



# Vision Zero action plan

Taking forward the Mayor's Transport Strategy

MAYOR OF LONDON



**TRANSPORT  
FOR LONDON**  
EVERY JOURNEY MATTERS

## About Transport for London (TfL)

Part of the Greater London Authority family led by Mayor of London Sadiq Khan, we are the integrated transport authority responsible for delivering the Mayor's aims for transport.

We have a key role in shaping what life is like in London, helping to realise the Mayor's vision for a 'City for All Londoners'. We are committed to creating a fairer, greener, healthier and more prosperous city. The Mayor's Transport Strategy sets a target for 80 per cent of all journeys to be made on foot, by cycle or using public transport by 2041. To make this a reality, we prioritise health and the quality of people's experience in everything we do.

We manage the city's red route strategic roads and, through collaboration with the London boroughs, can help shape the character of all London's streets. These are the places where Londoners travel, work, shop and socialise. Making them places for people to walk, cycle and spend time will reduce car dependency and improve air quality, revitalise town centres, boost businesses and connect communities.

We run most of London's public transport services, including the London Underground, London Buses, the Docklands Light Railway, London Overground, TfL Rail, London Trams, London River Services, London Dial-a-Ride, Victoria Coach Station, Santander Cycles and the Emirates Air Line. The quality and accessibility of these services is fundamental to Londoners' quality of life. By improving and expanding public transport, we can make people's lives easier and increase the appeal of sustainable travel over private car use.

We are moving ahead with many of London's most significant infrastructure projects, using transport to unlock growth. We are working with partners on major projects like Crossrail 2 and the Bakerloo line extension that will deliver the new homes and jobs London and the UK need. We are in the final phases of completing the Elizabeth line which, when it opens, will add 10 per cent to London's rail capacity.

Supporting the delivery of high-density, mixed-use developments that are planned around active and sustainable travel will ensure that London's growth is good growth. We also use our own land to provide thousands of new affordable homes and our own supply chain creates tens of thousands of jobs and apprenticeships across the country.

We are committed to being an employer that is fully representative of the community we serve, where everyone can realise their potential. Our aim is to be a fully inclusive employer, valuing and celebrating the diversity of our workforce to improve services for all Londoners.

We are constantly working to improve the city for everyone. This means freezing TfL fares so everyone can afford to use public transport, using data and technology to make services intuitive and easy to use, and doing all we can to make streets and transport services accessible to all. We reinvest every penny of our income to continually improve transport networks for the people who use them every day.

None of this would be possible without the support of boroughs, communities and other partners who we work with to improve our services. We all need to pull together to deliver the Mayor's Transport Strategy; by doing so we can create a better city as London grows.

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# Mayor's foreword



Our Transport Strategy sets out a big, bold aim for 80 per cent of all journeys in London to be conducted by walking, cycling or using public transport by 2041

Every year more than 2,000 people are killed or seriously injured on London's streets. People from more deprived areas, some ethnic minorities, disabled people, children and older people are disproportionately affected by road danger. I am determined to make London's streets safer and reduce these road traffic injury inequalities.

For too long these tragic road incidents have been accepted as inevitable events. This would be unthinkable on other transport modes. We must change this mindset and City Hall has been working with Transport for London and the Metropolitan Police Service to ensure that human health and wellbeing are at the heart of how we think about London's road network.

Our Transport Strategy sets out a big, bold aim for 80 per cent of all journeys in London to be made by walking, cycling or using public transport by 2041. This can only be achieved by tackling the dangers that can result in road collisions, with lives tragically lost, serious injuries sustained, and the fear of these dangers that discourages the use of these more active, sustainable and efficient modes of travel. Our Vision Zero ambition – the elimination of all deaths and serious injuries from London's streets by 2041 – will see a radical change to how London approaches road danger. We will focus

on reducing the dominance of motor vehicles on our streets and ensuring that road danger reduction is central to all transport-related activity.

Lowering speeds is one of the most important things that we can do to make our streets safer. This is because a person is about five times less likely to be fatally injured if hit at 20mph than at 30mph. We have developed a progressive speed limit policy for the Transport for London Road Network, which will see us engaging on 20mph becoming the default speed limit within the central London Congestion Charging zone and in other locations and town centres across London. This means that almost one third of our strategic road network will benefit from lower, safer, speed limits.

We will continue to deliver major safety improvements at London's most dangerous junctions and deliver the next generation of high-quality cycle routes. Later this year, we will be introducing a world-leading Bus Safety Standard for the city's entire bus fleet, which will ensure that only the safest buses are driven on London's streets. In 2020 the world's first Direct Vision Standard for HGVs will come into effect which will fundamentally improve the safety of HGVs in London.

Realising Vision Zero will require coordinated action at all levels. Ninety-five per cent of London's streets are the responsibility of boroughs and there are many other partners who we will need to work with including central Government, the health sector, vehicle manufacturers and many more, to create a safer city. I urge everyone involved in managing and using London's streets to join us in our efforts to end the toll of deaths and serious injuries.

**Sadiq Khan**  
Mayor of London



## Foreword



It is neither inevitable nor acceptable that anyone should be killed or seriously injured when travelling in London. When we leave our homes each day, we should feel safe and confident about the journey ahead.

All of us, whether we are travelling in London or helping people make their journeys, share a responsibility and a moral imperative to reduce danger and the fear it creates. My first priority is the safety of everyone using and working on our transport network. I want to foster a culture where everyone, no matter what their role, is encouraged to make a real contribution to eliminate danger. By including the reduction of injuries to customers and our workforce on our Scorecard, we will ensure a continuous focus on our Vision Zero targets and ambition.

This action plan focuses particularly on reducing road danger on our network, because people are much more at risk of injury when travelling on our streets than they are when travelling by rail or the Underground. This plan outlines the important first stages in a wide-ranging programme of actions that we are taking now and over the coming years.

For progress to be made we need to work in close partnership with London boroughs, the police and other agencies in London, as well as the UK Government. Together, with one common vision, we will continue to share ideas and develop plans to make London's streets safer and feel safer.

**Mike Brown MVO**  
Commissioner of Transport

## Foreword



Last year, 132 people died on London's roads. Their families and friends were left devastated; lives changed forever.

Every death on our roads is tragic and unacceptable. Despite significant progress to reduce harm on London's roads over the last decade, more can and must be done. The police and all those with a responsibility for managing, operating and enforcing London's roads must be relentless in our combined efforts to reduce road danger and protect Londoners from harm. This Vision Zero action plan sets out the greater level of ambition and the commitment demanded from all partnership agencies involved in reducing road danger in London. As the biggest police force in London, we have a significant contribution to make to keeping our roads and communities safe and secure.

Our Roads and Transport Policing Command, part funded by Transport for London, is the UK's single largest policing command and is dedicated to ensuring all journeys across the road and surface transport network are safe, secure and reliable. The Command has lead policing responsibility for road danger reduction in London and focuses its efforts on tackling the vehicles, drivers and road user behaviour that cause the greatest risk on the roads.

London benefits from the unique partnership between the Metropolitan Police Service and Transport for London. The range and scale of Roads and Transport Policing Command's road danger reduction policing and enforcement activity is unparalleled. In line with the Mayor's Vision Zero commitment we are enhancing our approach and intensifying our efforts to reduce road danger. I am committed to making London's roads safer and will ensure that the Metropolitan Police Service plays a full part in achieving Vision Zero.

**Cressida Dick**  
Commissioner of the Metropolitan Police Service





# Chapter I – Vision Zero for London

## I.1 London's commitment to Vision Zero

Major cities around the world are taking a stand to end the toll of deaths and injury seen on their roads. London is at the forefront of this and the Mayor's Transport Strategy sets out the goal that, by 2041, all deaths and serious injuries will be eliminated from London's transport network.

Systematic action must be taken to achieve this goal, known as Vision Zero. The tram overturning at Sandilands in Croydon in 2016 showed that serious incidents with tragic consequences can occur on public transport systems. The Mayor is committed to making sure Londoners can travel safely throughout the entire transport system. All parts of the public transport network will play an important role in achieving Vision Zero. Investment in new infrastructure and service enhancements, as well as other factors such as staff training, will help make public transport even safer and more secure.

While work continues to make our wider transport network even safer, this action plan focuses specifically on the areas where our greatest challenges lie – London's streets. It will demonstrate to everyone who uses our streets, stakeholders and other cities the

commitment of the Mayor, TfL, London boroughs, the police and other partners to taking bold action and putting the Vision Zero ambition at the heart of everything we do.

The Vision Zero ambition is set out in Policy 3 of the Mayor's Transport Strategy:

- The Mayor, through TfL and the boroughs, and working with stakeholders, will adopt Vision Zero for road danger in London. The Mayor's aim is for no one to be killed in or by a London bus by 2030, and for all deaths and serious injuries from road collisions to be eliminated from London's streets by 2041

This action plan follows Proposal 10 of the Mayor's Transport Strategy:

- The Mayor, through TfL and the boroughs, will collaboratively set out a programme to achieve the Vision Zero aim of reducing the number of people killed or seriously injured on London's streets to zero



## 1.2 Progress in tackling London's road danger

London is a dynamic and diverse world-class city, shaped by its transport network. This network enhances Londoners' lives by connecting communities, opening up opportunities that can improve health and quality of life. The network has become substantially safer in recent years, with significant reductions in the number of collisions and of the number of people being killed or seriously injured as a result:

- The number of people killed and seriously injured on London's roads fell by 31 per cent against a 2005-09 baseline by 2016<sup>1</sup> (table I)
- During 2016, the number of fatalities on London's roads fell to the lowest level on record, with car occupant fatalities halving when compared to 2015
- London has lower rates of fatal injuries on its streets compared to other international cities such as Vancouver, Copenhagen, Barcelona and Rome that have adopted, or are in the process of adopting, a Vision Zero approach<sup>2</sup>

- The rate of people killed or seriously injured per London resident is lower than the comparable national figure. In 2016, there were 285 deaths and serious injuries from road traffic collisions per million London residents, compared to 401 deaths and serious injuries per million people nationally (excluding London)
- The overall downward trend in deaths and serious injuries can be seen in Figure I

As a result of improved reporting of injury severity by the police, more injuries are being classified as serious rather than slight. This means that figures for the number of serious injuries during 2016 and afterwards are not directly comparable with previous years.

We will work with the Department for Transport (DfT) to back-estimate the number of seriously injured casualties that would have been reported by the police using an injury-defined rather than a severity-defined system. This will allow comparisons to be made between the most recent injury figures and previous years.

<sup>1</sup> Figures for road traffic collisions on London's roads during 2017 have been collected by the police using new data systems. This data is being fully validated and will be published at the end of September 2018

<sup>2</sup> Safer City Streets: A Global Road Safety Benchmark — OECD/ITF 2017

<sup>3</sup> Collisions and casualties on London's Roads, TfL, 2016

Figure I: Fatal and serious injury casualties in London

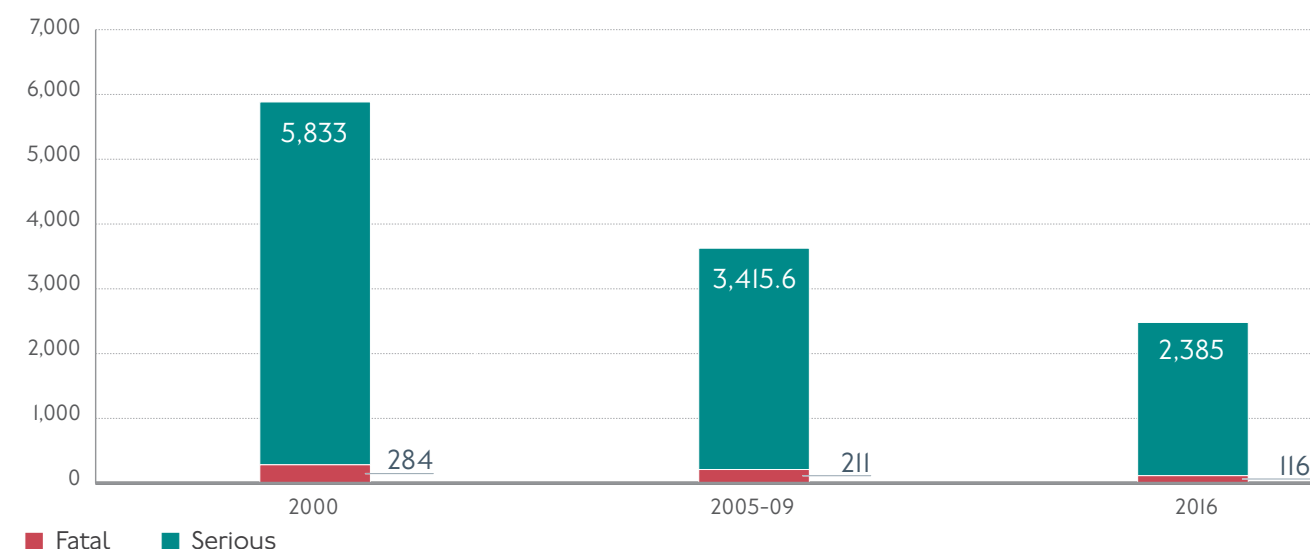


Table I: Fatal and serious injury casualties in London by road user<sup>3</sup>

User group	Casualty numbers		Percentage change
	2005-09 average	2016	2005-09 average
Pedestrians	1,216.4	875	-28%
Motorcyclists	791.2	681	-14%
Pedal cyclists	420.6	454	8%
Car occupants	949.0	368	-61%
Bus or coach occupants	139.6	70	-50%
Other vehicle occupants	109.8	53	-52%
<b>Total</b>	<b>3,626.6</b>	<b>2,501</b>	<b>-31%</b>

### 1.3 The challenges

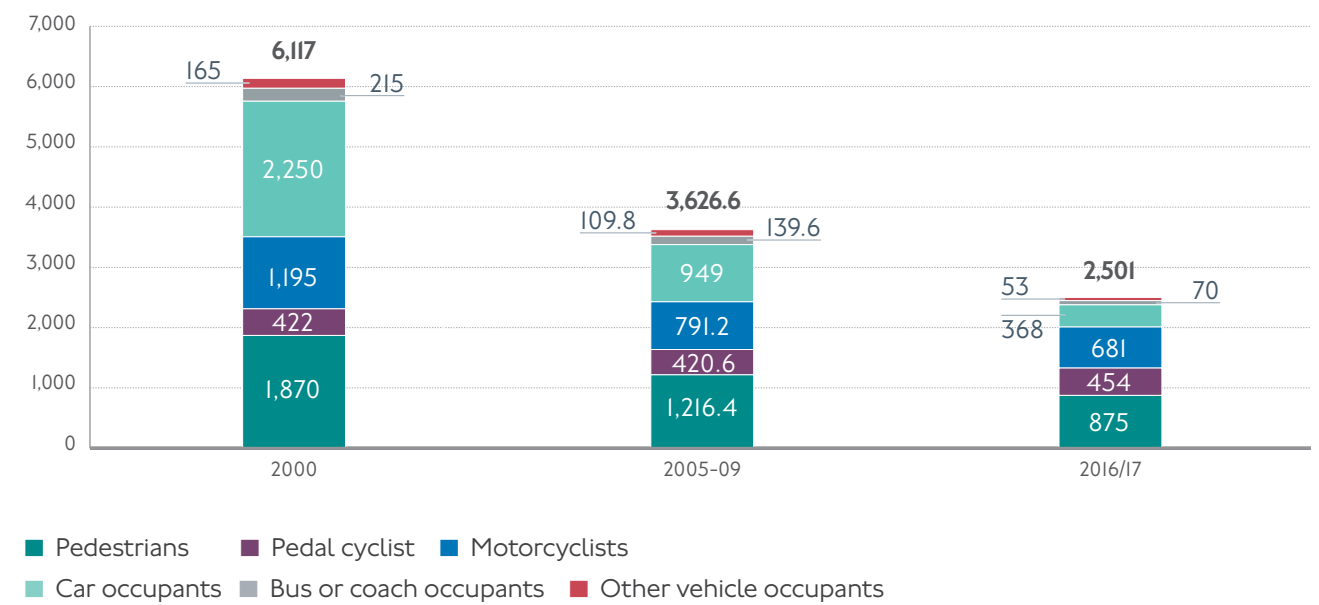
Despite progress, considerable challenges remain. In 2016, more than 30,000 people were injured in road collisions. Of these, 116 people were killed, 2,385 were seriously injured and 27,769 were slightly injured.

In addition, the extent of recent progress in road casualty reduction is not seen equally in all areas:

- People are more at risk when walking, cycling or using a motorcycle**  
 Travelling by car has now become much safer, partially reflecting improvements in vehicle safety features. Today, there is a higher risk when travelling by foot, by bicycle and by motorcycle. People killed or seriously injured when travelling by these modes now account for 80 per cent of all deaths and serious injuries on London’s roads (Figure 2). In 2016, over a quarter of all trips were made on foot or by bicycle,<sup>4</sup> but in the same year, people walking and cycling made up 53 per cent of those killed and seriously injured on our roads

- Some vehicles pose a greater danger than others**  
 The majority of pedestrian casualties (of all severities) involve a car, but those involving HGVs and buses are disproportionately likely to result in fatality. Of the 69 pedestrians and cyclists killed in London in 2016, 27 were involved in a collision with an HGV or a bus.<sup>5</sup> For motorcyclists, it was five out of a total of 33 fatalities. The severity of these collisions increases significantly the faster the vehicle is moving
- Almost three quarters of fatal and serious injury collisions in London occur at junctions (see Figure 3 on page 17)**  
 Junctions are particularly dangerous for people riding bicycles and motorcycles. In 2015, the manoeuvres most likely to result in a cyclist being killed or seriously injured were when another vehicle turned left or right across their path. Similarly, for motorcyclists, other vehicles turning right across their path was the manoeuvre most likely to result in them being killed or seriously injured<sup>6</sup>

Figure 2: Overall reduction in collisions resulting in death and serious injury



People walking, cycling and riding motorcycles now account for a greater proportion of casualties (Figure 2).

4 Travel in London Report 10, TfL 2017  
 5 Collisions and casualties on London’s Roads, TfL, 2016  
 6 Collisions and casualties on London’s Roads, TfL, 2015



- **Human error contributes to around 90 per cent of all collisions in London**

Chief among these contributory factors are travelling at inappropriate speed and making risky manoeuvres.<sup>7</sup> Tackling these behaviours is prioritised in this action plan

- **People are more at risk per journey when walking and cycling in outer London than in central London**

Risk varies between boroughs and many have had success in reducing risk. There is a greater concentration of collisions resulting in death or serious injury in central and inner London, corresponding to the greater density of traffic and people. However, while the absolute numbers of injuries among people who walk, cycle and use motorcycles are highest in inner London, those in outer London boroughs are at most risk per kilometre travelled<sup>8</sup>

- **People from more deprived areas, some ethnic minorities, disabled people, children and older people experience the worst impacts of road danger, noise and air pollution**

Main roads pass through some of the most deprived communities, creating environments that are not inclusive to all, with roads that are intimidating and difficult to cross. People walking

in the most deprived areas of London are more than twice as likely to be injured as those in the least deprived areas. People aged between 20 and 29 years old are more likely to be killed or seriously injured than other age groups and the number of children killed or seriously injured in cars increased in 2016. BAME Londoners are more at risk, with children in this group being on average 1.5 times as likely to be killed or seriously injured on the roads than non-BAME children<sup>9</sup>

- **Without action, inequality could get worse as the population grows**

With a population of 8.7 million, London is now larger than it has ever been and it is forecast to grow to 10.8 million by 2041. This growth is expected to generate more than six million additional trips each day. To accommodate these trips, more journeys will need to be taken on foot, by bicycle or on public transport, the most efficient modes of transport. London's population is also living longer, which means there will be a greater proportion of older people who are less able to cope with the physical impact of collisions. These changes in London's population mean it is even more vital, and yet more challenging, to tackle road danger

<sup>7</sup> Data analysis of STATS19 dataset (MPS, 2014-2016)

<sup>8</sup> Data analysis of STATS19 dataset (MPS, 2014-2016) and London Travel Demand Survey (TfL, 2013/14 to 2015/16)

<sup>9</sup> Data analysis of STATS19 dataset (MPS, 2012-2016)

# 80%

of all deaths and serious injuries occur to people walking, cycling or riding motorcycles

# 20-29

year-olds are more likely to be killed or seriously injured than other age groups



There was an increase in the number of children killed or injured as car passengers in 2016

# 69

pedestrians and cyclists killed in London in 2016, 27 were involved in a collision with an HGV or a bus

Londoners face an even greater challenge to their health and wellbeing than that posed by traffic collisions. Lack of physical activity in our daily lives is now one of the biggest threats to our health, increasing the risk of developing a range of chronic diseases including diabetes, dementia, depression and the two biggest killers in London – heart disease and cancer.

