

City of London Corporation

The case for 15mph in the Square Mile

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Introduction

The City of London Corporation is seeking to implement a 15mph speed limit across the Square Mile. Introducing a speed limit below 20mph requires consent from the Secretary of State for Transport. This submission sets out the case for lowering the speed limit and details how the proposal would be implemented. The approach to enforcement has been developed in collaboration with the City of London Police.

A City-specific approach to managing speed is necessary given the Square Mile's constrained, historic street network, extremely high volumes of people walking and growing numbers of people cycling. A 15mph speed limit will reduce the likelihood and severity of collisions; send a message to everyone driving and riding on our streets that this is an environment that requires extra caution; and help create a safer and more attractive environment for people walking, cycling and spending time on the Square Mile's streets. By doing so, it will support the Square Mile's recovery from the impacts of Covid-19 and contribute to delivery of our Transport Strategy and Climate Action Strategy.

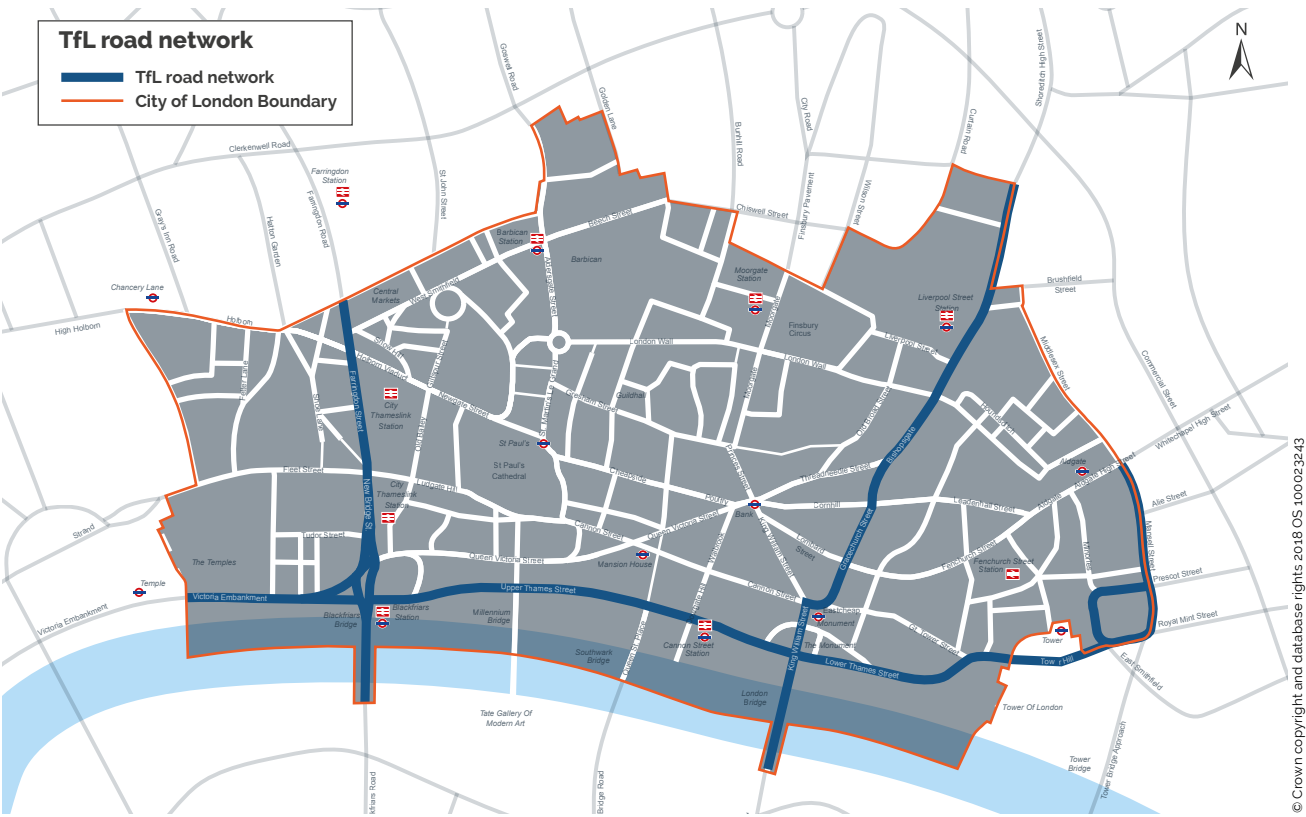


Figure 1: Map of the City of London (Square Mile) boundary and the Transport for London Road Network

Why 15mph?

