DRAFT FOR CONSULTATION

Pedestrian Safety Action Plan

Working together, towards roads free from death and serious injury

MAYOR OF LONDON

TRANSPORT FOR LONDON
EVERY JOURNEY MATTERS

Contents

1. Setting the Scene

As a relatively flat and compact city with spacious parks and attractive, historical streets, London is a city perfect to enjoy by foot. Walking enhances the lives of Londoners, as a transport mode, leisure activity and form of exercise.

Transport for London (TfL) is committed to increasing the numbers of walking trips in the Capital, by a million additional trips a day by 2031, whilst ensuring that this is not accompanied by an increase in the numbers of pedestrians harmed on London's roads. The draft Pedestrian Safety Action Plan (PSAP) therefore sets out a strategy for improving the safety of pedestrians in London.

Safe Streets for London, the Road Safety Action Plan for London[1], was launched in June 2013 and set a target to reduce killed or seriously injured (KSI) casualties by 40 per cent, from the 2005-2009 baseline period, by 2020. In 2012, a total of 1,123 pedestrians were killed or seriously injured on London's streets - the largest number for a single transport mode. Over a third of all killed and serious injury casualties in London are pedestrians and so reducing the number of pedestrian casualties will be key to achieving the 2020 target.

Extensive data analysis has helped identify the places where pedestrians are at greatest risk in London, the groups of pedestrians that face a disproportionate risk, as well as how and when casualties happen. This draft Plan draws upon all of this evidence, and outlines actions and interventions designed to improve their safety on London's streets.

The draft Plan has been developed in collaboration with a number of key stakeholders, making up the Pedestrian Safety Working Group. The group includes a number of influential and knowledgeable partners including Living Streets, 20's Plenty, RoadPeace Sustrans, Transport for All, Independent Disability Advisory Group (IDAG), London Councils and London Technical Advisory Group (LoTAG), all of whom have helped to steer and shape the development of the draft plan, and whose further input we look forward to.

This draft Plan is now being published for wider public engagement. Comments and suggestions are welcome and should be received by 9 May 2014

[1] Transport for London (2013) 'Safe Streets for London: The Road Safety Action Plan for London 2020'

2.Understanding the challenge

2.1 Walking in London

Walking binds London's transport system together, integrating our extensive public transport network with the Capital's streets and public spaces. It performs a critical role to those living in, working in or visiting London, performing the first and last leg of almost every trip made.

Walking is an ideal way in which to move around the city for short trips, and as a leisure activity it is a great way to enjoy London, whilst also being beneficial to public health.

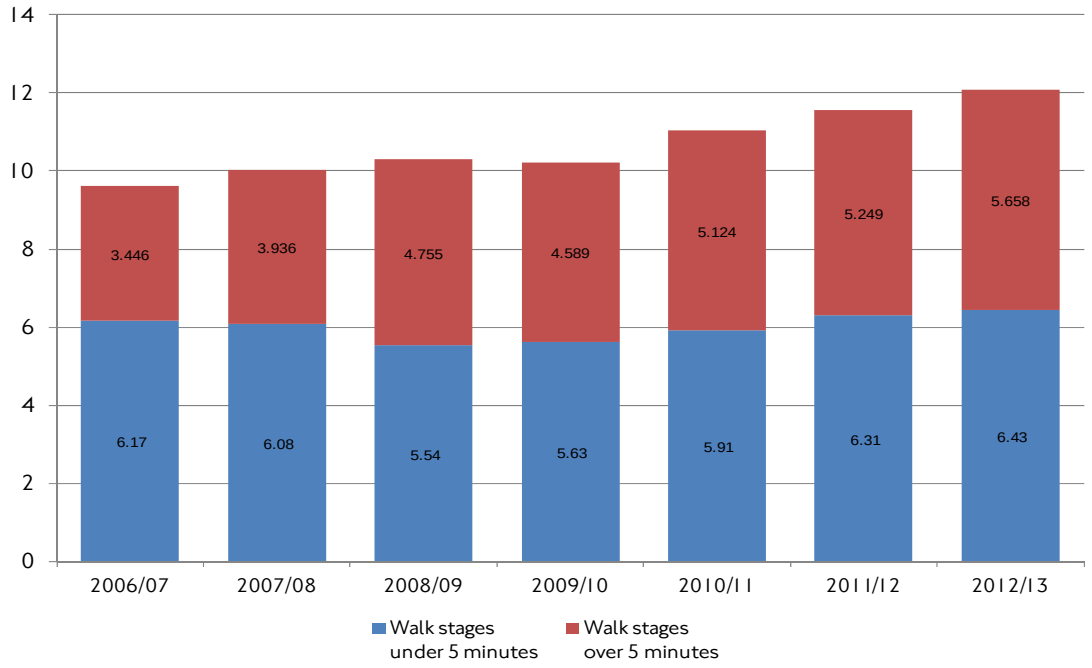
The Mayor's vision for walking is set out within his Transport Strategy[2]. The Mayor is committed to increasing levels of walking above the current 24 per cent mode share in the capital and making the experience of being a pedestrian safer, more attractive and more enjoyable, through an enhanced and accessible street network.

Doing so will also help to fulfil the Mayor's goal of making London the most liveable capital city in the world.

Data shows that the trip mode share of walking in London is stable, maintained by population growth. However, we also know that there has been a significant increase in walking as part of longer journeys, made up of other transport types. As London's public transport network has expanded in recent years, people now have more stations to walk to and are doing so to make use of the growing bus and rail system.

[2] Greater London Authority (2010) 'Mayor's Transport Strategy: 5.14 Making walking count'

Figure 1: Annual walking trips in London since 2005/06



Source: LTDS 2006-2013

This trend of increasing walking levels is likely to continue, as London's population continues to grow and further public transport extensions such as Crossrail and the Northern line extension to Battersea are developed.

We are working with borough partners, landowners and developers to encourage more people to make the choice to walk. By investing in schemes that improve the pedestrian environment we are working together to deliver streets and spaces that create more comfortable, convenient, direct and legible pedestrian environments. If the right initiatives are introduced - for example to make London's streets easier to navigate through the Legible London sign system - we will encourage more people to walk, more often.

With increasing levels of walking in London there will be more people on London's streets, numbers that are swelled further each weekday as millions of people commute into the Capital for work. A growing economy will mean even more people travelling into and around London. As more people choose to walk and take to London's streets, the capacity of London's pavements will become more constrained, and with more people using crucial crossing points there is the potential for increased conflict between pedestrians and other road users. It is important that London's infrastructure is able to accommodate this increase in walking trips

efficiently and safely through improved facilities such as better design pavements and suitable crossing facilities.