We urgently need to design physical activity back into our everyday lives. Active travel – walking more, cycling more, using public transport more – provides the easiest and most affordable way for us all to get more active and live healthier lives.

Road danger is a significant barrier to active travel:

- The main deterrent to people taking up cycling, cycling more often, or being willing to let their children walk or cycle unaccompanied in London, is the fear of traffic collisions<sup>10</sup>
- Improved safety is also cited by Londoners as one of the main motivators for walking more<sup>11</sup>

In light of these challenges and using information from the long-term casualty trends and perceptions of safety, we need to address the key sources of road danger and the fear they inspire. In particular:

- Reducing the likelihood and severity of collisions by lowering vehicle speeds
- Focusing action on the most dangerous locations, particularly junctions
- Reducing the danger posed by the vehicles with the greatest risk: HGVs, buses, taxis and private hire vehicles
- Reducing danger for people when they are most at risk – when walking, cycling or riding a motorcycle

<sup>10</sup> Attitudes to Cycling, TfL, 2016

<sup>11</sup> Attitudes to Walking, TfL, 2014

Figure 3: Location of collisions resulting in death or serious injury (2014 to 2016)

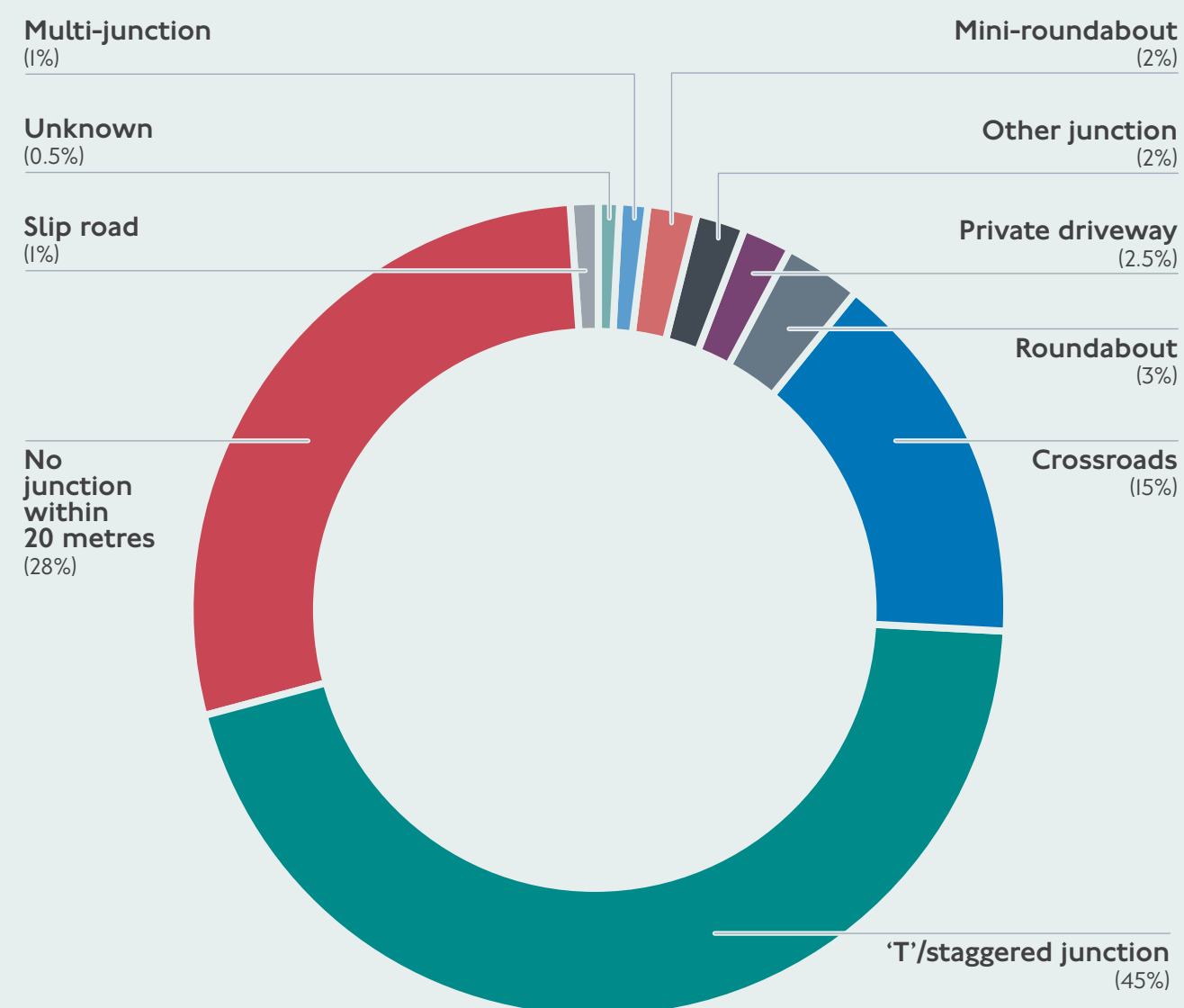


Figure 4: 10 Healthy Streets Indicators



Source: Lucy Saunders

## 1.4 Addressing the challenges – a new approach to reducing road danger

The scale of these challenges requires a step-change in the approach that we take to reducing road danger in London. Central to this are three guiding principles:

**1. The Vision Zero approach is based on the fundamental conviction that loss of life and serious injuries are neither acceptable nor inevitable**

An incident that results in an injury is sometimes referred to as an ‘accident’, a word that implies that there is no cause and that it is therefore inevitable. While there has been great success in meeting previous targets for reducing the number of people killed and seriously injured, no death or serious injury is acceptable, so the ultimate aim must be zero. There are more than 2,000 deaths and serious injuries on our network each year, which makes this an urgent public health issue, and one that everyone managing and using London’s streets has an obligation to tackle.

**2. The Vision Zero approach requires reducing the dominance of motor vehicles and creating streets safe for active travel**

The Vision Zero ambition is inextricably linked to the Healthy Streets Approach, which puts human health and experience at the heart of city planning. Reducing the dominance and overall numbers of the most dangerous vehicles is central to the Healthy Streets Approach and to achieving Vision Zero, and will reduce Londoners’ exposure to road danger. By making our streets safer and feel safer, we will create streets where people want to walk, cycle and use public transport. This is why ‘people feel safe’ is one of the Healthy Streets Indicators (see Figure 4).



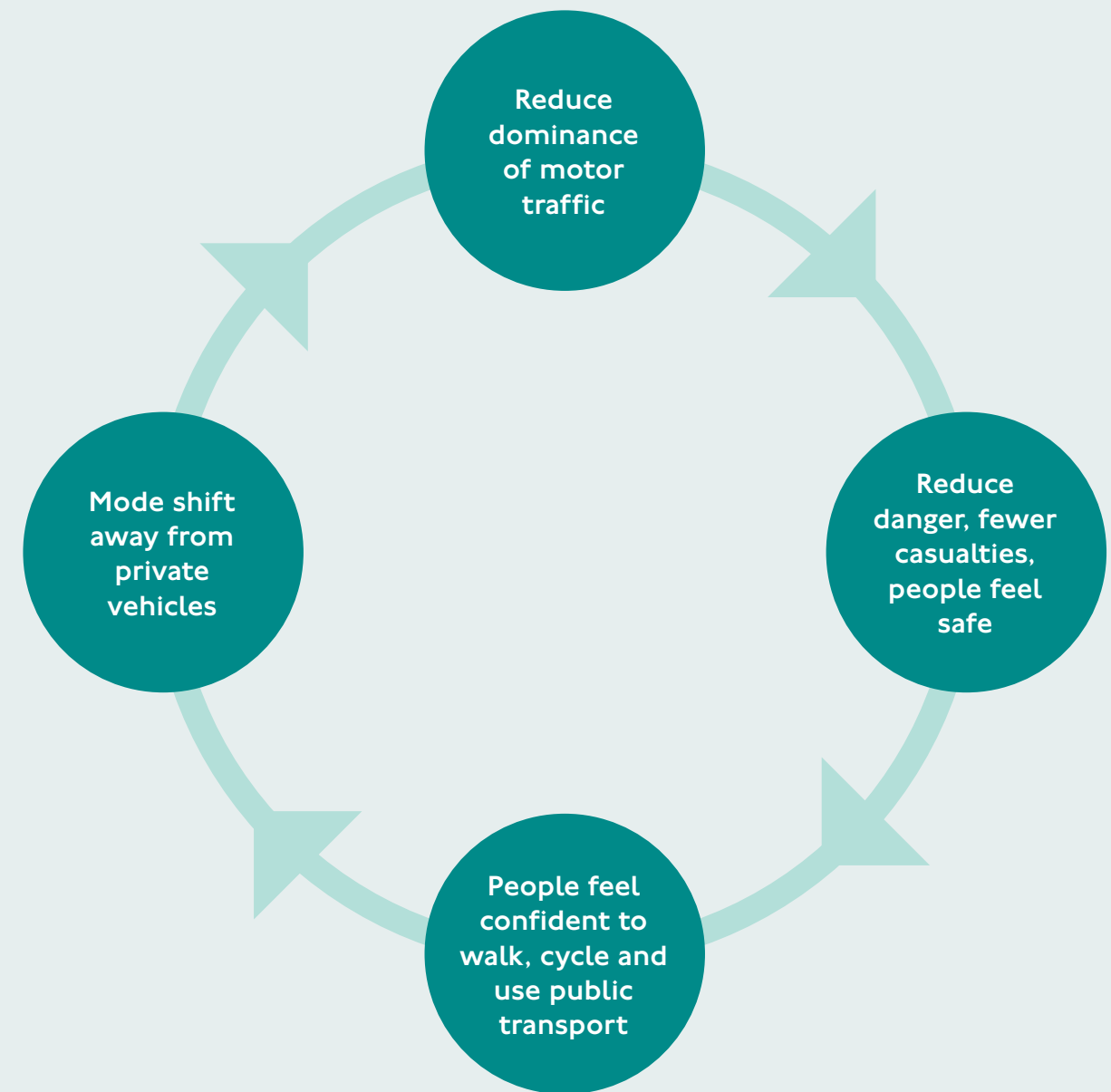
The Mayor's Transport Strategy sets out policies and proposals to promote a shift away from journeys by car to walking, cycling and public transport. These aim to reduce motorised traffic in London by 10-15 per cent by 2041. This means three million fewer car trips on London's roads each day. This will help people feel safer and be more likely to walk and cycle, which will in turn help to reduce car use further.

This action plan sets out specific actions to tackle the sources of road danger, but success will also depend on implementation of the wider aims of the Mayor's Transport Strategy to create a safer city that is less dominated by motor vehicles.

### 3. The Vision Zero approach ensures road danger reduction is a common priority for TfL, boroughs, and roads policing

The shift in emphasis from tackling historic casualty trends, to a proactive approach of targeting road danger, presents an opportunity to set road danger reduction within a broader context. Addressing the inherent danger on London's roads will help create more forgiving, welcoming streets that feel safer, making walking and cycling a more attractive option. Casualty reduction will follow as risk is reduced, and locations where there have been few casualties but where people feel unsafe, will perform better across the Healthy Streets Indicators.

Figure 5: Road danger reduction as part of the Healthy Streets Approach



## 1.5 Road danger reduction targets

The Mayor's Transport Strategy includes targets to drive action and set the necessary trajectory towards the Vision Zero ambition of zero deaths and serious injuries from road collisions. These targets are for the whole of London, and therefore responsibility for achieving them is shared.

London boroughs are required to set their own casualty reduction targets that align with these targets, while reflecting the specific mode share, demographic and historic casualty reduction performance particular to each area. Specific targets have been set for London buses to demonstrate that we will lead the way with the vehicles over which we have the greatest operational and contractual control.

The road danger reduction targets to drive action towards Vision Zero are:

By 2022



**65%▼**

fewer people killed or seriously injured against 2005-09 levels



**70%▼**

fewer people killed or seriously injured in, or by, London buses against 2005-09 levels

By 2030



**70%▼**

fewer people killed or seriously injured against 2010-14 levels



**0**

people killed in, or by, London buses





## Chapter 2 – Steps towards the Vision Zero ambition

### 2.1 A Safe System approach

Our programme of action takes a Safe System approach, an internationally recognised approach to road danger reduction. The programme is designed to take account of these Safe System principles:

1. People make mistakes, so our transport system needs to accommodate human error and unpredictability
2. There are physical limits to what the human body can tolerate. Our transport system needs to be forgiving, so that the impact of a collision is not sufficient to cause fatal or serious injury

3. All those with a role in designing, building, operating, managing and using our streets have a responsibility to reduce danger

All parts of the system must be strengthened in combination to multiply their effects, so that people are still protected if one part fails.



## 2.2 The programme of action

In addition to the principles of the Safe System approach, the programme also employs a framework of interventions around five pillars of action:

- Safe speeds
- Safe streets
- Safe vehicles
- Safe behaviours
- Post-collision response

These five pillars cover themes of activity that closely match the key challenges identified in the previous chapter. The purpose of categorising activity in these themes is to support a more holistic approach to delivery which recognises that all parts of the 'system' need to work in combination. The Safe System themes are in order of the potential for long-term reductions in road danger and the greater responsibility of the 'system designer' over the 'system user'.

The following chapters outline comprehensive, evidence-based actions that will be taken to reduce danger on London's streets and work towards Vision Zero. The actions are grouped according to the Safe Systems framework:

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### Chapter 3

#### Safe speeds

encouraging speeds appropriate to the street

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### Chapter 4

#### Safe streets

designing an environment forgiving of mistakes

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### Chapter 5

#### Safe vehicles

reducing risk posed by the most dangerous vehicles

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### Chapter 6

#### Safe behaviours

improving the behaviours of people using our roads

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### Chapter 7

#### Post-collision response

learning from collisions and improving justice and care for victims

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### Chapter 8

#### Road danger reduction: continuing the journey

outlines the need to prepare for a changing world and how we can adapt to deliver Vision Zero beyond 2022

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The opportunities for the UK Government to help enable Vision Zero, through new regulation and guidance, are outlined in **Annex A**.







## Chapter 3 – Safe speeds

London needs streets where the speed at which people travel does not endanger others. Lowering traffic speeds will also make our streets more inviting, less polluted, less dominated by motor vehicles and more attractive for walking and cycling.

### 3.1 The importance of taking action to reduce speeds

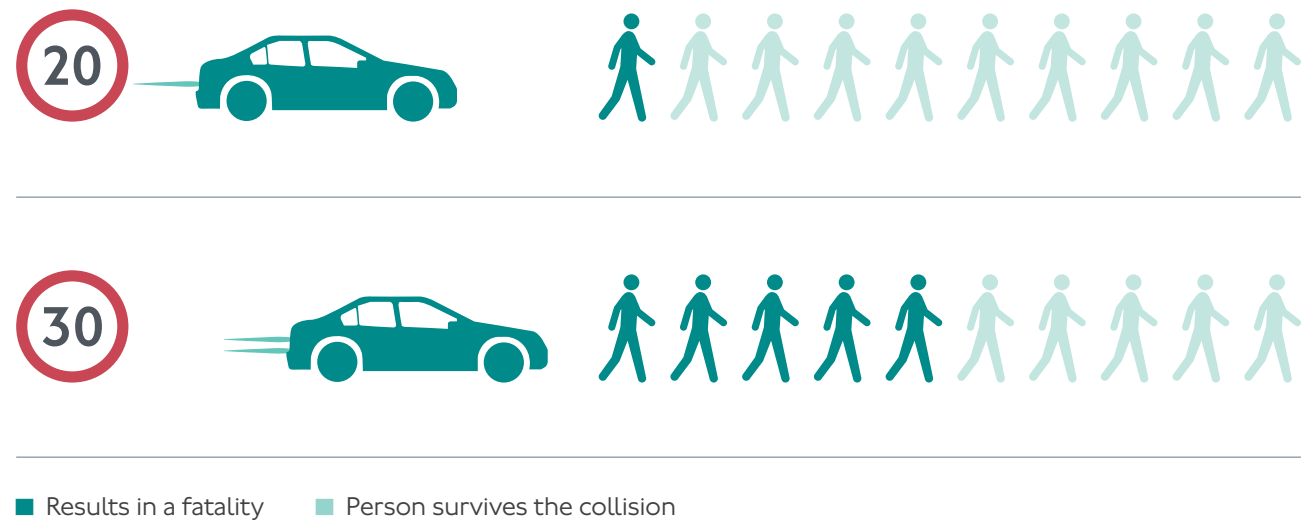
The speed at which people are driving or riding is the single most important determinant of both the likelihood of a collision occurring and the severity of the outcome. The faster a person is driving, the less time they have to react to avoid a collision, and the more severe any resulting injuries will be. The impact of a collision increases disproportionately as vehicle speed increases (Figure 6). If a pedestrian is hit by a vehicle at 20mph, they are about five times less likely to be killed than if they were hit at 30mph.<sup>12</sup>

Inappropriate speed is a factor in up to 37 per cent of collisions resulting in death or serious injury on London's streets.<sup>13</sup> This is the case for all road users, regardless of how they are travelling.

