
2012 (Consultation document)
The safety of roads in our great city is an absolute priority. I am pleased that we have met national road safety targets years ahead of schedule, and the number of people killed or seriously injured in London has fallen to a record low. However, there is plenty more to be done and there are significant challenges ahead as our population increases and demands on the road network rise.

This document sets out a comprehensive draft Road Safety Action Plan to meet those challenges and sets a new target of cutting the number of those killed or seriously injured by a further 40 per cent by 2020; a total reduction of 10,000 over the life of the plan. This is a challenging target, but we must achieve it.

The draft plan outlines 70 key actions we are proposing to galvanise effort and focus resources, working closely with the boroughs and others. It also reflects my desire to improve both the way that our roads function in terms of moving people and goods, as well as ensuring our roads can enrich the fabric of our great city.

We all have a responsibility for road safety – either as road users, road authorities or transport providers – and our approach stresses the need for better and more effective partnerships. I therefore encourage you to contribute to the debate and comment on this draft plan.

BORIS JOHNSON

MAYOR OF LONDON

JULY 2012
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EXECUTIVE SUMMARY

Context

London has achieved substantial reductions in casualties and collisions over the last decade, including great success in reducing the numbers killed and seriously injured (KSI) and the numbers of reported slight injuries.

Relative to the rest of Great Britain, London’s road safety record is a good one. The previous casualty reduction targets had an end date of 2010. By this date, the number of people killed or seriously injured in road traffic collisions in the Capital had fallen by 57 per cent, the number of reported slight injuries by 33 per cent, and the number of children killed or seriously injured fell by 73 per cent compared to the 1994-8 baseline. In addition, London has made strides in reducing fatal collisions.

However, this is not a reason for complacency and there are emerging challenges. These include the continuing disproportionate number of pedestrian powered two-wheeler and pedal cycle casualties. During 2011, pedal cycle killed and seriously injured casualties increased from 2010 by 22 per cent to 571 and pedestrian killed and seriously injured casualties increased by 7 per cent to 980. Slight casualties have also increased in recent years.

This underlines the fact that if future improvements are to be achieved, a strengthened commitment will be needed from all stakeholders and resources will need to be deployed to maximum effect. We need to be innovative and prepared to try new interventions if the effectiveness of tried and tested ones is reduced. Resources may need to be reallocated on the basis of evidence and where improved delivery is needed.

Approach and outcomes

This consultation document is being issued to seek views on the proposed approach for road safety in London to 2020. The approach builds upon the firm foundations of proven interventions, forges new partnerships and, crucially, identifies the need to adopt new and innovative measures. It also recognises that we need to target risk by focusing on and tackling the specific road users and behaviours that are over-represented in the casualty data.

Looking to the future, this document proposes a new target to reduce the number of people killed or seriously injured in London by 40 per cent by 2020. This is challenging but achievable, and will help to focus action for TfL and other stakeholders. The proposed new target for London will be based on the aim of reducing killed and seriously injured casualties from a baseline of the 2005-09 average. Achieving this casualty reduction target would result in the number of killed and seriously injured casualties falling from 3,627 to 2,176 by 2020.
Road safety efforts rightly focus on the human cost and the personal tragedy of death and injury on our roads, but collisions also have a significant economic cost. Investment in road safety, and its consequent reduction in collisions and casualties, can deliver substantial economic value. In economic terms, the value of preventing the casualties brought about from achieving the KSI casualty reduction target across the period of the Plan is estimated to be more than £1 billion. Over and above this, collisions are also a significant cause of congestion. For all of these reasons, we need to continue to drive down the number of people killed and injured on London’s roads.

To deliver the target reductions, particular attention will need to be paid to the road users who are overrepresented in the casualty figures, in order to focus actions.

- Walking accounted for 21 per cent of daily journeys, but 35 per cent of KSI casualties in London in 2011
- Powered two-wheelers accounted for 1 per cent of daily journeys, but 21 per cent of KSI casualties in London in 2011
- Pedal cycles accounted for 2 per cent of daily journeys, but 20 per cent of KSI casualties in London in 2011.

A significant focus for road safety activity in London is, therefore, on providing targeted road safety interventions for pedestrians, motorcyclists and cyclists to address their disproportionate casualty rates.

**Key policy proposals**

The Plan seeks to improve road safety for these groups and others through more than 60 actions, designed to reduce road casualties and to improve perceptions of road safety in London. In the document they are described in three broad groups: actions protecting specific road users; actions that reduce risk, and actions that support delivery.

The proposed actions draw together to focus on a number of key policy proposals, described below.

**Invest in London’s roads to make them safer**

Through the work of TfL, the boroughs and other partners, London has sought to lead the way in promoting innovative engineering measures that have, among their many benefits, the potential to reduce casualties.

High risk locations will continue to be identified across the road network on the Transport for London Road Network and on borough roads. TfL will work alongside the boroughs to improve their safety by supporting the installation of 20mph zones and speed limits on borough roads where appropriate, and in keeping with the wider functions of the local road network.
One key element of TfL’s current activity to make London’s roads safer is a review of junctions on the existing Barclays Cycle Superhighways and major junctions on the TLRN – the Better Junctions Review. This is considering the safety and wellbeing of vulnerable road users at those locations, and is being steered by a stakeholder group representing the interests of a wide range of road users. TfL will deliver the Better Junctions Review, including delivering improvements at 50 junctions by the end of 2013 and more thereafter, and learn lessons from it.

**Commit to and improve London’s safety camera network**

London’s cameras are estimated to help prevent about 500 deaths and serious injuries each year, targeting locations where speed related casualties occur. TfL is delivering a circa £40 million programme to upgrade wet-film to digital safety cameras on London’s roads, ensuring a modern and effective safety infrastructure is in place for the future.

TfL will continue to fund the maintenance and enforcement of the safety camera network, including cameras on borough roads, working with stakeholders to ensure this policy remains appropriate. Going forward, TfL will continue to work in partnership with the boroughs and the police to ensure maximum safety benefit is achieved from the safety camera network.

**Actively lobby for improvements in vehicle design and greater innovation to deliver better safety**

Improvements to vehicle design and new technology have played a key role in reducing casualties and will continue to do so. TfL will seek to work alongside manufacturers and the EU to influence future vehicle design to continue delivering safety improvements for big cities such as London. This is likely to include London working with manufacturers and the EU to trial innovative new technologies.

TfL will also trial and roll out new technologies with the potential to improve the safety of London’s roads including the provision of a new digital speed limit map, rolling out blind spot mirrors and promoting the development and widespread take up of detection systems for vulnerable road users.

To inform fleet and freight road safety, a report reviewing the construction logistic sector’s transport activities in relation to its interaction with cyclists will be published and its recommendations taken forward. TfL will also push for full adoption of Directives 2009/113/EC and 2006/126/EC regarding eyesight requirements for Group 1 and Group 2 drivers (to reduce risks associated with driving for work by improving driver fitness) and lobby the European Commission for safety devices including side guards, proximity sensors and visual aids to be included in ‘Whole vehicle type approval’ for all new tippers and skip lorries.
The Mayor and Commissioner will write to boroughs, developers, and construction companies in London asking them to adopt the TfL / Crossrail safety standards for their operations and suppliers.

**Lobby Government for changes to national regulations to allow the trial of innovative new approaches**

Tried and tested approaches still deliver improvements and are central to TfL’s approach. Going forward, however, we will need to continue to try new approaches. This is imperative if London is to continue to see a trend of falling casualty numbers.

TfL will work with the boroughs to make optimum use of new engineering and traffic management approaches to manage speeds in line with the new, more flexible guidance from the Department for Transport.

To innovate, TfL will lobby the Department for Transport on the Traffic Signs Regulations and General Direction (TSRGD) forthcoming revisions encouraging allowances for, and promoting trials of, innovative solutions or the allowance to trial innovative solutions. We will push for early publication of the TSRGD revisions.

**Run an ongoing programme of communications campaigns**

A programme of road safety campaigns will be developed to address road user groups with a higher likelihood of being involved in a collision. The programme will target vulnerable road users with road safety campaigns and information to increase awareness of the main causes of collisions and to provide advice on travelling safely. Campaigns will be informed by new data sources to enhance campaign design and implementation, for example, using MOSAIC data.

Campaigns, such as the London-wide ‘Don’t let your friendship die on the road’ campaign aimed at all 11 to 16 year olds, will be targeted at key audiences. Road safety curriculum resources for every age group in schools will drive the messages home for younger people.

Reviews will be conducted of the campaigns that are run to ensure the thinking is refreshed and is also in line with the research into root causes. TfL will also ensure the road safety marketing materials are made freely available to London boroughs and that boroughs are briefed on forthcoming road safety campaigns.

**Conduct an ongoing research programme to enable the right policies to be developed**

New research will be initiated to better understand the factors that increase road user risk on London’s roads seeking to design interventions targeting specific risks. Focus areas will include the safety of pedestrians, cyclists and powered two-wheeler user as well as risks associated with BAME groups, deprivation and work-related road safety.
Light will be shed on the causes of collisions resulting in fatal injuries to pedestrians and powered two-wheeler users in London by publishing new research which will be used to guide road safety improvements for those road users.

Based on research insights, improved information and analysis best practice will be shared through a programme of continuous professional development to improve the skill of practitioners across London and mobilise their capability.

**Ensure good quality, detailed data is provided to the public and stakeholders on a regular basis**

A Road Safety Annual Report will be published to account for progress in casualty and collision changes in London to include pedestrian, pedal cycle, powered two-wheeler and child collision and casualty data. This will be augmented by other research publications on specific topics of relevance to boroughs and other stakeholders.

This will ensure Londoners and key stakeholders feel they can understand developments, on an ongoing basis, in London’s road safety performance.

**Actively promote understanding of developments and knowledge in road safety with partner organisations**

With continuing pressures on financial resources, it is vital that TfL’s road safety programmes deliver value for money and that we work even more closely with partners who share the same objective. TfL will also seek opportunities to ensure best practice is highlighted and shared, for example through regular exchange of information and approaches to be held with the boroughs on a sub-regional basis.

TfL will also drive forward best practice and knowledge sharing through, amongst other approaches, an annual London road safety conference for boroughs, TfL and other stakeholders.

**Work more closely with partner organisations such as the police, health sector, academia, NGOs, LAS, and insurance companies**

This consultation document sets out an ambitious programme for which the road safety community can jointly take responsibility and work together to implement. In order to improve knowledge to support delivery of the programme, TfL proposes to share and use data more effectively to both understand and tackle collisions.

By working with other public agencies involved with road safety (e.g. London Ambulance Service, London Fire Brigade, Metropolitan Police Service) to develop common best practice in the use of data and the deployment of resources, TfL will seek to maximise harm reduction on the roads.

The preparation of this consultation document has been supported by engagement with key stakeholders. This engagement approach needs to continue, and a key proposal to achieve this is the establishment of a new Road Safety Reference Board.
The RSRB will input into the development and implementation of road safety policies, build on the stakeholder engagement to date and help oversee continuous improvements in road safety in London. The Board will help steer the implementation of London’s Road Safety Action Plan as well as shape and develop future road safety policy in London.

The Road Safety Action Plan will seek to set the overarching policy for, and approach to, improving road safety in London to 2020. Delivery of this as it relates to the actions needed to improve the safety of cyclists, pedestrians and motorcyclists will be directed through the action plans for those road users. In the case of the Cycle Safety Action Plan this is already well underway. The creation of similar action plans to improve the safety of pedestrians and motorcyclists are proposed in this consultation document. Progress towards delivery of the Road Safety Action Plan and the action plans for cycle, pedestrian and motorcycle safety will be reported to the Road Safety Reference Board.

**Learn more from others**

TfL will learn from successful international approaches to casualty reduction, inviting international experts and leading practitioners to road safety seminars in London. Desktop reviews and contact with international experts, and with other cities and countries, will reveal what has worked elsewhere that might work in London. Areas where London is leading other parts of the UK and other cities will be showcased.

**Stakeholders views on the Plan**

Transport for London is keen to gather stakeholder’s views on the approach proposed in this consultation document to improve road safety in London to 2020.

Ideas across a broad range of topics are proposed. Valuable road safety knowledge is held by many road safety stakeholders across London and it is essential that this expertise is reflected in the Plan. This is why, with this consultation document, stakeholders are being asked to provide input on specific aspects of the Plan and to give us views and suggestions for improvement.

A series of questions have been set out (Section 8), although stakeholders are encouraged to comment on any element of the consultation document. Responses should be returned to STEngagement@tfl.gov.uk by 28 September 2012.
About this document

This consultation document sets out proposals to improve road safety in London to 2020. TfL is keen to gather stakeholder’s views on its approach and the actions in it. The important policy context for the Plan is explained (Section 1, Appendix 1). Some background on progress in recent years in the context of the casualty reduction targets of 2010 is described (Section 2, Appendix 2). A snapshot of the road safety challenges facing London over the coming years is provided (Section 3) and a target for London-wide killed and seriously injured casualty reduction is proposed (Section 4).

To rise to the challenges and meet the proposed casualty reduction target the approach that TfL plans to adopt is described, with a series of specific actions. Each action has a unique reference number and the full set of actions has been provided (Appendix 3). TfL believes that delivering these actions will continue to improve the safety of London’s roads in the future.

The scale and ambition of TfL’s programme can be seen in the extensive list of actions in Appendix 3. Each action is described and discussed only once in the document – in the section that is considered to be the most pertinent. In many cases, however, actions that benefit one road user group will also benefit another. For example, road safety engineering interventions that may be primarily aimed at reducing collisions involving pedestrians may also commonly benefit cyclists. Similarly, actions to reduce risks related to speeding may be delivered through a variety of actions including safer roads and increased compliance.

Within the document, the actions are described in three groups: firstly, for the actions proposed to improve the safety of specific road users (Section 5); secondly, for the actions to reduce different types of risk on the roads (Section 6); and thirdly, for actions to support the work done to deliver safer roads (Section 7). The actions are presented in a number of tables within each of the three groups, one for each road user group, risk or way of working within a group.

A series of questions has been set out (Section 8), although stakeholders are encouraged to comment on any element of the consultation document. Responses should be returned to STEngagement@tfl.gov.uk by 28 September 2012.
Introduction – casualty trends in London

The overall number of casualties resulting from road traffic collisions in London has fallen significantly over the years. By 2010, a 57 per cent reduction in the number of KSI casualties from the original 1994-8 baseline had been achieved. There were, however, still 2,805 KSI casualties in 2011 on London’s roads. More therefore needs to be done.

The Greater London Authority Act 1999 gives TfL the power to prepare and carry out a programme of measures to promote road safety on London’s roads, and to contribute to measures taken by other authorities. TfL also has a duty to carry out and act on road collision studies. Developing a London-wide Road Safety Plan is one of the proposals in the 2010 Mayor’s Transport Strategy (MTS)1.

Mayor’s Transport Strategy commitments

The current MTS highlights the Mayor’s commitment to reducing the number of people killed or injured on London’s roads. Central to this is MTS Policy 19, which states:

<table>
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<tr>
<th>Policy 19</th>
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<tr>
<td>The Mayor, through TfL, and working with the DfT, Network Rail, train operating companies, London boroughs and other stakeholders including the police and road safety partnerships, will seek to improve road safety for all communities in London and implement measures that contribute to any targets that may be set by the Mayor from time to time.</td>
</tr>
</tbody>
</table>

This policy is taken forward by various proposals within the Mayors Transport Strategy, including road safety proposals: 64, 66, 67, 68, 69, 70, 71, 72 and 73.

The MTS proposals directly related to this Plan are:

<table>
<thead>
<tr>
<th>Proposal 64</th>
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<tbody>
<tr>
<td>The Mayor through TfL, and working with the London boroughs, police, Highways Agency, road safety partnerships, and other stakeholders, will seek to achieve any new national road safety targets and such further road safety targets as the Mayor may set from time to time.</td>
</tr>
</tbody>
</table>

1 Greater London Authority (2010), Mayor’s Transport Strategy.
Proposal 65

The Mayor through TfL, and working with the police, Highways Agency, London boroughs, road safety partnerships, and other stakeholders, will develop a new Road Safety Plan to reflect any new road safety targets to be set by the Government or the Mayor and review every five years.

Policies 13 and 17 and Proposals 66 to 73 also have road safety elements and are contained in Appendix 1. In addition, a number of other policy areas support the aims of this consultation document.

Future reductions in casualties will occur against a background of local, national and international policy and legal commitments and priorities.

Policy context

International policy

At an international level, the Mayor underlined his commitment to road safety by signing the European Road Safety Charter\(^2\) in 2009. The Charter includes an aspiration to reduce fatal collisions by 50 per cent across the whole of the European Union by 2020. Internationally, road safety has a prominent position (for example the UN Decade of Action for Road Safety 2011-2020\(^3\)) as rising levels of motorised traffic increase the exposure to risk on the roads of developing nations.

Government policy

The Government published its new National Strategic Framework for Road Safety (SFRS)\(^4\) in May 2011. The SFRS sets out the national policies that are intended to continue to reduce deaths and injuries on the roads. The long-term vision of the SFRS is to ensure that Britain remains a world leader on road safety. In support of this ambition, it places an expectation on local government to continue to prioritise road safety and to seek improvements by adopting policies that reflect local priorities and circumstances. The SFRS emphasises the importance of local decision making to reflect local road safety priorities and this consultation document reflects this by establishing the road safety priorities and objectives for London until 2020. A key theme of the SFRS is to ‘make it easier for road users to do the right thing’.

Public health

Road safety has significant public health implications, not least the cost of emergency medical care and rehabilitation.


\(^4\) Department for Transport (2011) Strategic Framework for Road Safety
The Government’s reforms of the public health system include giving local authorities new public health responsibilities. These present opportunities for community engagement and for developing holistic solutions to health and welfare issues that embrace the full range of local services, including transport.5

A key tenet of the Government’s Health and Social Care Act 2012 is the creation of statutory Health and Well Being Boards in every ‘upper tier’ local authority to improve health and care services and the health and well being of local people. Health and Well Being Boards bring together locally elected councillors, representatives from key commissioning groups, directors of public health, children’s services and adult social services and a representative of local HealthWatch (the new patient’s representative body). All of London’s local authorities have a ‘shadow’ Health and Well Being Board in place and fully established statutory boards are due to be in place by April 2013.

Localism

As well as the emphasis on local priorities in the SFRS, improving road safety locally is also highlighted in the Local Transport White Paper6 as an integral part of the local authority transport role. It emphasises that sustainable local transport depends on local solutions and that these will vary across areas.

Community safety and policing priorities

‘The Right Direction’, the Mayor’s strategy to improve transport safety and security in London between 2010 and 20137, provides the foundation for partnership working to contribute towards the Mayor’s goal of improving the safety and security of all Londoners as they travel around the Capital. It contains a number of objectives that relate to road safety, including reducing injuries on London’s roads as a result of criminal and antisocial behaviour, and improving cycle safety.

The Metropolitan Police Authority’s ‘Have Your Say on Policing in London’ consultation, which ran between June and November 20108, show that traffic and road related issues are the top priority for those who took part. Particular concerns identified in the consultation focus on road safety issues. This is a clear demonstration of the public’s support for continued improvements to road safety in London, and a further avenue where coordinated working across public agencies can help drive forward road safety improvements.

6 Creating Growth, Cutting Carbon: Making Sustainable Growth Happen, Department for Transport, January 2011
7 Greater London Authority (2010) The Right Direction, the Mayor’s strategy to improve transport, safety and security in London 2010-2013
8 Metropolitan Police Authority Policing Planning and Performance Improvement Unit (2011) “Because I’m a Londoner”: Results from the public consultation to inform the Policing London Business Plan 2012/13
Road safety continues to be set within a dynamic policy landscape. This will require us to develop new solutions and ways of working throughout the life of the Plan.

**Working together**

London’s Road Safety Action Plan must recognise and embrace the valuable contributions of the many organisations and processes that contribute to road casualty reduction in London. Proposals are set out for joint working between TfL and:

- The Metropolitan Police Service (MPS) and the City of London Police (CoLP), who are committed to reducing road casualties in accordance with the Association of Chief Police Officers ‘Road Policing Strategy’. The police have wide-ranging road safety responsibilities including the enforcement of traffic legislation against criminal and anti-social road users; collecting and investigating collision data; working with highway authorities to provide engineering solutions; and helping to provide educational interventions.

- London boroughs, who are responsible for roads on which over two thirds of road collisions occur and where local road safety officers and school teachers have a key role in educating children and other road users to help avoid collisions.

- Central Government, which sets policy at a national level, enacts legislation that has an effect on the safety of the roads and deliver services through organisations such as the Highways Agency, Driving Standards Agency and Driver and Vehicle Licensing Agency.

