Contents

8 Transport and travel

8.1 Introduction

This chapter explores the links between transport and travel and health, with a focus on local level impacts.

Transport plays a key role in contributing to a range of health outcomes and wider socio-economic influences on health. A well-functioning transport system: supports the local economy; facilitates access to employment, training and essential services; minimises carbon emissions and improves air quality; and improves health by supporting incidental exercise through active travel. For more detail on air quality and health, see the 'Health and the environment' section of this JSNA chapter.

The following statement from the UK Faculty of Public Health sums up the overarching objective of a healthy transport system: [1]

> *'The underpinning principle of a public health approach to tackling complex health issues relating to transport should be a major shift away from cars in favour of active travel: walking, cycling and public transport […] To achieve this, increasing proportions of the population would need to consider the most convenient, pleasant and affordable option for short-journey stages to be walking and cycling, and for longer-journey stages to be cycling and public transport use.'*

Hackney's recently adopted Transport Strategy 2015-2025 states that: [2]

> '*By 2025, Hackney's transport system will be an exemplar for sustainable urban living in London. It will be fair, safe, accessible, equitable, sustainable and responsive to the needs of its residents, visitors and businesses, facilitating the highest quality of life standards for a borough in the capital and leading London in its approach to tackling its urban transport challenges of the 21st century.'*

Hackney is justifiably proud of its reputation for innovation in sustainable transport and is at the forefront of the cycling revolution in London, showing leadership at a time of general decline in cycling levels nationally.

The City of London continues to make ongoing investment in infrastructure to improve the environment and facilities for pedestrians and provide sustainable transport options.

Box 1: Definitions used in this section

Active travel – travelling by a mode of transport that is physically active, such as walking and cycling.

Cycle Superhighways – Transport for London (TfL) developed cycle routes running from outer London into and across central London. They are designed to be safer, faster and more direct journeys into the city.

KSI – Killed and Seriously Injured (in a road traffic accident).

London Travel Demand Survey (LTDS) – survey conducted by TfL on travel habits in the capital.

Nitrogen dioxide (NO2) – a pollutant that has been associated with a number of short and long-term health conditions including respiratory and cardiovascular conditions. [3]

Particulate matter 2.5 and 10 (PM2.5 and PM10) – air pollutants made up of a complex mixture of non-gaseous particles of varied physical and chemical composition. Small particles are defined by their diameter and often grouped as being below 2.5 micrometres in diameter (PM2.5) or below 10 micrometres in diameter (PM10).

Public Realm – any publicly owned roads, paths, rights of way, parks, and open spaces accessible to the public, and public and civic buildings and facilities.
Social classification – population groupings based on occupation of head of household, ranging from I (professional occupations) to V (unskilled occupations).[1]

Ultra Low Emission Zone (ULEZ) – an area within which motor vehicles need to meet exhaust emission standards or pay a daily charge to travel.

8.2 Key facts about transport and travel in Hackney and the City of London

- There are excellent public transport links in both Hackney and the City.
  - Extensive improvements to the overground and rail network have helped to overcome Hackney's historic lack of access to the Tube network. There is also excellent provision of high-frequency bus services to and from central London and important growth areas across the capital.
  - The City of London has 12 Underground and Docklands Light Railway (DLR) stations, as well as numerous mainline railway stations, an extensive network of bus routes, plus various commuter coach services and access to two river bus stops. However, high levels of congestion are common on this transport network, due to the significant number of daily visitors to the City.
- The City of London Local Plan predicts a significant increase in local employment (to 428,000 by 2026), with major implications for all aspects of transport. [4] The opening of Crossrail in 2018, along with upgrades to

[1] More information available from UCL at https://www.ucl.ac.uk/celsius/online-training/socio/se040100

Thameslink and the Northern Line, will help to manage this increase in demand.
- In Hackney, areas of traffic congestion tend to be concentrated mostly on the Transport for London (TfL) Road Network (TLRN) near town centres in Shoreditch and Dalston, but also in Hackney Central on routes entering/leaving the borough to the east.
- Hackney and the City of London continue to prioritise investment in public realm improvements to enhance the local environment for pedestrians.
- Both local authorities have high levels of cycling and walking, although both areas have plans to increase active travel further. Levels of car ownership are correspondingly low.
- In Hackney, and even more so in the City, there are relatively high rates of air and noise pollution, in common with the wider London area, and efforts to promote active travel (and reduce reliance on polluting forms of transport) aim to reduce this.
- Reducing injuries on the roads, especially injuries involving vulnerable road users, is a priority in both local authority areas.

8.3 Health and wellbeing impacts

Congested roads have notable negative health impacts, such as high levels of air pollution, noise and increased injury risk. [5] By influencing people's preferred modes of travel, transport policies can have a significant positive impact on population health, for example through measures to:
- reduce motorised traffic
- reduce air pollution
- increase active travel (i.e. walking and cycling)
- improve road safety.

8.3.1 Traffic congestion, emissions and noise

The growth in population, housing and employment, both within the local area and in neighbouring boroughs, has obvious implications for transport demand and for congestion on Hackney and the City's busy transport network.

Poor air quality resulting from vehicle emissions in congested areas is harmful to health. In 2010, an estimated 9,416 deaths in Londoners were attributable to long-term exposure to NO2 (nitrogen dioxide) and PM2.5 (particulate matter 2.5). [6] Local estimates for Hackney suggest that as many as 7% of all deaths in 2014 can be attributed to air pollution – there are high rates of mortality attributable to air pollution across central London. [7] Air pollution can affect lung function, exacerbate asthma and increase cardiovascular and respiratory disease. [5]

Traffic can also cause noise pollution, which has a number of health and wellbeing consequences. The most prevalent negative effect of noise is annoyance, but there are a number of other effects including sleep disturbance, hearing impairment, heightened cortisol in the blood (a marker of stress) and, impairment of cognitive performance in children, as well as increased risk of developing cardiovascular disease in those exposed long-term to noise pollution. [8]

8.3.2 Active travel

Active travel (i.e. by foot or bicycle) can increase the amount of exercise that people are able to integrate into their daily lives. Being more active helps prevent or manage over 20 health conditions and diseases, including coronary heart disease, diabetes, some cancers and obesity. Physical activity is also good for mental wellbeing and can help older people maintain independent lives for longer. [9] Physical activity that can be incorporated into everyday life, such as brisk walking and cycling, has been found to be as effective for weight loss as supervised exercise programmes. [10]

Increasing active travel also has related health benefits from lower car use and associated reductions in air pollution and carbon dioxide emissions, a reduction in road danger and noise, and an increase in the number of people out on the streets - making public spaces appear more welcoming and providing opportunities for social interaction. [10]

While there are clear health benefits from cycling, there are also associated risks, including casualties involving motor vehicles (especially heavy goods vehicles) and cyclists. However, as the 2010 joint Department for Transport and Department of Health Active Travel Strategy states, '*safety risks are outweighed by the health benefits by a factor of around twenty to one.'* [11] A recent study confirmed that the health benefits of walking and cycling outweigh the risks from air pollution in London, and makes the point that the health risks from air pollution would be reduced if more people switched from motorised to active travel. [12]

8.3.3 Road traffic injuries and deaths

Road traffic injuries and deaths are a major (but rare) health impact of local transport systems. As well as being a very real *actual* risk, it has been found that the *fear* of road traffic injuries has health impacts of its own. Fear of injury is the main reason people give for not cycling and for parents not wanting their children to be out on their own, both of which can limit opportunities for physical activity and associated health benefits. [13] As discussed previously, studies have shown that the health benefits of active travel far outweigh the risks.

8.4 Number of people affected locally

All residents and visitors to Hackney and the City are affected by the health impacts of different modes of transport. The sections below quantify the local impact of air and noise pollution, describe the number of users of different types of transport, and show levels of road accidents.

8.4.1 Traffic congestion, emissions and noise pollution

The whole of Hackney is a designated Air Quality Management Area, with zones of high NO2 (nitrogen dioxide) and PM10 (particulate matter 10) levels. [14] National health-based objectives for NO2 and PM10 are not being met in the City, so the whole of the Square Mile has also been declared an Air Quality Management Area.

The City of London is the most affected local authority area in London for air pollution; Hackney is the seventh most affected. [5] [14] The Public Health Outcomes Framework (PHOF) includes an indicator on the fraction of all-cause adult mortality attributable to particulate air pollution in people aged over 30. [7] In 2014 in Hackney this was 7.2% and in the City it was 8.3%, the highest in the country.

The PHOF also includes an indicator on the percentage of the population exposed to significant road, rail and air transport noise. **Invalid source specified. Invalid source specified.** In Hackney in 2011, this was 14% during the daytime and 18% at night. In the City over the same period, 29% of the local population were exposed during the daytime (the highest in the country) and 29% were exposed at night.