<sup>12</sup> [www.ncbi.nlm.nih.gov/pubmed/19393804](http://www.ncbi.nlm.nih.gov/pubmed/19393804)

<sup>13</sup> MPS noted one or more of the speed-related contributory factors 'exceeding speed limit', 'travelling too fast for conditions' and 'careless/reckless/in a hurry' in 37 per cent of all collisions resulting in death or serious injury between 2014 and 2016

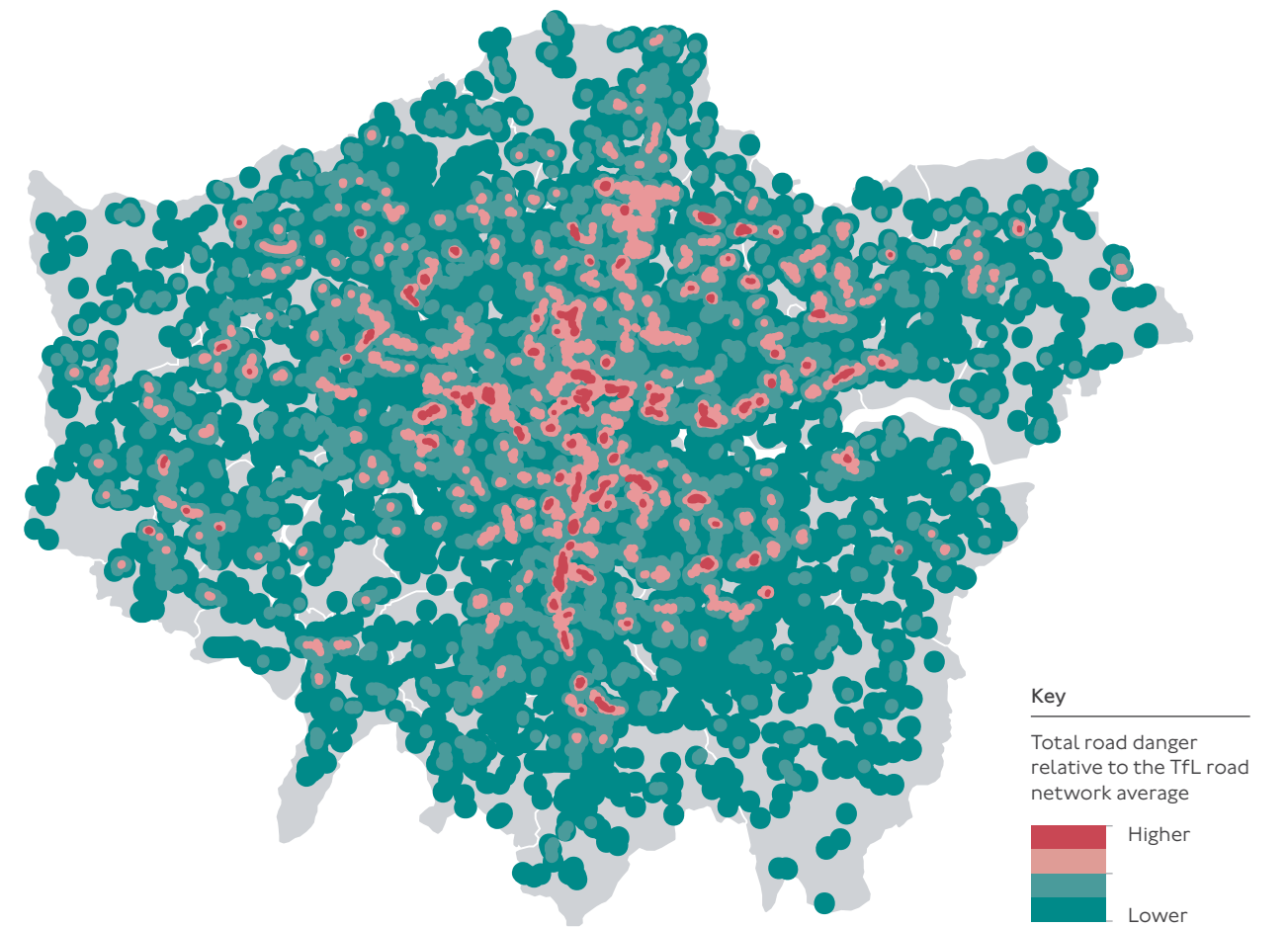
Figure 6: Relationship between vehicle impact speed and the risk of fatal injury to adult pedestrians in a frontal impact



There is a higher concentration of casualties in central and inner London and in some town centres in outer London. This broadly aligns with the main road network, where speeds are too often inappropriate for the

environment and without consideration for other road users, especially people walking and cycling. The variations in risk across different geographies are also taken into account in our programme to lower speeds, discussed in section 3.2.

Figure 7: Cluster map of speed-related collisions resulting in casualties in London 2014-16



Reducing speed is fundamental to reducing road danger and to this action plan. Other speed reduction strategies also feature throughout the other Safe Systems chapters, representing the importance and cross-cutting nature of the issue.

their road networks. New York City, for example, is implementing a Vision Zero programme that includes a wide range of measures to reduce speeding through lowered speed limits, street design, cameras and on-street enforcement.

Other global cities have recognised the importance of speed reduction and have taken bold steps to limit speeds on



## 3.2 A new approach to reducing speeds in London

London has already taken action to reduce speeds, and around a third of streets in London now have a 20mph speed limit (Figure 11). The majority of remaining streets have a 30mph limit, the national urban default limit, with the rest having 40mph, 50mph and 70mph limits.

The appropriate speed for vehicles will depend on the use and function of the street and the risk experienced by those who use it. We are working with the boroughs to make more streets in London more welcoming and safe for people walking, cycling or using public transport, so speed limits and corresponding speeds need to adjust. Lower speeds are essential in areas where people shop, work, learn and play.

We are directly responsible for the Transport for London Road Network (TLRN), which makes up five per cent of London's roads, carries one third of

**'A safe speed on roads with possible conflicts between cars and pedestrians, cyclists or other vulnerable road users is 30km/h [20mph].'**

Managing Speed, World Health Organization, May 2017

traffic and is where 29 per cent of all collisions and 37 per cent of all fatalities occur.<sup>14</sup> Figure 9 shows the current speed limits on the TLRN.

We have completed a risk-based analysis to identify locations where there is a case to lower speed limits on the TLRN. This analysis considered:

- Current road danger (including numbers of fatal and serious collisions)
- Current and potential levels of walking and cycling
- Surrounding borough speed limits
- The function of the road, including whether it is a town centre
- The need to avoid displacing traffic from the TLRN to local streets

As part of this analysis, segments of the TLRN were scored for road danger, based on the risk of death or serious injury per km travelled by mode, the exposure level of road users, and the likely scope for collision reduction (see Figure 8).

From this analysis, we are proposing to implement a programme to progressively address road danger through lowering speed limits on parts of the TLRN. In developing the detailed programme we will engage with stakeholders including local authorities.

As proposed for implementation, and in line with its broader transformation, the TLRN in central London would become a low-speed environment suitable for walking, cycling and public transport use. Speed limits would also be lowered in town centres and other high-risk locations on the TLRN to reduce road danger for all road users. The proposed locations are shown in Figure 10.

We will work with the boroughs to apply this same risk-based approach to support similar changes in speed limits on borough-managed roads to ensure speed limits across London's road network are clear, consistent and reduce road danger.



### Action 1

TfL will engage on proposals to reduce speed limits on the TLRN by:

- Ensuring all of the TLRN within the central London Congestion Charging zone has a 20mph limit, to be implemented by May 2020
- Delivering a programme to reduce speed limits on other locations on the TLRN to address areas of high road danger, delivered over the period until 2024

Figure 8: Road danger on the TLRN

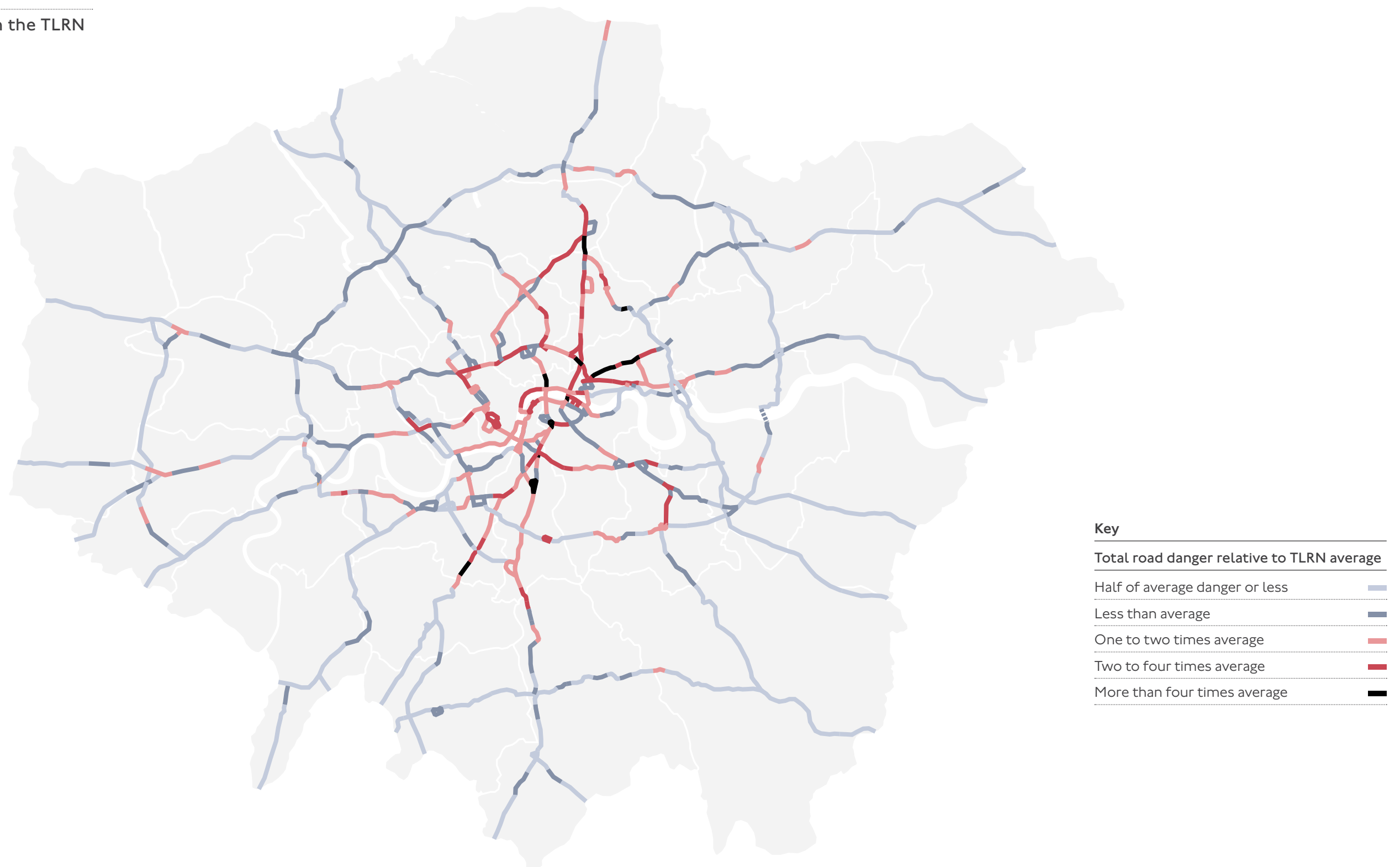


Figure 9: Current speed limits on the TLRN

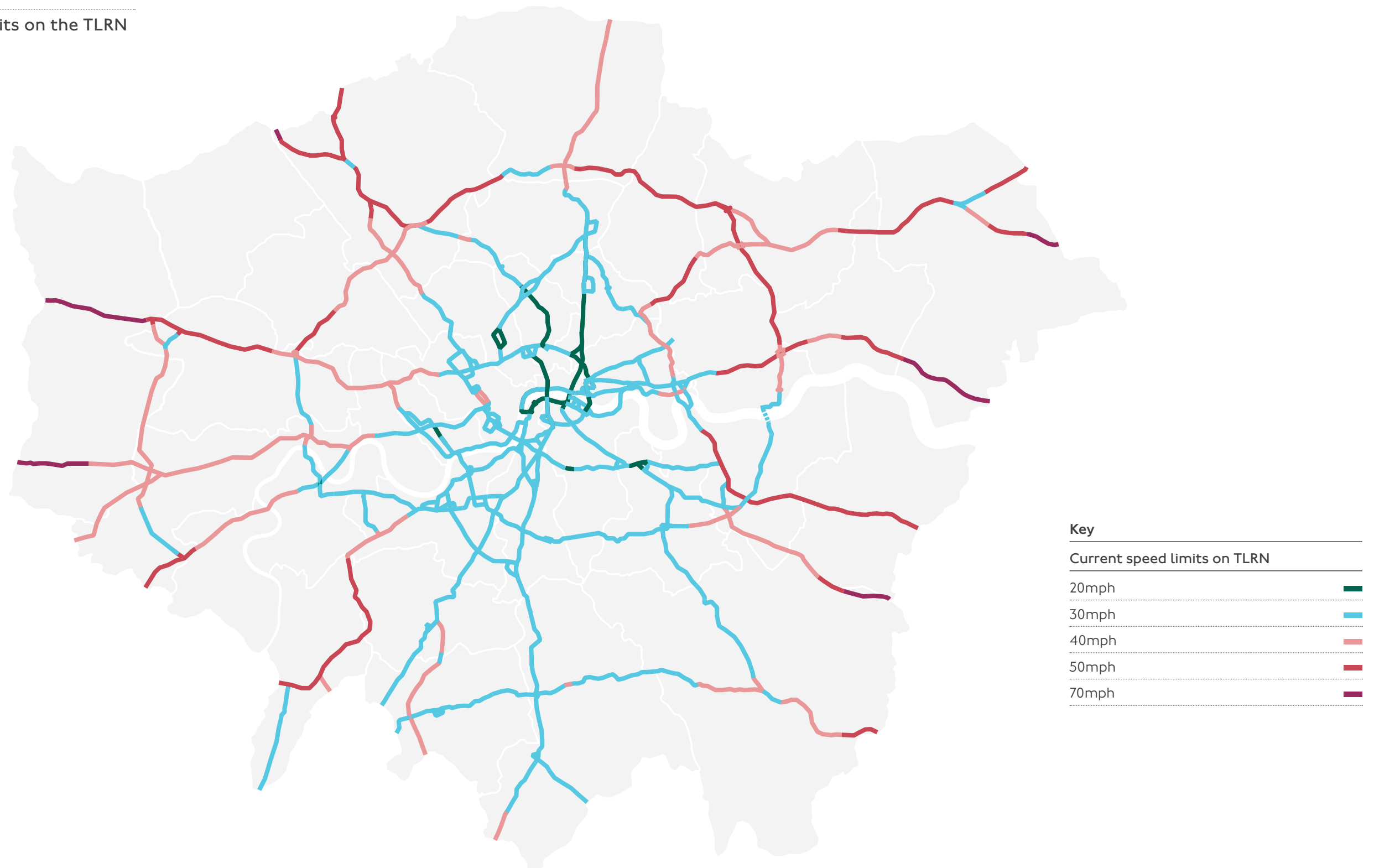
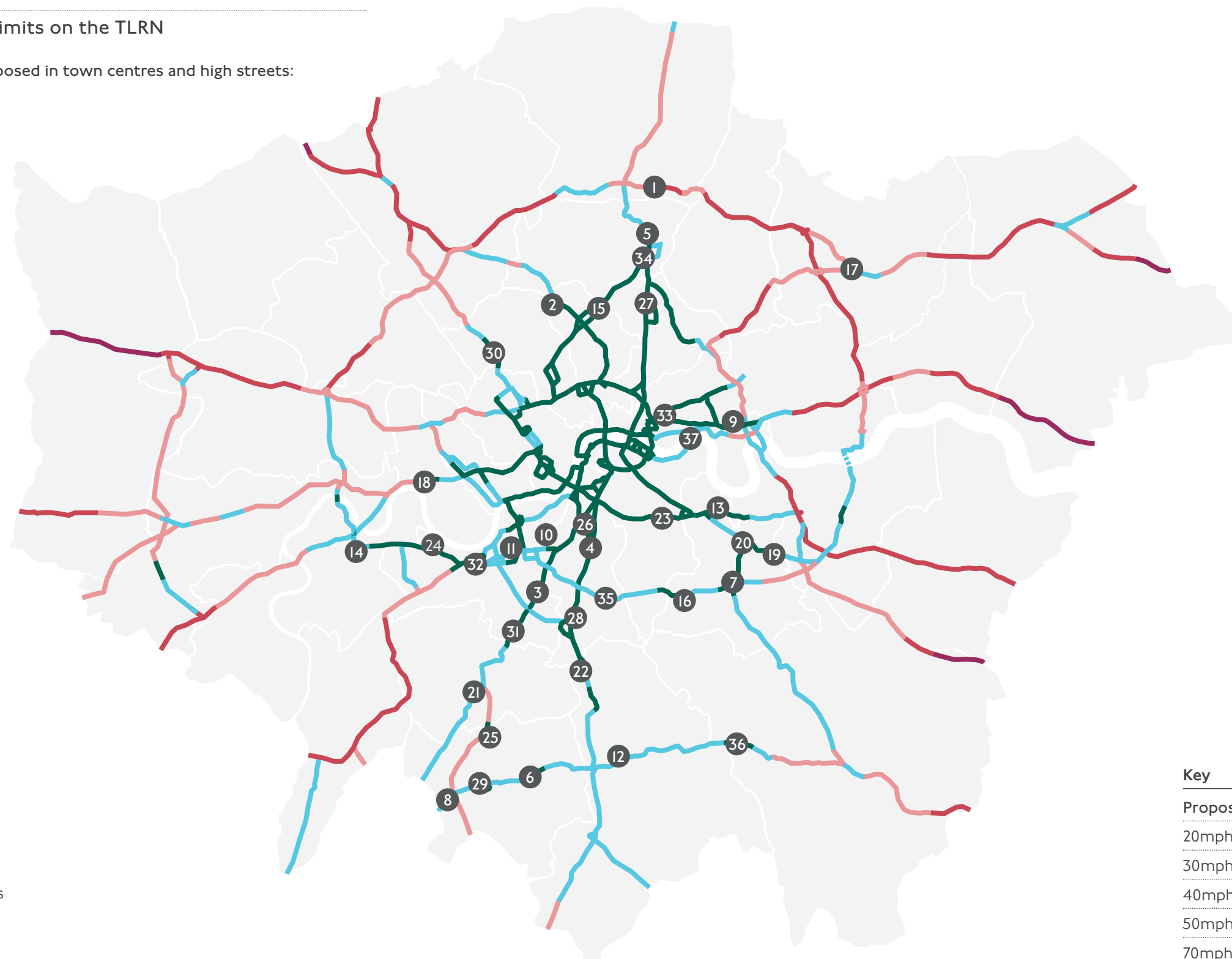




Figure 10: Proposed speed limits on the TLRN

TLRN speed limit reductions proposed in town centres and high streets:

- 1 Angel Edmonton
- 2 Archway
- 3 Balham
- 4 Brixton
- 5 Bruce Grove/  
Tottenham High Road
- 6 Carshalton Village
- 7 Catford
- 8 Cheam Village
- 9 Crisp Street
- 10 Clapham High Street
- 11 Clapham Junction
- 12 Croydon
- 13 Deptford
- 14 East Sheen
- 15 Finsbury Park
- 16 Forest Hill
- 17 Gants Hill
- 18 Hammersmith
- 19 Lee Green
- 20 Lewisham
- 21 Morden
- 22 Norbury
- 23 Peckham
- 24 Putney
- 25 Rosehill
- 26 Stockwell
- 27 Stoke Newington
- 28 Streatham
- 29 Sutton
- 30 Swiss Cottage/Finchley Road
- 31 Tooting
- 32 Wandsworth
- 33 Watney Market
- 34 West Green Road/Seven Sisters
- 35 West Norwood/Tulse Hill
- 36 West Wickham
- 37 Whitechapel