- Health providers including hospitals, Health and Well Being Boards and health authorities, who provide information for parents and carers to help protect children below school age from collisions and have a shared objective to reduce avoidable deaths and injuries arising from traffic collisions.

- A range of other organisations with a role to play in reducing collisions and casualties. These include London Councils, road safety charities, the Royal Society for the Prevention of Accidents, the insurance industry, employers, vehicle manufacturers, the emergency services, the Health and Safety Executive, the Parliamentary Advisory Council for Transport Safety, user groups, academics, the voluntary sector and the bus operators.

This consultation document will inform the Road Safety Action Plan for London, which must address all casualties arising from road collisions in London. London’s road safety activities to 2020 should build upon the successes achieved to date and be cognisant of the fact that road casualty reduction takes place against a background of rapid changes in technology and other influences on road user behaviour.
2 PROGRESS TO DATE

Targets to 2010

In March 2000, the then Government published a new national road safety strategy and casualty reduction targets for the period to 2010\(^9\). The targets to be achieved by the end of 2010, compared with the 1994-8 average were:

- A 40 per cent reduction in the number of people killed or seriously injured
- A 50 per cent reduction in the number of children killed or seriously injured
- A ten per cent reduction in the slight casualty rate, expressed as the number of people slightly injured per 100 million vehicle-kilometres

Following this, a road safety plan for London\(^10\) was produced by TfL in accordance with the first Mayor’s Transport Strategy\(^11\). This supported the national casualty reduction targets and set further targets for reducing the numbers of pedestrians, pedal cyclists and powered two-wheeler users killed or seriously injured by 40 per cent by 2010.

London’s enhanced targets

By 2005, London’s strong performance led to the setting of new, more challenging, casualty reduction targets to be achieved by 2010. The new targets for London were:

- A 50 per cent reduction in the number of people killed or seriously injured
- A 50 per cent reduction in the number of cyclists and pedestrians killed or seriously injured
- A 40 per cent reduction in the number of powered two-wheeler users killed or seriously injured (unchanged)
- A 60 per cent reduction in the number of children killed or seriously injured
- A 25 per cent reduction in the slight casualty rate, expressed as the number of people slightly injured per 100 million vehicle-kilometres

Table 1 shows that London exceeded four of the six enhanced casualty reduction targets.

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\(^11\) Greater London Authority (2001), Mayor’s Transport Strategy.
Table 1: 2010 casualty reduction target outcomes

<table>
<thead>
<tr>
<th>Casualty Type</th>
<th>1994-8 Baseline Casualties</th>
<th>Stretched Target by 2010</th>
<th>Target Number by 2010</th>
<th>2010 Casualties (% Change from Baseline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total KSIs</td>
<td>6,684</td>
<td>50%</td>
<td>3342</td>
<td>2,886 (-57%)</td>
</tr>
<tr>
<td>Pedestrian KSIs</td>
<td>2,137</td>
<td>50%</td>
<td>1069</td>
<td>913 (-57%)</td>
</tr>
<tr>
<td>Pedal cyclist KSIs</td>
<td>567</td>
<td>50%</td>
<td>284</td>
<td>467 (-18%)</td>
</tr>
<tr>
<td>Powered two-wheeler KSIs</td>
<td>933</td>
<td>40%</td>
<td>560</td>
<td>615 (-34%)</td>
</tr>
<tr>
<td>Children KSIs</td>
<td>935</td>
<td>60%</td>
<td>374</td>
<td>250 (-73%)</td>
</tr>
<tr>
<td>Slight casualties</td>
<td>38,997</td>
<td>25%</td>
<td>29,248</td>
<td>26,003 (-33%)</td>
</tr>
</tbody>
</table>

Through close partnership working, London more than achieved the enhanced casualty reduction targets for reducing total numbers killed or seriously injured (KSIs), child KSIs, pedestrian KSIs and slight casualties. Charts showing London’s long-term casualty trends for the target categories are provided in Appendix 2.

By 2010 however, the cyclist and powered two-wheeler casualty reduction targets were not met. This largely reflected the increases in pedal cycle and powered two-wheeler usage. Since the publication in 2001 of the previous Road Safety Plan for London, TfL has derived pedal cycle casualty rates, relating changes in casualty numbers to changes in cycle flows. For example, cycling on the Transport for London Road Network increased by 150 per cent between 2000/01 and 2010/11 whereas cycling KSI casualties increased by 17 per cent from 2001 to 2010. This means that between 2001 and 2010, the cycling KSI casualty rate fell by 52 per cent, indicating that cycling became relatively safer over this period.

Similarly, a comparison of the average number of licensed powered two-wheelers in 2001 with data for 2010 shows that while there was a 13 per cent increase in powered two-wheeler vehicles licensed, there was a 52 per cent decrease in powered two-wheeler KSI casualties over the same period.

More recently, 2011 casualty figures show an increase of 22 per cent in pedal cycle KSI casualties compared to 2010. Pedal cycle usage has increased over the same
period and TfL recognise the need to reduce the risk to pedal cyclist and other vulnerable road users in the new Road Safety Action Plan.

The proposed national target for slight casualties was for a reduction in the slight casualty rate per 100 million vehicle kilometres. In the absence of guidance from the Department for Transport as to how this should be measured, slight casualty monitoring is shown in terms of absolute casualty numbers rather than a casualty rate. The casualty reduction target for this category was met, despite an increase in the number of such casualties since 2007.

London’s KSI casualty reduction performance over the past decade compares well to that of the rest of the country. Figure 1 compares London's KSI reduction over the past decade with that of the rest of Great Britain.

![Figure 1: Comparison of London and Great Britain’s KSI casualty reduction index](image)

The Capital’s achievement of a 57 per cent reduction in all KSI casualties from the 1994-8 average exceeds the total national KSI reduction of 49 per cent. In addition, London has made strides in reducing fatal collisions.

These changes in casualties, both overall and in relation to specific road user groups have been brought about through a combination of actions by TfL, the boroughs, the police and a wide range of other organisations and agencies. Other factors have also played a significant role in casualty reduction, such as advances in vehicle
technology, improvements in analysis and use of data, and changes in highway design, engineering and traffic management techniques.

Continued future reductions in casualties will rely on a similar combination of direct activity and wider influences.

**International comparison**

Whilst comparing London’s performance with Great Britain is instructive, it is also helpful to understand how London is performing with respect to other cities in Britain and cities elsewhere in the world. For this type of international comparison, it is often necessary to limit the analysis to fatal casualties. Fatal collisions are rarely not recorded, and the same 30-day definition of death is commonly used, meaning that the fatal accidents accurately reflect the performance of a city and are comparable.

In terms of international comparisons recently published by the Department for Transport, Figure 2 shows that on average, between 2005 and 2009, fatality rates per million people were 48 in Great Britain and 46 in Sweden. Over this period, the average fatality rate per million people was 28 in London.

![Figure 2: International comparisons of road deaths per million people: average 2005-9 (provisional) – Source: DfT (2011) Strategic Framework for Road Safety](image-url)
London, UK cities and Europe

When comparing London figures with the EU15\(^{12}\), Great Britain as a whole and cities within Great Britain, it can be seen that fatal casualty reduction has followed a similar trend in London as in the rest of Great Britain and the EU15 (Figure 3)\(^{13}\).

![Figure 3: Fatal casualty trends, London, UK and EU15 (2005-2011)](image)

Fatal casualties in London fell by 25 per cent between the 2005-9 baseline and 2011. Despite this fatal casualties increased by 26 per cent between 2010 and 2011, from a record low in 2010. Between 2010 and 2011, fatalities in GB as a whole increased by three per cent\(^{14}\). In the EU15, fatality reduction has slowed, falling by two per cent in 2011.

International fatal casualty rate comparisons

More specific comparisons can be made between London and other European cities. Figure 4 shows that fatal casualties fell by an average of 4.1 per cent in EU cities between 1997 and 2007, the most recent complete data available.

\(^{12}\) The member countries in the European Union prior to the accession of ten candidate countries on 1 May 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

\(^{13}\) Source: DfT, Eurostat

\(^{14}\) Source: Reported road casualties in GB: Main results 2011 (DfT 2012)
Figure 4: Average annual percentage change in fatal casualties (1997-2007) – Source ETSC 2008

Figure 4 shows that large reductions have been achieved in fatal casualties, with smaller absolute reductions in London than other European cities\textsuperscript{15}. However, this chart does not take into account the significant reductions in fatal casualties that London has achieved in the last four years. For example, in 2010, the fatality rate in London was similar to that of Stockholm County, with 16 fatalities per million people\textsuperscript{16}.

Figure 5 compares changes in fatal casualties at a city level with the rest of the relevant country between 1997 and 2007\textsuperscript{15}.

\begin{itemize}
\item \textsuperscript{15} Source: Eurostat
\item \textsuperscript{16} Trafikverket (Swedish Transport Administration) \url{http://www.trafikverket.se/}
\end{itemize}
Figure 5: Amount by which the annual average percentage reduction in fatal casualties in the capital exceeds that in the rest of the country (1997-2007) – Source ETSC 2008

This shows that London is performing relatively better than many other European cities are relative to their respective countries.
3 UNDERSTANDING THE CHALLENGE

Social and economic costs of road casualties

Death and injury on London’s roads has a devastating impact on the people directly involved, as well as their families, the wider community and society. It is imperative that the road safety community takes action to reduce the number of casualties on London’s roads.

Collisions also have a serious detrimental impact on London’s economy. The Department for Transport puts an average value on the prevention of a collision at £90,117 on urban roads. This is based on lost output, medical and ambulance costs, human costs, police costs, insurance and property damage and includes an allowance for damage only collisions. Despite the progress made in reducing casualties on London’s roads, the value placed on preventing the 24,443 collisions in London in 2011 is in excess of £2.2 billion.

Collisions have other costs as well. They have a major detrimental impact on traffic flow: increasing congestion, reducing capacity, lengthening journey times, worsening journey time reliability and affecting the resilience of London’s road network. In 2010/2011, 28 per cent of the congestion on the Transport for London Road Network (TLRN) was estimated to be caused by collisions18. Reducing collisions can make a significant contribution to these wider impacts, reducing congestion and disruption.

Making roads safer can yield other benefits. More people may be encouraged to walk and cycle in London if they perceive these ways of travelling to be safe, bringing environmental and health benefits. Road safety interventions can unite communities by making roads more like places and less like routes and promote social inclusion. Inequality can also be reduced: those who live in the most deprived areas of London and Black, Asian, and Minority Ethnic (BAME) groups suffer a disproportionately high number of road casualties.

The Plan, informed by this consultation process, should secure these benefits for London and achieve significant future reductions in collisions and casualties. In order to do this, this consultation document needs to be based on a thorough understanding of the remaining collisions taking place on London’s roads and the most effective and efficient way of tackling them.

To address collision problems on London’s roads an understanding is needed of which road users are involved (who?), where collisions are happening (where?) and what factors are causing or contributing to collisions (why?). With this understanding,

17 Department for Transport (May 2012) Accidents Sub-objective TAG Unit 3.4.1 in draft
interventions can be selected (what?) which are most likely to address the casualty problem. The following sections provide a high level snapshot of these questions.

**Who?**

To address collision problems identified on London’s roads, it is important to understand who the different road users or groups involved are. For example, the mode of travel they are using and their age and gender. In 2011, 29,257 people were recorded to have been injured on London’s roads – see Table 2.

<table>
<thead>
<tr>
<th>Mode of Travel</th>
<th>Number of Casualties</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>11,792</td>
<td>40%</td>
</tr>
<tr>
<td>Walking</td>
<td>5,446</td>
<td>19%</td>
</tr>
<tr>
<td>Powered two-wheeler</td>
<td>4,676</td>
<td>16%</td>
</tr>
<tr>
<td>Pedal cycle</td>
<td>4,497</td>
<td>15%</td>
</tr>
<tr>
<td>Bus or coach</td>
<td>1,470</td>
<td>5%</td>
</tr>
<tr>
<td>Goods vehicle</td>
<td>645</td>
<td>2%</td>
</tr>
<tr>
<td>Taxi / private hire</td>
<td>565</td>
<td>2%</td>
</tr>
<tr>
<td>Other vehicle</td>
<td>166</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>29,257</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

This shows that if significant reductions in the total number of people injured are to be achieved, focus must be given to groups where injury numbers are largest – car occupants, pedestrians, powered two-wheeler users and pedal cyclists.

While injuries of all severities should be addressed, it is good practice to focus attention on reducing the number of people killed or seriously injured (KSIs). Of the 29,257 casualties in London in 2011, 2,805 were KSIs – see Table 2.
Table 3: Number of KSI casualties in London in 2011 by mode of travel

<table>
<thead>
<tr>
<th>Mode of Travel</th>
<th>Number of KSI Casualties</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking</td>
<td>980</td>
<td>35%</td>
</tr>
<tr>
<td>Powered two-wheeler</td>
<td>599</td>
<td>21%</td>
</tr>
<tr>
<td>Pedal cycle</td>
<td>571</td>
<td>20%</td>
</tr>
<tr>
<td>Car</td>
<td>499</td>
<td>18%</td>
</tr>
<tr>
<td>Bus or coach</td>
<td>86</td>
<td>3%</td>
</tr>
<tr>
<td>Goods vehicle</td>
<td>30</td>
<td>1%</td>
</tr>
<tr>
<td>Taxi / private hire</td>
<td>25</td>
<td>1%</td>
</tr>
<tr>
<td>Other vehicle</td>
<td>15</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,805</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

This shows that if a significant impact on the number of casualties who experience death or serious injury arising from collisions is to be achieved, focus must be on groups where injury numbers are largest – pedestrians, powered two-wheeler users, car occupants and pedal cyclists.

This makes it clear where the majority of effort should be focused to achieve maximum impact for the resources available. However, it must also be recognised that the factors causing or contributing to a collision are complex. The levels of risk people experience on the roads is not just down to the type of travelling that they do. Other factors are also important, such as the amount of travelling undertaken, the different levels of risk in the places they travel, or other factors like their age, gender, ethnicity and levels of deprivation.

Looking at KSI casualty figures alongside data on the number of journeys undertaken by different modes of travel on London’s roads\(^\text{19}\) in 2010, shows that some modes are over-represented in the casualty figures:

- Walking accounted for 21 per cent of daily journeys, but 35 per cent of KSI casualties in London in 2011\(^\text{20}\)
- Powered two-wheelers accounted for one per cent of daily journeys, but 21 per cent of KSI casualties in London in 2011
- Pedal cycles accounted for two per cent of daily journeys, but 20 per cent of KSI casualties in London in 2011

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\(^{20}\) The source for data on daily journeys is Travel in London Report 4 (TfL, 2011) and relates to 2010, the latest data available. Casualty data is for 2011 from the ACCSTATS database.
Figure 6 shows the number of casualties of all severities in London in 2011, by mode, per 100,000 people in London for each year of age.

![Casualties by mode in London in 2011 per 100,000 people in London for each year of age](image)

In this figure, the higher the bar, the greater the risk (in terms of casualties per population within a particular year of age). It can be seen that there are peaks in certain age groups and for certain modes and the figure allows us to compare risk (in terms of casualties per population) between different ages:

- 18 to 23 years olds experience high levels of risk, evident across all modes
- From about 18 years of age to about 70 years of age people are more likely to be injured as car occupants than be injured using other modes
- Pedestrian risk is highest for 11 and 12 year olds
- Powered two-wheeler risk peaks for those in their early twenties
- Pedal cycle risk peaks for those in their late twenties and early thirties

The risk of being injured in a collision peaks at about 700 people injured per 100,000 people in the population, or about 0.7 per cent chance of being injured in a collision in 2011 for people in their early twenties. Similar analysis can also be carried out for serious injuries and fatalities, shown in Figure 7.
Figure 7 shows more variability across age groups than Figure 6 because of the smaller numbers within each year of age. Nevertheless, risk (in terms of KSI casualties per population) between different ages and modes can be compared:

- 17 to 30 year olds are at highest risk, evident across all modes
- Child pedestrians aged 10 to 14 are at high risk
- Older people, particularly pedestrians, are at higher risk for these more severe levels of injury than when slight injuries were included
- Pedal cycle risk is highest for 30 year olds

Care needs to be taken not to read too much into these types of analysis of risk as there are many other factors at play. For example, although the risk rates per person remain at similar levels (slightly above 20 KSI casualties per 100,000 people – see Figure 7) across all modes from ages 60 years and onwards, the number of KSI casualties in fact steadily reduces after the ages of the late twenties.

Nevertheless, this type of analysis suggest that some ways of travelling and some age groups experience higher risk than others and encourages us to focus efforts more towards reducing the risk in these areas.
Besides the level of risk changing with different ways of travelling, the risk of road traffic injury varies between ethnic groups in London (Figure 8).

In Figure 8, the higher bars indicate larger numbers of casualties. The different colours show different ethnic groups. This shows that most casualties on London’s roads, across all modes, are in the ethnic group ‘White’. However, when consideration is given to the number of people in each ethnic group, a different picture emerges (Figure 9).
Figure 9 shows that there are differences across the modes, and some differences in risk can be identified (in terms of KSI injury per population) between different ethnic groups:

- Black and Asian road users are at higher risk as car occupants than other groups
- Of all groups, Black road users have the highest risk of being a pedestrian casualty
- White pedal cyclists have a high risk compared with other groups

Whilst this suggests that different ethnicities experience different levels of risk, it does not explain why this might be the case. There may be underlying factors, for example socioeconomic factors, or factors relating to travel patterns, which are correlated with ethnicity and better explain the different levels of risk. For this reason, a more in depth understanding is likely to lead to more effective countermeasures focused on the underlying factors, rather than ethnicity.

By doing this sort of analysis an understanding of who is involved in collisions and sustaining injury on London’s roads begins to emerge. This leads to a picture of the possible ways to intervene to reduce the likelihood of collisions occurring.

Where?

The 580km of London’s strategic road network that is managed by TfL – the Transport for London Road Network (TLRN) – constitutes only five per cent of London’s total road length but carries more than 30 per cent of all traffic\(^{18}\). Nearly a third of all road collisions in London occur on the TLRN. A further 69 per cent of collisions occur on the local roads managed by London boroughs and the remaining one per cent of collisions occur on the motorways within the Greater London Authority area that are managed by the Highways Agency.

The maps on the following pages show the distribution of KSI casualties on the TLRN (which is highlighted in orange in Figure 10), and on borough roads (Figure 11) in 2011. The maps show one year’s casualty data to give a snapshot of the spread of casualties across the network.

The number of casualties increase towards the centre of London, where there is a higher density of trips taking place. The number of casualties on the TLRN compared to the borough roads is an indication of higher traffic flows on the TLRN.
Figure 10: The distribution of all KSIs on the TLRN in 2011
Figure 11: The distribution of all KSIs on borough roads in 2011
Why?

There can be a wide variety of causes or factors that contribute to collisions occurring. To make good decisions about what needs to be done to reduce casualties, an understanding of why collisions are occurring is needed. Data collected by the police, integrated with other data can be used to do this. Some examples of this are described below.

When police officers attend the scene of a collision, they record information about the factors that they consider to have contributed to the collision occurring. Each collision that occurs has one or more contributory factors (a possible total of six) assigned by the police to describe the main factors in the collision and the key actions or failures that led to the collision. They show why the collisions occurred and indicate how it may have been prevented. The contributory factors are largely subjective and depend on the skill and experience of the investigating officer to reconstruct the events which led directly to the collisions. The contributory factors reflect the reporting officer's opinion at the time of reporting and are not necessarily the result of extensive investigation.

Figure 12 shows the top twelve contributory factors used by the police to describe all the collisions that took place during 2011 in London.

Figure 12: The top twelve contributory factors used by the police to describe all the collisions that took place during 2011 in London
Many of these factors contain elements of a lack of safe judgement or control:

- **Failed to look properly** describes when a driver, rider or pedestrian either failed to look where they were going or they looked, but misinterpreted what they saw (looked but did not see). Code may be used where driver/rider was not paying attention to the road ahead.

- **Careless, reckless or in a hurry** describes when a driver, rider or pedestrian either behaved in a negligent or thoughtless manner or was in a hurry and, therefore, behaved in an unsafe manner. This covers cases where the person shows lack of concern about the possible consequences of their actions (careless), acts in spite of the likely consequences (reckless), or fails to consider the consequences of their actions as a result of being in a hurry.

- **Failed to judge other person’s path or speed** describes where a driver, rider or pedestrian misinterprets the intentions or actions of another road user. This includes misjudging a gap in the traffic when entering a main road, misjudging an overtaking manoeuvre.

