

Movement Plan Evidence Base Report

May 2019

Transport Policy

Introduction

‘Transport is changing. Both in terms of the way that the system is used, and the technology that underpins the system. Transport demand and use will continue to grow, as the population rises.’ⁱ

Why this report?

This is our evidence report.

This analysis underpinned the Movement Plan development and it has helped to understand priorities and identify three main themes of the Movement Plan, people, place and experience.

In this report we outline the data and literature we used to understand the challenges and opportunities for the future of people’s movement in Southwark.

Structure

The first section of this document explains the process we used to write the Movement Plan. This is followed by three sections which are a collection of evidence for the three themes: people, place and experience.

At the end of the document there is a list of resources and research papers we took inspiration from for data, insights and opportunities.

We will continue our research to better understand movement in Southwark as an ongoing process which will follow the fast changing environment of London

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How the movement plan was developed

Transport Plan 2011 Review

A review of the Southwark Transport Plan 2011 was undertaken to understand successes, challenges, barriers faced.

We achieved targets on road maintenance, CO₂ emission reduction, increasing walking mode share and reducing killed and serious injured in our roads. However challenges remain namely reducing traffic and consequently to reduce bus waiting times, increase cycling and reduce slight casualties.

Data on monitoring of the Transport Plan 2011 are available on the Transport Plan Annual Monitoring Reports at this link: www.southwark.gov.uk/transport-and-roads/transport-planning?chapter=2

What the community has previously said

The **Southwark Conversation** was undertaken in late 2017 this developed a deeper understanding of perceptions and experience of regeneration in the borough. 2,972 people actively responded. Transport was identified as the top theme (27%) when asking what would help you and your family to lead a healthier life in Southwark. Transport was further highlighted as important in improving people's experience of living in Southwark (18%).

Transport was also identified as a key theme in the **Ageing Well** conversation, supporting people in leading their lives. Main concerns raised were more respect needed for different people's need, anti social-behaviour and safety, crossings, places to rest and bus drivers behaviour. People would like to feel more independent.

Kerbside strategy

The draft Kerbside Strategy was consulted in February-April 2017. Consultation questions were framed around 8 policies designed to address the over-arching themes of prioritising active travel, public health, smarter parking, improving air quality and greener infrastructure, safer and greener motorised trips. In general, the draft report was received quite favourably with a significant number of respondents welcoming the report and the innovative approach taken to managing Kerbside Space. There was general agreement to a fair allocation of space to walking and cycling, more controlled parking zones and trialling of temporary new kerbside uses and more greenery. A number of respondents raised the issue of bins, signage, guard railing and existing trees blocking pedestrian movement and particular issues for those with buggies and mobility impairments.

Research/benchmarking/literature review

We undertook driver mapping and a STEEP (Societal, Technological, Environmental, Economical, Political) analysis to highlight the different external factors that we need to take into account when planning for the future.

Key attributes included a strong focus on technology improvements, environmental and health challenges and the changing nature of work and business which could change travel patterns and create different demands. The attitude to ownership is also changing towards sharing and hiring opportunities. The quantity of data available is increasing and new techniques are being developed to make sense of big data.

Table 1. STEEP analysis

SOCIETAL	TECHNOLOGY	ENVIRONMENTAL	ECONOMICAL	POLITICAL
Future of 'hyper local'	Enabling increased control of kerbside usage – increased utilization/compliance	Increased public communal space coupled with the increase expectation of place	Congestion and emission zone charging	Loose of faith in the political system – lack of trust, the system loses the ability of influence/ people
Age profile shift (increasingly aging population)	Charging points for these vehicles and changing infrastructure requirements	Quantum of development	Increase in 'shared' households	Joined-up thinking approach: budgets to reflect this (e.g. health budget to recognise the role of planning in it)
Changing nature of work due to high-speed broadband access and sustainable lifestyles	Future of car insurance? (Black box, fleet management, inattention tracking)	Infrastructure	Cost fuel/s- leading to technology and demand shifts	Political will for a healthier society
Increased focus on personal health and wellbeing	Technology – increased regulation – controls/charges on vehicular movement (supply chain)	Climate change (increased risk of flooding; urban heat island effect)	Future business profile – impact on the high street	Funding in line with this
Desire to lead active lifestyles	Vehicle safety and operation improvements (inattention)	Air quality	Parking policy – cost of car ownership/ operation/ RPI	
Changing attitudes to ownership with floating transport options and docked/ dockless bicycle hire	Increasing development and adoption of electric vehicles and ultra-low emissions vehicles	Amount of greenspace	Increased capacity on the PT network (BLE/JLE/EL)	
Decrease in business car benefits (including fuel costs)	Adaptive/flexible ticketing, road user charging	Obesogenic environments	Increase/return of household incomes	
Changing use of the high street as a social space and an increasingly vibrant one	Mobility-as-a-Service		Peak car	
Changing use of the high street as a social space and an increasingly vibrant one	Big data – helping understand transport patterns		Online shopping	
Service-demand economy	Real-time traffic updates			
	Internet of things			
	Autonomous vehicles			
	Dockless modes of transport			

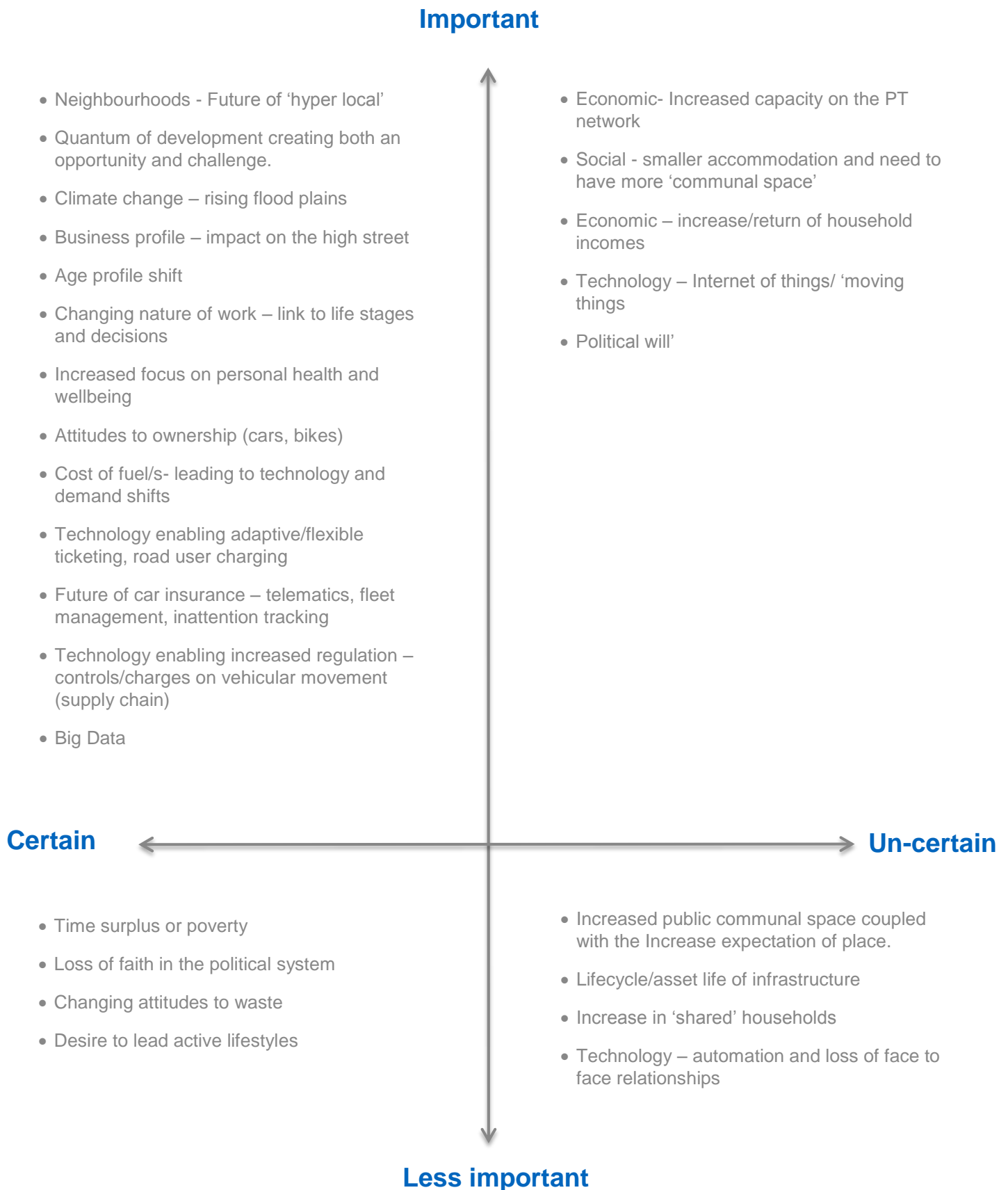


Figure 1. Drivers mapping

Movement Plan workshop series

We ran a workshop series built on service design, design thinking and future-thinking methodologies and tools to explore movement in the council's work.

The workshops were

Workshop 1

Scope and discover the challenges set for the Movement Plan

Workshop 2

Mapping existing services for key user groups and discussing the alternative

Workshop 3

Future of work – the journey to our mission

Workshop 4

Future of town centres – the journey to our mission

Workshop 5

Future of neighbourhoods – the journey to our mission

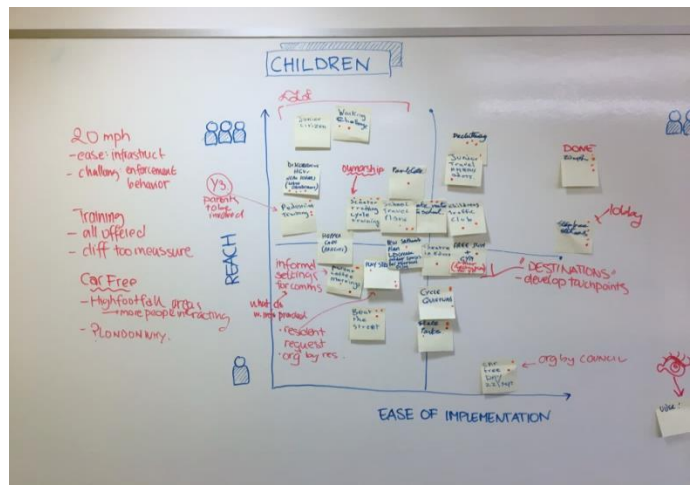


Figure 2. Workshop 2 – Mapping our existing services for key users groups



Figure 3. Workshop 3-5. We worked with a focus area and mission per session doing a back casting to identify key steps we need to take to reach the mission. We brainstormed these steps through a STEEP model. The steps and key were broken down to actions that we, and others, could do.

Figure 4. Workshop 3-5. Journey mapping to discover how people and places change over time and might be influenced by the steps and transition identified in the back casting.

People

Population growth

London's population is expected to grow to around 10 million people over the lifetime of the Movement Plan. As an inner London borough, Southwark is one of the most densely populated local authorities in the UK and more than twice as densely populated as the London average (10,632 persons/ km² compared to 5,510 in London).

The 2011 Census estimated Southwark's population at 288,200, an increase of 18% since the 2001 Census.ⁱⁱ However, the most recent figures in 2018 put the Southwark's resident population at 314,200. By 2031, the Southwark resident population will have grown to 365,000 individuals or a 20% increase from the 2011 figure.ⁱⁱⁱ

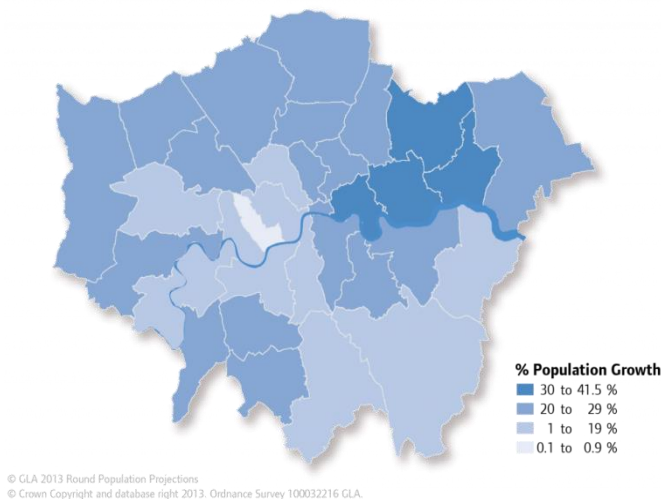


Figure 5. Percentage increase in population by Borough in London. Greater London Authority, London Plan 2015

Neighbouring boroughs such as Lambeth, Lewisham and Tower Hamlets will also experience significant population growth over the same timeframe. This high population growth will put pressure on London's existing and planned transport infrastructure as the rate of investment is highly unlikely to keep pace with the level of demand.

Figure 7 shows growth concentrated in the north of the borough, and in particular developments around Old Kent Road, Canada Water and Elephant and Castle.

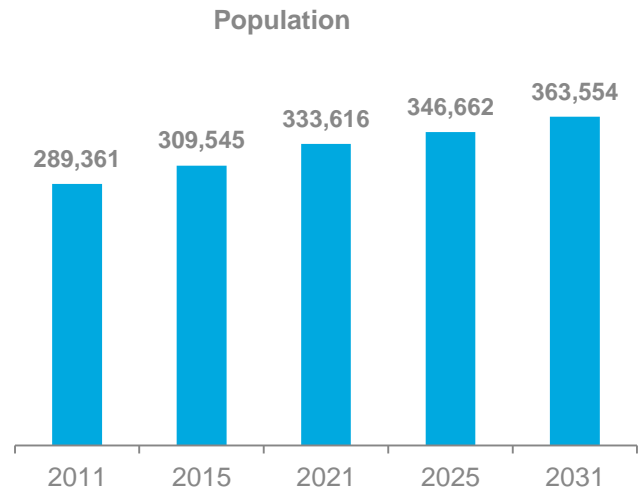


Figure 6. 2016 based short-term trend population projection in Southwark. Greater London Authority

TfL City Planner Tool - Population Growth

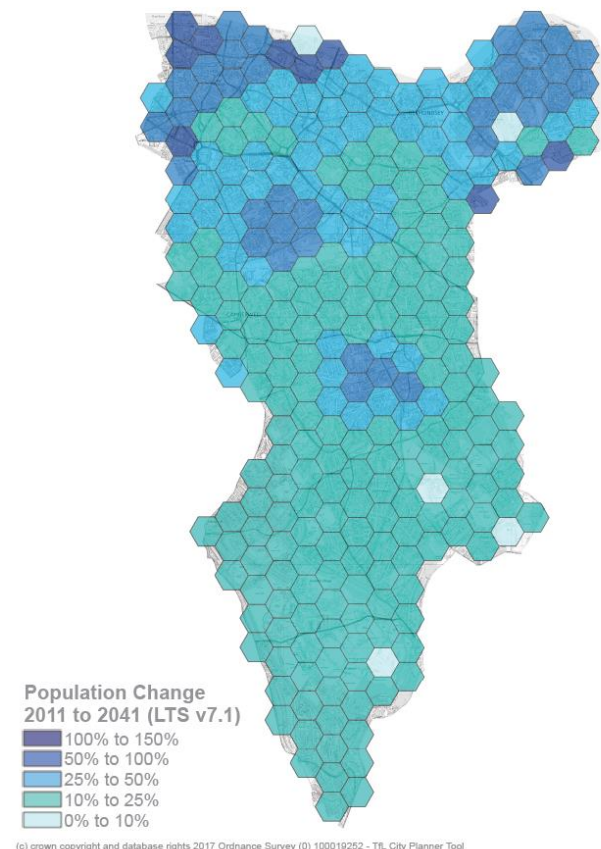


Figure 7. Modelled population growth 2011 to 2041 (LTS model v 7.1). TfL City Planner Tool.

Southwark demographics

The median age of Southwark residents in 2017 was 33.1 years; two years younger than the London average and almost seven years younger than the national average. Our population is comparatively young due to a large number of young adults in their 20s and 30s.^{iv}

The number of people under 18 is projected to increase by 7,600, with particularly large increases the wards of Livesey and Cathedrals.

The number of working age adults is projected to increase by 38,200. This increase is concentrated in the north of the borough, with small reductions in the population in the south.

The number of people aged 65 and over will increase by 13,700 by 2030. The 60+ demographic is becoming a larger and more influential group.

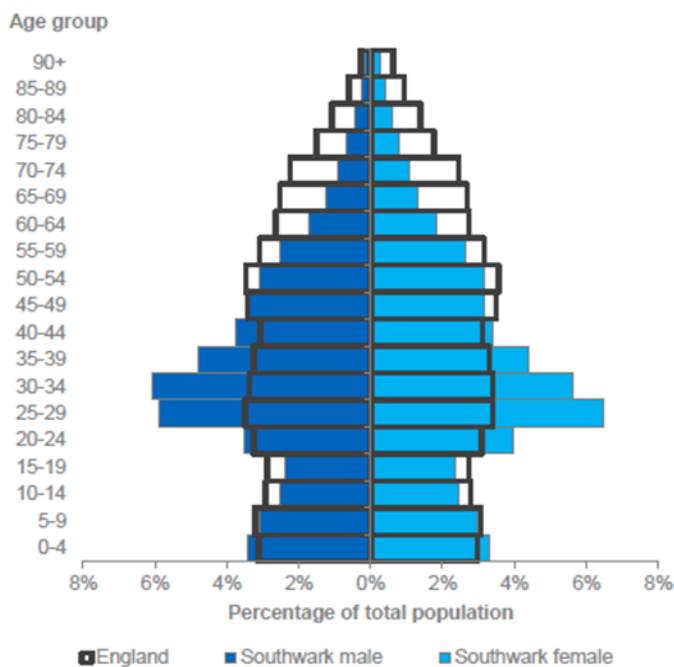


Figure 8. Southwark population numbers and structure in 2017 compared to England. Southwark Council JSNA Factsheet 2018-19 – Demography.

Ethnic diversity

Southwark is a diverse borough with people from a wide range of ethnicities and backgrounds.

Just over half (54%) of Southwark's population is of white ethnicity, a quarter (25%) black and a third of Asian (11%) or other (10%) ethnicities^v.

Over 120 languages are spoken here, and 11% of households have no members who speak English as a first language.

Southwark Population by place of birth

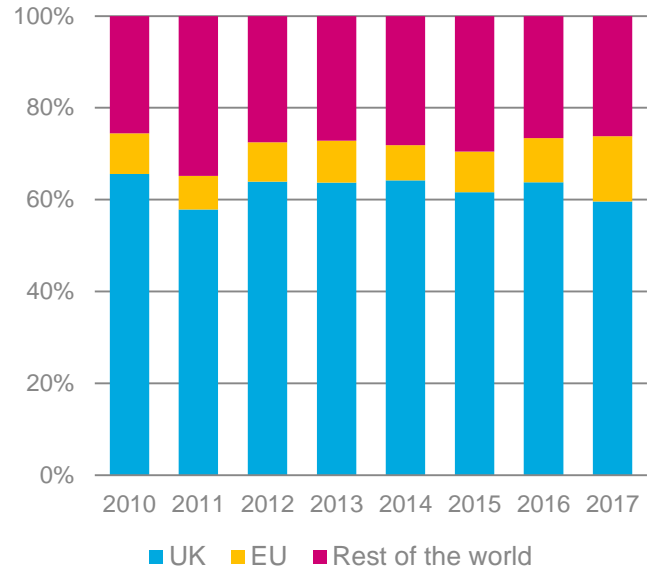


Figure 9. Southwark population by place of birth - ONS, Census 2011

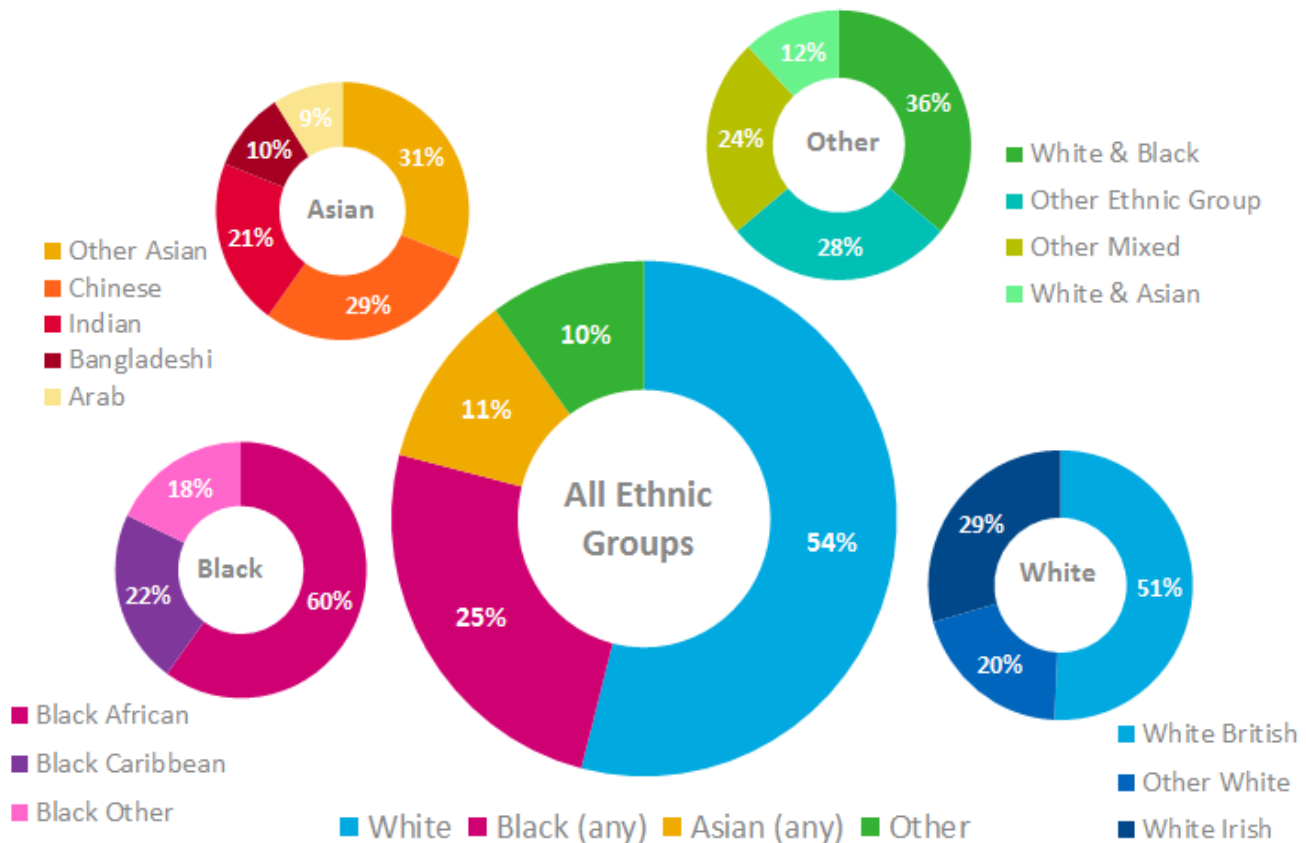


Figure 10. Population of Southwark, by ethnicity 2016. Southwark Council JSNA Factsheet 2018-19 – Protected

Disability

The Equality Act 2010 states that a person is considered to have a disability if they have a long-standing illness, disability or impairment which causes substantial difficulty with day-to-day activities. 52% of adults and 21% of young people in Southwark have mobility impairment.

