

City Streets

Transport for a changing Square Mile



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City of London Transport Strategy

May 2019





Foreword

As Chair of the Planning and Transportation Committee, I am thrilled to present the City of London Corporation's first ever long-term Transport Strategy.

The Strategy is bold in its vision and proposals. This ambitious approach is essential to ensure the Square Mile remains fit for the future. We expect employment in the City Cluster to nearly double in the coming years, and overall the Square Mile's workforce to increase to more than 620,000 people by 2044.

The opening of the Elizabeth line will give more people than ever access to the Square Mile by public transport. At the same time the City is increasingly becoming a 24/7 cultural destination, with a vibrant night time economy and diverse visitor and leisure offer.

Our approach to transport needs to respond to the challenges and opportunities presented by a growing and evolving City.

The highest quality streets and transport connections are key to a thriving Square Mile and maintaining the City's position as one of the world's leading business districts.

Throughout the process of developing the Transport Strategy we have heard from thousands of residents, workers and businesses. People have highlighted concerns about how the City's streets currently function and the need for fresh thinking. In response to this feedback, the delivery of this strategy will:

- Prioritise the needs of people walking, make our streets more accessible and deliver a public realm that inspires and delights.
- Make the most efficient and effective use of street space by reducing motor traffic, including the number of delivery and servicing vehicles in the Square Mile.
- Enable more people to choose to cycle by making conditions for cycling in the Square Mile safer and more pleasant.
- Deliver safer streets and reduce speeds to eliminate death and serious injuries.
- Encourage and enable the switch to zero emission capable vehicles to improve air quality and reduce noise.

- Support improvements to London's wider transport network and national and international connections.
- Ensure that emerging transport technologies and services support our efforts to deliver Healthy Streets.

While this is a long-term strategy, it will be delivered at pace. It is only right that we move quickly to deliver a healthier and more inclusive environment for all. This will require us to work in partnership with the City of London Police, the Mayor of London and Transport for London, neighbouring boroughs, developers and a wide range of other organisations, as well as the City's residents and workers. I look forward to collaborating to deliver the proposals that follow and ensure the Square Mile remains a great place to live, work, study and visit.

Alastair Moss CC,

Chair of Planning and Transportation Committee





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Introduction

Introduction

The City of London, also known as the Square Mile, is the historic heart of London and one of the world's leading financial and business centres. It is home to 8,000 residents and a working population of over 500,000 people. Each year the City also welcomes over 10 million tourists, in addition to those visiting for business.

How people and goods travel to and around the City has a significant impact on the experience of living, working and studying in or visiting the Square Mile. Facilitating the safe, clean and efficient movement of people and vehicles serving the City, alongside improving the quality of streets and public spaces, will be essential

to ensuring the continued success of the City as a global centre for business and cultural destination.

As the highway authority for the Square Mile, the City of London Corporation (City Corporation) is responsible for the management of most streets within the City. Transport for London (TfL), the integrated transport authority for Greater London, manages the Transport for London Road Network (TLRN, also known as 'Red Routes'), of which there are several miles within the Square Mile. TfL also manages and operates London's public transport, the Congestion Charge and Emission Zones.

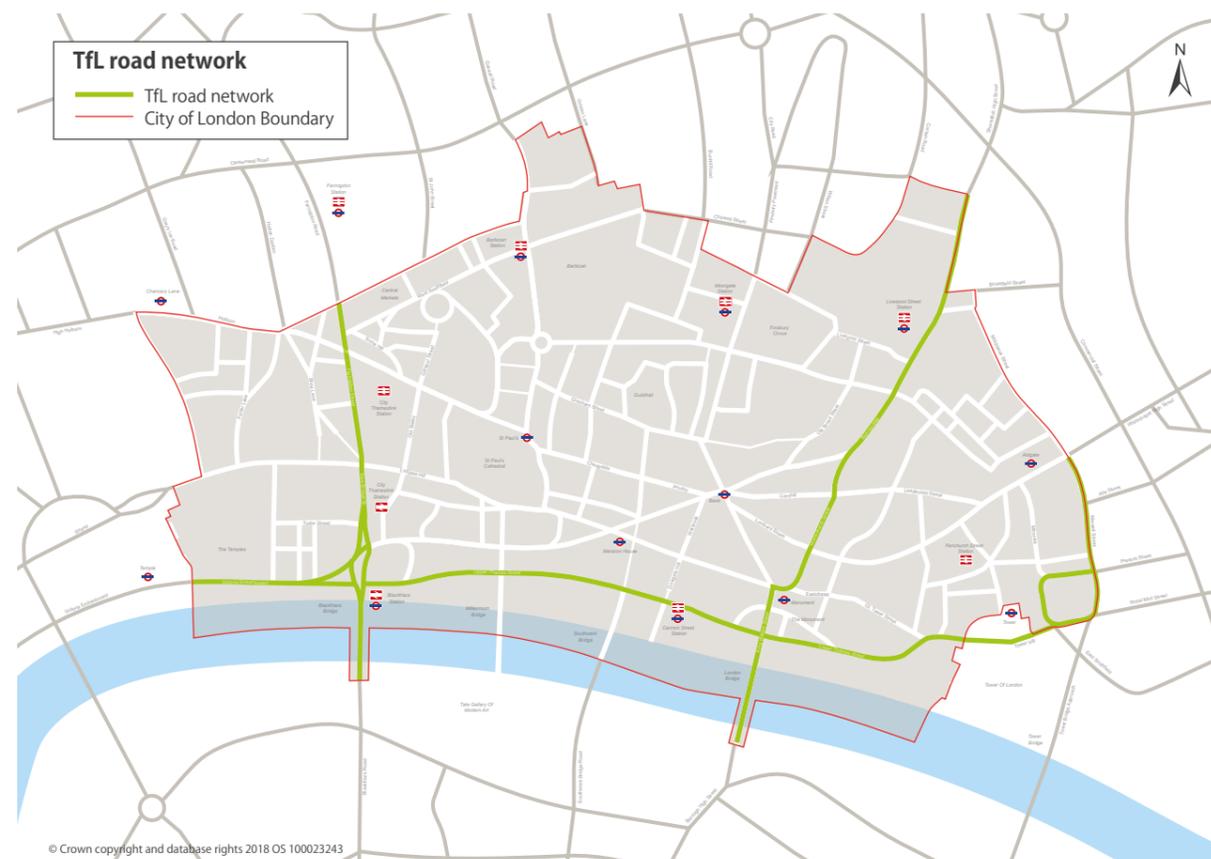


Figure 1: Map of the City of London boundary and the Transport for London Road Network (larger map available on the City of London Transport Strategy webpage)

This Transport Strategy provides a 25-year framework for future investment in and management of the City's streets, as well as measures to reduce the social, economic and environmental impacts of motor traffic and congestion. It also sets out our aspirations for improvements to the TLRN and local, national and international transport connections. It details an ambitious approach to transport and the design and management of streets in response to the challenges arising from significant growth, fast-moving technological development and changing travel habits.

The Square Mile's workforce is forecast to increase to 570,000 by 2030 and to over 620,000 by 2044. The residential population will also grow, with nearly 3,000 more people living in the Square Mile by 2044. This growth will lead to more people travelling on the City's streets, and in particular more people walking, and increased demand for high quality public spaces. More residents, workers and visitors will also mean more deliveries and servicing of offices, homes, shops, pubs, cafes and restaurants.

This extra demand must be accommodated within a fixed amount of street space. The Square Mile's streets must enable the movement of people and vehicles to and through the City while also providing space for parking and loading.

Our streets are also public spaces that provide workers, residents and visitors with places to meet, eat and drink, or just appreciate the unique character of the Square Mile. Attractive and safe public spaces, with seating and things to see and do, are a vital ingredient of a modern city.

The next 25 years will see major changes in transport technology. Vehicles will increasingly be connected and automated, and new mobility services will emerge. New technology can present great opportunities for travel and transport, but also presents challenges over how these new advancements are managed and controlled. Automated vehicles, for example, may be able to use street space more efficiently and reduce collisions, but the availability of relatively cheap private transport could lead to more people choosing not to use public transport.

As the City grows it will be essential to reduce motor traffic and facilitate the movement of people by the most efficient modes of transport. Reductions in traffic will also help improve air quality and make our streets safer. Fortunately, most people already travel to and around the Square Mile on foot, by cycle or public transport. These travel trends are likely to continue in the future, but only if walking, cycling and using public transport are convenient, attractive, inclusive and safe ways to travel.



Travel and transport in the Square Mile

The City is one of the best-connected places in the world. TfL rates the whole of the Square Mile as having a Public Transport Accessibility rating of above 6 – the highest possible score. This is made possible by an extensive public transport network with six mainline railway stations, 12 Underground and DLR stations (Figure 2) and a high density and frequency of bus services.

Large numbers of commuters also use stations near the City, including London Bridge and Waterloo. There are also river bus services which stop at Blackfriars Pier and at Tower Pier just outside the City.

Significant improvements have and are being made to public transport provision, particularly with the construction of the Elizabeth line which will operate trains to the City at Farringdon and Liverpool Street/Moorgate. These new services are anticipated to begin in late 2020.

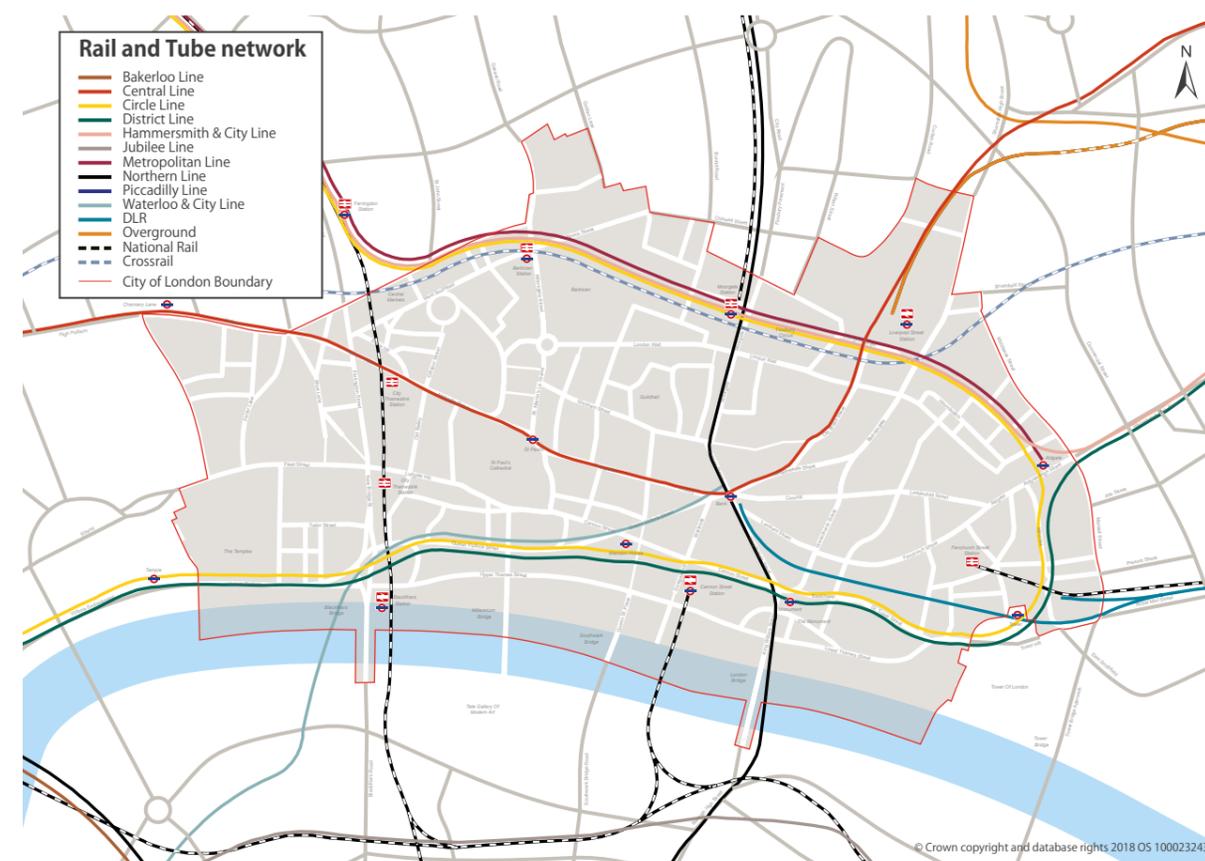


Figure 2: City of London rail, Underground, and DLR networks (larger map available on the City of London Transport Strategy webpage)

93%

of commuter travel to the City is by

93% of commuter travel to the Square Mile is by public transport (84%), walking (5%) or cycling (4%).ⁱ Fewer than 5% of City workers drive to work. Walking is by far the main mode of travel within the City, with over 750,000 walked journeys a day. In recent years investment in cycling infrastructure has resulted in an estimated tripling in the number of people cycling in the Square Mile. People cycling now make up a quarter of vehicles and this figure can rise to over 50% on major streets during rush hour.ⁱⁱ

Traffic in the City has changed significantly since the late 1990s, both in terms of total volume and overall composition. Traffic counts across the City show that overall motor traffic volumes have reduced by approximately 50%, with the greatest reduction being in the number of cars and taxis. The greatest observed reductions have coincided with key events such as the introduction of the Congestion Charge, the global recession and the introduction of Cycle Superhighways.ⁱⁱⁱ



Public transport (84%)



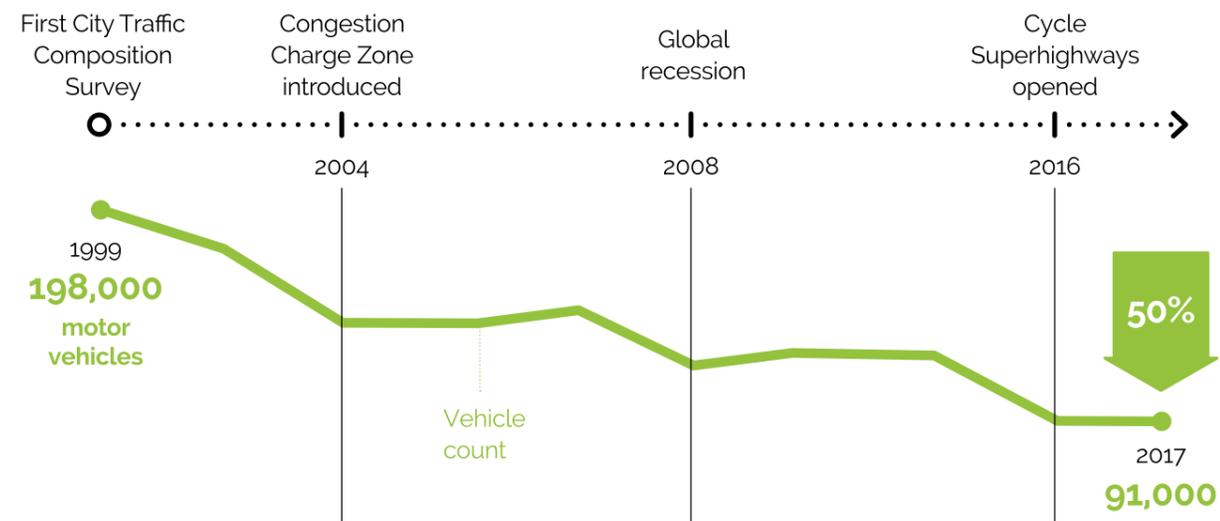
walking (5%)



Cycling (4%)

The most recent traffic counts in autumn 2017 found a slight increase in car volumes, probably caused by the increasing volumes of private hire vehicles. Freight volumes, after dropping significantly between 1999 and 2004, have levelled off in recent years.^{iv}

How motor vehicle volumes have changed across the City since 1999



How the Square Mile's streets have changed over the last 25 years

In common with cities around the world, the focus of transport planning and traffic management in the Square Mile during the 1960s, 70s and 80s was accommodating motor vehicles. Streets such as London Wall, Upper and Lower Thames Street and the Aldgate gyratory were rebuilt to maximise the flow of motor traffic. People walking were expected to cross these streets via bridges and subways. A thirty-mile network of walkways was planned, but never completed. Very few junctions had pedestrian crossings and pavement widths were kept to a minimum.

This approach began to change in the early 1990s, when the City Corporation approved an experiment to close Bank Junction to through movement and to retime traffic signals throughout the Square Mile. Twenty-five years later these aspirations are beginning to be realised with the Bank on Safety project, which restricts access to general motor traffic during the day. The proposals for Bank were part of a wider plan, 'Key to the future', which sought to reduce motor traffic in the centre of the City. These proposals took on an extra urgency following the IRA bombings of the Baltic Exchange and Bishopsgate in 1992 and 1993, leading to the introduction of a temporary 'Ring of Steel' in July 1993.

Officially known as the 'Traffic and Environment Zone', the Ring of Steel was made permanent in 1994. It significantly reduced the number of places where motor vehicles could enter the City, with many smaller streets closed to through traffic. This, together with carriageway narrowing and the installation of check points at the remaining access points, meant that fewer motor vehicles could enter the City. Motor traffic in the centre of the Square Mile fell by 30% as a result. Associated changes made key junctions outside the Ring of Steel more efficient by cutting out some of the movements, for example the Southwark Bridge/Queen Street/Upper Thames Street junction.

The Ring of Steel was extended in 1996 to incorporate Saint Paul's and Old Bailey and in 2000 to include Broadgate and a slight extension into Hackney. A further extension in 2003 brought the west of the City into the traffic management zone. Other functional changes through the 1990s and early 2000s, saw pedestrian crossings added to 10 junctions and the installation of dropped kerbs and pedestrian refuges.



Aldgate Square before (above) and after (below)



The last 15 years has seen an increased focus on improving the quality of the Square Mile's streets as places to walk, cycle and spend time. Overall, almost a third of the City's streets have been improved over this period. 99% of guard railing was removed through the 2000s and around 100 granite courtesy crossings installed at junctions. Two-way cycling began to be introduced on one-way streets in 2006, with over 100 streets made two-way for people cycling by 2015. In partnership with Transport for London, two Cycle Superhighways and a Quietway through the City have been completed. These have helped make cycling safer and allow more people to choose this increasingly popular mode of transport.

Starting in 2003, the Street Scene Challenge matched money generated from on-street parking and penalty charges to contributions from developers and occupiers - funding the delivery of multiple small schemes to improve the public realm across the Square Mile, such as Devonshire Square and Mitre Square. This collaborative approach has also funded significant improvements to:

- The area south of Saint Paul's, including converting the coach park into a new garden (completed 2011)
- The Cheapside quarter, including wider pavements to make Cheapside a more attractive place to shop and spend time (completed 2012)
- Holborn Circus, with more public space and seating and improved pedestrian crossings (completed 2014)
- The removal of the gyratory at Aldgate, which has enabled the creation of Aldgate Square - one of the largest public spaces in the Square Mile (completed 2018)
- Widening pavements, improving pedestrian and cycle crossings and creating new public spaces as part of the London Wall Place development (completed 2018)
- Public realm improvements around new offices for Bloomberg (completed 2018) and Goldman Sachs (due to complete in 2019)
- Most recently, Bank on Safety, the experimental scheme to improve safety for people walking and cycling through Bank Junction, has been made permanent and plans for further improvements to the junction are now being prepared. This will be just one of the many large and small projects that will continue the transformation of the Square Mile's streets over the next 25-years.



St Pauls' Coach Park before (above) and after (below)



Understanding people's views of transport and streets in the Square Mile

The development of this Strategy has been informed by extensive engagement with the public and organisations with an interest in transport in the Square Mile. The first phase of engagement, held in February and March 2018, included:

- City Streets survey: 1,949 people accessed this survey which included questions on perceptions of the City's streets, priorities for the use of streets and kerbside space, and ideas and suggestions for future street and transport improvements
- City Streets exhibition: A supporting exhibition was held at the City Centre on Basinghall Street. The exhibition took visitors through historic and recent changes to the City's streets and presented future challenges. More than 7,000 people visited the City Centre over the two-month period
- Stakeholder workshops: 77 representatives from City businesses, transport user groups and other organisations with an interest in transport in the Square Mile attended workshops to share their views on the transport challenges and opportunities

The key themes emerging from this first phase of engagement were that:

- Motor traffic levels on the City's streets are too high
- People walking in the Square Mile are not given enough priority or space
- Conditions for cycling in the Square Mile need to be improved and made safer
- More greenery and seating should be provided on streets and the quality of the public realm improved
- Air quality in the Square Mile needs to be urgently improved
- There is potential to use streets more flexibly to accommodate the various demands on them at different times of the day
- The City's streets are not accessible to all
- The management of freight needs to be improved^v

A second phase of engagement, in June and July 2018, consulted on the proposed vision, aims and outcomes for this Strategy. Over 500 people and organisations responded to this consultation. The draft vision, aims and outcomes received high levels of support, with each being supported or supported with changes by between 77% and 92% of respondents.^{vi}

The third and final phase of engagement, which took place between November 2018 and January 2019, consulted on the draft Transport Strategy. This included seeking feedback through a bespoke consultation website, holding briefing sessions for stakeholders and public drop-in sessions.

Promotion of the consultation was undertaken through a variety of channels, including:

- On the City of London Corporation website homepage, Twitter and to the Transport Strategy mailing list
- Through partnership communications, including on the Active City Network website and through 10 external newsletters
- Articles in Ward newsletters and adverts in City A.M and City Matters
- Letters to all City of London residents and 4500 businesses, in conjunction with the draft Local Plan consultation
- Posters displayed throughout the Barbican estate, Middlesex Street estate and at City Corporation libraries
- Flyers distributed at libraries, in Guildhall reception areas, at the City Centre and on street

Almost 2,900 individual responses and 6,900 comments were received through the consultation website, with a further 42 comments from public drop-in sessions and 70 submissions by email. Over 60 organisations also responded to the consultation.

Over 500 people submitted template responses through the Unblock the Embankment website and more than 1500 people submitted template responses via the Square Mile Cycling Campaign.

Of all responses received through the website 77% were supportive of the proposals, with 15% opposing.

An independently recruited panel of City workers and residents also met three times during the development of the Strategy. This panel, which was facilitated by Populus, provided an opportunity to gain a deeper understanding of residents' and workers' transport needs and concerns.

A Strategy Board made up of City business representatives, representatives from the Greater London Authority and TfL, and transport experts also met four times during the development of the Strategy. This Board provided advice and acted as a sounding board for emerging proposals and response to the consultation.

Reports of each phase of engagement, providing more details of feedback received, can be found on our website.