- **Poor turn or manoeuvre** applies to any manoeuvre performed by the driver/rider which caused, or contributed to, the collision. Examples include reversing, turning left, right or U-turn, changing lanes or overtaking and also include poor vehicle positioning (e.g., in middle of road, in wrong lane at junction or encroaching into bus/cycle lane).

Training could be an appropriate approach to addressing these types of collisions. Contributory factors involving speed are recorded in around nine per cent of all collisions, but 22 per cent of fatal collisions. This indicates that attention should focus on reducing speeds to reduce more severe injuries.

This data indicates the main reasons why collisions occurred. It can be used to build up a picture of events and plan what type of intervention to use: an engineering scheme, a type of enforcement or whether an education programme or publicity campaign could be used to change road user behaviour.

**What?**

At a high level, this analysis identifies which road user groups, locations and road user behaviours to focus effort on, to reduce casualties. Of course, these three ways (who, where, why) of looking at the casualty problem interrelate. Much more detailed inspection of the particular circumstances at locations, the risks experienced by different road users and the particular behaviours and what is driving them is needed to be able to turn an understanding of the problem into decisions about what action should be taken to reduce it.
Some of the approaches used to gain this greater understanding are described in sections 5 and 6 which explain the actions that are proposed to reduce casualties in particular road user groups and reduce casualties arising from particular behaviours or risks.

Having chosen what action to take to reduce road user risk, the selected interventions need to be evaluated to find out whether or not they work, and to compare the effectiveness of different interventions to make decisions about allocating resources efficiently.

Generating this knowledge is important, as is communicating it with partners also involved in delivering safer roads so that all road safety stakeholders can act on what is learnt. The approach to these issues is described in section 7 which expands on the actions proposed to reduce casualties in London through enhancing delivery.
A KSI casualty reduction target for London

Targets have been used in a wide range of policy areas, including road safety, public health, climate change and policing. While the attainment of targets is subject to a wide range of influences including the actions of public bodies, they are useful as a way of focusing action and attention and in tracking progress over time.

London's previous casualty reduction targets had a ten year duration and were based on achieving a reduction from a five year baseline average set by the National Government's road safety strategy. Continuing this approach will provide continuity and consistency. The proposed new target for London is therefore based on reducing KSI casualties from a baseline of the 2005-9 average, to be achieved by the end of 2020.

Drawing on analysis of collision data in London, and a review of the casualty reduction targets set out by London boroughs in their Local Implementation Plans (LIPs), TfL has analysed the likely trajectory of future reductions in KSI collisions in London to 2020. Underlying this is the assumption that the extent and effectiveness of resources invested in road safety stays broadly at the levels of the past decade. A stretching but achievable casualty reduction target is proposed. This will ensure that organisations with an interest in, or responsibility for, road safety will remain focused on achieving a continuing downward trend in collisions.

This approach is consistent with that set out in the Government's new national Strategic Framework for Road Safety (SFRS)\(^4\), published in May 2011. The SFRS sets out the policies that are intended to continue to reduce deaths and injuries on the roads and it encourages local authorities to continue to improve road safety by adopting policies that reflect local priorities and circumstances. The SFRS contains forecasts of expected casualty reductions at a national level from the 2005-9 average.

There are two forecasts for national KSI reductions: a ‘central forecast’ which predicts that a continuation of the current reduction trend will lead to a 40 per cent reduction in KSIs by 2020, and a ‘low forecast’ which predicts a greater reduction of 50 per cent in KSIs nationally by 2020 as lower performing authorities start to make stronger progress. London’s considerable achievements in reducing KSIs to date suggests that the ‘central forecast’ is appropriate at a local level and the 40 per cent reduction forecast aligns with London’s proposed KSI casualty reduction target.

Accurately projecting the future number of killed or seriously injured road traffic casualties on London’s roads is not straightforward. It is possible, however to make estimated projections of KSI casualties based upon past casualty rates and trends,
the expected effect of current measures, and projections of traffic growth. This approach is in line with the methodology used by the DfT in its SFRS.

The projection in Figure 13 represents an extrapolation of trends using the observed number of KSIs on London’s roads and the forecast growth in highway traffic to 2020. It is based on the assumption that the existing road safety programme continues, but does not include the effects of any new measures. The projection shown in Figure 13 suggests that if TfL and other bodies continue with an effective and broadly similarly resourced programme of road safety interventions, and take advantage of other changes (such as further improvements in vehicle technology), KSIs on London’s roads should fall by around 40 per cent, from the 2005-9 baseline of 3,627 to around 2,176 by 2020.

Using this method, a challenging but achievable target for London to 2020 is a 40 per cent reduction in the total number of people killed or seriously injured on London’s roads by 2020 when compared to the 2005-9 baseline.

![Figure 13: KSI casualty reduction target for London](image)

In addition to establishing the proposed KSI casualty reduction target, it is important to continue to monitor closely all road collisions and casualties in London (London-wide, sub-regional and by individual borough) and to report on this data annually. This will enable progress to be tracked in reducing casualties among key road user groups (cyclists, pedestrians, motorcyclists and children), and at key locations and road safety activities to be adjusted accordingly. As part of this activity, TfL will publish collision and casualty data for each road user group.
TfL will use this information to work closely with the London boroughs and other partners to identify any local trends in collisions and to help prioritise efforts across London to ensure the continued downward trend in collisions across all areas.

TfL will also undertake both national and international benchmarking of London’s collision and casualty data. This will not only keep track of performance on the wider stage, but also help to identify successful interventions at other locations that could be adopted in London.

Achieving a 40 per cent reduction in KSIs by 2020 is a formidable challenge for London. Over the last decade, a significant reduction in collisions has been seen. This has been achieved using well-established engineering, educational and enforcement methods. To maintain this success will be challenging. In order to rise to this challenge, TfL needs to continue to work in partnership and forge new relationships, share new ways of working and embrace changes in technology.

**Long-term trends**

Alongside a commitment to meet a casualty reduction target of 40 per cent in all those killed or seriously injured on London’s roads by 2020, TfL will continue to work with key stakeholders to provide clear direction beyond the life of this consultation document.

The analysis and research that TfL undertake over the next few years will help inform this thinking. TfL will work with its partners to actively plan and develop milestones beyond 2020 to ensure there is a clear policy for road safety in London over the coming decades.
5 ACTIONS TO PROTECT SPECIFIC ROAD USERS

This section primarily focuses on London’s more vulnerable road users and makes proposals for actions to reduce their risk. This section of the Plan makes proposals for:

- Pedestrians
- Cyclists
- Powered two-wheeler users
- Children
- Other road users

As discussed earlier, each action is described and discussed only once in the document, in the section that is considered to be the most pertinent. In many cases, however, actions that benefit one road user group will also benefit another. For example, road safety engineering interventions that may be primarily aimed at reducing collisions involving one road user group will also commonly benefit other groups. Similarly, increasing speed limit compliance may be delivered through a variety of actions including engineering, enforcement and campaigns.

Pedestrians

Walking accounted for 21 per cent of trips in 2010\(^1\) and has remained relatively stable in the last 15 years) and 35 per cent of KSI casualties in London in 2011.

A key aim of the Mayor’s Transport Strategy is to ‘Make Walking Count’ and it includes the ambition to increase walking by one million additional trips a day by 2031. This can only be realised if walking in London continues to become more convenient and safer. This will be achieved through better designed streets and places, improving driving and riding standards and informing pedestrians of the need to take care when walking and in particular when crossing roads.

Street furniture such as pedestrian guardrail (PGR) can make walking less convenient. It can also encourage higher motor traffic speeds as it supports
segregation and can induce lower driver awareness of pedestrians. PGR in London is being reviewed and removed where it is considered appropriate and safe to do so. Where PGR is removed, TfL will monitor the impacts of this on road user safety.

As shown in Figure 7, for those aged around 16 or younger as well as those aged above around 60 years of age, the risk (in terms of casualties per population) of being seriously injured or killed as a pedestrian is higher than the risk associated with other modes of transport. In order to improve understanding of the reasons for this and to bring forward potential countermeasures, TfL recently commissioned a study on pedestrian fatalities with the aim of providing a better understanding of why they occur, and how they can be prevented. That study will be published shortly after this consultation document.

The study analysed 198 pedestrian fatalities from 197 collisions where a pedestrian was killed in London in the period 2006-10. This represents a significant proportion of the pedestrians killed on London’s roads over that period, meaning that the sample is sufficiently representative to allow proposals for countermeasures to be based on them. Several of the significant groups were:

- Pedestrians impaired by alcohol
- Pedestrians aged 80 years and above
- Pedestrians struck by a speeding vehicle
- Pedestrian fatalities were about as likely to occur when a pedestrian was using a crossing facility as they were crossing the carriageway without using a crossing facility.

Other groups with fewer fatalities included pedestrians in collisions with HGVs, pedestrians in collisions with motorcycles, child pedestrians and collisions where vehicles mounted the footway.

In each case, the collisions within each group were analysed in terms of who was involved, the contributory factors, injuries and possible countermeasures.

It was found that:

- Nearly 50 per cent of the pedestrians were recorded with ‘failed to look properly’ as a contributory factor’ and this factor was most common for all age groups
- About 40 per cent of adults aged between 16 and 59 were recorded with ‘impaired by alcohol’ as a contributory factor
- 16 per cent of pedestrians aged 60 or over were recorded with ‘wrong use of pedestrian crossing facility’ as a factor
The most commonly recorded contributory factor for vehicles involved was ‘failed to look properly’; this was most common for all vehicle types except for HGVs, for which ‘vision affected by blind spot’ was more common.

Using the recent research to inform decision making, TfL will work with key stakeholders to develop and agree a Pedestrian Safety Action Plan (PSAP) for London. Using a similar approach to the Cycle Safety Action Plan (CSAP), this will focus efforts on specific pedestrian safety challenges. The PSAP working group will be set up in autumn 2012 and will ensure regular progress is reported to the Road Safety Reference Board (see page 65).

London was the first city in the country to implement Pedestrian Countdown at signalised junctions. This new system informs pedestrians of the remaining time available to cross the road (when the red signal to traffic is held and the green phase to pedestrians ends, i.e. the blackout period). This aims to remove uncertainty and deters pedestrians from stepping out to cross the road when there is insufficient time, while at the same time helping to improve journey time reliability for other road users. In 2010-11, an on-street trial took place at eight traffic signal junctions across London to test the technology and assess whether it could be approved for use at more locations in the Capital. The results of the trial showed that pedestrian countdown technology has brought benefits to all road users and TfL is now planning to introduce Pedestrian Countdown at approximately 200 sites across London.

The key actions that TfL proposes to take to improve pedestrian safety are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Work with key stakeholders to develop and agree a Pedestrian Safety Action Plan for London to target key locations and risks to reduce pedestrian injury</td>
<td>TfL / Stakeholders</td>
<td>By end 2012</td>
</tr>
<tr>
<td>A2</td>
<td>Monitor any collisions at sites where Pedestrian Guard Rail (PGR) has been removed and use data to inform future decision-making</td>
<td>TfL</td>
<td>Underway, ongoing</td>
</tr>
<tr>
<td>A3</td>
<td>Roll out Pedestrian Countdown technology at around a further 200 locations across the Capital</td>
<td>TfL</td>
<td>Underway, ongoing</td>
</tr>
<tr>
<td>A4</td>
<td>In light of the new pedestrian fatalities research, undertake a programme of further research into pedestrian safety to inform the Pedestrian Safety Action Plan</td>
<td>TfL</td>
<td>Autumn 2012</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>A5</td>
<td>In light of research into pedestrian casualties, review TfL's 'Pedestrian Comfort Guidance' principles and work to apply them to Local Implementation Plan funded and TLRN schemes</td>
<td>TfL</td>
<td>2013</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on pedestrian safety described in the table, there are 15 other actions that contribute to pedestrian safety. These are D3, F2, F3, F4, F5, I1, I5, J1, K3, M7, N2, N4, N7, N8, N9.
Cyclists

In 2011 KSI pedal cycle casualties rose by 22 per cent and pedal cycle casualties of all severities rose by 12 per cent in London compared to 2010\(^{22}\). This has resulted in pedal cyclist KSIs standing 36 per cent above the 2005-9 baseline. Despite this increase, the long term casualty trend for all pedal cycle casualties is downwards, having reduced by nine per cent between 1994-8 average and 2011.

Pedal cycle fatalities across London rose from 10 in 2010 (the second lowest number on record) to 16 in 2011. Despite this increase, pedal cycle fatalities remain four per cent below the 2005-9 Baseline in London.

Pedal cycle trip estimates indicate that cycle journey stages within Greater London have increased from 0.3 million to 0.5 million trips per day between 2000 and 2010\(^{19}\). Trends in pedal cycle flow, based on measurements on the TLRN, indicate a 173 per cent increase in cycle flow on the TLRN between 2000/01 and 2011/12 and by nine per cent in 2011/12 alone, demonstrating a considerable growth in cycling in London.

The Mayor has identified a target to further increase cycling with a 400 per cent growth by 2026 (from 2001). Three major programmes aim to support this growth: the Barclays Cycle Hire Scheme, Barclays Cycle Superhighways (BCS) and Biking Boroughs. These major programmes will be underpinned by a variety of new and ongoing initiatives to encourage cycling across London, such as cycle training, cycle parking, school and workplace travel planning, cycle security, responsible cycling and cycle safety. A key focus of TfLs cycle safety programmes is to work to make sure that this increase in cycling is not met with a rise in cycling casualties.

Increases in serious casualties are a particular concern and research will be undertaken to better understand how to develop the cycle safety programme to address cyclist safety in the context of significant increases in use.

Ensuring that cycling is seen as a safe and attractive travel option will be crucial to achieving the Mayor’s vision for London to be a ‘cyclised’ city.

The Cycle Safety Action Plan (CSAP) was produced by TfL and its partners in March 2010 to reduce cycling casualties on London’s roads. It is based on a review of evidence that identified who is most at risk, and where and when the conflicts are most likely to occur. There are nine areas for action – safer infrastructure, training and information, communication, enforcement, regulation, technology, commercial driving and working practices, research and monitoring, and partnership.

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\(^{22}\) Casualties in Greater London during 2011, TfL, June 2012.
working. These target the eight most common collision types.

The CSAP has four overarching objectives:

- To ensure the future growth of cycling in London is accompanied by a reduced rate of cycling casualties
- To increase the perception that cycling is a safe and attractive transport option
- To make progress towards achieving the existing and future targets for reducing cyclists KSI s
- To ensure London continues to be a world leader in developing effective cycling safety improvements underpinned by analysis and a sound understanding of the cause of collisions

The CSAP is delivered by TfL and the other members of the Cycle Safety Working Group (CSWG), including representatives from the DfT, Greater London Authority (GLA), boroughs, cycling organisations (Cyclists’ Touring Club, London Cycling Campaign and Sustrans), road safety organisations, and organisations representing freight, taxis and buses.

Actions looking to improve cycle safety include those in engineering, education and enforcement. In engineering, TfL has also carried out a trial of roadside mirrors at traffic signal controlled junctions on London’s BCS to enable HGV drivers to have improved visibility of cyclists. There is now a programme underway to roll out roadside mirrors on all other Superhighway routes and at suitable places on the TLRN. In education, cycle training has been promoted through a number of media channels, including the ‘Catch up with the bicycle’ campaign, and through BCS and Barclays Cycle Hire promotions. Many London boroughs also promote cycle training through their local publications, events and online resources. In enforcement, action includes the work of the cycle taskforce alongside other enforcement activities.
In addition to the 52 actions outlined in the CSAP the working group continue to identify new areas of action to take forward. This includes commissioning an independent review of construction vehicle design, operations and driver behaviour. The review is looking at how those vehicles can be made safer through design improvements such as side bars, extra mirrors and sensors; and through better training for drivers of these large vehicles. This review will be published in 2012. Through the Better Junctions review, cycle safety at all junctions on the BCS and major junctions on the Transport for London Road Network (TLRN) are also being examined (discussed in more detail on page 47).

Furthermore, regulation and the application of safety standards for cyclists are also key, so TfL will continue to campaign for safety improvements for heavy lorries.

Case Study: Cycle Safety

Following analysis of fatal collisions involving cyclists and goods vehicles TfL developed a cycle safety campaign with the strap line ‘Undertaking at junctions can be fatal’ which launched in July 2010.

Featuring posters and press activity, the campaign ran in three phases in July and October 2010 and March 2011.

The campaign also featured 11,500 cardboard hangers placed on the handlebars of parked bicycles. The hangers feature ‘Augmented Reality’, a new technology that enables cyclists to use the hanger with a computer webcam to see a lorry’s blind spot animated on screen.

Early findings have shown that the number of frequent cyclists saying they hang back behind lorries at junctions has increased from 38 per cent before the campaign; to 49 per cent after.
Recent increases in serious injuries to cyclists will be thoroughly analysed and measures brought forward to address this trend.

The key actions that TfL proposes to take to improve pedal cycle safety are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Drive further improvements in cycle safety in London by delivering all 52 actions in the Mayor's Cycle Safety Action Plan</td>
<td>TfL / Stakeholders</td>
<td>Ongoing</td>
</tr>
<tr>
<td>B2</td>
<td>Maximise the impact of cycle training funding (delivered via LIPs), by providing a procurement framework for all London boroughs to use if they wish to deliver child and adult cycle training</td>
<td>TfL / Boroughs</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>B3</td>
<td>Revise the London Cycle Design Standards. Work to make their adoption a requirement of all Local Implementation Plan and TfL-funded schemes, and provide training to TfL and borough engineers</td>
<td>TfL / Boroughs</td>
<td>Ongoing review</td>
</tr>
<tr>
<td>B4</td>
<td>Work with the Department for Transport to ensure that the Bikeability training content and materials are correctly tailored towards London's cyclists, including adult commuters, to encourage greater take-up</td>
<td>TfL DfT</td>
<td>Summer 2012</td>
</tr>
<tr>
<td>B5</td>
<td>Work with cycle manufacturers and retailers (such as the Cycle Retailers and Manufactures Forum) to promote cycle safety directly to customers</td>
<td>TfL</td>
<td>Ongoing, through Cycling Retailers and Manufacturers Forum</td>
</tr>
<tr>
<td>B6</td>
<td>Publish the outcome of research reviewing the construction logistic sector’s transport activities in relation to its interaction with cyclists and take forward the recommendations of the report.</td>
<td>TfL</td>
<td>Autumn 2012</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on pedal cyclist safety described in the table, there are 18 other actions that contribute to pedal cyclist safety. These are A2, D2, D3, F2, F3, F4, F5, G5, I1, I2, I5, J1, K3, N4, N5, N7, N8, N9.
Powered two-wheeler users

Motorcyclists are disproportionately at risk of injury on London’s roads. The 200,000 trips\(^{19}\) made by motorcycles each day represents only one per cent of journeys in London. However, in 2011, 15 per cent of slight casualties on the Capital’s roads, 21 per cent of serious casualties and 19 per cent of fatalities were motorcyclists.

The risk (in terms of casualties per population) of being a powered-two wheeler casualty of any severity is greatest for those aged between their mid-twenties and mid-forties (see Figure 6 and Figure 7). Also, casualties are far more likely to be male, reflecting the gender bias of riders in general. This means that road safety campaigns which are aimed at changing the behaviours of the riders themselves to reduce powered two-wheeler casualties need to be tailored to this audience.

Educational initiatives, such as the BikeSafe-London and ScooterSafe-London programmes have made a significant contribution to the reduction in powered two-wheeler user casualties. Campaigns have also sought to address a range of behaviours in powered two-wheeler users as well as drivers. Themes have included encouraging powered two-wheeler users to take care on familiar journeys, where familiarity with the route might lead to complacency over safety, and encouraging drivers to take greater care to look out for powered two-wheelers.

Following the trials to allow motorcycles in TLRN bus lanes, provision to allow motorcycles in bus lanes has now been made permanent. An associated road safety campaign highlighting the need for continued vigilance by road users to watch out for motorcycles in bus lanes will continue, together with increased enforcement of motorcycle speeds.

TfL has commissioned analysis of collisions in London involving the death of a powered two-wheeler user with the aim of improving understanding of why such fatalities occur, and how they can be prevented. The study analysed 94 powered two-wheeler from 93 collisions where a motorcyclist was killed in London in the period 2006-9.

Findings indicate that key characteristics of fatal motorcycle collisions include:

- The majority of motorcyclists were exceeding the speed limit prior to the fatal collision. Of the collisions where the motorcyclist’s speed was known, around two-thirds were exceeding the speed limit
- Loss of control was the main contributory factor in collisions where the motorcycle was the only vehicle involved
- Collisions with one or more other vehicles most often involved a car/taxi turning right across the path of the motorcycle at a junction or from a side road
- In half of the cases where a motorcycle was in collision with another vehicle (most often a car or taxi), contributory factors were attributed to both the rider and the vehicle driver.
- Other features of motorcycle fatal collisions were rider inexperience, alcohol, drugs, and motorcyclists riding without a licence or insurance.