As London's population grows, it is also aging. One of the fastest growth areas for population in the Capital will be in those aged 65 and over. This poses a particular challenge for pedestrian safety as the risk of being involved in a serious collision increases significantly with age as people become more fragile as they get older. It will become increasingly important to ensure that the risk posed to this particular group of pedestrians is reduced as there will be increasingly more people of this age living and working in London.

The challenge is to meet the demands of more walking and simultaneously reduce the total number of pedestrians that are involved in collisions when using our streets. This draft Plan sets out to meet this challenge through a targeted set of actions that primarily focus on enhancing the safety of the pedestrian environment.

2.3 The benefit of walking to improving public health in London

Walking is the primary physical activity undertaken by Londoners, and as such is vital for keeping the population fit and healthy through life. Physical activity helps to prevent a wide range of serious health conditions including heart disease, depression, diabetes, and some cancers.

Many Londoners do not get enough exercise to keep them in good health. For many people, walking is the easiest form of exercise to incorporate into their daily routine

and to stick with for the long term. It is of great importance for the health of Londoners that the experience of walking in the Capital is positive and that the activity feels safe.

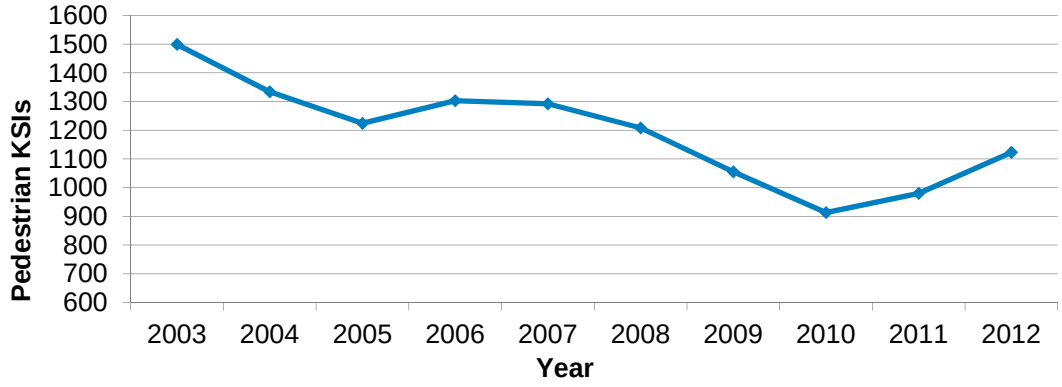
Local authorities are responsible for improving the health of their populations. This is evaluated against the Public Health Outcomes Framework, which lists 68 measurable health outcomes, including 'killed or seriously injured casualties on England's roads'. Other indicators in this framework relate to pedestrian experience and street environments that could be improved through road safety improvement measures.

2.4 Pedestrian collisions and casualties

Keeping pedestrians safe from harm on London's streets is a priority for the Mayor, TfL and boroughs. A significant reduction in the number of pedestrians killed and seriously injured is central to delivering the ambitious goals for increasing walking and reducing casualties in London.

Substantial progress in reducing pedestrian casualties has already been made over the last decade. Set against the 12 per cent increase in walking seen over the same period, there was a 25 per cent decrease in pedestrian KSIs between 2003 and 2012. Together this equates to a 33 per cent reduction in KSIs per journey stage walked in London.

Figure 2: London pedestrian KSI casualties: 2003 - 2012



Despite this encouraging progress, there is still much work to be done to deliver an ongoing and significant reduction in pedestrians being killed or seriously injured in London. The rise in pedestrian KSI casualties in 2011 and 2012 (shown in Figure 2 above) is of serious concern, and TfL, through this draft action plan, seeks to address this worrying development and ensure that the long term trend of pedestrian KSI casualties in London continues downward.

Whilst trends and targets are useful tools to analyse progress and monitor achievements, we continue to treat every pedestrian death or serious injury as a tragedy in its own right, as we strive towards our longer term ambition of a city that is free from such incidents.

3. Understanding the causes

The previous section highlights the challenges faced in reducing the number of people killed and seriously injured whilst walking. Set within the context of a goal to increase numbers of pedestrians, a rising and ageing population plus a recent rise in pedestrian KSIs, the challenge of reducing pedestrian KSIs will require a targeted and effective programme of action. By understanding more about the circumstances leading to pedestrians being killed and injured, pedestrian safety activity can be further tailored to deliver greater results.

This section describes who is being injured, where pedestrian casualties are taking place and when and why they occur.

3.1 Pedestrian risk in London: who, when, where?

This draft plan builds on the Safe Streets for London plan, in using an understanding of risk to identify locations where, and socio-demographic groups for whom, safety can be improved. This puts understanding risk at the heart of road safety assessment, to target resources where they will be most effective. By looking at KSI casualty figures alongside other data, such as trips, population, journeys and time and distance travelled, we can gain a greater understanding of the risk posed to different road users. This allows us to focus on improving pedestrian safety for those at highest risk, to better identify interventions and focus resources in order to gain the greatest improvements to pedestrian safety.

The risk analysis was undertaken by combining collision and casualty data from STATS19[3] with detailed journey data from the London Travel Demand Survey (LTDS). LTDS is a rolling sample survey of travel by households in London, with an annual sample size of 8,000 households. It provides accurate quantitative data representative of the diversity of both people and places in London that, over time, builds up to provide a comprehensive and detailed picture of the travel behaviour of London residents.

This allows a full and robust profiling of the nature of trips by Londoners - where and when they travel, by which methods of transport, which combinations of modes and for what purposes.

This knowledge has been used to identify actions to improve pedestrian safety in London focusing on: designing for safe and comfortable walking environments; innovation in improving pedestrian safety; speed and enforcement; improving driver and vehicle standards; greater communication and information on pedestrian safety

[3] STATS19 is the term given to records of personal injury collisions recorded by the police and used to monitor collision and casualty number in London.