Supporting the delivery of the City of London Corporate Plan

The Transport Strategy is one of a suite of strategies that help to deliver the City of London Corporation's Corporate Plan. The Corporate Plan sets out the City Corporation's aims to:

- Contribute to a flourishing society
- Support a thriving economy
- Shape outstanding environments

The Transport Strategy will help contribute to a flourishing society by:

- Making streets safer and reducing the number of traffic related deaths and serious injuries
- Enabling people to walk and cycle and reducing the negative health impacts of transport
- Ensuring streets are accessible to all and provide an attractive space for the City's diverse community to come together

A thriving economy will be supported by:

- Enabling the City to continue to grow and accommodating the associated increase in demand for our limited street space
- Improving the quality of streets and transport connections to help attract talent and investment
- Helping create a smarter City, that supports and enables innovative transport technology and other mobility solutions

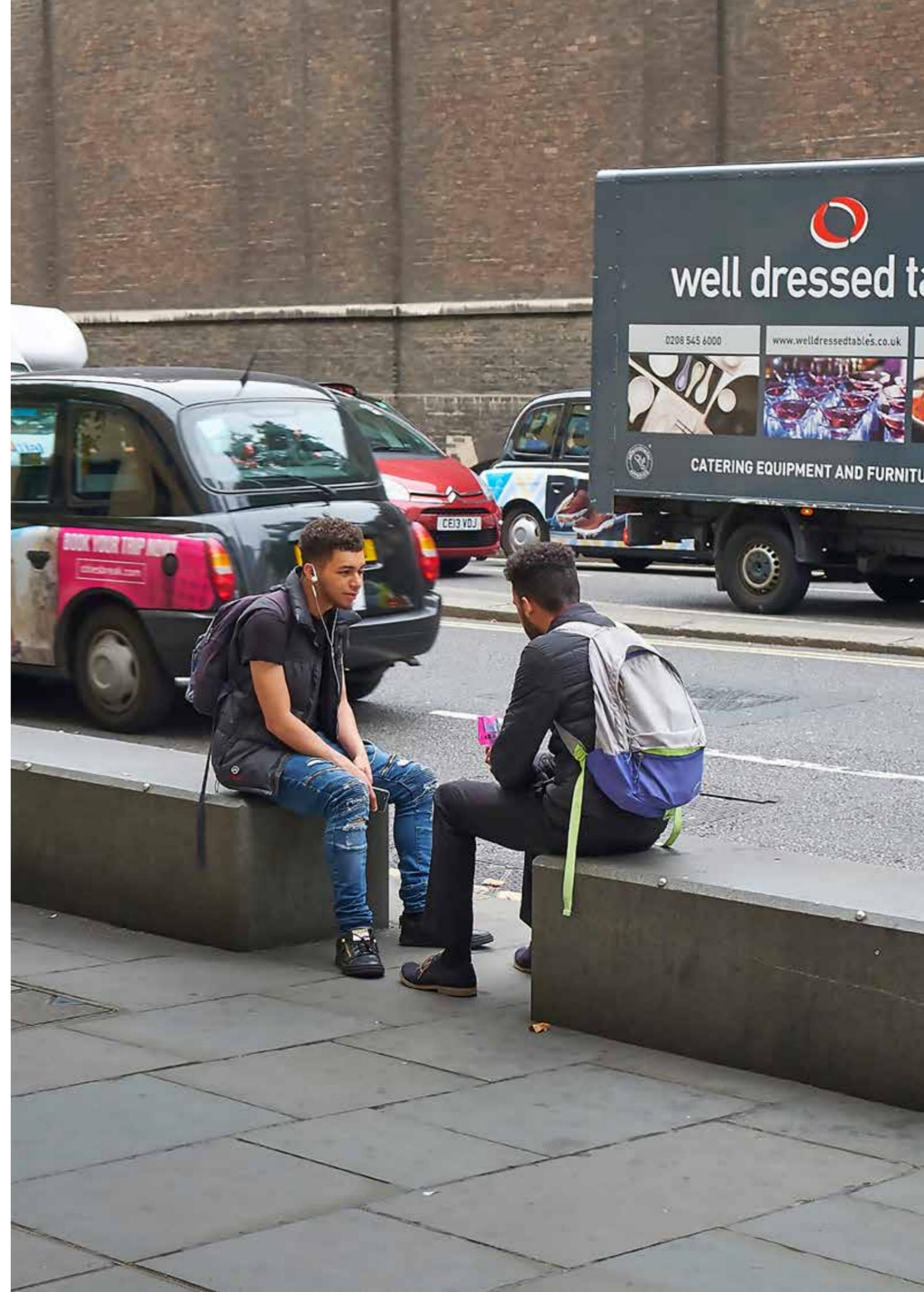
The Transport Strategy will help shape outstanding environments by:

- Advocating for improved local, national and international transport connections
- Reducing motor traffic levels to enable space to be reallocated to walking, cycling, greenery and public spaces
- Improving air quality and reducing noise from motor traffic
- Ensuring streets are well maintained and resilient to natural and man-made threats

The Transport Strategy also supports the City of London Police Corporate Plan, which seeks to make the City of London the safest city area in the world by protecting people, businesses and infrastructure.

In addition to the Corporate Plans, the City Corporation have identified risks to the organisation at an institutional level. The Transport Strategy will help mitigate the following corporate risks:

- An increase in the number of casualties on City streets will pose a risk to the credibility and reputation of the City Corporation
- Air quality will continue to be detrimental to the health of residents, workers and visitors to the City. This will cause strain on our hospitals through long term health conditions and make the City a less attractive destination for business and tourism





Culture Mile

Culture Mile is a partnership between four leading UK arts, culture and learning institutions and the City Corporation to create a vibrant, cultural quarter. Stretching over almost a mile, from Farringdon to Moorgate, Culture Mile covers 15% of the total area of the Square Mile. Culture Mile incorporates the Barbican Centre and the new Museum of London and proposed Centre for Music. Several proposals in this Transport Strategy will directly support the delivery of Culture Mile by improving the public realm and enhancing walking and cycling routes to and within the area.

ed House

Alignment with the draft City of London Local Plan

The new City of London Local Plan, called City Plan 2036, sets out the planning policies that will guide future growth and decisions on planning applications for the next 20 years.

Transport plays a key role in enabling and accommodating development, and the way the City grows affects demand for travel and public space. Reflecting this interrelationship, relevant policies and proposals in City Plan 2036 and this Strategy are aligned. In particular, several proposals support and respond to the significant change anticipated in the following 'Key Areas of Change' (Figure 3):

- **Aldgate and Tower:** major hotel and office developments are under construction in Minories, as well as the Chinese Embassy relocating to the area's vicinity and proposals for redevelopment of the Mansell Street estate
- **Blackfriars:** public realm enhancements are proposed along the Riverside walk, and the development of the Thames Tideway Tunnel will create a large new public space
- **City Cluster:** a number of significant tall buildings are under construction, with further tall buildings permitted but not yet commenced. Employment in the Cluster is expected to nearly double once all current permissions are built and occupied

- **Fleet Street:** significant occupational change in major buildings is expected in the short to medium term as existing occupiers relocate to other buildings. A new combined court and City of London Police headquarters is also proposed.
- **Pool of London:** several buildings are likely to be vacated in the short-term, providing an opportunity for redevelopment in the area

- **Liverpool Street:** increased retail space at Broadgate, the completion of Crossrail at Liverpool Street station and linkages to Culture Mile will initiate change in this area
- **Smithfield and Barbican:** the delivery of the Culture Mile initiative, relocation of Museum of London to Smithfield, the potential development of a new Centre for Music on the site of the existing Museum of London and the possible relocation of Smithfield Market will see this area undergo significant change

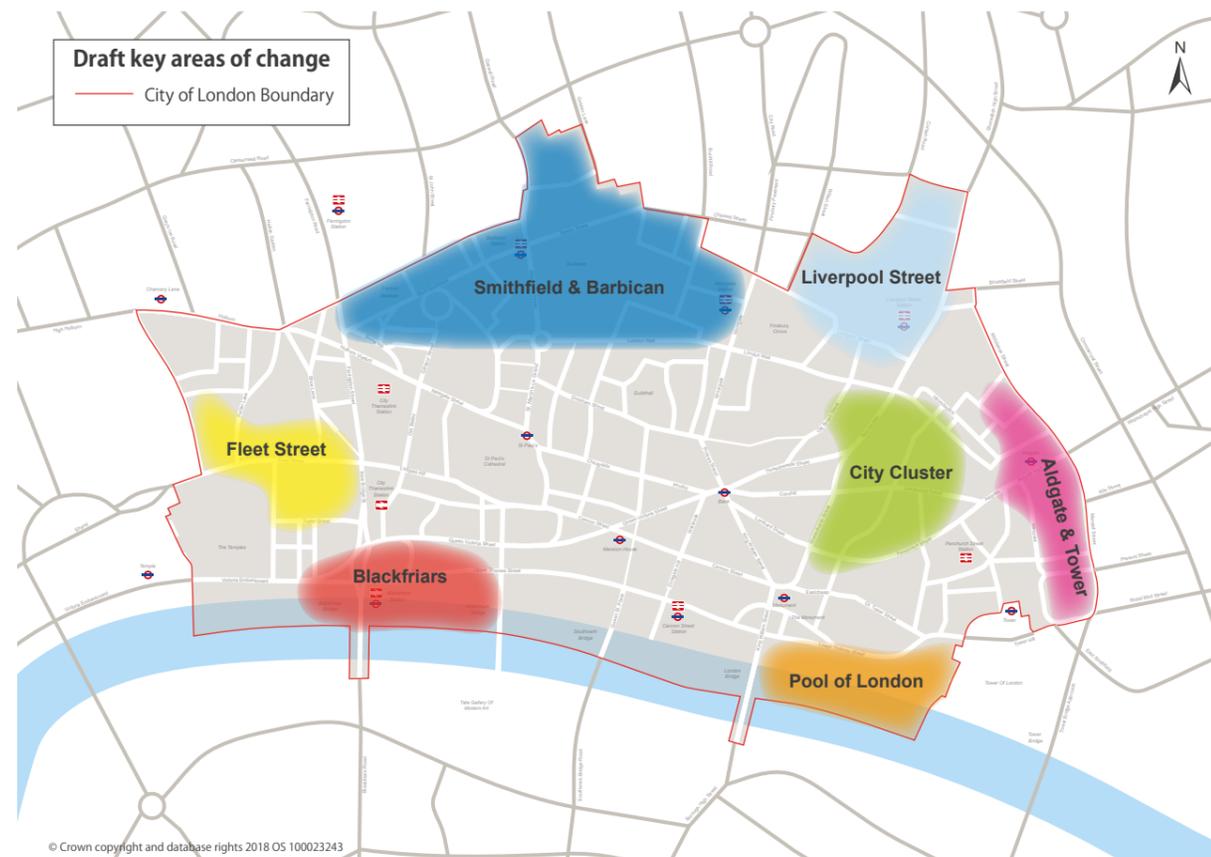


Figure 3: City Plan 2036 draft Key Areas of Change (larger map available on the City of London Transport Strategy webpage)

Supporting the delivery of the Mayor's Transport Strategy

The Mayor's Transport Strategy (MTS) sets out the Mayor of London's policies and proposals to reshape transport in London by transforming the Capital's streets, improving public transport and creating opportunities for new homes and jobs. To achieve this, the Mayor wants to encourage more people to walk, cycle and use public transport.

The three key themes of the MTS are:

- **Healthy Streets and healthy people:** Creating streets and street networks that encourage walking, cycling and public transport to reduce car dependency and the health problems it creates
- **A good public transport experience:** Enabling more people to travel by public transport, the most efficient way for people to travel over distances that are too long to walk or cycle

- **New homes and jobs:** Planning the City around walking, cycling and public transport use to unlock growth in new areas and ensure that London grows in a way that benefits everyone

Local Implementation Plan

The City Corporation, along with London's 32 boroughs, is required to produce a Local Implementation Plan (LIP) that details how we will support the delivery of the MTS. This Strategy, together with a separate LIP Delivery Plan, form the City of London Corporation's Local Implementation Plan. The LIP Delivery Plan is published alongside this Strategy and is available on our website. The LIP Delivery Plan provides more details of the alignment between our visions, aims, outcomes and proposals and the MTS. It also sets out the projects that will be funded in full or in part by contributions from TfL.

Vision, aims and outcomes



Vision, aims and outcomes

Our vision

Streets that inspire and delight, world-class connections and a Square Mile that is accessible to all.

By delivering this vision we aim to...

Ensure the Square Mile is a healthy, attractive and easy place to live, work, learn and visit.

Support the development of the Square Mile as a vibrant commercial centre and cultural destination and protect and enhance its unique character and heritage.

To create a future where...

- The Square Mile's streets are great places to walk and spend time
- Street space is used more efficiently and effectively
- The Square Mile is accessible to all
- People using our streets and public spaces are safe and feel safe
- More people choose to cycle
- The Square Mile's air and streets are cleaner and quieter
- Delivery and servicing are more efficient, and impacts are minimised
- Our street network is resilient to changing circumstances
- The Square Mile benefits from better transport connections
- Emerging transport technologies benefit the Square Mile

Proposals

Proposals

For each of the 10 outcomes, this chapter outlines our ambitions, summarises the key issues and challenges and sets out proposals for delivery.

Where appropriate, proposals include delivery timescales using the following milestones:

- 2022 (to align with the first Transport Strategy Delivery Plan)
- 2025
- 2030
- 2040
- 2044 (the end date for this Strategy)

These milestones indicate the latest planned delivery date. Wherever possible we will seek to deliver ahead of the indicated milestone.

Healthy Streets Approach

The Healthy Streets Approach provides the framework for this Strategy. This means we will place improving people's health and their experience of using streets at the heart of our transport decision making.

The 10 Healthy Streets Indicators (shown below) capture the elements that are essential for making streets attractive and accessible places to walk, cycle and spend time, and for supporting social and economic activity. All the proposals set out in this Strategy will contribute to the delivery of Healthy Streets.



Healthy Streets Indicators (Source: Lucy Saunders)

Proposal 1: Embed the Healthy Streets Approach in transport planning and delivery

We will ensure that the Healthy Streets Approach is embedded in our transport planning and the design and delivery of projects by:

- Using the Healthy Streets Approach to inform strategic decision making and project prioritisation
- Using the Healthy Streets Check for Designers to assess proposals for projects that will have a significant impact on people's experience of using the City's streets and publishing the results

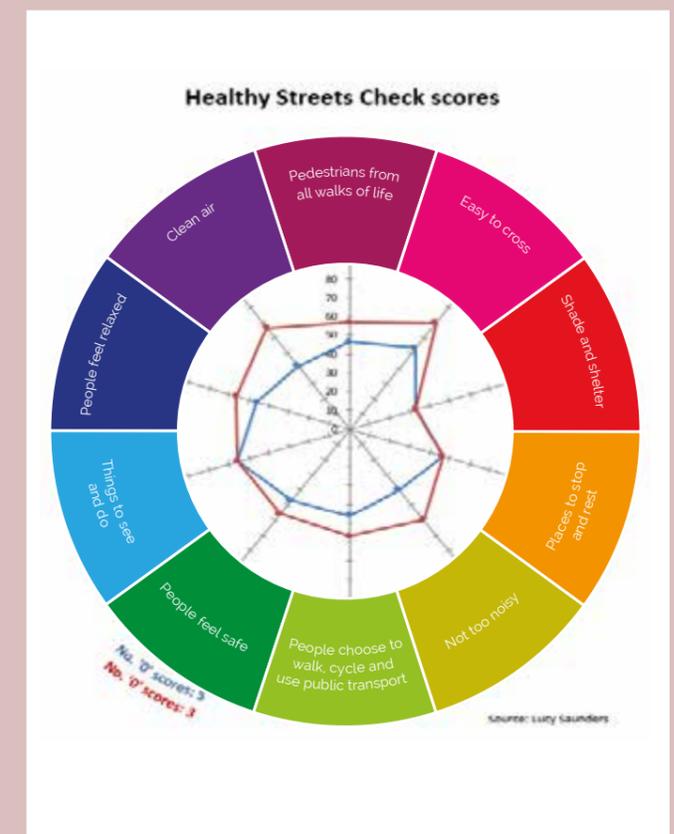
- Assessing planning applications against the Healthy Streets Indicators and requiring the use of the Healthy Streets Check for Designers on all developments that will have a significant impact on surrounding streets
- Assessing the health impacts of projects as part of the design process and post-implementation monitoring
- Including questions relating to the Healthy Streets Indicators in project monitoring and public perceptions surveys

Healthy Streets Check for Designers

TfL's Healthy Streets Check for Designers is a tool that uses 31 metrics to assess how a street performs against the 10 Healthy Streets Indicators. It can be used to assess an existing street, proposed changes to a street or a completed project.

Using the Healthy Streets Check helps ensure that the factors that influence people's experience of being on street are properly considered. It also allows for easy comparison of different design options to help inform decision making and make it easier for people to understand the relative benefits of different proposals during consultations.

An example of the results from a Healthy Streets Check demonstrating improvements against each Indicator is shown on the right.





The Square Mile's streets are great places to walk and spend time

Walking is, and will remain, the main way that people travel around the Square Mile. We want people walking in the City to feel that their needs have been prioritised. By delivering this Strategy we will make the experience of walking on our streets a more enjoyable and rewarding experience – a great way to travel and to discover all that the City has to offer.

Fewer, cleaner and quieter motor vehicles will mean that streets are less dominated by traffic and easier to cross. People driving and riding in the City will recognise the Square Mile as a place where people on foot come first – they will travel slowly and be prepared to give way to people walking. Pavements will be wide enough to avoid feeling uncomfortably crowded, even during the hustle and bustle of the morning and evening commute. High quality public realm, more seating, greenery, public art and events will mean that streets are also great places to stop, rest and relax.

Today, only 10% of people rate the experience of walking in the Square Mile as pleasant.^{vii} Our ambition is that this will increase to 75% by 2044. The City's streets are busy with people walking at all times of the day, and between 7am and 11pm there are more people walking on our streets than travelling by any other mode.^{viii} 65% of all travel movements in the Square Mile are made on foot and almost all of the 8,000 residents and 480,000 workers in the City will walk at least once during the day.^{ix} These numbers will increase as the City grows, with potentially a further 125,000 people walking on our streets within the next 25 years.^x The

completion of the Elizabeth line in 2019 will intensify the arrival of people into the City – with each Crossrail train capable of accommodating 1,500 passengers.

Nearly three quarters of respondents to our City Street's survey think that people walking should be prioritised first out of all street users.^{xi} However, almost two thirds of respondents feel that people on foot are currently under prioritised and four in five think that pavements are overcrowded at some point during the day.^{xii} Respondents also want a more pleasant and attractive street environment; when asked to suggest one change to improve the City's streets, the most frequent non-transport request was for more greenery.^{xiii}

90%

of on-street journeys that start or finish in the City are entirely or partially walked, including walking to and from public transport



Pedestrian Comfort Levels

Pedestrian Comfort Levels are used to assess the level of crowding on a pavement or at a pedestrian crossing. The level of comfort, which is graded between A+ (most comfortable) and E (least comfortable), is based on the number of people walking and the space available, taking account of street furniture and other restrictions.

Transport for London's Pedestrian Comfort Guidance recommends a minimum comfort level of B+. This provides enough space for people to feel comfortable when walking at a typical pace and for them to be able to choose where to walk. Below this level, conflicts between people walking become frequent, walking is increasingly uncomfortable and frustrating and can lead to people stepping into the carriageway.



Proposal 2: Put the needs of people walking first when designing and managing our streets.

We will ensure that the needs of people walking are prioritised by:

- Applying the Healthy Streets Approach (Proposal 1) and considering the needs of people walking first when delivering changes to streets
- Accepting that delivering priority for people walking may result in delays or reduced capacity for other street users, while seeking to minimise the impact on essential traffic through general traffic reduction (Proposal 11)
- Increasing the number of pedestrianised or pedestrian priority streets from 25 kilometres at present, to 35 kilometres by 2030. By 2044, at least 55 kilometres will be pedestrian priority, equating to half of all streets (by length)
- Making streets easier to cross and giving people on foot greater priority at the entrances to side streets
- Widening pavements to provide more space for people walking, with the aim that all pavements will have a minimum Pedestrian Comfort Level of B+



Key walking routes

We will prioritise improvements to junctions and routes that are busiest with people walking and where pavement width and pedestrian crossings are inadequate for current or forecast demand. Improvements to the following routes and junctions will be delivered by 2030 to make walking quicker, safer and more comfortable. The first phase of delivery will include the completion of Globe View by 2020 and changes to Bank Junction by 2022. (Figure 4):

- The area around Moorgate and Liverpool Street Stations (including Moorgate/London Wall junction) and the routes between these stations and key destinations, including the City Cluster, Culture Mile and Bank

- Bank Junction and streets between the junction and the City Cluster
- To support Culture Mile and coincide with the opening of the new Museum of London and proposed Centre for Music:
 - The route from the Millennium Bridge to Culture Mile, including changes to St Paul's Gyratory
 - The route between the Barbican and the new Museum of London, including Beech Street and Long Lane
- Fleet Street, including potential further changes to Ludgate Circus (in partnership with TfL)
- The Bishopsgate corridor, including Monument junction (in partnership with TfL)
- The Globe View section of the Riverside Walkway

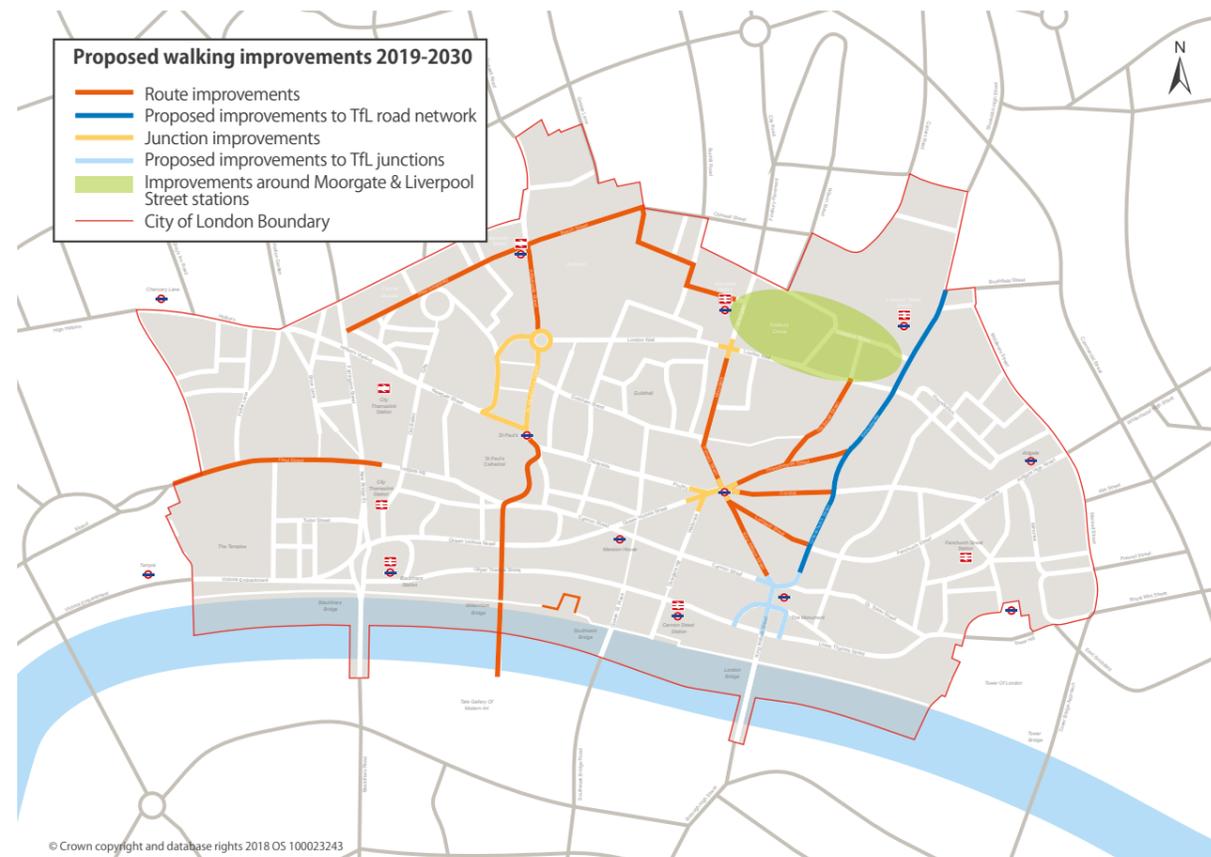


Figure 4: Proposed walking improvements 2019-2030 (larger map available on the City of London Transport Strategy webpage)

Pedestrian priority streets

New pedestrian priority streets will be introduced across the Square Mile. The initial focus for introducing pedestrian priority streets will be within the City Cluster and Culture Mile. We will also identify opportunities to introduce pedestrian priority on streets with a pavement width of less than two metres.