This suggests that, to reduce the most serious collisions, focus needs to be on managing the speeds of powered two-wheelers in London. Also, continued action is needed to reduce the risk associated with powered two-wheeler turning manoeuvres, including through redoubling efforts to encourage greater hazard perception awareness in London’s drivers.

TfL is currently working with stakeholders to deliver a Motorcycle Safety Action Plan to improve the safety of powered two-wheelers in London. The research into fatal collisions will be used to ensure that those who are most at risk are identified and action is targeted accordingly.

The key actions that TfL proposes to take to improve powered two-wheeler users safety are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Work with key stakeholders to develop and agree a Motorcycle Safety Action Plan for London</td>
<td>TfL / Stakeholders</td>
<td>By end 2012</td>
</tr>
<tr>
<td>C2</td>
<td>Support the Motorcycle Tasking Team in the Metropolitan Police which provides riding assessment days, education activities and targeted enforcement</td>
<td>TfL / Police</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>C3</td>
<td>Provide educational road safety initiatives for riders of powered two wheelers, such as ‘BikeSafe-London’ and ‘ScooterSafe-London’</td>
<td>TfL / Police</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>C4</td>
<td>Support safety-enhancing additions to the Compulsory Basic Training (CBT) and the motorcycle licence test by working with the Driving Standards Agency</td>
<td>TfL</td>
<td>Initial discussions Autumn 2012</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on powered two wheeler safety described in the table, there are 9 other actions that contribute to powered two wheeler safety. These are F3, F4, F5, H1, J1, K3, L6, N5, N8.
Children

Children are one of the most vulnerable road user groups. For children, a greater proportion of trips are completed on foot than for other age groups. Because of this, they experience a disproportionate number of collisions as pedestrians. In 2011, there were 1,181 child pedestrian casualties on London’s roads, and 22 per cent of all pedestrian casualties in 2011 were below 16 years old. Child pedestrian casualties peak at around 11 to 12 years old; at around the time children move from primary to secondary school (see Figure 14).

![Figure 14: All Child Casualties in London 2011 (0-15 years)](image)

Whilst road safety engineering can and does deliver reductions, approaches other than engineering are central to TfL’s programme to reduce child casualties. Much of TfL’s effort is directed towards education, training and publicity (ETP) to reduce child casualties.

Road safety ETP that engages children through increasing their road safety knowledge and reducing child casualties is also critical for fostering the development of future generations of safe road users. TfL has a range of road safety educational resources that are divided into specific learning categories that cover pre-school age children and the Foundation Key stages 1, 2, 3, and 4 of the national curriculum.

Pre-school age

TfL and the boroughs begin their road safety education programme with pre-school age children, embedding basic road safety skills at an early age. Information is also provided for parents and carers. This raises awareness of the risks of collisions and
provides suitable techniques to teach basic road safety skills, together with guidance on becoming safer road users in the future. TfL has funded the Children’s Traffic Club since 2003, which provides basic road safety skills, guidance and support for pre-school age children when they are developing their outdoor skills.

Following the previous Road Safety Plan, TfL commissioned research looking at ethnicity, socio-economic backgrounds and road collisions. As a result, TfL is working with borough road safety officers and producing specially tailored educational resources that are used in areas of high deprivation and inequality.

Key stages 1-4 and post 16

For children between five and 15, and young adults (16-19), considerable work is carried out locally by borough road safety officers, linking into programmes from TfL and the National Curriculum. Resources have been developed so teachers can deliver vital road safety messages during subjects such as English, mathematics and citizenship.

ETP presents an on-going challenge, as each year there are new groups of children starting primary and secondary school who need to be made aware of the relevant road safety issues.

TfL is delivering an enhanced programme of road safety campaigns, including those focused at children, in 2012 and will work with the London boroughs to promote school cycle training in every school across London, each year. In addition, TfL will engage with nurseries and early-years providers to deliver basic road safety training.

In addition to London-wide campaigns, educational resources and training programmes are vital interventions to bring about behaviour change. Road safety curriculum resources for every Key Stage are used in schools to drive the messages home for younger people.

The benefits of ETP interventions need to be measured over a longer period than those of engineering schemes. It is estimated that these targeted campaigns have contributed to the long-term reduction in child KSI casualties, which have showed a 73 per cent reduction between the 1994-8 baseline and 2010, and a further 8 per cent reduction between 2010 and 2011.
The key actions that TfL proposes to take to improve children’s road safety are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Ensure London pre-school children are road safety 'savvy' by continuing a comprehensive programme of engagement with nurseries, other childcare and health care providers, London boroughs, local education authorities, Children’s Centres and Sure Starts</td>
<td>TfL / Boroughs</td>
<td>2012 onwards</td>
</tr>
<tr>
<td>D2</td>
<td>Work with boroughs to promote cycle training in schools via their Local Implementation Plans</td>
<td>TfL / Boroughs</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>D3</td>
<td>Work with teachers to expand the reach and impact of campaigns aimed at children’s safety</td>
<td>TfL</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>D4</td>
<td>Maximise the impact of collaborative activity by the public sector across London, by ensuring TfL road safety marketing materials are made freely available to London boroughs and that boroughs are briefed on forthcoming road safety campaigns</td>
<td>TfL</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on child safety described in the table, there are 10 other actions that contribute to child safety. These are A1, A2, B2, F3, F4, F5, J1, J2, K3, M7.
Other road users

The previous sections have considered our approach to improving the safety of vulnerable road users. However, collisions involving users of motorised vehicles (excluding powered two-wheeler users which have already been discussed) still make up the largest proportion of total casualties in London, even though they are under-represented in the KSI figures. For example, car occupants made up more than 40 per cent of all casualties in London in 2011 and were the second largest group in terms of fatalities.

In order to achieve proposed target reduction in KSIs, TfL needs to work to address collisions involving this user group. This involves a variety of activities. TfL will work with the police to ensure that safety cameras are used effectively to reduce risk to all road users. Collaboration with government is also important, so TfL will work with the DfT on driver training, licensing and testing as well as on vehicle licensing and testing. Research will also be undertaken to better understand risks for and caused by particular road users, including young drivers.

Car occupants

Car drivers and passengers have both the largest modal share of trips in London (40 per cent) and the largest share of all casualties (40 per cent), although this share reduces to 18 per cent of London’s KSI casualties and 20 per cent of fatalities.

Having recently passed their driving test, young car drivers’ education and theoretical knowledge should be at their freshest. However, young drivers’ hazard perception may be poorer than the hazard perception of more experienced drivers and their lack of driving experience can lead to some taking unnecessary risks when driving.

TfL will undertake research in 2013 to gain a fuller understanding of the factors that influence the involvement of young car drivers in collisions. TfL will also work with the DfT to understand where further improvements to training and licensing issues may contribute to improved safety.

Bus and coach collisions

Buses and coaches are among the largest and heaviest vehicles using London’s roads. In 2011, collisions involving buses or coaches resulted in 2,420 casualties. 1,470 of those casualties involved injury to a driver or passenger either on the bus/coach or boarding/alighting. During 2011, 376 pedestrians were injured when hit by a bus or coach, and 90 of those were killed or seriously injured. Additionally, 142 pedal cyclists were injured in collisions which involved a bus or coach, as well as 72 powered two-wheeler users. The actions proposed to improve bus / coach safety relate to bus occupants or to road users involved in collisions with buses and coaches. Additionally, TfL and the Metropolitan Police Accident Investigation Unit hold a twice yearly forum that looks specifically at the interface between buses,
passengers and vulnerable road user groups, which helps to inform other forums and initiatives.

The safety of all bus occupants is a priority for bus operators who are taking practical steps to continually improve the safety of their fleet. TfL works in collaboration with bus operators in London to identify and spread safety best practice and develop countermeasures to improve bus passenger safety. TfL will continue to organise and facilitate workshops, develop a framework for undertaking coordinated safety campaigns.

In order to address collisions involving buses and cyclists, drivers have recently received cycle awareness training at a series of roadshows. This gave them the opportunity to experience a cyclist’s view when approaching, overtaking and being followed by a bus. Specific cycle training for drivers was given at bus garages based within the Barclays Cycle Hire zone and Barclays Cycle Superhighway routes CS3: Barking to Tower Gateway and CS7: Merton to the City.

TfL, together with the London Cycling Campaign, has developed a training film for bus drivers, ‘Big Bus, Little Bike’. This documentary style short film has been shown to 90 per cent of London’s bus drivers through their regular training cycle, with all remaining drivers scheduled to view it by March 2013. It has received positive feedback from bus drivers and complements the opportunities for new and existing drivers to receive National Cycle Standards training.

Additionally, London Buses have revised their ‘Big Red Book’ which is issued to all 24,000 bus drivers and is referenced in the main bus contracts. The revised version includes an expanded section on the vulnerable road user groups (pedestrians, cyclists and powered two-wheeler users).

As part of TfL’s programme of cyclist awareness safety training for commercial vehicle drivers, 175 coach drivers have undertaken the Driver Certificate of Professional Competence accredited training, developed through the TfL Fleet Operator Recognition Scheme. Fourteen courses have so far been run to train all the drivers from four companies, which is to be used to promote the training as best practice to the coach industry.

A series of Exchanging Places events have begun, involving bus drivers and cyclists, with the assistance of the police, in a similar style to that organised with lorry drivers.
The key actions that TfL proposes to take to improve other road users’ safety are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Identify the key factors that influence the involvement of young car drivers in collisions in London and identify appropriate actions</td>
<td>TfL</td>
<td>Winter 2012</td>
</tr>
<tr>
<td>E2</td>
<td>Work with the Department for Transport to understand where further improvements to driver training, testing and licensing may contribute to improved safety</td>
<td>TfL / DfT</td>
<td>Initial meetings Autumn 2012</td>
</tr>
<tr>
<td>E3</td>
<td>Work with partners to improve bus and coach safety for bus and coach occupants and other road users. Organise ongoing safety workshops, discussions and support developing training programmes for bus operators. Learn lessons about the interaction between buses, passengers and vulnerable road user groups through a twice yearly forum between TfL and the Police</td>
<td>TfL / Bus operators</td>
<td>Spring 2013</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on other road user safety described in the table, there are 12 other actions that contribute to other road user safety. These are C2, F5, G3, G4, I1, I2, I3, J1, L3, M4, N1, N3.
6 ACTIONS TO REDUCE RISK

This section considers some of the actions that are proposed to reduce risk associated with specific behaviours and at particular locations as well as risks to road user groups that are not defined by a single type of vehicle. This section of the Plan makes proposals for:

- Safer roads
- Increasing compliance with the law
- Safer behaviour
- Work-related road safety
- Injury inequality

**Safer roads**

Engineering to produce safer roads involves the physical construction or alteration of roads with the aim of creating an environment that encourages safer behaviour by all road users.

To address collision problems on London’s roads, an understanding is needed of where collisions are taking place, which road users are involved and whether there are any underlying behaviours or casual factors.

**Transport for London Road Network road safety schemes**

Road safety engineering continues to be an important approach to reducing casualties on the TLRN. The Mayor has asked the Roads Taskforce to look into safety on the TLRN, including speed related collisions. TfL uses the following techniques and processes to prioritise locations and identify road safety engineering on the TLRN:

- Priority lists
- Collision studies
- Road safety audit
- The better junctions review

To make London’s road infrastructure safer through engineering, TfL will ensure that reducing risk is central to our prioritisation approach both on the TLRN and through providing information to the London boroughs enabling a similar approach.
Priority lists for highway schemes

Every year TfL produces priority lists of sites on the TLRN where collisions are significantly above average in specific categories (e.g. pedestrians, cycles, motorcycles, collisions occurring in the wet or dark, right turn manoeuvres, speed related collisions etc.) These lists help to identify where road safety improvements may be needed on TfL’s network. Figure 15 provides an example of a priority list.

The number of casualties at groups of similar sites is used to produce an estimate of the divergence from the mean observed at any particular site. For a particular site, the greater the divergence from the mean, the higher the priority for treatment.

Collision studies

When a site has been identified as a priority a collision study is carried out. Part of this involves plotting the collisions that have occurred at that site, an example of a collision plot is shown in Figure 16. Collision studies are used to generate an in-depth understanding of the road safety problems at a specific location. Examining the collisions allows TfL engineers to establish what the particular problem at the location is and propose engineering changes there to address the specific problems and reduce collisions and casualties. These proposals are then incorporated into TfL’s programme of works on the TLRN with the aim of reducing future collisions.

Where road safety schemes are implemented on the TLRN they are monitored using the Traffic Accident Diary System (TADS). This allows their performance to be tracked after scheme completion to ensure that scheme safety objectives are being met.
A review of safety schemes implemented on the TLRN since 2000 shows that they have made a significant contribution to collision reduction, leading to an average 24 per cent fall in collisions (Table 4).

Table 4: Road safety engineering schemes installed on the TLRN since January 2000 – collisions before and after implementation

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of Schemes</th>
<th>Collisions before</th>
<th>Collisions after</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>112</td>
<td>2,338</td>
<td>1,792</td>
<td>-23%</td>
</tr>
<tr>
<td>East</td>
<td>89</td>
<td>2,519</td>
<td>1,881</td>
<td>-25%</td>
</tr>
<tr>
<td>North and West</td>
<td>94</td>
<td>1,822</td>
<td>1,421</td>
<td>-22%</td>
</tr>
<tr>
<td>South</td>
<td>69</td>
<td>1,269</td>
<td>968</td>
<td>-24%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>364</strong></td>
<td><strong>7,948</strong></td>
<td><strong>6,062</strong></td>
<td><strong>-24%</strong></td>
</tr>
</tbody>
</table>

**Road safety audit**

All permanent highway schemes on the TLRN undergo a rigorous road safety audit (RSA) process during both the pre and post-construction phases to identify and address any potential road safety issues. This process ensures that all TLRN
schemes operate as safely as is practicable by minimising future collision numbers and severity. TfL has its own RSA procedure specifically tailored to meet the needs of London’s roads. This procedure is reviewed annually to ensure that it accords with current best practice. TfL’s RSA procedure will continue to be updated through the Road Safety Action Plan period.

**The better junctions review**

One key element of TfL’s current activity to make London’s roads safer is a review of junctions on the existing Barclays Cycle Superhighways (CS2, CS3, CS7 and CS8), and major junctions on the TLRN. This review is considering the safety and wellbeing of vulnerable road users at those locations and is being steered by a stakeholder group representing the interests of wide range of road users.

The review of junctions on the TLRN is mainly where schemes were already planned and in design. However, a small number of TLRN junctions are included in the review where there were no schemes planned, but where particular challenges for cyclists were felt to exist.

The Better Junction Review is being carried out in the following way:

- TfL designers produce options for potential cycle and vulnerable road user improvements at these junctions
- These options are reviewed by technical experts from TfL and external organisations, including bodies representing the main road user groups, the police and the boroughs
- Any schemes identified for implementation from the review will then be subject to TfL’s normal scheme authorisation and consultation processes

**Borough road safety schemes**

London boroughs play a vital role in improving road safety on London’s roads. They have invested Local Implementation Plan funding into tackling a range of road safety problems on their road networks through the application of road safety engineering interventions. TfL will continue to support the boroughs in addressing road safety problems through LIP funding.

Table 5 shows the performance of schemes installed on borough roads where their results were monitored and shows that the schemes implemented have led to an average 30 per cent reduction in collisions.
Table 5: Road safety engineering schemes installed on borough roads since January 2000 – collisions before and after implementation

<table>
<thead>
<tr>
<th>Programme</th>
<th>Number of Schemes</th>
<th>Collisions before</th>
<th>Collisions after</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Safety Schemes</td>
<td>438</td>
<td>7,017</td>
<td>5,004</td>
<td>-29%</td>
</tr>
<tr>
<td>20mph zones</td>
<td>88</td>
<td>1,858</td>
<td>1,208</td>
<td>-35%</td>
</tr>
<tr>
<td>Total</td>
<td>526</td>
<td>8,875</td>
<td>6,212</td>
<td>-30%</td>
</tr>
</tbody>
</table>

Borough-wide collision information (for all roads, not just those on the TLRN) is provided to the boroughs to allow prioritisation to take place. Data includes information on the site conditions (e.g. location, time of day, lighting), vehicles (e.g. mode, manoeuvres), and casualty (e.g. age, severity). Through this approach, boroughs will be enabled to target road safety investment by providing insight about high risk locations on their networks. Specifically, TfL will work with the boroughs to develop a similar priority list for borough roads to that produced for the TLRN.

Road safety audit procedures will continue to be updated and applied where requested to borough schemes. Boroughs will be encouraged to provide the information necessary to enable the monitoring of road safety schemes on borough roads through the TADS. TfL will work with the boroughs to increase the monitoring of borough road safety schemes in the TADS to make sure the intended casualty reductions are being realised.

**20mph zones**

A study of a number of 20 mph zones, which have been implemented in London,\(^{23}\) has shown them to have delivered:

- A 42 per cent reduction in all casualties
- A 53 per cent reduction in KSI casualties and
- The greatest reductions amongst child and car occupant KSIs

There are over 400 20mph zones in London, covering 11 per cent of the road network. These have primarily been implemented on local, lightly trafficked, roads which demonstrated higher casualty rates thereby warranting such solutions.

Ongoing review suggests that on borough roads approximately 12 per cent of KSI collisions are shown to be speed related. As such, speed reduction measures – such as 20 mph zones and limits -- remain an important and effective measure for reducing speeds on local and residential roads.

\(^{23}\) London School of Hygiene and Tropical Medicine (2008). 20 mph zones and road safety in London
Accordingly TfL will work with the boroughs to support the installation of 20mph zones and speed limits on borough roads where appropriate, and in keeping with the wider functions of the local road network.

The complexity of the TLRN means that in considering lower speed limits on these routes, the potential benefits in terms of both safety and liveability of town centres needs to be taken into consideration alongside the other functions the TLRN performs, including the movement of people and goods.

**Integrating road safety**

As the Highway Authority for the TLRN, TfL has responsibility for a wide range of highway functions including public realm schemes, traffic signal improvements, development related schemes and maintenance schemes. While the primary objectives of such schemes may not be to reduce casualties, they all provide an opportunity for road safety to be proactively considered such that the improvements that are made enhance safety within the broader scheme objectives.

Through the work of TfL, the boroughs and other partners, London leads the way in promoting innovative engineering measures that have among their many benefits the potential to reduce casualties. Good design can reinvent and revitalise streets and create more attractive environments that can be shared by all road users. Examples of such schemes include:

- Engineering schemes that provide shared space, such as the Exhibition Road project, remove the dominance of a single mode of transport and provide spaces that all users can enjoy.

- A holistic approach has been taken to improve the urban realm in Woolwich Town Centre and the scheme includes road safety benefits. Here, pedestrians benefit from new signalised crossings on key junctions, and road surfaces have been brought up to pavement level at side road junctions to make it easier for people using wheelchairs or those with buggies.

- The Oxford Circus diagonal crossing has eased pedestrian congestion by reducing pedestrian crossing times, improving...
compliance and providing more room around the Underground station exits

TfL continues to promote London’s Great Outdoors and the Better Streets agenda and is also determined to fully realise Olympic legacy in terms of more Londoners walking and cycling.

It is important that TfL and the boroughs continue to collaborate to ensure that engineering schemes address road safety issues and that opportunities for effective cross-borough cooperation to reduce casualties are grasped, for example through corridor schemes.