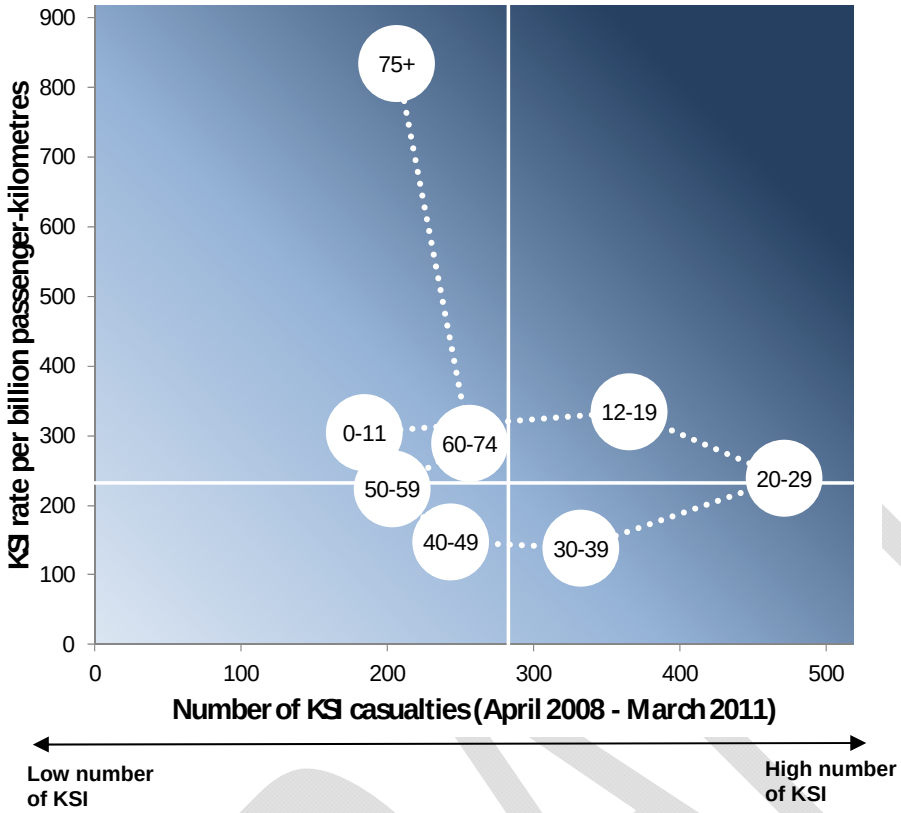
and further analysis and research into the causes of pedestrian KSIs and how they can be prevented.

3.1.1 Pedestrian casualties: Who?

When people walk they face a higher level of risk of being involved in a collision compared to other road users in London such as those driving, being driven or taking the bus, but a lower level of risk than those riding a motorcycle or a pedal cycle. They are less at risk than motorcyclists and cyclists who are travelling on the road in close proximity to other vehicles and with less protection in the event of a collision than a car driver for example.

Different pedestrian groups experience different levels of risk on London's roads as shown on the risk-incidence quadrants in Figure 3. The vertical divider corresponds to the mean number of KSI casualties per age group and the horizontal divider to the mean KSI casualty rate. Risk and KSI casualty numbers are highest in the top right hand corner of the chart and lowest in the bottom left. Pedestrians aged 75 and over experience the greatest risk amongst pedestrians in London, although the total number of KSIs amongst this group is not the highest. The higher risk experienced by this age group is partly due to their frailty and reduced physiological resilience when involved in a collision. As such, when involved in a collision, the consequences in terms of injury will be that much greater for older pedestrians. To improve safety and reduce the risk posed to older people, actions such as improvements to pedestrian crossings and cracking down on dangerous and careless road user behaviour are outlined in Chapter Four.

Figure 3. Risk path showing pedestrian risk and KSI numbers by age group



Other pedestrian groups that experience a higher level of risk are children and young people. Those aged 12-19 also experience relatively large numbers of KSIs. The group with the highest number of KSIs are those aged 20-29, although their overall risk is lower due to the age group accounting for the greatest number of walking trips. Actions focused at improving safety amongst children and young people, include working with schools to raise awareness of road safety. In addition to this, children, and those aged 20-29 will benefit widely from many of the actions outlined in this draft plan, such as focusing on improving safety in town centres and improving the safety of vehicles and drivers operating in London.

Identifying gender differences in level of risk when walking also reveals important findings. Whilst men and women choose to travel by foot for a similiar number of journeys (12.7 per cent and 13.1 per cent), women experience risk levels only about two thirds of those for men (1429 and 1004 KSIs per billion passenger kilometres, for men and women respectively).

Black, Asian and minority ethnic (BAME) road users are at higher risk of death or serious injury on London's roads as pedestrians than non-BAME individuals. This highlights a need to focus interventions on areas of London with a high BAME population and to look at initiatives that can reduce the risk posed to BAME

individuals. A number of actions included in this draft plan will improve safety in areas with a higher BAME population, such as the use of priority lists by boroughs to target higher risk locations.

Tackling perceptions of safety is important if we want more people to walk, and to enjoy walking in London. Perceptions of road safety can reduce the number of walking trips, especially amongst those pedestrians who are older or disabled. This is particularly true on the Transport for London Road Network, where the arterial nature of the road network can lead to community severance in some areas. Roads that are percieved to be busy and unsafe may deter people from making a journey on foot. The actions to improve pedestrian safety should also be focussed on reducing the feeling of vulnerability and improving perceptions of safety.

By understanding who is experiencing the greatest level of risk on London's roads actions can be targeted at higher risk locations to improve pedestrian environments. This can also help in the development of evidence based education and training campaigns, which can help to reduce risk, real and percieved, amongst specific groups across the population.

3.1.2 Pedestrian casualties: When?

Pedestrian risk also varies by time of day. Pedestrians are at far greater risk of injury in a collision during the hours of darkness than during the day. Pedestrian risk is at its lowest between 8am and 9am and at its greatest between 2am and 3am. In 2011, of all the night time KSI casualties in London, 28 per cent were experienced by people aged between 20-29 years. Six of the eight fatalities amongst this age category occurred during the night. This indicates the importance of developing actions to improve pedestrian safety after dark, such as working more closely with bus operators and the taxi and private hire industries as these vehicles make up a significant proportion of traffic on the roads late at night.

Pedestrians that have been drinking alcohol are at particularly high risk on London's streets. Research has found that alcohol was a contributory factor in 23 per cent of fatal collisions from 2006-2010; the figure rises to 45 per cent amongst those aged 25-59 years. Research found that the contribution of alcohol is under reported in STATS19 data, and therefore these percentages are likely to be higher in practice[4].

Understanding when pedestrian KSI casualties are occurring can help us to target initiatives to reduce risk at these times. For example, focusing enforcement activity at certain times of day or raising awareness amongst bus and taxi and private hire drivers to ensure they are aware of KSI hot spots, and how these may vary by time of day.