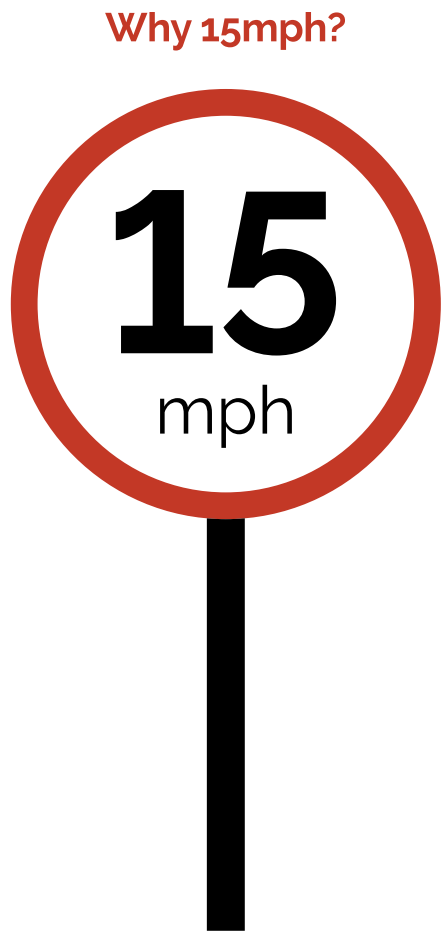
A 15mph speed limit will offer significant benefits to City residents, workers and visitors. Reducing speeds is key to achieving our Transport Strategy's goal of improving the experience of walking, cycling and spending time on the Square Mile's streets. It is essential to achieving Vision Zero – our aspiration that no one should be killed or seriously injured when travelling in the City.

Since 2013 the number of people killed and seriously injured on our streets has remained relatively stable. This is despite the introduction of a City-wide 20mph limit in July 2014, investment in safer streets and campaigns and engagement.

Our request to introduce a 15mph speed limit is part of an ambitious approach to reduce the number of people killed and seriously injured while travelling in the City, with the ultimate aim of achieving Vision Zero. Reducing the speed of vehicles decreases the likelihood of a collision and the severity of injury in the event of one, regardless of the primary cause.

As outlined below, a 15mph limit will also improve air quality and reduce noise pollution. It will make our streets more accessible and enable more people to choose to walk and cycle. Lower speeds will contribute to a calmer environment that will make it easier and safer for people to get around, particularly those whose hearing, vision or mobility is impaired.

The space constraints on our historic street network means that it is largely not possible to provide physically separated space for cycling. The 15mph speed limit will match the average cycling speed and reflects the limit for electric cycles and scooters. Lowering the speed limit to 15mph will reduce the potential for conflict between people cycling and driving and improve the perception of safety – one of the biggest barriers to people taking up cycling.



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

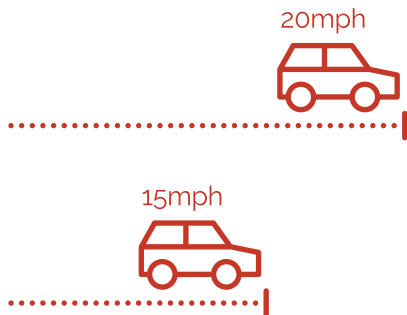


Figure 2: Why 15 mph?¹

Transport Strategy and Vision Zero

The City of London Transport Strategy, adopted in May 2019, sets out how the City’s streets will be designed and managed to ensure the Square Mile remains a great place to live, work, study and visit. It includes ambitious proposals to:

- Prioritise the needs of people walking, make streets more accessible and deliver world-class public realm
- Make the most efficient and effective use of street space by significantly reducing motor traffic, including the number of delivery and servicing vehicles in the Square Mile
- Eliminate death and serious injuries from our streets through measures to deliver safer streets and reduce speeds
- Enable more people to choose to cycle by making conditions for cycling in the Square Mile safer and more pleasant
- Improve air quality and reduce noise by encouraging and enabling the switch to zero emission capable vehicles

The City Corporation is committed to eliminating death and serious injuries on our streets. The Transport Strategy pledges to deliver Vision Zero by 2040. We have set interim targets, which are in line with the Mayor of London’s ambitions for Vision Zero and the trajectory identified in the Mayor’s Transport Strategy.