The key actions that TfL proposes to take to improve the safety of the roads through engineering measures are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Identify ‘high risk’ locations on the TLRN annually to target resources and prioritise road safety engineering investment towards sites with above average collision numbers. Continue to ensure investment in areas where there are high numbers of collisions involving vulnerable road users</td>
<td>TfL</td>
<td>Annually (May)</td>
</tr>
<tr>
<td>F2</td>
<td>Deliver the Better Junctions Review including delivering improvements at 50 junctions by the end of 2013</td>
<td>TfL</td>
<td>End 2013</td>
</tr>
<tr>
<td>F3</td>
<td>Enable boroughs to target road safety investment by providing information about high risk locations on their networks and encourage monitoring of schemes (using the Traffic Accident Diary System - TADS) to understand their impact</td>
<td>TfL / Boroughs</td>
<td>Annually</td>
</tr>
<tr>
<td>F4</td>
<td>Ensure vulnerable road user safety is intrinsic to the design of new road infrastructure schemes. Ensure all TfL highway schemes are safe and contribute to improved road safety by annually reviewing TfL’s Road Safety Audit Procedure and updating to reflect best practice and national guidance</td>
<td>TfL</td>
<td>As necessary</td>
</tr>
<tr>
<td>F5</td>
<td>Work to ensure road maintenance programmes secure safety benefits. Promote the use of ‘Report IT’ to encourage people to report maintenance issues on the network and ensure a close working partnership between TfL and borough maintenance teams</td>
<td>TfL</td>
<td>2012 onwards</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on creating safer roads described in the table, there are 10 other actions that contribute to creating safer roads. These are A2, B1, B3, G2, G4, L4, M8, N5, N6, N7.
Increasing compliance with the law

Public consultation by the Metropolitan Police Authority demonstrates that there is significant public concern about unlawful and unruly behaviour on London’s roads such as speeding (illegal speeding and driving too fast for the conditions). There is a range of different risk areas associated with road user compliance with the law, addressed in the following sections on:

- Excessive or inappropriate speed
- Safety cameras
- Uninsured driving, illegal driving, hit and run
- Drink and drugs
- Seat belts
- Mobile phones

To make London’s roads safer through improved compliance, TfL will work with the police and London boroughs to ensure the effective management of the safety camera network. TfL will also work with the police to realise the benefits of aligning road safety interventions with the wider agenda to tackle crime; considering issues such as driver awareness courses, and the activities of the Cycle Taskforce, as well as the best means to address risks associated with issues such as speed, drink-driving and drug driving.

Excessive or inappropriate speed

Excessive or inappropriate speed was a contributory factor in nine per cent of all collisions on London’s roads in 2011 and was a contributory factor in 22 per cent of all fatal collisions. High speeds lead to more severe injuries. Most pedestrians survive a collision with a vehicle travelling at 20mph, but with the vehicle travelling at 40mph, most do not.

Research has shown that average speed is important: a 1 mph reduction in average speeds leads to a reduction of six per cent in the number of collisions in urban areas.

24 Metropolitan Police Authority Policing Planning and Performance Improvement Unit(2011) “Because I’m a Londoner”: Results from the public consultation to inform the Policing London Business Plan 2012/13

Fast and aggressive driving intimidates all road users, particularly pedestrians and cyclists. It deters people from these sustainable modes and may discourage parents from allowing their children to walk and cycle to school and for other journeys.

Reducing speeding can be addressed using a variety of approaches, including engineering measures or enforcement, where high-risk offenders are penalised through the courts and errant road users diverted into education and by training.

There is evidence to suggest that drivers who attend a speed awareness course after having been caught speeding are far less likely to reoffend. Consequently, TfL will work with the police to ensure that London’s safety camera operations focus on educating offenders with less serious breaches of the speed limit, rather than penalising them, to reduce their chances of reoffending.

**Safety cameras**

TfL’s current safety related enforcement activities in London are based largely on the use of safety cameras. Speed and red light cameras are installed at sites with a history of KSI casualties caused by excessive speed or running red lights.

Safety cameras have proved to be successful in reducing casualties. TfL analysis of casualties over a three year period before and after the installation of speed cameras shows that KSIs fell by more than 50 per cent on the roads on which safety cameras were introduced. On this basis, London’s cameras help prevent about 500 deaths and serious injuries each year. It is important that these KSI reductions continue.

TfL will continue to fund the maintenance of safety cameras, including the costs of a network of cameras on borough roads. TfL will work with its stakeholders to ensure this policy remains, and will work with boroughs to widen the operation, including consideration of 20mph limits enforced by cameras.

There are currently over 900 safety cameras in London, sixty per cent of which are on the TLRN. The police also deploy vans equipped with mobile cameras that can be used at any location. TfL has been at the forefront of embracing new digital safety camera technology and since 2005 for example installing digital cameras at known collision locations. In 2009 a multi-lane average speed camera system was installed on the A13 in east London. It was the first of its kind in the country and replaced existing cameras that were rendered redundant due to the carriageway realignment works.

London has a legacy of ageing wet film safety cameras that need to be replaced, some with installation dates going back to 1991. TfL is therefore implementing a programme to manage the transition from wet film to digital safety cameras on London’s roads. In taking forward this programme, TfL will consult with boroughs about the safety cameras on local roads to agree an effective approach to deployment and operation and ensure a consistent safety camera operations policy is maintained in London.
TfL will continue to fund the maintenance and enforcement of the safety camera network, including those cameras on borough roads. TfL will work with its stakeholders to ensure this policy remains appropriate.

The current camera assets become obsolete in 2014. This replacement programme is a big step forward in making London’s safety cameras sustainable going forward. The replacement programme embraces economies of scale and borough flexibility.

**Sub-regional use of cameras**

There are many benefits to boroughs working together to improve road safety through improved speed enforcement and speed management and speed policy approaches. Consideration should be given to a regional / sub-regional approach to the installation of safety cameras.

For boroughs choosing to implement new camera installations, consideration should be given to a sub-regional level approach to this. This would not necessarily have to be done through the current sub-regional borough groups: it could be done amongst only those boroughs looking to implement new camera sites, or through London Councils for example. This would be likely to yield procurement efficiencies.

The possibility of boroughs implementing cross-borough boundary 20 mph limits or zones, or average speed safety camera systems, need to be explored and promoted. For example, a scheme across borough boundaries may have a reduced cost for each borough by reducing the camera units to be procured by each borough. A similar benefit could be achievable on a wider sub-regional basis.

**Uninsured driving, illegal driving, hit and run**

TfL’s analysis has found that 14 per cent of all collisions in 2011 involved one or more vehicles failing to stop and showed an increased frequency in areas of deprivation. Failure to stop may occur because the driver does not have valid insurance, a valid licence, valid tax or is under the influence of drugs or alcohol. Targeting uninsured and illegal drivers could therefore remove potentially hazardous driving activity. TfL will aim to work with the Metropolitan Police Service (MPS) during 2012/13 to build on the success of operation FOIST (an awareness and enforcement joint campaign) targeting boroughs with above average collisions involving vehicles failing to stop.
Drink and drugs

Drinking or taking drugs while driving was a factor in two per cent of collisions in London during 2011. There were 416 collisions coded as involving one or more driver / rider that gave a positive breath test and / or drink and / or drugs contributory factors. These 416 collisions resulted in 579 casualties (3 fatal, 86 serious and 490 slight). As discussed earlier, contributory factors are subjective and represent the reporting officer’s opinion. They may not be the result of extensive investigation.

The UK’s current drink driving limit is 0.8mg per ml and there have been calls to bring this in line with the majority of Europe, which is 0.5mg and doing so could result in a reduction in the number of deaths on London’s roads.

Case Study: Operation FOIST

Analysis carried out by TfL in 2006 found that 15 per cent of all road traffic collisions in London involved one or more vehicles failing to stop and showed a link with areas of deprivation. The reasons for drivers leaving the scene of a collision could stem from a desire not to be there when the Police arrive and may include:

- The driver not having appropriate insurance
- The driver not having a valid driving licence
- The driver having been drink / drug driving
- The driver or passenger being wanted by the police
- The vehicle not having a valid MOT
- The vehicle not being taxed
- The vehicle not being roadworthy
- The vehicle having been stolen

In 2006, three London boroughs were identified as having a high rate of drivers who failed to stop after a collision (hit and run). These boroughs were Hackney (25 per cent hit and run), Haringey (23 per cent hit and run) and Newham (22 per cent hit and run). In November 2006 these boroughs were the focus of an awareness and enforcement joint campaign, known as Operation FOIST, between TfL and the MPS. Over its five-week duration Operation Foist resulted in:

- 1,894 vehicles being seized
- 109 vehicles being scrapped
- a fall in vehicle crime of 24 per cent from the previous year
- a fall in street crime by 19 per cent from the previous year
In May 2012 the Government announced plans to crack down on those who drive while under the influence of drugs. Currently police have to demonstrate that driving had been impaired by drugs in order to prosecute. Under the proposed legislation however it will automatically be an offence to drive a motor vehicle if certain controlled drugs are detected in the body of the driver, in excess of specified limits. This will make it much easier for police to take action against drug drivers.

Devices to screen for drugs in the body are expected to receive type approval from the Home Office by the end of 2012.

**Seat belts**

It has been a legal requirement since 1983 to wear a seat belt in a car. The London seatbelt survey showed that in 2009, 89 per cent of drivers wore a seatbelt\(^{26}\). Seat belt wearing rates in London were found to be below the 96 per cent national average for urban areas in England.

The 2009 survey found that a higher proportion of drivers wore seat belts in taxis and vans but the rate for car drivers remained unchanged since 2008. The proportion of car front seat passengers wearing seat belts fell by five per cent from 2008 and the proportion of rear seat passengers increased by four per cent, slowly approaching the national average for urban areas in England.

**Mobile phones**

The use of a mobile phone whilst driving has been shown to increase the chances of causing a collision by four times.

The introduction of increased penalties in February 2009 for the use of a hand-held mobile phone by drivers resulted in a short term decline in their use, but this has subsequently begun to gradually increase.

An increasing trend in hands free mobile phone use was observed up to 2009, but the rates decreased in 2010. Fewer drivers were using hands free mobile phones than hand-held in 2010 for the first time since the penalties increased.

Police attending personal injury vehicle collisions in London are required to complete Stats 19 information about the collision and their thoughts on the cause. This contributory factor information is subjective and based solely on the opinion of the police at the scene of the collision. A series of optional contributory factors include ‘driver using mobile phone’.

In London in 2009, one fatal, five serious and 66 slight casualties resulted from collisions where one of the contributory factors was ‘driver using a mobile phone’. However, these contributory factor figures are likely to be significantly under-reported as a mobile phone can be discarded very quickly after a collision so is unlikely to be

visible when the police officer arrives at the scene, and not all collisions are attended by the police.

The key actions that TfL proposes to take to improve road safety through better compliance are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>Maximise the safety impact of borough safety cameras by working with boroughs to review their safety camera network, advising on the optimum approach in terms of future management. Work with the Police to ensure more effective enforcement of cameras is used to target those areas with KSI problems</td>
<td>TfL / Boroughs / CSEP / Police</td>
<td>Ongoing</td>
</tr>
<tr>
<td>G2</td>
<td>Support the installation of 20mph zones and speed limits on borough roads where appropriate and in keeping with the wider functions of the local road network. Explore the potential of joint working in sub-regions by boroughs regarding the installation of safety cameras, including 20mph average speed cameras, to make them more affordable and effective in reducing casualties</td>
<td>TfL / CSEP / Police / Boroughs</td>
<td>2012 onwards</td>
</tr>
<tr>
<td>G3</td>
<td>Work with central government and the police to amend legislation such that speed awareness courses can be offered to drivers as an alternative to prosecution for exceeding a 20mph speed limit to reduce reoffending by drivers</td>
<td>TfL / DfT / Police</td>
<td>2012 onwards</td>
</tr>
<tr>
<td>G4</td>
<td>Maximise the effectiveness of London's safety camera network via a major programme to replace all aging 'wet film' safety cameras with modern digital technology, in partnership with the London boroughs</td>
<td>TfL / Boroughs / CSEP / Police</td>
<td>Ongoing</td>
</tr>
<tr>
<td>G5</td>
<td>Crack down on illegal and antisocial road user behaviour via the work of the cycle taskforce and other traffic enforcement activities</td>
<td>TfL / CSEP / Police</td>
<td>Ongoing</td>
</tr>
<tr>
<td>G6</td>
<td>Collaborate with the Police to ensure maximum casualty reduction through sharing of information leading to targeted enforcement</td>
<td>TfL / CSEP / Police</td>
<td>Ongoing</td>
</tr>
<tr>
<td>G7</td>
<td>Work with the Police to explore further the links between dangerous and antisocial driving and more serious criminality and the benefits of further joint working to tackle both issues. Build on the successes of operation FOIST to tackle uninsured and unlicensed driving</td>
<td>TfL / Police</td>
<td>2012 onwards</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on improving compliance described in the table, there are 9 other actions that contribute to improving compliance. These are C2, I3, L3, L6, M4, M8, N1, N3, N6.
Safer behaviour

As discussed earlier, the Government published its new National Strategic Framework for Road Safety (SFRS) in May 2011. A key theme is to ‘make it easier for road users to do the right thing’. ‘Doing the right thing’ to reduce the likelihood of being involved in a collision means behaving in a safe way. One of the approaches to encouraging safe behaviours is ensuring that roads are designed and operated in a way that makes it easy to use it in a safe way. For example, ensuring that speed limits on roads are in line with their function and design.

Encouraging safe behaviours is also important. TfL runs an extensive programme of activities to promote safe road user behaviour, much of which is targeted at vulnerable road users and has been described earlier in this document. This programme involves campaigns, education and training aimed at particular road user groups or particular behaviours. It is vital that this investment focuses on the correct audiences, delivers appropriate information and uses the most effective ways of engaging with the audiences in question to encourage safer behaviours.

Road safety campaigns are normally developed using qualitative research with the target audience, typically through focus groups. They are evaluated using quantitative pre- and post-campaign surveys, which measure changes in:

- Campaign awareness
- Campaign recognition
- Knowledge of the issues being addressed by the campaign
- Attitudes to the issues and behaviour change being addressed
- Claimed behaviour

An example of how TfL work to develop campaigns is provided in the case study below.
Case Study: Don’t let your friendship die on the road

Qualitative research consisting of focus groups and observations of road user behaviour revealed that the existing road safety messages no longer resonated strongly with teenagers. Their awareness of personal risk and the consequences of their actions were not well developed, leading to a sense of invincibility. Importantly, their behaviour on the road was most likely to be influenced by their friends' behaviour, and the thought of losing their friends was much more powerful than losing their own life.

A campaign was developed with the message ‘Don’t let your friendship die on the road’, which aimed to capitalise on teenagers' high dependence on their peer group in terms of personal motivation. The campaign included:

- Poster advertising
- Road stencils featuring the ‘Don’t let your friendship die on the road’ message in playgrounds near skate parks
- ‘Teen Tribe’ activity, which comprised of four R&B artists endorsing the campaign with a short film on their websites, MySpace and Facebook. Further endorsements were provided by two Premiership football clubs
- Messaging at the underage festival in Victoria Park

Research was undertaken which indicated a significant increase in the teenage audience’s realisation that they could lose a friendship if they did not look out for their friends when crossing the road and how much their friends would miss them if they were not careful crossing the road.
Going forward, TfL will continue to invest in campaigns and road safety education programmes and will work to improve the effectiveness of their delivery.

The key action that TfL proposes to take to encourage safer road user behaviours is shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Target vulnerable road users and high risk behaviours with campaigns and information to drive awareness of the main causes of collisions and to provide advice on travelling safely. E.g. powered two-wheeler users, children, pedestrians, cyclists, young drivers, speeding. Use new data sources to inform campaign design and implementation. E.g. crime mapping, MOSAIC data</td>
<td>TfL</td>
<td>Throughout Plan period</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on encouraging safer behaviours described in the table, there are 7 other actions that contribute to encouraging safer behaviours. These are C3, D1, D3, D4, J1, J2, M4.
Work-related road safety

Those driving for work can have a collision risk up to 50 per cent higher than that of private motorists\textsuperscript{27}. Improvements in work-related road safety (WRSS) have the potential to improve the safety of all of London’s road users. Addressing work-related road safety is therefore likely to make a significant contribution towards meeting the casualty reduction targets.

Much of TfL’s focus in WRRS has been through the Fleet Operator Recognition Scheme (FORS). FORS is designed to help increase fleet operators’ awareness of road safety issues, paying particular attention to the safety of pedestrians and cyclists through a structured programme which is intended to help change management practices and driver behaviour. FORS has developed a series of transport manager workshops, which help operators of fleets to understand relevant regulatory responsibilities. The workshops also include information on how to raise driver awareness, develop risk management procedures and supports management processes.

FORS additionally has two approved driver training courses for the mandatory Driver Certificate of Competence (DCPC). The courses (the safe London driving course and safe urban driving course) have been developed specifically to increase fleet drivers’ awareness of vulnerable road users. These courses have proved popular and effective (90 per cent of attendees intended to change their driver behaviour and give more consideration to vulnerable road users) and funding is in place until 2015.

The majority of London boroughs have signed up to FORS and TfL will continue to encourage the remainder to join. Through FORS, TfL has supplied over 20,000 free ‘Fresnel’ lenses to fleet operators in London. The lenses are attached to the passenger window and help to improve the driver’s view of cyclists in close proximity of the vehicle.

Analysis has shown that FORS members have seen a reduction in collisions from 17 per 100,000 vehicle kilometres to eight per 100,000 vehicle kilometres.

Activities other than those taken forward through FORS are also important for improving work-related road safety. One such example is how the construction industry has engaged with road safety through the Crossrail Lorry Driver Induction Training programme, which has been specifically developed for frequent lorry drivers working on the Crossrail project. Its aim is to ensure that drivers know how to drive

\textsuperscript{27} TRL (2003), Work-related road accidents, Report TRL2240
carefully near to cyclists and other vulnerable road users. Another example is provided in the case study below on procurement good practice.

**Case study: procurement good practice**

TfL’s Contract for Service, stipulates that any company that provides a service for TfL and operates a freight vehicle must within 90 days of executing a contract with TfL register for membership of FORS or a similar scheme and attain the standard of bronze membership. The service provider is also required to maintain the standard by way of an annual independent assessment. Additionally they should ensure any sub-contractors who operate freight vehicles do so at this level.

The service provider is also required to ensure that every lorry which it uses to provide the services:

- Has Side Guards, unless the service provider can demonstrate to the reasonable satisfaction of the authority that the vehicle will not perform the function for which it was built if side guards are fitted
- Has a close proximity sensor
- Has a Class VI mirror
- Bears prominent signage on the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside

The service provider has to ensure that each of its drivers has a driving licence check with the DVLA and that the driving licence check is repeated in accordance with either the risk scale provided in the contract, or the service provider’s risk scale, which must have been approved in writing by the Authority within the last 12 months.

The service provider must also ensure that each of its drivers who has not undertaken approved Driver Training in the last three years, undertakes:

- Approved driver training within 60 days of the commencement of the contract
- A FORS e-learning safety module in the last 12 months, undertakes a FORS e-learning safety module (or an equivalent safety module provided by the Alternative Scheme)

TfL will take forward WRRS activities through partnership, engaging with other London road safety stakeholders and delivery partners to support and inform
programmes. European legislation has an important role in WRRS as well, so TfL will push for adoption of directives on driver fitness.

TfL will undertake further work to improve knowledge around WRRS and develop an understanding of the key factors relevant to London in this area. TfL is also committed to working with industry and other key stakeholders to develop future policy, particularly in the area of procurement and working with insurers.

The key actions that TfL proposes to take to improve work-related road safety are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>I1</td>
<td>Work with the Freight Transport Association (FTA), Road Haulage Association (RHA), Confederation of Passenger Transport (CPT), Coach Guild and Coach Marque to promote and encourage wider uptake of the Fleet Operator Recognition Scheme (FORS) to deliver training and messages on cycle and pedestrian safety for all fleet operators in London. Work to accelerate all members’ status to higher levels (Gold and Silver) to drive safety improvements, including among small and medium enterprises</td>
<td>TfL / Stakeholders</td>
<td>Throughout 2012 and 2013</td>
</tr>
<tr>
<td>I2</td>
<td>Reduce dangers to vulnerable road users posed by heavy vehicles by pushing for the inclusion of a mandatory safety element in the Driver Certificate of Professional Competence (DCPC) covering vehicle roadworthiness, mirror alignment and blindspots indications (aligning this with the CPC Safer Urban Driving and CPC Safer London Driving Courses)</td>
<td>TfL</td>
<td>Initial meetings Summer 2012</td>
</tr>
<tr>
<td>I3</td>
<td>Push for full adoption of Directives 2009/113/EC and 2006/126/EC regarding eyesight requirements for Group 1 and Group 2 drivers to reduce risks associated with driving for work by improving driver fitness through regular medicals conducted throughout a driver’s career, including eye sight and driver fatigue checks</td>
<td>TfL</td>
<td>Initial meetings Summer 2012</td>
</tr>
<tr>
<td>I4</td>
<td>Working closely with the fleet and freight industries, review the Fleet Operator Recognition Scheme (FORS) seeking improvements to ensure safety standards are as high as they should be</td>
<td>TfL / Stakeholders</td>
<td>Ongoing</td>
</tr>
<tr>
<td>I5</td>
<td>The Mayor or TfL’s Commissioner to write to developers and other operators of goods vehicles using London’s roads requesting that they sign up to at least bronze level Fleet Operator Recognition Scheme safety standards and that they use procurement and planning procedures to drive further safety improvements. e.g. those pioneered by TfL and Crossrail</td>
<td>GLA / TfL</td>
<td>2013</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on improving work-related road safety described in the table, there are 6 other actions that contribute to improving work related road safety. These are B6, L3, M6, N1, N3, N9.
Injury inequality

As previously discussed on page 22, despite large and sustained casualty reductions over recent years in London, those who live in the most deprived areas of London and people from Black, Asian and Minority Ethnic (BAME) groups suffer a disproportionately high number of road casualties\textsuperscript{28,29,30}. Edwards et al. (2006)\textsuperscript{28} found the strongest relationship between deprivation and injury risk is for pedestrians: the most deprived are over twice as likely to be injured as the least deprived. In terms of ethnicity, Black Londoners are most at risk, with Asian groups at much lower risk of road injury. Given that nearly 40 per cent of Londoners are from BAME groups, and that there are large areas of deprivation in London, it is vital to devise interventions to reduce road casualties in these groups.