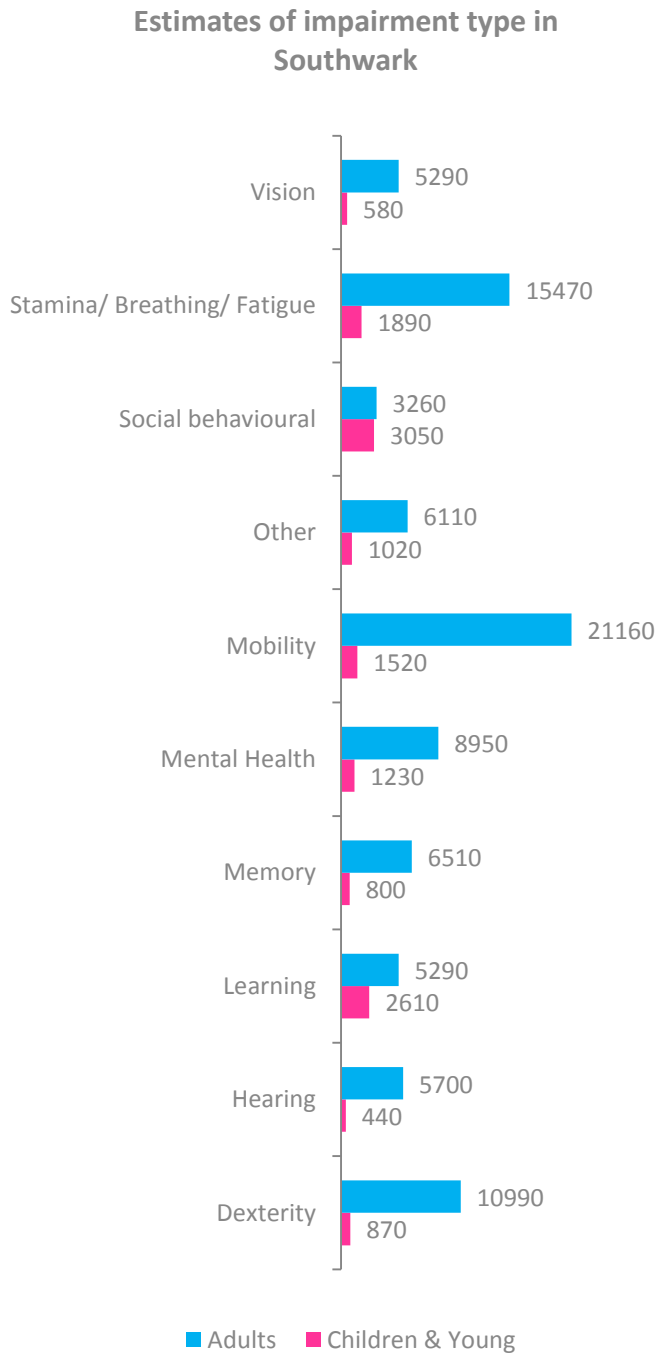


Figure 11. Estimates of impairment type in Southwark. Southwark Council JSNA Factsheet 2018-19 – Protected Characteristics

Figure 12 shows the average travel time on the public transport network step free vs non step free. Some areas of Southwark have higher travel times if a step free access is needed, up to 30% longer. Most of the borough is seeing a longer travel time for step free access between 10% and 20% more than other people.

TfL City Planner Tool - Travel Time Step Free vs Non Step Free

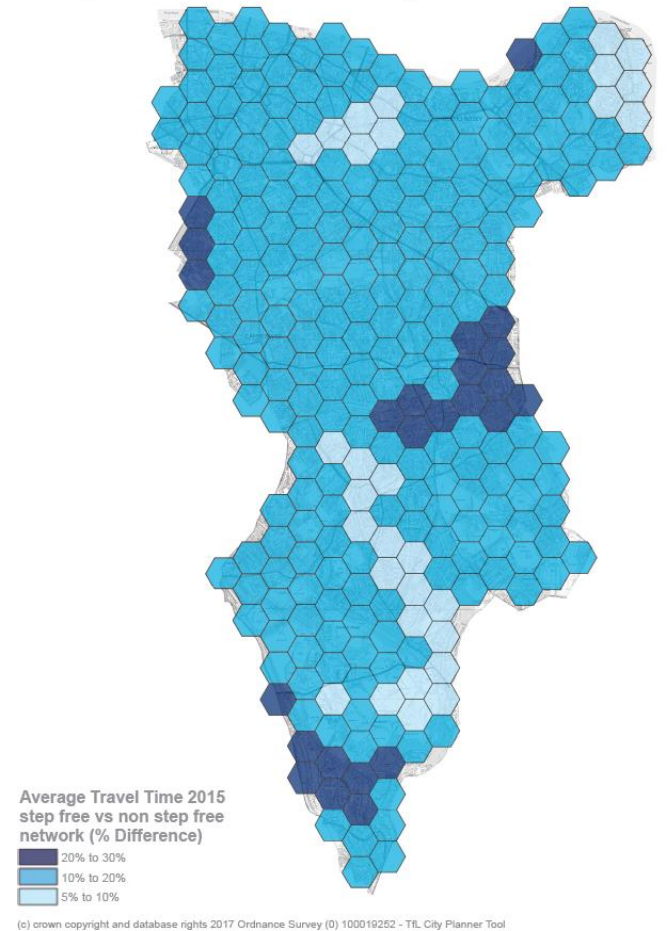


Figure 12. Average Travel Time 2015 Step Free vs Non Step Free Network (% difference). TfL City Planner Tool

A survey by Wheels for Wellbeing found⁶ 69% of people found easier to get around cycling rather than walking and more than two thirds of respondents cycle daily or weekly.

The top five ways to encourage more disabled people to cycle from this survey include:

1. Ensuring cycling infrastructure is inclusive and meets the needs of disabled cyclists (e.g. step-free, wide lanes)
2. Introducing subsidies to make non-standard cycle less expensive
3. Introducing legislation that legally recognised cycles as mobility aids (e.g. like wheelchairs and mobility scooters)
4. Creating hire and loan schemes for non-standard cycles
5. An information campaign to make disabled people more aware of cycling opportunities in their area

Types of cycles owned

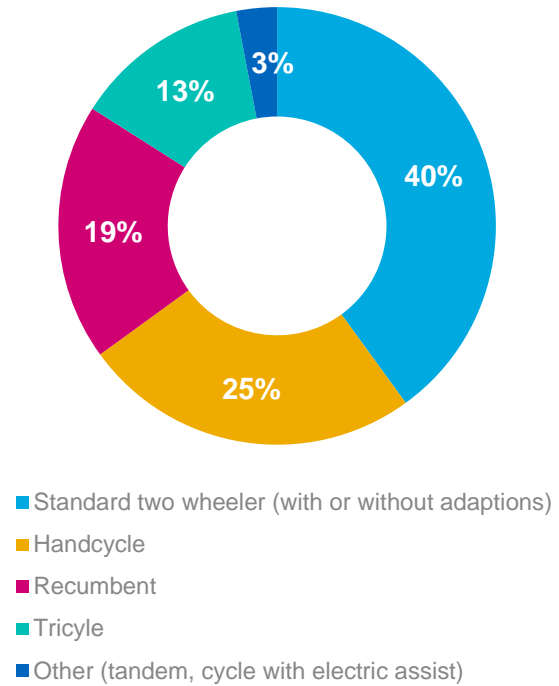


Figure 14. Inclusive cycling survey – Assessing the issues faced by disabled cyclists (Survey taken by 221 respondents). Wheels for wellbeing

Method easier for getting around

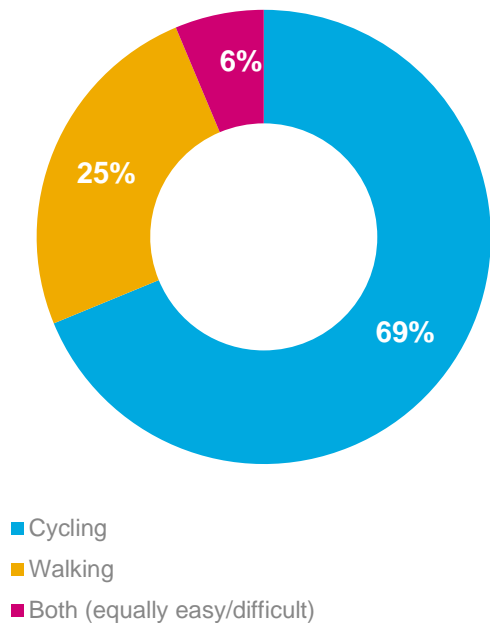


Figure 13. Inclusive cycling survey – Assessing the issues faced by disabled cyclists (Survey taken by 221 respondents). Wheels for wellbeing

Cycling frequency

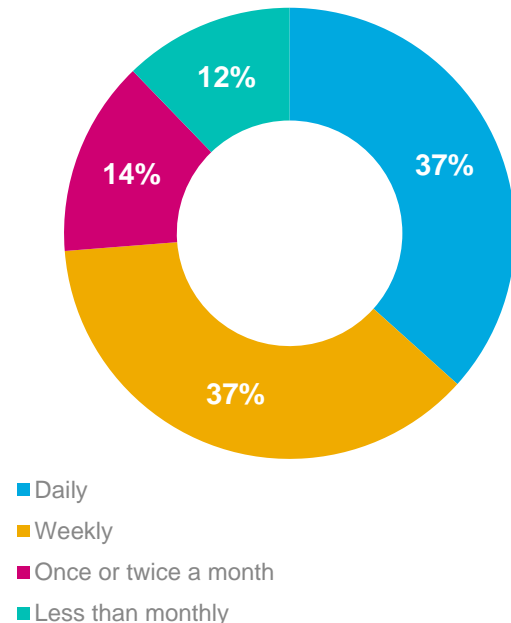


Figure 15. Inclusive cycling survey – Assessing the issues faced by disabled cyclists (Survey taken by 221 respondents). Wheels for wellbeing

Indices of Deprivation

The Indices of Deprivation (2015) is used to measure levels of relative deprivation between areas in England, found:

- Southwark was the 40th most deprived local authority in the country (out of 326 local authorities)
- 38% of our residents live in communities ranked in the 20% most deprived areas.
- Only 2% of residents live in communities considered the most affluent nationally.
- Around 15,000 children (28%) in Southwark aged under 16 lived in low income families⁷

TfL City Planner Tool - Index of Multiple Deprivation Rank

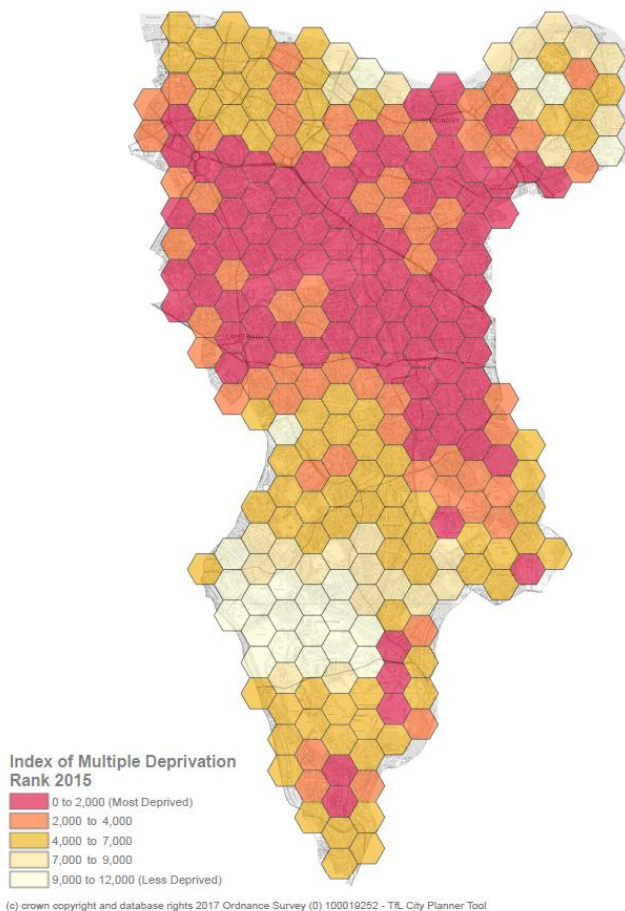


Figure 16.Indices of Deprivation 2015 Rank. TfL City Planner Tool

Noise

The World Health Organisation identifies environmental noise as the second largest environmental risk to public health in Western Europe, just after air pollution. Noise affects health directly by 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.⁸

More than 40,000 people in Southwark (14% of the population) are exposed to road traffic noise levels above 55dB(A) during the day and about 50,000 (17% of the population) during the night.⁹ This is above the level defined by the WHO as causing health problems.

Mental wellbeing

Mental health problems account for the largest burden of disease in the UK - 28% of the total burden.¹⁰ Mental illness covers a wide range of conditions such as depression, anxiety disorders and obsessive compulsive disorders, through to more severe conditions like schizophrenia. It is thought one in four people will experience a mental health problem in any given year.¹¹

It is estimated that £1 in every £8 spent in England on long term conditions is linked to poor mental health¹² and roughly half of the claims for employment and support allowance (ESA) in Southwark are related to mental health.¹³

The prevalence of common mental disorder has increased from 1993 to 2014, particularly in women. . Almost 1 in 5 women report experiencing common mental disorder compared to almost 1 in 8 men. The gender gap is particularly pronounced among those aged 16-24.¹⁴

Nationally 1 in 10 children and young people aged 5-16 have a clinically diagnosed mental health disorder. Among children aged 5-16 years in Southwark, this equates to: 1,460 children with emotional disorders such as depression and anxiety

Of adults with long term mental health problems, half will have experienced their first symptoms before the age of 14 and it is estimated that 95% of imprisoned young offenders have a mental health disorder, many of whom have more than one disorder.

Looked after children, who are some of the most vulnerable individuals in our society, the prevalence of behavioural or emotional problems is estimated to be as high as 72%.¹⁵

Mental health has an influence on how people travel and vice versa.

People with high anxiety score (%)

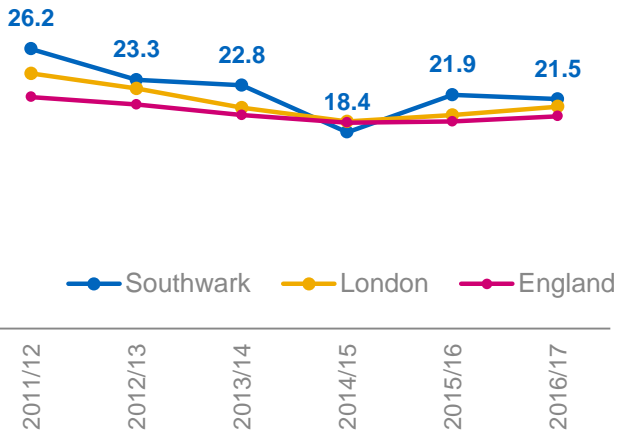


Figure 17. Self reported wellbeing - people with high anxiety score. ONS, Annual Population Survey (APS)

People with low happiness score (%)

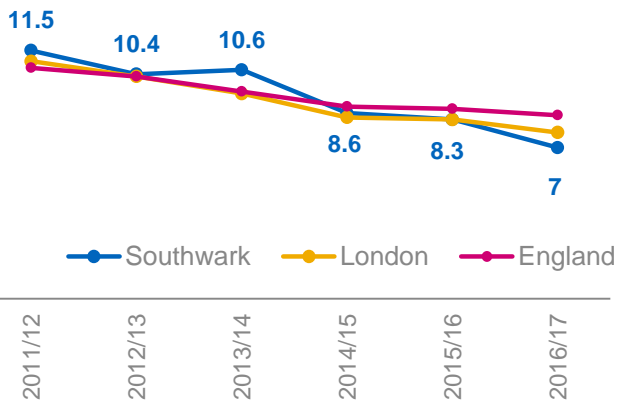


Figure 18. Self reported wellbeing - people with a low happiness score. ONS, Annual Population Survey (APS)

Physical wellbeing

The life expectancy has been increasing but adults are living more of their lives in poor health.

Southwark has some of the highest rates of overweight and obesity in the country. Data from the 2016-17 National Child Measurement Programme (NCMP) show that:

- 25.4% of Reception-aged (4-5 years old) children and 39.8% of Year 6 children (10-11 years old) in Southwark have excess weight (overweight or obesity).¹⁶
- 58.8% of adults were considered as being in excess weight (Public Health England changed the methodology this year, therefore we can't compare trends with previous years data).¹⁷

Healthy life expectancy at birth - Male (years)

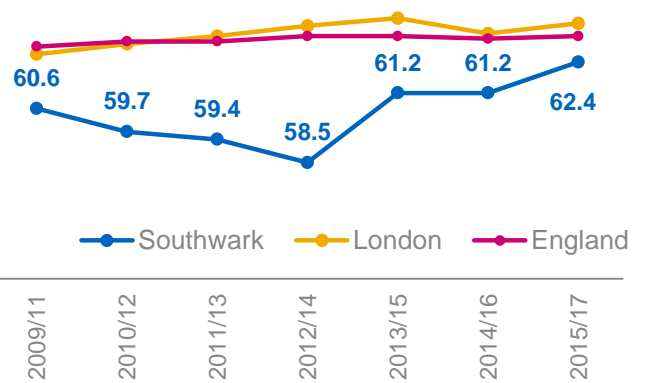


Figure 19. Healthy life expectancy – Male. Public Health England, Public health Outcomes Framework

Healthy life expectancy at birth - Female (years)

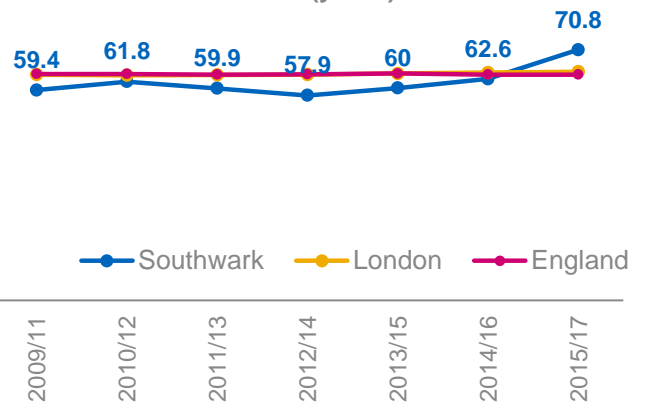


Figure 20. Healthy life expectancy – Female. Public Health England, Public health Outcomes Framework

Child excess weight 4-5 years old (%)

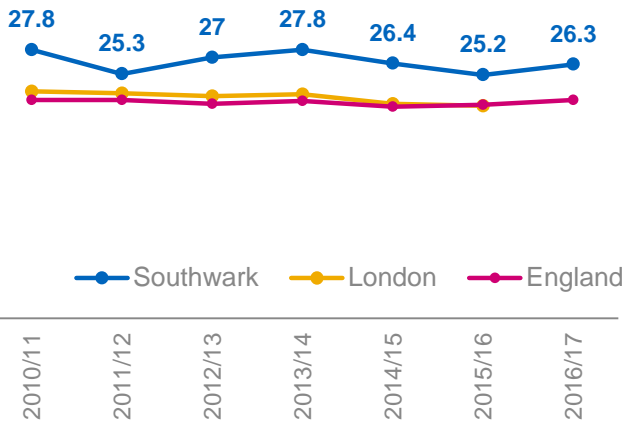


Figure 21. Percentage of children 4-5 years old in excess weight trends 2006/7 to 2016/17. Public Health England, Public health Outcomes Framework

Child excess weight 10-11 years old (%)

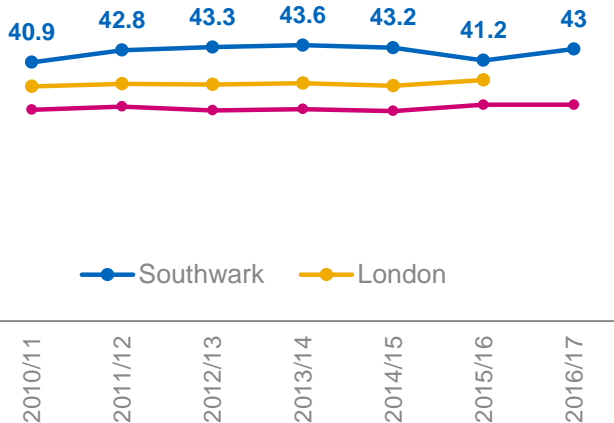


Figure 22. Percentage of children 10-11 years old in excess weight trends 2006/7 to 2016/17. Public Health England, Public health Outcomes Framework

The World Health Organisation (WHO) estimates that physical inactivity is responsible for;

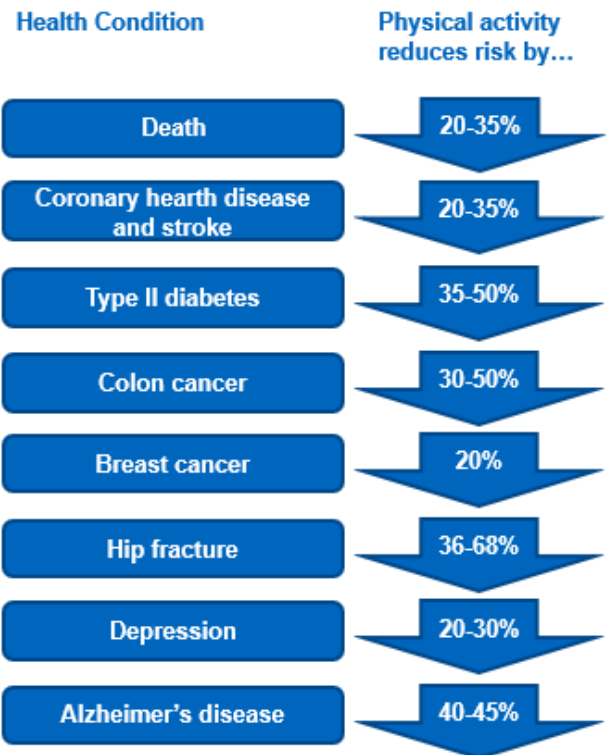
22-23% of coronary heart disease

15% of diabetes II

11% of Breast cancer

16-17% of colon cancer

Today's children are the first generation that is expected to live more of their lives in ill health from chronic diseases than their parents¹⁸. Older people who live in environments where it is easy and enjoyable to go outdoors, are more likely to be physically active and satisfied with life, and twice as likely to achieve recommended levels of healthy walking¹⁹



Six out of 10 Southwark residents do at least 2.5 hours of physical activity a week with much of this coming from transport alone. However, only 20% of Southwark’s population participate five times per week in physical activity for at least 30 minutes and nearly 60 % participate once a week.