Key

Proposed speed limits on TLRN

20mph

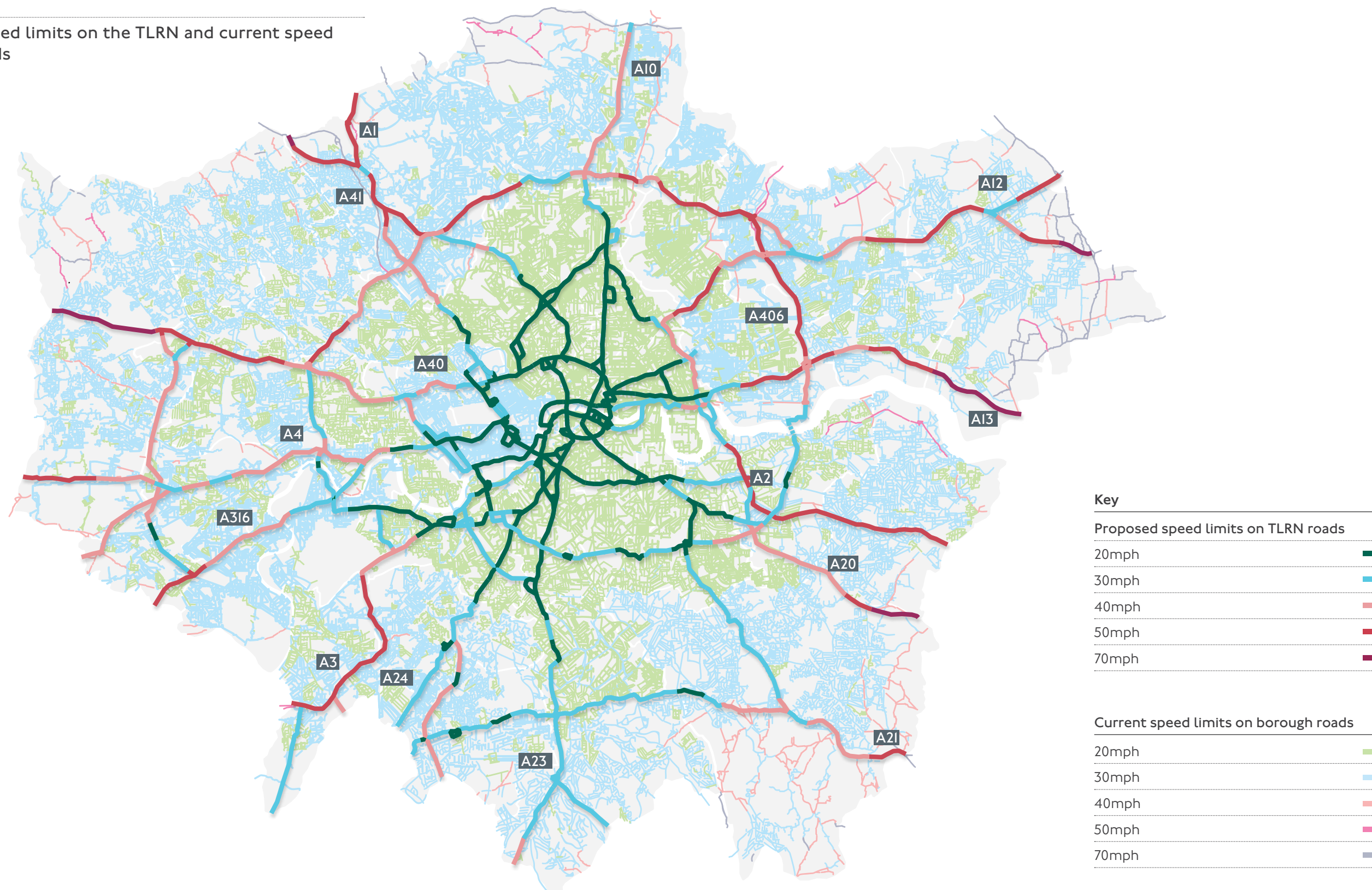
30mph

40mph

50mph

70mph

Figure II: Proposed speed limits on the TLRN and current speed limits on borough roads





### 3.3 Improving compliance with speed limits

#### Street design

Lower speed limits are more effective when they are supported by street design that influences people to drive slower. Features of the street, such as the width of the carriageway, the use of street lighting, plants and trees, inform people about the type of street they are driving on, and generally they adapt their behaviour accordingly. Chapter 4 outlines urban design measures to reduce road risk.

For the majority of drivers, a well-designed street environment with an appropriate speed limit will be sufficient for them to comply with the law.

Another effective measure at regulating speeds and reducing casualties is Intelligent Speed Assistance technology in vehicles.<sup>15</sup> As discussed in chapter 5, all buses will be fitted with Intelligent Speed Assistance by 2022, which will help to regulate speeds of all traffic on bus routes. Marketing and education are useful tools in increasing compliance, as discussed in chapter 6. Where people continue to flout speed limits, the police will continue to enforce the law.

#### Optimised camera systems

Speed camera systems are also an effective way of enforcing speed limits. Analysis shows an appreciable reduction in speed in the vicinity of cameras, and substantial reductions in collisions and casualties at those locations.<sup>16</sup>



The MPS will make increased use of mobile speed enforcement technology to increase coverage and deterrence. In identifying suitable locations for new safety cameras, we will employ a risk-based approach that prioritises higher risk locations, rather than solely targeting sites that have experienced historic casualty trends.

Creating a lower speed environment through the combined deployment of these measures will be an essential precursor to the actions that follow.

#### Action 2

TfL, the boroughs and the police will improve compliance with speed limits by:

- Redesigning streets to encourage lower speeds as part of their Healthy Streets programmes. TfL will publish a toolkit of best practice design measures in 2018 for reducing speeds to lower limits or 20mph
- Optimising the use of speed cameras including increased use of mobile speed enforcement technology by the MPS in areas of higher risk and/or community concern
- Enhancing on-street speed enforcement activity through a three-tier policing and enforcement approach (see chapter 6)

<sup>15</sup> [tfl.gov.uk/corporate/publications-and-reports/road-safety](http://tfl.gov.uk/corporate/publications-and-reports/road-safety)

<sup>16</sup> [www.racfoundation.org/research/safety/effectiveness-of-speed-cameras](http://www.racfoundation.org/research/safety/effectiveness-of-speed-cameras)



## Case study

# Introducing 20mph limits

London is introducing lower speed limits, with 20mph limits already on all borough-managed streets in Camden, Hackney, Hammersmith & Fulham, Haringey, Islington, Lambeth, Lewisham, Southwark and Tower Hamlets, as well as many stretches of the Transport for London strategic road network.

In 2014, the City of London introduced a 20mph speed limit on all of its streets, complemented by:

- Engineering schemes such as junction design improvements, courtesy crossings for pedestrians and filtered access to some streets to exclude through-traffic
- An awareness campaign, including road shows, a press campaign, 20mph markings on refuse vehicles, and City of London Police engagement with motorists
- 20mph signs at entry/exit points to the City, with 131 20mph markings applied to the carriageway
- Speed limit enforcement by the City of London Police

One year on, the measured average speeds in the City of London were one mph lower. A fall in speeds of one mph has been shown to result in a fall in collision rates of approximately six per cent on urban main roads and residential roads with low average speeds.<sup>17</sup>

Over the last few years, we have been trialling 20mph speed limits on parts of the TLRN. Many of the trials, such as Brixton town centre, used a combination of new signage, carriageway markings, 2D road humps and lamp column banners. Physical engineering measures, such as raised crossings, aim to further reduce speeds, in locations including Earls Court Road.



<sup>17</sup> <https://trl.co.uk/reports/TRL421>





## Chapter 4 – Safe streets

A key to making people feel safe on our streets is reducing danger at locations where the likelihood of injury is higher than in other places.

Action will focus on improving junctions, which are the most risky and dangerous locations and where cyclists and motorcyclists are particularly vulnerable.

### 76%

of collisions in London occur at junctions



### 73%

of collisions resulting in death or serious injury for those on foot, bike or motorbike in London take place at junctions



### 24%

of collisions in 2015 resulting in death or serious injury of people while cycling occurred when another vehicle turned right or left across their path



A vehicle turning right across their path is the most common manoeuvre resulting in death and serious injury for people on bicycles and motorcycles



### 18%

of collisions in 2015 resulting in death or serious injury of people while riding motorcycles occurred when another vehicle turned right across their path







## 4.1 The Safer Junctions programme

This programme targets the junctions in London where the greatest numbers of people have been killed or injured while walking, cycling or riding motorcycles. It presents the chance to make these locations more welcoming and less dominated by motor vehicles – demonstrating the Healthy Streets Approach.

We have identified 73 junctions on the TLRN where major safety improvements can be made to the existing road layout. The programme represents a significant investment of £54 million over the next five years. Twenty-one of these junctions have already been improved in recent years, including Elephant and Castle northern roundabout, and the junction of Bath Road and Parkway in Hounslow.

We are accelerating the Safer Junctions programme, so that improvements at 33 junctions will either be consulted on or completed by 2023, including Lambeth Bridge North, Waterloo IMAX, and Highbury Corner.

A further 19 junctions will be investigated for potential improvements at locations such as Clapham Road and Union Road, Elephant and Castle southern junction and locations in Brixton.

The safety of these junctions will be improved with design measures that include:

- New and improved facilities for safer walking and cycling
- A more pleasant walking environment, including reduced street clutter, wider footways, and improved soft and hard landscaping
- A safer, simpler and more accessible experience for people switching from buses to other modes

These schemes benefit everyone by helping to make London a liveable, attractive and safer city. The benefits extend beyond casualty reduction to increased walking, cycling and public

transport use, as exemplified by planned new cycling connections.

As we move forward, we will take a risk-based approach to identifying new junctions to add to the programme. Locations on the Safer Junctions list will be monitored and reviewed each year, with additions to the programme being made if necessary, so that it always focuses on the highest risk junctions.

London boroughs are also encouraged to follow the same approach to tackling high-risk locations on their road networks through the use of Local Implementation Plan funding. We will provide analytical and technical design support for delivery of these schemes.

£54m 

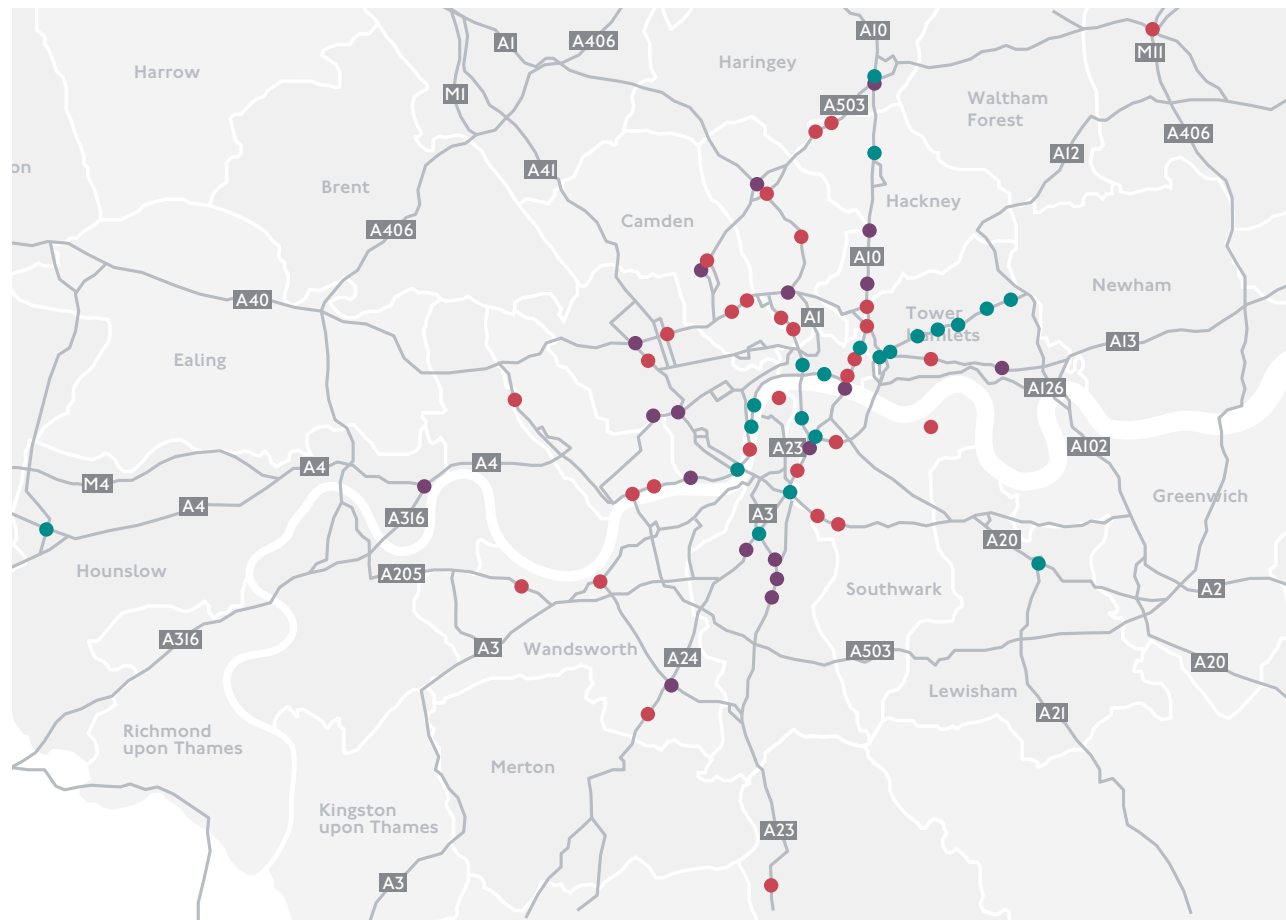
over the next five years to be invested into the Safer Junctions programme

21 

out of 73 identified junctions have already been improved, including Elephant and Castle northern roundabout, and the junction of Bath Road and Parkway in Hounslow



Figure 12: Locations targeted by the Safer Junctions programme



Key

21 junctions: improvements made, monitoring in progress



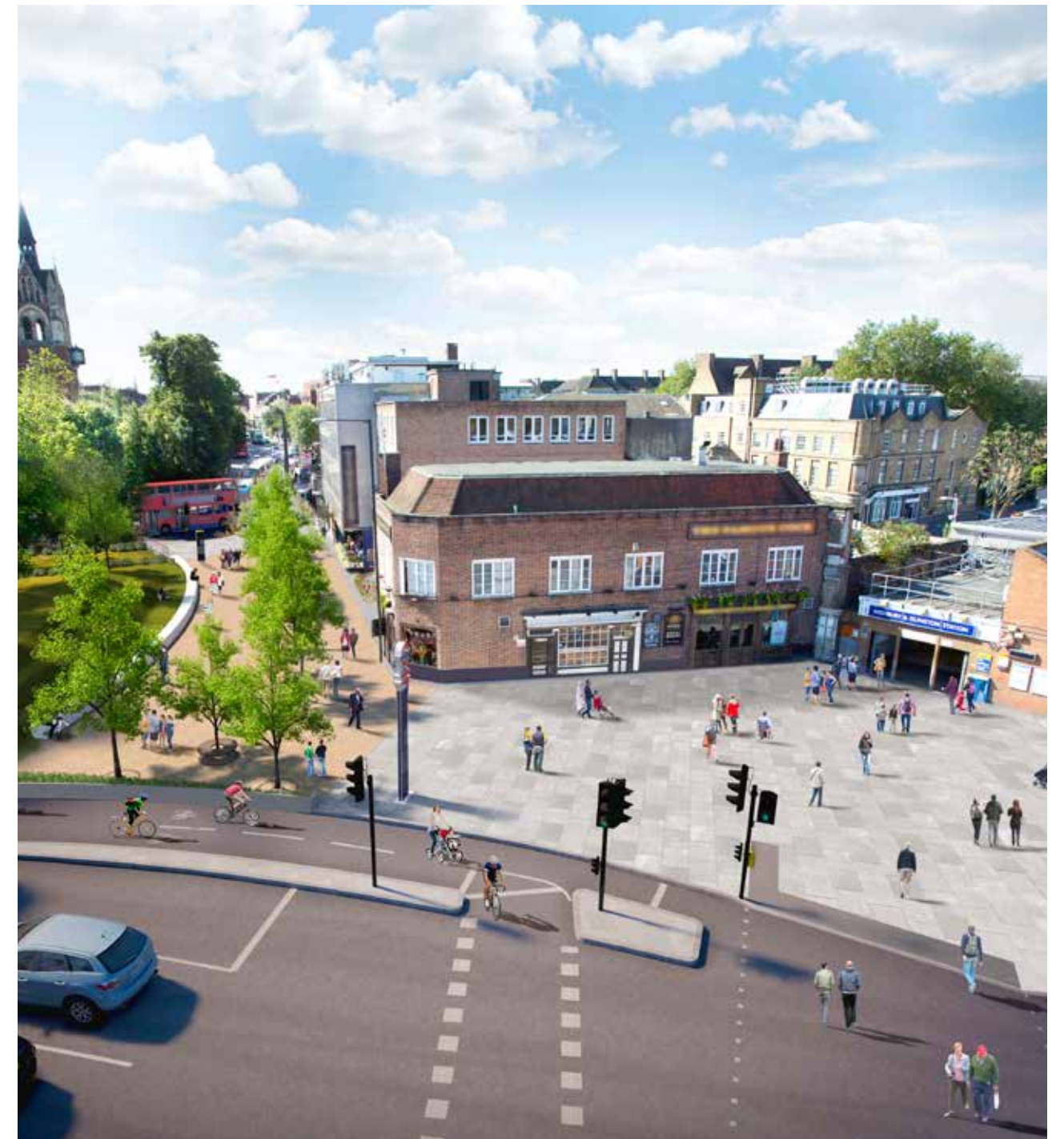
33 junctions: improvements planned



19 junctions: undergoing safety studies for further improvements



Figure 13: Preliminary designs for Highbury Corner, one of the Safer Junctions planned for improvement



## 4.2 Ensuring better visibility at junctions

The Safer Junctions programme follows a guiding design principle for reducing danger at locations of high traffic movement, which is to separate motor traffic from people walking and cycling to the extent that the space allows. However, at smaller junctions, such as those with side roads, there may not be space available to segregate traffic in this way. At these locations, the best option may be to improve visibility between people on the road so that they avoid colliding. Yellow box markings are one way to encourage drivers to keep junctions clear, but by law these markings cannot extend beyond a junction to enable direct visibility of other road users.

Following a successful trial, we will implement new extended 'keep clear' markings at junctions with side roads to encourage people to stop their vehicles further back, improve visibility and prevent turning conflicts that too often result in death or serious injury for people travelling by bicycle and motorcycle.



### Action 3

Reduce danger at junctions by:

- Delivery of the Safer Junctions programme to reduce both collisions and the fear of collision at London's most intimidating junctions. This includes improvement schemes to be completed in at least 20 locations by May 2020. The majority of junctions in the current programme will be either completed or consulted on by 2023
- Extending 'keep clear' markings at appropriate locations on the TLRN red route, to enable earlier visibility between drivers turning into or out of side streets and people approaching on motorcycles and bicycles

## 4.3 Investing in Healthy Streets

TfL's 2017 Business Plan includes £2.2bn for street schemes designed to make walking, cycling and public transport safer, cleaner and more appealing. This includes investment to improve the street environment on borough roads and £114m for Liveable Neighbourhoods, a London-wide programme aimed at improving conditions for walking, cycling and public transport use. It also includes physical infrastructure improvements and behaviour change activity in two town centres, Tooting and Peckham, to reduce danger and encourage residents and visitors to walk, cycle and use public transport.