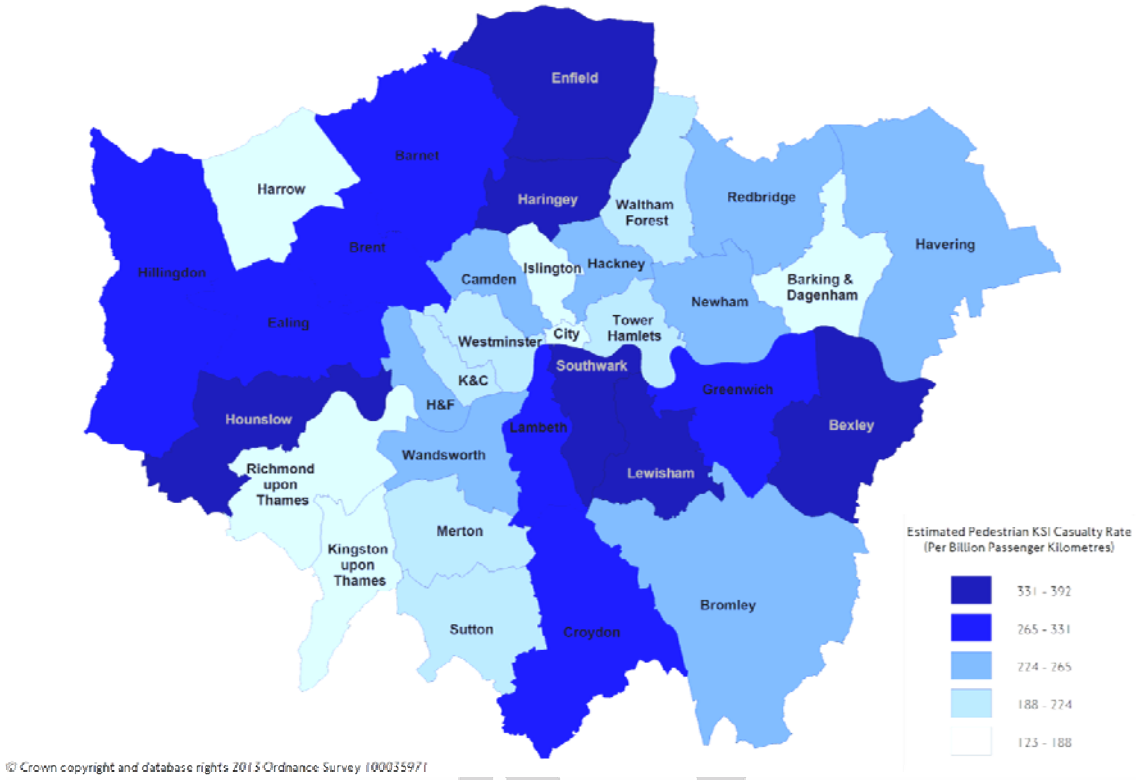
[4] Transport Research Laboratory (2012) 'Analysis of police collision files for pedestrian fatalities in London, 2006-2010' Prepared for Transport for London

3.1.3 Pedestrian casualties: Where

KSI casualty rates vary geographically, as highlighted by Figure 4. This shows a ‘heat map’ of pedestrian KSI risk broken down by London borough. Risk rates vary across London with pockets of higher risk in both outer and inner London, however, in terms of absolute numbers, there are significantly more casualties in inner London due to the greater number of journeys made. This information is valuable in ensuring that pedestrian safety activity is effectively targeted, to the areas and locations of highest KSI numbers and overall risk.

Plotting collisions across London can also help to identify collision trends at specific locations. A high number of pedestrian collisions at a particular location may indicate that there is a specific problem that needs adressing to improve safety. TfL already produces ‘priority lists’ of key junctions on the TLRN that have a high number of KSI casualties. Priority lists of borough roads will help to further target road safety engineering measures to those locations on borough roads posing a higher risk to pedestrians. This can help inform the development of specific interventions across London and target safety schemes at a local level, targeting high risk locations to improve the environment for pedestrians.

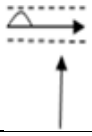
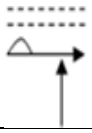
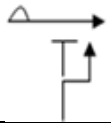
Figure 4: Heat map of pedestrian KSI casualty rate per billion kilometres by borough



3.2 Pedestrian conflicts: why?

In-depth knowledge of the details of collisions, including the conflict type and information about the other vehicles involved informs what action is needed to improve the safety of pedestrians. The most common conflict types resulting in pedestrians being killed and seriously injured are summarised in Table 1 below. The indicative diagram shows the movement of the pedestrian and that of the vehicle involved.

Table 1: The five conflict types most commonly resulting in pedestrian KSIs in 2012

Conflict Rank	Indicative Diagram	Description	Serious / % of total	Fatal / % of total
1		Vehicle going ahead, pedestrian crossing (not on formal crossing)	340 / 32%	22 / 32%
2		Vehicle going ahead, pedestrian crossing (on formal crossing)	157 / 15%	12 / 17%
3		Vehicle going ahead, pedestrian crossing (near formal crossing)	156 / 15%	7 / 10%
4		Vehicle overtaking stationary traffic, pedestrian crossing	62 / 6%	1 / 1%
5	?	Pedestrian in unknown location	55 / 5%	4 / 6%

Pedestrians are commonly injured when crossing the road as this is when they are most likely to come into conflict with another road user. The most common conflict is a collision between a vehicle and a pedestrian crossing the road (not on a formal crossing) from the vehicle's nearside. Also in 2012, 55 per cent of all pedestrian KSIs occurred whilst a pedestrian was crossing the road, but not using any type of formal crossing point. A number of actions concerning crossing points are included in Section 4 of this draft plan to address some of these issues. Data shows that the same types of collisions generally affect pedestrians of different age groups. One notable difference is that child fatalities occur less frequently at formal crossings. This may be a consequence of the type of roads used by children or a behavioural difference, such as choosing to cross away from a crossing.

Younger children are also more likely to be injured in a collision where the vision of a driver or rider is blocked by stationary vehicles, e.g. if a child steps out between parked vehicles. Driver vision was blocked by stationary vehicles in 36 per cent and 28 per cent of collisions involving 0-11 and 12-19 year olds respectively. The corresponding percentage for the rest of the population is 17 per cent. As children and young people are identified as a particularly vulnerable group of pedestrians, a

number of actions have been developed specifically targeted at improving safety amongst this group.