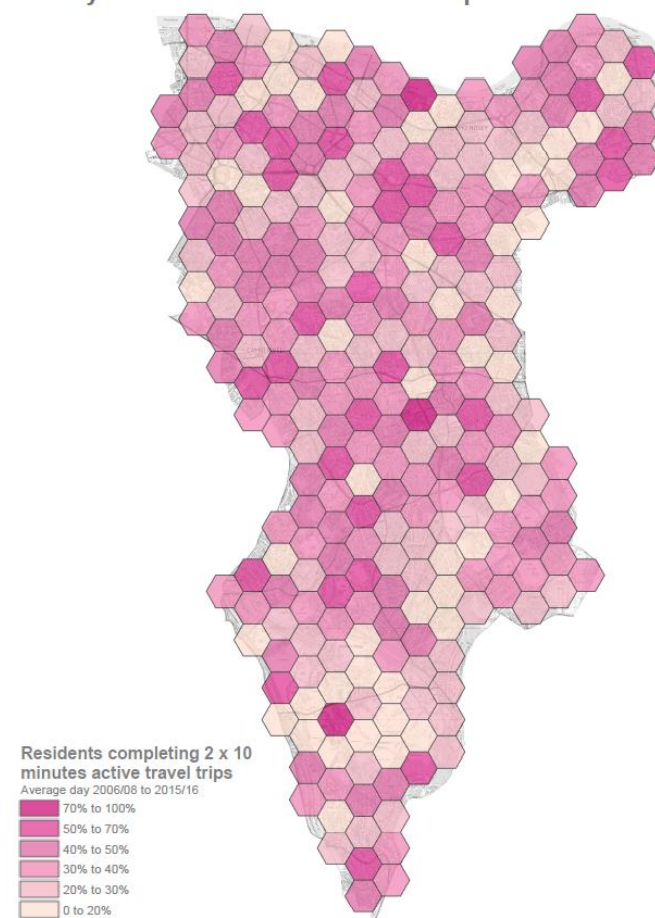
34.5% of residents aged 16+ participate in sport at least once a week and 16.7% participate at least three times a week.²⁰ Nearly a quarter of residents are members of a sports club.²¹

Adults need at least 150 minutes and children 420 minutes of physical activity a week to stay healthy and reduce their risk of common, preventable diseases. – Walking and cycling, but also use of public transport – has huge benefits for mental and physical health. The benefits of cycling for example outweigh the risks of injury or air pollution by 20:1 (British Medical Association 2012).

Figure 23 shows that people travelling more actively are those who live close to stations or town centres which means easy access to public transport and shops within walking distance.

People will increasingly care more about their health and want to make informed choices in order to assess the impact on the health and wellbeing. “Staying fit and healthy has become a part of people’s lives”²²

TfL City Planner Tool - Active Travel Trips



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Figure 23. Residents completing 2 x 10 minutes of active travel trips (Average day 2005/06 to 2015/16). TfL City Planner Tool

How people travel in Southwark

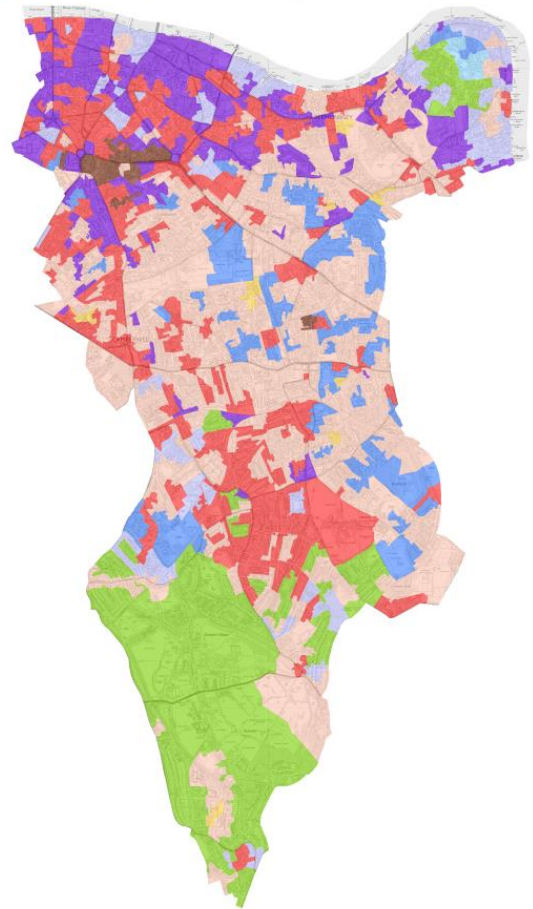
The Transport Classification of Londoners (TCoL) is a multi modal customer segmentation tool developed by TfL that has been designed to categorise Londoners on the basis of the travel choices they make, and the motivations for making those decisions. There were approximately seven key variables used to help determine the initial TCoL segmentation.

The seven variables were:

- Propensity to change travel (a composite variable based on recent changes to travel behaviour);
- Mode usage and Dominant mode (a composite variable based on use of different modes);
- Life stage (a composite variable of age, household structure and employment status);
- Income;
- Ethnicity;
- Changes in behaviour motivated by health / fitness
- Use of mobile phones for email

Young workers with a good income and low car use are fairly distributed across the centre and east of the borough with some families with children with higher car usage. Students and young graduates are concentrated in the Peckham, Elephant & Castle and Bermondsey areas while in the south of the borough there is a prevalence of retired people with high car usage and low propensity to change. The north of the borough is characterised by students or high income households with high level of active travel.

TfL Transport Classification of Londoners Segment



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Figure 24. TfL transport classification of Londoners distribution in Southwark. Legend available in figure below. TfL Transport Classification of Londoners



Between 2008/9-10/11 to 2014/15-16/17 walking has increased from 31% to 37% while cycling has remained low at 3%. Car mode share has decreased from 24% to 22%, however the absolute number of trips have increased significantly in the past years. Bus journeys decreased from 25% to 19%. This is probably correlated with the increase in excess waiting time and congestion.²³

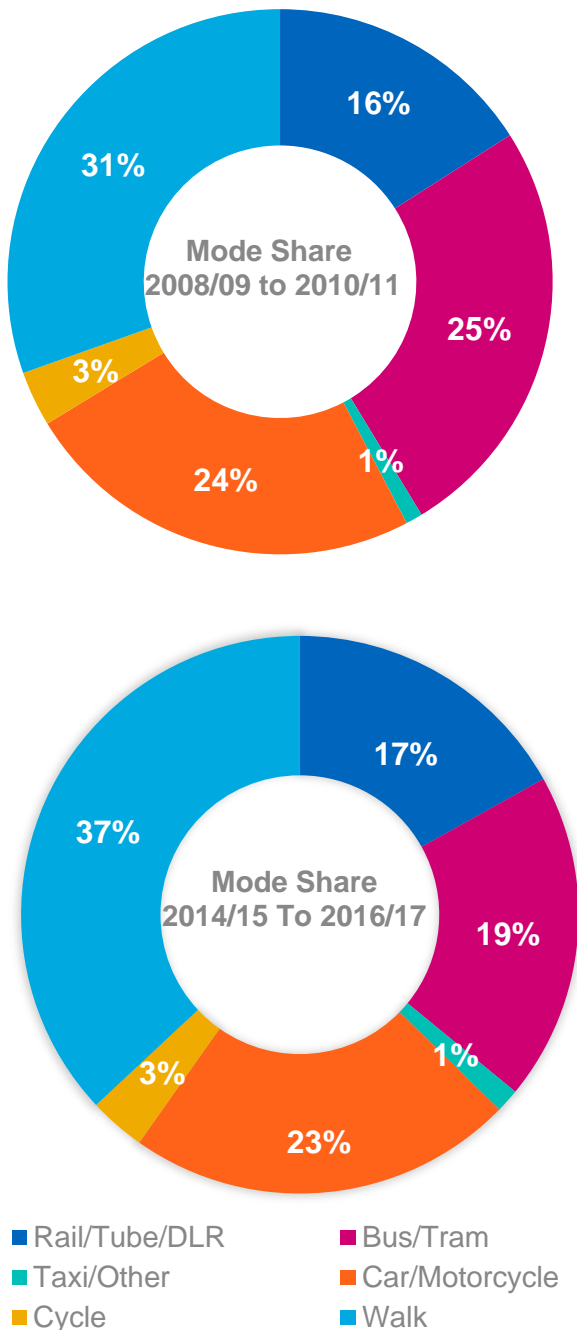


Figure 25. Southwark mode share change. London Travel Demand Survey - TfL

A growing number of young people are accessing higher education, experiencing rising costs of driving and living and delaying having a family. Millennials are not getting driving licences, which show a shift in attitude to owning or accessing a car²⁴.

Concerns over environmental sustainability are increasing and becoming the social norm. The 17 to 34 year old age group is driving at least 30% less miles, the 35 to 59 age group is driving over 20% less miles, and the 60+ age group are driving almost 10% more miles.²⁵

Figure 26 below shows that the pedestrian density (mode share) is at very high levels in the London Bridge area, within the Central Activity Zone, and in other town centre locations like Elephant and Castle and Peckham.

TfL City Planner Tool - Pedestrian density

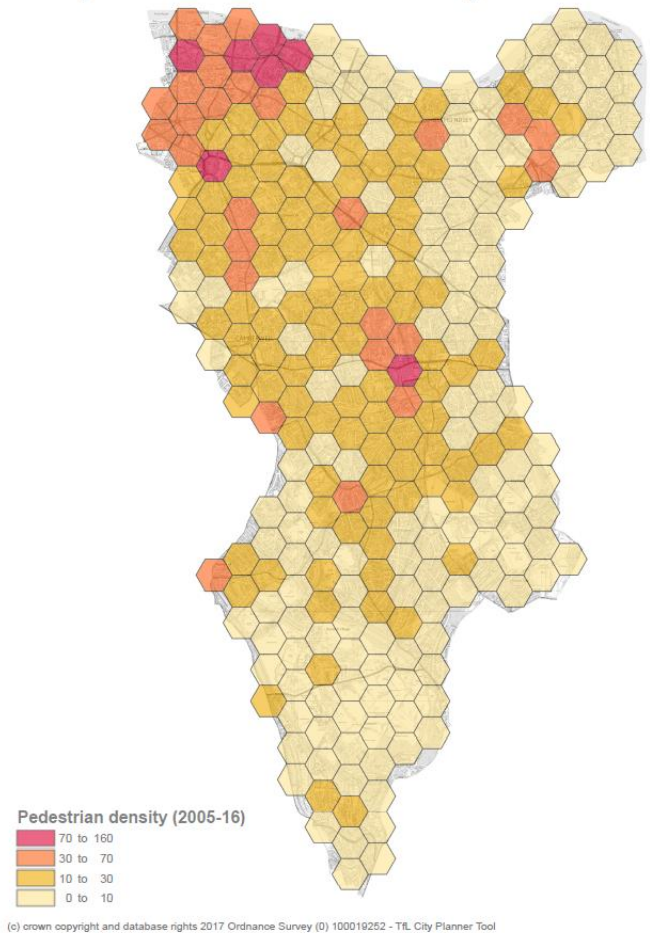
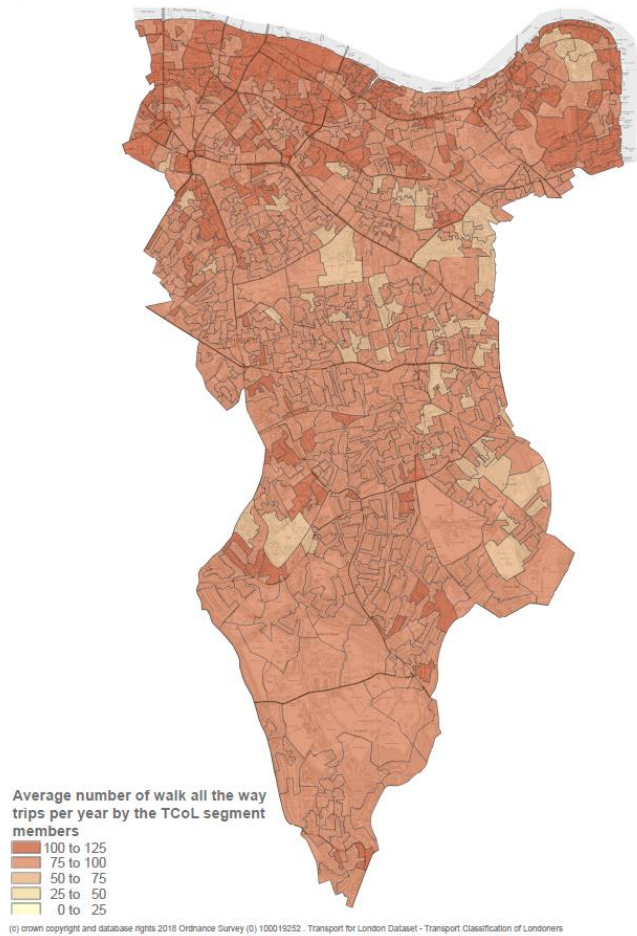


Figure 26. Pedestrian Density. TfL City Planner Tool

TfL Transport Classification of Londoners



TfL Transport Classification of Londoners

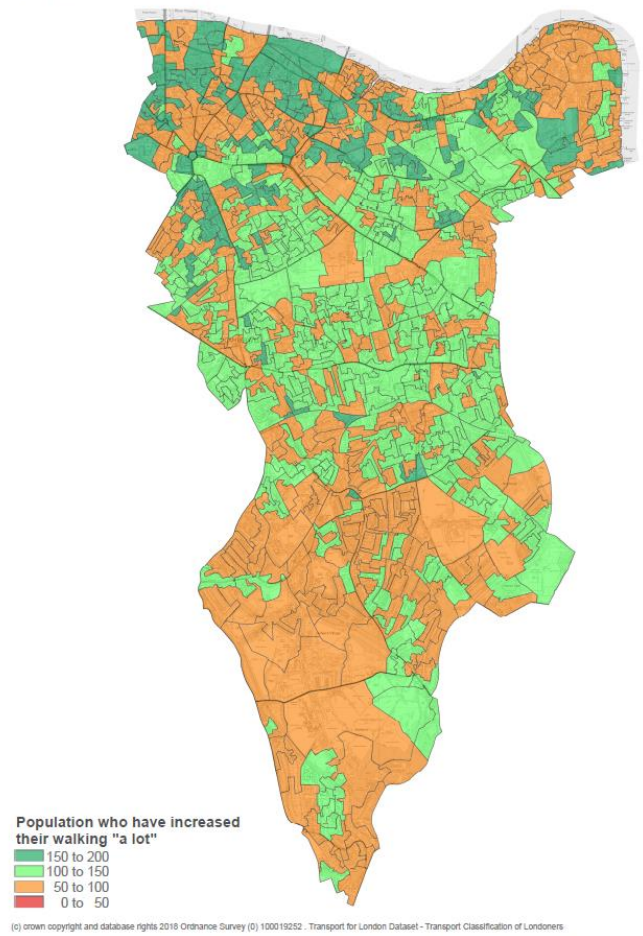


Figure 27. Average number of walk all the way trips per year by the TCoL segment members.
TfL Transport Classification of Londoners

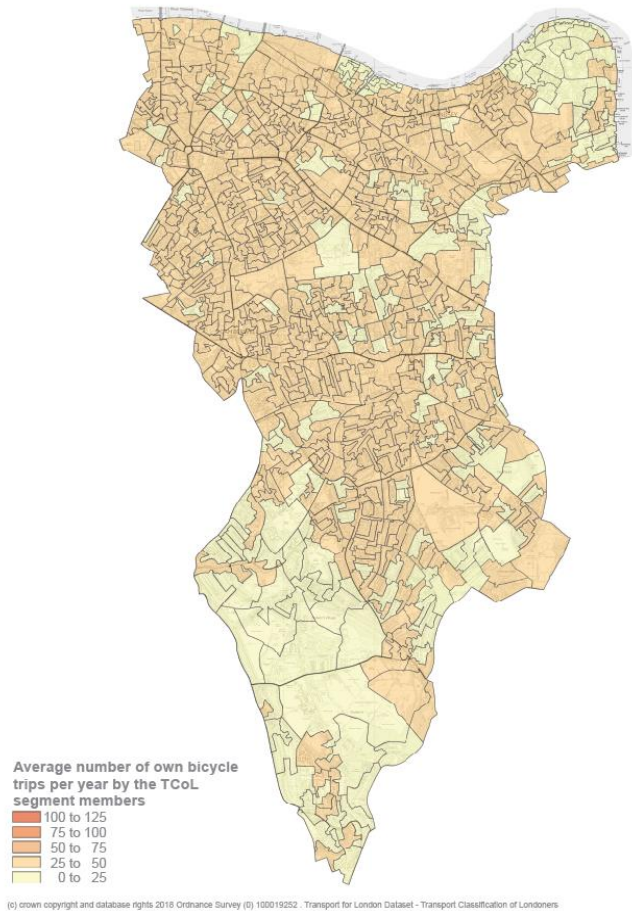
Most Londoners are highly positive about walking, considering it enjoyable, interesting and a good way to get fit (around 90 % of respondents to TfL’s Attitudes to Walking survey agreed with each statement in 2016). But Londoners also identified that traffic fumes and heavy traffic make people dislike walking in London (66 and 57 % respectively)²⁶.

According to TfL analysis (TCoL) as shown in Figure 28 walking has increased a lot in households living in the north of the borough. Also, many households in the centre of the borough also increased walking compared to the London average. There are many areas where walking did not increase, however none of these areas dropped below London average.

Figure 28. Population who have increased their walking “a lot”. This is an index where 100 is the value for the whole London population. Values above 100 indicate a segment’s propensity is higher than the whole population, values below 100 indicate that segment’s propensity is lower than the whole population.
TfL Transport Classification of Londoners

In Southwark, 17% of the population currently (2016) live within 400m of strategic cycle network.²⁷ Cycle flows are increasing in some locations but the proportion of people cycling compared to other modes of travel is still quite low. Figure 29 shows a low number of cycle trips across the borough with no main differences across areas. However areas such as Dulwich and Canada Water had a much lower increase in cycling compared to the rest of the borough.