Road danger reduction will be made a fundamental part of all these schemes through:

- **A Healthy Streets design check** – new schemes will undergo a 'Healthy Streets Check for Designers' to ensure all new schemes help to make people feel safe and secure when walking, cycling and using public transport. This is tracked on our organisational scorecard. Schemes that fail to address road danger are flagged for further investigation
- **Update and develop TfL's design guidance** – to ensure it addresses the needs of people walking, cycling and riding motorcycles. Our Streets toolkit of design guidance literature will be live and updated to reflect the latest research and development, and promoted to all designers transforming London's streets

- **Monitoring** – once schemes have been put in place, ongoing monitoring will evaluate how well they have reduced road danger, so that improvements can be made and lessons learned

Potholes and other road defects cause concern for people, particularly when they are cycling or riding a motorcycle. Despite making up about four per cent of traffic, people riding bicycles and motorcycles account for a third of all casualties resulting from collisions in which poor or defective road surface was a contributory factor.<sup>18</sup> We carry out inspections of the TLRN for safety and skid resistance, and conduct routine maintenance in accordance with defined defect intervention standards. People can report defects that emerge on the TLRN through our website. However, we want to make it as easy as possible for people to report defects on London's roads so that we can improve our awareness of where these are a concern, inform our decisions, and feed back to people reporting.

### Action 4

- Ensure that road danger reduction is central to design and delivery of all schemes, including through the use of the Healthy Streets Check for Designers, design guidance literature and monitoring
- TfL will investigate ways to make it easier for people to report road defects, such as improving its online tool

<sup>18</sup> Analysis of STATS19 dataset (2014-2016)



## Focus on

# Liveable Neighbourhoods

Liveable Neighbourhoods is a programme aimed at improving conditions for walking, cycling and public transport use. The programme objectives are to create safer, healthier and more accessible neighbourhoods for people by reducing the dominance of motor vehicles and the danger they pose. This encourages people to use more sustainable and active forms of travel, as well as providing a good quality and reliable public transport service.

Seven boroughs in inner and outer London were awarded funding in the first round, with plans to deliver the Healthy Streets Approach through changes including safer, more attractive walking and cycling routes, junction improvements, traffic reduction measures, improved wayfinding, planting and street lighting. These initiatives will be supported by behaviour change initiatives such as cycle training and road danger reduction education.

The first schemes in the Liveable Neighbourhoods programme will be in:

- West Ealing, Ealing
- Greenwich town centre, Greenwich
- Hackney Central, Hackney
- Crouch End, Haringey
- Romford Ring Road/Romford town centre, Havering
- Deptford Parks, Lewisham
- Coppermill Village, Waltham Forest







## Chapter 5 – Safe vehicles

Delivering the Healthy Streets Approach means reducing the dominance of motor vehicles on our streets. This not only means reducing the use of motor vehicles, but also reducing the danger that they pose.

The action that we take to reduce danger needs to focus on those vehicles that present the greatest risk.

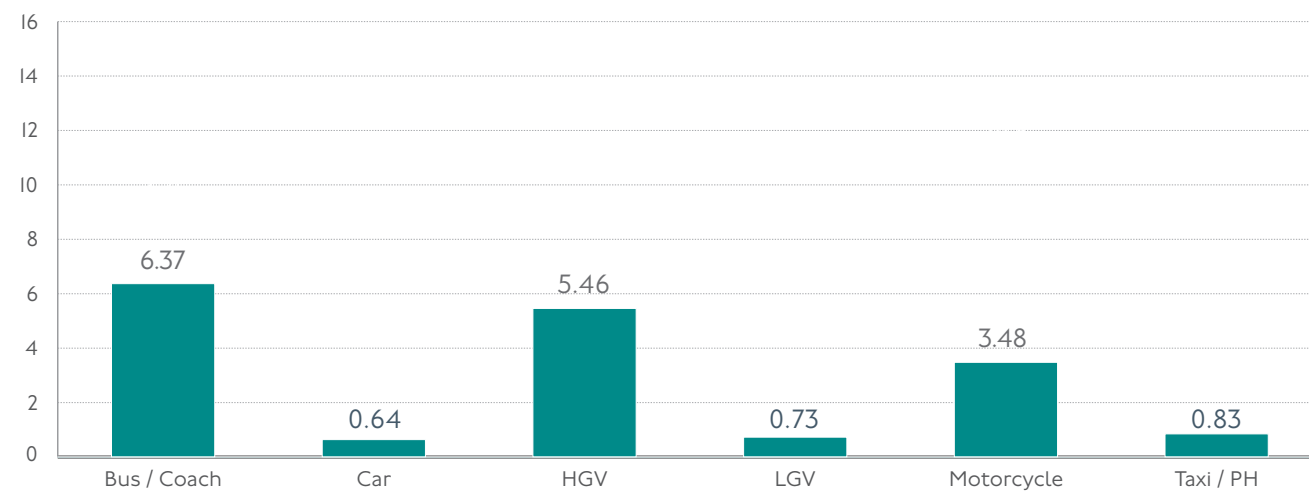
The following graphs show the vehicles involved in collisions that resulted in death or serious injury for people walking, cycling and riding motorcycles.

Relative to their share of traffic, larger vehicles, such as heavy goods vehicles and buses, present the greatest risk to people walking, cycling and riding motorcycles. Other vehicles driven by professional drivers, such as light goods vehicles, taxis and private hire vehicles as well as motorcycles, also pose a risk to people walking and cycling that is disproportionate to their share of traffic.



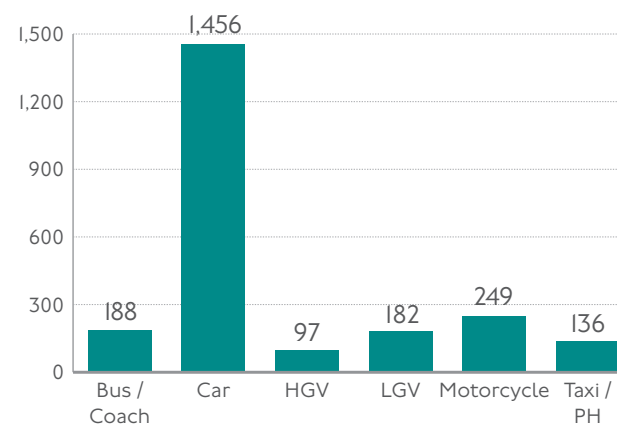
## Vehicle danger for people walking 2014–16

Figure 14: Risk of motor vehicles being involved in fatal collisions with people walking



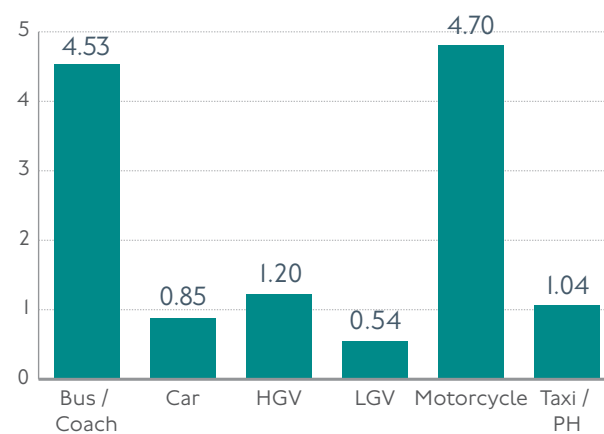
For example, relative to their share of traffic, buses and coaches are 6.37 times more likely to be involved in a collision resulting in the death of someone walking.

Figure 15: Collisions resulting in death/serious injury for pedestrians by vehicle



The number of collisions resulting in death or serious injury for pedestrians is higher for cars than any other type of vehicle.

Figure 16: Risk of motor vehicles being involved in fatal or serious injury collisions for people walking



For example, buses and coaches are 4.53 times more likely to be involved in a collision resulting in fatality or serious injury to a pedestrian relative to their share of traffic.

## Vehicle danger for people cycling 2014–16

Figure 17: Risk of motor vehicles being involved in fatal collisions with people cycling

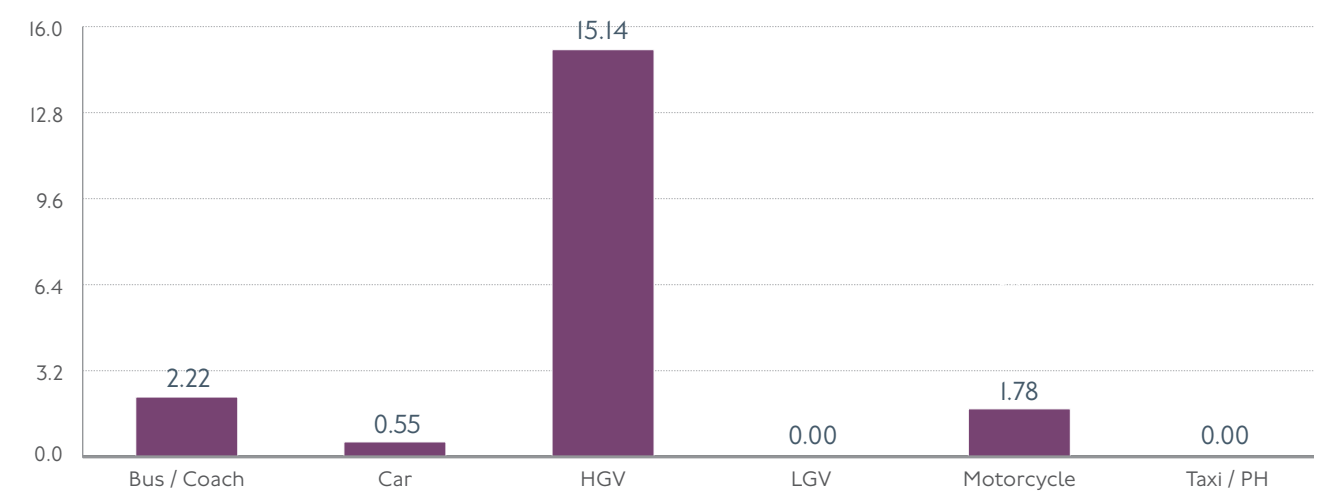
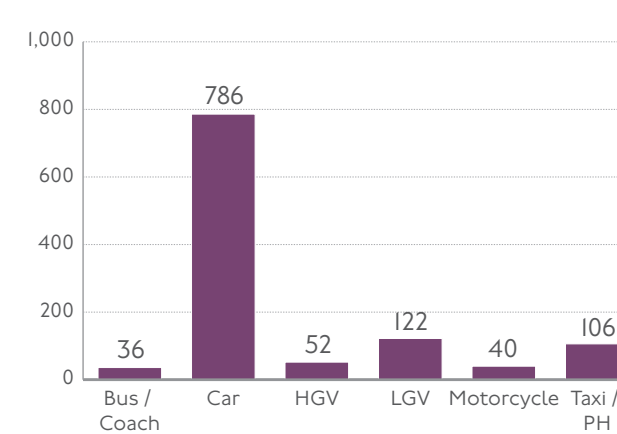
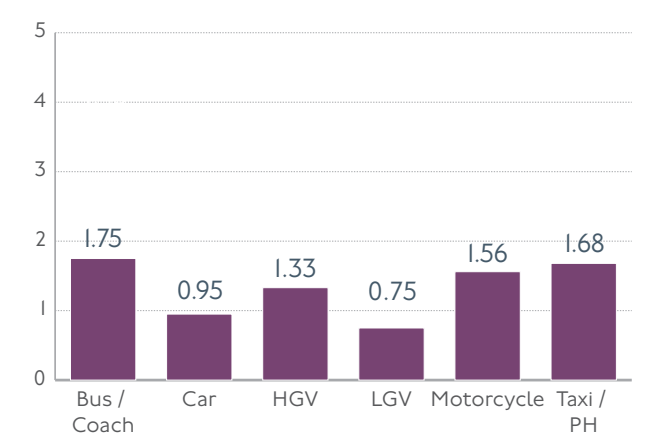


Figure 18: Collisions resulting in death/serious injury for cyclists by vehicle



The number of collisions resulting in death or serious injury for cyclists is higher for cars than any other type of vehicle.

Figure 19: Risk of motor vehicles being involved in fatal or serious injury collisions for people cycling



For example, buses and coaches are 1.75 times more likely to be involved in a collision resulting in fatality or serious injury to a cyclist relative to their share of traffic.

## Vehicle danger for motorcyclists 2014–16

Figure 20: Risk of motor vehicles being involved in fatal collisions with motorcyclists

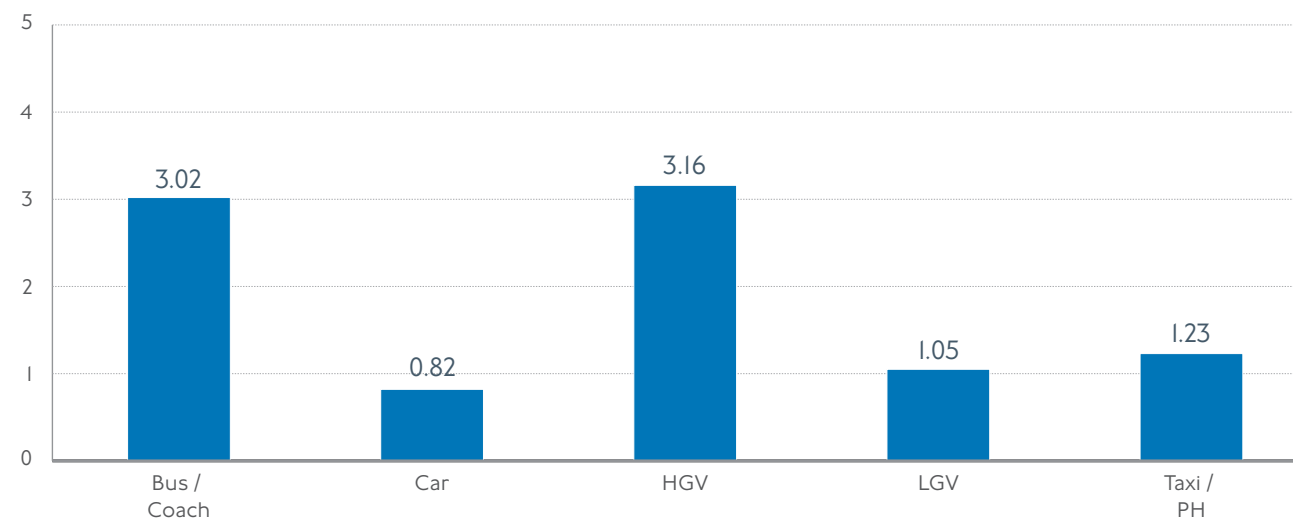
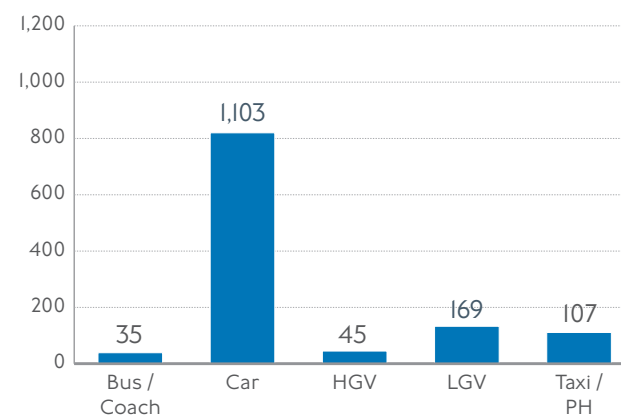
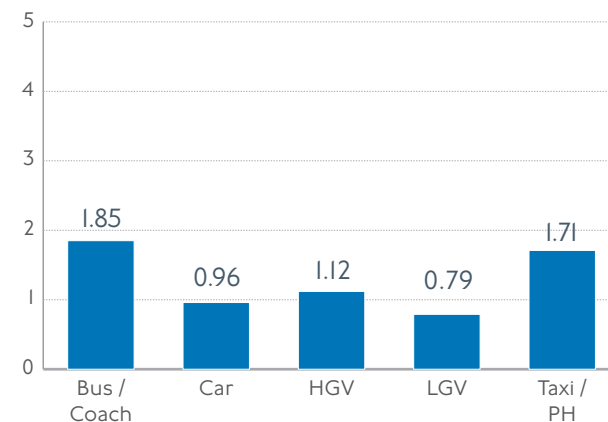


Figure 21: Collisions resulting in death/serious injury for motorcyclists by vehicle



The number of collisions resulting in death or serious injury for motorcyclists is higher for cars than any other type of vehicle.

Figure 22: Risk of motor vehicles being involved in fatal or serious injury collisions for motorcyclists



For example, buses and coaches are 1.85 times more likely to be involved in a collision resulting in fatality or serious injury to a motorcyclist relative to their share of traffic.

These graphs highlight the types of vehicles that are disproportionately involved in fatal and serious injury collisions compared to their share of traffic.

This action plan reflects this and focuses on reducing the risk posed by:

- Buses
- HGVs, particularly to tackle their disproportionate involvement in the deaths of people walking, cycling and motorcycling
- Taxis and private hire vehicles
- Other vehicles driven for work

Motorcycles pose a risk, disproportionate to their share of traffic, to people cycling. They also pose a risk to people walking and to themselves. Actions to tackle this risk are outlined in section 6.4.

Buses and coaches are classified together in national collision statistics. The actions in this plan focus more on buses due to their greater share of traffic.



## 5.1 London buses

Over the past decade the number of deaths or people seriously injured from a collision involving a bus or coach has decreased by 55 per cent. This equates to an average nine per cent decrease year on year.

Despite this progress, buses and coaches remain a risk to people walking, cycling and riding motorcycles that is disproportionate to their share of traffic. Between 2014 and 2016, there were 36 people killed and 480 people seriously injured in collisions involving buses and coaches. Bus passengers are also at risk – 3,074 slips, trips and falls were recorded occurring on board London buses in 2017.