This trajectory reflects the scale of interventions required to achieve Vision Zero and the time required to implement changes to streets across the Square Mile. The introduction of a 15mph limit will provide an instant reduction in risk, helping to deliver a pace of change that achieves a 70% reduction in death and serious injuries by 2030.

Year	Reduction in risk
2017	54 people were killed or seriously injured on our streets (Transport Strategy baseline)
2022	No more than 35 people a year are killed or seriously injured on our streets
2030	No more than 16 people a year are killed or seriously injured on our streets
2040	Vision Zero

Table 1: Trajectory reflecting the scale of interventions and time required to achieve Vision Zero

The measures to deliver Vision Zero and reduce road danger will be delivered across the four themes of the safe system approach:

- Safer streets
- Safer speeds
- Safer vehicles
- Safer behaviours

Consultation on the draft Transport Strategy showed high levels of support for the proposal to apply the safe system approach and principles of road danger reduction to deliver Vision Zero. This included the proposed introduction of a 15mph speed limit.

Overall the proposal was supported by 74% of respondents and a range of organisations, including Transport for London (TfL) and the City Property Association.

Despite adopting a City-wide 20mph speed limit in July 2014, motor vehicle speed remains a critical safety issue in the Square Mile. A seven-day speed sampling survey in Autumn 2019 captured vehicle speeds at 65 sites across the Square Mile. The results of that study showed:

- Most people follow the speed limit, but the number of people killed and seriously injured remains relatively stable. This suggests that the current speed limit is not adequately reducing the risk of people being killed or seriously injured.
- Speeding traffic is an issue. Speeds above the posted limit were observed more often on 20mph limit streets and were significant outside peak hours².
- Streets and junctions with higher rates of people killed and seriously injured have higher rates of speeding outside peak hours. From our survey data approximately five sites have much higher rates of speeding than the City average.

Risk of death and injury, stopping distance and field of vision

The risk of a person being killed in a collision reduces from 10-20% at 20-25 mph to just 2-5% at 10-15mph. The risk of a collision occurring also reduces by 5% for every 1mph decrease in average speed. This is due to shorter stopping distances (from 12m at 20 – 25mph to 7.5m at 10-15mph) and increased field of vision. Both these factors are critical on the City's busy streets, not least because crowding on pavements can sometimes force people to step into the carriageway.