8.4.2 Modes of transport

In Hackney, Census data shows that the proportion of households without a car or van rose from 56% in 2001 to 65% by 2011, a rise of nine percentage points. [15] [16]. In 2011, 31% of households owned one car or van, with 5% owning two or more cars. [16]

In the City, the proportion of households without a car or van rose from 62% in 2001 to 69% by 2011, a rise of seven percentage points. [15] [16] In 2011, 25% of households owned one car or van, with 6% owning two or more cars. [16]

Car, cycle and walking trips (along with other modes of transport) for Hackney and the City are shown in Table 1, using the most recently available data. Walking is the dominant mode of travel in Hackney, with 37% of all trips walked. In the City, 34% of all trips were walked in the same time period. [17]

Hackney's cycle mode share is one of the highest in London, at 7%, with the City's cycle mode share at 4% (Table 1). [17] The 2011 Census also showed Hackney residents to have the highest levels of *commuter* cycling in London, comprising 15% of all commuter journeys (adjusted to take account of those who work from home or do not work at all). In the City, 5% of residents cycled to work in 2011. [16]

Table 1 also shows that Hackney residents made 20% of their trips by car or motorcycle and City residents made 4% of their trips using these modes. [17]

Table 1: Mode shares and trip rates by local authority of residence (2012/13 to 2014/15)

	Hackney	City of London
Rail	5.3%	19.6%
Underground/DLR	7.2%	27.1%
Bus/tram	22.6%	8.1%
Taxi/other	1.4%	3.1%
Car/motorcycle	19.9%	4.3%
Cycle	6.6%	3.5%
Walk	36.9%	34.3%

Source: London Travel Demand Survey (LTDS) [17]

8.4.3 Road traffic casualties

The number of people killed or seriously injured (KSI) on the road in Hackney between 2012 and 2014 was 290; a rate of 37.6 per 100,000 resident population. [18] In the City of London, the recorded rate is much higher, at 754 per 100,000 resident population over the same period (173 people in total), but this is largely attributed to the methods used to calculate this figure. KSI rates are calculated using the small City resident population as the denominator and the total number of incidents (involving residents, workers and other visitors) as the numerator; the daytime population in the City is over 50 times the size of the resident population. [19]

Nevertheless, the City of London's streets do pose a set of challenges for cyclists, pedestrians and also motorists. The medieval street layouts, combined with high volumes of road and pedestrian traffic, increase the risk of clashes between different road users. TfL Accident Analysis Unit data suggest that the vast majority of people seriously injured or killed on the City's roads are 'vulnerable' road users, i.e. pedal cyclists, pedestrians, or motorcyclists. [20]

In Hackney, over 90% of the roads are under the borough's authority. However, less than half of all KSI collisions and casualties occurred on borough roads in the five years leading to 2012 – almost half of collisions occurred on the 8% of roads not maintained by Hackney Council. [21] The high proportion of collisions and casualties on TfL maintained roads highlights the importance of partnership working between the borough and TfL to tackle locations which may form barriers to walking and cycling, and which require intervention to reduce collisions and casualties.

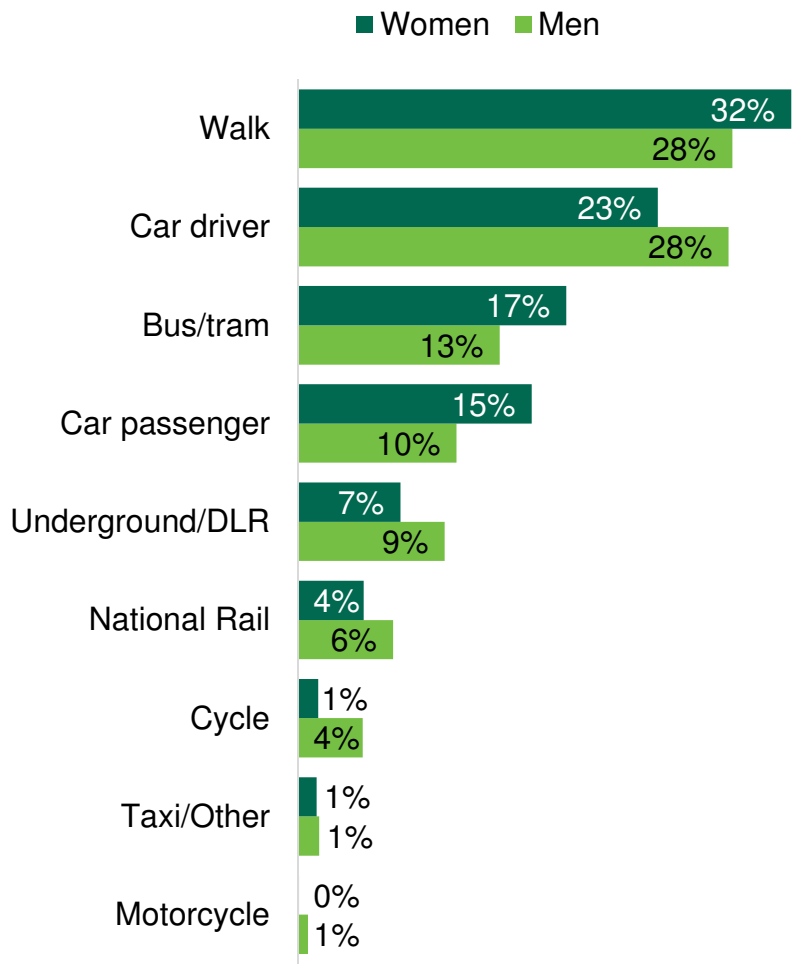
8.5 Inequalities

Healthy transport policies and interventions can contribute to reducing health inequalities. For example, encouraging active travel can increase physical activity levels, which decline with age and are lower among females, certain ethnic minority groups and low-income households. Similarly, action to reduce congestion and traffic-related emissions, noise and injuries will have greatest benefit in more socially-deprived communities, which are more likely to live in areas located near busy roads. [22]

8.5.1 Gender

According to the London Travel Demand Survey (LTDS), men make more trips in cars and on bicycles than women, while women make more trips by bus and on foot (see Figure 1). [23]

Figure 1: Gender and percentage mode share in London (2013/14)



Source: London Travel Demand Survey

TfL's 2010 Cycle Safety Action Plan found that the ratio of male to female cyclists killed or seriously injured on the road was 4:1. [24] This is generally proportional to

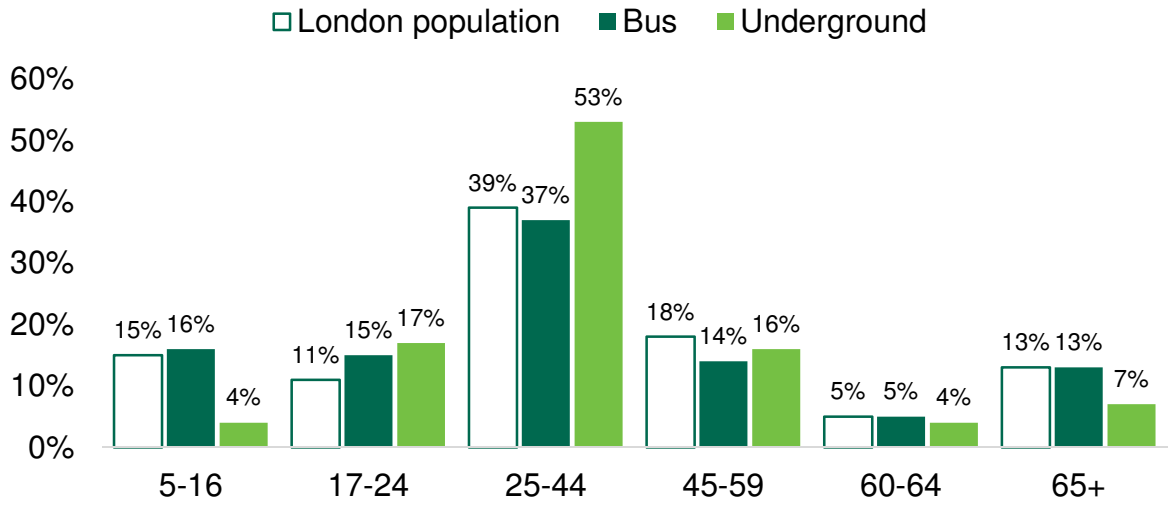
the gender ratio for the number of kilometres cycled, although there is a small but statistically significant increased risk of injury in males compared to females.

8.5.2 Age

Figure 2, Figure 3 and Figure 4 show London level data on mode of travel by age band, presenting data separately for bus and underground, car drivers and passengers, and frequent cycling and walking. [25] The figures also compare the percentage of each band using each transport mode with the percentage of that age band in the London population. There are several observations that can be drawn from these figures, as follows.