TfL Transport Classification of Londoners



TfL Transport Classification of Londoners

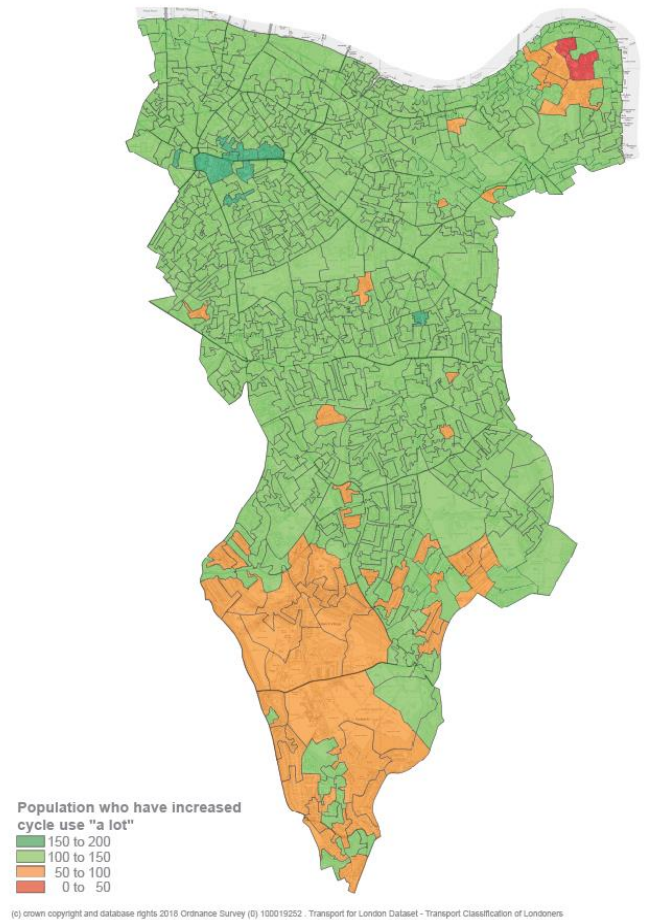


Figure 29. Average number of cycle trips per year by the TCoL segment members.
TfL Transport Classification of Londoners

Figure 30. Population who have increased cycle use "a lot" This is an index where 100 is the value for the whole London population. Values above 100 indicate a segment's propensity is higher than the whole population, values below 100 indicate that segment's propensity is lower than the whole population
TfL Transport Classification of Londoners

Walking and cycling potential²⁸

Walking

TfL analysis found more than half of all potentially walkable trips are for shopping and leisure purposes. Some town centres have a high potential of walkable trips such as Peckham, Camberwell, Elephant & Castle and Canada Water.

Currently Southwark counts 330,000 walking trips but there are about 82,000 trips that would take less than 10 minutes for most people to walk – most of which are made by car.

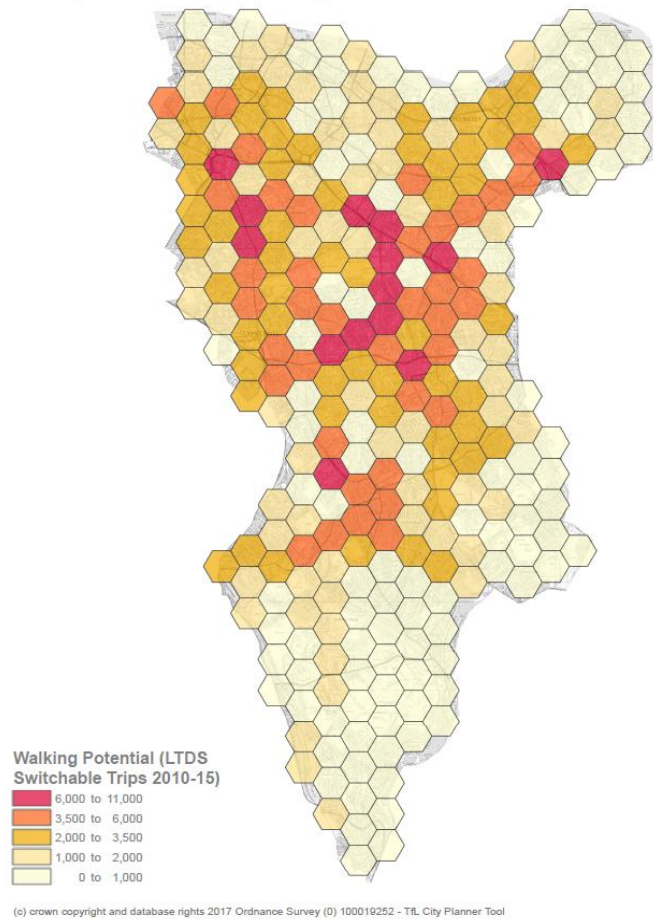
There is potential for more walking at all times of day, with the greatest number of potentially walkable trips occurring between 8am and 9am and 3pm and 4pm (in line with the profile of existing walk trips)

The potential for walking is greater among women. This difference is most pronounced for those aged 25-54. By mode, potentially walkable trips made by men are slightly more likely to be car driver trips, with women more likely to be travelling by bus or as a car passenger

All groups could be walking more. The profile of both potentially walkable trips and overall Londoners' travel is broadly similar with regard to ethnicity, age, household income and disability.

Though there are fewer potentially walkable trips in central and inner London, there are many more potentially walkable stages (as part of an overall journey). There are currently about 80,000 trip stages in Southwark made by motorised modes on an average day that could be walked. Most of the potentially walkable stages are currently made by bus or by Underground.

TfL City Planner Tool - Walking Potential



TfL Transport Classification of Londoners

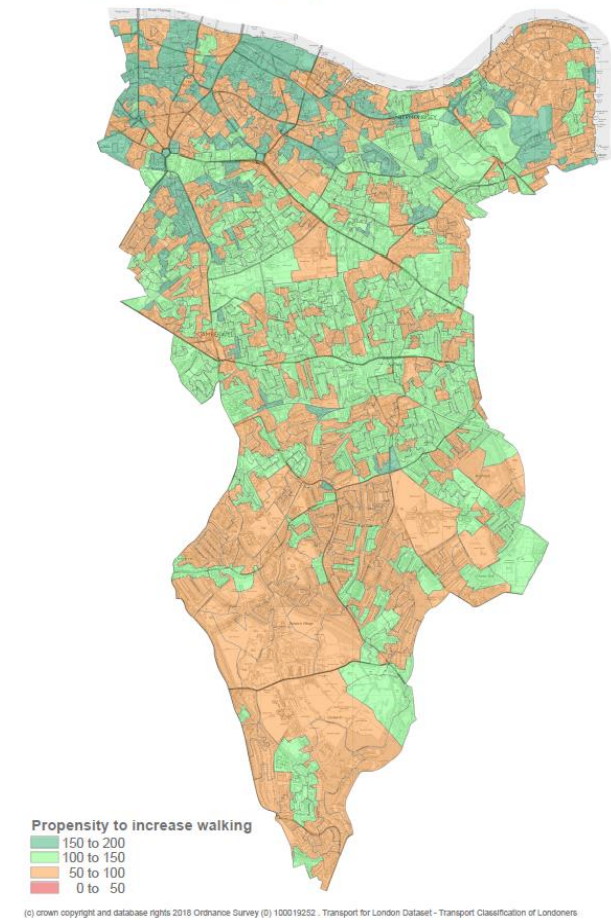


Figure 31. Pedestrian Density 2005-16). TfL City Planner Tool

Figure 32. Propensity to increase walking. This is an index where 100 is the value for the whole London population. Values above 100 indicate a segment's propensity is higher than the whole population, values below 100 indicate that segment's propensity is lower than the whole population. TfL Transport Classification of Londoners

Cycling

Analysis done by TfL²⁹ suggests that 132,000 trips currently made by Southwark residents by a motorised mode could feasibly be cycled all the way and take less than 20 minutes. More than half of trips that could be cycled all the way are currently made by car whilst the parts of journeys that could feasibly be cycled are mostly made by public transport. Almost half of all potentially cyclable trips are made for shopping and leisure purposes, one in six made for each of commuting and education. There is considerable overlap between trips that could feasibly be walked or cycled.

The potential for cycling is greater among women. This difference is most pronounced among those aged 25-54.

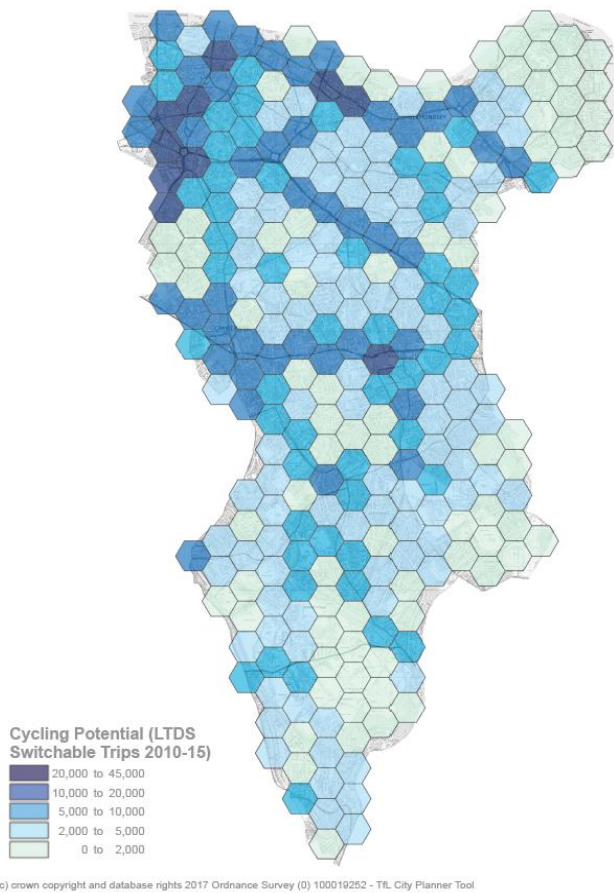
According to TfL analysis (Figure 33) cycle potential in Southwark is located near main corridors and town centres.

TfL's Attitudes to Cycling Survey in Autumn 2016 found that 77 % of Londoners enjoy cycling and cite multiple benefits of cycling (it is fun, quick, convenient, cheap and a good way to keep fit). Many recognise the benefits of cycling, but are put off by concerns about safety, traffic and lack of confidence – perception of safety is the number one deterrent for 75 % of those thinking about taking up cycling.

However, just 54 % of people who cycle regularly said they were satisfied with their journey experience on London's streets in 2016. These people were particularly concerned about the impact of heavy traffic and congestion on their journey, and by the lack of consideration shown to them by other road users.³⁰

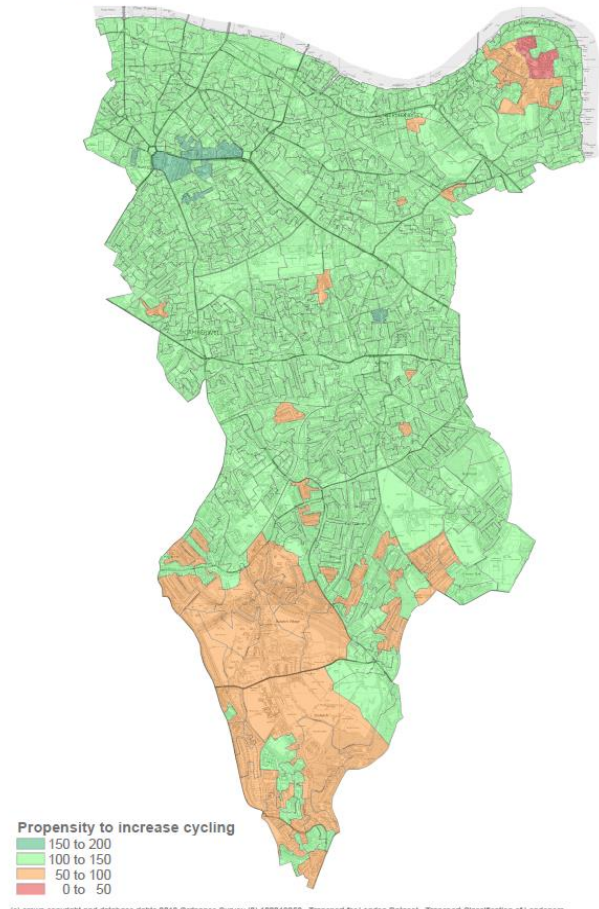
One in six cyclists did not feel safe from crime and antisocial behaviour whilst cycling in London in the daytime, rising to 45 % at night. More than one in ten had experienced bike theft in the past two years.

TfL City Planner Tool - Cycling Potential



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TfL Transport Classification of Londoners



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Figure 33. Walking potential (LTDS switchable trips 2010-15) and Cycling potential (LTDS switchable trips 2010-15). TfL City Planner Tool

Figure 34. Propensity to increase cycling. This is an index where 100 is the value for the whole London population. Values above 100 indicate a segment's propensity is higher than the whole population, values below 100 indicate that segment's propensity is lower than the whole population. TfL Transport Classification of Londoners

Most Londoners can ride a bike (80%), although some may not have done so since they were a child, and more than half have access to a bike they can use. However, 44% say that cycling is “not for people like me”.

The main barriers to cycling in London³¹

- **Fear and vulnerability:** Concerns about safety from collisions and the volume of traffic, as well as concerns about personal safety whilst cycling or the risk of bike theft.
- **Lack of infrastructure:** Lack of dedicated cycle routes and wayfinding, or inadequate routes, the poor condition of roads and the lack of cycle facilities particularly secure cycle parking at origins and destinations (including at home).
- **Lack of confidence:** Lacking confidence in ability to ride a bike, knowing the rules or etiquette of cycling, not knowing what equipment is needed or what route to take.

- **Whether they identify with cycling and how attractive it is to them:** Lack of identification with stereotypes about ‘who cycles’, and not knowing anyone who cycles in their social network or local community. May not consider cycling an attractive option.
- **How cycling compares to the alternatives:** Cycling is not always seen as compatible with busy lifestyles or with the need to look smart. Bad weather and fears of bike breakdowns put people off cycling, and other modes may simply be considered more convenient.
- **The physical effort of cycling:** Concern that you need to be fitter to cycle, compounded by a lack of awareness of how long it will take to cycle a journey and lack of awareness of different bike and route options.
- **Access to a cycle:** The cost or availability of a cycle is a barrier to cycling.

Place

The natural environment

Southwark has a high amount of green space in the South of the borough while going north it become less available except for the two main metropolitan open land areas: Burgess Park and Southwark Park. Opportunities to provide green infrastructure on our roads include street trees, green roofs on buildings and roadside raingardens. Such features can provide a range of benefits including improved resilience to severe weather and climate change, better air and water quality, the encouragement of walking and cycling, and enhanced biodiversity. Street trees provide shade, shelter and a cooling effect, helping to reduce the urban heat island effect and enabling everyone to use our streets.³²

Oliver O'Brien from UCL created a visualisation of street trees in Southwark which is available [here](#)³³

Climate change and flooding

Climate change is a serious threat to quality of life:

1. Carbon dioxide concentration is 40% higher than in pre-industrial times.
2. Human activity caused most of the warming between 1951 and 2010.
3. Earth's surface warmed 0.85°C over the period 1880 to 2012
4. Heatwaves and heavy rains have become more frequent since the 1950s
5. Arctic sea ice has declined on average 3.8% per decade since 1979.
6. Global sea level is expected to rise between 26 and 82 cm by 2100
7. Only an aggressive mitigation scenario can keep temperature rise below 2°C³⁴

CO₂

Carbon dioxide concentration is 40 % higher than in pre-industrial times and between 1880 and 2012, the earth's surface warmed by 0.85° Celsius. Transport emissions play a significant part of carbon emissions.

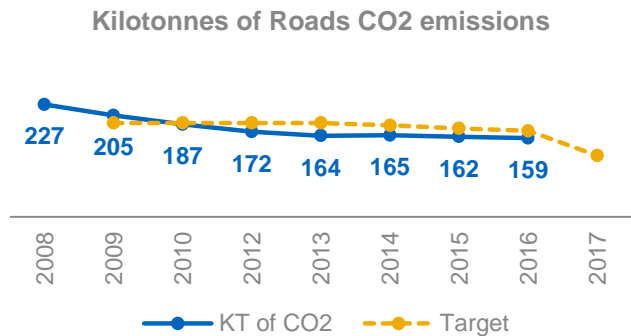


Figure 35. Kilotonnes of Roads CO₂ emissions by year. GLA, LEGGI.

Flooding

Surface water flooding occurs when high intensity rainfall generates runoff which flows over the surface of the ground and creates pools of water (or ponding) in low lying areas. This is particularly likely to happen in built up areas as paved surfaces cannot absorb any of the rainfall.

Surface water flooding is the main form of flooding likely to affect the majority of residents in the borough but until recently hadn't been well understood. The borough suffered serious flooding events in 1984, 2004 and 2007 with the Herne Hill and Dulwich areas particularly affected.

Within Southwark, there are five Critical Drainage Areas: London Bridge, Camberwell, central Southwark, East Southwark and Herne Hill.

It is very hard to improve the drainage in the highway and softer landscaping including features such as tree planting and other green infrastructure, Sustainable Urban Drainage Systems (SuDs) and permeable paving can help to reduce the impact on the drainage network in the borough.

Surface Water Flooding and Critical Drainage Areas

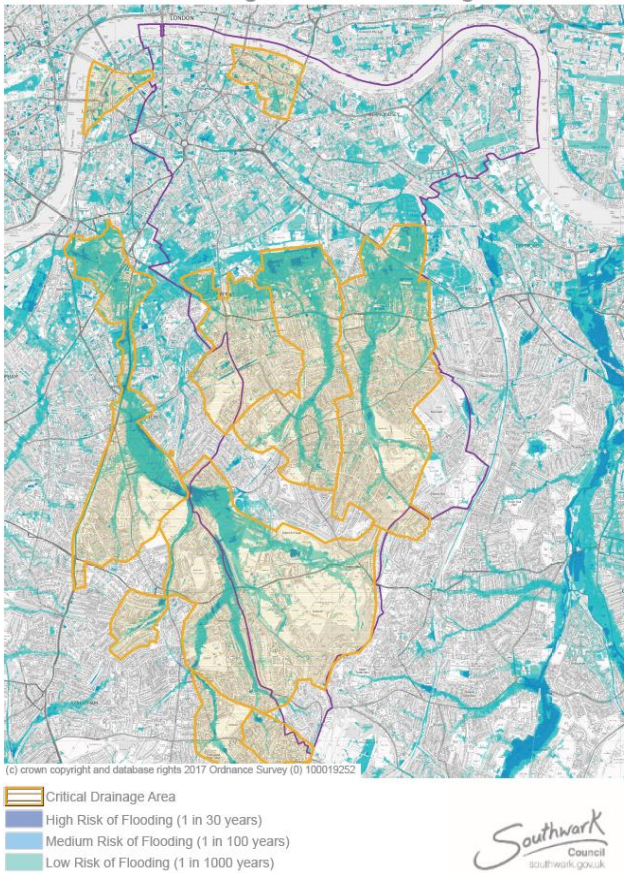


Figure 36. Surface Water Flooding and Critical Drainage Area. Environment Protection Agency 2016

Street types & Healthy Streets

In 2012, the then-Mayor of London set up the Roads Task Force and recommended that London's 34 traffic authorities use a new 'street family' as a practical way to understand the mixed use of our roads. Each road is classified according to nine street types by common agreement on its current function based on two measures: Movement and Place. The matrix used can be found in figure 37 and Southwark street types are represented in figure 38. TfL undertook Healthy Street Surveys to support this work, exploring how the different street types were performing from the perspective of people walking. The research found significant differences between expectations and experiences for all streets. On average, pedestrians expected a better environment on streets that were considered to have a high 'place' function and lower 'movement' function (respondents were not told the TfL categorisation of the street), suggesting that people adapt their expectations to the situation and that the street types have real world relevance to Londoners.



Figure 37. TfL Street Types Matrix based on Movement and function of the Place. TfL

Southwark Streets Types

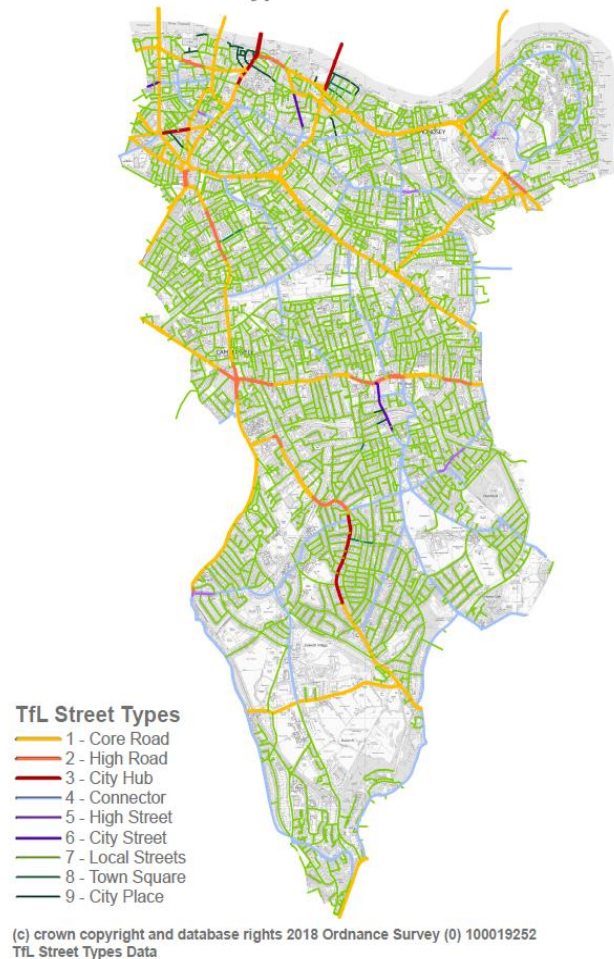


Figure 38. TfL Street Types in Southwark. TfL

Car ownership & parking

70 % of people without a car do some active travel in a day compared to 50 % with access to one car and 40 % with access to two or more cars. People living in multi-car households are half as likely as non-car owners to do enough activity through active travel for good health.³⁵

The map by Urbs London in figure 39 shows the contrast between levels of car ownership per hundred people between outer London (darker blue) and inner London. Southwark has an average of 19 private vehicles per hundred people across the borough. The graphic is consistent with a 2012 report by the RAC Foundation that showed that Southwark has the 5th least amount of cars per 1,000 head of population of all 348 local authority areas in England and Wales (RAC, 2012). The Census data also showed a drop in car ownership despite the 18% increase in population.