An indicative map of these streets is shown below in Figure 5. We will use traffic orders and temporary measures to change the look and feel of streets and signage to accelerate delivery of pedestrian priority streets in advance of permanent changes.

Pedestrian priority streets will allow access for motor vehicles, with all vehicles, including cycles, expected to give way to people walking. In some instances, streets will be fully pedestrianised or not allow motor vehicle access at certain times. The access requirements for each pedestrian priority, fully pedestrianised or timed pedestrianised street will be fully assessed as part of the project delivery process. The use of pedestrianised streets by cycles will be decided on a case-by-case basis to ensure people walking and cycling feel safe and comfortable. Pedestrian priority will be supported by design measures to encourage slow and courteous driving and riding.

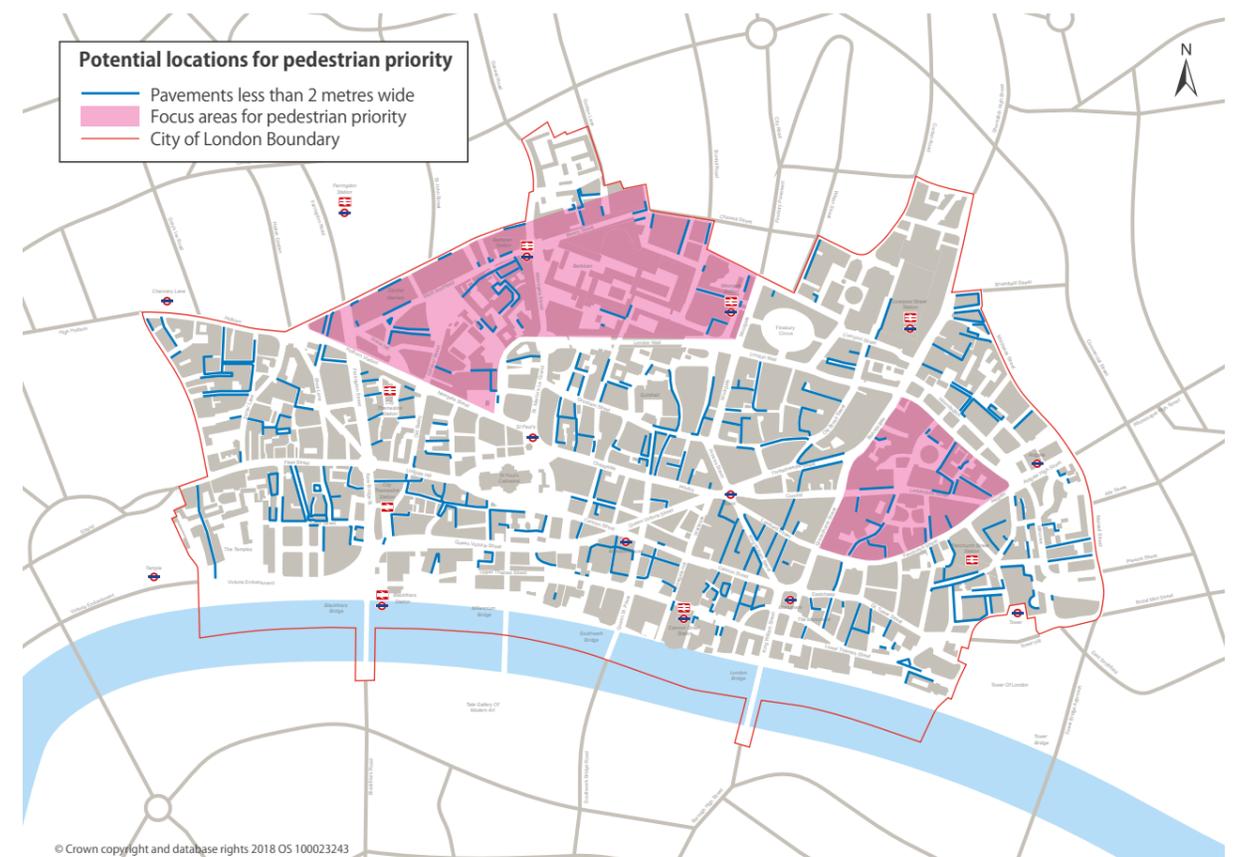


Figure 5: Potential locations for pedestrian priority (larger map available on the City of London Transport Strategy webpage)

Pedestrian Priority Streets

There are already 25 kilometres of streets in the Square Mile that, through various restrictions, limit access to motor vehicles to prioritise people walking.



Vehicle access only: Throgmorton Street – vehicles restricted to access only



Fully pedestrianised: London Street – no vehicles at any time



Timed pedestrianised: Watling Street – pedestrians and cycles only between 8am and 6pm

Pedestrian crossings

We will work with Transport for London to make it easier for people walking to cross streets by reviewing all signalised pedestrian crossings with the aim of:

- Reducing the amount of time people wait for a green man, initially to a maximum of 60 seconds, followed by further reductions in waiting time over the life of this Strategy
- Giving people more time to cross by using a walking speed of 0.8 metres per second to determine crossing times (currently 1.2 metres per second)
- Installing sensors (Pedestrian SCOOT) to allow the amount of green man time to be automatically adjusted according to the number of people crossing
- Reducing overcrowding by widening crossings to provide a minimum pedestrian comfort level of B+
- Introducing formal diagonal crossings at all crossroads, ensuring pedestrian crossings are on desire lines and removing multi-stage crossings
- Installing raised tables to improve accessibility and ease crossing
- Introducing 'green man authority' at appropriate locations – providing a default green man for people walking rather than a default green light for motor traffic

Continuous footways and courtesy crossings

We will give people walking greater priority and make streets easier to cross by:

- Providing courtesy crossings or continuous footways across all side street entrances

- Installing raised tables at junctions
- Installing raised tables and pedestrian refuge islands at existing informal crossings
- Identifying locations for additional crossing points that incorporate raised tables and pedestrian refuge islands

Campaigns and promotion

Campaigns and promotional activities will raise awareness among all street users of the priority being given to people walking in the Square Mile. Physical changes to streets will be supported by education, engagement and enforcement to reinforce positive behaviours by drivers and riders towards people walking.

Proposal 3: Complete the riverside walkway and improve walking connections between the riverside and the rest of the City

We will complete the Globe View section of the riverside walkway by 2020. We will also work with Transport for London, landowners, developers and other partners to:

- Improve the connections between the riverside and the rest of the City by making it easier to cross Upper and Lower Thames Street. Improvements will include installing a new pedestrian crossing at the junction with Puddle Dock by 2022, to provide direct access to Blackfriars Pier. We will also work with Transport for London to explore the potential to install additional street-level crossings as an alternative to existing bridges
- Improve the quality of the public realm along the riverfront and identify opportunities to create new open

spaces. Opportunities will be identified and delivered through an updated Riverside Walkway Enhancement Strategy that will be published in 2022

- Wherever feasible, use the redevelopment of sites along the riverside to widen the walkway
- Use the planning process to activate the riverfront by introducing more ground floor leisure uses such as restaurants and cafes where they will not adversely affect residents

Proposal 4: Enhance the Barbican high walks

We will ensure that the Barbican high walks are well maintained and enhanced where necessary. This will include improving signage and the visibility of access points to make them easier to navigate, particularly along the key north-south link from Wood Street. Any enhancements made to the high walks will be in line with the special architectural and historic interest of the Barbican and the requirements of the Barbican Listed Building Management Guidelines SPD.

We will maintain existing public lifts that provide access to the high walks and other walking routes. We will explore the potential to add new public and publicly accessible lifts where required through the development process.

Proposal 5: Ensure new developments contribute to improving the experience of walking and spending time on the City's streets.

Through the planning process we will work with developers and future occupiers to ensure all new developments provide world-class public realm and adequate

space for people walking, and contribute to improvements to surrounding streets and walking routes. Existing walking routes and public access across private land will be maintained and major developments will be expected to create new walking routes through their site.

Proposal 6: Promote and celebrate walking

We will encourage residents, workers and visitors to explore the Square Mile on foot by:

- Completing the roll out of Legible London maps and directional signs across the Square Mile by 2022
- Improving people's awareness of traffic free walking routes, such as alleyways and routes through parks and gardens, through promotional activities and dedicated wayfinding
- Organising led walks, working with businesses and heritage and cultural institutions to promote walking and exploring the potential for an annual City walking festival
- Supporting London-wide, national and international walking campaigns

Proposal 7: Provide more public space and deliver world-class public realm

We will improve the experience of spending time on the City's streets by:

- Identifying opportunities to create new public spaces by reallocating carriageway
- Increasing the amount of formal and informal seating on-street and in squares, public spaces and parks. The amount and location of additional on-street seating will be carefully

considered to maximise opportunities for social interaction while maintaining adequate width and comfort for people walking. Where necessary space will be reallocated from the carriageway

- Implementing a high standard of design when delivering improvements to streets and public spaces and ensuring streets and public spaces are clean and well maintained
- Working with partners to make the experience of walking and spending time on streets and public spaces more interesting and engaging, for example through planting, public art, temporary installations and events
- Improving the public realm in areas where there are buildings and structures of significant historical, architectural and archaeological importance. Improvements will respect, protect and enhance the setting of significant buildings and other heritage assets and improve accessibility to historic attractions

The City of London Public Realm Supplementary Planning Document (SPD) provides detailed guidance on designing, delivering and managing world-class public realm in the Square Mile. The Public Realm SPD will be reviewed and updated by 2022 following the adoption of City Plan 2036.

Proposal 8: Incorporate more greenery into the City's streets and public spaces

We will work with occupiers, businesses, residents and other partners to provide and maintain more permanent and seasonal greenery on the City's streets. This will include incorporating greenery and planting when making changes to streets and the public realm, including

measures that deliver pedestrian priority, traffic calming and vehicle access restrictions. Where possible new planting will incorporate sustainable drainage. Plants will be chosen to maximise biodiversity and create a more interesting and engaging streetscape.

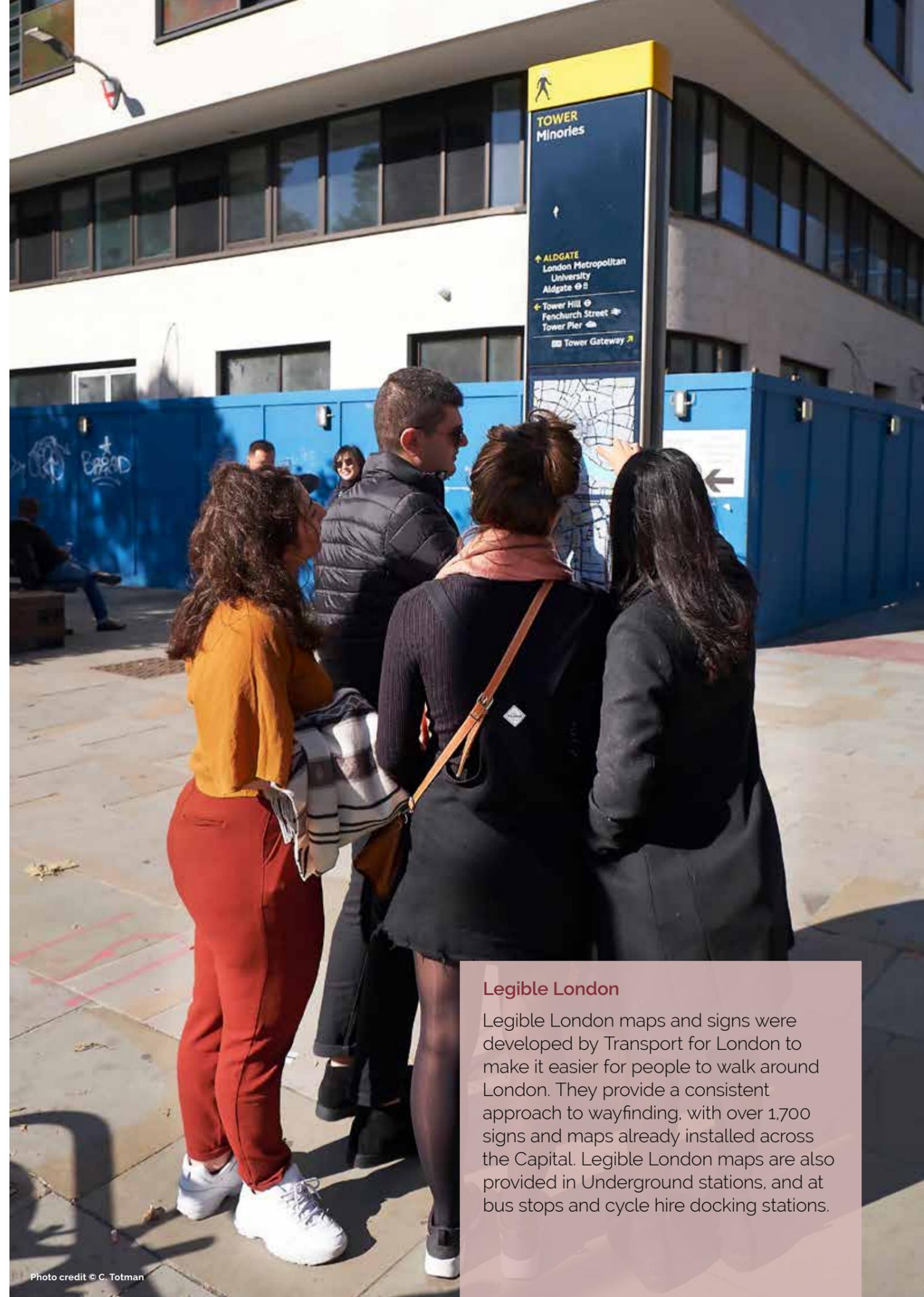
Proposal 9: Reduce rainwater run-off on City streets and public realm

Opportunities to incorporate sustainable drainage systems will be reviewed for all transport and public realm schemes, with projects designed to minimise the volume and discharge rate of rainwater run-off. The inclusion of soft landscaping, planters, green walls and trees in all schemes where space permits will also contribute to reducing run-off rates.

Proposal 10: Incorporate protection from adverse weather in the design of streets and the public realm

Where possible, transport and public realm projects will incorporate features that provide people walking, cycling and spending time on streets with protection from rain, wind and high temperatures. For example, shade and shelter provided by trees, building canopies and awnings and other street furniture, such as bus stop shelters. Designs will be carefully considered to ensure features to provide shade and shelter help make streets and public space more attractive and engaging.

The potential impact on street users of sun exposure and any increase in wind speeds and tunnel effects from new developments (particularly tall buildings) will be assessed and mitigated through the planning process.



Legible London

Legible London maps and signs were developed by Transport for London to make it easier for people to walk around London. They provide a consistent approach to wayfinding, with over 1,700 signs and maps already installed across the Capital. Legible London maps are also provided in Underground stations, and at bus stops and cycle hire docking stations.



Street space is used more efficiently and effectively

We want the use of the Square Mile's streets to better match the priorities of residents, workers and businesses. Street space will be used more efficiently, with more space and time provided for people walking, cycling and travelling by bus. General reductions in the number of motor vehicles will help reduce delays for the essential traffic that remains.

Some streets will be used in different ways at different times of the day. For example, by providing space for people to walk and relax during the day, while allowing deliveries overnight. Temporary closures of streets to motor vehicles will provide opportunities for cultural and community events or simply enjoying the City. The kerbside will also be used more dynamically and effectively, with commercial vehicles having priority access to parking and loading no longer causing an obstruction, particularly at the busiest times of day.

The most common suggestion for the change people would most like to see on streets was for a reduction, cap, targeted or City-wide ban of motor vehicles. The second and third most requested changes were for more space for walking and more space for cycling respectively.^{xiv} When asked how different uses of the City's streets should be prioritised, respondents ranked people walking, cycling and using buses as the highest priorities.

Over the last two decades there has been a 50% reduction of motor traffic levels in the Square Mile while the number of workers in the City has increased by 50%.^{xv} Currently, 45% of motor vehicles in the Square Mile are cars (including private hire vehicles), 21% are taxis and 22% vans and goods vehicles.

Cycles and buses represent the most space efficient modes of vehicular transport. Based on average occupancy, they require 200m² and 250m² of street space respectively to move 100 people. The same number of people travelling in a car or taxi would need 760m².

How City Streets survey respondents prioritised different street users and uses

Street users

- ① People walking
- ② Buses and people cycling
- ③ Delivery and servicing vehicles
- ④ Taxi and private hire
- ⑤ Cars/motorcycles/mopeds

Kerbside uses

- ① Greenspace and seating
- ② Cycle parking
- ③ Loading and unloading
- ④ Taxi ranks
- ⑤ Motorcycle/moped parking
- ⑥ Parking bays

Proposal 11: Take a proactive approach to reducing motor traffic

Delivering this Strategy will result in a reallocation of street space from motor vehicles to provide more space for people walking, cycling and spending time on the City's streets. To avoid unreasonably impacting the movement of essential motor traffic it will be necessary to reduce the overall volume of motor vehicles. Reducing motor traffic is also key to improving air quality and delivering Vision Zero.

We will proactively seek to reduce motor traffic to support the delivery of this Strategy, with the aim of achieving at least a 25% reduction by 2030. Reductions in all types of motor traffic will be required to achieve this, with the most significant reductions being in the number of private cars and private hire vehicles using the City's streets.

Essential traffic



Walking



Cycling



Buses



Freight and servicing with a destination in the City



Private and shared vehicles being used by people with particular access needs

To achieve this, we will champion and support the development of the next generation of road user charging for London and encourage the Mayor of London and TfL to accelerate the development of new charging mechanisms.

This new approach to charging should be implemented within the next Mayoral term. All income should be reinvested in the delivery of Healthy Streets, with a proportion of income generated ring fenced to provide funding for City of London and borough projects.

While the new charging mechanism is being developed, we will encourage TfL to undertake a further review of the existing Congestion Charge. This review should be wide-ranging and consider charging levels, boundaries, timings and exemptions.

If a clear commitment to road user charging is not set out in the next Mayor's election manifesto, we will explore the feasibility of developing an appropriate charging mechanism for the Square Mile, working with London Councils and London's boroughs to ensure a coordinated approach.

Additional measures and initiatives to reduce motor traffic in the Square Mile will include:

- Supporting TfL's efforts to reduce the number of private hire vehicles (PHVs) operating in central London. We will also work with TfL and large operators to reduce circulation and empty running and promote ridesharing
- Working with the taxi industry to reduce empty running of taxis within the Square Mile, including a City-wide review of taxi ranks and promotion of ride hailing apps

- Delivering Proposals 38 and 39 to reduce the number of delivery and servicing vehicles in the Square Mile, particularly at peak travel times
- Working with TfL to identify opportunities to reduce the number of buses travelling through the City without compromising public transport accessibility (Proposal 49)
- Not providing any additional on-street car and motorcycle parking, identifying opportunities to use parking reductions and restrictions to discourage private vehicle use and continuing to require all new developments to be car-free
- Working with businesses to reduce the use of private cars, private hire vehicles and taxis for commuting and for trips within the Square Mile and central London
- Introducing access restrictions and other measures to reduce through traffic in line with the City of London Street Hierarchy (Proposal 12)

In addition to reducing traffic by 25% by 2030 we will aim for a reduction in motor traffic volumes of at least 50% by 2044.

We will publish more details about our traffic reduction plans following the next Mayoral election and clarification of how the next Mayor will approach road user charging. This will include how we will work with TfL to develop coordinated measures across central London.

Achieving this level of traffic reduction is also likely to require new shared mobility services and other transport technology innovations, which the City Corporation will support and champion through our Future Transport Programme (Proposal 43).

Road user charging

London was a global leader in road user charging when the Congestion Charge was introduced to central London in 2003. There was an immediate reduction in congestion of 30% and 15% less circulating traffic.^{xvi}

The Congestion Charge is now 15 years old and has only been subject to minor alterations since it was introduced. In this time, the challenges facing central London have changed considerably. A thriving weekend and night time economy now means that evening and weekend traffic levels (when the Congestion Charge is not in operation) are now similar to those on weekdays. In addition, the proportion of vehicles in the zone that are subject to the charge continues to reduce; particularly because of increasing numbers of private hire vehicles, which are currently exempt from the charge.

An updated road user charge, that could be varied according to patterns of demand, vehicle type or by distance travelled, would be more effective in reducing traffic levels and congestion in central London. A central London or London-wide approach, compared to a City specific charge, would be the most beneficial model. This will help reduce traffic over a much wider area and avoid a 'patchwork' approach to traffic management by different authorities.



Photo credit © C. Totman

Proposal 12: Design and manage the street network in accordance with the City of London Street Hierarchy

The City of London Street Hierarchy describes the function of every street in terms of motor traffic movement. We will design and manage the street network in accordance with the hierarchy shown in Figure 6 below to encourage drivers to use the right street for the right journey.

The categories in the hierarchy are:

London Access streets

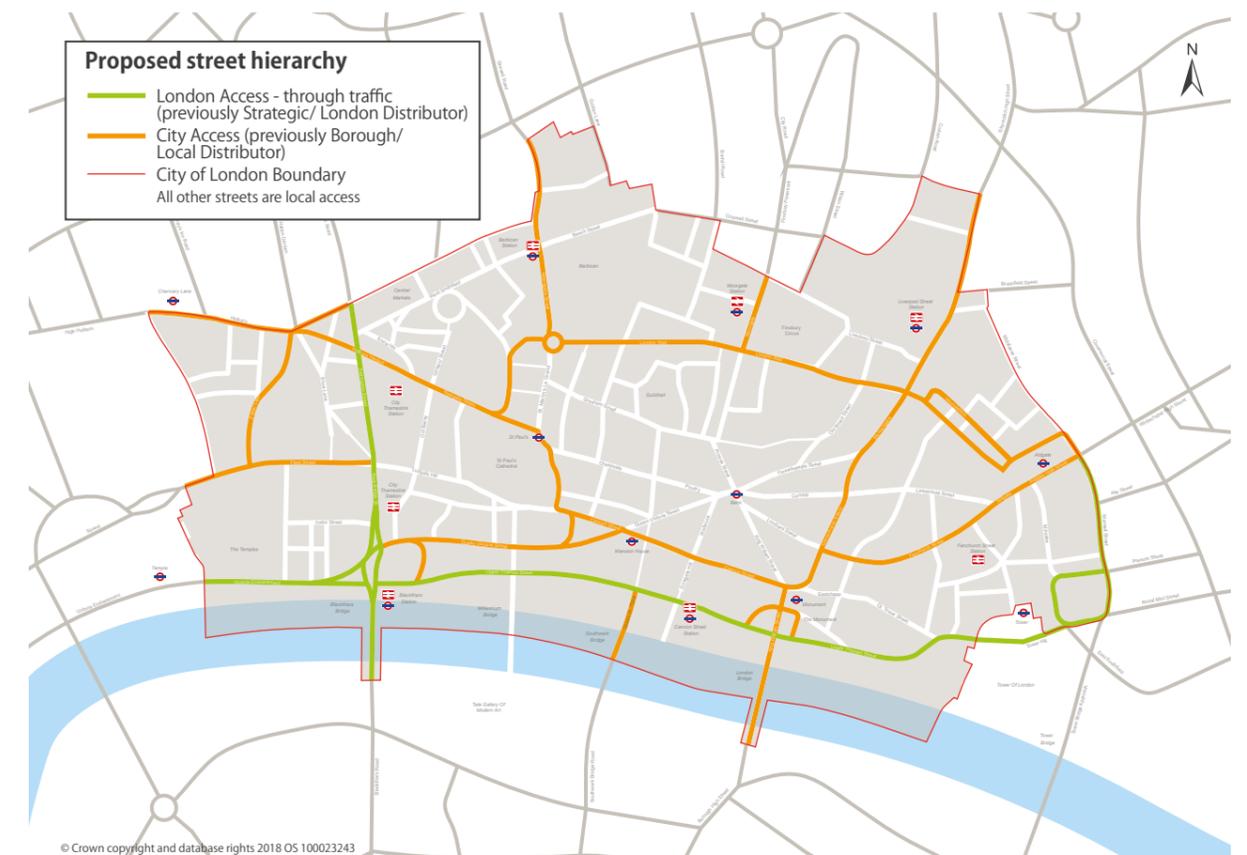
Preferred streets for motor vehicles that do not have a destination in, or immediately adjacent to, the Square Mile.