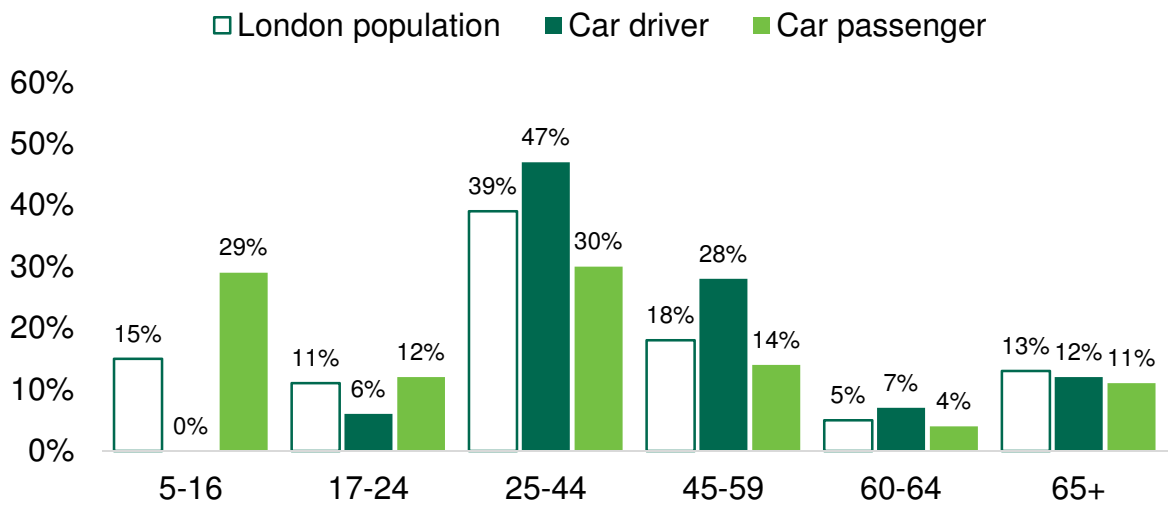
- Children make up a greater proportion of frequent cyclists than they do the London population, and a smaller proportion of frequent underground users. They are comparatively less likely than adults to be frequent underground users.
- Those aged 25-44 make up a greater proportion of underground users and car drivers than they do the London population. Cycling and walking among this group, and those aged 45-59, appears to be proportional to their respective population shares.

Figure 2: Mode share of frequent users of bus and underground services, by age (2007/08 - 2009/10)



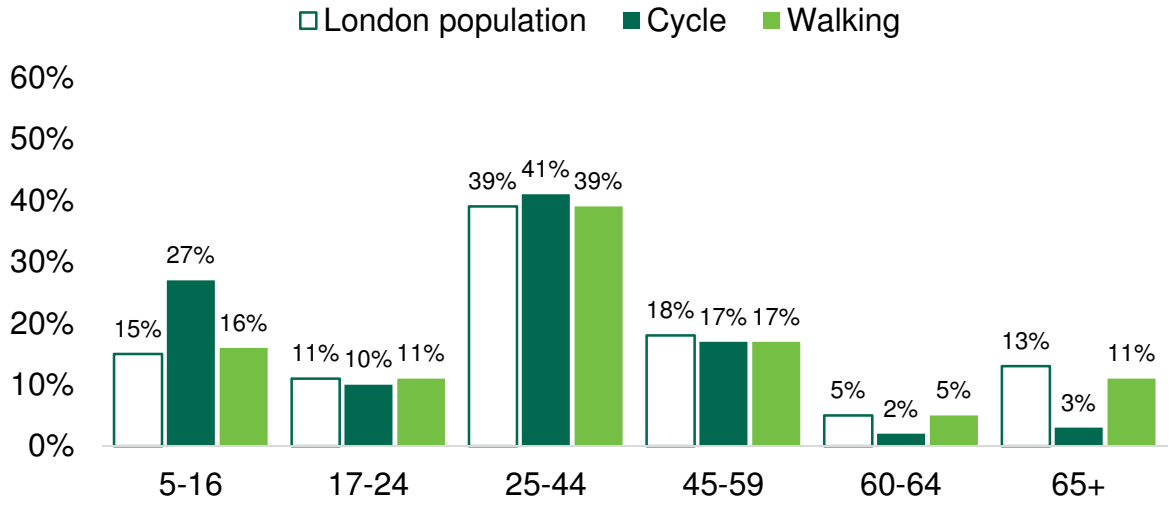
Source: Travel in London Supplementary Report: London Travel Demand Survey [25]

Figure 3: Mode share of frequent car drivers and passengers, by age (2007/08 - 2009/10)



Source: Travel in London Supplementary Report: London Travel Demand Survey [25]

Figure 4: Mode share of frequent cyclists and pedestrians, by age (2007/08 - 2009/10)



Source: Travel in London Supplementary Report: London Travel Demand Survey [25]

London residents in the age bands 25-44 and 45-59 on average make the highest number of daily trips, at 2.8 trips per day. Those aged over 65 make the fewest trips on average, at 2.1 trips per day. [26]

Older residents and children, who tend to take the fewest trips, are disproportionately the victims of road traffic accidents, and the outcomes of such accidents are more likely to be fatal in these groups. [2] A review of casualty data in Hackney found that the highest overall casualty rates between 2008 and 2012 were among males aged 20-24 years. [21]

While the numbers are small, children and adolescents are also the groups at greatest risk of KSI specifically when cycling in London. However, the largest

number of casualties occur among cyclists in the 25-39 age group, reflecting the high number of cyclists in this age group. [27]

Air pollution disproportionately affects older adults and can affect the lung development of children, as well as exacerbating asthma. [28] [29]

8.5.3 Ethnicity

There are some notable differences between ethnic groups in types of transport used in London. For example, people of Bangladeshi origin make a relatively large number trips on foot, people of Indian and Pakistani origin have high levels of car use on average, and those in Black ethnic groups tend to make more bus trips. [25] Hackney's Scrutiny Commission found that non-White groups in Hackney were less likely to cycle than average. [30]

Road users from Black, Asian and Minority Ethnic (BAME) groups have been found to be at increased risk of KSI on the road across all transport modes, except bus travel. BAME cyclists are particularly vulnerable; they have approximately twice the risk of being killed or seriously injured compared with non-BAME cyclists. [27]

A review of collision data in Hackney found that, in 2012, 10 child casualties in the borough were defined as White European (15% of the total), with the highest proportion of child casualties being of African-Caribbean origin (21 casualties; 31% of the total). [21]

Box 2: Case study – Injuries inequality reduction scheme in Hackney

The London Borough of Hackney was part of an injuries inequality reduction scheme, launched initially by TfL in 2007 in seven pilot boroughs where an over-representation of ethnic minority road casualties were identified.

As part of the second phase of this scheme, the council worked in partnership with communities to produce a short film known as 'Concrete Dreams' (available for download on YouTube and other social media), targeted at residents between the ages of 14 and 19 primarily of Black African and Black Caribbean background.

8.5.4 Disability

Hackney's Transport Strategy outlines a number of transport accessibility issues for those with disabilities that have also been identified by a number of key stakeholders, such as Age UK, Disability BackUp in Hackney, Living Streets,[2] residents and councillors. These include: [2]

- a lack of adequate crossing times at key junctions
- impediments to movement caused by footway parking
- advertising boards and other street clutter
- site-specific problems, including a lack of public seating and other amenities.

[2] Living Streets is a charity that promotes everyday walking.

Poorly designed public realm and accessibility issues could mean that people with disabilities use transport less and become socially isolated, with increased risk of a range of inactivity-related health issues (as described in Section 8.3).

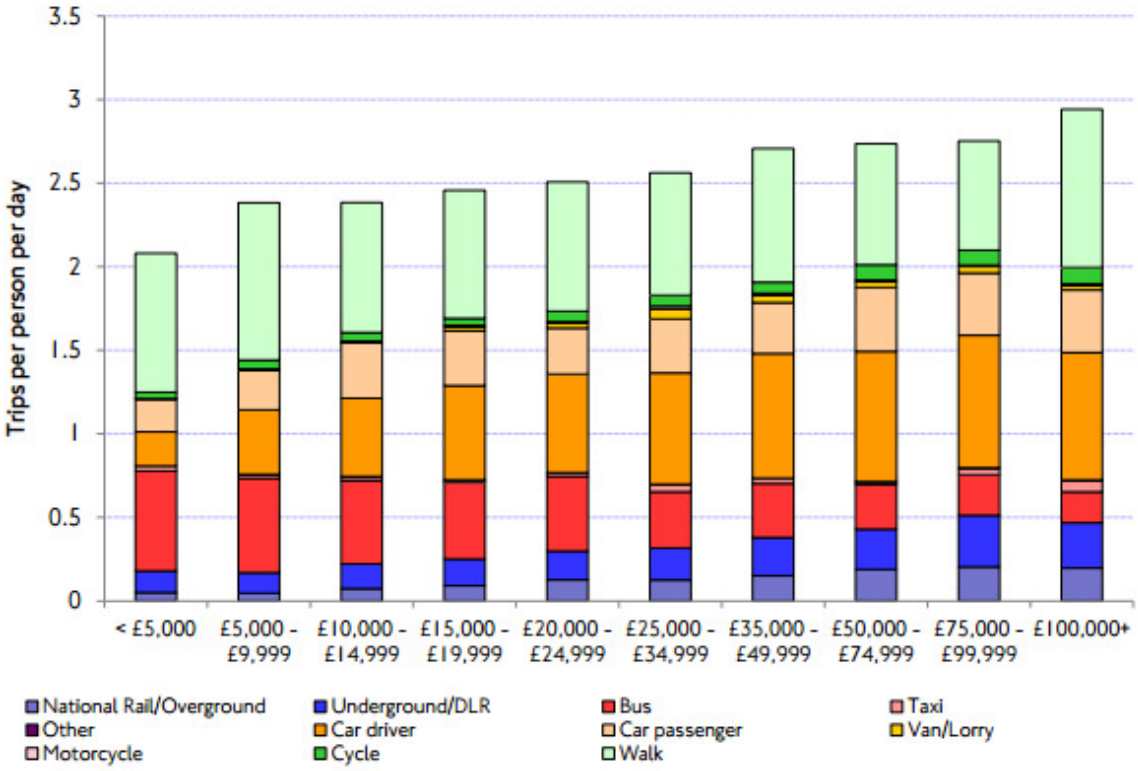
Although there are no local data on transport use for people with disabilities, a health and wellbeing survey of Hackney residents in 2015 found generally low levels of physical activity among people with a disability. One quarter of physically disabled residents said that they do no activity at all, compared with a very small minority (6%) of those who are not disabled. [31] This suggests that walking and cycling as a mode of transport are much less common among disabled residents.

