing supply without adversely affecting

the road network. In some areas, particularly where street space is constrained or street environments are poor, continuing to allow car owners what is effectively private use of a public space, for no charge, may not be seen as fair by residents who do not own a car.

Once brought in, CPZs do bring benefits to existing residents such as priority access to parking near their homes (both for themselves and their visitors) and safer, more attractive streets. Figure 19 shows an example of a street in Southwark, before and after the introduction of a CPZ. Parking controls can also help local authorities prioritise on-street parking spaces for self-employed residents who might rely on a vehicle for their work such as people regularly carrying heavy equipment. This can be done through issuing business parking permits.

Figure 19: Before and after introduction of various Controlled Parking Zones, Southwark

Before introduction of CPZ



After introduction of CPZ



Source: Southwark Council

Mayoral Design Advocates will promote the Healthy Streets Approach in the design of new development

The Mayor is committed to improving design across London and has commissioned Design Advocates to ensure that new development meets a good design standard and higher densities 'work'. This will also be a key element to delivering Healthy Streets and ensuring that Londoners are able to walk, cycle and access public transport confidently.