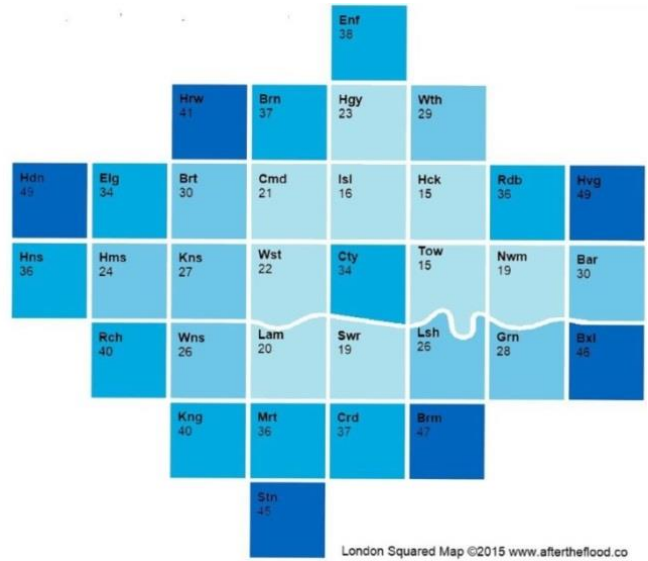
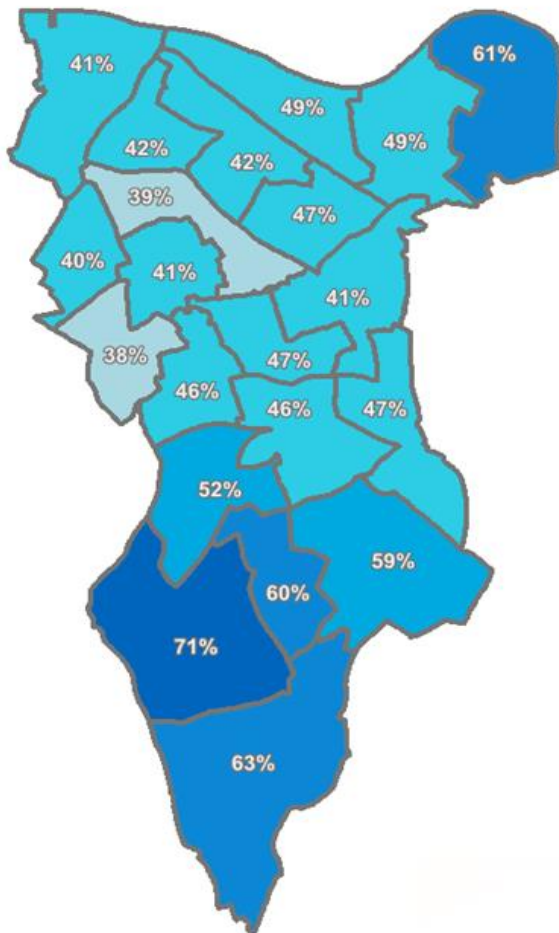


Figure 39. Private or Light good Vehicles per 100 Population (2014). Urbs London London Squared Map 2015

Car Ownership by Ward 2001



Car Ownership by Ward 2011

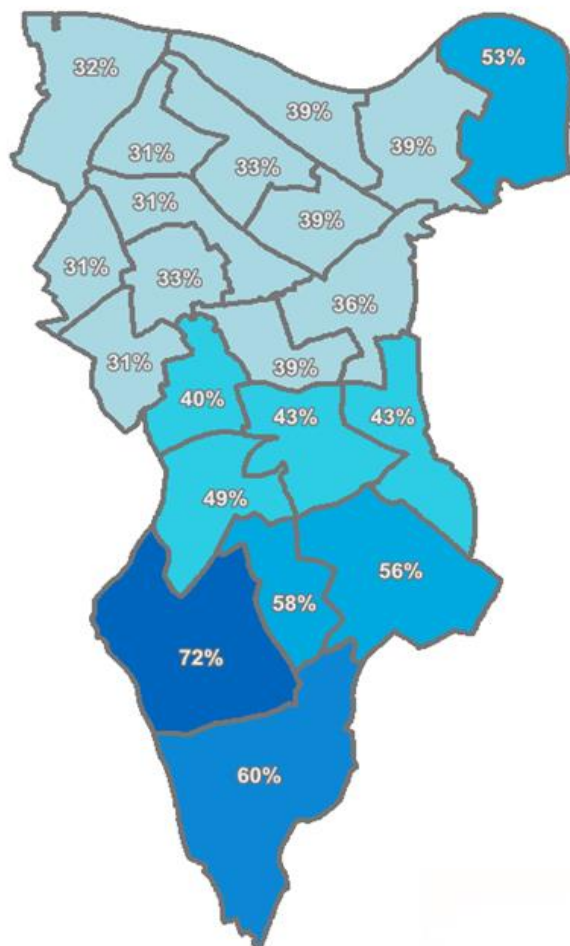
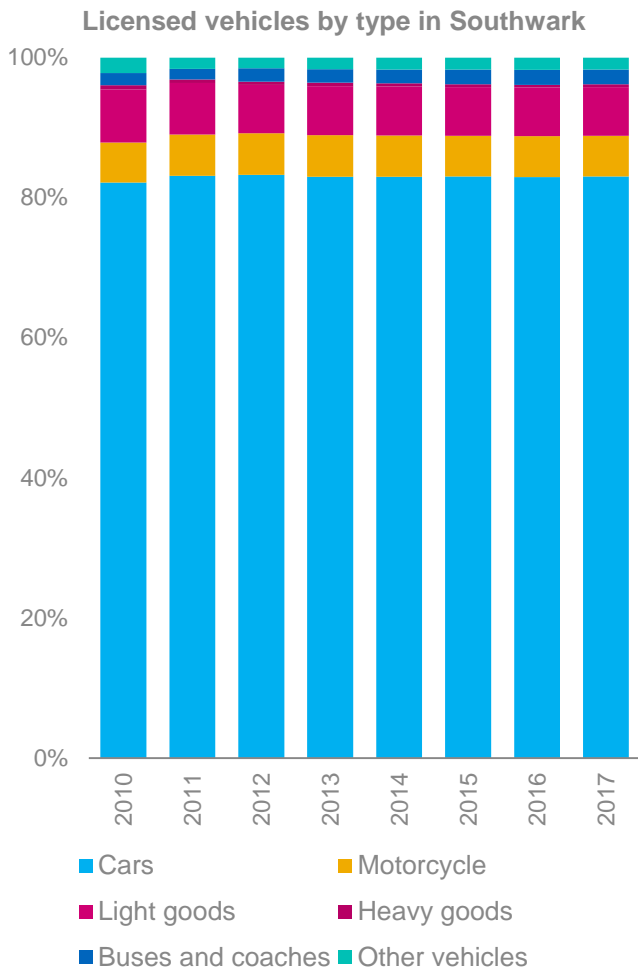


Figure 40. Map of car ownership by ward in Southwark. Census 2001 vs Census 2011. ONS



Southwark Controlled Parking Zones

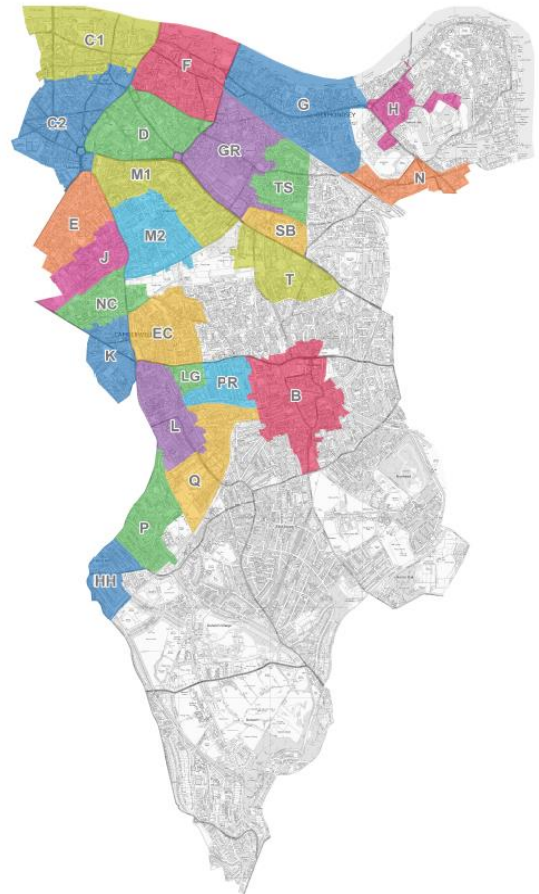


Figure 42. Southwark Controlled Parking Zones 2018. Southwark Council

Figure 41. Vehicles licenced in Southwark over time. DfT

Despite these trends, parking for private vehicles space still dominates much of the available kerbside space in the borough.

Demand for on-street parking, particularly in areas without parking zones, often exceeds the supply of safe parking spaces resulting in parking stress and a clear threat to highway safety.

Cars are on average in use for 4% of the time and therefore parked for 96% of the time³⁶.

Parking stress is recognised when the average parking occupancy is above 85% of the available kerbside space for safe parking. In London drivers spend on average 8 minutes looking for parking at the end of their journey.³⁷

Many streets in the borough are suffering parking stress and the problem is particularly acute near railway stations, town centres, and places adjacent to existing Controlled Parking Zones and in strong night-time economy areas such as Shad Thames, Peckham, Elephant and Castle and the Southbank.

Typically a controlled parking zone implementation reduces the number of vehicles parked during the hours of operation by about 40% and at night by more than 20%.³⁸

Car clubs

The use of car clubs and other forms of shared mobility has been steadily growing in London. A recent survey³⁹ suggests that 10.5 private cars (22,550 cars in total) are removed from London's roads for each car club vehicles as users' dispose of their cars.

Zipcar membership

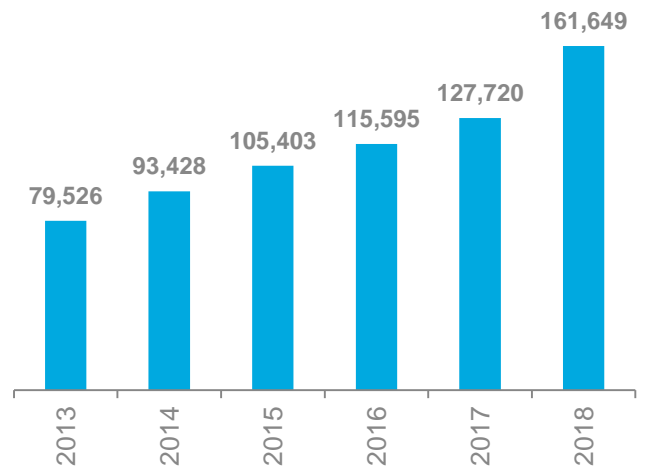


Figure 43. Zipcar growth in membership. Zipcar data

Furthermore, a third of round-trip car club members reported that they would have bought a private car had they not joined a car club meaning a deferred purchase of a further 54,400 cars or 22 cars per car club vehicle. Southwark recently introduced floating car clubs which give greater benefits to residents that make owning a car less appealing.

The space left over from a drop in demand for private parking could potentially free up free up kerbside space for other interventions including wider footways, tree planting, cycle parking, seating, pedestrian crossings, cycle lanes, loading abys etc.

Southwark ZipCar Bays

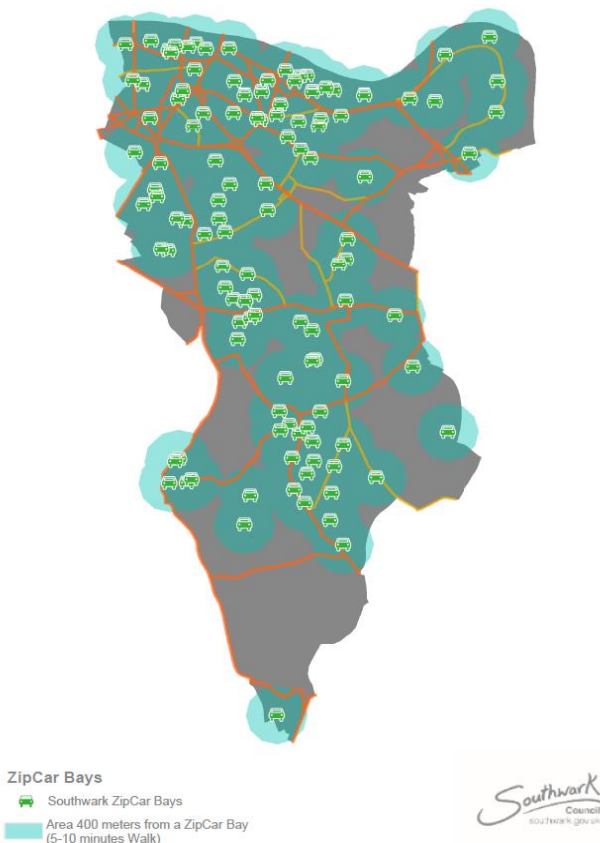


Figure 44. Zipcar bays in Southwark and areas within 5-10 minutes walk from a bay. Southwark Annual Monitoring Report 2016/17

Case study: Parklets

Parklets are based on an original concept known as Park(ing) Day which was started in 2005 by the San Francisco based artist group Rebar to highlight a lack of open spaces in the city.

Evidence collected from US cities and the UK suggests that Parklets generate more footfall and encourage people to visit local businesses. In Chicago, about 80% of businesses reported more footfall with a third of parklet users (People Spots) said they would probably be at home if the spot wasn't there suggesting that it generated new walking trips. Visitors to parklets spend more.

In New York, new kerbside parklet spaces were attributed to an increase of 14% in revenue for businesses fronting them. In Chicago, studies showed the figure to be 10-20% and Philadelphia 20%. In Hackney, a local café owner found that visitors made more unplanned purchases. Parklets are for everyone. An Age UK report stated "public seating for older people can make the difference between living a full life and cut off and isolated"¹

Town centres

Town centres are moving from being a place to take something from, to a place to spend time in. Town centres are becoming a larger leisure component in our lives. This co exist with changing work patterns, for example sitting and working in a coffee shop working for a couple of hours, window shop and then go home to buy online.

A growing demand for online goods continues to decrease people's shopping trips, while increasing pressure on freight, where narrow delivery windows and returning goods are common. It is estimated that improving place can boost the local economy by up to 40%. People who walk to do their shopping spend £147 more per month than those travelling by car.⁴⁰

90% of Londoners value their high street and want to see it improved.⁴¹

1.45m employees work on or within 200 metres of a high street.⁴²

£2.3b turnover were generated by the pop-up retail sector in 2015, compared to £2.1 billion in 2014.⁴³

39% of consumers purchase groceries online once/twice a month.⁴⁴

87% of U.K. consumers have bought at least one product online in the last 12 months. (Nasdaq, 2017)⁴⁵

Work and business

The nature of work is shifting. It's becoming more flexible, precarious and self-employed. People are frequently job-hopping and are not expecting to stay in the same job their entire life. These flexible workers are also supporting more evening services and the night time economy, which is creating jobs that require people to work early morning and evenings.⁴⁶ This will impact how people live and travel. Work might not be such a strong determinant in choosing where to live (living in commutable areas) and people might choose to travel differently if they have more flexibility.

Employment in Southwark is projected to continue growing in future years. The borough currently provides employment for 262,000 people, or 4.9% of all London jobs. From 2011 the number of jobs in Southwark was projected to:

- 26,000 by 2014
- 84,000 by 2036⁴⁷

TfL City Planner Tool - Employment Growth

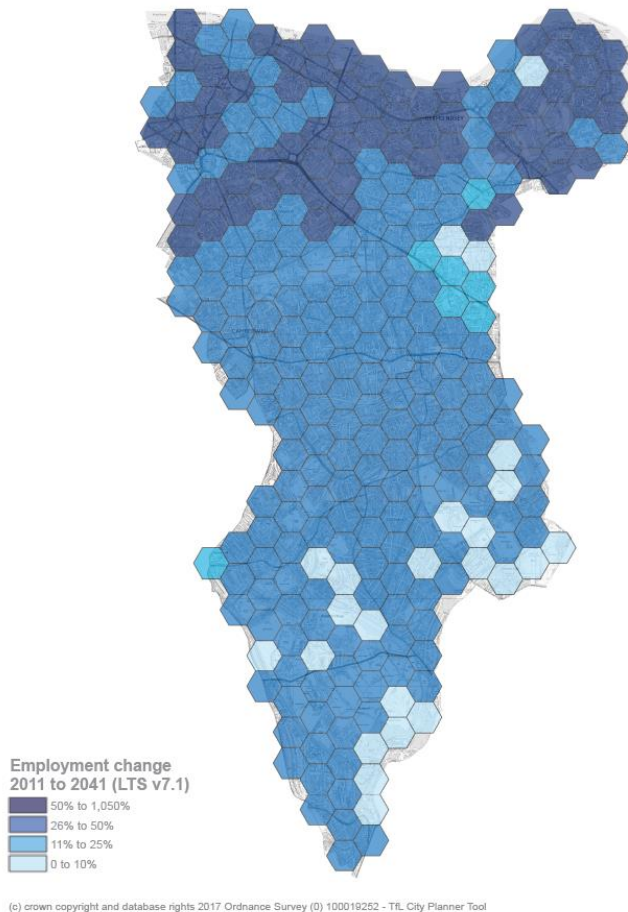


Figure 45. Employment Change 2011 to 2041. TfL City Planner Tool

TfL City Planner Tool - Accessible Jobs

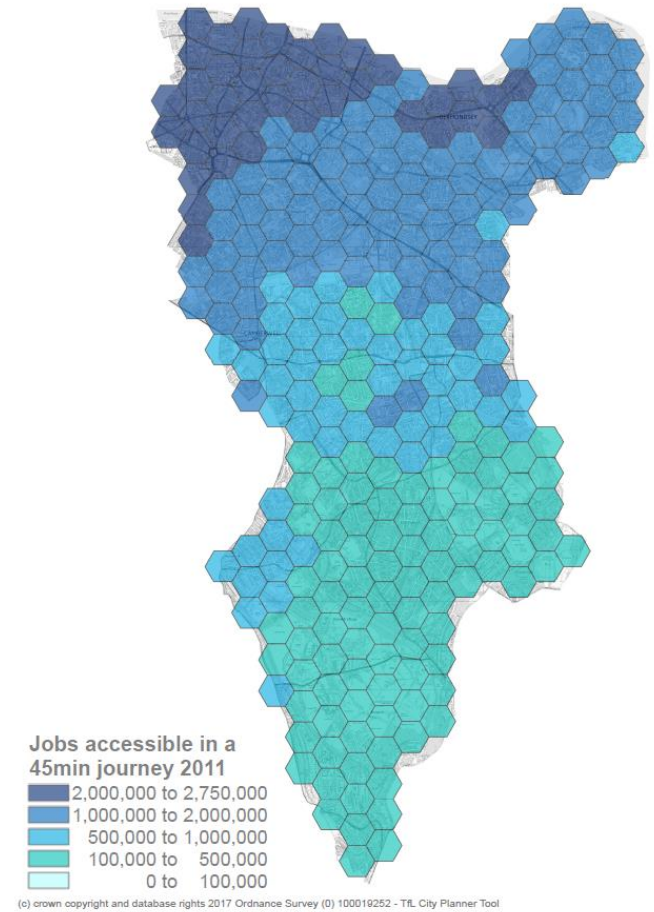


Figure 46. Jobs accessible in a 45 minutes journey 2011 (Census). TfL City Planner Tool.

By journey purpose, trip rates to London residents' usual workplace have declined by 14.2% since 2006/07, although trips made to other destinations for work increased by 5.1% over the same period.⁴⁸

The Department for Transport commissioned a substantive review of trends in commuting, published in late 2017⁴⁹. The study found that:

- Between 1988/92 and 2013/14 there has been a downward trend in the number of commuting trips from 7.1 journeys per worker per week to 5.7
- The average distance per commute trip has risen by 10% and the number of people in work has never been higher.
- The net effect of this, despite economic growth and population growth, is a decline in annual commuting journeys from 8.5 billion to 7.9 billion

Experience

Public transport experience

Southwark is well catered for by public transport with:

- 7 underground stations, with 145 annual entries and exits (2017). The busiest underground station is London Bridge with 69m annual entries and exits ⁵⁰
- 2 low frequency night tube lines (Jubilee and Northern lines).
- 15 National Rail and Overground stations (including Blackfriars which has an entrance in the borough). They saw 121m annual entries and exits (in 2017/18). The busiest station was again London Bridge with 48.45m annual entries and exits ⁵¹
- One 24hour rail line.
- 55 high frequency (non-timetabled) day bus routes and 5 low frequency (timetabled) day routes.
- 27 low frequency (timetabled) Night Bus routes serve the borough.

Stations and bus stops and the frequency of passenger services help to determine the Public Transport Accessibility Levels (PTAL) for Southwark in Figure 47.

Demand for public transport services is expected to rise by approximately 50% by 2041. In particular, we expect there to be strong growth in demand for rail services between 2015 and 2041, reflecting the rising population and higher number of jobs.

Projects like the Bakerloo Line Extension, Northern Line Ticket Hall and Rotherhithe to Canary Wharf Bridge will provide new travel opportunities. These new facilities and services will change the way people travel in the borough in the long term, from changing nature of bus services along the Old Kent Road corridor, to a new active travel option to Canary Wharf.

Transport for London predicts that the Bakerloo Line Extension provide capacity for an additional 65,000 additional journeys in the morning and evening peak. This will shift how people travel both within the Old Kent Road corridor and the wider South East.