8.5.5 Socio-economic disadvantage

The number of trips taken each day is higher for those on higher than lower incomes in London. According to TfL, Londoners with an annual household income of less than £5,000 make approximately two trips per day on average, whereas those with annual household incomes over £100,000 make almost three trips per day. [17]

The *mode* of transport used also varies with household income. Households with lower incomes tend to use the bus and walk more, whereas households with higher incomes make more trips as car drivers and cyclists and are also heavier users of the National Rail and tube networks (see Figure 5). [17]

Figure 5: Trips per person per day (average day, seven-day week), by main mode and household income (2013/14)



Source: London Travel Demand Survey. [23] Reproduced from original report.

Hackney's Scrutiny Commission on barriers to cycling found that residents living on social housing estates and on lower incomes were less likely to cycle than other

residents. The commission also noted that these groups tend to face multiple barriers to cycling – such as cost, poor access to bike storage, lack of training and cycling clubs, lack of parental support for cycling, and perceived image problems associated with cycling. [30]

There is also a socio-economic gradient in incidence of road traffic accidents among children, with children from social class V (most deprived) having five times the mortality rate from road traffic accidents as children from social class I (least deprived). [22] Local analysis for Hackney, using the MOSAIC tool,[3] revealed that the highest number of child and pedestrian casualties are in households described as 'young people renting flats in high-density social housing'. [2]

Residents living in deprived areas are also known to be disproportionately impacted by poor air quality and those from lower socio-economic groups are more likely to live near main roads and airports, thus increasing their risk of air pollution. [22] [28] Hackney is one of the boroughs that has the highest proportion of its most deprived populations (top 30% deprived) in London's areas of worst air quality. [32]

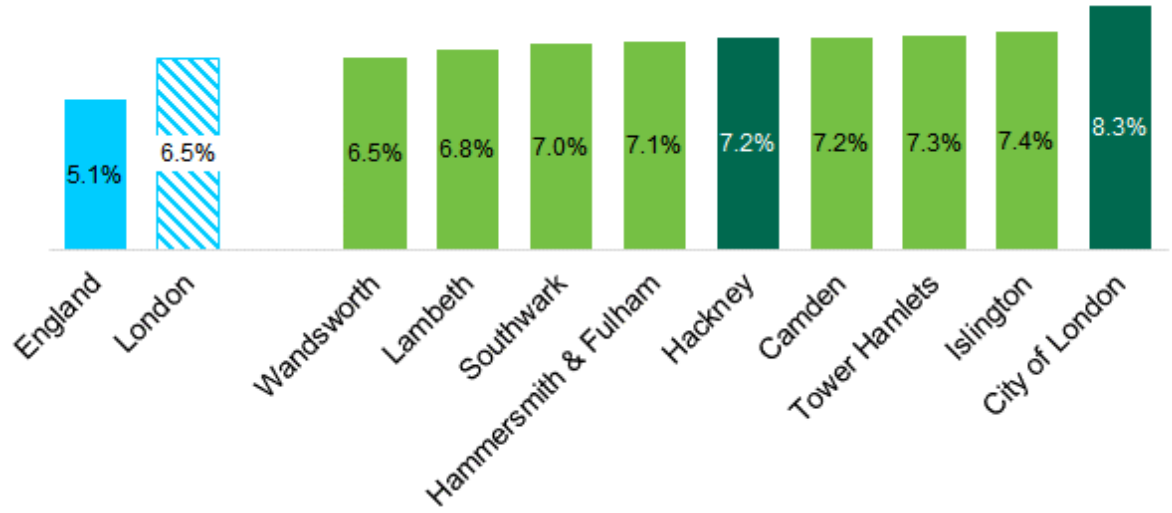
8.6 Comparisons with other areas and over time

8.6.1 Air and noise pollution

Figure 6 shows that in 2014 in Hackney, 7.2% of all-cause adult mortality (in the over 30s) was attributable to particulate air pollution, which is higher than the national and London average but similar to its statistical peers (statistical significance cannot be ascertained as confidence intervals are not available). In the City, this figure was 8.3%, the highest in the country. The City of London Corporation has been taking a wide range of action to both improve local air quality and to help people to reduce their exposure to pollution. For further information see Section 8.8 and Section 8.9.

[3] MOSAIC is a tool which divides the population into one of 15 categories and within these into 67 'geodemographic units'.

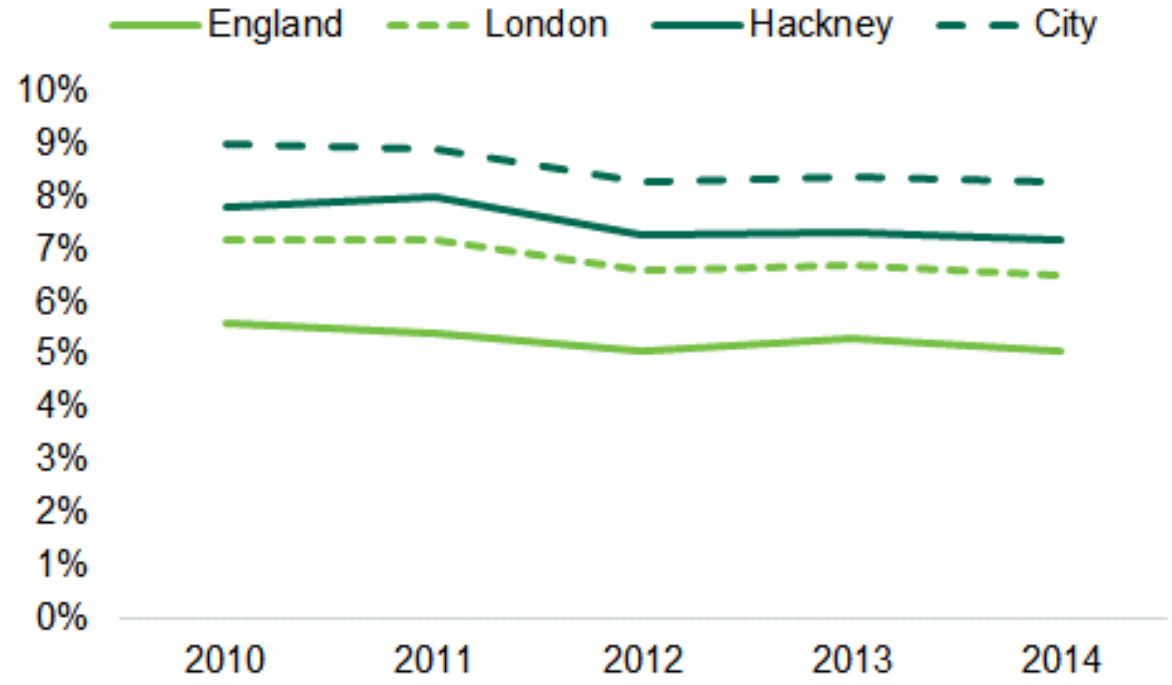
Figure 6: All-cause adult mortality attributable to particulate air pollution (aged over 30, 2014)



Source: Public Health Outcomes Framework
Note: Confidence intervals not provided

Figure 7 shows trends in the fraction of all-cause adult mortality attributable to particulate air pollution in the over 30s. Both Hackney and the City have seen a slight downward trend over the last three years, in line with national and regional patterns (statistical significance cannot be ascertained as confidence intervals are not available).