Speed

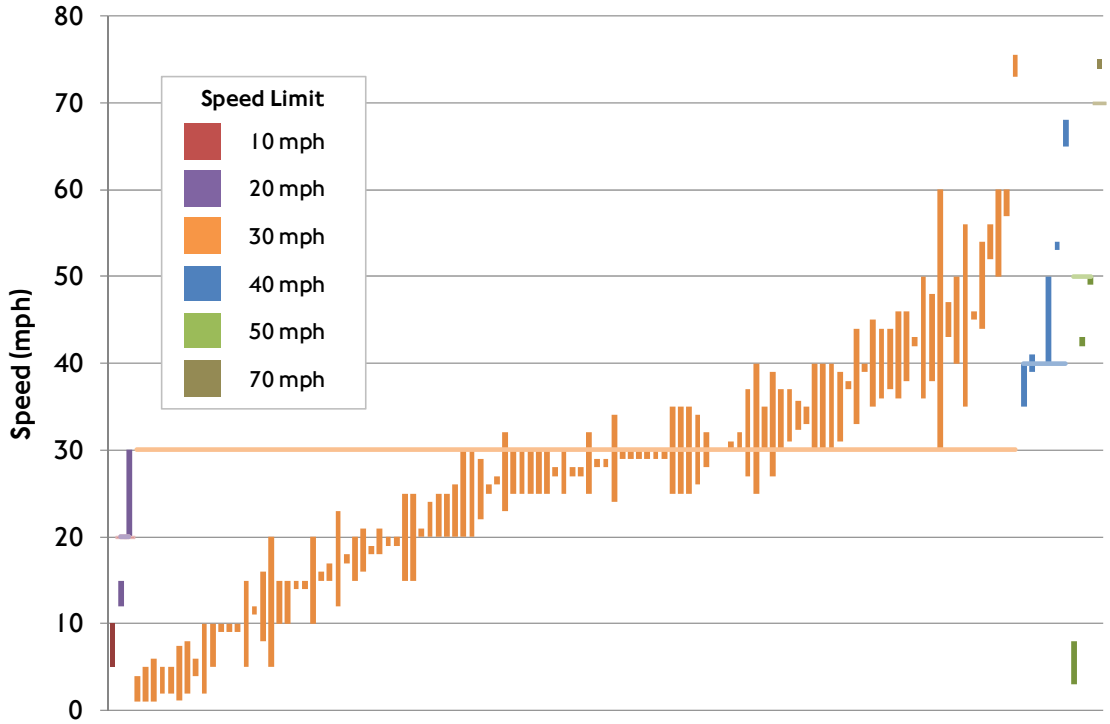
High vehicle speeds increase the likelihood of collisions and lead to more severe injuries. Most pedestrians survive a collision with a vehicle travelling at 20mph, but with higher speeds, fewer survive. If a vehicle hits a pedestrian travelling at 30mph there is a 7 per cent risk of fatal injury. At 40mph, this risk increases to 31 per cent.[5]

Analysis has been carried out on the speed of vehicles involved in pedestrian fatal collisions between the years 2006-2010, the latest data available from research published in 2012. Figure 5 shows the speed of vehicles involved in fatal collisions with pedestrians relative to the speed limit. Each vertical bar represents a single fatality; the height of the bar represents the lower and upper estimated speed of the vehicle involved recorded by the police.

The analysis found that the significant majority of collisions took place on roads with a 30mph limit. Almost half of the vehicles involved were exceeding the limit, and where the limit was exceeded, this was sometimes by very substantial margins.

[5] Department for Transport (2010) 'Road Safety Web Publication No.16: Relationship between Speed and Risk of Fatal Injury: Pedestrians and Car Occupants'.

Figure 5: Chart showing vehicles speeds for collisions involving pedestrian fatalities, relative to the speed limit on the road[6]



A number of key actions to address speeding are included in the draft plan, such as trialling further 20mph limits on the TLRN, and encouraging more boroughs to adopt these limits on their own roads.

Distraction

Distraction can play a significant role in pedestrian casualties, by both drivers and pedestrians. A driver failing to look properly was the most commonly recorded contributory factor for vehicles involved in fatal collisions between 2006 and 2010[7]. It was also the most commonly recorded factor for pedestrians. It is important to note that this is the most common cause attributed by the police to collisions involving pedestrian casualties.

Mobile phone use is a key example of distraction that can lead to a serious or even fatal collision. For drivers this is an illegal activity and has been the focus of recent enforcement campaigns, including the Metropolitan Police's Operation Safeway in late 2013. Pedestrians can also become distracted by the use of electronic devices and step out into roads without properly looking, which can result in them being hit by an oncoming vehicle. Raising awareness of the potential risks of distraction could

[6] **(Includes the 122 of 197 vehicles for which speed was known, data covers 2006-2010). The length of the bar represents the range of estimated speed recorded by the police.**

[7] Transport Research Laboratory (2012) 'Analysis of police collision files for pedestrian fatalities in London, 2006-2010' Prepared for Transport for London

play a role in reducing KSI numbers amongst pedestrians. A number of actions are included to crack down on distraction, through working with the police to improve enforcement against dangerous and careless road user behaviour.

Vehicle type

Casualty figures for 2012 show that 66 per cent of all pedestrian casualties involved collisions with a car, seven per cent a bus or coach and seven per cent a light goods vehicle. For collisions resulting in pedestrian fatalities, 39 per cent involved a car, 16 per cent a bus or coach and 19 per cent an HGV. HGVs in particular are disproportionately involved in fatal collisions with pedestrians when compared to the number of HGVs using London's roads. Buses and coaches are also disproportionately involved in collisions with pedestrians and actions have been developed to address this and the risks posed by HGVs to pedestrians.

Understanding the vehicles involved in collisions with pedestrians can inform where to target education, training and awareness campaigns amongst different road user groups or to focus enforcement activity. This can help to reduce the risk posed by these vehicle types to pedestrians by raising awareness of the dangers posed by blind spots and by improving driver education, which can help to reduce the number of pedestrian KSIs. Actions focused on these areas have been developed for this draft plan.

3.3 In depth analysis of police pedestrian fatality investigations

Research commissioned by TfL in 2012 provided an analysis of approximately 200 Police fatal investigation files where a pedestrian fatality occurred between 2006-2010 in London[8]. The report broke the fatalities down into special interest categories, such as pedestrians impaired by alcohol, pedestrians using a pedestrian facility, and pedestrians in collisions with buses/coaches. The collisions within each group were analysed in terms of who was involved, the contributory factors, injuries and possible counter measures.