Southwark Public Transport Accessibility 2015

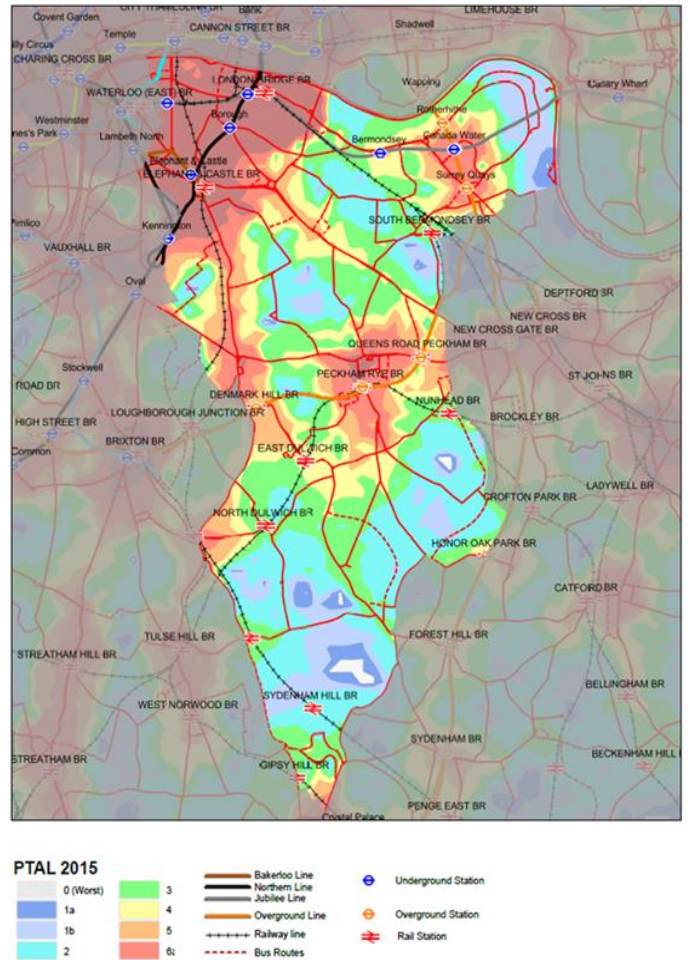


Figure 47. Public Transport Accessibility Level 2015.- TfL

Crowding

Public transport crowding has significant impacts on individuals and the economy. It often makes large portions of people's daily routine unpleasant and stressful and can deter some people from using public transport at all. Some groups are particularly affected by crowding; those with mobility impairments for example find it difficult or impossible to travel in crowded conditions. It is likely that crowding increases journey times, as customers are forced to wait for a less crowded train. ⁵²

A standing density above two passengers per square metre in peak hours is uncomfortable for passengers and is used as an acceptable threshold above which the service is considered crowded.

Rail and Overground station usage (millions)

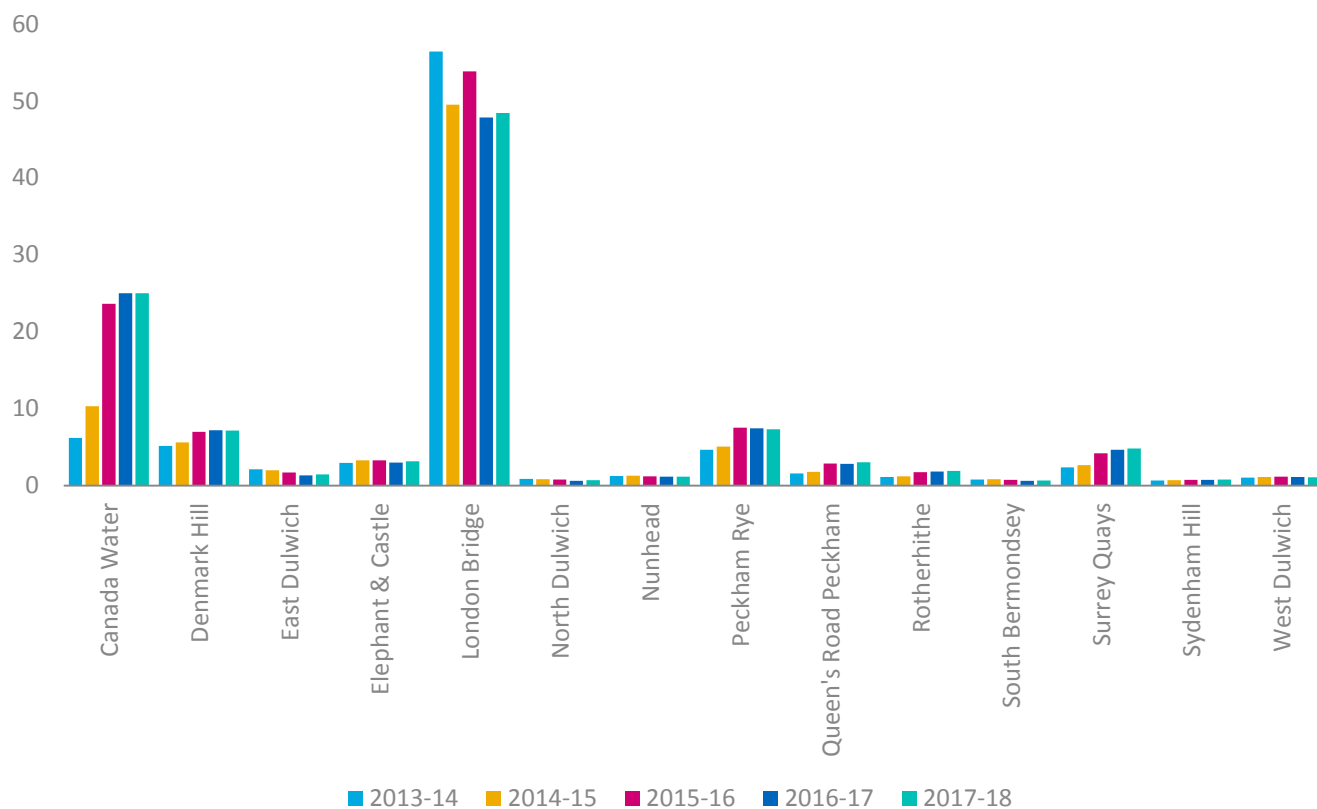


Figure 48. Rail and Overground station entries and exits in millions over time. Office of Rail and Road

Underground station usage

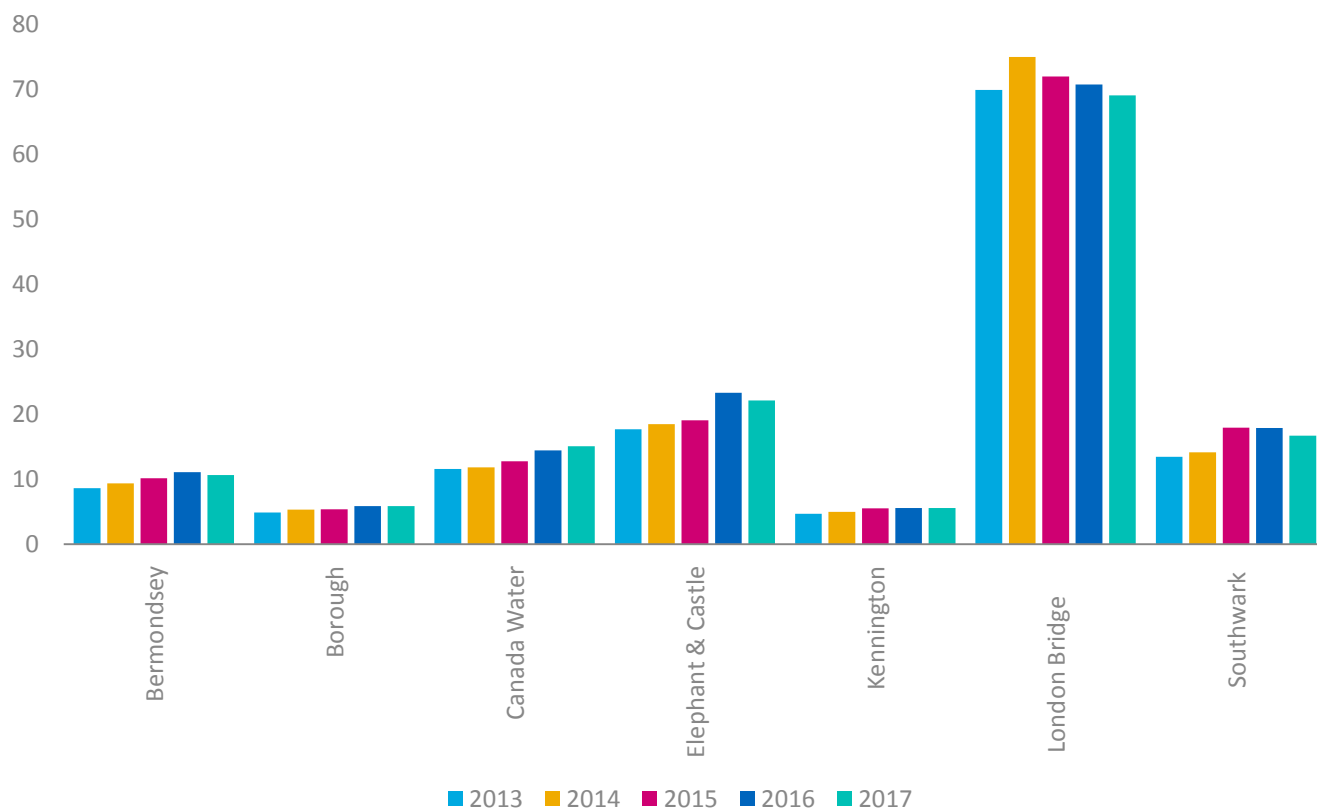
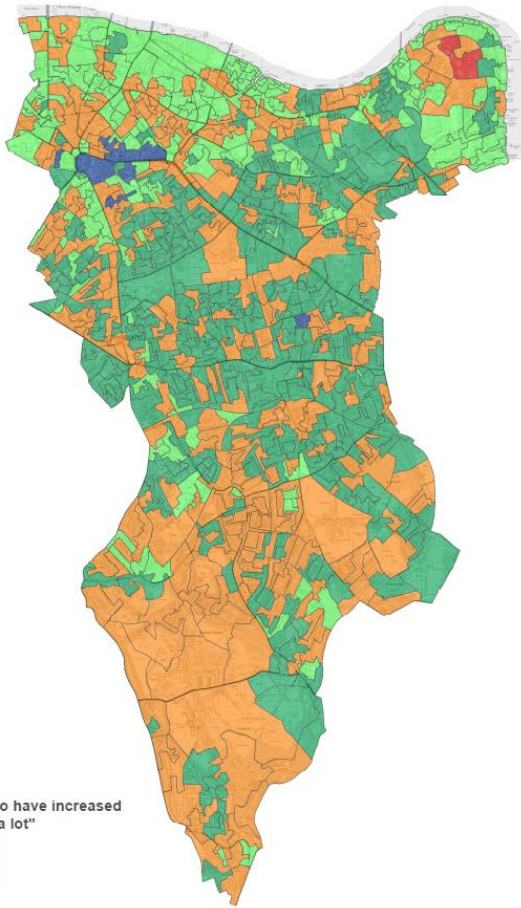


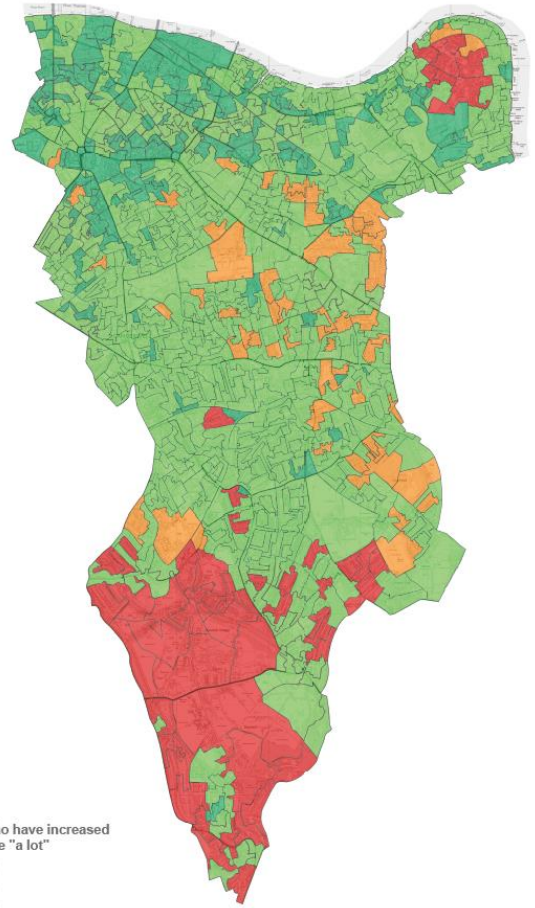
Figure 49. Underground station entries and exits in millions over time. TfL

TfL Transport Classification of Londoners



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TfL Transport Classification of Londoners



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Figure 50. Population who have increased rail use “a lot” This is an index where 100 is the value for the whole London population. Values above 100 indicate a segment's propensity is higher than the whole population, values below 100 indicate that segment's propensity is lower than the whole population. Transport Classification of Londoners

Figure 51. Population who have increased tube use “a lot”. This is an index where 100 is the value for the whole London population. Values above 100 indicate a segment's propensity is higher than the whole population, values below 100 indicate that segment's propensity is lower than the whole population.

Buses

Buses in Southwark and across London have improved over the last decade from spider maps to electronic information at stops, cash to oyster cards to contactless payments and now provide an extensive night bus service. However, in Southwark, bus excess waiting time has increased in the past years due to roadworks and congestion as the figure below shows. The average bus speed in Southwark is about 8 mph.

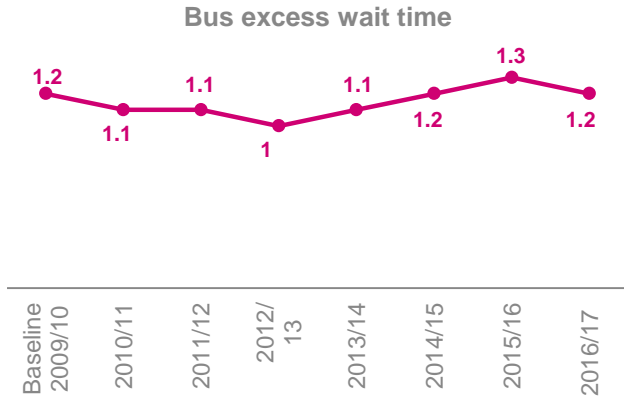


Figure 52. Bus excess wait time. TfL, London Travel Demand Survey (LTDS)

TfL Transport Classification of Londoners

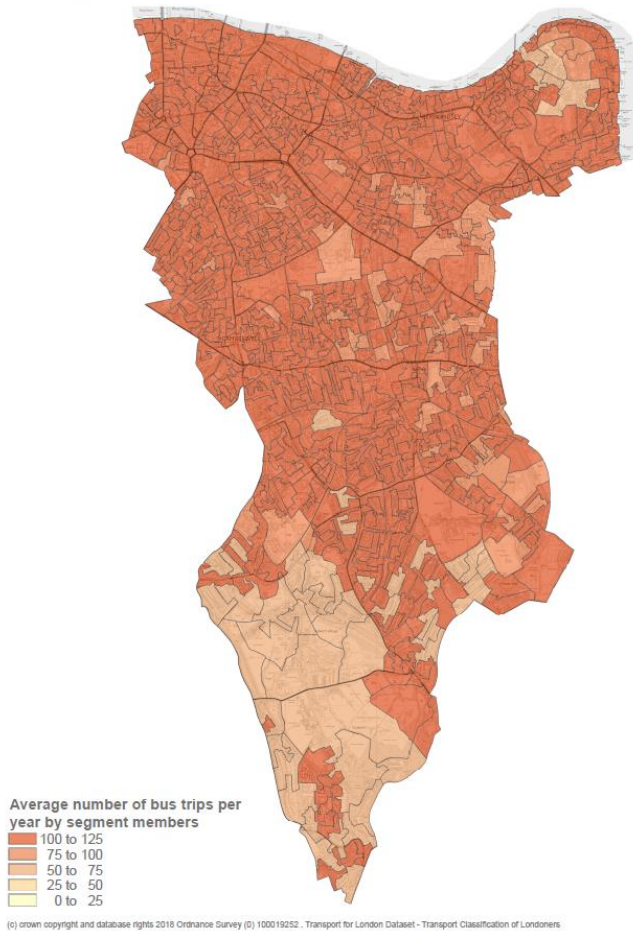


Figure 53. Average number of bus trips per year by the TCoL segment members. TfL Transport Classification of Londoners.

TfL Transport Classification of Londoners

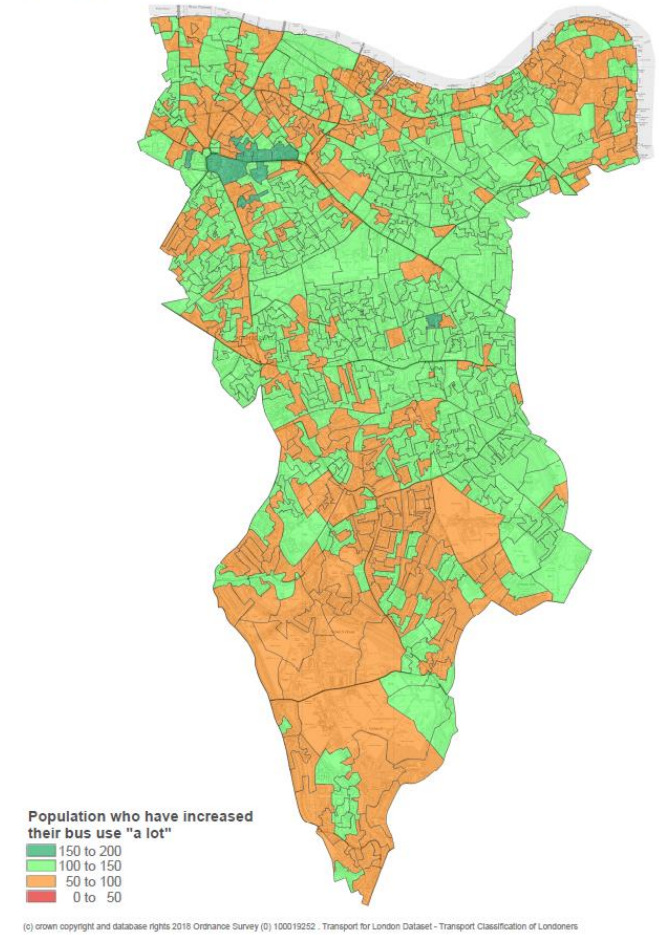


Figure 54. Population who have increased bus use "a lot" This is an index where 100 is the value for the whole London population. Values above 100 indicate a segment's propensity is higher than the whole population, values below 100 indicate that segment's propensity is lower than the whole population. TfL Transport Classification of Londoners.

Traffic & congestion

Southwark's streets support over a quarter of a million motor vehicle trips every day. The purposes for these trips include commuting, business, deliveries, waste collection, work, education and leisure. 88% of traffic on our roads is cars and taxis with the remaining 12% comprising buses, vans and larger vehicles⁵³.

Congestion causes stress and frustration, and limits people's opportunity to travel because journeys are slow and unpredictable. For businesses, congestion is an additional cost as workers spend time queuing in traffic, it is difficult to make deliveries on time, and an unreliable road network discourage investors. Bus users are also affected by congestion, as their journeys become slower and more unreliable. A recent study⁵⁴ suggested that London could incur costs of £9.3 billion from traffic congestion by 2030, an increase of 70 percent from today, costing each car commuting household more than £4,000 a year.

Estimated causes of congestion

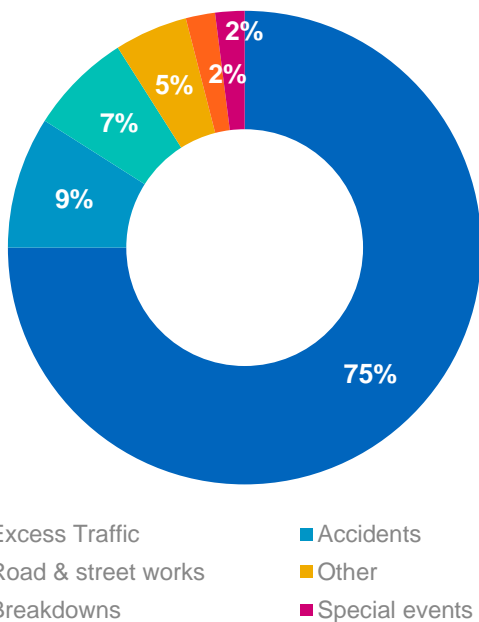


Figure 55. Estimated causes of congestion. TfL Surface transport

Taxis & PHV

The number of licensed taxi drivers and taxi vehicles has remained fairly constant since 2001 but in the past few years there has been a significant increase in the number of licensed private hire drivers and vehicles. Since 2008/09, the number of private hire vehicles has increased by 58 % and the number of drivers by 81 %. The introduction of apps which enable users to book a taxi or private hire vehicle (PHV) has had a major impact on both markets.⁵⁵

TfL Transport Classification of Londoners

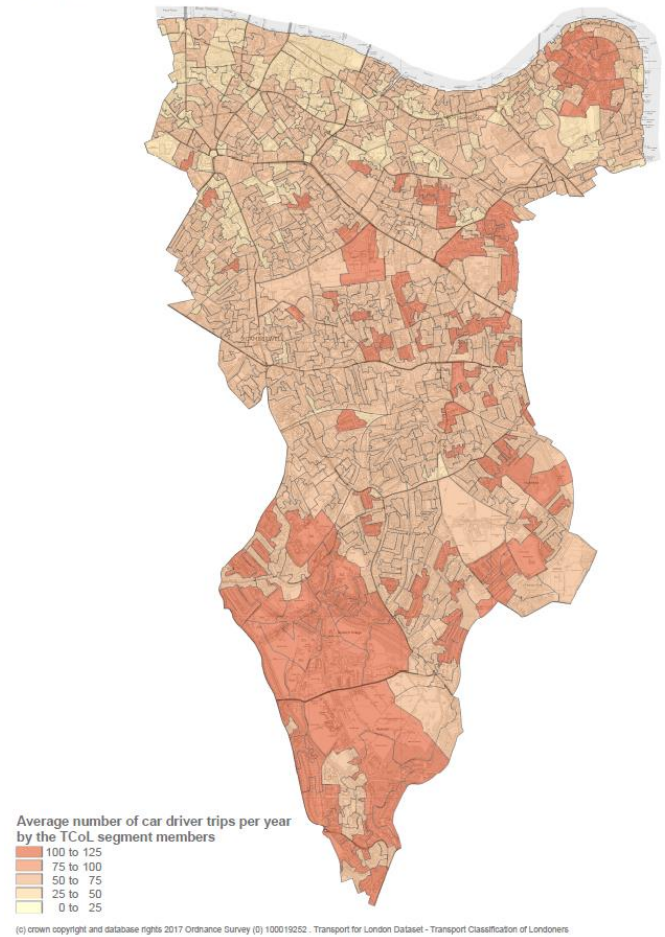


Figure 56. Average number of car trips per year by the TCoL segment members.