TfL’s approach of targeting higher risk groups and locations is likely to disproportionately benefit these groups. In addition, TfL will undertake research to understand the causes of this inequality better and aim to identify the most beneficial interventions. Specific programmes targeting those at higher risk will continue to be supported, for example, the work done by TfL’s Safety and Citizenship Team (SCT).

While the existence of injury inequality is broadly recognised in the literature, there is far less agreement about how to explain this, and therefore how best to tackle it. Exposure is likely to account for some of the difference. For example, children living in more deprived areas and people who class themselves as Black are more likely to travel as pedestrians, and are thus more exposed to injury. The risk of pedestrian injuries increases in areas of high deprivation. This has been linked to exposure to cars speeding and a high volume of motor vehicle traffic.

The Injury Inequality Reduction Scheme was funded by TfL in 2009. It aimed to address the issue of disproportionate casualties among people from BAME communities, and communities living in areas of high deprivation. Local community projects were developed in partnership with the boroughs’ road safety units to address their local needs. An evaluation of community engagement projects\textsuperscript{31} found that working with BAME and deprived communities is resource intensive but offers good prospects of reducing road casualty inequalities in these areas. The evaluation concluded that TfL, in partnership with a broad range of partners, has a continuing role to play in driving this agenda in the Capital.

\textsuperscript{28} London School of Hygiene and Tropical Medicine (2006). Deprivation and Road Safety in London

\textsuperscript{29} London School of Hygiene and Tropical Medicine (2007). Road safety of London’s Black and Asian Minority Ethnic Groups

\textsuperscript{30} London School of Hygiene and Tropical Medicine (2008). The Effect of 20mph Zones on Inequalities in Road Casualties in London

TfL has engaged SCT at the London Transport Museum and aims to work with it and borough road safety officers (RSOs) to deliver road safety messages to schoolchildren. The SCT aim to visit all Year 6 pupils in London and deliver a roadshow covering travel skills tailored to the school and local area. This includes road safety information which will be provided to ‘field agents’ before they visit each school. Area-specific road safety messages can be delivered at schools, incorporating specific issues that are pertinent to local communities. It also offers a two-way connection between the Museum staff and schools, enabling perceptions or attitudes of students to be fed back to TfL if relevant.

TfL will continue to provide targeted road safety interventions for specific modes that are over-represented in the casualty figures. Many of the measures highlighted throughout this document will also address the disproportionate casualty rate seen in areas of deprivation and amongst the BAME community.

TfL will continue to carry out targeted enforcement to address traffic speeds and implement engineering schemes specifically targeting pedestrians where appropriate.

The key actions that TfL proposes to take to reduce injury inequality are shown in the table below.

<table>
<thead>
<tr>
<th>Action</th>
<th>Action Description</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1</td>
<td>Develop an evidence base leading to specific targeted interventions designed to tackle injury inequality, e.g. due to ethnic group or deprivation</td>
<td>TfL</td>
<td>Summer 2013</td>
</tr>
<tr>
<td>J2</td>
<td>Continue the work of the Safety &amp; Citizenship team (SCT) at the London Transport Museum to reduce child casualties</td>
<td>TfL / Boroughs</td>
<td>2012 and ongoing</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on reducing injury inequality described in the table, there are 3 other actions that contribute to reducing injury inequality. These are D1, D2, D3, F1.
This section primarily describes what TfL proposes to do to support delivery of the actions in sections 5 and 6, address new challenges and ensure that resources are focused as optimally as possible.

With continuing pressures on financial and other resources, it is vital that TfL’s road safety programmes give value for money and that TfL works even more closely with partners who share the same objective. The road safety community needs to share resources as well as knowledge and continue to look for innovative ways to take advantage of wider economic and technological developments. As part of this, TfL needs to ensure best practice is highlighted and shared. This section of the Plan makes proposals for:

- Governance
- Partnership working
- Generating knowledge and communicating good practice
- Delivering innovation

**Governance**

**Road Safety Reference Board**

Road safety activity is carried out in London by a number of groups whose work is coordinated and overseen by a variety of governance arrangements. TfL proposes to establish a new Road Safety Reference Board for London (RSRB). London’s road safety stakeholders, through the RSRB as well as through ongoing partnership working, will input into the development and implementation of road safety policies and help oversee continuous improvements in road safety in London.

The RSRB will steer the implementation of London’s Road Safety Action Plan as well as shape and develop future road safety policy in London. TfL proposes that the membership of the RSRB should involve representatives from organisations including:

- TfL
- The Greater London Authority
- Metropolitan Police Service (MPS)
- City of London Police (CoLP)
- London Councils
- London boroughs
• LOTAG
• Relevant non-governmental organisations and charities
• National Health Service
• Academics

TfL will work with its key stakeholders to develop the terms of reference for the RSRB to ensure that road safety is represented at all levels and all of London has a voice in the future of road safety in London.

The proposed RSRB’s terms of reference would include:

• To review and report on progress in implementing road safety policy in London
• To report progress towards achieving the KSI casualty reduction target for London
• To report on safety camera operations in London
• To foster links with other organisations to encourage a holistic approach to road safety in London
• To discuss road safety priorities and key road safety issues
• To disseminate good practice
• To provide a high profile reference point for all road safety activities in London

An important role for the RSRB will be to establish a steering group for safety camera operations, which will comprise the former London Safety Camera Partnership members among others. By doing so, the aim will be to integrate the safety camera operation into wider road safety policy.

Monitoring implementation and results

This consultation document seeks to develop the road safety elements of the Mayor’s Transport Strategy and covers the period up to and including 2020. Its implementation will be reviewed in 2015/2016. It provides an overview of and framework for London’s future approach to road safety, including the development of detailed implementation plans and other actions to address London’s key road safety challenges.

TfL looks forward to continuing to develop specific evidence-led road safety policy over the coming years and will monitor the progress made in reducing the number and severity of casualties yearly in the annual report produced for collisions and casualties on London’s roads.
TfL will continue to publish reports and factsheets describing the casualty situation in London focusing on pedestrians, pedal cyclists, powered two wheeler users and children.

The key actions that TfL proposes to take to provide an effective governance structure and monitoring process are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>Establish a new Road Safety Reference Board for London (RSRB). Through the RSRB, as well as through broader ongoing partnership working, London’s road safety stakeholders will input into the development and implementation of road safety policies and help oversee continuous improvements in road safety in London</td>
<td>All</td>
<td>2012 for establishment, ongoing for secretariat role</td>
</tr>
<tr>
<td>K2</td>
<td>Drive forward best practice and knowledge sharing through, amongst other approaches, an annual London road safety conference for boroughs, TfL and other stakeholders</td>
<td>TfL / Boroughs</td>
<td>Annually</td>
</tr>
<tr>
<td>K3</td>
<td>Account for progress in casualty and collision changes in London annually via a Road Safety Annual Report to include pedestrian, pedal cycle, powered two wheeler and child collision and other casualty data</td>
<td>TfL</td>
<td>Annually (May)</td>
</tr>
<tr>
<td>K4</td>
<td>Benchmark London’s road safety performance nationally and internationally, looking at collisions and trends and reporting on this via the Annual Report</td>
<td>TfL</td>
<td>Annually (May)</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on governance described in the table, there are 5 other actions that contribute to governance. These are A1, B1, C1, L4, M7.
Partnership working

Improving road safety in London requires work across a wide range of issues involving many organisations working in partnership. This consultation document offers a vision of the programme which London’s road safety stakeholders can jointly take responsibility for and work together to implement. The preparation of this consultation document has been supported by engagement with key road user groups. This engagement approach needs to continue – working in partnership, coordinated to achieve the best possible casualty reductions.

The RSRB will oversee implementation, but achieving change depends on the combined actions of many organisations and individuals. It is vital that London’s road safety stakeholders continue to work in partnership to ensure that the engineering schemes, publicity campaigns, educational resources, training, enforcement and advances in technology are all undertaken in a focused and evidence-led way to ensure maximum safety benefits are achieved. This joint approach is central to the way TfL intends to progress road safety in the future.

The following sections describe where TfL believes there to be benefits in working together, along with the actions proposed to promote this.

Working with the police

The MPS and CoLP play a vital role in reducing road casualties through their road policing activities and both have units dedicated to reducing offending on London’s roads. Successful joint working between TfL and the police will underpin successful delivery of road safety improvements in London.

Maintaining a close working relationship between all parties is therefore important to achieving a continued reduction in the number of casualties in the future.

Areas where TfL is working closely with the police already include:

- Educating cyclists to be safe and responsible road users
- Enforcement and education of motorcyclists, especially with regard to access to bus lanes
- Delivery of BikeSafe and Scootersafe rider skills days on behalf of TfL
- Enforcement of London’s safety camera network

Many aspects of road crime overlap with other policing duties and TfL will continue to work in partnership with the police to develop both intelligence-led targeting of road users to address our common goals. TfL will work in parallel to deliver operational priorities focusing on areas where research has shown activity can have a positive effect on casualty reduction and wider criminality.

The police are not just concerned with the enforcement aspects of road safety in London. They work closely with other stakeholders to provide road safety education,
help to find solutions to road safety problems and offer encouragement to all road users through local and national campaigns.

**Working with the boroughs**

Joint working between TfL and the London boroughs is essential to achieve a continued reduction in the number of casualties and to meet the proposed target of a 40 per cent reduction in KSIs by 2020. The majority of casualties, in particular pedestrian casualties, are on borough roads. Engineering work and education with schools and other institutions is therefore required at a local level.

Sharing services between boroughs has begun to emerge in London as a way of protecting frontline delivery while also achieving savings. Collaborative / sub-regional road safety working both between TfL and the boroughs and between the boroughs themselves will facilitate the effective use of resources and the consistent application of safety interventions across London as a whole. The ‘tri-borough’ proposal is a high-profile London example of how effective partnership working can operate. Since 2011 Westminster, Hammersmith & Fulham, and the Royal Borough of Kensington & Chelsea have shared children’s, adult care and library services, while the first two councils also share environment services.\(^{32}\)

TfL and the boroughs will continue to work together. In road safety, the two-way nature of the flow of information, intelligence and resources between the London boroughs and TfL is crucial. It is TfL’s aspiration to develop further relationships with each borough in London in the area of road safety to ensure best practice is shared and local insight learned. TfL is also keen to encourage cross-borough working in areas such as publicity which would often have a greater impact if carried out at a sub-regional level. Where individual borough collision and casualty figures may be too small to allow meaningful analysis, expanding the analysis to a sub-regional context enables more robust results leading to more effective interventions. Making working at a sub-regional level more common also enables boroughs to pool resources to target specific issues that cross boundaries.

In 2011/2012, the London boroughs allocated around £11m of Local Implementation Plan funding to support schemes that will help improve road safety across the Capital. The budgets for Local Safety Schemes, 20mph zones and local Education, Training and Publicity initiatives have been amalgamated into the Mayor’s LIP Corridor, Neighbourhood and Smarter Travel Measures programmes. The consequence of this change to funding at the borough level is that the boroughs now have greater freedom to prioritise initiatives based on local knowledge.

The boroughs should seek to improve road safety as part of all their engineering schemes. This would address a wider set of objectives and minimise the number of

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\(^{32}\) London Borough of Hammersmith & Fulham, The Royal Borough of Kensington & Chelsea, Westminster City Council (2012), Mayor’s Tri-Borough One Year On
interventions on the network. The boroughs are required to set short-term (to 2013/14) and longer-term (to 2020/21) KSI casualty reduction targets within the second LIP. They are also required to demonstrate how these targets will be met through their delivery plans.

Individual circumstances may lead to some boroughs choosing to set lower casualty reduction targets than this consultation document’s over-arching 40 per cent reduction in KSIs in London. TfL continues to invest in road safety campaigns through advertisements, education and training across London. TfL also funds enforcement activities across all roads in London. Together these actions will contribute to borough-specific initiatives in reducing casualties at the local level.

TfL will continue to supply the boroughs with casualty and collision data to inform progress towards achieving the casualty reduction targets set out in their LIPs and where appropriate provide this information additionally at a sub-regional level. This will identify where boroughs may be falling behind the progress being made by similar boroughs elsewhere and will inform work to develop new approaches to bridge the gap.

**Working with central government**

TfL will use its position and influence as a major local highway authority to ensure that national road safety legislation and policies address London’s casualty reduction needs. TfL will meet regularly with the Department for Transport (DfT) to discuss any emerging road safety issues as well as continue discussions with central government to enable further progress in road safety, including:

- Amending legislation to allow on-street trials of innovative highway interventions
- Working with the DfT to encourage the inclusion of cycle training as part of driver Certificate of Professional Competence training
- Working together to encourage freight operators to fit safety devices such as motion sensors and side guards to their vehicles
- Targeting uninsured and unlicensed driving
- Developing a new post test vocational qualification as an effective successor to the Pass Plus scheme

TfL is a member of the DfT’s Road Safety Delivery Board and will aim to work closely with national government to drive forward the road safety agenda in London.

**Working with user groups**

Progress has been made in recent years through effective partnership working on road safety. Groups such as Share the Road, the Cycle Safety Working Group and Motorcycle Safety Working Group have brought together representatives from a wide
range of organisations representing different road user groups. This has helped to inform and strengthen TfL’s work on road safety and will be central to developing future safety initiatives in London.

Walking and cycling are healthy modes of travel that are known to play a crucial role in reducing the risk of longer term health problems. TfL will ensure the organisations representing these road users are represented on the proposed RSRB.

**Working with London’s health authorities and local authorities responsible for public health**

Preventing death and injury among London’s road users provides obvious and direct benefits to the health service. TfL will work closely with NHS London and will seek to work with new health organisations emerging from current changes in the health sector.

**Working with other contributors to safer roads**

There are many others who have important roles in road safety, and TfL and its partners need to promote common goals and share best practice. The following list highlights other key contributions to road safety:

- The **European Union** (EU) has powers to introduce future directives on specific road safety issues such as vehicle standards or roads infrastructure. Member states are then invited to adopt them, with the aim of achieving consistency and minimum road safety standards on Europe’s roads. The UK Government is responsible for the adoption of EU directives. It is therefore vital that road safety stakeholders share knowledge of key issues affecting road safety in London and work with the EU to develop directives that will lead to London’s roads being safer.

- The **insurance industry** can encourage safe driving through premiums that reward responsible behaviour. It is important that TfL works with the insurance industry to achieve our common aims. This can be done by encouraging the sharing of relevant information.

- The **voluntary sector** plays an important role in promoting road safety and supporting the victims of collisions and their families. They are therefore ideally positioned to help develop road safety initiatives and to help deliver road safety information.

- The wider **public sector** can ensure that road safety is at the heart of its procurement policies. TfL will encourage good procurement practices throughout the **GLA family** and the public sector by ensuring **fleet operators** are FORS registered and receive driver training on specific road safety issues. Contracts should include vehicle specification, such as the use of improved safety features.
- The **London Ambulance Service** and the **London Fire Brigade** also play vital roles as together with the police they attend collisions, treat patients at the scene and, when necessary, take them to hospital.

- The **Driving Standards Agency** sets the standards and learning process for the driving test and for approved driving instructors.

- The **motoring organisations** and **road user groups** represent the interests of road users to government and provide information on all aspects of road safety.

- **Local communities and their representatives** can work with public service providers on enforcement, traffic management, speed limits and other local highway engineering.

- **All road users** have a responsibility for their own road safety and that of others and are expected to follow the Highway Code. Furthermore, drivers and riders are expected to consider regularly their fitness to drive and ride by considering the potential adverse effects of health issues, the effects of medication, in-vehicle distractions and fatigue.

The key actions that TfL proposes to take to work effectively in partnership are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
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</thead>
<tbody>
<tr>
<td>L1</td>
<td>Maximise harm reduction by working with other public agencies involved with road safety (e.g. London Ambulance Service, London Fire Brigade, Metropolitan Police Service) to develop common best practice in the use of data and the deployment of resources</td>
<td>TfL / Stakeholders</td>
<td>Initial meetings Autumn 2012</td>
</tr>
<tr>
<td>L2</td>
<td>Realise joint casualty reduction objectives with National Health Service (NHS) trusts in London through improved sharing of information. E.g. greater understanding of injuries associated with collisions</td>
<td>TfL / LAS</td>
<td>Initial meetings Autumn 2012</td>
</tr>
<tr>
<td>L3</td>
<td>Initiate closer working with the insurance industry, including the Association of British Insurers (ABI) to share data, carry out technology trials and gain a better understanding of the collision risks of uninsured vehicles</td>
<td>TfL / ABI</td>
<td>Initial meetings Autumn 2012</td>
</tr>
<tr>
<td>L4</td>
<td>Develop new approaches to monitoring road risk and road safety performance in London, augmenting collision and casualty data with other information to support London boroughs</td>
<td>TfL / Boroughs</td>
<td>2013 onwards</td>
</tr>
<tr>
<td>L5</td>
<td>Collaborate with boroughs in view of the new Health and Wellbeing Boards to achieve more effective outcomes in terms of public health via improved road safety.</td>
<td>TfL / Boroughs</td>
<td>Autumn 2012</td>
</tr>
<tr>
<td>L6</td>
<td>Expand work with the London criminal justice system, Coroner's and Magistrates to better understand the impact of penalties and recidivism and what action TfL can take to help</td>
<td>TfL / CJS / Courts</td>
<td>Initial meetings Winter 2012</td>
</tr>
<tr>
<td>Action Reference</td>
<td>Action</td>
<td>Key Stakeholders</td>
<td>Timeframe</td>
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<tr>
<td>L7</td>
<td>Continue to work with Non-Government Organisations as representatives of Londoners and their views</td>
<td>TfL / NGOs</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on working in partnership, almost all other actions require collaborative working with partners.
Generating knowledge and communicating good practice

In many cases road safety practitioners have the knowledge to identify where action is needed to reduce casualties on the roads, and what those actions are. We identify high risk locations and intervene with engineering solutions. We identify illegal and high risk behaviours and intervene with enforcement and training. We identify vulnerable groups and intervene with education and publicity. In some cases, however, there is insufficient understanding of the problem and appropriate responses to it have yet to be identified.

A good record in casualty reduction over recent years has been largely delivered through applying known solutions to readily identifiable problems. Application of these tried and tested methods, whilst still central to TfL’s activities, can be expected to yield fewer casualty reductions in the future. This means that today TfL and other road safety stakeholders need to identify new and innovative ways of improving road user safety.

Part of this involves creating knowledge from the data available and looking harder at the circumstances around a collision to understand where action could have been taken to prevent it, or reduce its severity. Then consideration needs to be given to the tried and tested approaches to understand why they may not have worked, considering how to adapt them, or whether to replace them with a different, perhaps previously untried, approach.

There are a number of steps to this process. Focus needs to be on the higher risk locations, road user groups or behaviours. As part of this, TfL proposes to prioritise its efforts in research and knowledge generation towards vulnerable groups, high risk behaviours and groups with large number of casualties. Research to understand the reasons why these are higher risk will lead to an understanding of what different actions are needed and what potential solutions to reduce the risks might be. New approaches that show potential for London need to be trialled, and their effectiveness evaluated.

When ways of working differently have been identified, the reach of successful new approaches can be extended by applying them more widely and sharing this knowledge to enable others.

Using collision and casualty data

To make sure resources are invested efficiently, evidence based policies need to be brought forward that are evidence-based. Building this evidence relies on the interrogation of a wide variety of data sources, information and intelligence. Probably the most important data source is the Stats 19 data, held by TfL in the ACCSTATS system. The ACCSTATS system is the database and data retrieval system containing information on collisions and casualties from personal injury road traffic collisions in the Greater London area. The data on these collisions is reported to the
MPS and CoLP in accordance with the national reporting system set by the DfT. TfL manages the ACCSTATS system and reports annually on trends in collisions and casualties.