The study found that 56 per cent of pedestrian fatal collisions involved a car, 17 per cent involved a bus or a coach and 14 per cent involved an HGV. Of the 27 fatal collisions involving HGVs, 15 of these occurred when the HGV was moving off when they struck the pedestrian. The vast majority – 90 per cent – of collisions occurred on roads with a speed limit of 30mph. Of drivers involved in a fatal collision, 35 per cent were convicted, most commonly for careless driving.

[8] Transport Research Laboratory (2012) 'Analysis of police collision files for pedestrian fatalities in London, 2006-2010' Prepared for Transport for London
http://www.trl.co.uk/online_store/reports_publications/trl_reports/cat_road_user_safety/report_analysis_of_police_collision_files_for_pedestrian_fatalities_in_london_2006-10.htm

The profile of pedestrians involved in fatal collisions showed that 33 per cent were aged over 70, 24 per cent were impaired by drink or drugs at the time of the collision and 25 per cent were crossing at a designated facility at the time of the collision and 19 per cent were crossing within 50 meters of a facility.

The findings of the report have been drawn upon in the risk analysis of pedestrian safety and have been valuable in providing a better understanding of fatal collisions involving pedestrians. They have also helped to shape some of the key actions in this draft plan, such as improving the safety of vehicles, in particular HGVs, on London's roads and ensuring that actions reduce the risk posed to more vulnerable groups such as older pedestrians.

3.4 Key factors leading to pedestrian KSI casualties

This chapter has set out the broad understanding of why pedestrian casualties occur in London. From analysis of pedestrian risk it is possible to gain a clearer understanding of who is most at risk, when KSI casualties are occurring, where they are occurring and the causes behind them. The analysis shows risk varies with age and ethnicity. Time of day is also a factor, as are issues of pedestrian and driver distraction. Risk also varies geographically, as do the vehicles involved in collisions with pedestrians. Tackling perceptions of safety amongst pedestrians is also important, as this can be a significant barrier to more people walking.

Understanding these challenges has enabled TfL to develop actions that design for safe and comfortable walking environments, innovate to improve pedestrian safety, focus on speed and enforcement, improve driver and vehicle standards, focus on greater communication and information on pedestrian safety and develop further analysis and research into the causes of pedestrian KSIs and how they can be prevented.

4. Actions to reduce pedestrian casualties in London

To improve the safety of pedestrians, interventions need to be implemented that focus on provision of safer infrastructure and improvements in technology, as well as improved enforcement, education and awareness.

The Pedestrian Safety Working Group, comprised of pedestrian stakeholders and representative organisations, has developed these actions collaboratively. TfL will continue to work closely with this group to deliver safe roads and streets for London's pedestrians.

Many organisations are involved in road casualty prevention and reduction in London. The collaboration between groups is essential, as no single organisation will be successful in significantly reducing casualties by itself. Moving forwards, more collaboration will be needed and more investment in safety required from the industry, stakeholders and further areas of the public sector.

4.1 Mayor's Roads Task Force and Pedestrian Safety

The Mayor's Roads Task Force (RTF), the independent body set up to consider how to tackle the challenges facing London's streets and roads, published their final report in July 2013 setting out their key recommendations. The RTF establishes a framework of nine street families, each with a unique balance between "place" and "movement" functions. This framework takes account of local and network priorities, and aims to guide operational policy and investment decisions, providing a basis for allocating capacity/road space to appropriate user groups (including by time of day) and establishing the service levels the users can expect of the street type.

Many of the RTF's recommendations, and the commitments made in TfL's response, are consistent with those outlined in Safe Streets for London, providing safer conditions for all road users. Pedestrians in particular will benefit from, amongst other commitments, the removal/optimisation of street furniture to reduce footway clutter, and the re-optimisation of traffic signals using split cycle offset optimisation technique (SCOOT), which allows signals to adjust timings based on the number of pedestrians detected at a crossing waiting to cross. This draft plan serves to build further on those actions reflected in TfL's response to the RTF, and this is reflected in the subsequent actions outlined in the draft plan.

4.2 Progress to date

Extensive work is already underway to make walking safer and more enjoyable in London. *Safe Streets for London* set out a number of actions that directly relate to pedestrian safety, not least a commitment to publish this draft plan. Work around 20mph zones is already underway and TfL have been supporting boroughs such as

Islington and Camden who have already introduced borough wide 20mph speed limits.

In 2010 TfL introduced Pedestrian Countdown at Traffic Signals (PCaTS) at eight trial sites across London. PCaTS provides a visible countdown period that replaces the pedestrian 'blackout' period following the green man at crossings. This give pedestrians better information about the time they have available to cross. Around 200 additional sites have been rolled out by March 2014. TfL has also been working to make London's crossings more accessible for those with visual impairments. To date 95 per cent of pedestrian crossings are now so equipped and TfL will continue upgrading the remaining five per cent so that 100 per cent of pedestrian crossings meet accessibility standards by 2016.

Through strong partnership working TfL has been improving and expanding both educational and enforcement activities to improve pedestrian safety. Pedestrian safety messaging has been an integral part of the Youth Travel Ambassador (YTA) programme with young people raising awareness of road safety issues in their schools and local communities. YTAs have also played an important role in supporting the delivery of TfL's teen road safety campaigns. Successful Exchanging Places events, that allow cyclists to experience the drivers eye view from an HGV cab, have been run over recent years by the Metropolitan and City of London Police services. These will now be offered to pedestrians offering the same opportunity to understand the extent of blind spots on HGVs and the danger these can pose to vulnerable road users.

TfL has also been working with the Metropolitan Police to improve enforcement activity against dangerous and careless road user behaviour. An example of this is Operation Safeway which ran from November 2013 to January 2014 and saw police officers positioned at key junctions across London as part of a high profile engagement and enforcement operation aimed at all road users. Operation Safeway cracked down on behaviours such as red light running and mobile phone use whilst driving.