City Access streets

Preferred streets for motor vehicles that are travelling around the Square Mile or to immediately adjacent destinations.

Local Access streets

Primarily used for the first or final part of a journey, providing access for vehicles to properties.



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Figure 6: Proposed City of London Street Hierarchy (larger map available on the City of London Transport Strategy webpage)

A street's position in the hierarchy will be one factor that helps inform decisions on how space is allocated between different users and uses of that street. Alongside the street hierarchy we will also consider:

- The views and aspirations of different street users and City residents, workers and businesses
- How to best prioritise walking, cycling and buses as the most efficient ways to move people
- How to incorporate the street's role as a public space and reflect the types of buildings and uses along it, including planned development
- How to provide appropriate access for delivery, servicing, and other commercial activities
- How to provide access for residents, people of all abilities and people with access requirements, such as heavy luggage or injuries and illness
- How to maintain emergency response times and access for emergency services

Traffic management measures to implement the street hierarchy will be identified through the development of area based Healthy Streets Plans. These will consider:

- How to reduce the use of Local Access streets by through traffic, while maintaining access
- Opportunities to introduce pedestrian priority, improve the experience of walking and cycling, enhance the public realm and create new public space
- Potential changes to kerbside uses including loading and parking
- Opportunities for area-based

approaches to the management of freight and servicing, including consolidation and retiming of deliveries

- The need for network changes to support planned and future development

The first four plans, to be developed by 2022, will cover the following areas (shown in Figure 7):

- Barbican and Smithfield: supporting the delivery of the Culture Mile Look and Feel Strategy and the new Museum of London. The area covered will align with City Plan 2036 Barbican and Smithfield key area of change
- Bank and Guildhall: incorporating the transformation of Bank Junction and supporting the delivery of the proposed Centre for Music and associated changes to the Museum of London roundabout and St Paul's Gyratory
- City Cluster and Fenchurch Street – responding to the growth of the City Cluster and the proposed upgrade of Fenchurch Street station and enabling the delivery of the City Cluster Area Strategy. This will align with the City Plan 2036 City Cluster key area of change and incorporate part of the Aldgate and Tower key area of change
- Temple and Fleet Street: in response to the Fleet Street Estate Project, which comprises of the new Magistrates court and City of London Police headquarters, and enhancement of Fleet Street and the Temple area.

Healthy Street Plans will be developed in consultation with residents, businesses and other partners and stakeholders. Initial delivery will focus on implementing functional network changes, small scale projects and temporary interventions to change the look and feel of streets and provide additional public space. This will be followed by full implementation, including

major transformational projects, which will be programmed to correspond with major developments in the area.

Proposal 13: Use timed and temporary street closures to help make streets safer and more attractive places to walk, cycle and spend time

Where necessary and appropriate, we will introduce timed restrictions to motor vehicle access to support the implementation of pedestrian priority streets. This will make walking and cycling safer and more accessible; and improve the experience of spending time on the City's streets. The potential for timed closures to general motor traffic to improve bus journey times will also be explored. The extent of timed restrictions and types of vehicles excluded will be

decided on a case-by-case basis, applying the approach outlined in Proposal 12, and subject to modelling, impact assessments and consultation prior to implementation.

We will also seek to improve the experience of walking and spending time on the City's streets by:

- Launching a Lunchtime Streets programme in 2019 to provide additional space for people using streets at lunchtime during the summer months. At least five Lunchtime Streets will be in operation by 2025
- Supporting the leisure and cultural offer of the City by holding 'car-free' weekends and days, with streets only open to people walking and cycling. We will aim to hold the first car-free day in 2019

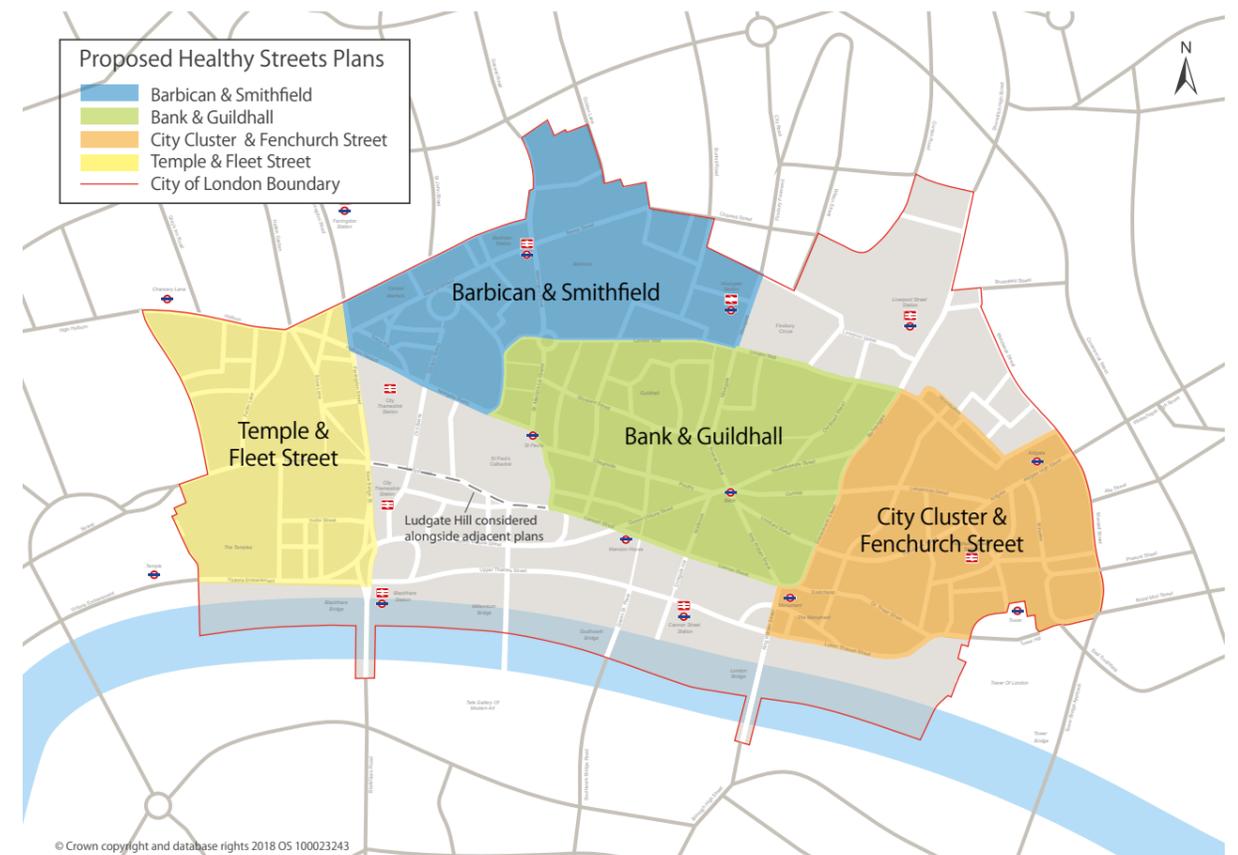


Figure 7: Proposed Healthy Streets Plan areas (larger map available on the City of London Transport Strategy webpage)

- Supporting and facilitating closures by third parties and residents, particularly those that help promote walking and cycling and allow residents, workers and visitors to enjoy the City's leisure, cultural and historical offer
- Exploring the potential to make better use of street closures already required to facilitate existing events, such as the Lord Mayor's Show and City Run. For example, by extending the time street closures are in place or increasing the number of streets that are closed to traffic

Proposal 14: Make the best and most efficient use of the kerbside and car parks

We will keep the use and management of the kerbside and City Corporation car parks under frequent review to:

- Identify opportunities to reallocate space from on-street car and motorcycle parking to increase the space available for people walking, support the delivery of cycle infrastructure and provide additional public space and cycle parking
- Ensure adequate on-street provision of short stay commercial parking, disabled bays, taxi ranks, loading bays and coach bays
- Identify spare capacity in City Corporation car parks and explore alternative uses for this space
- Identify opportunities to reduce obstructions caused by vehicles loading or waiting to pick up passengers, particularly at peak travel times

- Ensure cycle and bus lanes are kept clear of obstructions from stationary or parked vehicles

We will complete and consult on the outcomes of the first City-wide kerbside review by 2022, with further reviews conducted at least every five years. Each review will include a comprehensive data collection exercise to understand current use of the kerbside and City Corporation Car Parks. No strategic changes to the provision of kerbside facilities will be implemented before the review is completed or consulted on.

In addition to the items outlined above, this review will consider the potential to:

- Extend the charging period for on-street parking bays to include evenings and weekends for non-commercial vehicles
- Introduce variable charging for motorcycle parking based on motorcycle size and emissions
- Encourage the use of car parks for long stay parking by reducing the maximum parking time for cars and vans on-street and introducing a maximum on-street parking time for motorcycles
- Extend the Controlled Parking Zone hours to evenings and weekends
- Designate on-street car parking as 'service bays' during the working day (7am-7pm), with parking restricted for use by commercial vehicles
- Reduce the maximum loading period from the current 40 minutes when the City's Controlled Parking Zone restrictions apply
- Introduce more dedicated loading bays and use technology to allow real-time management of loading activity

- Implement multi-use spaces, for example loading bay during off-peak hours, additional pavement space during the morning, lunchtime and evening peaks and a taxi rank during the evening

Proposal 15: Support and champion the 'Turning the Corner' campaign

We will support efforts to secure changes to the Highway Code and national legislation to give people walking and

cycling priority at all types of junctions over traffic turning across their path. This arrangement enables simpler junction designs and reduces waiting times at signal-controlled junctions for all users, including drivers. By reducing conflicts between left turning vehicles and people walking and cycling, these changes will support proposals to prioritise people walking and deliver Vision Zero.

Turning the Corner campaign

'Turning the Corner' is a campaign led by British Cycling, encouraging the Government to update the Highway Code and national legislation to change the way priority is given at junctions to people walking and cycling. These changes would bring benefits to all street users by improving safety for people walking and cycling and allowing junction layouts to be simpler and clearer and more efficient for all users.



Example changes to junctions:

At a signal-controlled crossing, the changes would mean people walking, people cycling and motor traffic going in the same direction would all receive a green signal at the same time. Vehicles turning across those walking and cycling would have to give way. Most other countries, including the rest of Europe, operate their signal-controlled crossings in this manner.

At a T-junction, vehicles entering and exiting the minor road would have to give way to both people walking across the minor road and people cycling going straight ahead on the major road. This arrangement is used across much of Europe.



The Square Mile is accessible to all

Everybody must be able to travel easily, comfortably and confidently to and around the Square Mile. Delivering this Strategy will help remove obstacles to walking, cycling and using public transport. Pavements and crossings will be smooth, level and wide enough to avoid uncomfortable crowding. People using cycles as mobility aids or mobility scooters and powered wheelchairs will be able to use new and improved cycle lanes. Streets will be cleaner, quieter and less stressful places that offer more opportunities to stop and rest. Changes to streets will be supported by new transport technologies that will emerge over the next 25 years, including new shared transport services. Advancements in app-based technologies and other transport innovations will help provide specialised and tailored accessibility support for anyone who may benefit from them. An accessible public transport network will mean that people with limited mobility are no longer penalised by having to make longer or more expensive journeys.

14% of Londoners currently consider themselves to have a disability that impacts their day to day activities 'a little' or 'a lot'. This is expected to rise to 17% by 2030.^{xvii} Walking is the main mode of travel for disabled Londoners, with 78% reporting they walk at least once a week. However, 65% of disabled Londoners consider the condition of pavements to be a barrier to walking more frequently.^{xviii}

London-wide the proportion of disabled Londoners who travel by Underground and National Rail is considerably lower than for non-disabled Londoners. Gaps in the step-free public transport network mean that a step-free journey is on average 11 minutes slower than a journey using the full network.^{xix} Transport has been identified as the biggest challenge to living in the Capital for people with Dementia (an estimated 72,000 Londoners currently live with Dementia).^{xx}

Respondents to our City Streets survey who identified as having a disability or long-term health conditions, highlighted particular concerns about poor air quality, motor traffic volumes and public transport crowding.^{xxi}



Proposal 16: Develop and apply the City of London Street Accessibility Standard

We will work with City residents, workers, the City of London Access Group (COLAG), our internal access team and groups representing the needs of different street users to develop the City of London Street Accessibility Standard (COLSAS). COLSAS will set minimum and desired standards for the design of streets to ensure they provide an environment where all current and potential users feel welcome and safe and can travel comfortably and confidently. Vehicle access requirements will also be considered during the development of COLSAS.

The standard will be applicable to all City Corporation managed streets and we will work with TfL to apply the standard to the Transport for London Road Network (TLRN). We will apply COLSAS by carrying out a detailed access audit of all City streets to assess the current level of accessibility. Details of necessary improvements, including a delivery timetable, will be set out in a Streets Accessibility Action Plan. COLSAS and the Streets Accessibility Action Plan will be published in 2020. Improvements to streets that do not meet the minimum COLSAS standard will be prioritised, with all critical improvements delivered by 2025.

Proposal 17: Keep pavements free of obstructions

We will ensure that pavements and streets* are free of obstructions by:

- Not permitting A-boards on the public highway
- Only allowing outdoor seating where businesses can demonstrate that adequate width (including private space) will be maintained during the busiest time of day

- Working with owners and landlords and using highways powers and the licensing system to prevent pavements and streets being blocked by people standing outside bars and pubs, including prohibition of furniture that encourages this
- Ensuring operators of dockless cycle hire schemes require users to leave bikes in designated parking locations and promptly remove any cycles not left in these locations (see Proposal 28)
- Continuing to reduce clutter by removing unnecessary street furniture and ensuring remaining furniture is positioned to maintain a clear walking route, including identifying opportunities to affix street lights and signs to buildings
- Seeking to maintain a pedestrian comfort level of B+ when installing new street furniture, signage, trees and greenery, bollards and security features (see Proposal 2)
- Ensuring that temporary signage does not significantly reduce pavement width and work with contractors, utilities and developers to ensure signs are placed in the carriageway when they will not pose risk to road users
- Review the role of pavement obstructions in incidences of trips, falls and claims against the City Corporation
- Where it is essential to locate electric vehicle charging infrastructure on-street, charge points will be installed in the carriageway rather than on the pavement (see Proposal 30)

*Pavements and streets are used in lieu of the legal definition of public highway which includes all publicly adopted carriageway, pavements and City walkways. The Highways Act 1980 requires highways authorities to maintain free, unobstructed access along the highway (Section 130) and allows the City Corporation to restrict any furniture on its highway though section 115(E)(1)(b)(i) of the Act.

Proposal 18: Keep pedestrian and cycle crossings clear of vehicles

We will work with the City of London Police, TfL and London Councils to encourage the Government to change the Highway Code and introduce new legislation to prevent queuing vehicles blocking pedestrian and cycle crossings. Any new offences should be decriminalised to allow both civil and City of London Police enforcement through issuing a penalty charge notice.

While awaiting legislative change, we will encourage drivers to leave crossings clear through targeted campaigns and trialling changes to crossing design, such as coloured markings or box junction style hatching.

Proposal 19: Support and champion accessibility improvements to Underground stations

We will work with TfL to prioritise investment in accessibility improvements to Underground and DLR stations within the Square Mile, beginning with making Bank Station accessible. Through the planning process we will identify opportunities to introduce step free access as part of new developments and major refurbishments. We will also work with Network Rail to introduce step free access to Moorgate national rail platforms. Our ambition is that all stations within the Square Mile are accessible by 2044. We will liaise with TfL to identify the programme of investment required to achieve this.

Step-free access to London Underground and DLR stations in the City



Full step-free access

Blackfriars
Tower Gateway



Partial step-free access

Tower Hill
Liverpool Street
Moorgate
Cannon Street
Bank
Barbican



No step free access

Mansion House
Monument
Aldgate
St Pauls
Chancery Lane



People using our streets and public spaces are safe and feel safe

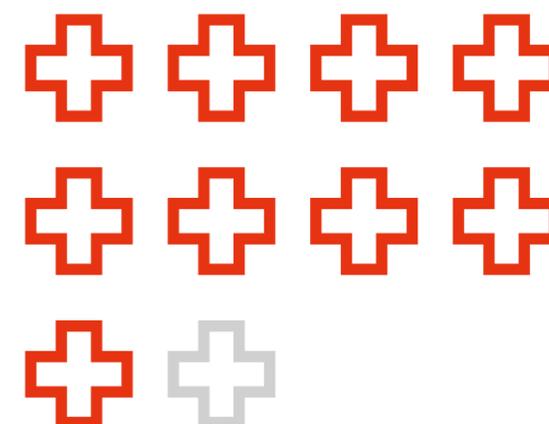
No one should be prevented from choosing a particular mode of transport because of concerns for their personal safety. Delivering this Strategy will result in fewer motor vehicles on our streets and those vehicles will be moving at slower speeds. Collisions will occur less often and will not result in death or serious injury. Fewer, slower vehicles, together with high quality street lighting, will also mean that streets feel safer at all times of the day. Motor vehicles themselves will be equipped with advanced sensors and better automatic safety features that will further reduce or eliminate human driving error. Security features will be sensitively incorporated into the streetscape and will incorporate features that help make streets more attractive places to walk and spend time. The Square Mile will continue to experience a low rate of crime and fear of crime, supported by reductions in thefts of and from vehicles.

In 2017, 54 people were reported killed or seriously injured in traffic collisions on the City's streets, including 26 while walking, 15 while cycling and nine while riding a moped or motorcycle. The number of people reported killed and seriously injured in the Square Mile has unfortunately remained relatively consistent at approximately 50 a year, since 2010.^{xxii} Nine out of 10 collisions in the Square Mile that result in a death or serious injury involve a motor vehicle.^{xxiii}

The City is fortunate to experience low levels of crime and fear of crime, with 80% of people reporting that they feel safe from crime and terrorism.^{xxiv} While this is encouraging, we must continue to provide effective and proactive policing, well designed and maintained public spaces and proportionate security measures that ensure people are safe and feel safe.

9 in 10

collisions where someone was reported killed or seriously injured on City streets involved a motor vehicle



Proposal 20: Apply the safe system approach and the principles of road danger reduction to deliver Vision Zero

We will deliver Vision Zero to eliminate death and serious injuries on the City's streets by 2040. Our interim targets are that no more than 35 people a year are killed or seriously injured by 2022 and that there are fewer than 16 deaths or serious injuries a year by 2030.

Measures to deliver Vision Zero and reduce road danger will be delivered across four themes:

Safer streets

Safer speeds

Safer vehicles

Safer behaviours

We will work in partnership with the City of London Police, TfL and organisations representing different street users to apply the safe system approach and the principles of road danger reduction. This means:

- Being proportional in our efforts to tackle the sources of road danger, focussing on those users of our streets who have the greatest potential to harm others due to the size and speed of their vehicle
- Recognising that people will always make mistakes and that collisions can never be entirely eliminated. Our streets must therefore be designed, managed and used to cater for an element of human error and unpredictability
- Reducing vehicle speeds on our streets to minimise the energy involved in collisions and protect people from death or injury

- Seeking to reduce slight injuries and fear of road danger alongside the principal focus on eliminating death and serious injuries

We will publish a comprehensive Road Danger Reduction Action Plan every five years. The 2018 – 2023 plan will be updated in 2019 immediately following the adoption of this Strategy.

Safer streets

We will redesign our streets to reduce the likelihood and severity of collisions. Locations for change will be identified and prioritised based on the number and severity of collisions, and the risk to people walking, cycling and riding motorcycles and mopeds. Locations will be reviewed on an annual basis.

Priority locations for change by 2030, using analysis of data from 2012 to 2017, are shown in Figure 8 and include:

- Moorgate (London Wall to Eldon Street)
- High Holborn (Holborn Circus to Warwick Lane)
- Cannon Street (Mansion House Station to New Change)
- St Paul's Gyratory
- Aldersgate Street/Beech Street Junction
- Fleet Street/New Fetter Lane Junction
- Lombard Street – Fenchurch Street Corridor
- Old Broad Street/London Wall Junction
- Camomile Street/St Mary Axe Junction

We will work with TfL to deliver changes at the following priority locations on the TLRN:

- Bishopsgate
- Monument Junction
- Embankment (Temple Avenue to Puddle Dock)
- Mansell Street
- Southwark Bridge/Lower Thames Street Junction
- Upper Thames Street (London Bridge to Eastcheap)

In addition to the above we will work with TfL to monitor and if necessary further improve Farringdon Street and New Bridge Street (including Ludgate Circus and Blackfriars junction).

Other measures to change streets to reduce the likelihood and severity of collisions will include:

- Narrowing and raising the entrances to side streets to require drivers and riders to manoeuvre more slowly
- Exploring the potential for changing the look and feel of streets to reinforce positive behaviours by people driving and riding in the Square Mile, including appropriate speed, acceleration and overtaking. Innovative techniques that use road markings and temporary or light touch changes to give behavioural cues will be trialled and assessed in up to five locations by 2022
- Continuing to maintain a smooth and level surface on pavements and carriageways to reduce the risk of trips and falls by people walking and riding in the City

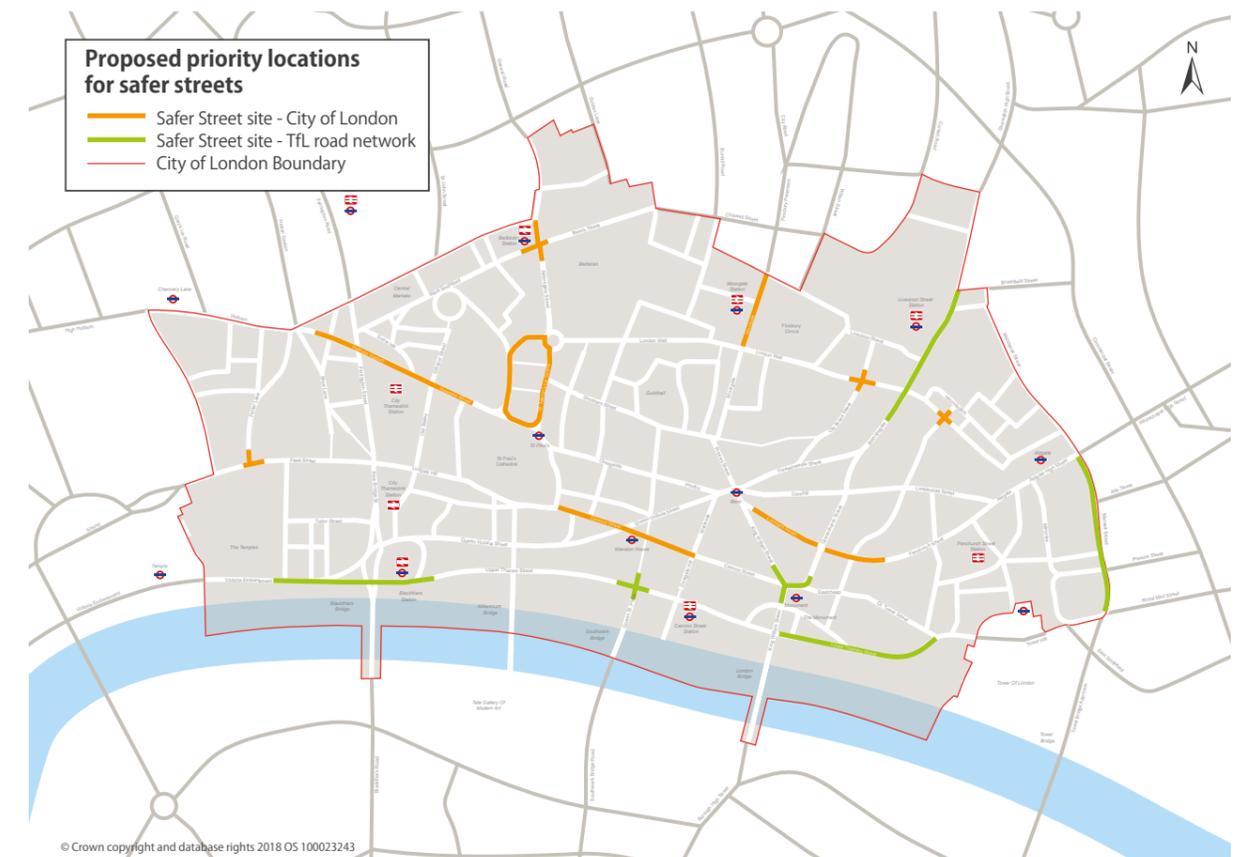


Figure 8: Proposed priority locations for safer streets (larger map available on the City of London Transport Strategy webpage)



Safer speeds

Reducing the speed of vehicles decreases the likelihood of a collision and the severity of injury in the event of one.