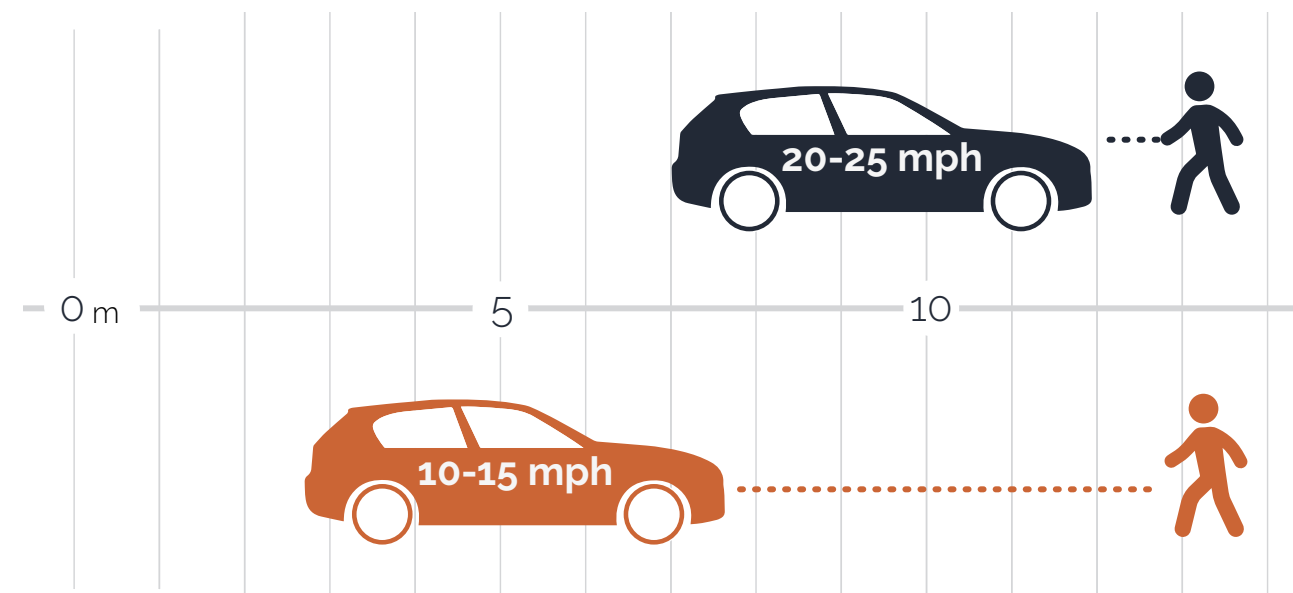


Figure 3: Vehicle speed and collision risk³

Air quality and noise

In 2001, the City was declared an Air Quality Management Area for nitrogen dioxide (NO₂) and fine particles (PM₁₀⁴). A number of roadside sites exceed Air Quality Objectives limits for NO₂⁵. For PM₁₀, while not exceeding the legal requirements, levels do exceed the WHO guidelines. The WHO also recognises that there is no safe limit of exposure to these types of pollutants. Motor vehicles are responsible for 26% of NO_x emissions, 48% of PM₁₀ and 60% of PM_{2.5}, in the Square Mile⁶.

While tailpipe emissions are higher for motor vehicles travelling in a steady state at low speeds, evidence has shown that a reduction in acceleration and braking reduces the amount of tailpipe emissions⁷. Frequent acceleration and braking is inevitable in a busy urban environment like the City of London. The introduction of a 15mph speed limit is expected to reduce acceleration and braking and lead to a neutral or slightly positive outcome for vehicle emissions. The reduction in acceleration and braking also has a beneficial effect on reducing Particulate Matter (PM₁₀ and PM_{2.5}). The need to reduce particulate matter pollution will remain even as the ongoing shift to zero emission capable vehicles reduces tailpipe emissions.

The implementation of a 15mph speed limit should also reduce vehicle related noise pollution in the City. A City Corporation noise survey found that 41% of respondents cited noise from traffic as a negative factor, and traffic noise was the most significant negative noise or sound identified⁸. Surveys to inform the development of the Transport Strategy found that 77% of respondents wanted to reduce the level of noise from motor vehicles.

The UK Noise Association report that the 'annual cost of traffic noise to the European Union has been put at 40bn euros, and academics suggest that traffic noise represents a major environmental burden⁹, which can have a serious impact on people's health¹⁰. Figure 4 shows the noise produced at different speeds for seven vehicle types. The graph shows there is a positive correlation between lower speed and lower decibels. The cumulative impact of all vehicles in the City reducing the vehicle noise by around two decibels each, would be significant.

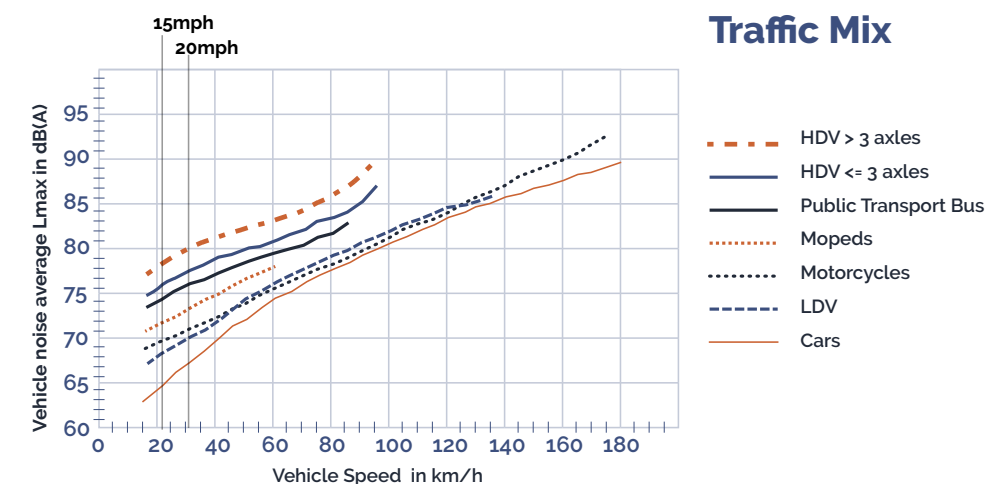


Figure 4: Vehicle noise and speed by vehicle type¹¹



Figure 5: Speed, peripheral vision, stopping distance and risk of death¹²

Implementation

If approved, we will first implement the 15mph speed limit as an experimental traffic order with associated consultation and monitoring. We will continue to work with the City of London Police to develop an enforcement strategy, with the aim that the limit will become self-enforcing.