TfL is actively engaged in established lobbying activity with the European Commission and Department for Transport to improve road safety for vulnerable road users, including pedestrians. These activities have focused on improving the design and operation of vehicles, in particular Heavy Goods Vehicles (HGVs) and trialling new and innovative infrastructure. TfL has also been working with vehicle manufacturers to improve design and testing of new vehicles to reduce the risk they pose to pedestrians and other vulnerable road users. TfL has also been proactive in placing safety at the heart of its own procurement practices by introducing contractual requirements for all vehicles operating on a TfL contract. This ensures

that any vehicle working for TfL is fitted with a minimum level of safety equipment and that drivers are appropriately trained to be more aware of vulnerable road users.

4.3 Key themes for pedestrian safety activity

Many of the actions in Safe Streets for London will increase the safety of pedestrians and prevent further KSIs over the course of the draft plan. The actions on the following pages have been tailored to meet the specific needs and key challenges for pedestrian safety between now and 2020. There is also a need to continue to innovate to improve road safety in London and TfL will seek out emerging technologies that will be ready for wider use in the future.

As well as building improved partnership working for the benefit of London's pedestrians, the actions are grouped by key areas to address the collision factors and trends identified by the analysis in this draft plan, which are actions that focus on:

- Designing for safe and comfortable walking environments
- Innovation in improving pedestrian safety
- Speed and enforcement
- Improving driver and vehicle standards
- Greater communication and information on pedestrian safety
- Further analysis and research into the causes of pedestrian KSIs and how they can be prevented.

Number	Designing for safe and comfortable walking environments	Completed by
1	TfL will produce the first London Pedestrian Design Guidance (LPDG) to plan and design for safe and comfortable walking environments. TfL will use this guidance for all TfL funded streets and public realm schemes and will strongly encourage the boroughs to adopt it for their schemes.	2014
2	TfL will work with the boroughs to make safe, attractive and enjoyable streets a defining characteristic of new Opportunity Areas, such as Euston, Tottenham Hale, and Elephant and Castle. Streets will be assessed using the Road Task Force Street Types with a view to indentifying the most appropriate interventions.	Activity starts in 2014 and will then be ongoing throughout draft plan to 2020
3	Building on its innovative crossing technology trials, TfL will develop a new 'gold standard' for all new and upgraded pedestrian crossings. This standard will look to include: • far-sided pedestrian indicators on all crossings coupled with; • pedestrian countdown timers (PCaTS) to give pedestrians a clear indication of how much time they have to safely cross the road; • pedestrian crossing times designed to take account of national safety standards as well as the level of pedestrian demand and other local circumstances; and • tactile cones and/or audible guidance to assist visually impaired people	2014-2020
4	TfL will produce 'priority lists' of key junctions on borough roads (as is already the case for the TLRN) and will share these with boroughs strongly encouraging their use to target road safety engineering measures to those locations posing a higher risk to pedestrians.	2014
5	TfL will explore the potential for 'town centre pedestrian safety pilots' through discussion with stakeholders, with the aim of delivering an integrated package of road safety measures in town centres with a relatively high pedestrian	Scoping discussions on potential Town Centre pilots

	safety risk and will work to develop schemes through the borough LIPs.	commenced by June 2014
6	TfL will ensure that all pedestrian crossing facilities continue to operate safely and effectively for users through its road safety, asset management and operational performance programmes: • continue to monitor collisions and casualties across London to identify where these occur, the contributory factors involved and potential measures that could be introduced to improve road safety; • following the introduction of significant schemes on the network (e.g. engineering improvement schemes), undertake systematic before and after performance monitoring/analysis to identify any safety anomalies that need to be addressed; • determine what accessibility improvements are required on the TLRN, including an assessment of the appropriate application of tactile paving, a check of dropped kerb gradients, and checks on the evenness of surfaces in the vicinity of crossings; • as part of its ongoing traffic signal timing review programme, update pedestrian green man times where required to ensure they reflect changes to levels of pedestrian usage, whilst always ensuring the TfL minimum standards, set out by the Department for Transport national guidance, are maintained; • continue to develop innovative technology that will improve the operational effectiveness of the road network for all road users.	Activity underway in 2014 and will be ongoing throughout draft plan to 2020

Number	Innovation in improving pedestrian safety	Completed by
7	In order to improve pedestrian safety, the following trials of new technology will be undertaken on buses: • Driver awareness systems to alert the driver to the presence of pedestrians near the vehicle, thereby reducing the risk of a collision from a pedestrian stepping out in to the road. TfL will review the appropriateness of an Intelligent Speed Adaptation (ISA) technology trial on a small number vehicles in the bus fleet to understand the potential role of this technology on buses in promoting adherence to speed limits across the road network.	2014
8	TfL will conduct on-street trials of pedestrian SCOOT (Split Cycle Offset Optimisation Technique) along the A24, on Balham High Road at the junctions of Upper Tooting Road and Chestnut Grove, to determine how this technology can be used to ensure pedestrian green man times are appropriate to the number of pedestrians waiting to cross.	2014
9	TfL will double the number of pedestrian crossings operating pedestrian countdown as part of its modernisation programme from 200 to 400. TfL will also be strongly encouraging boroughs to adopt PCaTS as standard to reduce pedestrian uncertainty at crossings.	2016

Number	Speed and enforcement	Completed by
10	TfL, alongside the City of London, will trial 20mph speed limits on two stretches of the Transport for London Road Network (TLRN) across the City of London, including London Bridge and Blackfriars Bridge to reduce casualties associated with speed. The trials will be closely monitored with a view to rolling out similar schemes elsewhere on the TLRN in future.	2015
11	TfL will continue to encourage London boroughs to deliver more 20mph schemes through their Local Implementation Plan (LIP) programmes, in order to create safer environments for pedestrians in London.	Activity starts in 2014 and will then be ongoing throughout the draft plan to 2020.
12	TfL will crack down on speeding vehicles that threaten pedestrian safety by: • replacing around 350 obsolete wet film speed cameras with digital cameras across London; • installing approximately 250 digital red light cameras at around 200 junctions across London; • installing average speed camera system trials on stretches of the following four roads in the Capital: A406, A40, A2 and A316.	2016
13	Building on the success of Operation Safeway, TfL will issue the Metropolitan Police Service Roads Policing Unit with maps and data highlighting the location of high pedestrian risk, in order to better target their enforcement activity. They will also focus on issues such as cracking down on mobile phone use whilst driving and educating drivers about flashing amber signals at pedestrian crossings.	2014-2020
14	The Mayor and TfL will work with the police to embed the use of Speed Awareness Courses for motorists as an alternative to prosecution in cases of minor speed infractions, with a focus on 20mph limits. Greater enforcement of 20mph limits will ensure the safety benefits of lower speeds limits for pedestrians are fully	2015

	realised.	