Data from the ACCSTATS system provides information to support and help target road safety initiatives to reduce collisions and casualties across London. Examples include:

- **Highway scheme development**: Both TfL and the boroughs use ACCSTATS data to prioritise, support and inform their programmes of engineering, education and enforcement interventions

- **Analysis**: Collision and casualty data from the ACCSTATS system is used to inform research, which helps to shape the development of policy and Mayoral initiatives

- **Road safety related research**: In addition to analysis of collision and casualty data, research also supports and informs policy, particularly in the development and trial of innovative schemes, many of which are Mayoral priorities

- **Casualty monitoring & reporting**: The ACCSTATS system is the key data source for reporting progress towards the Mayor’s casualty reduction targets for London. The system includes information from the Traffic Accident Diary System (TADS), which provides casualty and collision data from before and after highway interventions to monitor their effectiveness

Interrogating the data already available can also help us identify trends. For example, the data in the ACCSTATS system is being used more innovatively, by linking it with in-depth police fatal files and merging it with other data sets. Through doing this trends can be seen emerging in certain collision types – for example those involving slight injuries, and distraction.
Converting knowledge into action

Much of the analysis done using ACCSTATS is to understand the impact of road safety interventions. Through this, TfL can understand whether, and to what extent, actions taken have been effective in reducing casualties. Taking this further, TfL can use the data to make decisions about where to allocate future resources by comparing the casualty reduction impact and costs between different approaches in different sets of circumstances. This has significantly increased knowledge about 20 mph zones, safety cameras, speed indicator devices, levels of enforcement and many other types of interventions.

This knowledge is shared with stakeholders in London through TfL’s website and other channels. Going forward, TfL need to make sure this knowledge is more easily

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**Case Study: Slight casualties**

Whilst KSI casualties understandably have the highest profile and are the focus of many road safety interventions, slight casualties in London have increased in recent years – by seven per cent between 2008 and 2011. Preliminary analysis has been carried out to understand the recent increase and consider the factors which may have contributed to this.

Pedal cyclists saw the greatest numerical increase in slight casualties in 2011, and pedal cyclists and P2W riders experienced the greatest percentage increases over the past four years. There are likely to be specific factors for each road user group affecting the increase in slight injuries.

Vehicle safety improvements may have led to some casualties who would previously have been seriously injured, now being slightly injured. This could be related to the car scrappage scheme increasing the proportion of vehicles in London’s fleet that have enhanced safety features in vehicles.

Changes in individual reporting behaviour of collisions (e.g. people being more likely to report collisions) could be partly explained by the increase in personal injury claims. Severity ratios of collisions have declined over the period.

It is possible that an increased use of personal mobile phones and music equipment has led to an increase in the number of collisions involving people being distracted.

Slight collisions on roads covered with snow, frost or ice increased by 470 per cent from 2008 to 2010 (from 116 to 661), so the weather may
accessible to road safety practitioners through sharing of good practice. This will allow us, and other road safety organisations, to make more informed decisions about action, leading to more effective interventions and more efficient use of resources.

TfL will seek to build road safety expertise and knowledge in London as well as learning from international experience. TfL’s research programme will seek opportunities to use a wider variety of relevant data to undertake more insightful analysis focused on emerging issues. Research will be undertaken annually with a sample of the Stats 19 data to understand underlying risks and trends.

TfL will work with other organisations to implement specific programmes of knowledge generation to develop and intensify understanding and where further work is required, including:

- Car occupant safety
- Pedestrian safety
- Child safety
- Cyclist safety
- Powered two-wheeler user safety
- Tackling excessive or inappropriate speed
- Recent increases in slight casualties
- Uninsured / illegal driving / hit and run
- The links between dangerous driving and more serious criminality

The key actions that TfL proposes to take to generate knowledge and communicate good practice are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Upskill London road safety practitioners via the development of a continuous professional development (CPD) programme including training, seminars and workshops, focused on improving the skills in the key areas in the Road Safety Action Plan</td>
<td>TfL / Boroughs</td>
<td>2013 onwards</td>
</tr>
<tr>
<td>M2</td>
<td>Learn from successful international approaches to casualty reduction. Invite international experts and leading practitioners to road safety seminars. Review what lies behind the success of 'best in class' cities</td>
<td>TfL</td>
<td>Early 2013</td>
</tr>
<tr>
<td>M3</td>
<td>Mobilise action at local level by bringing senior elected members together annually for a borough level review of progress, encouraging knowledge sharing, collective problem solving and best practice</td>
<td>TfL / Boroughs</td>
<td>June 2012 onwards</td>
</tr>
<tr>
<td>Action Reference</td>
<td>Action</td>
<td>Key Stakeholders</td>
<td>Timeframe</td>
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<tr>
<td>M4</td>
<td>Initiate new research to better understand the factors that increase road user risk and London’s roads seeking to design specific interventions targeting significant risks. E.g. distraction, close following, impairment. Undertake and publish research to understand recent trends in casualties. E.g. serious cycling casualties</td>
<td>TfL</td>
<td>Spring 2013 onwards</td>
</tr>
<tr>
<td>M5</td>
<td>Enhance understanding of road injury severity and reporting through research into public attitudes towards collision reporting, public perceptions of road safety and personal injury claims</td>
<td>TfL</td>
<td>Autumn 2012</td>
</tr>
<tr>
<td>M6</td>
<td>To ensure an insightful research programme, continue to work with the Police to drive improvements in Stats 19 data quality, which underpins the understanding of collisions in London</td>
<td>TfL / Police</td>
<td>Discussions ongoing</td>
</tr>
<tr>
<td>M7</td>
<td>Shed light on the causes of collisions resulting in fatal injuries to pedestrians and powered two-wheeler users in London by publishing new research by TRL undertaken for TfL. Use the research to guide road safety improvements, including the Pedestrian Safety Action Plan and Motorcycle Safety Action Plan</td>
<td>TfL</td>
<td>Summer 2012</td>
</tr>
<tr>
<td>M8</td>
<td>Undertake analysis of data across TfL’s traffic camera network to identify high risk locations and propose measures to increase safety</td>
<td>TfL</td>
<td>2013 onwards</td>
</tr>
</tbody>
</table>

Besides the actions primarily focused on knowledge described in the table, there are 15 other actions that contribute to knowledge. These are A2, B6, D3, E1, E3, F1, F3, J1, K2, K3, K4, L1, L2, L3, L4.
Delivering innovation

Tried and tested approaches still deliver improvements and are still central to TfL’s approach. However, going forward, these can be expected to yield fewer casualty reductions and new approaches will need to be tried. Some of the previous sections have identified the need to innovate to improve road safety in London. In fact, this is imperative if a falling trend in casualty numbers is to be continued.

Improvements to vehicle design and new technology developed by manufacturers have played a key role in reducing casualties and will continue to do so, driven by increasing consumer-awareness of vehicle crashworthiness and crash avoidance systems. It is vital that TfL work alongside manufacturers to support the design of new technologies and vehicle engineering solutions, acting as an advocate for London’s road users in technology development programmes. TfL needs to share collision data and other knowledge, so that any equipment designed to reduce risk focuses mainly on urban roads for drivers, pedestrians, cyclists and motorcycle riders.

Emerging technologies expected to play an increasingly important role include:

- Advanced emergency braking systems, particularly those linked to vulnerable road user detection systems
- Lane departure warnings, and blind spot warnings
- Technologies which had been largely car-based, such as advanced lighting and anti-lock braking systems adapted for the motorcycle fleet
- Improvements to HGV safety realised through changing their frontal shape, the use of active rear steering to improve manoeuvrability and stability, and systems to reduce wet weather spray
- Extending the required field of vision for HGVs by amending mirror standards
- Intelligent Transport Systems such as vehicle to vehicle and vehicle to infrastructure communication systems
- New approaches to modelling and evaluating road risks
- Improvements to helmet safety
- New personal protective equipment
- Winter tyre advances and enhanced fleet penetration

Besides vehicle manufacturers, many other organisations are playing a role in improving road safety through technology. For example, insurance companies and fleet operators use in-vehicle data recorders and driver performance feedback systems. TfL needs to work more closely with these other sectors and organisations to understand how more widespread use of effective new interventions can be achieved.
TfL will embrace new and emerging technologies and proactively consider how to bring them into wider use where the benefits for London road user safety can be demonstrated. TfL will also engage more with vehicle manufacturers and wider industry acting as an advocate for technologies of benefit to London’s road users. A digital speed limit map will be maintained and the potential applications of it, including an Intelligent Speed Adaptation trial in a suitable fleet considered. TfL will promote technology and trials. The safety camera network will be upgraded to digital cameras over the period of this Plan.

The key actions that TfL proposes to take to embrace emerging technologies and innovation are shown in the table below.

<table>
<thead>
<tr>
<th>Action Reference</th>
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<th>Timeframe</th>
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</thead>
<tbody>
<tr>
<td>N1</td>
<td>Identify the potential for casualty reduction by evaluating and trialling emerging road safety technologies with potential in London, e.g. Lane departure warning systems, black box technologies, in-vehicle driver performance feedback systems, in-motion tyre-tread depth measurement</td>
<td>TfL / Stakeholders</td>
<td>Trials when appropriate</td>
</tr>
<tr>
<td>N2</td>
<td>Work with vehicle manufactures to understand their technology programmes and lobby for improvements that could improve safety in urban conditions</td>
<td>TfL</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>N3</td>
<td>Make available the new digital speed limit map for London via the London Data Store to ensure that cutting-edge technology including Intelligent Speed Adaptation systems can operate effectively in London.</td>
<td>TfL</td>
<td>Throughout Plan lifetime</td>
</tr>
<tr>
<td>N4</td>
<td>Seek to develop and roll out Split Cycle Offset Optimisation Technique (SCOOT) for pedestrians and cyclists</td>
<td>TfL</td>
<td>2014</td>
</tr>
<tr>
<td>N5</td>
<td>Roll out blindspot safety mirrors at 100 locations on the Barclays Cycle Superhighway and the TLRN</td>
<td>TfL</td>
<td>Spring 2013</td>
</tr>
<tr>
<td>N6</td>
<td>Work with the boroughs to make optimum use of new engineering and traffic management approaches to manage speeds in line with the new, more flexible guidance from the Department for Transport</td>
<td>TfL / Boroughs</td>
<td>2012 onwards</td>
</tr>
<tr>
<td>N7</td>
<td>Lobby the Department for Transport on the Traffic Signs Regulations and General Direction (TSRGD) forthcoming revisions, encouraging allowances for, and promoting trials of, innovative solutions</td>
<td>TfL / DfT</td>
<td>As required</td>
</tr>
<tr>
<td>N8</td>
<td>Push for the Department for Transport to include in the Road Vehicles (Construction and Use) Regulations 1986 the requirement that all vehicles are to be fitted with approved close proximity sensors, additional visual aids to cover blindspots not solved by mirrors and a system to alert drivers of someone / something in their blindspot</td>
<td>TfL</td>
<td>2013</td>
</tr>
<tr>
<td>N9</td>
<td>Lobby the European Commission for the inclusion of the following in its 'Whole vehicle type approval': all new tippers and skip lorries to be fitted with side guards; all new N and M type vehicles to be required to have close</td>
<td>TfL</td>
<td>Initial meetings Summer 2012</td>
</tr>
</tbody>
</table>
Besides the actions primarily focused on innovation described in the table, there are 10 other actions that contribute to innovation. These are B1, E2, F5, G2, G3, G4, I2, L3, L4, M8.

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>proximity sensors, visual aids and audible devices. Lobby the EC to amend directive 2007/38/EC to ensure that it includes retrofitting of Class VI front mirrors on vehicles over 7.5 tonnes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8 HEARING STAKEHOLDER’S VIEWS

TfL is keen to gather stakeholder’s views on the proposed approach and actions set out in this consultation document. TfL looks forward to incorporating views received into the final version of the new Road Safety Action Plan for London. This is why stakeholder’s input on specific aspects of the document, and views on what works and what does not, are being sought. A series of questions are set out below, although respondents are encouraged to comment on any element of the consultation document.

Consultation questions

1. To what extent do you think this consultation document reflects the road safety challenges currently experienced in London?

2. How well does this consultation document set the balance between the needs of all of London’s road users?

3. Are the problems facing vulnerable road users (pedestrians, pedal cyclists and powered two-wheeler riders) addressed sufficiently?

4. What is your view on a London-wide casualty reduction target?

5. Are there any road safety issues which you feel are not adequately addressed in this consultation document? What are they and how should TfL address them?

6. Are there any groups / stakeholders who should be given stronger recognition in this consultation document?
Appendix 1: MTS and Road Safety

The following policies contained within the MTS relate to road safety:

<table>
<thead>
<tr>
<th>Policy 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Mayor through TfL, and working with the DfT, Network Rail, train operating companies, London boroughs and other stakeholders will expand the capacity and quality of public transport services, improve passenger comfort and customer satisfaction, reduce crowding, and improve road user satisfaction.</td>
</tr>
<tr>
<td>This policy is promoted by proposals in various sections within the Mayor’s Transport strategy including 5.16 Improving road safety.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy 17</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Mayor through TfL, and working with the DfT and other government agencies, the London boroughs, health authorities and other stakeholders, will promote healthy travel options such as walking and cycling.</td>
</tr>
<tr>
<td>This policy is taken forward by various proposals within the Mayor’s Transport Strategy including road safety proposal 68.</td>
</tr>
</tbody>
</table>

The following proposals from the MTS relate to road safety:

<table>
<thead>
<tr>
<th>Proposal 66</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Mayor through TfL will continue to monitor road safety schemes and publish road safety casualty reports and research.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposal 67</th>
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</thead>
<tbody>
<tr>
<td>The Mayor through TfL, and working with the London boroughs, police, DfT, and other stakeholders, will undertake public information and engagement to improve road user behaviours and reduce the risk of collisions.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Proposal 68</th>
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</thead>
<tbody>
<tr>
<td>The Mayor through TfL, the police, and working with the DfT, London boroughs road freight operators and other stakeholders, will improve safety for cyclists in the vicinity of HGVs and other vehicles by</td>
</tr>
<tr>
<td>a) Encouraging the Government to amend legislation and remove the current exemption for HGVs being fitted with side guard protection;</td>
</tr>
<tr>
<td>b) Working to increase the number of HGVs with side guards or fitted with electronic warning devices that detect cyclists;</td>
</tr>
<tr>
<td>c) Raising awareness among drivers of the safety benefits of advance stop line areas.</td>
</tr>
</tbody>
</table>
Appendix 2: Casualty Monitoring 1990 to 2010

Each of the following casualty monitoring charts shows London’s long-term casualty trends for the target categories and gives the following information:

- An upper horizontal line showing the average number of casualties between 1994 and 1998 i.e. the base period against which the target reductions are measured with a lower horizontal line showing the target casualty level to be achieved by the year 2010 for the national or London target as appropriate.

- The number of casualties for each year from 1990 to 2010. Data for years prior to 1994 is shown to provide an indication of the casualty trend prior to the base period.

- To provide a simple visual indication as to whether the casualty category is performing better or worse than necessary to meet the target there is a diagonal line between the 1994-8 average line in 1998 (i.e. the end of the base period) and the target line in the year 2010.

- A note of the percentage change in casualties recorded by the end of the latest year (2010) compared with the 1994-8 average.

- An arrow showing the percentage reduction to be achieved for the particular casualty category by the year 2010 compared with the 1994-8 average.

- Where appropriate a grey line to compare modal usage with casualties.
All killed or seriously injured casualties in London (London target)

Figure 17 shows that by the end of 2010, all KSIIs had shown a decrease of 57 per cent below the 1994-8 average, thus exceeding the revised target of a 50 per cent reduction.

Following a steady decrease in KSI casualties in the early 1990s, numbers rose slightly to a peak of around 7,000 in 1997. There was a decrease in the following two years to a low point in 1999, after which there was a small increase in the year 2000. The number remained very similar in 2001 before decreasing in each of the four years to 2005. The increase in 2006 was the first recorded since 2001, but there followed decreases in each year between 2007 and 2010.

The 2,886 casualties killed or seriously injured accounted for 10 per cent of the total number of casualties (28,889) in 2010. Out of these, 1,995 KSI casualties (69 per cent) were people external to vehicles (pedestrians, pedal cyclists and powered two-wheeler users).
Pedestrian killed or seriously injured casualties

By 2010, pedestrian KSI casualties were 57 per cent below the 1994-8 average level, thus exceeding the revised 50 per cent reduction target.

Figure 18 shows that since the early 1990s there has been a generally steady reduction in pedestrian KSI casualties to 2005, but an increase of 6 per cent was recorded in 2006, followed by decreases again in the following four years. (The grey line, by comparison, shows average daily pedestrian trip stages in millions on the right side axis, Travel in London 4, TfL)

Pedestrians accounted for 913 (32 per cent) of the total of 2,886 KSI casualties during 2010.

Figure 18: Pedestrian killed or seriously injured casualties
All child killed or seriously injured casualties

Figure 19 shows that by the end of the year 2010, child KSI casualties were 73 per cent below the average for 1994-8, and exceeded both the original 50 per cent and revised 60 per cent reduction targets.

In the early 1990s there was a steady decline to 1993, but between then and 1998, they remained at about the same level. Since 1998, they have decreased each year except for a small increase in 2006. However, a decrease of 5 per cent in 2010 meant that they were at their lowest level since records began.

Children accounted for 250 (9 per cent) of the total of 2,886 KSI casualties in London during 2010.

Figure 19: All child killed or seriously injured casualties
Powered two-wheeler user killed or seriously injured casualties

By 2010, powered two-wheeler user KSI casualties were 34 per cent below the 1994-8 average following a 13 per cent decrease in 2010. This is only the seventh year that they have been below the 1994-8 average since the current targets were set. Despite good progress since 2001 (from a level considerably above the 1994-8 average base line), the original target has not been met.

Figure 20 shows that in the early 1990s, powered two-wheeler KSI casualties showed a steady decrease, reaching a low point of 849 in 1995. Since then, there was an increase in each year until a peak in 2001, followed by a subsequent decrease for each of the last nine years. By 2010, powered two-wheeler KSIs were at their lowest recorded level. (The grey line, by comparison, shows powered two-wheeler vehicle kilometres in millions on the right side axis, DfT series)

Powered two-wheeler users accounted for 615 (21 per cent) of the total of 2,886 KSI casualties during 2010.

Despite considerable increases in ownership and use of powered-two-wheelers, they still account for only about 2-3 per cent of travel in London in terms of vehicle kilometres.

Figure 20: Powered two-wheeler killed or seriously injured casualties
Pedal cyclist killed or seriously injured casualties

Pedal cyclist KSI casualties were 18 per cent below the 1994-8 average, after an increase of 8 per cent in 2010.

Figure 21 shows that in the period since 1990, pedal cyclist KSI casualties have fluctuated substantially, possibly due to their relatively smaller numbers. From a high point of 650 in 1991, they decreased to just over 500 in 1994. Following that, they increased to a further peak of 614 in 1998, since when there have been a generally downward trend until the increases observed in the three years from 2005 to 2007. Following decreases of 3 per cent in both 2008 and 2009 an 8 per cent increase has been recorded in 2010. (The grey line, by comparison, shows average daily pedal cycle trip stages in millions on the right side axis, Travel in London 4, TfL)

Pedal cyclists accounted for 467 (16 per cent) of the total of 2,886 KSI casualties during 2010.

Despite general increases in cycling usage, particularly in central and inner London, pedal cyclists still accounts for only about 2 per cent of travel in London.

Figure 21: Pedal cyclist killed or seriously injured casualties
All slight injured casualties

By 2010, slight casualties were 33 per cent below the 1994-8 average, and again exceeded both the original and revised target reductions.

Figure 22 shows that between 1991 and 2000, there was relatively little change in the numbers of slightly injured casualties. Between 2000 and 2007 there was a steady decrease, in 2008 there was no change and in 2009 an increase of 1 per cent followed by a further increase of 5 per cent in 2010 which means that they are now 33 per cent below the 1994-8 average.

In 2010, 26,003 slight casualties made up 90 per cent of the total of 28,889 casualties in London.