Freight

Southwark good growth and economy relies on safe, reliable, sustainable and efficient goods delivery and servicing.

TfL City Planner Tool calculated expected increase up to 80% of freight flow from 2012 to 2014, according to TfL models. These do not only involve strategic roads but a wider network of roads in the borough.

Delivery and servicing plans will be very important in managing change however consolidation and sustainable movement of goods such as cargo bikes and new technologies will play an important role in reducing congestion, air pollution and road danger.

The first freight consolidation scheme in the borough started in March 2019 at Guy's Hospital. This could be used as a case study for best practices.

Case study - Last mile delivery management and the cargo hopper, Utrecht Walking and cycling

In order to minimise local pollution and avoid damage by heavy vehicles to its historic city centre, the Dutch city of Utrecht produced a freight distribution plan in 2008 as part of the EU CIVITAS MIMOSA project. Measures to improve freight logistics with the involvement of and co-operation between companies were put in place, including time restrictions for vehicles entering the city, more use of the city's canals to reduce road based freight transport and the designation of low-emission zones.

One of the key interventions included a Cargohopper –an electric powered delivery vehicle. The CO₂-neutral , €60,000 multi-trailer is owned and operated by a private transport company, the Utrecht-based Hoek Transport, and moves cargo twice a day making about 40-50 parcel deliveries each day. In August 2009 it was made into an even more sustainable form of freight transport and transformed into a solar-powered vehicle. Six solar panels were installed on the roofs, costing a total of € 15,000 (ELTIS, 2016).

From a consolidation centre outside the city centre, the electric delivery van continues with deliveries to shops inside historic centre and pedestrian area. Once empty, it collects from shops dry waste, in particular paperboard, paper and empty packaging, for recycling in order to take advantage from the homeward journey.

During the lifetime of the project, resulted in a 73% (5.8 t) reduction in CO₂ emissions, a 56% (0.001 t) decrease in PM₁₀ emissions; and a 27% (0.005 t) fall in NO_x emissions. Noise levels in the city also fell improving the liveability of Utrecht.

The project was so successful that in April 2011, a Cargohopper 2 was introduced that can in addition to delivering parcels, it can now also move pallets and other long objects, and can travel 250 km without recharging. The scheme has proven so successful that the concept has also been adopted in the much larger city of Amsterdam



Figure 57. Utrecht Cargo Hopper. Eltis.org

Air Quality

Good air quality has long been recognised as a basic requirement for good health. A 2015 report from Kings College suggests that exposure to air pollution was directly attributable to 9,416 early deaths in London in 2010. The premature deaths are due to two key pollutants, fine particulates known as PM_{2.5} and the toxic gas nitrogen dioxide (NO₂) caused primarily by diesel cars, HGVs, LGVs and buses, on our streets.

Long term exposure to air pollution increases the risk of lung cancer, impairs child lung development and increases the risk of hospitalisation among people with a pre-existing lung condition.

The health impacts of air pollution fall disproportionately on the most vulnerable communities, affecting the poorest, the youngest, oldest and those from minority ethnic groups more acutely. Populations living in the most deprived areas are on average currently more exposed to poor air quality than those in less deprived areas⁵⁶. Over 13 primary schools and 11 other educational institutions in Southwark are located in areas exceeding safe legal pollution levels.⁵⁷

Southwark's street transport emissions are amongst the highest in London. The majority of Southwark, with the exception of the area the south of the A205, is covered in an Air Quality Management Area (AQMA) designation and there are a number of sites that exceed legal levels of NO₂ (Southwark Air Quality Action Plan, 2013).

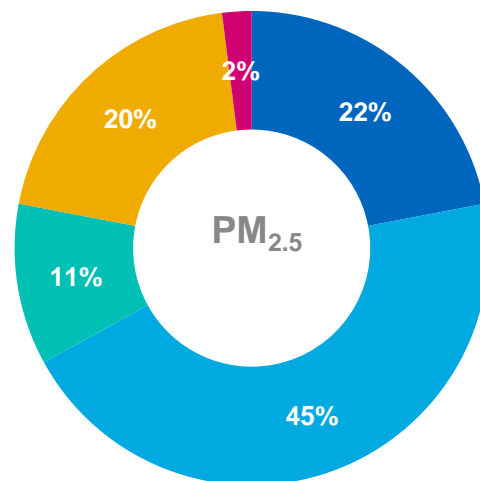
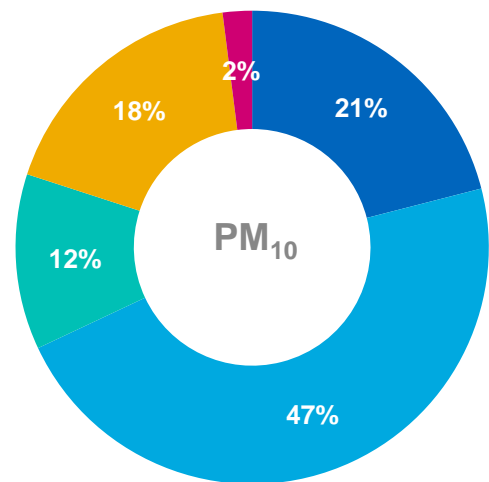
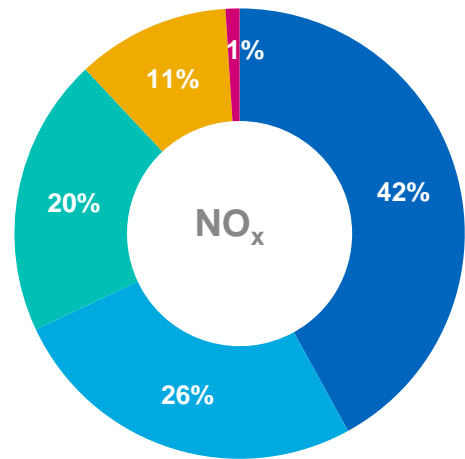
Diesel is the most significant source of nitrogen oxide (NO_x) emissions as diesel vehicles emit significantly more NO_x than petrol. The reason for this is partly because of the under-performance of diesel light vehicle emission standards over time, with significant discrepancies between official emission measurements and real-world vehicle performance in urban environments. Diesel vehicles have been incentivised by national Government in order to achieve CO₂ savings, at the expense of local air quality.

Table 2. Southwark Primary Schools located in areas exceeding safe legal pollution levels. Mayor of London

Establishment Name (Primary Schools)	NO2 Annual Mean 2013 (ug/m3)
St George's Cathedral Catholic Primary School	64.3
St Jude's Church of England Primary School	55.6
Tower Bridge Primary School	55.0
Saint Joseph's Catholic Primary School, the Borough	53.2
The Cathedral School of St Saviour and St Mary Overy	51.4
Charlotte Sharman Primary School	51.1
Townsend Primary School	50.2
Grange Primary School	49.9
Victory School	49.7
Charles Dickens Primary School	49.0
Friars Primary Foundation School	47.8
St John's Walworth Church of England Primary School	47.8
St James' Church of England Primary School	46.6

Table 3. Secondary Schools located in areas exceeding safe legal pollution levels. Mayor of London

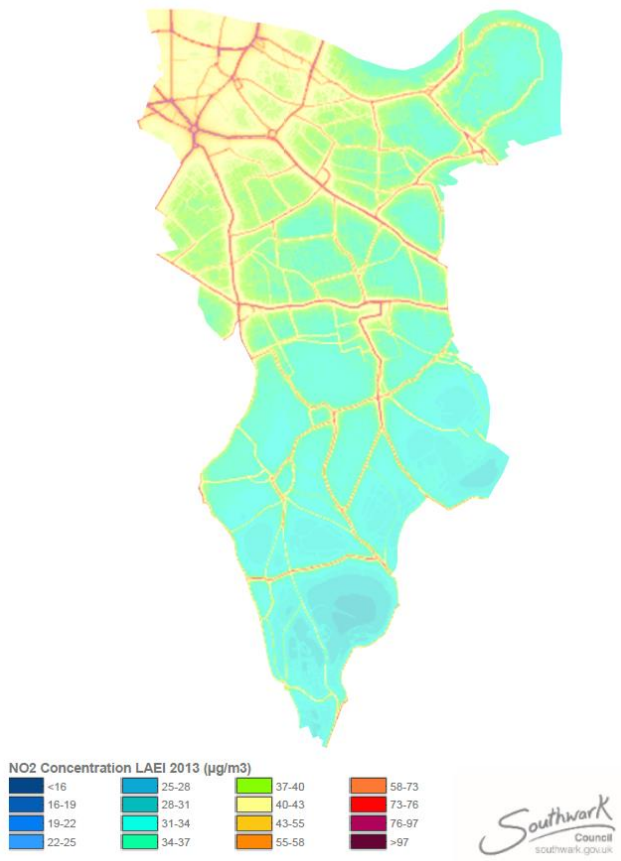
Establishment Name (Secondary Schools)	NO2 Annual Mean 2013 (ug/m3)
Notre Dame Roman Catholic Girls' School	55.9
St Saviour's and St Olave's Church of England School	54.9
Ark All Saints Academy	44.6
Sacred Heart Catholic School	44.5
Ark Globe Academy	43.5
Ark Walworth Academy	43.3
Harris Academy Peckham	42.6
University Academy of Engineering South Bank	41.7
Harris Academy Bermondsey	40.7
City of London Academy (Southwark)	40.5
Harris Boys' Academy East Dulwich	39.7



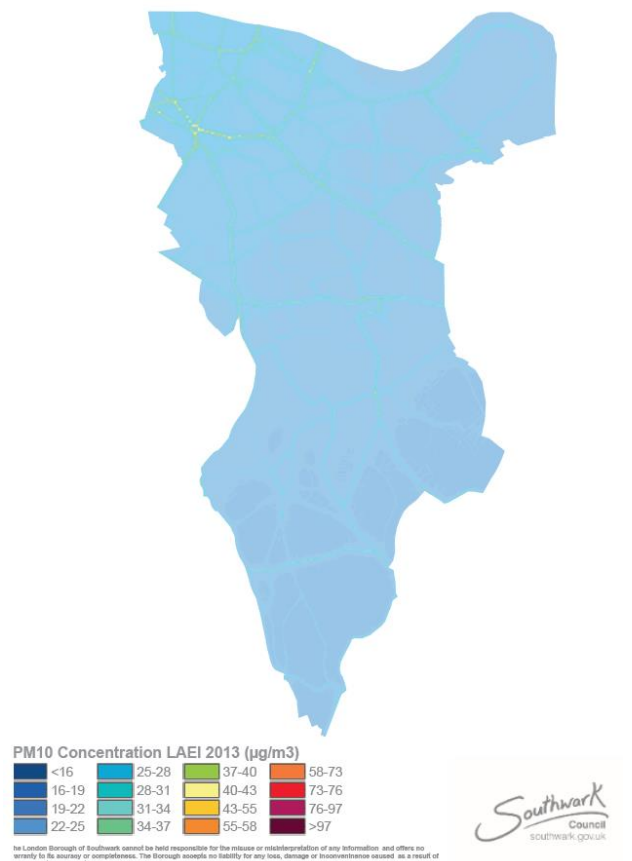
■ Cars ■ Commercial vehicles ■ Van & mini bus ■ Other

Figure 58. Share of transport emissions by type of vehicles. Southwark Council, Air Quality JSNA

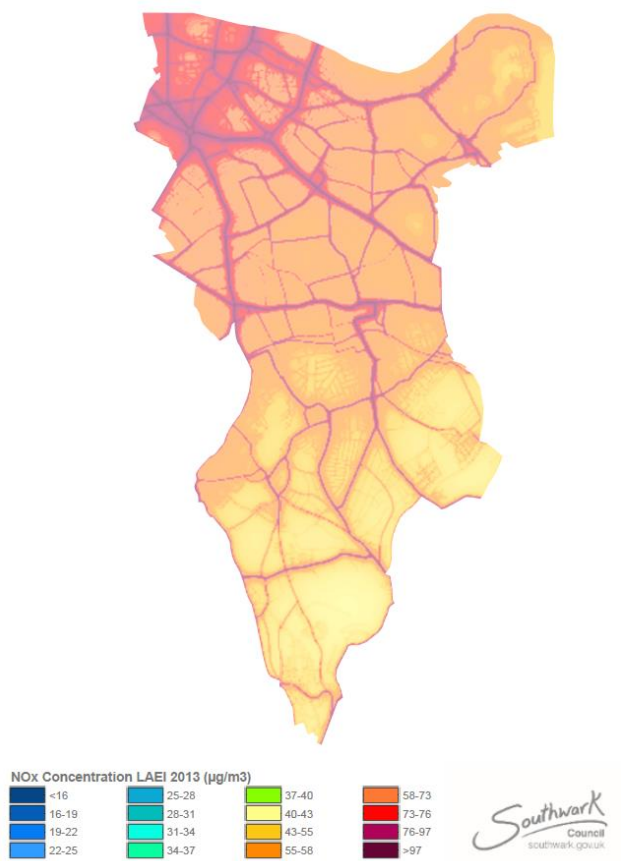
Southwark NO2 Concentration



Southwark PM10 Concentration



Southwark NOx Concentration



Southwark PM2.5 Concentration

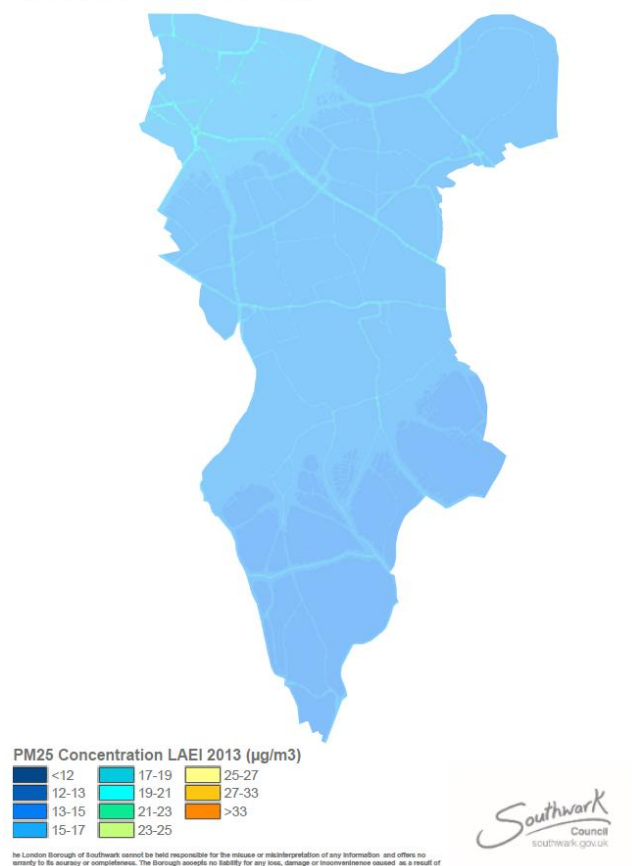


Figure 59. Southwark NO₂ and NO_x concentration. Greater London Authority, London Air Emission Inventory 2013 –

Figure 60. Southwark PM₁₀ and PM_{2.5} concentration. Greater London Authority, London Air Emission Inventory 2013

Air Quality Management Area & Focus Areas

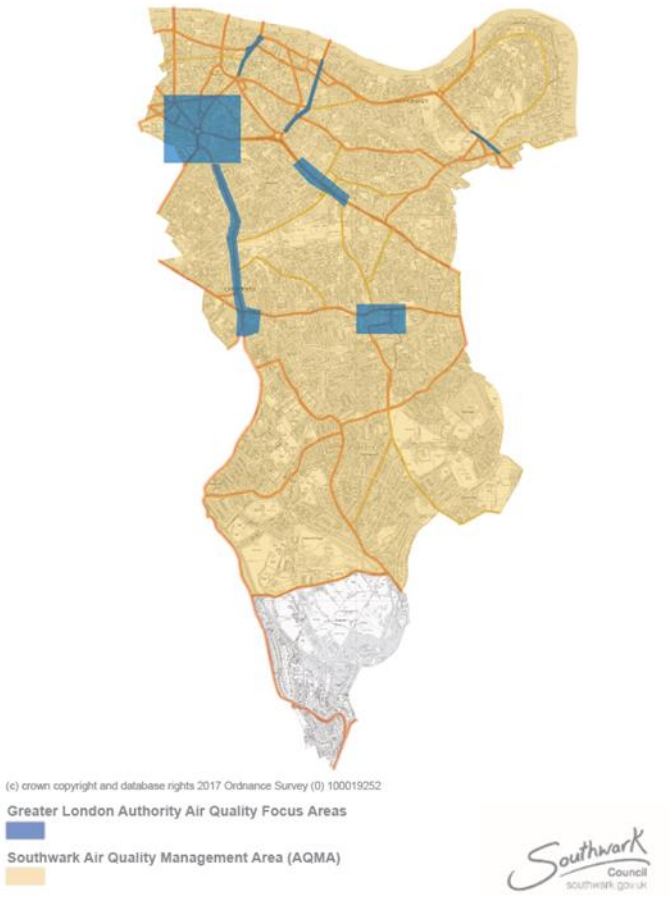
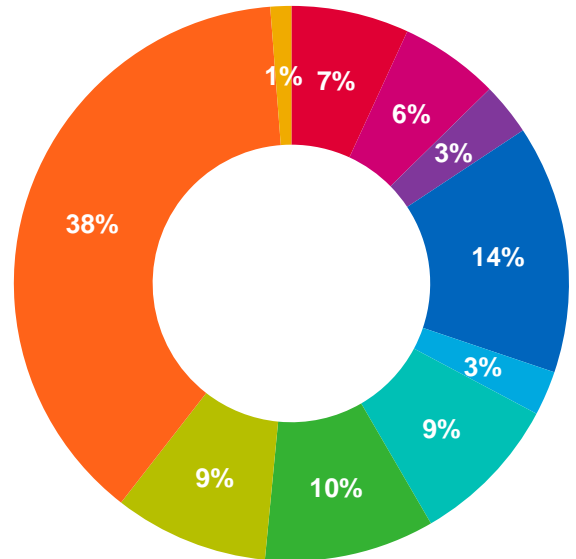


Figure 61. Southwark Air Quality Management Area and Focus Areas. Greater London Authority, London Air Emission Inventory 2013

Data from TfL (2017) shows that many bus routes had an improvement of vehicles emission standards, most of them going towards Euro 6 Hybrid (Routes 17; 36; 37; 45; 172; 176; 171; N171; 188; 196;225; 343; N343; 355 and 468). Route number 360 joined route 521 with electric only vehicles and RV1 stays with a hydrogen fleet

Bus vehicles serving Southwark by type of engine 2017



- Euro 3 + SCRT
- Euro 4
- Euro 5
- Euro 5 + RETROFIT
- Euro 5 Hybrid
- Euro 5 Hybrid + RETROFIT
- Euro 6
- Euro 6 Hybrid
- Hydrogen

Figure 62. Bus vehicles serving Southwark by type of engine. TfL

Highway safety

A total of 5,523 casualties were recorded in Southwark 2013 to 2017 –including 452 serious casualties and 25 fatalities. Of these serious and fatal accidents, 25% involved a powered two wheeler rider, 32% involved a cyclist and 33% involved a pedestrian which makes a 90% of casualties among vulnerable users.⁵⁸ HGVs were involved in 32% of fatalities in Southwark.

Generally, young people from 20 to 29 are most at risk and the number of casualties decrease with increasing age. Young males 16 to 24 years old on motorcycles are the most at risk.⁵⁹

Human error is the most common cause of collisions (90%) in London. “Analysis of casualty data shows that 48% of pedestrian accidents happened more than 50 meter from a crossing. This suggests that people are willing to take on increased risk for the sake of convenience.

Nearly a thousand incidents (including criminal incidents) happened on buses from 2015 to 2018. 16% are classed as collision incidents, 17% as slip, trips or falls and 46% as on-board injuries.

Self-report injuries are around five times more numerous than those recorded by the police. For cyclists, the level of apparent under-reporting is higher; with almost seven times (double the rate for motorcyclists or pedestrians). These incidents contained a relatively high proportion of injuries where medical attention was not sought.