The 15mph speed limit will be applied to all the streets for which the City Corporation is the highway authority. If it is appropriate to make the 15mph speed limit permanent, we will work with TfL to introduce the limit on parts of the Transport for London Road Network that pass through the City. For example, the Bishopsgate corridor which is particularly busy with people walking and is also a key cycling route.

We recognise that there may be some concerns regarding the introduction of a 15mph speed limit.

This includes that motor vehicle journeys through the City will take longer. We do not believe this will be a significant issue. Average speeds across the majority of City streets are already below 15mph between 07:00 and 19:00, and at all times of the day the average speed is below 20mph (Figure 6).

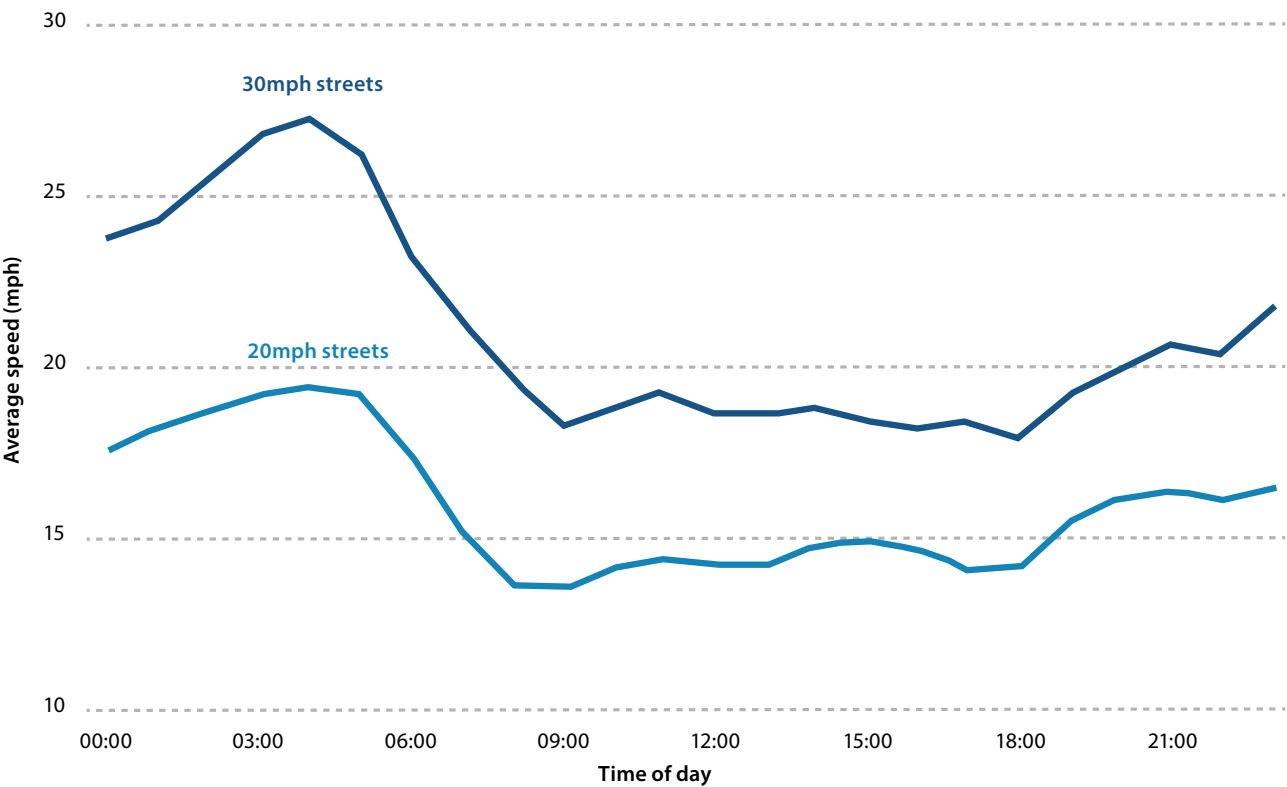


Figure 6: Weekday speeds of 20mph and 30mph streets averaged across all sampled weekdays by hour¹³

Average journey times will not be significantly longer than at present, and the benefits of a lower speed limit will outweigh the disadvantage of slightly longer journey times during some periods of the day.

At present vehicle speedometers are not legally required to show 15mph or to indicate any speed below 20mph. We do not expect this to be a significant barrier to introducing the speed limit. Our research has not yet found a modern example of a speedometer that does not mark 15mph. Given the average age of the vehicles travelling through the City, we expect the majority to have modern speedometers showing a 15mph increment or digital speedometers showing the exact speed of travel.