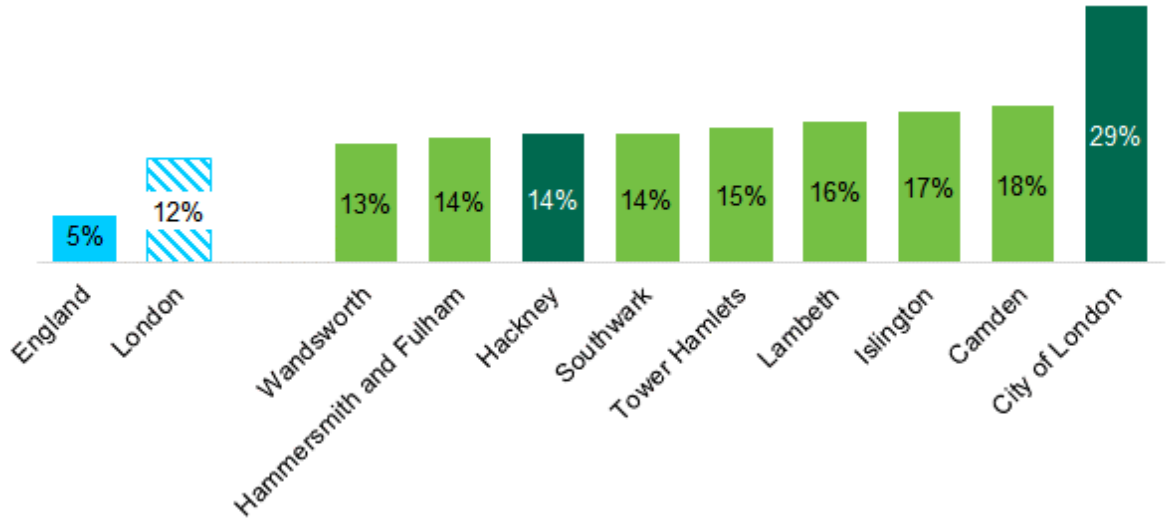
Figure 7: All-cause adult mortality attributable to particulate air pollution (aged over 30, 2010 - 2014)



Source: Public Health Outcomes Framework
Note: Confidence intervals not provided

Figure 8 shows the percentage of the population exposed to significant *daytime* road, rail and air transport noise in Hackney and the City compared to national and regional averages, as well as statistical peers. Hackney's rate of 14% is much higher than the England average, but is similar to the London average and many of its statistical peers (again please note, statistical significance cannot be ascertained). The City's rate of 29% is the highest in the country and much higher than the London or national average. This is due to its location, at the heart of London, and the density of development.

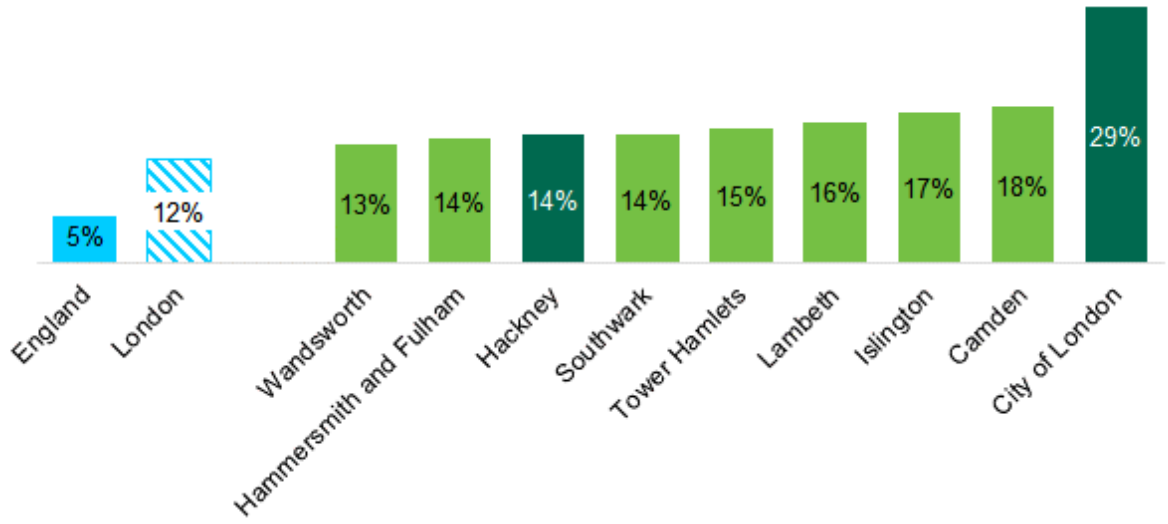
Figure 8: Population exposed to significant daytime road, rail and air transport noise (2011)



Source: Public Health Outcomes Framework
Note: Confidence intervals not provided

Figure 9 shows the percentage of the population exposed to significant *night-time* road, rail and air transport noise in Hackney and the City compared to national and regional averages, as well as statistical peers. Hackney's rate of 18% is much higher than the England average and slightly higher than the London average, but is generally similar to its statistical peers (although statistical significance cannot be ascertained). The City's rate of 29% is higher than Hackney, London and England averages.

Figure 9: Population exposed to significant night-time road, rail and air transport noise (2011)



Source: Public Health Outcomes Framework
Note: Confidence intervals not provided

The proportion of the population exposed to daytime and night-time traffic noise has reduced in Hackney since 2006, falling from 17% to 14% in the daytime and 22% to 18% in the night-time. This is in line with London and national averages. The reductions are more significant in the City over this same period, with a sharp fall from 42% to 29% in those affected by daytime noise and from 48% to 29% in those affected by night-time noise.

8.6.2 Modes of transport

Table 2 shows mode shares and trip rates for Hackney and the City of London, compared to London as a whole. Bus and cycle use is much higher in Hackney than London overall, walking is slightly higher and rail and taxi/other use are similar. Car/motorcycle use in Hackney is much lower and Underground/DLR use is slightly lower than the London average. In the City of London use of rail, Underground/DLR and taxi/other is much higher than the London average, and cycling and walking are slightly higher. Bus use is much lower in the City of London than London as a whole.

Table 2: Mode shares and trip rates, by local authority of residence (2012/13 - 2014/15)

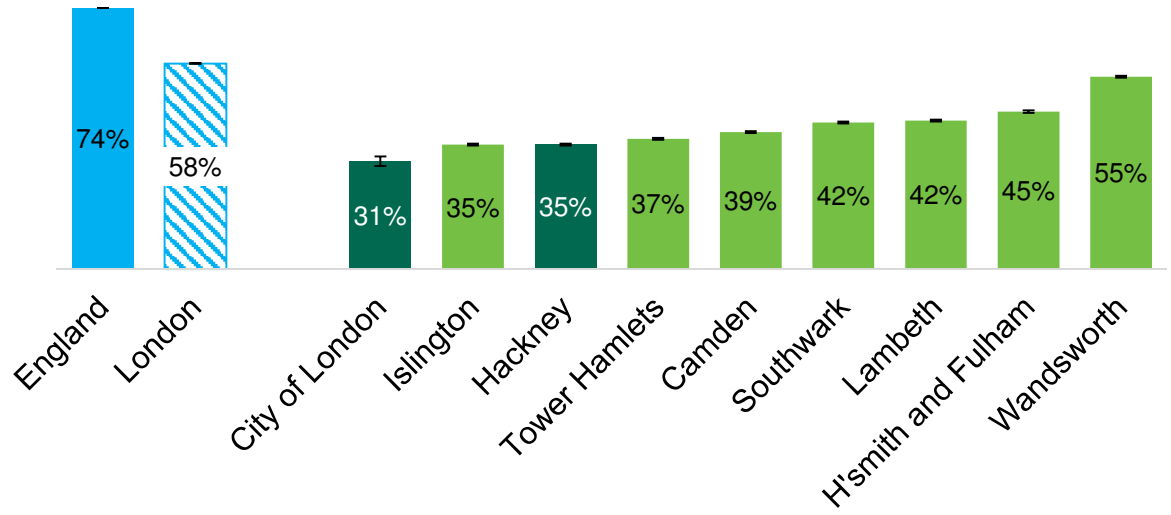
	Hackney	City of London	London
Rail	5.3%	19.6%	5.0%
Underground/DLR	7.2%	27.1%	8.5%
Bus/tram	22.6%	8.1%	14.9%
Taxi/other	1.4%	3.1%	1.3%
Car/motorcycle	19.9%	4.3%	35.1%
Cycle	6.6%	3.5%	2.7%
Walk	36.9%	34.3%	32.4%

Source: London Travel Demand Survey [17]

Figure 10 shows Hackney and the City's rates of car ownership compared with London and statistical peers. Both Hackney and the City have much lower rates of car ownership than the London average.

In Hackney, Census data shows that the proportion of households without a car or van rose from 56% in 2001 to 65% by 2011, a rise of nine percentage points. [15] [16] In the City, the proportion of households without a car or van rose from 62% in 2001 to 69% by 2011, a rise of seven percentage points. [15] [16]

Figure 10: Households owning one or more car (2011)



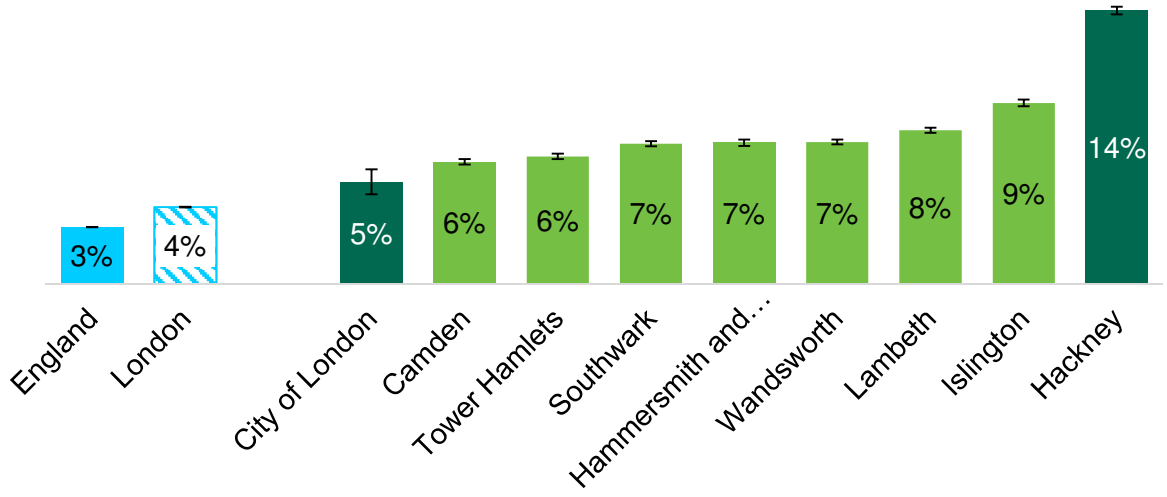
Source: ONS Census

Figure 11 shows the proportion of working residents of Hackney and the City who cycle to work compared with national and regional averages and statistical peers.