### Bus Safety Standard

TfL and the operators contracted by TfL to provide bus services have a responsibility to reduce these deaths and injuries, as well as injuries on buses, by ensuring that the safest buses are driven on London's streets. This will be achieved by working with bus operators and manufacturers to deliver the world-leading Bus Safety Standard, as part of the wider Bus Safety Programme (page 64). This involves:

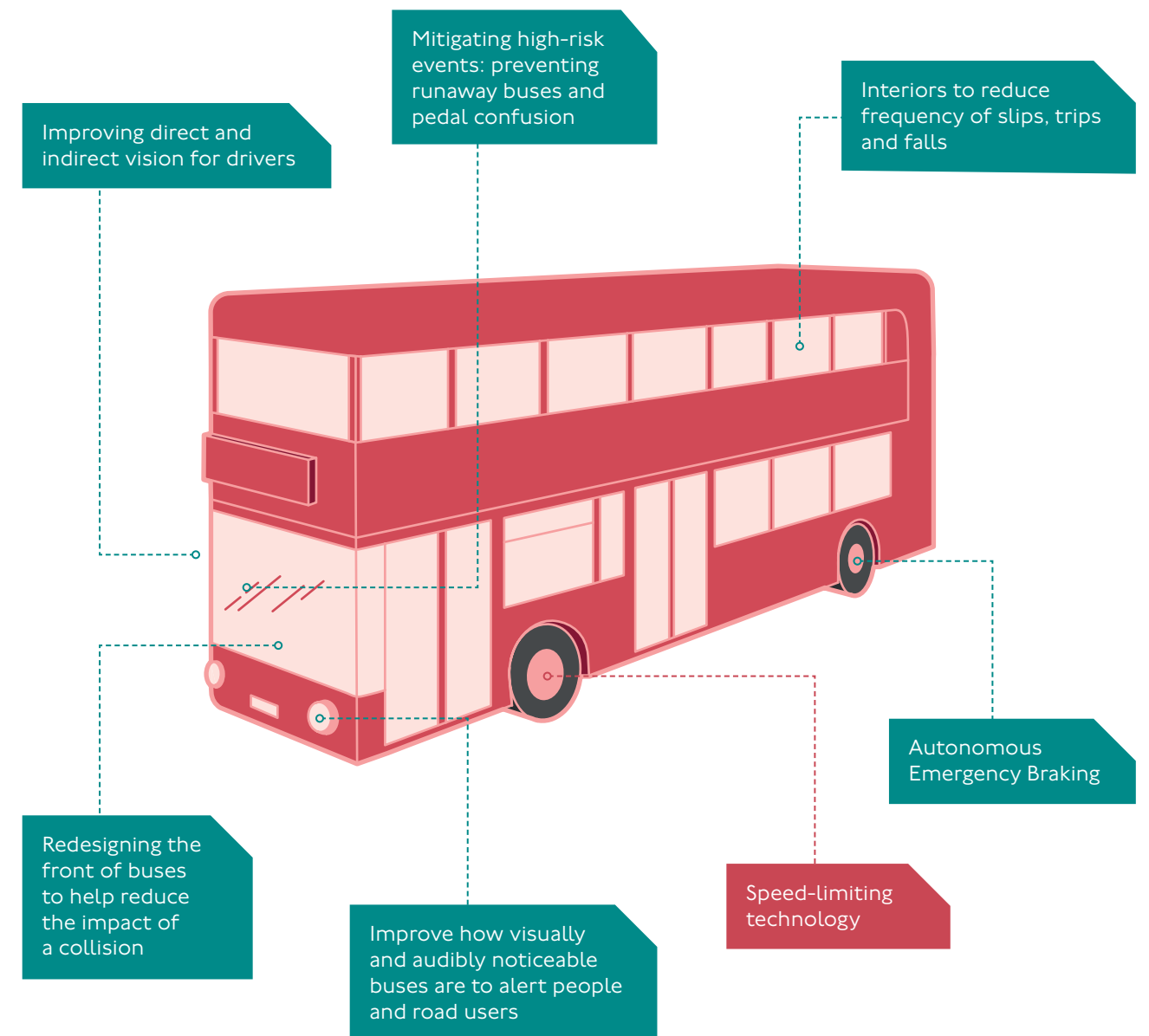
- Mandating the fitting of speed-limiting technology to all buses in our fleet, starting with new buses entering the fleet in 2018, to prevent buses from exceeding speed limits and in turn influencing the speed of following vehicles

- Trialling a range of technologies, such as Autonomous Emergency Braking that allows the vehicle to detect other road users in its path and brake automatically
- Requiring new design in bus interiors to reduce the frequency and impact to passengers of slips, trips and falls
- Improving direct and indirect vision for drivers
- Redesigning the front of buses to help reduce the impact of a collision
- Investigating the use of features such as lights or audible warnings to alert pedestrians and other road users to the presence of buses

### Action 5

Introduce a world-leading Bus Safety Standard for the city's entire bus fleet, incorporated into all new London buses and bus operator contracts from the end of 2018.

Figure 23: Bus safety features



#### Key

- For new buses entering the fleet in 2018 ●
- Measures being trialled or investigated ●



### Bus Safety Programme

As the vehicles over which we have the greatest control, London buses are the only mode to have specific Vision Zero targets set for their operation. We aim to reduce the number of people who are killed or seriously injured in, or by, London buses:

- by 70 per cent by 2022, against 2005–09 levels; and eliminate deaths in or by London buses by 2030
- to zero by 2030

To drive major improvements in safety across London's bus network and meet these ambitious targets, we are implementing the world-leading Bus Safety Programme. Launched in 2016, it has a dedicated budget of more than £33m to fund specific interventions aimed at reducing collisions, as well as improvements to existing safety processes and data collection. The original programme has six main activities, which are being delivered concurrently. These are:

1. Carrying out in-depth bus collision data analysis, to ensure we learn from historic trends
2. Promoting a culture of transparency internally and across operators, and publishing data wherever possible
3. Improving safety monitoring and assurance processes among operators, and increasing the emphasis on safety in contract and performance management

4. Improving bus vehicle design and developing the first Bus Safety Standard
5. Launching the Sarah Hope Line to provide support to victims and witnesses of serious incidents on our transport network

6. Developing a new and innovative bus driver training course

The Bus Safety Programme is constantly evolving to further reduce the danger posed by buses in London. Since its launch the following activities have been added to the programme:

7. Reducing passenger injuries due to slips, trips and falls
8. Investigating and managing fatigue risk among bus drivers
9. Launching the Bus Safety Innovation Fund, supporting six bus operators to develop and trial new ideas that will improve safety across London's bus network. We have provided a £500,000 fund for six bus operators to develop and trial new ideas that will improve safety across London's bus network. These trials, which will be completed during 2018, cover a range of new technologies such as fatigue and distraction alert systems, as well as new methods of training
10. Working in partnership, including with the MPS and with the national Confidential Incident Reporting Analysis System for Transport (CIRAS)





## 5.2 Freight vehicles

Freight delivery and servicing is essential to London’s prosperity, but action is needed to reduce the risk posed by large vehicles. Large goods vehicles in particular are involved in a disproportionate number of fatal collisions involving people walking and cycling. Such vehicles make up less than five per cent of the kilometres driven in London, but in 2016 they were involved in around 50 per cent of collisions in which people were killed while cycling and 23 per cent of people killed while walking. Between 2013 and 2016, 221 people were killed or seriously injured when struck by goods vehicles more than 3.5 tonnes while walking or cycling. Vans account for 80 per cent of all road freight mileage and are involved in 10 per cent of collisions. Eleven per cent of these incidents resulted in serious injury or death.

The Mayor’s Transport Strategy aims to reduce freight traffic in the central London morning peak by 10 per cent on current levels by 2026. It also supports activity to move freight trips away from the busiest places and times for pedestrians and cyclists.

The London Freight Enforcement Partnership of TfL, the MPS, City of London Police and the Driver and Vehicle Standards Agency (DVSA) target enforcement activity against the most dangerous and non-compliant drivers, vehicles and operators in London.

They work closely with the Office of the Traffic Commissioner to remove these rogue operators from London’s streets.

The Safer Lorry Scheme was launched in 2015 to help address the danger these vehicles pose. However, many HGVs being driven in London are designed to be driven on uneven, off-road surfaces, despite the fact that the majority of these vehicles will never be driven off-road. These vehicles commonly have an elevated driver’s seat, which creates large ‘blind spots’ where the driver can’t see at pavement level, and that have been shown to contribute to deaths and serious injuries. These are inappropriate for use within dense urban or residential areas. To tackle this danger, we need to encourage the use of better designed vehicles that are more appropriate for urban environments.

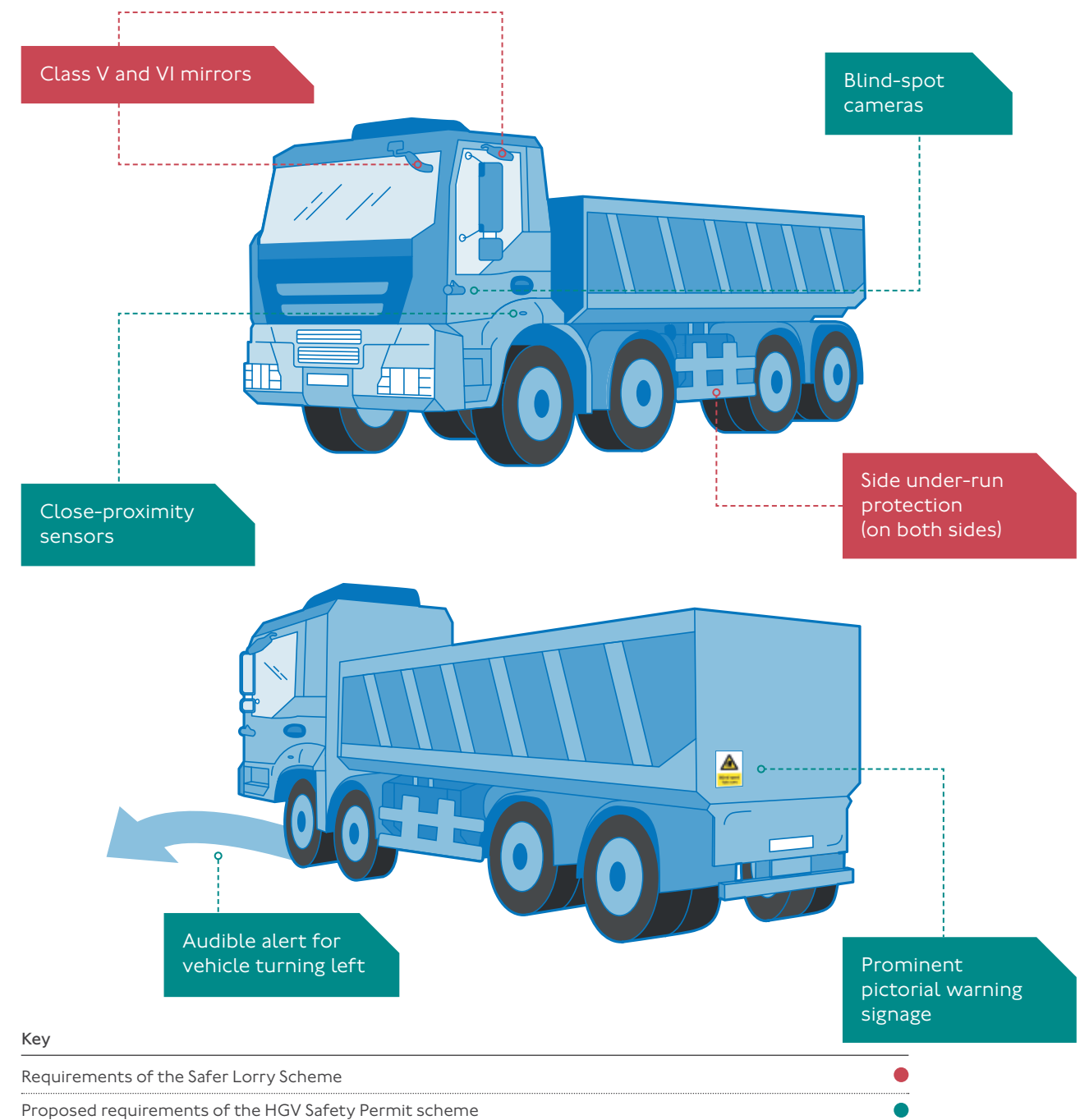
### Less than 5%

of kilometres driven in London are by large goods vehicles, but in 2016, they were involved in:



of collisions resulting in deaths while cycling

Figure 24: Required safety features for the proposed HGV Safety Permit





Progress has been made through working in partnership with the freight industry to improve HGV design. However, we need to go further by implementing a Direct Vision Standard for HGVs.

Using a star system, the Direct Vision Standard rates HGVs from zero (lowest) to five (highest), based on how much an HGV driver can see directly through their cab windows. The Direct Vision Standard forms part of a proposed HGV Safety Standard Permit Scheme, which will require all HGVs more than 12 tonnes to hold a safety permit when entering or operating in London from 2020.<sup>19</sup> HGVs rated one-star and above would automatically be granted a permit, while those rated zero-star (lowest) would have to meet a safe system which could include cameras and sensors. By 2024 only HGVs rated three-star and above, or those with a progressive safe system, would be allowed on London's streets.

Our timeline for delivering the HGV Safety Permit Scheme is:

- **October 2019:** permit issuing commences
- **October 2020:** all zero-star HGVs banned unless they prove a 'safe system' (aligned with timescales for the planned tightening of Low Emission Zone requirements)
- **2024:** all zero to two-star HGVs banned unless they prove that they have been fitted with a 'progressive safe system'. The progressive safe system will build on the requirements of the 2020 safe system, but will take into account advances in future technology. Operators and stakeholders will be consulted on the proposed updated requirements nearer the time

In the run-up to the launch of the HGV Permit Scheme, TfL and the wider Greater London Authority (GLA) family will lead by example in encouraging high standards in the freight sector. We work with the Fleet Operator Recognition Scheme (FORS), a voluntary accreditation scheme that promotes best practice for commercial vehicle operators and encourages progression from Bronze to Silver and Gold standards. The GLA family will require all operators in

their supply chain starting contracts advertised from November 2018 to be accredited to a minimum of FORS Silver and FORS Gold by April 2024.

We will work with FORS to encourage the fitting of speed-limiting technology and Autonomous Emergency Braking to vehicles as a requirement for FORS Gold membership by 2024 when this technology is more widely available in new vehicles.



<sup>19</sup> Subject to the results of statutory consultation, and other relevant procedures and processes including DfT and European Commission notification and support



### Further reducing risk from construction vehicles

Driving HGVs with low levels of direct vision has been shown to increase the mental workload required of drivers, which can result in impaired driving performance and stress.<sup>20</sup> HGV driver stress is a known contributor to collisions.<sup>21</sup> The Construction Logistics and Community Safety programme is tackling this risk by making road danger as much a focus for the construction industry as health and safety on site. TfL, developers and the construction industry will work together to reduce both the need for HGVs with low direct vision and therefore the stress that increases risk, by:

- **Reducing road mileage** – We will work with the construction industry, Network Rail and other stakeholders to encourage materials to be transported by rail or river where possible, thereby reducing conflicts between road freight vehicles and other road users. We are promoting greater use of Construction Logistics Plans to specify the safest routes for HGVs to and from sites, and ‘holding areas’ for construction vehicles to limit unnecessary vehicle circling
- **Reducing risk for people in the vicinity of construction sites** – Changes to the road layout to accommodate construction and roadworks are inevitably disruptive to road users. We will work with



developers and those involved in the site planning phase to encourage innovative traffic management which enables the safe movement of people past the site. We will regularly inspect, and when things change during the build phase, we will provide guidance on the best approach to minimise risk to road users

- **Improving the surface conditions of construction sites** – The need for ‘off-road’ HGVs with large ‘blind spots’ will be reduced by improving the surface conditions of construction and waste sites

### Action 6

Raise HGV safety standards by:

- Launching the world’s first Direct Vision Standard for HGVs. An associated permit scheme will be launched,<sup>22</sup> with permits issued from 2019 and enforcement starting from 2020. The scheme will be further rolled out and the standards tightened by 2024
- Working with the European Union and manufacturers to change European standards on direct vision
- Requiring all operators in the GLA family supply chain starting new contracts advertised from November 2018 to be accredited to a minimum of FORS Silver and FORS Gold by April 2024
- Updating TfL’s Construction Logistics Planning Guidance in 2019 to promote best practice in reducing the risk posed by construction vehicle movement, and producing new traffic management guidance for 2019 to enable safe movement of people past construction sites

<sup>20</sup> [tfl.gov.uk/info-for/deliveries-in-london/delivering-safely/direct-vision-for-hgvs-research-and-tools](https://www.tfl.gov.uk/info-for/deliveries-in-london/delivering-safely/direct-vision-for-hgvs-research-and-tools)

<sup>21</sup> [www.eprints.hud.ac.uk/id/eprint/119210](https://www.eprints.hud.ac.uk/id/eprint/119210)

<sup>22</sup> Subject to the results of statutory consultation, and other relevant procedures and processes including DfT and European Commission notification and support



## Case study

# Construction vehicle holding areas

HGVs arriving at major development sites are sometimes turned away if the site is not ready for them and does not have suitable space to park. This means the HGV has to be driven around the streets in a loop until they can be accommodated at the site. This extra road mileage contributes to driver stress and increases the risk posed by construction vehicles, which are over-represented in deaths and serious injuries of people while walking and cycling.

Holding areas can be specified in Construction Logistics Plans to provide HGVs with a designated waiting space off the road. An example is the holding area at 18 Blackfriars Road, which came into use in January 2018 through the collaboration of TfL, Thames Tideway and the site developer. Vehicles using this holding area service the Tideway sites at Albert Embankment, Victoria Embankment and Blackfriars Bridge. Without the holding area, a single vehicle servicing the Victoria Embankment site, for example, would need to drive a loop of 4.3km, potentially several times. Holding areas such as this reduce vehicle mileage, driver stress, collision risk, traffic congestion, air pollutants, and vehicle operator costs.







The MPS's new collision data recording system allows for the capture of separate data to differentiate between taxis and private hire vehicles.

This data takes time to verify, but provisional figures show that the number of people injured in licensed private hire vehicles is in proportion to their share of traffic.

### 5.3 Taxis, private hire vehicles and vehicles used for work

Analysis shows that taxis and private hire vehicles are 1.4 times more likely than a car, per vehicle kilometre travelled, to be involved in a collision with someone walking or cycling.

We work with the taxi and private hire trades, vehicle manufacturers and the police to improve vehicle safety standards. As the licensing authority for taxi and private hire services in London, we can require vehicles to meet design standards and vehicle age limits. Maintaining taxi and private hire vehicle age limits increases the prevalence of vehicles with modern safety features

as standard – the latest zero-emission capable taxis, for example, come with Autonomous Emergency Braking for people walking and cycling, lane-departure and forward collision warning systems.

We work closely with the police to raise compliance with taxi and private hire vehicle roadworthiness and safety standards. We have significantly increased the numbers of Taxi and Private Hire Compliance Officers which has delivered an uplift in activity and coverage across London.

Compliance Officers will target, among other offences, illegal touting involving uninsured, unprofessional drivers who will not have had specific private hire driver training.

Earlier this year, we published a Policy Statement<sup>23</sup> setting out the expectations for private hire services in London, including ride-sharing services, and we'll be consulting on proposals to further improve safety for passengers and road users.

<sup>23</sup> [tfl.gov.uk/corporate/publications-and-reports/taxi-and-private-hire](https://tfl.gov.uk/corporate/publications-and-reports/taxi-and-private-hire)





### Other vehicles used for work

The vehicles driven by professional drivers present an increased risk to others. Even when their higher mileage is taken into account, people who are driving for work still have a higher risk of crashing than the average driver.<sup>24</sup>

TfL, London boroughs, the police and the DVSA together licence, manage contracts and enforce the law with regard to a large proportion of vehicles driven for work. They are in a prime position to ensure that the responsibility of professional drivers, particularly in the most dangerous vehicles, and their employers, is upheld.

Businesses that operate or sub-contract vehicles within the TfL and GLA supply chain are required to abide by work-related road risk clauses. This means all vehicles in our supply chain must meet and be operated to high safety standards.

### Action 7

Raise vehicle safety and operating standards for taxis, private hire vehicles and other vehicles used for work in London, through a range of targeted interventions that include:

- a. Establishing vehicle safety and performance standards for new taxi and private hire vehicles and reviewing requirements for safety systems
- b. Reducing the risk of vehicles used for work by developing a single set of safety standards for the operation of all vehicles used for work, and promoting it to London organisations who employ staff who drive as part of their jobs

<sup>24</sup> [www.iosh.co.uk/roadsafety](http://www.iosh.co.uk/roadsafety)



# Chapter 6 – Safe behaviours

## Encouraging all road users to travel safely

Either through lapses in concentration or conscious or unconscious risk-taking, everyone has the potential to create danger that can lead to a collision and make London's streets less inviting for those wishing to walk, cycle or use public transport.