To ensure that all vehicles, including cycles, are driven or ridden at speeds appropriate to the City context we will seek permission from the Department for Transport to adopt a City-wide 15mph speed limit by 2022. If successful, we will encourage TfL to seek permission to deliver this new limit on the TLRN, particularly along the Bishopsgate corridor.

We will work with the City of London Police to deliver engagement, education and enforcement to support the implementation of the 15mph speed limit.

To make it easier for drivers to comply with the existing 20mph and proposed 15mph speed limits we will encourage the uptake of intelligent speed adaptation (ISA) in the Square Mile by:

- Asking TfL to prioritise the roll out of bus ISA on routes which operate in the Square Mile, with the aim of bus ISA operating on all routes by 2022.
- Adopting ISA in our own fleet procurement practices as part of our renewal programme. Insurance savings will be quantified and shared as best practice guidance for City suppliers and through the Fleet Operator Recognition Scheme (FORS)

Why 15mph?



On average, collisions reduce by

5%

for every 1mph decrease in average speed

The likelihood of serious injury in a collision between a vehicle and person decreases by

60%

between 23 and 16mph

Drivers on streets where people walking have priority are

14 times

more likely to give way to a person walking if average speeds are below 15mph

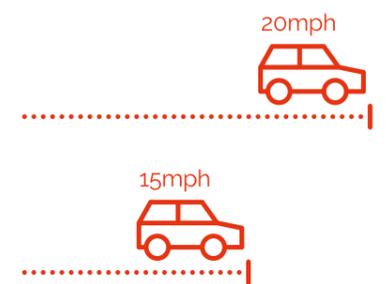
The likelihood of death in a collision between a vehicle and person walking decreases by

40%

between 20 and 15mph

Stopping distances decrease from

12m to 8m



Sources xxv,xxvi,xxvii,xxviii,xxix

- Ensuring ISA is a standard requirement for any service procured by the City Corporation with a fleet requirement
- Promoting the installation of ISA in taxis and private hire vehicles and encouraging TfL to make ISA a requirement for new taxis and private hire licensing
- Encouraging the uptake of ISA in other fleets, such as hauliers, construction firms and coach operators
- Working with the insurance industry and vehicle manufacturers to promote and encourage the use of ISA in private vehicles

Intelligent Speed Adaptation

Intelligent speed adaptation (ISA) is an in-vehicle system which uses GPS and a database of speed restrictions to limit vehicle speeds. Studies have shown that ISA delivers a substantial decrease in average speed and speed variances and eliminates speed limit violations. It is estimated that non-voluntary ISA could halve the number of fatal collisions in the UK.

Safer vehicles

We will improve the safety of motor vehicles which use City's streets by:

- Using fleet accreditation schemes, such as the Fleet Operator Recognition Scheme (FORS), to integrate safety into fleets by:
 - Continuing the CityMark accreditation programme to ensure vehicles at City construction sites meet standards. We will encourage the inclusion of CityMark in Construction Logistic Plans (CLP)
 - Encouraging TfL and industry stakeholders to develop FORS or similar standards for coaches and vans by 2022
 - Encouraging the integration direct vision standards as part of all accreditation schemes. This will also be mandated through CLPs and CityMark for City construction sites once the standards are implemented and normalised
- Supporting TfL with developing a motorcycle fleet accreditation standard for couriers and delivery riders, which will include improved safety training
- Continuing to inspect over 1000 vehicles each year with the City Police Commercial Vehicles Unit and continue to support the London Freight Enforcement partnership alongside Transport for London, the Metropolitan Police and the Driver and Vehicle Standards Agency. We will identify opportunities to intensify the programme and map enforcement related to development density by 2020
- Work with industry, sector associations and motorcycle riders to identify and understand levers for motorcyclists to choose lighter, less powered vehicles when riding to and around the City
- Identifying any potential risks associated with the uptake of new technologies, including the increased use of quieter zero emission capable vehicles



Case Study: Fleet Operator Recognition Scheme and CityMark

The Fleet Operator Recognition Scheme (FORS) is a voluntary accreditation scheme for fleet operators. The scheme aims to raise the level of quality within fleet operations, and to demonstrate which operators are achieving best practice in safety, efficiency, and environmental protection.

CityMark is a project developed by the City Corporation to improve monitoring of vehicle standard compliance at construction sites in the Square Mile.

All construction projects in the City are members of the Considerate Contractors Scheme (CCS) and CityMark is an addition to that scheme. This keeps the CCS up to date with the leading related safety initiatives, FORS and the Construction Logistics for Community Safety (CLOCS) standard.



Safer behaviours

We will encourage all the users of our streets to travel safely by:

- Expanding the 'exchanging places' training course for professional drivers to include the experience of walking, as well as cycling, in the Square Mile
- Encouraging TfL to require safety training as part of private hire and taxi licensing. This will include Bikeability Level 3 training
- Providing and promoting free cycle training for people who live, work and study in the City; working closely with City businesses to offer this training in a convenient and easily accessible way
- Encouraging TfL to include safety-based performance measures instead of timetable performance measures in bus contracts. We will work with TfL and operators to implement these changes as part of its Bus Safety Standard
- Working with the City of London Police to deliver targeted enforcement of dangerous and reckless driving and riding, including using plain clothed officers
- Promoting safe driving and riding through targeted behaviour change campaigns
- Identifying and targeting poor behaviours from use of emerging mobility technologies, such as e-scooters
- Work with the freight industry and research partners to understand the impact of delivery schedules on driving style and speeds

Proposal 21: Work with the City of London Police to reduce crime and fear of crime

We will work with the City of London Police to ensure the design and management of streets helps everyone feel safe and reduces opportunities for crime at all times

of the day. Quarterly meetings will review crime trends, hotspots and crowded places and identify opportunities to reduce crime through changes to street design and management, enforcement and awareness campaigns.

Initial measures to reduce vehicle theft and vehicle enabled crime will include:

- Trialling ground anchors at motorcycle theft hotspots to reduce thefts and help tackle motorcycle enabled crime. We will initiate the trial in 2019 and review the utilisation of anchors and impact on theft rates ahead of the proposed roll out
- Running campaigns with motorcycle and cycle groups to promote best practice locking and security measures
- Reviewing security provision in City Corporation car parks and other assets as part of the development and delivery of last mile logistics facilities (see Proposal 38)

Proposal 22: Ensure on-street security measures are proportionate and enhance the experience of spending time on our streets

We will work with the City of London Police, developers and City businesses to deliver the Secure City programme. This initiative takes a risk-based approach to implementing appropriate and proportionate on-street security measures. We will aim to ensure that security measures are:

- Discreet and installed to avoid reducing the space available to people walking and cycling, including those using non-standard cycles (see Proposal 24)
- Multi-functional, incorporating seating, greenery or public art where possible

to improve the experience of walking, cycling and spending time on streets

- Designed and installed to take account of the access needs of people with disabilities
- Designed and installed to take account of access requirements for servicing

We will review existing security provision against these criteria as part of delivering the Secure City programme. We will also work with industry partners to develop hostile vehicle mitigation standard benches, planters, fountains and other street furniture. This will include moveable security features to support timed access restrictions for motor vehicles.

Proposal 23: Improve the quality and functionality of street lighting

By 2020 the City Corporation will have up-graded its street lighting in accordance with the City of London Lighting Strategy. The following principles will be embedded across our transportation and public realm schemes as well as developments through the planning process:

- Use street lighting to improve the look, feel and ambience of streets
- Improve the quality of lighting for people walking and cycling
- Reduce road danger through appropriate lighting at areas of higher risk, such as junctions
- Match lighting provision to the City of London Street Hierarchy and the character of streets
- Ensure lighting supports CCTV operation
- Allow flexible and intelligent lighting control to support City of London Police operations



More people choose to cycle in the City

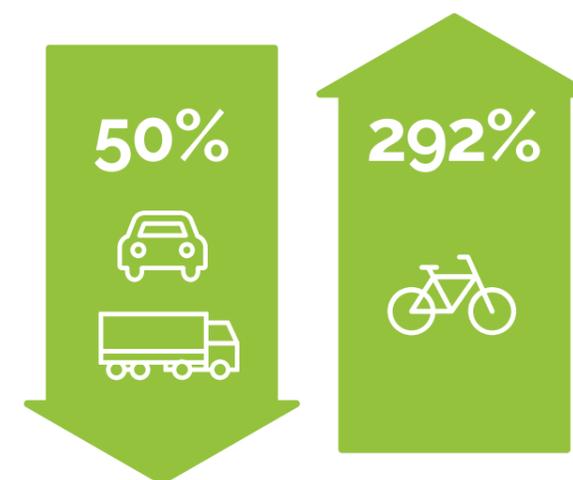
Most of the vehicles on the City's streets will be cycles, with more people choosing to cycle and cycles being used for more types of journeys. We want the range of people choosing to cycle to match the diversity of people who live, work, study in and visit the City. Most people, whether they choose to cycle or not, will consider cycling to be a safe, easy and pleasant way to travel around the Square Mile. Reduced traffic, slower speeds and a dense network of cycle friendly streets will mean that anyone who wishes to cycle is not prevented from doing so because of concerns about safety. The cycle network will cater for all types of cycles, including cycles as mobility aids and cargo cycles. Different types of cycles will also be available for hire across the City, supporting more flexible cycling. A safer and calmer cycling experience will in turn encourage more considerate and appropriate cycling behaviour that reflects the priority given to people walking on the City's streets.

Our City Streets survey found that only 4% of people currently consider the experience of cycling in the City to be pleasant (and 56% consider it to be unpleasant). We want this figure to be 75% by 2044. More than half of people cycling in the City scored their feeling of safety while cycling as a 1 or 2 out of 5.^{xxx} On average 19 people cycling have been killed or seriously injured on our streets every year for the last five years.^{xxxi} We recognise that the current situation on many of our streets is also leading to perceived and real conflicts between people who cycle and other streets users,

with negative interactions between people walking and cycling being raised as a significant issue in public consultations.

Despite these challenges, the number of people choosing to cycle in the Square Mile has grown significantly over the last 20 years. People cycling now make up nearly a third of all vehicular traffic during the daytime in the City, compared with less than 4% in 1999.^{xxxii} There is significant potential to further increase the number of people cycling. Analysis by TfL has found that up to 15,700 trips a day to the City that are currently made by motorised modes could potentially be cycled in part or full. Over two thirds of these trips are currently made by taxi or car.^{xxxiii}

The number of motor vehicles using the Square Mile's streets has halved since 1999, while the number of people cycling has grown by 292%



Proposal 24: Apply a minimum cycling level of service to all streets

We will make the Square Mile a safe, attractive, and accessible place to cycle by applying a minimum cycling level of service to all streets by 2035.

On the streets shown in Figure 9 below, which will form a core cycling network, we will ensure that either:

- Motor traffic volumes are kept below 150 vehicles an hour in each direction at the busiest time of day and priority is given to people cycling over motor vehicles. If necessary, we will introduce traffic management measures to reduce the number of vehicles on these streets

or...

- Protected cycle lanes that are a minimum of 1.5m wide per direction of travel are provided, with 2m wide protected cycle lanes wherever possible

We recognise that initially it may not be possible to achieve these levels of service at all locations and will identify mitigating measures in the short and medium term to manage this.

We will prioritise cycling improvements and interventions on the core cycle network. This will ensure that nearly all property entrances are within 250m of the network, providing access to destinations across the Square Mile and linking with the wider London cycle network. We will explore the potential to use temporary measures and interventions to accelerate the pace of delivering the network and

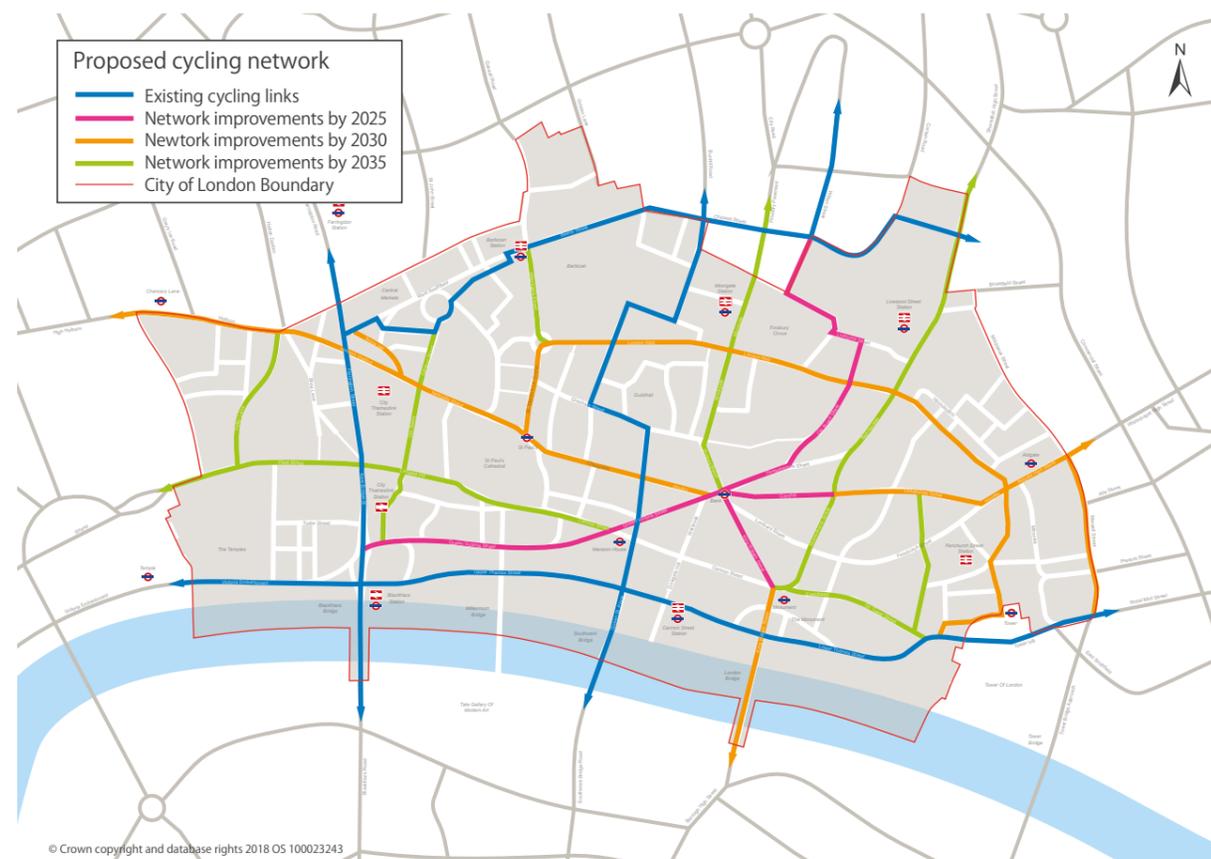


Figure 9: Proposed core cycling network and phasing (larger map available on the City of London Transport Strategy webpage)

allow changes to street layout to be tested and refined before being made permanent.

We will support cycle logistics and the use of cycles as mobility aids by ensuring that all parts of this network are designed to be accessible to non-standard cycles, such as cargo cycles or adapted cycles.

We will deliver the Bishopsgate to Blackfriars (including improvements at Mansion House junction) and CS1 to Monument Junction sections by 2025.

The following parts of the core cycle network will be delivered by 2030:

- Holborn Circus via Bank including connecting the City Cluster to Cycle Superhighway (CS) 2 and CS6
- CS3 to St Paul's via the City Cluster and London Wall (in conjunction with planned network improvements at St Paul's Gyratory)
- Monument Junction to CS4 via London Bridge in partnership with TfL
- CS2 to CS3 via Mansell Street (in partnership with TfL)

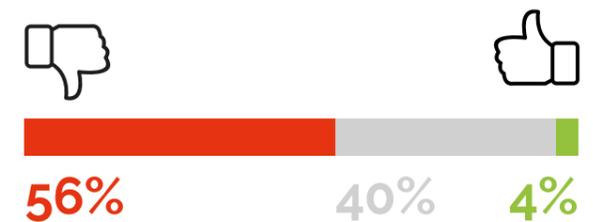
The remaining sections of the core cycle network will be delivered by 2035.

On Local Access streets that do not form part of the core cycling network, we will aim to keep motor traffic volumes below 150 vehicles an hour in each direction at the busiest time of day to give priority to people cycling over motor vehicles. For the majority of Local Access streets this will require relatively little intervention, other than junction improvements. Traffic levels are already low, and this Strategy will deliver reductions in traffic volumes (Proposal 11) and introduce a City-wide 15mph speed limit (Proposal 20). In cases where traffic volumes exceed this limit we will seek to reduce traffic volumes through changes to access and traffic management.

On City Access streets, we will aim to meet the standards described above but recognise this may not be possible on all streets due to their role in traffic movement or space constraints. Other proposals in this Strategy, such as the introduction of a City-wide 15mph speed limit, will help make these streets safer, more attractive, and more accessible places to cycle.

To support the new cycling level of service we will also:

- Review all shared pedestrian/cycle spaces, such as Queen Street, and contraflow cycle lanes, and where necessary propose physical changes, campaigns, education, engagement and enforcement to improve interactions between people walking, cycling and driving
- Use signage and road markings to emphasise priority for people cycling over motor vehicles



Over half (56%) of people who cycle in the City find the experience unpleasant



Overall, three in five people think that people cycling are underprioritised and are given too small a share of street space



- Introduce safety improvements at the priority locations identified in Proposal 20 to ensure they are safe and easy places to cycle
- Trial temporary schemes and infrastructure wherever possible to review impacts on other street users and accelerate the delivery of the cycle network
- Learn from and incorporate design standards and guidance, such as the London Cycling Design Standard and the Dutch CROW manual, when designing and delivering cycling infrastructure improvements in the City

Additional measures to support the delivery of the core cycle network will include:

- The use of Construction Logistics Plans and Delivery and Servicing Plans to manage the number of freight vehicles using the network, particularly at peak times
- Enhanced cycle wayfinding and signage, including signage at eye level wherever suitable
- Working with boroughs neighbouring the City and TfL to improve continuity and connectivity between our cycle networks

Proposal 25: Increase the amount of cycle parking in the City

We will conduct a City-wide cycle parking review and publish a Cycle Parking Delivery Plan by 2020. This will:

- Review the availability and distribution of both on and off-street public and residential cycle parking provision to ensure adequate provision, taking account of forecast demand. This will include working with National Rail to review parking at stations
- Identify requirements for public and residential cycle parking that can

accommodate cargo cycles and adapted cycles, including retrofitting existing cycle parking

- Promote the use of City Corporation car parks for long stay cycle parking
- Explore the potential for innovative parking solutions that increase the space efficiency, security and quality of cycle parking
- Assess the potential for commercially operated cycle parking hubs that provide enhanced security and facilities
- Assess occupancy levels of cycle parking in recently completed commercial buildings to understand current use and inform future planning policy on workplace cycle parking

Further reviews will be conducted on a regular basis, and at least every 5-years.

Proposal 26: Ensure new developments contribute to improving the experience of cycling in the City

Through the planning process we will work with developers and future occupiers to:

- Ensure all new developments provide secure cycle parking facilities, that are at least in line with the London Plan's minimum standards for cycle parking, have step free access and include lockers and showers in commercial developments
- Ensure that development proposals demonstrate how cycle parking facilities will cater for non-standard cycles, including adapted cycles for disabled people
- Encourage the provision of parking facilities that are suitable for non-standard cycles, including providing off-street storage for cargo bikes and hand carts in developments that include ground floor retail and takeaway food outlets

- Provide on-site short stay cycle parking for visitors and, where possible, additional public cycle parking in the public realm
- Contribute to improving conditions for cycling on adjacent streets, particularly those that connect to or form part of the core cycling network
- Ensure that cycle parking in new developments minimises potential negative interactions between people walking and cycling, particularly on pavements

Proposal 27: Promote and celebrate cycling

We will encourage residents, workers and visitors to cycle to and around the Square Mile by:

- Connecting businesses and residents to additional cycling support services, such as maintenance and insurance
- Support City of London Corporation employees to cycle more and work with businesses and heritage and cultural institutions in the Square Mile to encourage more of their workers and visitors to cycle
- Improving people's awareness of the cycling network and cycle routes to the City through promotional activities and wayfinding
- Organising led rides, working with businesses and heritage and cultural institutions to promote cycling
- Exploring the potential for an annual City cycling festival
- Supporting London-wide, national and international cycling campaigns and hosting periodic cycling events

- Targeted campaigns and promotional activities to encourage a more diverse range of people to cycle and promote better behaviours when cycling

Proposal 28: Improve cycle hire in the City

We will work with TfL and cycle hire providers to improve the quality and accessibility of all cycle hire facilities including docked, dockless, and cargo cycles for residents, workers, and visitors. In doing so, we will ensure that:

- Cycles for hire are readily accessible in suitable numbers and in appropriate locations across the City
- There are adequate parking and docking facilities and that these are managed to respond to peaks in demand
- Hire cycles and associated infrastructure do not obstruct pavements or pedestrian crossings or pose a danger to street users
- Operators cover the costs of any additional infrastructure required to facilitate cycle hire
- Any redistribution of hire cycles by vans or other motorised modes are done with zero emission capable vehicles
- Dockless cycle operators actively restrict their users from parking outside designated areas and quickly remove cycles that are not parked in these areas
- Cycle hire parking and docking locations and total spaces provided are reviewed and enhanced as demand changes

We will work with TfL and London Councils to secure a byelaw that grants local authorities in London regulatory powers to effectively manage current and future cycle hire activities on our streets.