Both Hackney and the City have higher rates of commuter cycling than London and England, but Hackney has a much higher rate than other areas and the third highest rate in England (please note, the figures presented in Figure 11 are not adjusted to take account of those who work from home, as presented in Section 8.4.2, as this local analysis has only been undertaken for Hackney).

By 2011, the proportion of working residents who commute by bicycle had more than doubled in both Hackney and the City since the last Census in 2001. In Hackney, rates increased by 232% and in the City by 228%, the second and third largest increases in the country respectively. [15] [16] These increases have been observed across all neighbourhoods in Hackney, ranging from a 50% increase in New River ward to a huge 718% increase in Lea Bridge. Commuter cycling rates are expected to rise further in Hackney, with a target of 25% by 2025. [2]

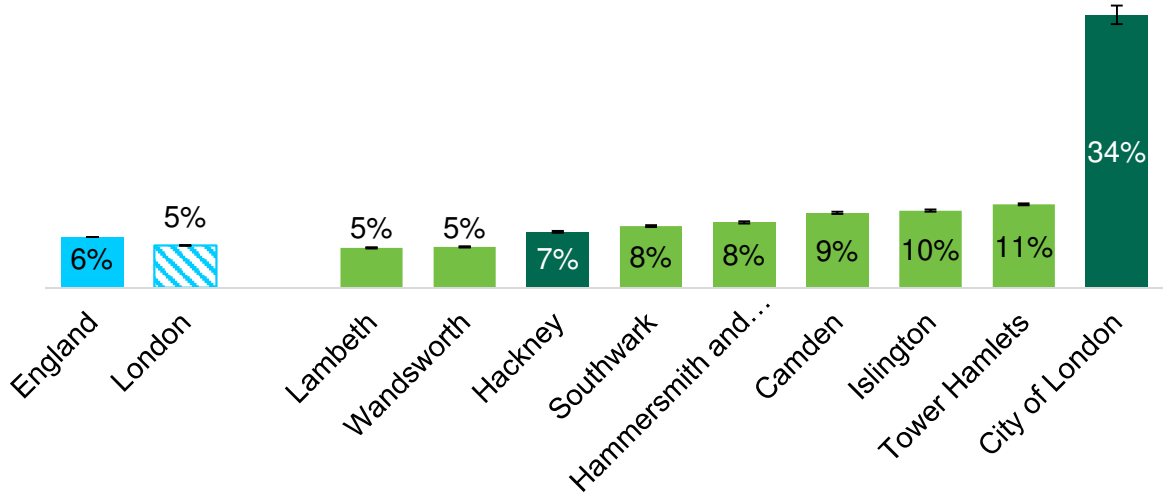
Figure 11: Proportion of working residents cycling to work (age 16-74, 2011)



Source: ONS Census

Figure 12 shows the proportion of working residents of Hackney and the City who walk to work compared with national and regional averages and statistical peers. Both Hackney and the City have higher rates than London and England, but Hackney is at the lower end of the range of its statistical peers (7%). The City has the highest rate of walking to work in the country (34%).

Figure 12: Proportion of working residents walking to work (age 16-74, 2011)



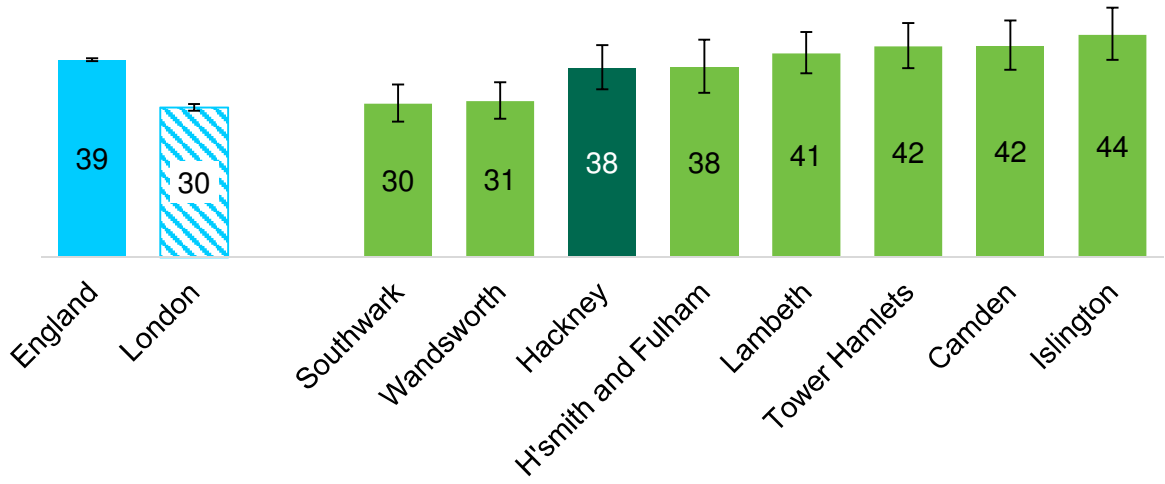
Source: ONS Census

8.6.3 Road traffic injuries

Figure 13 shows Hackney's rate of KSI on the roads per 100,000 resident population, alongside the national and regional averages and rates for Hackney's statistical peers. Hackney's rate of 38 per 100,000 is higher than the London average, but similar to the national average and many of its statistical peers.

The rate of KSI in the City of London is 754 per 100,000 resident population. However, as discussed in Section 8.4.3, this does not accurately reflect road safety in the City, as the *number* of people KSI in the City includes the large non-resident daytime population, which inflates the reported figure.

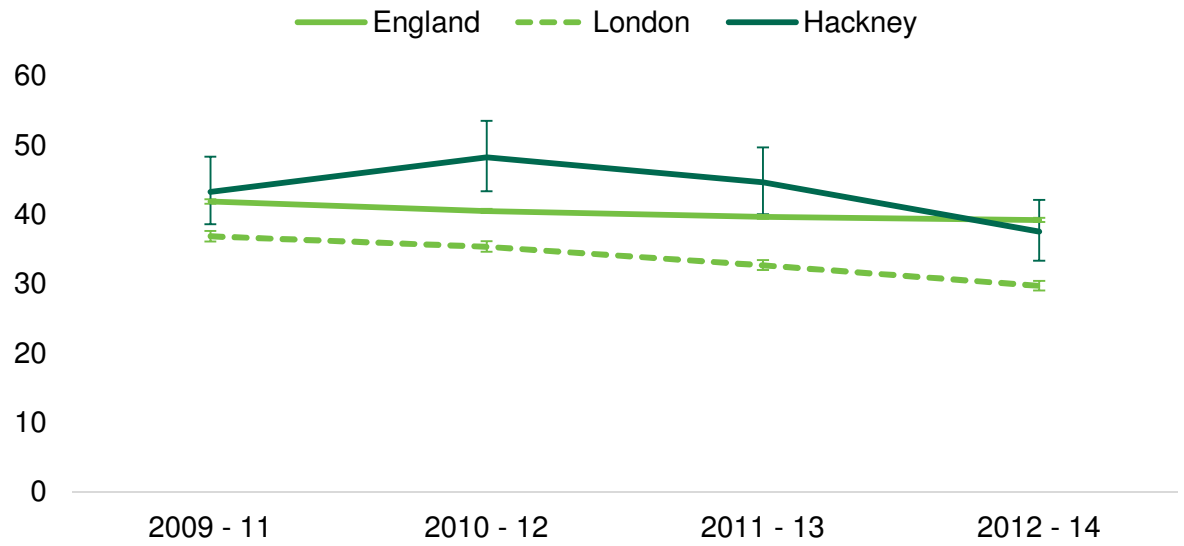
Figure 13: Rate of people killed or seriously injured (KSI) on the roads per 100,000 resident population (all ages, 2012-14)



Source: Public Health Outcomes Framework

Figure 14 shows recent trends in KSI rates in Hackney, London and England. There has been a general downward trend in local, regional and national rates over the period shown.

Figure 14: Rate of people killed or seriously injured (KSI) on the roads, all ages, per 100,000 resident population (2009-11 to 2012-14)



Source: Public Health Outcomes Framework

8.7 Evidence and best practice

The National Institute for Health and Care Excellence (NICE) has produced two pieces of guidance that are particularly relevant to the transport system: [33] [34]

- PH41 – Physical activity: walking and cycling (2012)
- PH31 – Unintentional injuries on the road: interventions for under 15s (2010).