Police data shows that 93 per cent of all factors contributing to collisions in London are due to a limited number of behaviours:

### Inappropriate speeds

Whether exceeding the speed limit or going too fast for the situation, environment and weather conditions, inappropriate speed is a factor in up to 37 per cent of collisions resulting in death or serious injury on London's streets.<sup>25</sup>

### Risky manoeuvres

These are common to most collisions, and instil fear in people sharing the road with larger, faster vehicles. Failure to look properly was a factor in 58 per cent of collisions in London, a poor turn or manoeuvre was a factor in 27 per cent of collisions, while failure to judge another person's path or speed contributed to 21 per cent of collisions.<sup>26</sup>

### Distraction

Eighteen per cent of Londoners used a mobile phone while driving, riding or cycling in the previous month, with 12 per cent saying they always, regularly or sometimes carry out this behaviour.<sup>27</sup>

In 2016, more than 26,000 drivers were caught by the MPS for using their mobile phone while driving.

### Drink/drug driving

Eight per cent of road fatalities in 2016 in London involved people driving under the influence of alcohol and/or drugs,<sup>30</sup> and the true extent of drink/drug driving is thought to be underreported. Fifty-one per cent of people who ride motorcycles claim to sometimes ride under the influence of alcohol.<sup>29</sup> In March 2015, the drug-driving laws changed, making it easier to detect people driving under the influence of drugs. The number of people arrested by the MPS in 2016 rose by 335 per cent on 2014, totalling 2,336.<sup>30</sup>

### Vehicular and driver/rider non-compliance

London has the second highest proportion of uninsured drivers in the

UK, with 70,384 drivers found driving without insurance between 2013 and 2016.<sup>31</sup> The majority of unlicensed drivers have had their licence revoked due to being convicted of driving offences.<sup>32</sup>

Thirty-two per cent of people who cycle admit to sometimes or always riding without lights after dark.<sup>33</sup>

The majority of these behaviours are not associated with one particular mode or road user group. Anyone, whether driving or riding a motorcycle, cycling or walking, might engage in one or more of these dangerous behaviours on any given journey.

25 Between 2014 and 2016, 37 per cent of all collisions resulting in death or serious injury were found by the MPS to involve one or more of these speed-related contributory factors: 'exceeding speed limit', 'travelling too fast for conditions' and 'careless/reckless/in a hurry'

26 Data analysis of STATS19 dataset (TfL, 2016)

27 Road user behaviour campaign ad tracker survey from survey from 2015

28 Data analysis of STATS19 dataset (TfL, 2016)

29 Powered two-wheeler (motorcycles) ad tracker survey from 2015

30 MPS arrest statistics

31 MPS data between 2013 and 2016

32 DfT: [www.dft.gov.uk/rmd/project.asp?intProjectID=10120](http://www.dft.gov.uk/rmd/project.asp?intProjectID=10120)

33 'Attitudes towards Cycling' survey (TfL, 2015)

Up to

# 37%

of collisions in 2014-16 resulting in death or serious injury in London have speed as a contributory factor

# 58%

of collisions in London result from failure to look properly

# 335%

rise in arrests by MPS between 2014 and 2016 following new 2015 drug-driving laws made it easier to detect people driving under the influence of drugs

# 12%

of Londoners say they always, regularly or sometimes use a mobile phone while driving, riding or cycling

## 6.1 Tackling high-risk behaviours

The Vision Zero approach to encouraging safe road user behaviour is threefold:

- Directly tackling high-risk behaviours, irrespective of mode, that contribute to road danger, starting with those that contribute to the vast majority of collisions
- Upholding the greater responsibility of those driving and riding for a living
- Filling knowledge or skills gaps to enable people to take responsibility for their own wellbeing

Alongside the activity to improve the behaviour of those using London's roads, TfL and partners also need to create a grass-roots level of support from local communities and the public to recognise that deaths and serious injuries are neither acceptable nor inevitable and that action is needed to prevent these tragic events from occurring.

We will adopt a more proactive approach using injury data in London and support this with marketing communications and engagement activity that generates a greater sense of urgency and concern amongst the users of London's streets.

Taking this approach, we need to educate and inform people of the dangers of the most risky behaviours. This will help to create new social norms of acceptable behaviours to be expected of all road users. We will

use new media channels to extend the reach and increase the impact of road danger reduction messages. Tackling inappropriate speed is the focus of the new campaign in 2018.

We will use the local knowledge and subject matter expertise of community and business groups to design more targeted engagement, communications and marketing campaigns. This includes:

- Learning from boroughs already campaigning against inappropriate speed
- Working with representative groups to better understand what their audience responds to best
- Seeking ways to clearly communicate the rationale for change
- Focusing communications and engagement activities at groups who are more at risk

### Action 8

Use marketing and communications to tackle the behaviours that create most risk on our streets, through a series of incisive and targeted marketing and engagement campaigns, starting in 2018 with a focus on reducing inappropriate speed.

### Examples of the Risk Up campaign to tackle inappropriate speed





## 6.2 Enforcement

Effective law enforcement is vital in deterring risky behaviours on our streets, and benefits from the close working partnership between TfL, MPS, City of London Police, DVSA and other enforcement agencies. The MPS Roads and Transport Policing Command, with more than 2,000 uniformed officers, is responding to the Vision Zero ambition with an enhanced three-tier approach to roads policing and enforcement to be implemented over the next year:

### Tier 1: Highly-targeted activity focused on high-risk offenders

There is evidence that repeat offending is a key indicator of future risk and that unlicensed and disqualified drivers present a greater road danger risk than the general driving population.<sup>34</sup> MPS data from May 2018 showed that there were more than 240 London residents that have been disqualified from driving more than three times and almost 50 of these had been disqualified four times or more. The Roads and Transport Policing Command will seek to better identify high-risk drivers and riders, remove the most dangerous offenders from the roads, and end the cycle of reoffending. Examples of high-risk drivers are those known to drive in a manner likely to cause serious injury or death, those wanted on warrant, those with a recent history of dangerous driving or failure to

stop, regular drink/drug driving arrests, those involved in moped-enabled crime, or those who continue to drive dangerously despite interventions or prosecution. This highly-targeted activity will include enhanced data sharing among law enforcement agencies, using automatic number plate recognition technology and redeploying operational resources to monitor and apprehend known offenders, who will then be prosecuted to the full extent of the law.

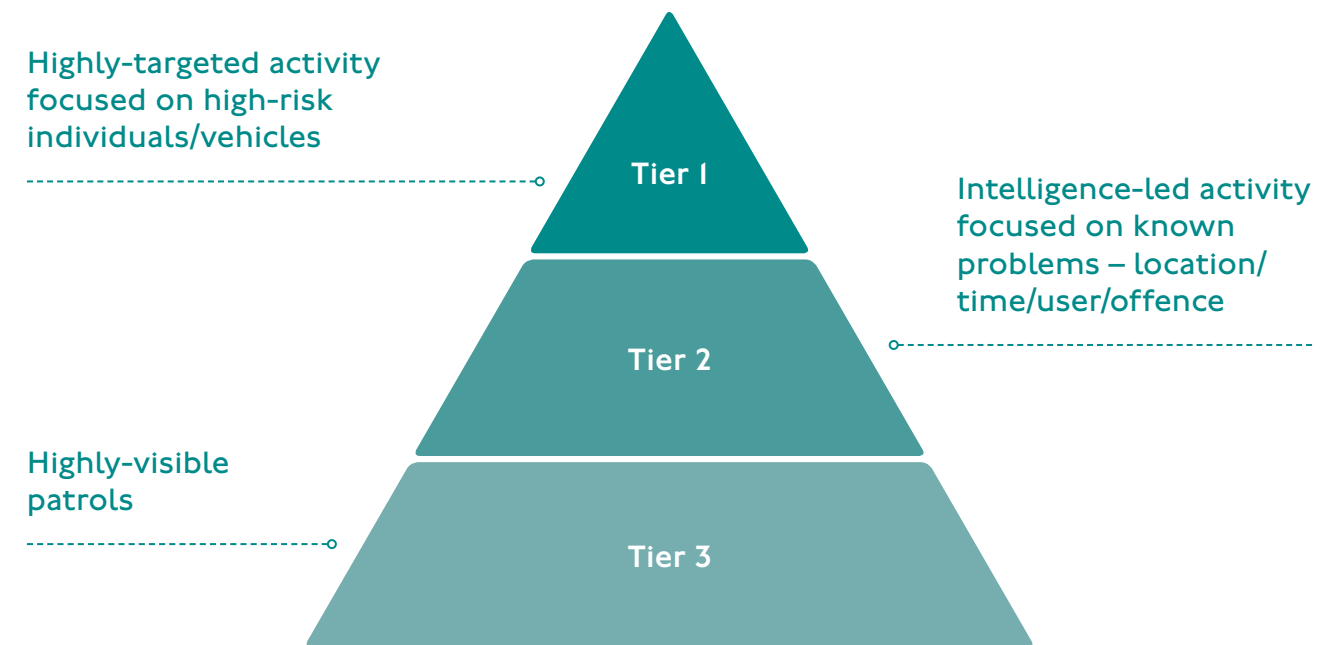
### Tier 2: Intelligence-led activity focused on known problems

This tier of activity will see TfL and the police focus on known problems, locations, times and road-user groups identified through risk-based analysis.

Focusing on the sources of danger, officers will be deployed at places and times where high-risk traffic offences, such as speeding, are more likely to happen and the risk of harm is higher.

Targeting resources and actions, and implementing specific tactics and activities designed to deal with the problems found at these locations, will ensure that interventions are more effective. Examples of this activity include: large-scale operations where hundreds of officers are deployed across London to deter risky behaviours such as

Figure 25: The MPS Roads and Transport Policing Command's three-tier approach to roads policing and enforcement



mobile phone use; Operation Goldstein, in which a TfL and Roads and Transport Policing Command partnership take a problem-solving approach to identify and target the root causes of road danger at priority locations; working to better understand and target those involved in hit and run incidents in London; trialling new and innovative evidence-based tactics and promoting the use of the MPS Roadsafes London online reporting tool to inform police deployments and take action against offenders.

### Tier 3: Highly-visible patrols

The police will use highly visible, seemingly randomised deployments in key areas across London to increase the unpredictability of police enforcement. This will maximise the coverage and visibility of roadside policing and enforcement activity. This approach will increase the actual and perceived likelihood of getting caught for road traffic offences, helping to amplify the deterrent effect.

34 [www.dft.gov.uk/rmd/project.asp?intProjectID=10120](http://www.dft.gov.uk/rmd/project.asp?intProjectID=10120)

### Localised interventions

TfL, working with the police, will trial local problem-solving, communications and enforcement interventions to reduce road danger at a small number of priority locations. As part of the Operation Goldstein programme, different approaches and activities will be trialled to better understand the feasibility and effectiveness of local interventions. The learning from this will inform future road danger reduction activity carried out by TfL and the police.

Londoners can also take action to improve the standard of driving expected in their local area. Community Roadwatch gives local people the opportunity to work alongside the police to use speed detection equipment to gather intelligence on speeding motorists. A new variation on the scheme, Junior Roadwatch, involves schoolchildren accompanying police officers using speed detection equipment on streets near schools, and interviewing drivers who have been caught speeding about the potential harm and consequences of their actions.

Our on-street enforcement officers will work alongside the police to encourage safe and responsible behaviours.



### Action 9

The MPS Roads and Transport Policing Command will deter risk-taking on the road through an enhanced, three-tiered approach to policing and enforcement from 2018, through:

- ♦ intensifying focus on the most dangerous drivers and riders
- ♦ intelligence-led activity targeting specific locations, times and offences
- ♦ high-visibility patrols to maximise coverage across London and amplify the deterrent effect





### 6.3 Improving training for professional drivers and riders

Professional drivers and riders are involved in disproportionately high numbers of collisions with people walking, cycling and riding motorcycles, as shown in chapter 5. Enhanced training can reduce risk-taking behaviours by those who drive and ride for a living. The Fleet Operator Recognition Scheme (FORS) offers guidance and training to help operators attain the standard. We will work with FORS and other partners to enhance driver and rider training through interventions that will include:

- Working closely with bus and coach operators to ensure that road danger reduction is fundamental to the delivery of bus and coach services. As part of the Bus Safety Programme, all 25,000 bus drivers will take part in a new, innovative safe driving training course. In addition, a series of safety workshops for Bus Driving Instructors will ensure they transfer an understanding of the Safe Systems approach and the latest hazard awareness and safe driving techniques to all new bus drivers. The use of psychometric testing to assess trainees' suitability to drive a bus in London will be trialled through our Safety Innovation Fund
- Raising driving standards in the private hire industry by consulting on proposals for all new and existing private hire drivers to take an advanced driving test, and by reviewing existing licensing and relicensing requirements
- Working with FORS and other partners to enhance the FORS standard for coaches
- Ensuring that the approved driver training for FORS membership continues to promote best practice, and encouraging HGV, van and public service vehicle operators to become accredited to FORS
- Working with FORS to develop a standard for the motorcycle delivery/courier sector, including approved safety training for riders
- Requiring drivers of TfL vehicles to complete Safe Urban Driving training modules, and rolling out telematics technology to the 1,034 vehicles in our fleet. Telematics will record vehicle speed, acceleration, braking and mileage and will be used to monitor and assess drivers' safety performance

#### Action 10

TfL will raise standards for professional drivers and riders through training and education, including:

- a. Rolling out a programme of safety workshops for Bus Driving Instructors and a new, innovative training course for all 25,000 bus drivers to develop new skills in reducing road risk, as part of the Bus Safety Programme; and trialling the use of psychometric testing of prospective bus drivers through the Bus Safety Innovation Fund
- b. Consulting on proposals for all new and existing private hire drivers to take an advanced driving test, reviewing licensing and relicensing requirements, and exploring opportunities for safety information to be issued to drivers and passengers via private hire and taxi apps
- c. Expanding FORS to include a standard for the motorcycle courier sector
- d. Requiring drivers of TfL vehicles to complete Safe Urban Driving training modules, and rolling out telematics technology to all vehicles in the TfL fleet to monitor drivers' safety performance

## 6.4 Helping people to keep themselves safe when walking, cycling and motorcycling

The Vision Zero approach to safe behaviours focuses on tackling the source of road danger and on raising the standard among those driving the most dangerous vehicles. However, the road danger reduction programme must also equip those most at risk with the skills and knowledge to help them avoid danger.

### Raising the standard of road user education and focusing it on those who need it most

In the absence of road danger reduction education in the national curriculum, TfL and the boroughs will work in London schools to provide road safety education. TfL-funded educational and training programmes are being adapted to have greater focus on those who will benefit most from them – for children this means prioritising the take-up of the Sustainable Travel: Active, Responsible, Safe (STARS) programme at schools located closest to dangerous junctions.

Cycle training is an effective way of increasing confidence among adults, children and families, and encouraging more people to cycle. Ninety-six per cent of Londoners felt more confident after cycle training. In 2018/19 we aim to attract 33,000 children, 21,500 adults and 1,700 families to cycle skills training.



People riding motorcycles have the greatest risk of injury as a result of collisions on London's streets. Recent casualty rates for people riding motorcycles are approximately four times as high as those on pedal cycles. They also pose a disproportionate risk to people walking and cycling. Whether people are skilled riders or new to motorcycling, they deserve a comprehensive range of training courses, delivered to a high standard, that address different skills gaps. We will work to attract those who will benefit most from these courses.

### Providing information on simple steps people can take to stay safe

TfL and the London boroughs will continue to monitor trends in collisions and identify opportunities to provide people with information on how they can be avoided. For example, awareness of HGV 'blind spots' has increased significantly, but it is vital to maintain and spread awareness of this issue. We will continue working with the police to deliver Exchanging Places, which allows people to experience the blind spots from an HGV driver's seat. We will also widen public awareness using virtual reality technology and other communication channels.

## Action II

Provide improved and better targeted skills training and education on how to avoid danger when walking, cycling and motorcycling by:

- a. Calling on Government to include road safety education in the national curriculum
- b. Raising the quality and availability of motorcycling training and education available to people riding in London by
  - supporting the Motorcycle Industry Accreditation Centre's scheme for accrediting companies and instructors
  - providing a broad range of motorcycle training interventions to meet the varied needs of London's riders and to reduce risk to people walking and cycling
- c. Finding new ways to communicate the most impactful safety advice including virtual reality technology
- d. Doubling the number of adults completing cycle skills training, and increasing the number of children trained by 50 per cent, by 2024.



## Focus on

# Improving rider skills

To ride most motorcycles in the UK, people must attend one day of Compulsory Basic Training (CBT) every two years. We have developed and funded a suite of courses to raise the training available in London above the nationally prescribed standard.

Almost half of all people killed or seriously injured when riding a motorcycle are aged 16-30 years. Fifty-seven per cent of people killed or seriously injured when riding a motorcycle were riding lower powered (less than 150cc) motorcycles. To address this, the courses include three new free educational initiatives aimed at new, less experienced and young riders and those riding low-powered motorcycles:

- **Preparing for your CBT** – a short pre-CBT e-Learning course aimed at new riders. This covers essential elements of the Highway Code and key motorcycle riding theory not part of CBT
- **1-2-1 Motorcycle Skills** – a two-hour, tailored one-on-one session with a qualified instructor, aimed at people who commute by motorcycle and those riding low-powered motorcycles
- **Beyond CBT** – a one-day course, delivered by qualified instructors, aimed at those delivering goods and services for a living

These three new courses act as stepping stones, but not prerequisites, to:

- **BikeSafe-London** – a one-day course aimed at experienced riders and those riding high-powered motorcycles that are involved in 43 per cent of fatal and serious injury casualties for riders

To improve the quality of CBT delivery, we fund the Motorcycle Industry Accreditation Centre's accreditation scheme for London training bodies and instructors. We urge the Government to implement their proposals to improve the way mandatory motorcycle training, particularly CBT, is regulated and delivered.





## Focus on

# Safe, active and sustainable travel for a new generation

Fifty per cent of trips in the 8am-9am morning peak are for education-related purposes. To encourage more of these trips to be taken by active and sustainable modes, we deliver STARS (Sustainable Travel: Active, Responsible, Safe). STARS is a school travel plan accreditation scheme that encourages children aged 3-18 to walk, cycle or use public transport safely and responsibly when travelling to London schools, nurseries and colleges.

Our new STARS online resources aid and inspire active and safer travel initiatives, and gather data to help evaluate the programme. This supports school travel plans that set targets and actions to encourage a long-term shift towards active modes, complemented by road safety education and training. Schools annually apply for bronze, silver or gold STARS accreditation, awarded by TfL based on activities and results.

There are more than 1,500 STARS-accredited schools and nurseries, representing 49 per cent of London schools and around 700,000 pupils. STARS schools have demonstrated an average six per cent reduction in car use, resulting in 22 million vehicle kilometres saved. The STARS scheme aims to double the number of Gold-accredited schools by 2024.

STARS accreditation is easier for primary schools engaging in our Junior Travel Ambassador scheme. This is a pupil-led scheme in more than 860 primary schools, with more than 3,700 Junior Travel Ambassadors promoting safe and active travel to their peers, teachers and parents, using electronic resources from our website. Secondary schools are eligible to take part in STARS. Every year around 120 secondary schools also take part in our Youth Travel Ambassador scheme. This scheme encourages pupils to deliver a peer-to-peer behaviour change project in their school.