Figure 22: All slight injured casualties
## Appendix 3: The Actions

### Pedestrians

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
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</thead>
<tbody>
<tr>
<td>A1</td>
<td>Work with key stakeholders to develop and agree a Pedestrian Safety Action Plan for London</td>
<td>TFL / Stakeholders</td>
<td>By end 2012</td>
</tr>
<tr>
<td>A2</td>
<td>Monitor any collisions at sites where Pedestrian Guard Rail (PGR) has been removed and use data to inform future decision-making</td>
<td>TFL</td>
<td>Underway, ongoing</td>
</tr>
<tr>
<td>A3</td>
<td>Roll out Pedestrian Countdown technology at around a further 200 locations across the Capital</td>
<td>TFL</td>
<td>Underway, ongoing</td>
</tr>
<tr>
<td>A4</td>
<td>In light of the new pedestrian fatalities research, undertake a programme of further research into pedestrian safety to inform the Pedestrian Safety Action Plan</td>
<td>TFL</td>
<td>Autumn 2012</td>
</tr>
<tr>
<td>A5</td>
<td>In light of research into pedestrian casualties, review TFL’s 'Pedestrian Comfort Guidance' principles and work to apply them to Local Implementation Plan funded and TLRN schemes</td>
<td>TFL</td>
<td>2013</td>
</tr>
</tbody>
</table>
### Cyclists

<table>
<thead>
<tr>
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<th>Key Stakeholders</th>
<th>Timeframe</th>
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<tbody>
<tr>
<td>B1</td>
<td>Drive further improvements in cycle safety in London by delivering all 52 actions in the Mayor’s Cycle Safety Action Plan</td>
<td>TfL / Stakeholders</td>
<td>Ongoing</td>
</tr>
<tr>
<td>B2</td>
<td>Maximise the impact of cycle training funding (delivered via LIPs), by providing a procurement framework for all London boroughs to use if they wish to deliver child and adult cycle training</td>
<td>TfL / Boroughs</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>B3</td>
<td>Revise the London Cycle Design Standards. Work to make their adoption a requirement of all Local Implementation Plan and TfL-funded schemes, and provide training to TfL and borough engineers</td>
<td>TfL / Boroughs</td>
<td>Ongoing review</td>
</tr>
<tr>
<td>B4</td>
<td>Work with the Department for Transport to ensure that the Bikeability training content and materials are correctly tailored towards London’s cyclists, including adult commuters, to encourage greater take-up</td>
<td>TfL DfT</td>
<td>Summer 2012</td>
</tr>
<tr>
<td>B5</td>
<td>Work with cycle manufacturers and retailers (such as the Cycle Retailers and Manufacturers Forum) to promote cycle safety directly to customers</td>
<td>TfL</td>
<td>Ongoing, through Cycling Retailers and Manufacturers Forum</td>
</tr>
<tr>
<td>B6</td>
<td>Publish the outcome of research reviewing the construction logistic sector’s transport activities in relation to its interaction with cyclists and take forward the recommendations of the report.</td>
<td>TfL</td>
<td>Autumn 2012</td>
</tr>
</tbody>
</table>
## Powered two-wheeler users

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
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</thead>
<tbody>
<tr>
<td>C1</td>
<td>Work with key stakeholders to develop and agree a Motorcycle Safety Action Plan for London</td>
<td>TFL / Stakeholders</td>
<td>By end 2012</td>
</tr>
<tr>
<td>C2</td>
<td>Support the Motorcycle Tasking Team in the Metropolitan Police which provides riding assessment days, education activities and targeted enforcement</td>
<td>TFL / Police</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>C3</td>
<td>Provide educational road safety initiatives for riders of powered two wheelers, such as ‘BikeSafe-London’ and ‘ScooterSafe-London’</td>
<td>TFL / Police</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>C4</td>
<td>Support safety-enhancing additions to the Compulsory Basic Training (CBT) and the motorcycle licence test by working with the Driving Standards Agency</td>
<td>TFL</td>
<td>Initial discussions Autumn 2012</td>
</tr>
</tbody>
</table>
## Children

<table>
<thead>
<tr>
<th>Action Reference</th>
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<th>Key Stakeholders</th>
<th>Timeframe</th>
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</thead>
<tbody>
<tr>
<td>D1</td>
<td>Ensure London pre-school children are road safety 'savvy' by continuing a comprehensive programme of engagement with nurseries, other childcare and health care providers, London boroughs, local education authorities, Children's Centres and Sure Starts</td>
<td>TfL / Boroughs</td>
<td>2012 onwards</td>
</tr>
<tr>
<td>D2</td>
<td>Work with boroughs to promote cycle training in schools via their Local Implementation Plans</td>
<td>TfL / Boroughs</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>D3</td>
<td>Work with teachers to expand the reach and impact of campaigns aimed at children's safety</td>
<td>TfL</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td>D4</td>
<td>Maximise the impact of collaborative activity by the public sector across London, by ensuring TfL road safety marketing materials are made freely available to London boroughs and that boroughs are briefed on forthcoming road safety campaigns</td>
<td>TfL</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
## Other road users

<table>
<thead>
<tr>
<th>Action Reference</th>
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<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Identify the key factors that influence the involvement of young car drivers in collisions in London and identify appropriate actions</td>
<td>TfL</td>
<td>Winter 2012</td>
</tr>
<tr>
<td>E2</td>
<td>Work with the Department for Transport to understand where further improvements to driver training, testing and licensing may contribute to improved safety</td>
<td>TfL / DfT</td>
<td>Initial meetings Autumn 2012</td>
</tr>
<tr>
<td>E3</td>
<td>Work with partners to improve bus and coach safety for bus and coach occupants and other road users. Organise ongoing safety workshops, discussions and support developing training programmes for bus operators. Learn lessons about the interaction between buses, passengers and vulnerable road user groups through a twice yearly forum between TfL and the Police</td>
<td>TfL / Bus operators</td>
<td>Spring 2013</td>
</tr>
<tr>
<td>Action Reference</td>
<td>Action</td>
<td>Key Stakeholders</td>
<td>Timeframe</td>
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<tr>
<td>F1</td>
<td>Identify ‘high risk’ locations on the TLRN annually to target resources and prioritise road safety engineering investment towards sites with above average collision numbers. Continue to ensure investment in areas where there are high numbers of collisions involving vulnerable road users.</td>
<td>TfL</td>
<td>Annually (May)</td>
</tr>
<tr>
<td>F2</td>
<td>Deliver the Better Junctions Review including delivering improvements at 50 junctions by the end of 2013</td>
<td>TfL</td>
<td>End 2013</td>
</tr>
<tr>
<td>F3</td>
<td>Enable boroughs to target road safety investment by providing information about high risk locations on their networks and encourage monitoring of schemes (using the Traffic Accident Diary System - TADS) to understand their impact.</td>
<td>TfL / Boroughs</td>
<td>Annually</td>
</tr>
<tr>
<td>F4</td>
<td>Ensure vulnerable road user safety is intrinsic to the design of new road infrastructure schemes. Ensure all TfL highway schemes are safe and contribute to improved road safety by annually reviewing TfL’s Road Safety Audit Procedure and updating to reflect best practice and national guidance.</td>
<td>TfL</td>
<td>As necessary</td>
</tr>
<tr>
<td>F5</td>
<td>Work to ensure road maintenance programmes secure safety benefits. Promote the use of ‘Report IT’ to encourage people to report maintenance issues on the network and ensure a close working partnership between TfL and borough maintenance teams.</td>
<td>TfL</td>
<td>2012 onwards</td>
</tr>
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</table>
## Increasing compliance with the law

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>G1</td>
<td>Maximise the safety impact of borough safety cameras by working with boroughs to review their safety camera network, advising on the optimum approach in terms of future management. Work with the Police to ensure more effective enforcement of cameras is used to target those areas with KSI problems</td>
<td>TfL / Boroughs / CSEP / Police</td>
<td>Ongoing</td>
</tr>
<tr>
<td>G2</td>
<td>Support the installation of 20mph zones and speed limits on borough roads where appropriate and in keeping with the wider functions of the local road network. Explore the potential of joint working in sub-regions by boroughs regarding the installation of safety cameras, including 20mph average speed cameras, to make them more affordable and effective in reducing casualties</td>
<td>TfL / CSEP / Police / Boroughs</td>
<td>2012 onwards</td>
</tr>
<tr>
<td>G3</td>
<td>Work with central government and the police to amend legislation such that speed awareness courses can be offered to drivers as an alternative to prosecution for exceeding a 20mph speed limit to reduce reoffending by drivers</td>
<td>TfL / DfT / Police</td>
<td>2012 onwards</td>
</tr>
<tr>
<td>G4</td>
<td>Maximise the effectiveness of London’s safety camera network via a major programme to replace all aging ‘wet film’ safety cameras with modern digital technology, in partnership with the London boroughs</td>
<td>TfL / Boroughs / CSEP / Police</td>
<td>Ongoing</td>
</tr>
<tr>
<td>G5</td>
<td>Crack down on illegal and antisocial road user behaviour via the work of the cycle taskforce and other traffic enforcement activities</td>
<td>TfL / CSEP / Police</td>
<td>Ongoing</td>
</tr>
<tr>
<td>G6</td>
<td>Collaborate with the Police to ensure maximum casualty reduction through sharing of information leading to targeted enforcement</td>
<td>TfL / CSEP / Police</td>
<td>Ongoing</td>
</tr>
<tr>
<td>G7</td>
<td>Work with the Police to explore further the links between dangerous and antisocial driving and more serious criminality and the benefits of further joint working to tackle both issues. Build on the successes of operation FOIST to tackle uninsured and unlicensed driving</td>
<td>TfL / Police</td>
<td>2012 onwards</td>
</tr>
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</table>
### Behaviours

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<tr>
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</thead>
<tbody>
<tr>
<td>H1</td>
<td>Target vulnerable road users and high risk behaviours with campaigns and information to drive awareness of the main causes of collisions and to provide advice on travelling safely. E.g. powered two-wheeler users, children, pedestrians, cyclists, young drivers, speeding. Use new data sources to inform campaign design and implementation. e.g. crime mapping, MOSAIC data</td>
<td>TfL</td>
<td>Throughout Plan period</td>
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</table>
# Work-related road safety

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<th>Key Stakeholders</th>
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<tr>
<td>I1</td>
<td>Work with the Freight Transport Association (FTA), Road Haulage Association (RHA), Confederation of Passenger Transport (CPT), Coach Guild and Coach Marque to promote and encourage wider uptake of the Fleet Operator Recognition Scheme (FORS) to deliver training and messages on cycle and pedestrian safety for all fleet operators in London. Work to accelerate all members’ status to higher levels (Gold and Silver) to drive safety improvements, including among small and medium enterprises</td>
<td>TFL / Stakeholders</td>
<td>Throughout 2012 and 2013</td>
</tr>
<tr>
<td>I2</td>
<td>Reduce dangers to vulnerable road users posed by heavy vehicles by pushing for the inclusion of a mandatory safety element in the Driver Certificate of Professional Competence (DCPC) covering vehicle roadworthiness, mirror alignment and blindspots indications (aligning this with the CPC Safer Urban Driving and CPC Safer London Driving Courses)</td>
<td>TFL</td>
<td>Initial meetings Summer 2012</td>
</tr>
<tr>
<td>I3</td>
<td>Push for full adoption of Directives 2009/113/EC and 2006/126/EC regarding eyesight requirements for Group 1 and Group 2 drivers to reduce risks associated with driving for work by improving driver fitness through regular medicals conducted throughout a driver’s career, including eyesight and driver fatigue checks</td>
<td>TFL</td>
<td>Initial meetings Summer 2012</td>
</tr>
<tr>
<td>I4</td>
<td>Working closely with the fleet and freight industries, review the Fleet Operator Recognition Scheme (FORS) seeking improvements to ensure safety standards are as high as they should be</td>
<td>TFL / Stakeholders</td>
<td>Ongoing</td>
</tr>
<tr>
<td>I5</td>
<td>The Mayor or TfL’s Commissioner to write to developers and other operators of goods vehicles using London’s roads requesting that they sign up to at least bronze level Fleet Operator Recognition Scheme safety standards and that they use procurement and planning procedures to drive further safety improvements. e.g. those pioneered by TfL and Crossrail</td>
<td>GLA / TfL</td>
<td>2013</td>
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## Injury inequality

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</thead>
<tbody>
<tr>
<td>J1</td>
<td>Develop an evidence base leading to specific targeted interventions designed to tackle injury inequality, e.g. due to ethnic group or deprivation</td>
<td>TfL</td>
<td>Summer 2013</td>
</tr>
<tr>
<td>J2</td>
<td>Continue the work of the Safety &amp; Citizenship team (SCT) at the London Transport Museum to reduce child casualties</td>
<td>TfL / Boroughs</td>
<td>2012 and ongoing</td>
</tr>
</tbody>
</table>
## Governance

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<tr>
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<th>Key Stakeholders</th>
<th>Timeframe</th>
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<tbody>
<tr>
<td>K1</td>
<td>Establish a new Road Safety Reference Board for London (RSRB). Through the RSRB, as well as through broader ongoing partnership working, London’s road safety stakeholders will input into to the development and implementation of road safety policies and help oversee continuous improvements in road safety in London</td>
<td>All</td>
<td>2012 for establishment, ongoing for secretariat role</td>
</tr>
<tr>
<td>K2</td>
<td>Drive forward best practice and knowledge sharing through, amongst other approaches, an annual London road safety conference for boroughs, TfL and other stakeholders</td>
<td>TfL / Boroughs</td>
<td>Annually</td>
</tr>
<tr>
<td>K3</td>
<td>Account for progress in casualty and collision changes in London annually via a Road Safety Annual Report to include pedestrian, pedal cycle, powered two wheeler and child collision and other casualty data</td>
<td>TfL</td>
<td>Annually (May)</td>
</tr>
<tr>
<td>K4</td>
<td>Benchmark London’s road safety performance nationally and internationally, looking at collisions and trends and reporting on this via the Annual Report</td>
<td>TfL</td>
<td>Annually (May)</td>
</tr>
<tr>
<td>Action Reference</td>
<td>Action</td>
<td>Key Stakeholders</td>
<td>Timeframe</td>
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<tr>
<td>L1</td>
<td>Maximise harm reduction by working with other public agencies involved with road safety (e.g. London Ambulance Service, London Fire Brigade, Metropolitan Police Service) to develop common best practice in the use of data and the deployment of resources</td>
<td>TFL / Stakeholders</td>
<td>Initial meetings Autumn 2012</td>
</tr>
<tr>
<td>L2</td>
<td>Realise joint casualty reduction objectives with National Health Service (NHS) trusts in London through improved sharing of information. E.g. greater understanding of injuries associated with collisions</td>
<td>TFL / LAS</td>
<td>Initial meetings Autumn 2012</td>
</tr>
<tr>
<td>L3</td>
<td>Initiate closer working with the insurance industry, including the Association of British Insurers (ABI) to share data, carry out technology trials and gain a better understanding of the collision risks of uninsured vehicles</td>
<td>TFL / ABI</td>
<td>Initial meetings Autumn 2012</td>
</tr>
<tr>
<td>L4</td>
<td>Develop new approaches to monitoring road risk and road safety performance in London, augmenting collision and casualty data with other information to support London boroughs</td>
<td>TFL / Boroughs</td>
<td>2013 onwards</td>
</tr>
<tr>
<td>L5</td>
<td>Collaborate with boroughs in view of the new Health and Wellbeing Boards to achieve more effective outcomes in terms of public health via improved road safety.</td>
<td>TFL / Boroughs</td>
<td>Autumn 2012</td>
</tr>
<tr>
<td>L6</td>
<td>Expand work with the London criminal justice system, Coroners and Magistrates to better understand the impact of penalties and recidivism and what action TfL can take to help</td>
<td>TFL / CJS / Courts</td>
<td>Initial meetings Winter 2012</td>
</tr>
<tr>
<td>L7</td>
<td>Continue to work with Non-Government Organisations as representatives of Londoners and their views</td>
<td>TFL / NGOs</td>
<td>Ongoing</td>
</tr>
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</table>
### Generating knowledge and communicating good practice

<table>
<thead>
<tr>
<th>Action Reference</th>
<th>Action</th>
<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Upskill London road safety practitioners via the development of a continuous professional development (CPD) programme including training, seminars and workshops, focused on improving the skills in the key areas in the Road Safety Action Plan</td>
<td>TfL / Boroughs</td>
<td>2013 onwards</td>
</tr>
<tr>
<td>M2</td>
<td>Learn from successful international approaches to casualty reduction. Invite international experts and leading practitioners to road safety seminars. Review what lies behind the success of 'best in class' cities</td>
<td>TfL</td>
<td>Early 2013</td>
</tr>
<tr>
<td>M3</td>
<td>Mobilise action at local level by bringing senior elected members together annually for a borough level review of progress, encouraging knowledge sharing, collective problem solving and best practice</td>
<td>TfL / Boroughs</td>
<td>June 2012 onwards</td>
</tr>
<tr>
<td>M4</td>
<td>Initiate new research to better understand the factors that increase road user risk and London’s roads seeking to design specific interventions targeting significant risks. E.g. distraction, close following, impairment. Undertake and publish research to understand recent trends in casualties. E.g. serious cycling casualties, slight casualties</td>
<td>TfL</td>
<td>Spring 2013 onwards</td>
</tr>
<tr>
<td>M5</td>
<td>Enhance understanding of road injury severity and reporting through research into public attitudes towards collision reporting, public perceptions of road safety and personal injury claims</td>
<td>TfL</td>
<td>Autumn 2012</td>
</tr>
<tr>
<td>M6</td>
<td>To ensure an insightful research programme, continue to work with the Police to drive improvements in Stats 19 data quality, which underpins the understanding of collisions in London</td>
<td>TfL / Police</td>
<td>Discussions ongoing</td>
</tr>
<tr>
<td>M7</td>
<td>Shed light on the causes of collisions resulting in fatal injuries to pedestrians and powered two-wheeler users in London by publishing new research by TRL undertaken for TfL. Use the research to guide road safety improvements, including the Pedestrian Safety Action Plan and Motorcycle Safety Action Plan</td>
<td>TfL</td>
<td>Summer 2012</td>
</tr>
<tr>
<td>M8</td>
<td>Undertake analysis of data across TfL’s traffic camera network to identify high risk locations and propose measures to increase safety</td>
<td>TfL</td>
<td>2013 onwards</td>
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</tbody>
</table>
## Delivering innovation

<table>
<thead>
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<th>Key Stakeholders</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N1</strong></td>
<td>Identify the potential for casualty reduction by evaluating and trialling emerging road safety technologies with potential in London. e.g. Lane departure warning systems, black box technologies, in-vehicle driver performance feedback systems, in-motion tyre-tread depth measurement</td>
<td>TFL / Stakeholders</td>
<td>Trials when appropriate</td>
</tr>
<tr>
<td><strong>N2</strong></td>
<td>Work with vehicle manufacturers to understand their technology programmes and lobby for improvements that could improve safety in urban conditions</td>
<td>TFL</td>
<td>2012 and ongoing</td>
</tr>
<tr>
<td><strong>N3</strong></td>
<td>Make available the new digital speed limit map for London via the London Data Store to ensure that cutting-edge technology including Intelligent Speed Adaptation systems can operate effectively in London.</td>
<td>TFL</td>
<td>Throughout Plan lifetime</td>
</tr>
<tr>
<td><strong>N4</strong></td>
<td>Seek to develop and roll out Split Cycle Offset Optimisation Technique (SCOOT) for pedestrians and cyclists</td>
<td>TFL</td>
<td>2014</td>
</tr>
<tr>
<td><strong>N5</strong></td>
<td>Roll out blindspot safety mirrors at 100 locations on the Barclays Cycle Superhighway and the TLRN</td>
<td>TFL</td>
<td>Spring 2013</td>
</tr>
<tr>
<td><strong>N6</strong></td>
<td>Work with the boroughs to make optimum use of new engineering and traffic management approaches to manage speeds in line with the new, more flexible guidance from the Department for Transport</td>
<td>TFL / Boroughs</td>
<td>2012 onwards</td>
</tr>
<tr>
<td><strong>N7</strong></td>
<td>Lobby the Department for Transport on the Traffic Signs Regulations and General Direction (TSRGD) forthcoming revisions, encouraging allowances for, and promoting trials of, innovative solutions</td>
<td>TFL / DfT</td>
<td>As required</td>
</tr>
<tr>
<td><strong>N8</strong></td>
<td>Push for the Department for Transport to include in the Road Vehicles (Construction and Use) Regulations 1986 the requirement that all vehicles are to be fitted with approved close proximity sensors, additional visual aids to cover blindspots not solved by mirrors and a system to alert drivers of someone / something in their blindspot</td>
<td>TFL</td>
<td>2013</td>
</tr>
<tr>
<td><strong>N9</strong></td>
<td>Lobby the European Commission for the inclusion of the following in its 'Whole vehicle type approval': all new tippers and skip lorries to be fitted with side guards; all new N and M type vehicles to be required to have close proximity sensors, visual aids and audible devices. Lobby the EC to amend directive 2007/38/EC to ensure that it includes retrofitting of Class VI front mirrors on vehicles over 7.5 tonnes</td>
<td>TFL</td>
<td>Initial meetings Summer 2012</td>
</tr>
</tbody>
</table>