A summary of the main recommendations from this guidance is provided in Table 3 and Table 4. NICE guidance on physical activity and the environment, promoting physical activity in the workplace, promoting physical activity for children and young people and prevention of cardiovascular disease also contain recommendations for effective measures relevant to a healthy transport system. [9] [35] [36] [37]

NICE is also currently consulting on guidance on air pollution, which is scheduled for publication in 2017. [38] Draft recommendations include:

- including air quality considerations in Local Plans (local authority development planning guidelines)
- introducing clear air zones (this could include measures such as restricting polluting vehicles, encouraging less polluting forms of travel, improving driver behaviour and implementing congestion charging zones)
- ensuring that public sector transport services and fleet vehicles contribute to reduced emissions (this could include measures such as improving driver behaviour and building in reduced emissions as a factor in procurement of vehicles)
- encouraging smooth driving and speed reduction using highway engineering techniques and technology (e.g. displays of current and average speed)

- considering the positioning of cycle routes (on less polluted roads if possible)
- awareness raising about the health effects and ways to reduce air pollution with the general public, businesses and at-risk groups (including children, older people and those with chronic health conditions).

There is currently no NICE guidance on noise pollution, although this is something that is incidentally reduced by increasing active travel and measures to reduce injury.

Table 3: Active travel and the environment – evidence-based recommendations [33]

Broad area	Summary of recommendations
Public realm	• Re-allocate road space for active modes of transport. • Address infrastructure issues that may discourage walking. • Implement policies to discourage private car use. • Introduce a default 20mph speed limit for streets where people live, work and shop. • Ensure public transport is accessible for all and integrated with other transport modes. • Ensure that people can easily access local services on foot or bicycle via safe and attractive walking/cycling networks. • Ensure that new developments prioritise physically active lives, including walking and cycling. Health impact assessment is recommended for relevant transport and land-use decisions. • Ensure adequate cycle parking provision, including at schools.
Strategy and investment	• Set ambitious targets for increases in walking/cycling and publish a strategy to meet them. • Invert the current traffic hierarchy so that walking and cycling are at the top and private car use is at the bottom. • Invest at a realistic level – £5 to £10 per person per year is generally accepted as the minimum required to increase cycling. • Build in routine data collection and subsequent evaluation to any approach that is not of proven value or effectiveness. • Ensure inclusive school travel plans are developed which encourage children to walk or cycle to school.
Training and communications	• Tackle bad driving through training and awareness campaigns. • Ensure cycle training is available and accessible for all and that pupils at schools can access road safety training. • Publicise available facilities (such as walking and cycling routes) and include information that people with impairments will require (e.g. location of dropped kerbs, location and design of barriers at access points to cycle paths). • Map safe routes to school and local play and leisure facilities and consult with the local community, including people with expertise in accessibility issues.

Broad area	Summary of recommendations
	• Ensure signage is available to aid walking by giving details of distance and/or walking time between transport facilities and key destinations.
Programmes and initiatives	• Develop targeted programmes to encourage walking and cycling. • Provide support for personalised travel planning. • Introduce regular 'walking buses' and projects such as 'walk once a week' in schools. • Develop or promote workplace schemes to promote cycling. • Develop walking and cycling programmes using an evidence-based theoretical model of behaviour change.

Table 4: Preventing unintentional injuries on the road in under 15s – evidence-based recommendations [34]

Broad area	Summary of recommendations
Health advocacy and engagement	• Ensure senior public health leadership to engage the health sector in injury prevention and risk reduction. • Support and promote changes to the road environment as part of a broader strategy to prevent injuries and the risk of injuries. • Support coordinated work between health professionals and local highways authorities to promote changes to the road environment.
Measures to reduce speed	• Introduce engineering measures to reduce speed in streets that are primarily residential or where pedestrian and cyclist movements are high (e.g. traffic calming on single streets or 20 mph zones across wider areas). • Implement city or town-wide 20 mph limits and zones on appropriate roads (based on traffic volume, speed and function).
Safer routes for children and young people	• Consider opportunities to provide safer routes commonly used by children and young people, including to school and other destinations (such as parks, colleges and recreational sites). • Include school governors and head teachers in discussions about changes relating to school travel.

In addition to NICE guidance, TfL has produced a Streets Toolkit to aid those involved in the design of streets to create high quality spaces.[4] This includes guidance on making bus stops accessible, and streetscape guidance to ensure attractive environments for active travel, and references the London Cycling Design Standards to ensure cycle friendly infrastructure, streets and parking.

TfL's transport action plan, 'Improving the health of Londoners', brings together a range of evidence on health and transport and includes recommendations on how to make the transport system healthier. [39] Recommendations relevant to local authorities include implementing speed limits of 20 mph on borough-controlled roads, ensuring accessibility to healthcare facilities and increasing joint working between public health and transport colleagues. The action plan also describes 10 'healthy street' indicators for guiding local transport planning (see Box 3).

Box 3: TfL's 'healthy street' indicators [39]

TfL has proposed the following key principles to deliver 'healthy streets' for everyone:

1. Pedestrians from all walks of life
2. People choose to walk and cycle
3. Clean air
4. People feel safe
5. Not too noisy
6. Easy to cross
7. Shade and shelter
8. Places to stop
9. Things to see and do
10. People feel relaxed

8.8 Services and support available locally

Hackney's Streetscene team are part of the Public Realm directorate within the council. The team has responsibility for the design and maintenance of highways, footways, bridges and street lighting on public roads, as well as road safety and traffic management, school crossing patrols and promotion of 'sustainable' transport (including walking, cycling and public transport).

Hackney's current Transport Strategy contributes to improving health and wellbeing of residents and visitors in a number of ways (see Box 4). Hackney's Road Safety Plan, part of the wider Transport Strategy, analyses data and proposes policies which aim to achieve casualty reduction to 2020 and beyond, including reducing inequalities in road traffic casualties. A public health assessment of the Transport Strategy, carried out as part of the consultation process, found that on the whole this is a comprehensive document that meets most evidence-based recommendations for a 'healthy' transport system.

[4] For further information, see https://tfl.gov.uk/corporate/publications-and-reports/streets-toolkit

Box 4: Hackney Transport Strategy's contribution to health and wellbeing [2]

Hackney Council's Transport Strategy aims to:

- improve residents' health and wellbeing and tackle obesity levels through the promotion of more active travel
- continue to improve conditions for walking and cycling safely in the borough
- strengthen sustainable transport's role in facilitating Hackney's continued regeneration and supporting its Love Hackney, Shop Local campaign
- continue to advance the case for key public transport infrastructure improvements in Hackney and promoting linked trips
- enhance residents' access to jobs, training and essential services without increasing congestion
- enhance accessibility and mobility options for vulnerable groups allowing them to live independently
- improve air quality and reduce emissions from our transport system.

The City's Transport and Streets team performs a similar function to Hackney's Streetscene team for the City of London. Support for a healthy transport system is articulated in the City's Local Plan, as set out in Box 5.

Box 5: Support for a healthy transport system through measures in the City of London's Local Plan [4]

In the City's Local Plan there are several areas which relate to transport:

- provisions to improve air quality and reduce noise pollution through restrictions on developers
- adoption of an air quality action plan
- support for improvements to public transport
- commitment to improve conditions for safe and convenient walking and cycling
- commitment to minimise congestion and reduce vehicle emissions
- requirement for developers to carry out transport impact assessments
- commitment to maintain pedestrian footways
- implementation of standards around providing cycle parking for developers and facilities to encourage active travel (e.g. showers and dryers)
- restrictions on parking provision for developments in the City.

The rest of this sub-section provides examples of some of the work Hackney's Streetscene and the City's Transport and Streets Teams will be undertaking over the next few years, as well as case studies of work already taking place.

8.8.1 Air and noise pollution

In Hackney, the source of most poor air quality is vehicular traffic on the TfL-controlled road network. However, there are also a number of roads in the borough with poor air quality that are used as 'rat runs',[5] which the council is addressing by extending the 'filtered permeability network' that restricts through traffic but facilitates

[5] 'Rat runs' are minor, typically residential streets used by drivers during peak periods to avoid congestion on main roads.

safer cycling and walking. Reducing the amount of parking and reducing traffic flows will also help to improve air quality, reduce traffic casualties and make neighbourhoods more pleasant places to walk, play and cycle.

The City's Noise Strategy 2012-2016 is currently being reviewed. [40] Being located at the heart of London, the City of London inevitably experiences relatively high levels of noise. The main noise sources of concern in the City are from building works, street works, road traffic, leisure activities, and other commercial activities such as deliveries, plant and equipment. The City of London Corporation has a statutory responsibility to manage and minimise exposure to excessive noise, while ensuring that the City can continue to function as a modern world-class business centre. The City of London Noise Strategy brings together and updates policies and programmes that are already in place to manage and mitigate noise, as well as proposing additional measures to improve noise management in the City.

8.8.2 Active travel

Making Hackney's roads safer for all road users is one of the key priorities set out in the council's Sustainable Community Strategy and this continued priority is reflected in the new Transport Strategy. [41] The City is also committed to promoting active travel.

Cycling

Hackney has invested heavily in cycling and is renowned for being a cycle-friendly borough. Below are three examples of schemes designed to get more people on their bikes.