The Square Mile's air and streets are cleaner and quieter

By 2044, transport related local air pollution and carbon emissions will have been cut to virtually zero and streets will be quieter more relaxing places. Together with wider action to reduce emissions from buildings and development, this will mean that the City enjoys some of the cleanest urban air in the world. There will be fewer motor vehicles and those remaining will be powered by electricity or other zero emission technologies. Emerging automation technology will reduce speeds and avoid aggressive acceleration and braking, leading to less tyre and brake wear. New approaches to noise management will mean that street works cause less disturbance.

A recent study commissioned for the Greater London Authority identified that

up to 9,500 premature deaths a year were attributable to air pollution.^{xxxiv} Exposure to high concentrations of Nitrogen Dioxide (NO₂) can irritate the airways of the lungs, increasing the symptoms of those suffering from lung diseases. Fine particles can be carried deep into the lungs where they can cause inflammation and a worsening of heart and lung diseases.^{xxxv}

Air quality in the Square Mile does not currently meet the safe limits set by the European Union or World Health Organisation (WHO) for NO₂. Levels of exposure to particle matter (PM₁₀ and PM_{2.5}) are within the UK/EU limit value, however they exceed more stringent WHO standards and the WHO recognises that there is no safe limit for these types of pollutants.^{xxxvi}

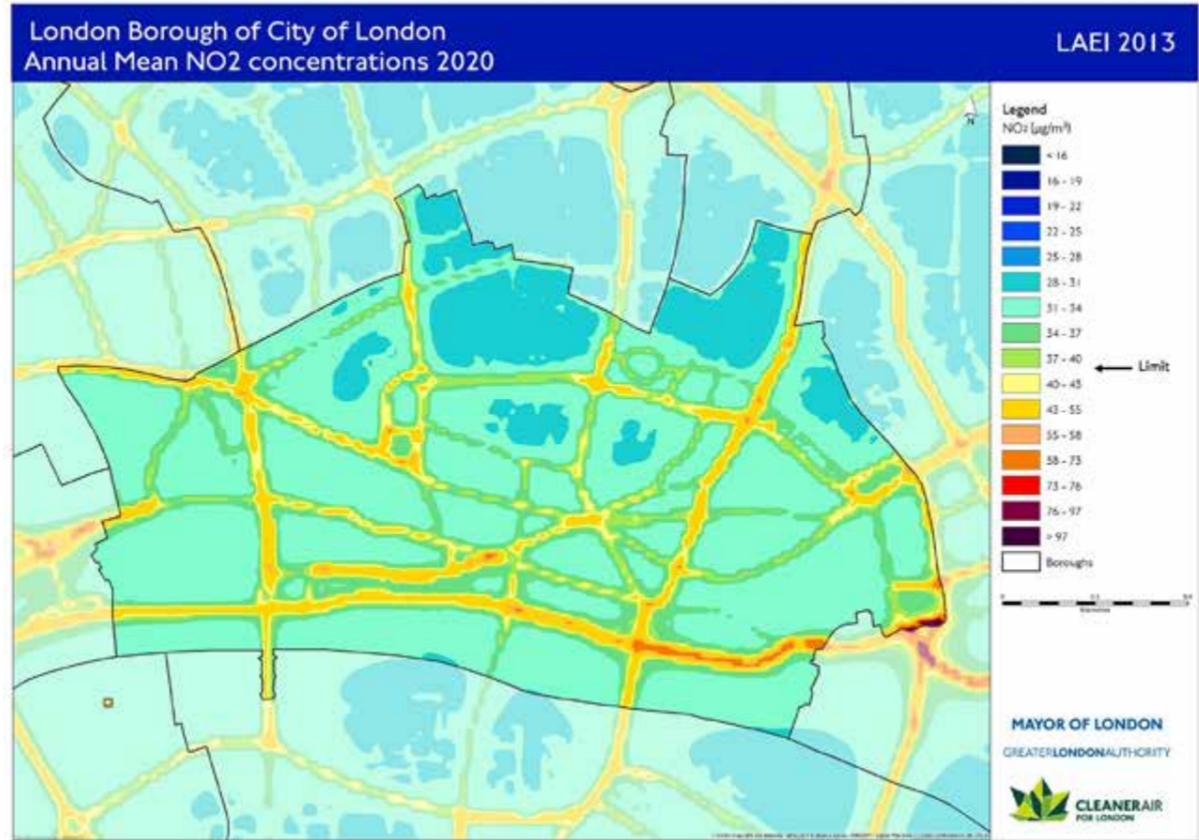


Figure 10: City of London Annual mean NO₂ concentrations 2020 (LAEI 2013)

Road transport is responsible for 26% of NOx emissions, 48% of PM10 and 60% of PM2.5, in the Square Mile. Current air quality monitoring records limit breaches for NO2 on our busiest streets. In some locations recorded concentrations are twice the safe limit value. Projections show that NO2 levels will still exceed safe limits on many of our busiest streets after the central London Ultra-Low Emission Zone's (ULEZ) restrictions on the most polluting vehicles come into effect (Figure 10).^{xxxvii} Brake and tyre wear mean that motor vehicles will also continue to be a significant source of particulate matter even once the majority of vehicles are zero emission capable.

In 2018, 7% of the Square Mile's CO2 emissions are produced by motor vehicles. The carbon emissions from electric vehicles are dependent on the source of electricity. However, electric vehicles are far more efficient in fuel use/CO2 output than combustion

engines.^{xxxviii} An EU study based on expected performance in 2020 found that an electric car using electricity generated solely by an oil-fired power station would use only two-thirds of the energy of a petrol car travelling the same distance.^{xxxix}

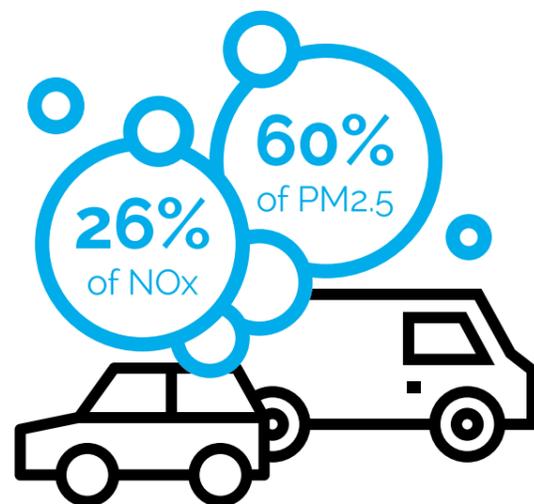
The direct health impacts of noise pollution include sleep disturbance, stress, anxiety, high blood pressure, poor mental health and school performance, and cognitive impairment in children. Risk of cardiovascular disease increases significantly when noise levels exceed 60 decibels, as they often do on urban streets. Noise can also discourage people from walking, cycling and spending time on streets.^{xl} 41% of respondents to a recent survey on people's experience and perceptions of noise in the Square

Mile cited noise from traffic as a negative factor. Traffic noise was the most significant negative noise or sound identified, followed by noise from construction/building works, which was identified by 12% as an issue.^{xli}

These proposals relating to air quality directly support the City of London Air Quality Strategy 2019-2024. The Air Quality Strategy addresses all sources of air pollution in the Square Mile, such as construction site machinery and heating boilers. Work to monitor and manage cross boundary pollution is also included in the Strategy.

The Air Quality Strategy includes a full monitoring programme which is supported by some additional monitoring directly related to anticipated changes resulting from Transport Strategy proposals. This will inform the actions and outcomes in the Transport Strategy.

Road transport is responsible for 26% of NOx emissions and 60% of PM2.5 emissions in the Square Mile. Monitoring for NO2 on our busiest streets has found concentrations are often twice the safe limit



Proposal 29: Support and champion a central London Zero Emission Zone

We will support and champion the introduction of a Zero Emission Zone (ZEZ) covering central London within the next Mayoral term.

We will seek a phased introduction of ZEZ restrictions with the aim of ensuring that 90% of motor vehicles entering the Square Mile are zero emission capable by 2030. This is likely to be achieved through a combination of access restrictions and charging for non-zero emission capable vehicles.

If a clear commitment to introduce a central London ZEZ is not set out in the next Mayor's election manifesto, or commitments are insufficiently ambitious, we will explore the feasibility of

implementing a City-wide ZEZ, working with London Councils and boroughs neighbouring the City to ensure a coordinated approach.

Local Zero Emission Zones

While the Central London ZEZ is being developed we will introduce local ZEZs covering the Barbican and Golden Lane estates and the City Cluster by 2022 (Figure 11). Proposals will be developed in consultation with residents and businesses and will reflect the availability of zero emission capable vehicles, while seeking to accelerate their uptake. We will coordinate proposals with TfL, London Councils and London's boroughs to ensure alignment with other existing and planned zero emissions areas and streets.

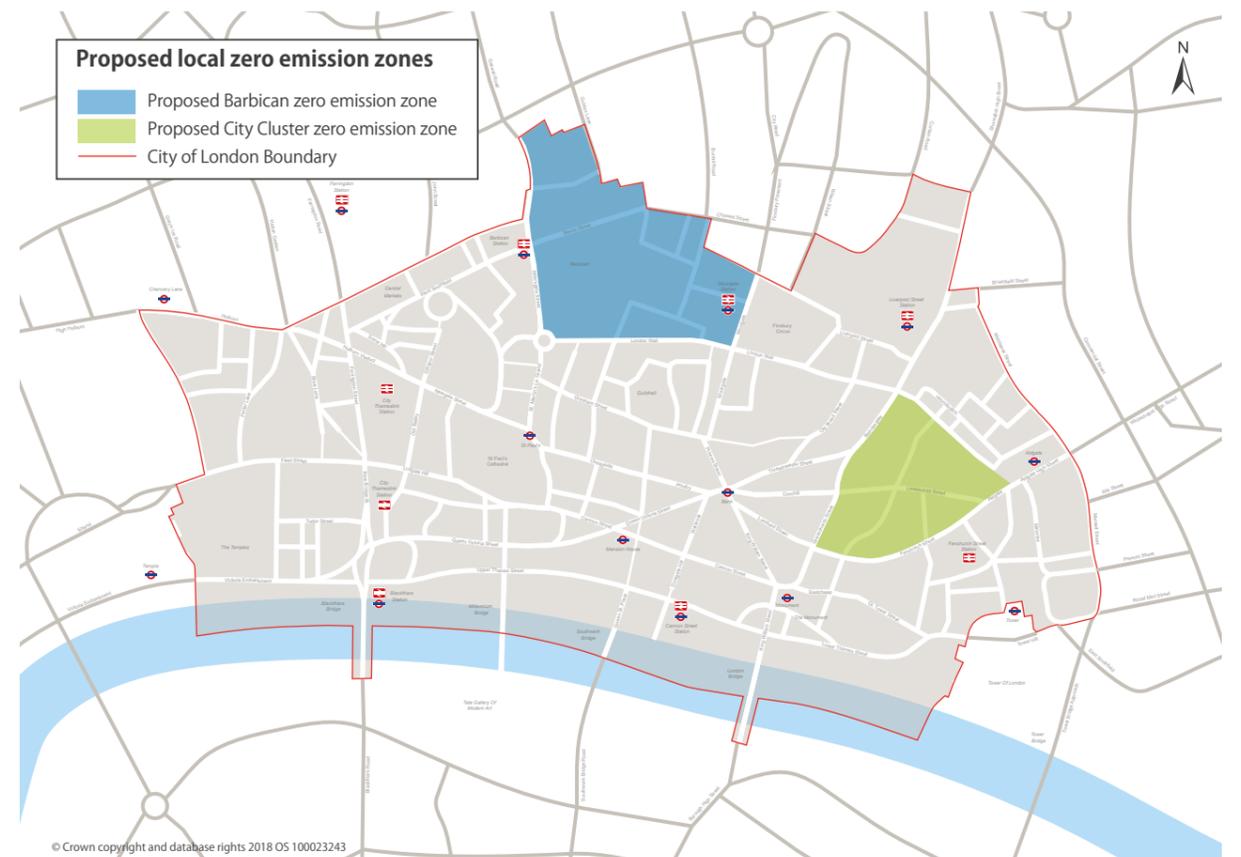


Figure 11: Proposed Local Zero Emission Zones (larger map available on the City of London Transport Strategy webpage)

Existing electric vehicle charging provision

Fast charge points are currently available in all City Corporation public car parks and in the Barbican residents' car park. We are working in partnership with TfL to deliver a rapid charging hub for taxis in Baynard House car park and a single taxi only rapid charge point on Noble Street.

Proposal 30: Install additional electric vehicle charging infrastructure

We will install additional publicly accessible electric vehicle (EV) rapid charge points to support the transition to zero emission capable vehicles. An EV Charging Action Plan will be published by December 2019. This will identify how many charge points, including charging hubs, are required up to 2022, as well as longer-term forecasts. In developing the plan we will consider the charging needs of:

- residents
- Blue Badge holders
- taxis
- freight and servicing
- electric motor cycles and mopeds
- electric bikes

Locations will be identified through engagement with the TfL, EV Infrastructure Taskforce and wider consultation. The first preference will be to install any charge points in car parks or other suitable off-street locations. Where it is essential to locate on-street, charge points will be installed in the carriageway rather than on the pavement and in a way that is sensitive to the streetscape and public realm.

Through the planning process we will require the installation of rapid charge points in new developments with off-street loading. We will also encourage the owners, managers and occupiers of existing buildings with loading bays to install rapid charge points.

The provision of charging infrastructure will be kept under review to ensure it is sufficient to meet the needs of residents and vehicles serving the City without generating additional traffic. Reviews will also consider the need to update, and potentially reduce, charging infrastructure as battery technology improves.

Proposal 31: Request an accelerated roll out of zero emission capable buses

We will urge TfL to prioritise zero emission capable buses on routes through the Square Mile, with the expectation that all buses serving the City will be hybrid or zero emission by 2020. In the longer-term we will request that all buses serving the City are electric or hydrogen by 2030, ahead of TfL's current commitment for all single deck and 80% of double deck buses to be electric or hydrogen by 2035.

Proposal 32: Support small businesses to accelerate the transition to zero emission capable vehicles

We will work with the Government, TfL and manufacturers to develop incentive schemes and favourable leasing arrangements that support small businesses in acquiring zero emission capable vehicles. This will include supporting the switch to non-motor vehicle alternatives, such as cargo bikes. We will consider opportunities, such as preferential pricing for parking/loading for vehicles in this category, to provide time limited incentives to invest in zero emission capable vehicles.

Proposal 33: Make the City of London's own vehicle fleet zero emissions

The City Corporation will upgrade its vehicles, including City Police vehicles where appropriate, which operate in the Square Mile to meet the standards we set for local ZEZs. Contractors vehicles that operate within the Square Mile will also be required to meet these standards. Where possible EV charging infrastructure in City Corporation operational sites will be made available to contractors' vehicles.

Proposal 34: Reduce the level of noise from motor vehicles

The transition to zero emission capable vehicles and general traffic reduction will help to reduce noise from motor traffic. Other measures to reduce noise will include: well-maintained carriageway surfaces and utility access covers; campaigns to reduce engine idling and the inappropriate use of horns; and working with the emergency services to reduce the use and volume of sirens.

We will work with the City of London Police to undertake targeted noise enforcement of motor vehicles that do not comply with legal requirements to maintain an appropriate ('type approved') exhaust or are not within legal decibel limits for the vehicle type.

Proposal 35: Reduce noise from streetworks

The City Corporation will manage and seek to reduce the noise impacts of streetworks through the Code of Practice: Minimising the Environmental Impact of Streetworks. This requires contractors working for the City Corporation and third parties to use the 'best practicable means' to minimise the effects of noise and dust, including:

- Restricting periods of operation of noisy activities
- Undertaking liaison with neighbours
- Using less noisy methods and equipment
- Reducing transmission and propagation of noise, for example by using noise enclosures or barriers
- Managing arrangements including contract management, planning

of works, training and supervision of employees to ensure measures are implemented

A review of the Code of Practice will be undertaken by 2020 to ensure it reflects best practice, with further updates as required. The review will also consider how we can better work with TfL, utility companies and contractors to improve the level of adherence to the Code.

Proposal 36: Encourage innovation in air quality improvements and noise reduction

We will work with the Government, TfL, industry and other partners to encourage the development of innovative solutions to reduce transport related noise and emissions. For example, by supporting trials, sponsoring competitions and awards, and hosting conferences and seminars.

Proposal 37: Ensure street cleansing regimes support the provision of a world-class public realm

Ensure street cleansing regimes support the provision of a world-class public realm. The City's street cleansing regime will ensure all walking routes, cycle routes and public realm areas as well as streets are cleaned to a high standard and kept free of litter.

We will reduce litter from smoking, working with Public Health to support campaigns and initiatives to stop smoking and, if necessary, prosecuting offenders.

We will continue to work with businesses to minimise the impact of waste collection on the public realm, including through time banded collections that restrict the times when rubbish and recycling can be left on the street.





Delivery and servicing needs are met more efficiently, and impacts are minimised

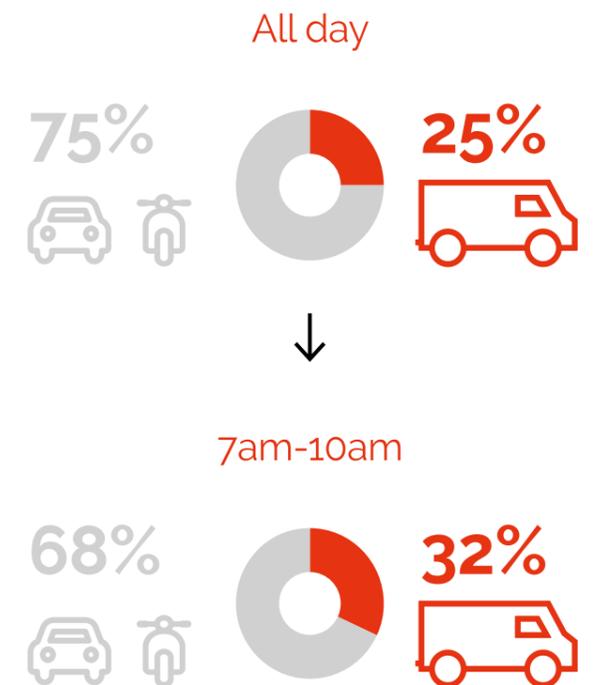
Deliveries and servicing are an essential part of a thriving business district. Delivering this Strategy will ensure these needs are met by fewer, quieter, safer and cleaner lorries and vans. Deliveries for buildings or areas of the City will be grouped together at consolidation centres, meaning fewer, fuller vehicles. The lorries and vans making these deliveries will use the return journey to transport waste and recycling. The Thames will also carry goods into the City as well as waste out, including the materials needed for construction projects. Logistics hubs within the City will enable deliveries to be made by cargo cycles and pedestrian porters. Cargo cycles will also be used for servicing businesses and buildings, with tools and parts securely stored at locations within the Square Mile. New technologies will help improve the routing of deliveries and make it easier to find a place to park or unload.

Freight and servicing vehicles make up 25% of motorised traffic in the Square Mile. This proportion increases to 32% between 7am and 10am, coinciding with the busiest times of day for walking and cycling. 40% of respondents to the City Streets survey felt that the number of lorries and vans on the City's streets is too high, the second highest response after private cars.^{xlii}

Even after the Ultra-low Emission Zone for central London comes into effect freight and servicing activities are still expected to contribute 26% of transport related NOx and 28% of PM2.5 emissions from motor vehicles.^{xliii}

Large goods vehicles make up only 4% of vehicles on the City's streets. However, 38% of collisions that result in someone being killed involved a large goods vehicle as do 21% that result in a serious injury.

25% of motorised vehicles, increasing to 32% in the AM peak



Proposal 38: Reduce the number of freight vehicles in the Square Mile

We will seek to reduce the number of motorised freight vehicles in the Square Mile by 15% by 2030 and by 30% by 2044 and facilitate the transition to ultra-low emission and zero emission delivery vehicles.

To achieve this target, we will work with businesses, suppliers, the freight industry and other relevant partners to deliver an integrated freight programme that incorporates retiming, consolidation, last mile logistics, construction logistics, better use of the river and smarter procurement practices. These solutions are not uniformly applicable to all types of deliveries and we will work with the freight industry to target interventions at the most appropriate types of delivery.

Retiming deliveries

We will explore the potential for area and City-wide timed access and loading restrictions for motorised freight vehicles. Our aim is to reduce the number of these vehicles on our streets in the peak periods by 50% by 2030 and by 90% by 2044, while ensuring businesses and residents can still receive essential deliveries.

Measures to encourage retiming will include:

- Permitting night-time deliveries where there will be negligible impact on residents both en route and in the City. Through the planning process we will ensure all appropriate new developments have restrictions to limit deliveries between 7am-10am, 12pm-2pm and 4pm-7pm
- Engaging with property managers, occupiers and businesses which may wish to retime deliveries and seeking to remove any restrictions in their planning

consents where there will be negligible impact on residents

- Integrating out of peak deliveries as part of the sustainable logistics programme and identify opportunities for retiming freight on an area basis within Healthy Streets Plans (see Proposal 12)
- Working with London Councils, TfL and neighbouring local authorities to modernise the London Lorry Control Scheme (LLCS) to generate more opportunities for out of peak and night time deliveries

Consolidation

Using established best practice, we will work with a partner haulier to provide a consolidation service for the Square Mile by 2022. A major engagement exercise with City businesses will promote and encourage the use of this consolidation service. This will include developing a consolidation toolkit for City businesses, informed by monitoring of the benefits arising from consolidating deliveries to the Guildhall complex.

We will also continue to use the planning process to require all new major developments to use a consolidation service to reduce deliveries to their buildings.

In the longer term we will develop a commercially sustainable approach to consolidation for the Square Mile and establish a sustainable logistics centre to serve the City by 2030. This centre will co-locate major suppliers in a single warehouse, alongside consolidation, waste collection and couriers services.

Last mile logistic hubs

We will enable more deliveries within the Square Mile to be made by cargo cycles, on foot and by small electric vehicles by:

- Delivering two last mile logistic hubs in underutilised City Corporation assets by 2022. A further three hubs will be delivered by 2025
- Establishing additional last mile logistics hubs if appropriate underutilised assets are identified
- Exploring opportunities to acquire new sites within or adjacent to the Square Mile for last mile logistic hubs
- Working with developers and land owners to integrate last mile logistic hubs as part of major City developments

Increase the use of the River Thames for freight

We will maximise the potential to use the Thames for the movement of freight by:

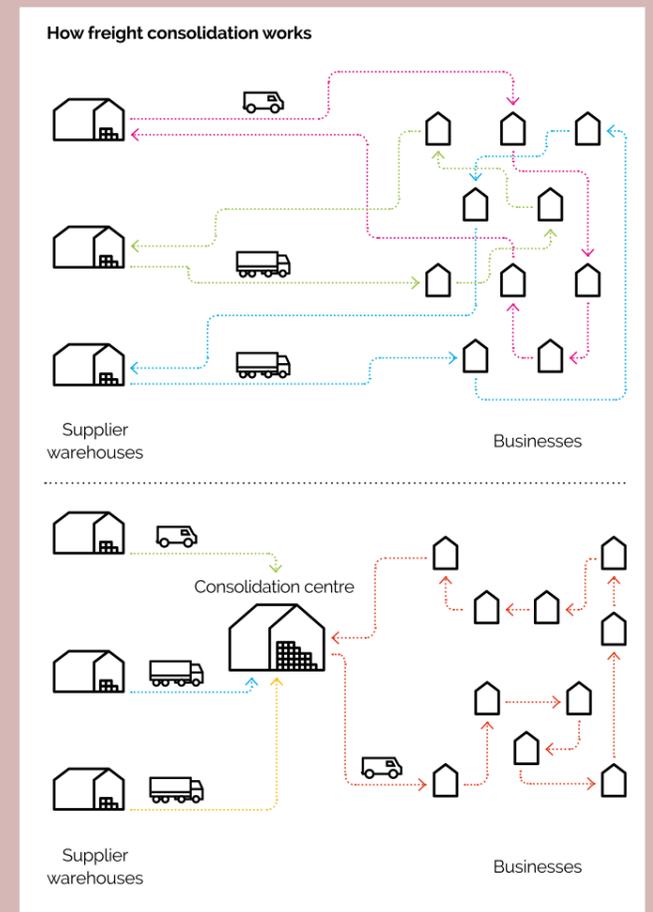
- Maintaining the commercial waste operation at Walbrook Wharf and supporting additional waste carried through the Wharf
- Identifying opportunities to increase the use of the river for freight deliveries to the Square Mile
- Working closely with Thames Tideway to identify future opportunities for their wharves and barges once construction is completed
- Working with river freight operators to ensure that their fleets meet Port of London Authority air quality standards and avoid adverse impacts on water quality and biodiversity
- Exploring the use of Blackfriars and Tower Piers and a reinstated Swan Lane Pier as points to transfer freight for last mile delivery on foot or by cargo cycle

Freight consolidation

Freight consolidation involves routing deliveries to a business, building or area via a warehouse where they are grouped together prior to final delivery. This approach means that the final stage of delivery is made by fewer, fuller vehicles, significantly reducing the number of lorries and vans making deliveries.