Slight casualties

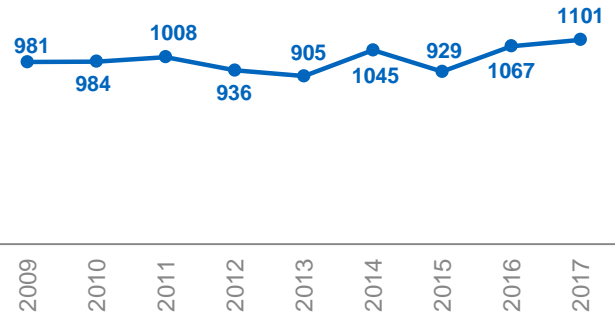


Figure 65. Slight casualties in Southwark 2004-2017. TfL

Pedestrian KSIs

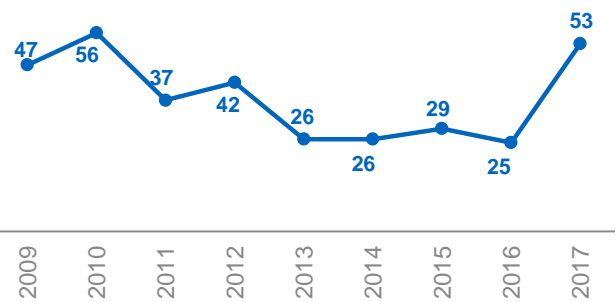


Figure 66. Pedestrians Killed and seriously injured in Southwark 2004-2017. TfL. (From October 2016 the way data are collected on severity changed therefore 2017 numbers might not be comparable with previous years)

Cyclist casualties

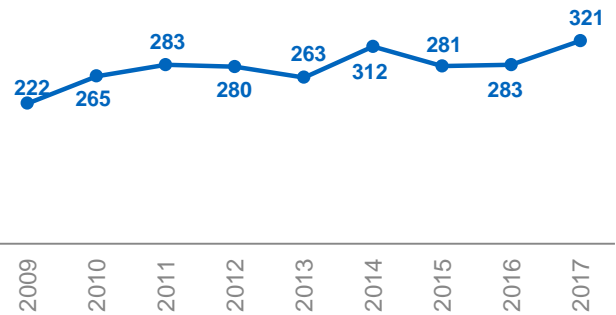


Figure 67. Cyclists casualties in Southwark 2004-2017. TfL

All casualties

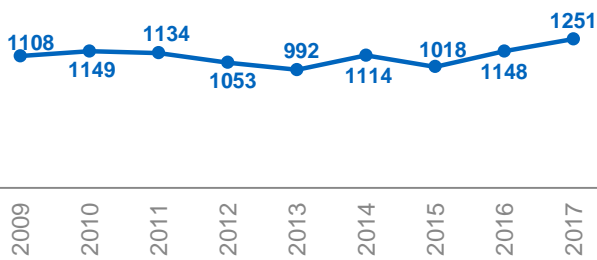


Figure 63. All casualties in Southwark 2004-2017. TfL

KSI

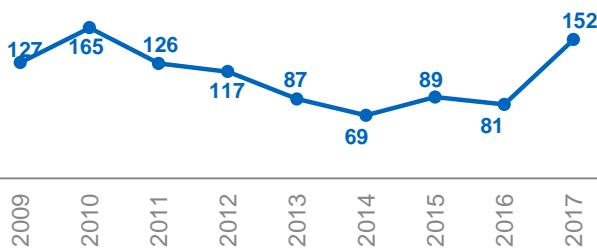


Figure 64. Killed and seriously injured in Southwark 2004-2017. TfL. (From October 2016 the way data are collected on severity changed therefore 2017 numbers might not be comparable with previous years)

Casualties by Age

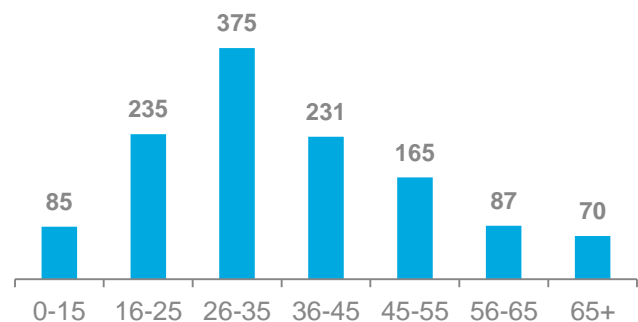


Figure 68. Southwark casualties by age 2017. TfL

Speed

In March 2016, Southwark became a 20mph borough, after implementation 84 % of streets saw a decrease in speed after the scheme which has a positive effect on safety.

Impact of 20mph borough scheme before (2014) vs after (2015)



Figure 69. Impact of 20mph borough scheme before and after implementation (2014-2015). Southwark Council Traffic Counts

Inequalities in road safety

“...it is not just the objective safety and accessibility of an environment that affects a person's independence but also their perception of it. One or two bad experiences can stop someone going out for good...”

People walking in the most deprived areas of London are more than twice as likely to be injured as those in the least deprived areas. Injuries odds for disabled people were over 4 times higher than for non-disabled people.

Disabled, those living in low-income households and living in London are at higher risk of being injured by a motor vehicle, while older and disabled pedestrians and women are at higher risk of being injured in a fall according to research undertaken by Rachel Aldred:

Emergency hospital admissions due to falls in people aged 80+

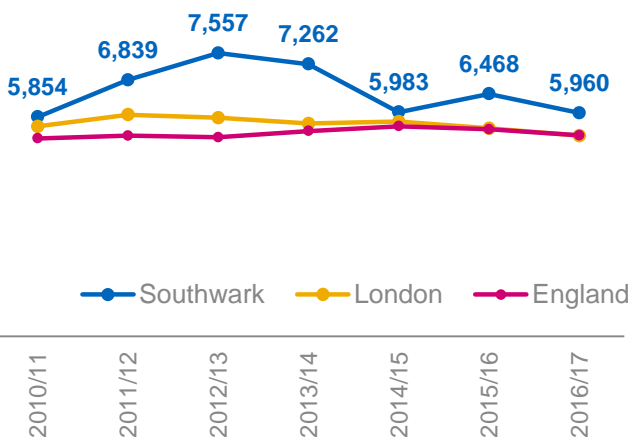


Figure 70. Emergency hospital admissions due to falls in people aged 65 and over - aged 80+. Hospital Episode Statistics (HES).

Emergency hospital admissions due to falls in people aged 65-79

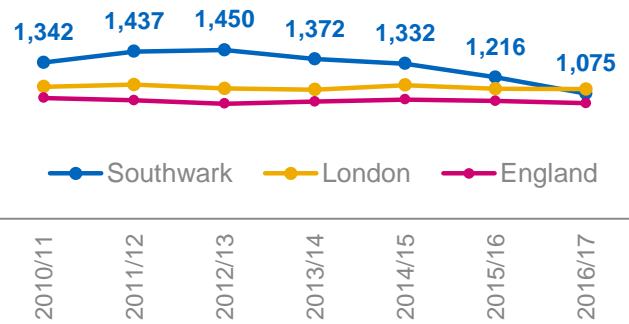
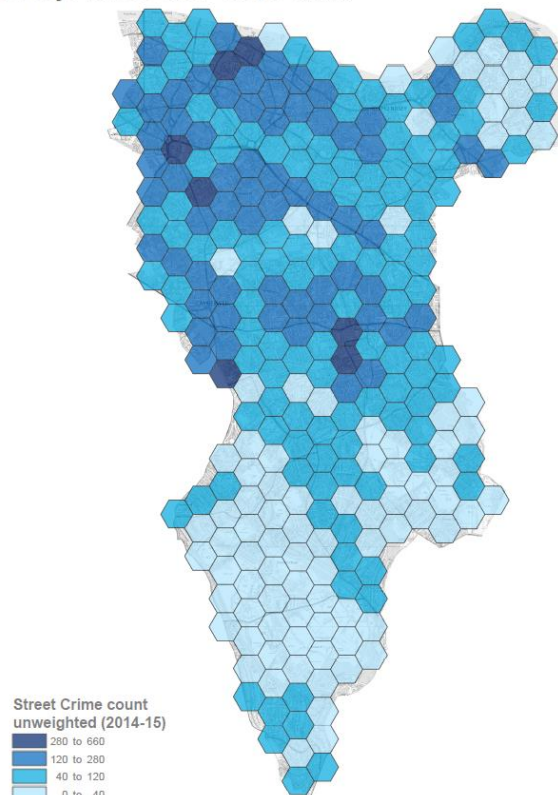


Figure 71. Emergency hospital admissions due to falls in people aged 65 and over - aged 65-79. Hospital Episode Statistics (HES)

Personal safety

Street crime is more of an issue affecting the more densely populated and trafficked neighbourhoods within Southwark. In higher density communities there is more opportunity for crime simply because there are more people and the chances of interaction between low and high income individuals is more likely. Women worry about their safety in London more than men. Women on their 20s-30s are at higher risk of being victims of violence.

TfL City Planner Tool - Street Crime



(c) crown copyright and database rights 2017 Ordnance Survey (0) 100019252 - TfL City Planner Tool

Figure 72. Street Crime Count (2014/15) map. TfL City Planner Tool

Development and change

Southwark will need to build many new homes to meet housing needs. If housing needs were not met, the consequences might be:

- Prices rise;
- Some people who would have lived in London live elsewhere;
- Housing is only delivered in places with the highest land values and elsewhere, properties are sub-divided;
- People are forced to live further away from where they work and in areas with poorer transport accessibility; and
- Overcrowding rises and the amount of space per person falls

The three main areas of development in Southwark are:

Old Kent Road

20,000 new homes
10,000 new jobs

Elephant & Castle

5,000 new homes
10,000 new jobs

Canada Water

2,000 new homes
6,600 new jobs

Each of these areas belong to an area action plan and will provide monitoring data on transport as development come forward.

Technology

Future transport and the data it will generate will be much more flexible and dynamic in the future. Possible future considerations include;

- New technologies will allow us to have greater control of infrastructure (cars, kerbs, street furniture etc.) which also allow us to regulate it in a more complete fashion.
- Transport modes will have to be more reactive to the requirements of an 'on-demand' service economy and the importance of real-time journey updates will increase. This will likely see dockless forms of transport emerge as they have in other major global cities. This will also generate large amounts of data on how people use and interact with the city, and allows one to identify certain hotspots of activity.
- Machine learning algorithms that enable machines to perform increasing complex tasks are evolving. Most future cars will have internet connectivity, and the role of AI is increasing in all transport areas.
- There will be innovations in public transport technology in the future which will be around the number of services, speed and efficiency of the services provided.
- There may be future mass-transportation infrastructure projects designed to facilitate this and the
- Autonomous vehicles, these vehicles can navigate the city by themselves and do not need human intervention to know where to go and recognise hazards. The timeline for the introduction of these vehicles is unclear but the technology is rapidly evolving and its adoption rate is likely to be very fast. A significant challenge in cities is that existing infrastructure is not set-up to be able to cope with the changes in transport, these include poor maintenance standards, inconsistent lane markings, low numbers of charging points and a reliable 5G connection. There is also the challenge that autonomous vehicles may increase congestion and road safety issues.

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Revealing Reality	Understanding multi-disciplinary working - Insights from Ethnographic Engagement Project - Spring 2017	2017	future thinking, insights	www.southwarkccg.nhs.uk/get-involved/Shaping-services/Developing-care-coordination-for-people-with-long-term-conditions/Documents/Multi-disciplinary%20working%20stories%20and%20experience.PDF
Royal Borough of Kensington and Chelsea	Royal Borough of Kensington and Chelsea Local Implementation Plan 2014/15 to 2016/17 Delivery Plan	2014	LIP, borough	www.rbkc.gov.uk/parking-transport-and-streets/managing-traffic-and-transport/local-implementation-plan-transport

Sallis, J.F, Prochaska, J.J, and Taylor, W.C.	A review of correlates of physical activity of children and adolescents	2000	physical activity	http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.457.1133&rep=rep1&type=pdf
Sawner, P.	Motorists spends four days a year looking for parking space	2017	Traffic levels	http://www.telegraph.co.uk/news/2017/02/01/motorists-spend-four-days-year-looking-parking-space/
Sawner, P.	Motorists spends four days a year looking for parking space	2017	Parking	https://www.telegraph.co.uk/news/2017/02/01/motorists-spend-four-days-year-looking-parking-space/
Shoup, D. C.	The high cost of free parking	1997	parking requirements	http://www.researchgate.net/publication/235359727_The_High_Cost_of_Free_Parking
South London and Maudsley NHS Foundation Trust; US Creates	DIY Happiness Game Summary Report		health, children and families	https://manualzz.com/doc/32396886/diy-happiness-game-summary-report
Southwark' Children and Families' Trust	1000 Journeys — What you told us and how your stories helped set Southwark's priorities for children, young people and families	2013	health, children and families	http://moderngov.southwark.gov.uk/documents/s40362/Appendix%20%201000%20journeys%20book.pdf
Southwark Council	Active Travel in Southwark 2017 - The health economic impact of walking and cycling - Southwark's Joint Strategic Needs Assessment	2017	health and wellbeing	https://www.southwark.gov.uk/assets/attach/5706/JSNA%202017%20-%20Active%20Travel%2020171130.pdf
Southwark Council	Protected Characteristics in Southwark JSNA Factsheet	2017	health and wellbeing	www.southwark.gov.uk/assets/attach/5718/JSNA%20Factsheet%202017%20-%20Protected%20Characteristics%20201711130.pdf
Southwark Council	The Southwark Conversation: Initial findings	2018	experience	www.southwark.gov.uk/assets/attach/6297/Southwark%20Conversation%20initial%20findings%20report.pdf
Southwark Council	Get Active for Life! Southwark Physical Activity and Sport Strategy 2014-2017	2014	health and wellbeing	www.southwark.gov.uk/assets/attach/2915/Southwark_Physical_Activity_and_Sport_Strategy_2014-17_-_Main_Report.pdf
Southwark Council	Supporting the Health & Wellbeing of Children and Young People in Southwark	2016	health and wellbeing, children and young people	www.southwark.gov.uk/assets/attach/2648/School%20health%20survey%20(2014).pdf
Southwark Council	Ageing Well: Summary report	2016	ageing	http://moderngov.southwark.gov.uk/documents/s63782/Appendix%201%20Summary%20of%20the%20consultation%20responses%20from%20the%20consultation%20hub.pdf

Southwark Council	Air quality strategy and action plan 2017-2022	2017	air quality	www.southwark.gov.uk/assets/attach/4407/Air%20Quality%20Strategy%20Action%20Plan%20Final%20Version.pdf
Southwark Council	Bus Services in Southwark — Report of Scrutiny Sub-Committee B	2009	public transport, bus	http://moderngov.southwark.gov.uk/documents/s5890/Bus%20services%20in%20Southwark%20-%20Scrutiny%20sub-committee%20B.pdf
Southwark Council	Sheltered Housing in Southwark an Age friendly Borough	2018	ageing	www.southwarkpensioners.org.uk/wp-content/uploads/2018/11/SPAG_Newsletter_Nov_Dec_2018_small.pdf
Southwark Council	Southwark Open Space Strategy - Evidence base final report	2013	health and wellbeing, place	www.southwark.gov.uk/assets/attach/1897/3.1.1%20Southwark_open_space_strategy_Jan_2013_low_res_.pdf
Southwark Council	Everybody's Business — Healthy Weight Strategy 2016-2021	2016	health and wellbeing	http://moderngov.southwark.gov.uk/documents/s63091/Appendix%201%20Healthy%20Weight%20Strategy%202016%20-%202021.pdf
Southwark Council	Mental Health in Southwark: an overview of health needs and service provision	2017	health and wellbeing	https://www.southwark.gov.uk/assets/attach/5713/JSNA%202017%20-%20Mental%20Health%202017130.pdf
Southwark Council	Dulwich Traffic Management Study -Second Public Meeting	2018	transport	www.southwark.gov.uk/assets/attach/6340/Dulwich%20TMS_SDG_update%20on%20engagement%20for%20Community%20Council%20meeting_7%20March%202018.pdf
Southwark Council	Transport for London Borough Workshop February 2018	2018	walking	Internal presentation
Southwark Council	Southwark Council Transport Plan 2011	2011	transport	www.southwark.gov.uk/assets/attach/2214/Transport%20plan.pdf
Southwark Council	Update: Everybody's Business Southwark's Healthy Weight Strategy	2018	health and wellbeing	http://moderngov.southwark.gov.uk/documents/s63091/Appendix%201%20Healthy%20Weight%20Strategy%202016%20-%202021.pdf
Southwark Council	Southwark Transport Plan Annual Monitoring Report 2016-17'	2018	Transport data	www.southwark.gov.uk/transport-and-roads/transport-planning?chapter=2
Southwark Council	Annual automated traffic counts with ARX classification 2010-2017	2017	Traffic counts	https://geo.southwark.gov.uk/connect/analyst/mobile/#/main?mapcfg=Southwark%20Highways

Southwark Council	JSNA Factsheet 2018-19 Demography	2018	demography	https://www.southwark.gov.uk/health-and-wellbeing/public-health/health-and-wellbeing-in-southwark-jsna/southwark-profile
Spencer, N.	Easier said than done: wWhy we struggle with healthy behaviours and what to do about it	2015	health, behavioural change	www.thersa.org/discover/publications-and-articles/reports/easier-said-than-donethe
Sport England	Active Lives Survey 2015-16 – Year 1 Report	2017	health; physical activity	www.sportengland.org/media/11498/active-lives-survey-yr-1-report.pdf
Statista	Online grocery shopping in the United Kingdom (UK) – Statistics and Facts	2016	Retail statistics	https://www.statista.com/topics/3144/online-grocery-shopping-in-the-united-kingdom/
Strategic Transportation, Department of thr Built Environment - City of London	Traffic in the City 2018	2018	transport, borough	http://democracy.cityoflondon.gov.uk/documents/s91800/Appendix%201%20-%20Traffic%20in%20the%20City%202018.pdf
The Behavioural Insights Team	EAST - Four simple ways to apply behavioural insights	2014	behavioural change	www.bi.team/wp-content/uploads/2015/07/BIT-Publication-EAST_FA_WEB.pdf
The City of Copenhagen, Technical and Environmental Administration Traffic Department	Good, Better, Best: The City of Copenhagen's Bicycle Strategy 2011-2025	2011	cycling, Denmark	www.cycling-embassy.dk/wp-content/uploads/2012/01/Good-Better-Best.png
The King's Fund	People in control of their own health and care: The state of involvement	2014	Personal health-care	https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/people-in-control-of-their-own-health-and-care-the-state-of-involvement-november-2014.pdf
The Schools Health Education Unit	The Southwark Children and Young People's Health and Wellbeing Survey 2016	2016	health and wellbeing, children and young people	http://schools.southwark.gov.uk/assets/attach/3697/Southwark_2016_Primary.pdf
Tower Hamlets Council	Tower Hamlet's Council's Transport Planning Strategy (2011-2031)	2011	transport, borough	www.towerhamlets.gov.uk/Documents/Planning-and-building-control/Strategic-Planning/Local-Plan/Evidence-base/LBTH-Transport-Planning-Strategy-2011-2031-Final-SDG-document-v12-FINAL-19-08-11.pdf
Transport for London	Draft Mayor's Transport Strategy - TfL's Report to the Mayor on the statutory consultation	2018	transport, borough	https://consultations.tfl.gov.uk/policy/mayors-transport-strategy/
Transport for London	Healthy Streets for London	2017	Health, walking, cycling	http://content.tfl.gov.uk/healthy-streets-for-london.pdf
Transport for London	Attitudes towards walking	2015	Walking	http://content.tfl.gov.uk/attitudes-to-walking-report.pdf

Transport for London	Analysis of walking potential	2017	Walking	http://content.tfl.gov.uk/analysis-of-walking-potential-2016.pdf
Transport for London	Analysis of cycling potential	2017	Cycling	http://content.tfl.gov.uk/analysis-of-cycling-potential.pdf
Transport for London	Attitudes to Cycling Survey	2015	Cycling	http://content.tfl.gov.uk/atc-online-autumn-2015-report.pdf
Transport for London	Transport Classification of Londoners	2018	transport	http://content.tfl.gov.uk/transport-classification-of-londoners-presenting-the-segments.pdf
Transport for London	Vision Zero Action Plan – Taking Forward the Mayor’s Transport Strategy	2018	Road safety	http://content.tfl.gov.uk/vision-zero-action-plan.pdf
Transport for London	Walking action plan - Making London the world's most walkable city	2018	future thinking, walking	http://content.tfl.gov.uk/mts-walking-action-plan.pdf
Transport for London	Mayor’s Transport Strategy: supporting evidence outcomes summary report	2017	Transport data	http://content.tfl.gov.uk/mts-outcomes-summary-report.pdf
Transport for London	Travel in London 10 supplementary information: Borough Local Implementation Plan (LIP) performance indicators	2017	Transport data	http://content.tfl.gov.uk/borough-local-implementation-plan-performance-indicators.pdf
Transport for London	Rethinking Deliveries Summary Report	2014	Freight and deliveries	http://content.tfl.gov.uk/rethinking-deliveries--summary-report.pdf
Transport for London	2005-2016 GLA collision data extract –casualty’	2005-2016	Road Safety	https://tfl.gov.uk/corporate/publications-and-reports/road-safety
Transport for London	Vision Zero Action Plan: taking forward the Mayor’s Transport Strategy’	2018	Road safety	http://content.tfl.gov.uk/vision-zero-action-plan.pdf
UCL	Briefing note: Future of the high street	2014	High Streets	https://www.ucl.ac.uk/transport/sites/transport/files/future-high-street.pdf
UCL Institute of Health Equity	An Equal Start: Improving outcomes in children’s centres	2012	education	www.instituteofhealthequity.org/resources-reports/give-every-child-the-best-start-in-life

UCL Institute of Health Equity, Marmot Review Team	Fair society healthy lives	2010	Equity	http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review
UNCSBRP	Driving in London		Driving	http://www.uncsbrp.org/driving.htm
We Made That and LSE Cities	High Streets for all	2017	High streets	https://files.lsecities.net/files/2017/10/high_streets_for_all_report_web_final.pdf
Wheels for Wellbeing	A guide to inclusive cycling — First edition - November 2017	2017	cycling	https://wheelsforwellbeing.org.uk/wp-content/uploads/2018/02/v2-Nov-2017.pdf
Wheels for Wellbeing	Experiences of disabled cyclists – 2017 survey	2017	transport, inclusive	https://wheelsforwellbeing.org.uk/wp-content/uploads/2017/06/Report.pdf

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