## Chapter 7 – Post-collision learning and criminal justice

Understanding the causes of collisions is fundamental to learning from them and preventing their reoccurrence.

Collision investigation by the police provides vital knowledge, for the development of effective road danger reduction measures and crucially to help bring justice for the victims of road collisions resulting from criminal negligence.

### 7.1 Learning from collisions

Outside of the City of London, serious collision investigation is carried out in London by the MPS Serious Collision Investigation Unit: professional collision investigators who provide 24/7 coverage. These investigators apply the very highest standards in collision investigation to determine culpability and to help ensure that learning from collisions that result in fatal and serious injuries on London's road network is captured and acted on. When investigating collisions, these officers collect and preserve evidence and manage the scene in line with all relevant best practice. There is an opportunity to extend this good practice

to other Roads and Transport Policing Command teams, including those first on the scene and those investigating less serious collisions. These MPS first responders at the scenes of fatal and serious collisions will in turn work with other emergency services to ensure that evidence is quickly preserved and collected.

While police investigations of collisions focus on detecting crime and its perpetrators, further analysis can be carried out to better understand the causes of collisions, in order to develop potential solutions to prevent recurrence. We will work with the police and other delivery partners such as bus operators, to embed a new framework for improved, systematic information sharing and post-collision learning. This will gather all available information including police and bus operator investigations to create a shared understanding of all fatal and serious collisions on London's roads and use this to identify common factors. This will inform a root cause analysis approach to post-collision learning which will support future interventions.

### Action 12

Enhance and drive excellence in collision investigation and learning by:

- a. The MPS providing enhanced scene management and evidence-gathering training and equipment to MPS Roads and Transport Policing Command first responders
- b. TfL working with the police and other delivery partners such as bus operators, to embed a new framework for improved, systematic information sharing and post-collision learning

## 7.2 Criminal justice and victim care

Justice and proper care for the victims of traffic collisions are important demonstrations of the Vision Zero principle that no death or serious injury is inevitable or acceptable. The link between collisions and their criminal justice outcomes needs to be more transparent.

People who put others at risk while driving should be prevented from re-offending. A BBC investigation in 2017 found that there were 1,385 London drivers still legally driving despite accumulating more than 12 penalty points, following acceptance of 'exceptional hardship' pleas in court.<sup>35</sup> A greater use of driving bans would help to ensure that these individuals are less able to put others at risk.

Support for the victims of fatal and serious collisions should be in line with that for the victims of any crime. The Government currently does not fund support services for victims who are injured in a road collision, unless it has been proven that a crime took place. Victims of crime in London are supported by the restorative justice service Restore:London, which brings victims and perpetrators of crime or conflict into communication to help repair the harm. The Victims'

Commissioner for London also provides support, but currently the Victims' Commissioner's brief does not include victims of road crimes. To help fill this gap, we set up the Sarah Hope Line in 2016, to provide confidential, comprehensive help and support for anyone injured during, or affected by, a serious or life-changing incident involving our services or on our network.



### Action 13

TfL, the police and other partners will work to improve justice and care for the victims of traffic collisions by:

- a. Publishing through TfL media channels the criminal justice outcomes of fatal and life-changing or life-threatening collisions that proceed to prosecution
- b. Promoting the use of driving ban by magistrates for repeat offenders and those accumulating 12 penalty points on their license
- c. Signposting victims of collisions to the most appropriate restorative justice and post-collision support services
- d. Exploring options for extending the Victims' Commissioner for London's brief to include victims of road crimes, and victims of road collisions where no crime has been charged





## Chapter 8 – Road danger reduction: continuing the journey

### 8.1 Monitoring and reporting progress

This is the first Vision Zero action plan and focuses primarily on the period to 2022/23, in line with TfL's Business Plan. Actions will be funded via the TfL Business Plan, primarily through the Healthy Streets Portfolio, and through future business plans. We allocate money to the London boroughs to spend on projects that support the Vision Zero ambition through Local Implementation Plans.

The progress of the programme of action set out in this plan will be monitored to determine its impact in helping us achieve our road danger reduction targets. These targets and performance indicators are embedded in the day-to-day governance of TfL, including within scheme-level and project-level monitoring, TfL's Scorecard and Business Plan. We will ensure we hit our short, medium and long-term Scorecard targets in this vital area. Quarterly updates on progress will be provided to TfL's Executive Committee and to the TfL Board's Safety, Sustainability and Human Resources Panel.

The police share collision and casualty data with us, and we will continue to analyse and share this data online with boroughs, and with the public through the interactive London Collision Map and annual summary reports. Wherever possible, collision data will be made available to the public.

By providing open data, we hope to gain new insights into how London's roads can be made safer. We also hope to see the development of innovative approaches to information sharing, with safety messages being extended to those who will benefit most.

#### Action 14

TfL, boroughs and the police will monitor and record a range of indicators to measure the impact of London's road danger reduction programme, and publish the results annually on the TfL website.



## 8.2 Designing the future programme

We will continue to strengthen our programme of road danger reduction through conducting and publishing world-leading new evidence and research.

The first research aim is to develop a tool that will enable us to measure the characteristics of a street that lead to road danger. The ability to measure the characteristics leading to road danger on our streets, rather than simply the number of casualties, would enable local authorities to proactively tackle danger before it leads to collisions, and to transform streets where people are afraid to walk and cycle.

We are also commissioning independent academic research into the extent and nature of fatigue among bus drivers to be published in 2019. The findings from this research are likely to lead to a range of interventions including raising awareness of fatigue risk and the importance of driver welfare through new bus driver and bus driving instructor training.

The Vision Zero ambition includes eliminating suicide incidents from the transport network. In 2018, we launched a ground-breaking new programme for suicide prevention on the Underground, including introducing bespoke training for staff, collaborating with mental health agencies and improving



station environments. We will adapt the learning from this programme to suicide prevention across London's transport network.

Looking further forward, it is essential that London is prepared for future technological developments. New sources of data from vehicle telematics, and the increasing availability of open source and live data, will help to focus our activity to reduce danger and risk more swiftly and with ever greater refinement.

While in-vehicle safety features are increasingly common, safety technology for the benefit of those outside vehicles – for example, Pedestrian Autonomous Emergency Braking and Intelligent Speed

Assistance – is beginning to catch up. These two technologies were found in a study to have the most potential for reducing casualties in London.<sup>36</sup> Safety systems such as anti-skid systems, anti-lock brakes and warning sensors also present safety benefits for all road users. The newer the vehicle, the more likely it is to be equipped with more advanced safety features.

Increasing use of autonomous technologies – not just fully autonomous vehicles, but also driver assistance or pedestrian protection systems – may also contribute to a reduction in the number of collisions which result from human error, and may be particularly effective in reducing the prevalence of high-risk driver behaviours such as

speeding and impaired driving. While these technologies could have an important role to play in our future transport system, we must ensure that they operate effectively in a mixed system, when some vehicles have these safety features and others do not.

### Action 15

TfL will work with its key partners, including vehicle manufacturers and the Government, to capitalise on opportunities for innovation, including the use of data and new and emerging vehicle technology.

<sup>36</sup> [tfl.gov.uk/corporate/publications-and-reports/road-safety](https://www.tfl.gov.uk/corporate/publications-and-reports/road-safety)



## 8.3 Vision Zero partnership

Working towards the Vision Zero ambition will require the commitment of a broad range of delivery partners. TfL, the 32 London boroughs, the City of London, and the police and enforcement authorities – the MPS, City of London Police, British Transport Police and DVSA – must demonstrate leadership in reducing danger on the transport network. We will work closely with community, education, business, not-for-profit, academic and representative groups to elevate Vision Zero among their networks, and will draw on their local knowledge, expertise and input to help shape Vision Zero into the future.

The London boroughs manage 95 per cent of the road network, where more than 70 per cent of deaths and serious injuries occur, and so boroughs in particular have a central role to play in working towards Vision Zero. By adopting the Vision Zero for London principles in their work, boroughs can ensure those who live, work, study and visit their area benefit from safer, more efficient and more welcoming streets.

The work of TfL, the police, DVSA and other enforcement agencies is vital to combating the kind of illegal, careless and dangerous road user behaviour that creates risk on our roads. The partnership between TfL and the police provides enhanced enforcement on London's roads, ensuring that activity forms part of an integrated programme of measures to reduce road danger

targeted at road users who act in an illegal, antisocial and dangerous manner.

We will deliver a programme of ongoing engagement with London boroughs and other partners to share best practice, drive change and innovation, maintain momentum, and work together on actions to succeed this plan.

### Action 16

TfL will establish a stakeholder advisory panel to oversee implementation of this plan.

UK Government legislation has a key role to play in reducing road danger in London, with the Department for Transport responsible for regulation, guidance to transport authorities and research and campaigns to raise awareness. Annex A of this plan sets out a range of areas where national government legislation should go further to improve safety across all four aspects of the Safe Systems approach. In particular, we ask the DfT to:

### Safe speed

- Amend the standard urban speed limit to 20mph and update guidance documents so that they facilitate and actively encourage 20mph limits in urban environments

### Safe streets

- Make it easier for TfL and other authorities to pilot innovative schemes for improving safety

### Safe vehicles

- Notify the European Commission of the new Direct Vision Standard for HGVs to improve driver visibility of vulnerable road users. Implementing the standard would allow only HGVs with good visibility from the cab or operating in accordance with safe system conditions to drive on London's roads
- We ask that the Government supports efforts to improve the safety technology of new vehicles sold in the UK through the General Safety Regulations and Government technical requirements

### Safe behaviours

- Decriminalise mandatory cycle lane infringements and create a civil offence for advanced stop line infringements so that local authorities and TfL can enforce these more effectively with penalties that are proportionate, protecting cyclists using this infrastructure
- Support the inclusion of road danger reduction as part of the national curriculum to ensure that all children across the UK receive the same minimum level of understanding of road danger

- Improve training for motorcycle users, who are vulnerable road users themselves, as well as being involved in a disproportionate number of pedestrian casualties
- Strengthen the vulnerable road user element of the national driving test for car drivers, including criteria such as the 'Dutch reach' (opening vehicle doors using the hand furthest from the door handle, as they do in the Netherlands, to make it more likely that they will check the blind spot) and an on-cycle element to driver licensing and testing to improve driver understanding of risks posed to cyclists

The UK Government is also responsible for contributing to the updating and implementation of European regulations on vehicle standards. This can continue even with the UK preparing to leave the European Union, as the Government can continue to be a member of the United Nations Economic Commission for Europe and a visitor at the European Commission's High Level Group for Traffic Safety.

### Action 17

TfL will work with the UK Government and the European Commission to seek additional powers necessary to effectively tackle road danger in London, now and in the future.

# Annex A: New powers needed to reduce road danger

The UK Government has a key role to play in realising Vision Zero by setting the national regulatory framework that empowers local agencies to effectively tackle road danger. We call on the Government to review the following set of proposals for closing the gaps that lead to danger on London's streets.

## New powers needed to reduce road danger

### Safe speeds

	Proposal	Description	Rationale
1	<b>Amend the default urban speed limit to 20mph</b>	Amend the default urban speed limit to 20mph, and as a minimum update DfT guidance so that it facilitates and actively encourages 20mph.	To help support local authorities to implement 20mph zones, unless normalised as the default. Lowering speeds to 20mph on urban roads will reduce danger, create more attractive streets for walking and cycling and boost the local economy in urban centres.
2	<b>Produce a national digital speed limit map</b>	Produce a national digital speed limit map, using additional speed limit data from the Highways Agency and other UK cities.	To remove inaccurate crowdsourced speed limit data.

### Safe streets

	Proposal	Description	Rationale
3	<b>Further improve the national guidance on street design and traffic signs</b>	Increase the flexibility of the Traffic Signs Regulations and General Directions, and make the process for authorising designs that vary from it more open and accessible. The Traffic Signs Manual could provide greater clarity, more consideration for cyclists, and separate guidance for different road types.	To allow for innovative designs of walking and cycling infrastructure that helps to make active travel safer and more attractive.

### Safe vehicles

	Proposal	Description	Rationale
4	<b>Notify the European Commission of a Traffic Regulation Order relating to the Direct Vision Standard scheme</b>	We are required to notify the European Commission (via the DfT) of our intention to produce the Traffic Regulation Order that will enact the Direct Vision Standard restriction scheme.	The Direct Vision Standard scheme will reduce road danger by banning access to the most dangerous HGVs.
5	<b>Close loopholes that exempt some HGVs from having safety equipment</b>	Introduce requirements for HGVs to be fitted with additional safety equipment, such as side-guards so that they no longer need to be addressed by means of the Safer Lorry Scheme.	To limit, as much as possible, the number of HGVs operating without additional safety equipment.
6	<b>Encourage and support use of vehicle safety technology</b>	Encourage and support the use of new safety technology in motorised vehicles, such as Intelligent Speed Assistance, Autonomous Emergency Braking and alcohol ignition interlock including mandatory fitment on new vehicles and after-market fitment on existing vehicles where possible.	A study by TRL found that Pedestrian Autonomous Emergency Braking and Intelligent Speed Assistance are the two technologies with the most potential for reducing casualties in London.
7	<b>Grant TfL powers to regulate pedicabs</b>	Introduce proposed new legal powers for TfL to regulate pedicabs/rickshaws in London.	Currently there are no checks on these vehicles to ensure that they are safe, roadworthy and insured to carry passengers.



## Safe behaviours

	Proposal	Description	Rationale
8	<b>Include road safety as a mandatory part of the national curriculum, along with clear learning outcomes</b>	Educate children across the country so that they achieve a minimum basic level of road safety awareness before and while they begin travelling independently.	We believe the increase and improvement of road safety education in London's schools has contributed to a marked reduction in the number of children being killed or seriously injured.
9	<b>Review, update and reissue the Highway Code</b>	Improve the Highway Code in terms of tone, structure, comprehensiveness, clarity, consistency and factual correctness. The Highway Code should clearly assign the weight of responsibility on the basis of danger posed to others. Regulations are also required to give priority at junctions to people walking, cycling or driving straight ahead.	To help people understand risk better, and to better reflect the needs of people travelling on foot and on two wheels in an urban environment.
10	<b>Improve content on vulnerable road users in the national driving test and theory test</b>	The national driving and theory tests should include: <ul style="list-style-type: none"> <li>• an emphasis on avoiding the perceptual errors that can lead to collisions with people riding motorcycles</li> <li>• an on-cycle element to driver training and testing, with suitable alternatives for people unable to ride a bicycle</li> <li>• encouragement to carry out the 'Dutch reach': opening vehicle doors using the hand furthest from the handle (as in the Netherlands' driving test)</li> </ul>	To improve awareness among drivers of people cycling and motorcycling. To encourage checking of blind spots and avoiding 'dooring', opening a vehicle door to endanger other road users – a leading cause of injury to people cycling.
11	<b>Improve training for people riding motorcycles</b>	Deliver changes proposed by the DVSA to regulations governing motorcycle training delivery in a consultation in 2016.	The road users most at risk of being killed or seriously injured are those riding motorcycles. Current regulations on training are inadequate – for example, people can legally ride most types of motorcycles up to 125cc, on 'L' plates, by doing one day of Compulsory Basic Training every two years, and the quality of training varies.
12	<b>Improve young driver learning and licensing</b>	Promote aspects of graduated driver licensing. Further explore trials of interventions shown to have a high potential of reducing fatal and serious injury collision rates among newly qualified drivers. Further explore benefits of increased pre-test road experience, hazard perception training and the impacts of telematics or in-vehicle data recorders.	To build evidence base of best practice initiatives and techniques aimed at reducing collision rates and casualty severity among young/newly qualified drivers, and to improve safety for all road users.

	Proposal	Description	Rationale
13	<b>Decriminalise the offence of mandatory cycle lane infringement</b>	Amend the London Local Authorities and Transport for London Act 2003 to decriminalise cycle lane infringements, to enable enforcement using cameras or on-street enforcement officers.	To improve safety for people cycling and increase effectiveness of dedicated infrastructure.
14	<b>Create a civil offence of Advanced Stop Line (ASL) infringement</b>	Create a specific civil offence for infringement of an ASL by motorised traffic when the signal is red. There is no current offence of disobeying an ASL. This sort of contravention is technically a red light offence and is only enforceable by the police. It also leads to the same penalty as a red light offence.	To improve safety for people cycling and increase effectiveness of dedicated infrastructure. The current penalty for crossing an ASL on a red light is considered to be disproportionate and results in a low level of enforcement. The creation of a new civil offence would allow TfL to enforce via CCTV or on-street officers.
15	<b>Regulate work-related road safety</b>	<ul style="list-style-type: none"> <li>• Establish national work-related road safety standards</li> <li>• Strengthen professional driver training on vulnerable road users and improving driver engagement in training, including a mandatory safety module in the Driver Certificate of Professional Competence training syllabus</li> <li>• Extend the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) to include work-related road traffic collisions and injuries</li> </ul>	Professional drivers are likely to spend more time on the road than other drivers and historically have been involved in a disproportionately high number of collisions resulting in death and serious injury.
16	<b>Consider the benefits of lowering the blood alcohol limit for driving in England and Wales</b>	Consider lowering the blood alcohol limit for driving in England and Wales, from 80mg of alcohol per 100ml of blood to 50mg per 100ml of blood, bringing it in line with Scotland and the majority of the European Union.	To ensure consistency across borders for zero tolerance on drink-driving and increase the deterrence against drink-driving.
17	<b>Allow random breath testing and police use of mobile evidential breath testing equipment</b>	Remove the requirement in the Road Traffic Act 1988 for police officers to have a reasonable suspicion that a person is intoxicated to take a roadside breath test. Allow the use of mobile evidential breath testing equipment.	To allow more effective and efficient enforcement against drink-driving. Removing the requirement for an evidential breath test to be conducted at a police station would reduce demands on police time and remove the possibility of an offender's blood alcohol level dropping below the legal limit before reaching the police station.

### Safe behaviours continued

	Proposal	Description	Rationale
18	<b>Introduce alcohol ignition interlock programme</b>	Introduce the option for courts to require alcohol interlocks as a criminal sanction in drink-drive cases.	To tackle drink-driving.
19	<b>Extend the range of prescribed sanctions for driving and cycling offences and encourage strong and appropriate use of penalties</b>	<ul style="list-style-type: none"> <li>• Create new offences, including causing serious injury by careless driving, and new sanctions to deal with a range of road user offending. This should include reviewing the definition of careless and inconsiderate driving</li> <li>• Encourage greater use of driving bans and less willingness to accept a plea of exceptional hardship</li> <li>• Encourage a higher level of sentencing for offences resulting in harm to vulnerable road users to reflect the seriousness of these offences and the danger they pose to other road users</li> </ul>	To more effectively address lawbreaking among road users, providing a stronger deterrent and reducing recidivism among offenders. The sanctions prescribed specifically under the Road Traffic Offenders Act 1988 (RTOA) are inappropriate for some offences, such as careless driving.

### Post-collision learning and victim support

	Proposal	Description	Rationale
20	<b>Establish a specialist unit to investigate road collisions</b>	Create a unit dedicated to identifying the causes of road collisions, rather than criminal culpability, building on learning from the DfT-funded trial of this approach.	To inform future initiatives and interventions so that they accurately target the causes of collisions and improve safety for road users.
21	<b>Broaden support services to victims of road collisions, even when no crime has been charged</b>	Currently, the Government does not fund support services for victims who are injured in a road collision, unless it has been proven that a crime occurred.	Support for those affected by fatal and serious collisions should be in line with that for the victims of any crime.