Case studies have shown that freight consolidation can reduce the number of delivery trips by 46 – 80%.^{xiv} Enabling freight consolidation is critical to achieving our targets for reducing freight vehicles.

Examples of consolidation include the Bristol and Bath Consolidation Centre, the London Borough Consolidation Centre and Regent Street Clipper Consolidation. The City Corporation already mandates the use of consolidation centres in planning consents, including 22 Bishopsgate and 1 Undershaft, to mitigate the impact of new development on City streets.



Reducing the impact of construction logistics

To facilitate future development while minimising the impact of construction logistics, we will:

- Work with TfL to update Construction Logistics Plan guidance by 2019. This updated guidance will include stricter expectations for construction consolidation and on-site waste compaction. It will also review the potential for emerging technology, such as 3D printing or higher payload and carrying potential of new rigid axle vehicles to reduce the number of deliveries
- Work with developers and contractors to adapt and develop construction delivery management systems to facilitate retiming of deliveries to outside the 7-10am peak
- Through the planning process, require all development within the City to consider use of the River Thames for the movement of construction materials and waste

Procurement and personal deliveries

To encourage smarter commercial decision making for our businesses and influence how residents and workers get goods delivered, we will:

- Share information on the impact of personal deliveries on traffic in the City, including air quality and road danger and promote the use of click and collect services
- Establish a collaborative procurement programme for the Square Mile by 2022. This will allow businesses, particularly small and medium sized

businesses, to share suppliers and waste services. We will work with Cheapside Business Alliance and the Aldgate Partnership to trial the programme prior to a City-wide roll out

- Identify opportunities for other City Corporation initiatives, such as Plastic Free City and our Responsible Business Strategy, to support efforts to reduce the number of deliveries and waste collections

Proposal 39: Develop a sustainable servicing programme

We will work with servicing businesses and facility and property managers to develop a Servicing Action Plan, to be published by 2020. This will identify opportunities to reduce the number of vans and other service vehicles in the Square Mile while seeking to improve response times and quality of service. We will also explore the potential to provide secure storage space for tools and materials as part of last mile delivery hubs to reduce the need for engineers to travel to and around the Square Mile by van.





Our street network is resilient to changing circumstances

It is inevitable that people using our streets and transport networks will experience occasional disruption. This includes disruption caused by construction and streetworks, breakdowns and severe weather. By delivering this Strategy we will ensure that these disruptions have as little impact on the ease and experience of travelling in the City as possible. Streets will be kept open to people walking and cycling during construction and streetworks. Long-term works that require streets to be closed to traffic will provide an opportunity for people to enjoy the benefits of a traffic-free environment, and to assess the potential for permanent change. When necessary, alternative routes will be made available for motor traffic on streets that are normally only used for access. The Square Mile will be prepared for the impacts of a changing climate or more extreme weather events; enabling people to comfortably use the City streets regardless of the weather.

Every year the City Corporation receives around 9,500 applications for permits to work on the highway, approximately half of these are from utility companies, and half for street maintenance and improvements. 85% of these applications are approved. In 2015/16 combining streetworks through collaborative working 'saved' 763 excavation days. Using TfL's calculation

on the economic benefit to London as a result of days of disruption saved, the estimated saving for the Square Mile is in the region on £1.1m based on an average benefit of £1,500 per day.^{xlv}

Extreme weather events, including higher rainfall and temperatures, are increasing as a result of a changing climate.^{xlvi} Further details of the likely impacts of climate change on transport in the Square Mile will be included in the final version of this Strategy, following publication of the Met Office's Climate 2018 projections in November 2018.

The City Corporation receives over

4,500

requests a year for our streets to be dug up for IT, electricity, water and gas works



Proposal 40: Allow some Local Access streets to function as City Access streets during significant disruption

We will maintain a primary 'resilience network' for motor vehicles that can be 'switched on' in response to significant planned or unplanned disruption (Figure 12). Local Access streets on the resilience network will be designed to allow temporary reopening to through traffic or occasionally accommodate higher volumes of motor vehicles. This approach will also ensure that emergency services can use these streets when necessary.

Appropriate management arrangements will ensure streets remain safe for all users, such as a clear demarcation of pedestrian space, lower speed limits and marshalling. We will explore the use of technology for advanced messaging both on-street for all users and through in-vehicle navigation systems to communicate and manage changing or temporary arrangements. Monitoring of any uses of Local Access streets in this way will be included to ensure management arrangements are working well and to ensure any negative effects on the built environment and air quality are mitigated.

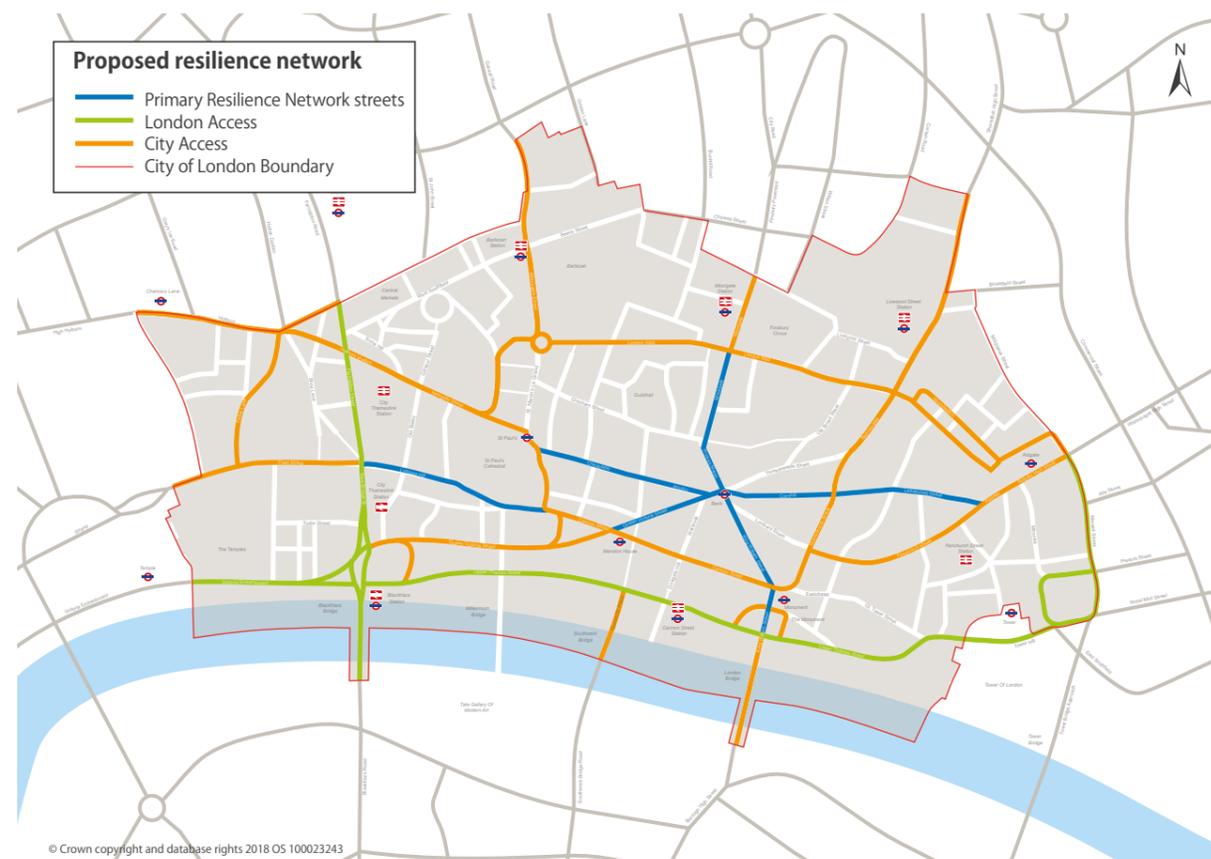


Figure 12: Proposed primary resilience network (larger map available on the City of London Transport Strategy webpage)

Proposal 41: Reduce the impact of construction and streetworks

The needs of people walking will be prioritised during streetworks and construction, with the aim of maintaining a comfortable and accessible walking route on both sides of the street, with space reallocated from general traffic as necessary. Accessible diversions must be provided if space constraints do not allow an acceptable level of temporary provision.

We will work with utility companies, contractors and developers to minimise the impact of construction and streetworks on people walking and cycling. Traffic management plans for construction sites and streetworks will maintain access for different users in accordance with the following hierarchy:

- Walking
- Cycling
- Buses and taxis
- Freight access
- General traffic

We have a Network Management Duty which requires us to ensure we apply best practice to managing streetworks. We will review this in 2019 and on a regular basis to ensure our activity and processes remain up to date and effective.

Within the context of the Network Management Duty, we will encourage the drafting of legislation to allow penalties to be charged against developments that overrun their agreed licence periods for scaffolds and hoardings.

We will review the City's Guidance Notes for Activities on the Public Highway in 2019 to ensure that guidance is in line with best practice and the requirements

outlined above. A review will include considering the opportunity to introduce lane rental controls on our major streets to further reduce the impact of street works.

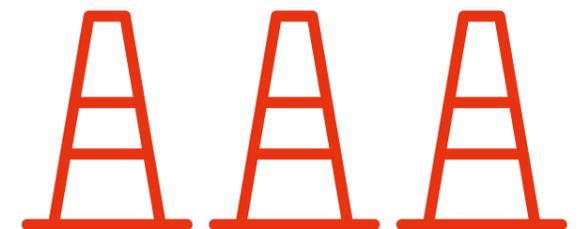
We will seek to minimise disruption caused by streetworks by:

Encouraging collaborative working and coordinating street works

Exploring the potential for new technology to reduce noise and the extent of works and speed up delivery

Reducing the duration of works by allowing extended and night-time working where noise considerations allow, while maintaining protection for residents

Improving signage and permit information, to include contact details, purpose of works and other information such as reason for site inactivity



- 763 days

In 2015/16 combining streetworks through collaborative works saved 763 excavation and closure days

- Improving communication through better engagement with businesses and residents for longer duration works
- Work with TfL to improve communication on the impact of streetworks and other maintenance on public transport services
- We will work with TfL to explore the potential to further adjust traffic signal timings to reflect actual and modelled traffic flows during periods of network disruption. We will also explore new adaptive traffic control technologies as they emerge through our Future Transport Programme (Proposal 43)

We will work with the utilities sector to establish a Utilities Taskforce that will identify future infrastructure requirements (based on City Plan 2036 growth forecasts) and a programme of planned investment. This will help improve the coordination of large scale utilities works and minimise associated disruption.

We will use medium and long-term street closures as an opportunity to open streets to people, for example working with businesses to provide temporary seating or programmed events. We will also monitor the traffic impacts of long-term street works to inform transport and resilience planning and assess the potential for retaining capacity reductions or access restrictions.

Proposal 42: Make the street network resilient to severe weather events

We will work with the London Climate Change Partnership Transport Adaptation Sector Group (TASG) to ensure the street network and transport system remains open during severe weather events. With TASG, we will undertake risk assessments based on current and predicted impacts of climate change and develop mitigating measures that will be implemented when thresholds are reached, including temperature change or levels of rainfall. This process will ensure the City Corporation and TfL are prepared to respond to extreme weather events that may affect our streets, the TLRN and rail and Underground networks.

The initial programme for the TASG first stage assessment is set out below:

- Agree indicators and complete transport sector assessments (autumn/winter 2018)
- Publish assessments (late 2018)
- Review and update every two years

Further detailed assessments and mitigation plans will be informed by the Met Office's 2018 Climate projections, which will be released in November 2018.

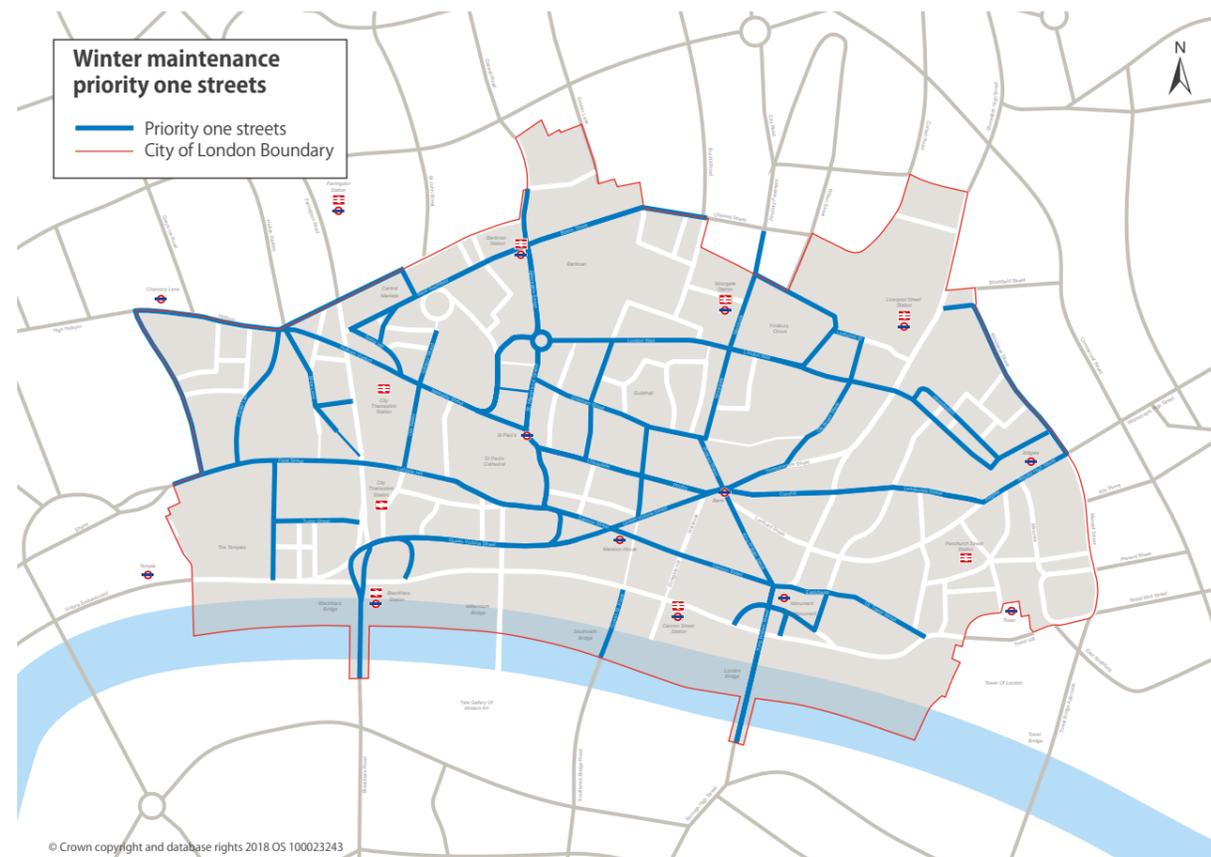


Figure 13: Winter maintenance priority one streets (larger map available on the City of London Transport Strategy webpage)



Emerging transport technologies benefit the Square Mile

The advent of new transport technology innovations, such as autonomous vehicles (AVs) and new apps and services, promise to change the way our streets function and the way we choose to travel on them. Delivering this Strategy will ensure that transport innovations are seamlessly integrated into the fabric of the City and improve the experience of travelling and spending time on the Square Mile's streets. A proactive rather than reactive approach to policy making will ensure appropriate policy and legislation is in place while supporting and accelerating beneficial innovations. The City will be a test-bed for urban transport innovations and seen as a world leader in improving people's personal mobility and livelihoods through new technologies.

Close to £1 billion is being spent on autonomous vehicle development in the UK alone^{xlviii} and industry experts are now suggesting that self-driving cars will be running on our streets in less than four years.^{xlix} Transport Systems Catapult forecasts that a quarter of global new vehicle sales in 2035 will be autonomous. Disruptive technologies, such as Uber, have already demonstrated their ability to rapidly change how people travel. They have also highlighted the potential negative impacts of these changes, leading to more motor vehicles on London's streets. While no one is certain of what the future holds the City must be ready to respond in a way that supports the successful implementation of this Strategy.

Transport Systems Catapult

25%

of global new vehicle sales in 2035 will be connected and autonomous vehicles



Proposal 43: Establish a Future Transport Programme

We will establish a Future Transport Programme to work with developers and operators of new mobility innovations. This programme will:

- Engage with industry, academia, government Catapults, local governments, and local and international partners to deliver transport innovation and technology trials across the City, including trials on:
 - App-based parking and un/loading permitting and enforcement
 - Technology-assisted kerbside space reallocation

- On-demand accessible shuttles and shared transport services
- App-assisted pedestrian crossing technologies for the partially sighted and people who require more time to cross
- Geofencing and permitting
- Use of drones to support emergency services and make urgent deliveries to hospitals
- Technology to support the delivery of Vision Zero by reducing the likelihood and severity of collisions
- Identify measures required to support the uptake of appropriate mobility solutions, such as off-street storage of shared autonomous vehicles
- Host conferences and seminars and support competitions and awards for transport innovations and technologies
- Explore the potential for commercial opportunities and partnerships within the transport technology and innovation industry

A Future Transport Action Plan will be developed and published by 2020 in consultation with the Future Transport Advisory Board (Proposal 44), City workers, residents, and other interested groups.

We recognise the significant potential for new technologies to improve the City's streets and will openly enter into discussion with innovators. Future transport innovations will be considered appropriate for trial and use in the City context if they support the delivery of Healthy Streets and adhere to the following requirements (when applicable):

1. Support priority for people walking and efforts to enable more people to choose to walk, cycle and take public transport, and not shift people

from these sustainable travel modes to unsustainable travel modes

2. Contribute to efforts to reduce motor vehicle volumes and mileage and not increase motor traffic volumes
3. Ensure that all users, including disabled users, are accommodated and that no street user is excluded
4. Lead to an overall increase in vehicle occupancy and loading
5. Help make our streets safer and not increase road danger, collision rates, collision severity, terrorism risk, or the need for additional policing or enforcement
6. Reduce vehicle speeds and ensure vehicles travel at speeds appropriate to conditions and the City context
7. Minimise obstructions to vehicles and people walking, and not permanently obstruct pavements or add clutter
8. Improve the efficiency of kerbside use and not increase parking or loading space requirements
9. Help spread travel demand, for both people and goods, more evenly across the day, such as outside morning, lunchtime and evening peaks and overnight
10. Help make streets and the City's air cleaner and quieter by reducing transport related emissions and noise
11. Improve the experience of using the City's streets and open spaces and support efforts to increase the amount of public space

Additional requirements apply to the introduction of connected and autonomous vehicles, drones and droids on our streets.

- **Autonomous vehicles** must not require any changes or infrastructure

that have a negative impact on our streets, such as bollards or barriers

- **Drones** must not operate without Civil Aviation Authority and City of London permission
- **Droids** must not operate on pavements or in such a way as to obstruct or pose a danger to any user of our streets

Developers and operators of new transport innovations and services are expected to:

- Share all beneficial data generated or collected with the City Corporation to aid in policy and decision making
- Not discriminate against any potential user, either through active discrimination, profiling or algorithmic/AI discrimination or bias
- Accommodate every user, especially those requiring wheelchairs or mobility aids when innovations and technologies incorporate motor vehicles
- Not generate any unreasonable additional costs for the City Corporation or users
- Ensure any supporting digital software and hardware is sufficiently and rigorously safeguarded from malicious use or intent that could pose a risk to physical or digital safety in the City
- Readily and proactively engage with the City Corporation, City residents and workers, students, and other interested parties

Proposal 44: Establish a Future Transport Advisory Board

To ensure that we can identify and proactively respond to future transport innovations we will establish a Future Transport Advisory Board. Board membership will include the City of London Police, industry partners and experts, academics and user groups.

The Future Transport Advisory Board will meet twice a year to:

- Support and advise on the activities of the Future Transport Programme
- Advise on emerging transport technology and innovation industry trends, and suitable responses to them
- Act as a sounding board on the City's approach to managing upcoming innovations and technological launches
- Review the City's future mobility policies, positions, and trials
- Help facilitate connections and relationships between City officials and the wider transport technology industry

Proposal 45: Explore the need for legislative change to ensure emerging technology and innovation benefits the Square Mile

We will support and engage with all levels of government, industry and sector representatives to develop frameworks and legislation for future transport and ensure overall positive outcomes for the Square Mile, London and other cities. Initially we will seek local and national legislative action on:

- Licensing for the semi and fully-autonomous vehicle market, alongside the development of safety, design, digital security, and supporting infrastructure regulations
- Strengthening existing Civil Aviation Authority regulations on small remotely-piloted aircraft and drones
- Clarifying the operating parameters of droids and other small autonomous vehicles
- Regulating the dockless cycle hire industry, as outlined in Proposal 28

Emerging transport technologies

Autonomous vehicles, also known as driverless cars or AVs, are vehicles equipped with sensors and on-board computers that allow them to effectively drive themselves. There are many levels of automation, from partial automation, which can include self-parking cars and adaptive cruise control, to full automation and a hands-off driving experience. The autonomous operation of motor vehicles on our streets could significantly reduce road danger and improve traffic flow.

Drones, also known as unmanned aerial vehicles or UAVs, are small flying vehicles which rely on remote-controlled piloting or fly using onboard sensors and GPS. The operation of drones in the City could improve delivery times of sensitive or high-value goods such as medical supplies and may aid in asset inspection, construction site monitoring, and emergency services activities.

Droids are small wheeled vehicles that are controlled by remote-controlled piloting or onboard sensors and GPS. The use of droids in the City could include couriers and deliveries.

Shared mobility services are transport services that share the use of a vehicle for personal travel, examples include ridesharing and pooled rides.