It is also worth noting that speed limits in multiples of 5mph are common in the USA and the Channel Islands. We have not found any legal challenges to speeding offences relating to speedometers not showing exact increments in any of the locations where these are in place (see Table 2) and there are no recorded issues with enforcement.

Given potential concerns around the accurate reading of speedometers, the City of London Police have noted that they will continue to use officer discretion where appropriate.

Overall, we consider there is a minimal risk of legal challenge on the grounds of speedometer requirements.

Location Enforced Speed Limit	
Guernsey	25/35mph
Jersey (Green Lanes)	15mph
North Badger Ave, Appleton, Wisconsin, USA	15mph
Orkney Islands, Scotland	15mph
Parkway Calabasas, Calabasas, USA	25mph
USA wide	25/35/45/55mph

Table 2: Existing enforceable speed limits around the world

Enforcement

The 15mph proposal is in the City Corporation's Transport Strategy. If this case is supported, then the City of London Police will assist by delivering engagement and enforcement to support the implementation of the 15mph speed limit. This will include developing a robust enforcement strategy prior to implementing the experimental traffic order.

We note that the offence for breaching a speed limit imposed by order under the Road Traffic Regulation Act 1984 is set out in S.89 of the Act. This applies to people driving 'motor vehicles' only and would not extend to cycles. However, engagement and education around the 15mph speed limit will extend to people cycling and there are powers to address people who cycle recklessly.

Ultimately, we expect the limit to be self-enforcing as a result of on-going investment in safer streets that will reduce design speeds and increased uptake of Intelligent Speed Adaptation (ISA). For example, ISA is already installed in 30% of the buses on routes through the City and is mandatory for all new buses coming into service. We will continue to work with 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.

Endnotes

- 1 City of London Corporation (2019) 'City Streets: Transport for a Changing Square Mile, City of London Transport Strategy' Pp 59. <https://www.cityoflondon.gov.uk/assets/Services-Environment/city-of-london-transport-strategy.pdf>
- 2 At the time of the survey parts of the Transport for London Road Network still had 30mph speed limits. These have since been reduced to 20mph.
- 3 Bartmann, Spijkers and Hess (1991) 'Street Environment: Driving Speed and Field of Vision' Vision in Vehicles III. <https://trid.trb.org/view.aspx?id=517504>
- 4 Greater London Authority (2012) 'Air Quality in the City of London: A guide for Public Health Professionals'. https://www.london.gov.uk/sites/default/files/air_quality_for_public_health_professionals_-_city_of_london.pdf
- 5 City of London Corporation (2019) 'Air Quality Annual Status Report'. <https://www.cityoflondon.gov.uk/assets/Services-Environment/air-quality-annual-status-report-2019.pdf>
- 6 City of London Corporation (2019) 'City Streets: Transport for a Changing Square Mile, City of London Transport Strategy'. <https://www.cityoflondon.gov.uk/assets/Services-Environment/city-of-london-transport-strategy.pdf>
- 7 Centre for Transport Studies: Imperial College London (2013) 'An evaluation of the estimated impacts on vehicle emissions of a 20mph speed restriction in central London, (2013)'. https://cleanair.london/app/uploads/CAL-167-City-of-London_20mph_speed-restriction-air-quality-report-2013-for-web.pdf
- 8 Ask for Research Limited (2019) 'City of London Noise Attitude Survey "The Sounds of the City"'. <https://www.cityoflondon.gov.uk/assets/Business/city-of-london-noise-attitude-survey.pdf>
- 9 UK Noise Association (2009). 'Speed and Road Traffic Noise: The role that lower speeds could play in cutting noise from traffic'. http://www.ukna.org.uk/uploads/4/1/4/5/41458009/speed_and_road_traffic_noise.pdf
- 10 Seshasai and Kaski (2017), 'Noise Pollution and Arterial Hypertension: Can we Remain Mute Anymore?'. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6206468/>
- 11 UK Noise Association (2009). 'Speed and Road Traffic Noise: The role that lower speeds could play in cutting noise from traffic' Pp 9. http://www.ukna.org.uk/uploads/4/1/4/5/41458009/speed_and_road_traffic_noise.pdf
- 12 National Association of City Transportation Officials (2013). Urban Street Design Guide. <https://nacto.org/publication/urban-street-design-guide/design-controls/design-speed/>
- 13 At the time of the survey parts of the Transport for London Road Network still had 30mph speed limits. These have since been reduced to 20mph.