Box 6: Case study – Cycle Loan Scheme

Hackney Council is committed to increasing the percentage of all resident journeys made by bicycle to 15% by 2031 and the percentage of residents cycling to work to 22% by 2031. Within Hackney, low levels of cycling and low bike ownership are found in areas with higher concentrations of social housing.

The Cycle Loan Scheme aims to overcome some of the barriers to cycling by allowing residents on a restricted income, or facing cultural barriers, to try out cycling before they purchase a bicycle. The one month trial costs £10 and participants have the option of purchasing the bike after the trial period and spreading the cost over three months. All eligible Hackney residents can access this scheme, although those living on social housing estates are prioritised.

The scheme launched in August 2014 and in the first year 452 residents were registered, with one third (35%) living on a social housing estate. The first year was deemed a success, with one fifth (19%) of participants purchasing a bike through the scheme and almost all participants (93%) saying they were likely to continue cycling.

Box 7: Case study – Estate cycle parking

As noted in Section 8.5.5 and in the previous case study, levels of cycling on social housing estates are significantly lower than in other areas of Hackney. Hackney's Cycle Segmentation study found that one of the major barriers to cycling among estate residents is lack of secure bike storage. [42]

Hackney's estate cycle parking programme was one of the first to be established in London. The aim was to provide safe and secure cycle storage for people living on social housing estates across the borough to encourage the uptake of cycling among residents. A significant proportion of the residential dwellings in Hackney are formed of housing estates containing flats. For flat dwellers, it can be difficult to store a bike even if the block has a lift, as corridors can be narrow.

The ultimate objective of this programme is to provide enough secure cycle parking for 25% of the properties on Hackney managed estates. This equates to around 7,500 secure cycle parking opportunities across the borough. As of February 2016, the number of available bike lockers had increased to 588 in 129 locations on Hackney Housing estates, in addition to 29 cycle hangers. In total, 762 secure cycle parking spaces are currently provided on Hackney Housing estates.

Box 8: Case study – School cycling

Bike Around the Borough (BATB) is a unique mass participation bike ride for Hackney school children. It is the UK's largest mass student ride, and the world's largest 'bike bus' with 1005 cyclists cycling nine miles around Hackney in 2016, incorporating our main roads, green spaces and canals. Organised in partnership with the Metropolitan Police, the event was first launched in 2011 to celebrate the opening of the 2012 walking and cycling route to the Olympic Park, and put into practice the skills learnt earlier in the year through cycle training. Now a permanent event in the school calendar, the event has grown and engaged with increasing numbers of schools, with over two thirds of the borough's local authority maintained schools taking to the roads in 2016.

BATB is part of the school sustainable transport programme, which aims to encourage more children to cycle to school and lead an active healthy life. The programme has been in place since 2005 and by 2007/08 100% of local authority maintained schools in the borough had a school travel plan in place for increasing active travel. Between 2013 and 2016, the programme was boosted with funding and expertise via the STARS Europe EU-funded project – 33 participating schools more than doubled the level of cycling to school (+153%), compared to a less than 5% increase in non-participating schools over the project period. [43]

By encouraging local children to experience cycling, they are provided with the skills and information to continue to cycle and benefit from lower transport costs to access secondary schools, college and employment.

The City of London currently provides public cycle parking facilities for 2,187 bikes on-street and 341 spaces in public car parks. In addition, there are an estimated 4,663 cycle parking spaces within buildings in the City. This total provision is well under the estimated demand of 37,000 spaces.

Under London's bike hire scheme there are 36 bike docking stations in the City, accommodating approximately 900 bikes.

The City of London Corporation also offers cycle training for both residents and City workers to improve their cycling skills and increase their confidence. Cycle training is also provided to all schools in the Square Mile. The Corporation runs 'Dr Bike' sessions twice a month on major City thoroughfares, providing minor bike repairs and offering tips on bike maintenance.

In September 2015, the Corporation hosted a 'Women's Safer Cycling Day' to engage with female cyclists, promote road safety and raise awareness of the health benefits of cycling.

Box 9: Case study – Partnership working with the City of London Police to improve pedestrian and cyclist safety

The City of London Police play a significant role in increasing the safety of cyclists and pedestrians in the City. Their activities include:

- responding to cycle crime and cycle enabled crime (phone snatches committed by persons on a pedal cycle) – as a result pedal cycle theft has reduced by 27% (85 offences) since 2014/15
- issuing penalties to cyclists who commit offences (such as running a red light, cycling on the footway and ignoring road signs), which are rescinded if they attend a road safety workshop
- crime prevention and cycle safety engagement with businesses
- Cycle Secure Week – an annual week of action against cycle crime, including bike marking, distribution of free cycle locks and promotional messages about cycle security
- enforcement and education around the new East-West Cycle Superhighway route (which will be complete by winter 2016) by community team cycle officers.

Walking

Hackney's Walking Plan, a sub-plan of the Transport Strategy, aims to support greater numbers of trips on foot over the next 10 years. Walking is considered to be the most accessible and cost effective mode of travel and the vast majority of trips involve some degree of walking. Walking in Hackney will be promoted as the first choice for short local trips and part of linked trips with public transport for longer journeys. The council's Walking Plan proposes a number of specific improvements to encourage walking, including: [44]

- an annual pedestrian accessibility improvement programme
- upgrading sub-standard pedestrian crossings
- England's first on-street 'parklet', to provide publicly accessible street seating and cycle parking in local neighbourhood centres
- phasing out footway parking
- pedestrian countdown rollout at problematic junctions.[6]

[6] Pedestrian countdown at traffic signals tells pedestrians how long they have to cross the road

There are a number of redevelopment programmes underway in the City to improve the environment for walking as well as cycling, including the Aldgate redevelopment (which will enhance safety for road users, improve cycling routes as well as pedestrian routes and connections, and introduce more greenery), Bank junction and the area around the Museum of London.

The City Air app[7] is designed to aid pedestrians in finding low pollution routes for walking. Living Streets provides 'Walk Doctor' surgeries free of charge to City companies, to help employees incorporate walking into their daily journeys.

8.8.3 Vulnerable groups

Hackney's Transport Strategy aims to enhance accessibility and mobility options for vulnerable groups, allowing them to live independently. [2] The council therefore has to consider accessibility issues for disabled and older people when adapting streets and public realm, also ensuring that new developments include such considerations in their designs. To ensure this is prioritised, Hackney's Development Management Local Plan contains policies DM45 (on development and transport) and DM46 (on walking and cycling) to ensure accessibility and active forms of transport are promoted. [45]

The City has undertaken an urgent review of options for improving safety for all road users, particularly cyclists and pedestrians, whose numbers are expected to continue to grow. The first stage was the adoption of the City's Road Danger Reduction Plan at the beginning of 2013. This sets out an action plan containing a series of measures such as street safety audits and more focused education, training and enforcement, which, taken together, are intended to reduce casualties.

A 20 mph speed limit for the whole of the City of London was introduced in 2014 and was extended to all Hackney-controlled main roads in 2015.

8.9 Challenges and opportunities

Despite the extremely challenging fiscal climate for local authorities, there is a recognition at all levels of government that improved transport infrastructure is critical to delivering regeneration as well as supporting housing and employment growth in London, which together all have significant health and wellbeing impacts for residents.

In Hackney, there are moves to reclaim neighbourhoods from private motor vehicles and make them more liveable, by making the streets more sustainable, safer, healthier and more cohesive. The City of London is looking at options to reduce emissions from transport where possible through timed closure, restricted access and wider support for zero emission vehicles.

In order to address the significant problems of air pollution in London, in March 2015 the Mayor of London and TfL confirmed they would proceed with the introduction of the world's first Ultra Low Emission Zone (ULEZ) in central London. Hackney Council

[7] http://cityairapp.com/

and the City of London Corporation both support this scheme (for further detail, see the 'Health and the environment' section of this JSNA chapter).

While levels of active travel are comparatively high locally, there are many more opportunities to increase cycling and walking across Hackney and the City. For example, Hackney's cycle market segmentation work suggests that there are particular groups of residents who are more resistant to attempts to encourage them to take up cycling, such as those involved in manual trades and older people. [42] Within Hackney, two groups in particular have been identified as having the most potential to cycle more – low-income families ('Hard Pressed Families'), who make up around 46% of the borough's population, as well as 'Young Couples and Families' (13%).

Initiatives to increase cycling in the City include the potential introduction of 'quietways'[8] by the Greater London Authority (GLA) and plans by the City of London Corporation to increase provision of cycle parking spaces to better match supply with demand. The new East to West Cycle Superway, which will cross Lower Thames Street, will likely improve the environment for cyclists, however, it may negatively impact pedestrians by making the road more difficult to cross by foot.

A recent walking potential study identified populations living within Hackney and areas of the borough characterised by low walking levels, and identified trips currently made by other modes of transport that are potentially walkable. Of the trips undertaken within Hackney, it was found that 10% of these are walkable trips (within 2km) which are not currently walked or cycled. Of these, trips for shopping and personal business travelled by car made up 10,000 trips a day.

[8] Cycling routes in quieter back streets for those who do not feel comfortable cycling on busy, traffic-filled roads

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