Example of an autonomous vehicle

Photo credit Creative Commons



Example of a shared mobility service

Photo credit Citymapper



Example of a drone

Photo credit Creative Commons



Example of a droid

Photo credit Starship

Proposal 46: Support and champion better national and international connections to the Square Mile

We will work with the Mayor of London, TfL, the Government, airport and rail operators and other related partners to improve national and international connectivity to the City, including through supporting:

- Increased airport capacity in the South East, recognising that this will most efficiently be delivered through a third runway at Heathrow, to be delivered as soon as possible
- Improved connectivity to London's airports through:
 - Increased capacity and additional frequency on the West Anglia Main Line to Stansted Airport
 - A new Crossrail station at City Airport, constructed at the same time as the delivery of the Ebbsfleet extension
 - Increased DLR frequency to City Airport
- The delivery of High Speed 2 as quickly as reasonably possible
- Improved national rail access to London, including electrification, station expansions and general service improvements

Proposal 47: Support and champion improved connections to the Square Mile from Greater London and the surrounding region

We will work with the Mayor of London, TfL, Government, local authorities neighbouring the City and other related partners to improve regional connectivity to the Square Mile, including through supporting:

- Devolution of suburban rail service franchising to TfL, with a view to providing a London Suburban Metro service by 2030
- Accessibility improvements to rail and Underground stations in the Square Mile, as outlined in Proposal 19
- Extending the Overground to Barking Riverside
- The delivery of Crossrail 2 as soon as reasonably possible
- Enhancing the coverage and frequency of 24-hour public transport services in central London, including increasing the number of lines operating night-tube services, enhancing the 24-hour bus network, and improving night-time DLR and rail operations, including Crossrail. Any extensions to operating hours must take account of the need to avoid noise and other impacts on people living in, working in, studying in, and visiting the City
- Enhanced 24-hour bus services to/from the City
- Improvements to Liverpool Street Rail Station, including enhancing step free access and improving entry points and reviewing bus interchange

- Exploring the feasibility of Sunday operation of the Waterloo and City Line
- Immediate improvements to street-level interchange between Fenchurch Street and Tower Hill, Tower Gateway and Aldgate stations, including wayfinding. Exploration of the feasibility of a direct interchange route between Fenchurch Street and Tower Gateway and Tower Hill
- Access and capacity improvements at Aldgate Station and exploration of the feasibility of a direct interchange between Aldgate and Aldgate East stations
- Extending the Metropolitan Line to Watford Junction and the Bakerloo Line to Lewisham

- The delivery of more high-quality cycling routes to and through central London including Quietways and Cycle Superhighways
- Improved walking connections to boroughs neighbouring the City

Proposal 48: Support the increased use of the Thames for passenger services

We will work with partners including TfL River Services, the Port of London Authority and riverboat operators to increase the use of the River Thames for passenger services. Activities will include promotion of river services, enhancing walking routes to Blackfriars and Tower piers and improving overall pier efficiency and accessibility. We will explore the potential to reinstate Swan Lane pier for

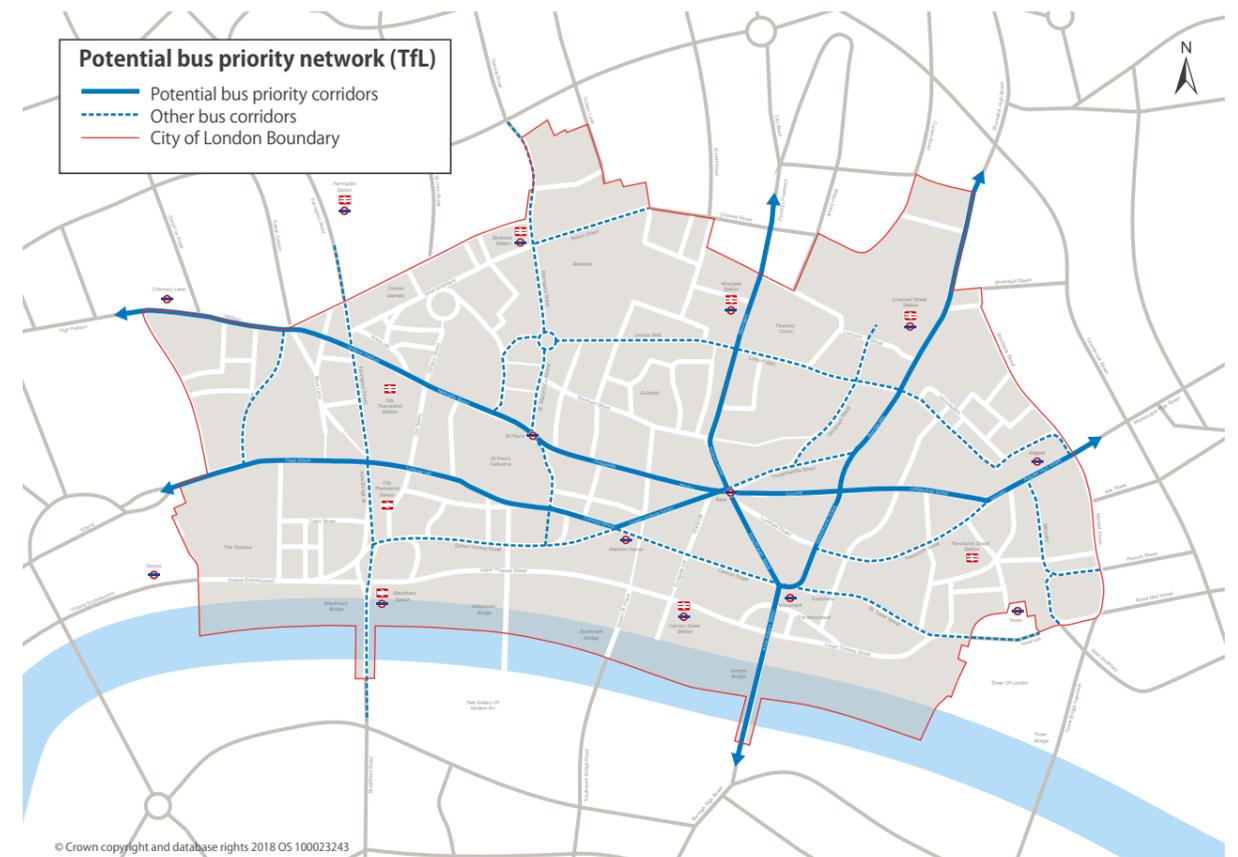


Figure 14: Potential bus priority network (larger map available on the City of London Transport Strategy webpage)

leisure and passenger services. We will also work with river passenger service operators to ensure that their fleets meet Port of London Authority air quality standards and avoid adverse impacts on water quality and biodiversity.

Proposal 49: Review bus provision across the City

We will support TfL's ambitions to adjust bus services in Central London, taking account of the forecast fall in demand following the opening of the Elizabeth Line.

We will work with TfL to improve bus journey times to and connectivity through the Square Mile by:

- Reviewing bus routing and frequency throughout the City to optimise routing
- Introducing targeted junction improvements to enhance bus priority
- Identifying opportunities to improve bus priority when developing and implementing Healthy Streets Plans (see Proposal 12) and major projects

The key routes for bus priority measures are shown in Figure 14. Improvements to these routes will be delivered by 2030.

Proposal 50: Support the Mayor of London in retaining locally-generated taxation

We will support the Mayor of London and TfL's efforts to retain additional locally-generated taxation, such as vehicle excise duty, to fund investment in transport infrastructure across the Capital, including investment to help deliver the outcomes of this Strategy.

Proposal 51: Encourage continued Government investment in major London transport projects

We will continue to encourage the Government to invest directly in strategic Healthy Streets projects and programmes and large transport infrastructure projects, such as Crossrail 2. Significant investment across Greater London is required to ensure the Capital remains an attractive place to live, work, study and invest and protect the significant contribution London makes to the national economy.



Delivering the Strategy



Photo credit © C. Tolman

Delivering the Strategy

Projects and programmes

The major projects and programmes that will be delivered by the Transport Strategy are summarised below. Further details on the projects that will be delivered in the first three years will be set out in

the Transport Strategy Delivery Plan. The Delivery Plan will be published on our website by the end of 2019 and then updated on an annual basis.

Table 1: Key projects and programmes

Project	2022	2025	2030	2040	2044	Key area of change
City-wide 15mph speed limit						
Legible London roll out						
Kerbside uses review						
Lunchtime Streets						
Last-mile delivery hubs						
Streets Accessibility Programme						
Sustainable logistics centre						
Road Danger Reduction priority schemes						
Pedestrian Priority/Healthy Streets projects						
Road Danger Reduction campaigns						
Location specific						
City Cluster Zero Emission Zone						City Cluster
Barbican & Golden Lane Zero Emission Zone						Smithfield & Barbican
Core cycle network Phase 1						City Cluster; Smithfield & Barbican; Liverpool Street
Core cycle network Phase 2						Fleet Street; Smithfield and Barbican
Bank Junction area						
Moorgate area						Moorgate and Liverpool St.
Culture Mile						Smithfield & Barbican
Museum of London roundabout, St Paul's gyratory						Smithfield & Barbican
City Cluster area strategy						City Cluster
Fleet Street and Courts area						Fleet Street

Managing delivery

Further details on the actions and programmes to deliver elements of this Strategy will be set out in a series of reviews and delivery plans, including:

- The Transport Strategy Delivery Plan, a rolling three-year delivery plan that will be updated on an annual basis
- Healthy Streets Plans, providing details of how we will manage the street network in areas of the City in accordance with our proposed Street Hierarchy (Proposal 12)
- A City-wide kerbside review to better understand and manage kerbside activities on our streets (Proposal 14)
- Streets Accessibility Delivery Plan, which will set out the timetable for delivering necessary improvements needed to meet the proposed COLSAS standards (Proposal 16)
- Road Danger Reduction Action Plan, a five-year delivery plan for measures to achieve Vision Zero and implement the safe systems approach (Proposal 20)
- Servicing Action Plan, which will identify opportunities to reduce the number of vans and other motorised service vehicles in the Square Mile (Proposal 39)
- Future Transport Action Plan, assessing and identifying opportunities to support transport technologies that will help deliver this Strategy (Proposal 43)

We will continue to engage and consult with City residents, workers, businesses and other relevant street users and partner organisations as we develop and deliver this Strategy. Any projects that will lead to significant and permanent changes to the form or function of our street network

will also undergo transport and traffic modelling. Impact assessments, including Environmental Impact Assessments and Equality Impact Assessments, will be conducted for all relevant projects and proposals. These will test options and ensure potential benefits are maximised and any potential negative impacts are identified and mitigated. Modelling and assessments will consider potential impacts beyond the Square Mile.

Proposal 52: Use temporary interventions and trials to accelerate the pace of delivery

Delivering changes to our streets can take time. We will use temporary and experimental measures to quickly deliver functional changes to our streets and allow people to begin enjoying the benefits of change as we work towards full delivery. If appropriate, will also use temporary interventions to 'live trial' major change, allowing proposal to be tested and, where necessary, refined. We will consult on any changes made to our streets in this way prior to any trials becoming permanent. We will also work closely with our neighbouring boroughs to ensure the impacts of our trials are understood both within and beyond our borders. This approach will allow people to better understand the nature of proposed changes and provide feedback based on real experience.

Funding delivery

The delivery of this Transport Strategy will be funded from a range of sources, including:

- Money received from TfL, including:
 - LIP Corridors and Neighbourhoods – an annual allocation that contributes to projects identified in our LIP



Bank on Safety

The Bank on Safety experimental scheme closed Bank Junction to traffic – except buses and cycles – between 7am and 7pm, Monday to Friday. Using an experimental traffic order meant that safety improvements could be delivered quickly while allowing the wider impacts of the scheme to be monitored before deciding on permanent change.

Photo credit © C. Totman



Hackney Parklet

This 'parklet', delivered with funding from the Mayor of London as part of Hackney Council's Low Emission Neighbourhood, provides eight cycle parking spaces, seating, shade, planting and lighting – transforming a space that would normally be occupied by two cars. The design allows it to be constructed in two days.

Photo credit © Oliver Eglin / Hackney Council

- Liveable Neighbourhoods – funding for large projects that encourage walking, cycling and the use of public transport, allocated through a bidding process
- Strategic funding – funding for specific priorities or initiatives, such as cycling infrastructure, air quality improvements and bus priority
- The City Corporation's on-street parking reserve – reinvesting revenue from parking charges and penalty charge notices
- Contributions from developers through the Community Infrastructure Levy, Section 106 and Section 278

The long-term nature of this Strategy means we have not scoped the full cost for all projects and programmes outlined above. However, a core principle will be to generate the necessary revenue/funding to make the delivery of this Strategy largely self-supporting.

Measuring and reporting progress

Progress on delivering this Strategy will be publicly reported to the City Corporation's Planning and Transportation Committee on an annual basis from March 2020. Every two years we will publish a City Streets report which will include data on our targets set out in Table 2, the key performance indicators set out in Table 3, and analysis of traffic trends based on our vehicular and pedestrian traffic counts collected every two years.

The Transport Strategy evidence base is available on our website. This provides further details of the analysis that has informed the development of this Strategy.

Proposal 53: Improve our monitoring of transport in the Square Mile

We will improve the quantity and quality of data we hold on transport in the City by:

- Exploring the potential to improve our City-wide database of vehicular and pedestrian traffic counts by increasing count locations and the number of count days
- Repeating the City Streets survey every two years to understand what people who live and work in, or travel through the Square Mile think about transport and streets in the City
- Exploring the potential to gather ongoing feedback through web or app-based surveys and interactive maps
- Making best use of technological advancements in sensors and other monitoring methods to improve both the quality and the quantity of data we collect, reduce of the cost of data collection, and increase the speed of data processing
- Sharing data with other organisations that collect metrics on relevant indicators
- Ensuring our data is standardised whenever possible and protected from inappropriate use or exploitation
- Exploring opportunities to make our databases more publicly accessible (in compliance with GDPR) when relevant

Some of the data used for monitoring and evaluating the Strategy will be provided by outside organisations. We will engage with these data owners and sources to review our targets and performance indicators as new datasets become available, and work with them to obtain data and information that is appropriate, up to date, and reliable.

Table 2: Key targets

Metric	Baseline	2030 Target	2044 Target
Reduction in motor vehicle traffic (counted in our traffic composition survey counts)	185k	139k (25%)	93k (50%)
Motor vehicle volumes have dropped by more than 50% in the last 20 years. Further reductions are needed to support the delivery of this Strategy and address the concerns of City residents, workers, and visitors - more than four in five feel motor vehicle volumes in the City are too high. We are aiming for a 25% reduction in motor vehicle volumes across the City by 2030. This aspiration recognises that the City has historically low levels of traffic and that further reductions will be challenging and require proactive intervention. By 2044, we have aimed to reduce motor vehicle volumes by at least 50% from current levels. This level of reduction seeks to remove nearly all non-essential motor traffic on City streets while acknowledging that a modest level of essential traffic will remain to support personal accessibility, delivery and servicing activities and other functions.			
People rating experience of walking in the City as pleasant	10%	35%	75%
90% of all journeys made on the City's streets are partially or entirely walked. At present, only 10% of people rate the experience of walking on the City's streets as pleasant, with 63% and 27% rating the experience as acceptable and unpleasant respectively. We are aiming for over a third of people to find our streets pleasant places to walk by 2030. This aspiration recognises that significant changes to streets are required to improve the walking experience and that some of these will take time to implement. By 2044, we aim for at least three quarters of people to rate the experience of walking as pleasant. This figure recognises that a range of factors can influence the experience of walking, including adverse weather, streetworks and construction, and that these may affect survey responses.			
Number of kilometres of pedestrian priority streets	25km (25%)	35km (33%)	55km (55%)
There are just over 100 kilometres of streets and walking routes in the City. 25 kilometres of these are already pedestrian priority or pedestrianised. This includes the City's high walks, alleyways and publicly accessible routes through City gardens and developments. By 2030, we aim to increase the number of pedestrian priority or pedestrianised streets by 10 kilometres. This will be achieved by converting over 12% of City streets currently open to motor traffic to access only, full pedestrianisation or timed pedestrianisation. By 2044, we aim for at least half of the City's streets and routes to be pedestrian priority or pedestrianised. These targets recognise that some streets will still need to facilitate the movement of essential traffic around the Square Mile (these streets will be subject to separate measures that will significantly improve the experience for people walking such as widening footways and improving pedestrian crossings).			
Number of people killed and seriously injured on our streets	54 KSIs	<16 KSIs	0 KSIs
For the last 10 years there have been more than 50 deaths or serious injuries per year on the City's streets. We aim to deliver Vision Zero and eliminate death and serious injuries by no later than 2040. This target reflects the scale of intervention required to design and implement road danger reduction projects across the Square Mile. We will deliver a pace of change that achieves a 70% reduction in death and serious injuries by 2030. These targets are also in line with the Mayor's ambitions for Vision Zero and the trajectory identified in the MTS.			

Table 2 continued: Key targets

People rating experience of cycling in the City as pleasant	4%	35%	75%
<p>At present, only 4% of people cycling on our streets rate the experience as pleasant, with 40% and 56% rating the experience as acceptable and unpleasant respectively. We have aimed for over a third of people to find our streets pleasant places to cycle by 2030. This aspiration recognises that significant changes to streets are required to improve the cycling experience and that some of these will take time to implement. By 2044, we aim for at least three quarters of people to rate the experience of cycling as pleasant. This figure recognises that a range of factors can influence the experience of cycling, including adverse weather, streetworks and construction, and that these may affect survey responses.</p>			
Increase in the number of people cycling (counted in our traffic composition survey counts)	44k	66k (+50%)	88k (+100%)
<p>The number of people cycling has quadrupled across the Square Mile since 1999 but has not grown significantly in the last five years. Transport for London have identified that there are over 15,000 journeys each day that are currently made by motorised modes to, from and around the Square Mile that could be cycled in part or in full. We are aiming for a 50% increase in cycling by 2030. This aspiration recognises that significant changes to streets are required to deliver our core cycling network and that changes are also required on routes to the City. By 2044, we aim for cycling rates to be at least double what they are today. We believe this can be delivered through converting most potentially cyclable trips, encouraging cycling for a wider range of purposes and maintaining or improving existing rates of cycling as the City's workforce grows.</p>			
Proportion of zero emission capable vehicles entering the City	N/A	90%	100%
<p>Our target is that 90% of all vehicles entering the Square Mile will be zero emission capable by 2030. This will be reflected in the phasing of access restrictions through the implementation of local and central London Zero Emission Zones. The target recognises that for zero emission capability may not be available for some vehicle types, such as goods vehicles. By 2044, we anticipate that manufacturers will have zero emission capable models available for all vehicles types.</p>			
Reduction in motorised freight vehicle volumes (counted in our traffic composition survey counts)	39k	15%	-30%
<p>Freight vehicle numbers have decreased by more than a third since 1999. However, without intervention they are likely to increase in the future due to the projected growth in the working population of the Square Mile and the changing nature of e-commerce and purchasing patterns. Half of freight vehicles pass through the City without stopping, mostly using the TLRN. These are included in the target figures. Given this context, we are aiming for at least a 15% reduction by 2030 and a 30% reduction by 2040. These figures reflect the timescales for implementing new freight infrastructure and operating models and recognise that there is always likely to be a need for some deliveries to be made by motor vehicles.</p>			

Table 2 continued: Key targets

Reduction in motorised freight vehicle volumes (counted in our traffic composition survey counts)	18k	50%	90%
<p>Freight and servicing accounts for 25% of motor vehicles across the day, however this proportion increases to 32% during the morning peak. The targets of a 50% reduction in motorised peak time freight vehicles by 2030 and a 90% reduction by 2040 reflect the need to work with City businesses and the freight industry to enable significant retiming of deliveries. The longer term target also recognises that some freight, such as construction materials and some exceptional business critical deliveries will not be able to be retimed.</p>			

Table 3: Additional key performance indicators

Indicator	Baseline data source	Data collection method
The City's streets are great places to walk and spend time		
Key target: People rating experience of walking in the City as pleasant	City Streets Survey	City-wide public survey
People rating pedestrians on our streets as being prioritised	City Streets Survey	City-wide public survey
People rating the space given to pedestrians on our streets as adequate	City Streets Survey	City-wide public survey
Key target: Number of kilometres of pedestrian priority streets	Current City of London street network	GIS surveying/Traffic Composition Survey
Pavements with Pedestrian Comfort Level of B+	City Pedestrian Model output	GIS surveying
Number of crossings with 60 second cycle times	Transport for London	Transport for London
Street space is used more efficiently and effectively		
Key target: Reduction in motor vehicle traffic	Traffic Composition Survey	Traffic Composition Survey/Congestion Charging statistics
The Square Mile is accessible to all		
Number of streets not meeting COLSAS minimum standard	---	Annual review
Number of streets not meeting COLSAS desired standard	---	Annual review
People using our streets and public spaces are safe and feel safe		
People rating experience of safety from crime and terrorism as safe	City Streets Survey	City-wide public survey
Number of people slightly hurt in a collision	ACCSTATS/STATS19	---

Table 3 continued: Additional key performance indicators

Key target: Number of people killed and seriously injured in a collision	ACCSTATS/STATS19	---
More people choose to cycle in the City		
People rating experience of cycling in the City as safe	City Streets Survey	City-wide public survey
Key target: People rating experience of cycling in the City as pleasant	City Streets Survey	City-wide public survey
Key target: Increase in cycling traffic	Traffic Composition Survey	Traffic Composition Survey
Gender ratio in cycling traffic	---	City-wide public survey
The City's air and streets are cleaner and quieter		
NOx, PM10, PM2.5, levels and limit breaches	LAEI & CoL monitoring sites	---
Public perception of street clutter and cleanliness	City Streets Survey	City-wide public survey
Proportion of zero emission capable vehicles entering the City	Future Local ZEZ baselining	Local ZEZ monitoring
Delivery and servicing needs are met more efficiently, and impacts are minimised		
Key target: Overall reduction in freight and servicing vehicle traffic	Traffic Composition Survey	Traffic Composition Survey/Congestion Charging statistics
Key target: Reduction in freight and servicing vehicle traffic during peak periods	Traffic Composition Survey	Traffic Composition Survey/Congestion Charging statistics
Our street network is resilient to changing circumstances		
Number of days saved from joined-up roadworks	CoL Highways Monitoring	---
Emerging transport technologies benefit the Square Mile		
Number of future transport trials and joint projects initiated	---	Annual CoL reporting

Partnerships and leadership

We recognise that we cannot deliver this Strategy on our own and will work with a range of partners to achieve the vision, aims and outcomes for streets and transport in the Square Mile. This will include working in partnership with:

- City residents and residents' associations
- City businesses and institutions
- The City of London Police
- The Mayor of London and TfL
- London Councils and London's boroughs
- Property developers and the construction industry
- National rail and river service operators
- Transport industry and representative bodies
- Campaign organisations and special interest groups
- Developers of new transport technologies

We recognise that our unique position as a global financial district allows us to be particularly bold in our proposals for changing and improving streets and transport. Nevertheless, the lessons we will learn from delivering this Strategy may be insightful and relevant to London's boroughs and other cities and transport authorities. Likewise, we can learn from and be inspired by the experiences of others.

We will share our experiences and identify transferable best practice by:

- Hosting and contributing to conferences, seminars and other events that highlight and discuss best practice

- Networking and developing knowledge-sharing relationships with London's boroughs to capture lessons learnt from the development and delivery of this Strategy
- Establishing and maintaining relationships with other cities, both in the UK and internationally, and participating in local, national and international networks
- Sharing knowledge with relevant private sector, academic and third sector organisations

Proposal 54: Support change across London that is aligned with this Strategy

The Square Mile does not exist in isolation and change across the Capital is required to maintain the City's attractiveness as a place to live, work, learn and visit. We will support projects and initiatives delivered by TfL and London's boroughs that align with the vision, aims and outcomes of this Strategy. We will also support changes to relevant national policy and legislation that will positively impact on transport in and connections to London.

Updating the Transport Strategy

This Strategy will be reviewed and updated every three years to ensure it reflects the priorities of City residents, workers and businesses, changing circumstances and developments in transport technology. Updates will be informed by in depth engagement and analysis of economic, social and transport trends, and will be subject to formal consultation prior to adoption.

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