Number	Improving driver and vehicle standards	Completed by
15	TfL and London boroughs will work to deliver the Mayor's proposed Safer Lorry Scheme to ensure that all HGVs entering London have appropriate safety measures fitted, to help better protect pedestrians and cyclists. TfL will also work with the freight industry to ensure that HGV drivers operating in London are trained to use Class VI mirrors effectively.	2014
16	TfL and partners will lobby the European Commission (EC) for changes to directives and approvals that will deliver significant pedestrian safety benefits to ensure that: • commercial vehicles are designed to give the driver the maximum visibility all around their vehicle; • safety devices that reduce the likelihood of collisions with pedestrians, such as proximity sensors and side cameras, are fitted to all new vehicles and retrofitted; • stringent testing standards for car front bonnets that protect pedestrians in the event of a crash are in place.	Activity underway and will be ongoing throughout draft plan to 2020
17	TfL will lobby the DfT for changes in legislation to improve the safety of pedestrians on London's roads, calling for: • a stronger emphasis on pedestrian priority over turning vehicles at side roads in the Highway Code; • the creation of an up to date national digital speed limit map to revolutionise speed management and information technologies.	Activity underway and will be ongoing throughout draft plan to 2020
18	TfL will lobby vehicle manufacturers to change lorry and car design to make vehicles safer for pedestrians through:	Activity underway and will be ongoing

	• the introduction of Autonomous Emergency Braking Systems including pedestrian detection to be fitted to all new vehicles; • the introduction of audible warnings for pedestrians on all large goods vehicles • issuing a statement of requirements to challenge vehicle manufacturers to develop safer urban vehicles with improved direct driver vision around the cab.	throughout draft plan to 2020
19	TfL will work with bus manufacturers to explore the potential to protect pedestrians through better vehicle design. Identifying and building on international best practice, TfL will identify products that could be retrofitted to buses to reduce the potential risk they pose to pedestrians.	2016
20	TfL will issue data and maps of high pedestrian risk locations amongst the bus and taxi and private hire industries to increase their awareness of KSI hotspots for pedestrians across their networks and to improve awareness of how risk to pedestrians varies by time of day and by route and location across the city.	2015
21	To ensure a high standard of safety amongst bus drivers in London, TfL will: • work with operators to develop a training module for incorporation into Driver CPC training such that every bus driver participates in the training by December 2015. This would include a better understanding of the broader street environment and behavioural patterns of pedestrians; • undertake further analysis of the common conflict types between buses and pedestrians to inform training materials and safety messages that need to be communicated to drivers; • work with bus operators to identify best practice with regards to consideration of safety at recruitment stage.	Training from 2015 and ongoing to 2020

Number	Greater communication and information on pedestrian safety	Completed by
22	TfL will deliver tailored campaigns to all road user groups to promote an environment that is safe for pedestrians, with a focus on: • raising awareness of the crossing timings available to pedestrians at signalised junctions; • encouraging behaviour change amongst those who are disproportionately more at risk when crossing the road, balanced with messages for motorists. • launching a new relationship building ('Share the Road') campaign in early summer 2014, encouraging all road users to better understand and respect each other's needs on the road.	2014 2014 and ongoing throughout draft plan 2014/15
23	TfL will work with the Metropolitan Police Service (MPS) to promote exchanging places events to pedestrians to allow them the opportunity to experience the drivers' vision restrictions in HGVs and buses, as well as learning more generally about pedestrian safety. The initiative will target colleges and universities at the start of the academic year.	2014 onwards
24	TfL will offer and promote the Junior Travel Ambassador (JTA) scheme to all schools in London and work with borough officers to encourage take-up. The JTA scheme promotes pedestrian safety, as well as other active and independent travel messages.	2020 (up to 900 primary schools engaged by 2015/16)
25	TfL will provide every year six pupil in London with a Z Card with pedestrian safety messaging on an annual basis to prepare primary school pupils for independent travel to secondary school.	Activity to commence in 2014 and will run throughout draft plan to 2020

Number	Further research analysis and research into pedestrian KSIs and how they can be prevented	Completed by
26	TfL and partners will work with the London criminal justice system, Coroners, Magistrates, Crown Prosecution Service (CPS) and the Police to better understand and encourage reviews of procedures and processes relating to road traffic collisions involving pedestrians by: • encouraging the Police to learn from scene visits and through targeted training to improve the accuracy of Police recording, this may include considering what other details could be recorded in STATS19 • working with Coroners to make greater use of Rule 43 reports to highlight solutions that might prevent deaths and recurrent causes of death • working with the CPS and Courts to encourage greater understanding of pedestrian road traffic incidents and encouraging greater use of disposal outcomes such as driving bans.	2015
27	TfL will continue to work with the Police to drive improvements in STATS19 data quality to ensure more accurate collection of data on pedestrian KSIs and to better inform future research into vulnerable road user KSIs.	2016
28	A vulnerable road user in-depth injury study will be carried out by TfL to better understand the nature of serious injury casualties amongst pedestrians. Through analysis of Hospital Episode Statistics (HES), Trauma Audit and Research Network data, this analysis will seek to identify the types of injuries sustained and opportunities for counter measures to target these particular injury types and prevent future pedestrian casualties.	2015
29	TfL will commission follow up research to the 2012 publication *'Analysis of police collision files for*	2016

	pedestrian fatalities in London 2006-2010'. This will look at police files for pedestrian fatalities between 2011 and 2015 and will build on the knowledge around the causes and potential preventions of pedestrian fatalities.	
30	TFL will undertake research examining pedestrian behaviour at crossings to better understand collisions and pedestrian risk at these locations.	2015

Next Steps

This draft Plan is now being published for wider public engagement. Comments and suggestions are welcome and should be received by 9 May 2014

Monitoring Outcomes

TfL will work with the Pedestrian Safety Working Group to deliver this draft action plan between now and 2020. The Pedestrian Safety Working Group will meet regularly to monitor progress on the key outcomes and identify priority areas of action.

In addition, they will report their conclusions to the Road Safety Steering Group, which is made up of the key stakeholders concerned with London's road safety, and chaired by the Deputy Mayor for Transport, to scrutinise the progress of the actions in this draft plan.

TfL will ensure that high quality and timely data is available so as to ensure that draft plan monitoring is well informed. Over the course of the draft plan period TfL will publish regular collision and casualty data, and report on progress towards the target for a 40 per cent reduction in KSI casualties by 2020.