

**ALL PARTY PARLIAMENTARY CYCLING GROUP INQUIRY:
 "GET BRITAIN CYCLING"**

1 INTRODUCTION

1.1 RoSPA is a registered charity that promotes accident prevention in all areas of life - on the roads, at work, in the home, in schools, at leisure and on or near water. Our mission is to save lives and reduce injury. We welcome the All Party Parliamentary Cycling Group's Inquiry and are grateful for the opportunity to submit evidence. Improving pedal cyclist safety has been a key issue for RoSPA throughout most of our history (the first Cycling Proficiency Test took place at RoSPA's Road Safety Congress in 1947) and has continued to this day.

1.2 Every year in this country around 19,000 cyclists are killed or injured in reported road accidents, including around 3,000 who are killed or seriously injured.

Cyclist Casualties, 2011¹

Killed	107
Seriously Injured	3,085
Slightly Injured	16,023
Total	19,215

1.3 However, these figures only include cyclist road casualties that were reported to the police. Many are not reported, even when the cyclist is injured badly enough to be taken to hospital. Three times more cyclists are admitted to hospital in England than are recorded as serious casualties in the police Stats19 data (for child cyclists, it is nine times more).²

1.4 The number of cyclists killed and injured on Britain's roads has fluctuated over the last decade, which may be partly due to changes in the amount of cycling.

Reported Cyclist Casualties, Great Britain, 2001 - 2011¹

Year	Killed	KSI	All	Fatality Rate*
2001	138	2,678	19,114	33
2002	130	2,540	17,107	30
2003	114	2,411	17,033	26
2004	134	2,308	16,648	33
2005	148	2,360	16,561	34
2006	146	2,442	16,196	32
2007	136	2,564	16,195	33
2008	115	2,565	16,297	25
2009	104	2,710	17,064	22
2010	111	2,771	17,185	23
2011	107	3,192	19,215	22

1.5 Despite the risks, there are substantial benefits for individuals and society to be gained from increased cycling. For individuals who cycle rather than drive, the wider health benefits generally outweigh the injury costs. However, history has also shown that when there is more travel by bicycle, there are more cyclist fatalities, despite a lower risk per cyclist. However, injuries are, largely, predictable and controllable and, by doing so, greater overall health benefits can be achieved from cycling.

* Rate per billion vehicle kilometres (Table RAS30013, Reported Road Casualties Great Britain 2011)

2 CYCLIST ACCIDENTS AND CASUALTIES

2.1 Summary of Cyclist Accidents^{3,4}

- Around 75% of fatal or serious cyclist accidents occur in urban areas, where most cycling takes place, but about half of cyclist deaths occur on rural roads
- Most (75%) of cycling accidents happen at, or near, a road junction, with roundabouts being particularly dangerous junctions for cyclists
- The severity of injuries suffered by cyclists increases with the speed limit; riders are more likely to suffer serious or fatal injuries on higher speed roads
- Most (80%) of cycling accidents occur in daylight, but they are more likely to be fatal in the dark
- More cycle accidents occur in Spring and Summer than Autumn and Winter, but the casualty rate is higher over the Autumn and Winter
- Most (80%) of cyclist casualties are male
- Almost one quarter of the cyclists killed or injured are children
- Accidents involving child cyclists are often the result of the child playing, doing tricks, riding too fast or losing control; teenage and adult cyclists' accidents are more likely to involve collisions with motor vehicles
- About 16% of fatal or serious cyclist accidents reported to the police do not involve a collision with another vehicle
- In collisions involving a bicycle and another vehicle, the most common contributory factor attributed to the driver is 'failed to look properly', especially at junctions (57% of serious collisions)
- Other common factors attributed to drivers are 'poor turn/manoeuvre' (in 17% of serious accidents involving a cyclist) and 'careless, reckless, in a hurry' (17%)
- Cyclists are more likely to suffer serious injuries when a driver is judged to be 'impaired by alcohol', exceeding the speed limit' or 'travelling too fast for the conditions'
- 'Failed to look properly' was also the most common contributory attributed to the cyclist (43% of serious collisions at junctions)
- The second most common one was 'cyclist entering the road from the pavement' (about 20% of serious collisions; over one third for child cyclists)
- The most common vehicle involved in collisions with cyclists is a car or taxi, with the rider usually being hit by the front of the vehicle. In a quarter of fatal cyclist accidents, the front of the vehicle hit the rear of the bicycle
- HGVs present a particular danger for cyclists, especially in London where around 20% of cyclist fatalities involve an HGV; they often occur when an HGV is turning left at a junction
- About one quarter of accidents resulting in serious injury to a cyclist involved an HGV, bus or coach 'passing too close' to the rider
- Limb injuries are common in cyclist casualties, with over 40% suffering arm injuries and around 25% suffering leg injuries
- Chest and abdomen injuries occur much less frequently (5%), but are often serious.
- Head injuries, ranging from fatal skull fractures and brain damage to minor concussion and cuts, are very common injuries to cyclists. Hospital data shows that over 40% of cyclists, and 45% of child cyclists, suffer head injuries

2.2 The remainder of RoSPA's submission summaries the main approaches that we believe are required to improve cyclists' safety, which is fundamental to encouraging more people to cycle more often.

3 STRATEGIC APPROACH

- 3.1 The previous Government's consultation on their proposed road safety strategy⁵ included a proposed target of reducing the rate of death and serious injuries per km travelled for cyclists by 50% by 2020. RoSPA supported this proposal. Road casualty reduction targets help to focus and motivate the work of policy makers and practitioners, set clear priorities, and ensure that resources are allocated. International evidence^{6,7,8} supports the case for casualty reduction targets.
- 3.2 There is much public health interest in cycling given its health benefits, as indicated by the Royal Society for Public Health and the Faculty of Public Health's recommendations for encouraging more cycling.⁹ There is a clear role for public health departments - and, in England, the forthcoming Health and Wellbeing Boards - to work closely with road safety departments in local authorities to help more people to cycle more often, more safely.
- 3.3 Assessing whether or not cycling safety is improving requires a rate-based measurement as well as measuring changes in the number of casualties, because more cycling may result in more cyclist casualties, but a reduction in the casualty rate per distance travelled. Therefore, it is important to have accurate data on the amount of cycling in both urban and rural areas. Once a critical level of cycling is reached, a 'safety in numbers' effect may be realised, whereby the accident rate decreases because infrastructure improvements have been made to accommodate their increased numbers, and drivers expect to see them virtually anywhere and adapt their driving accordingly. There is debate over whether an increase in cycling reduces the risk or whether less risky environments lead to more cycling.¹⁰
- 3.4 Another explanation for 'safety in numbers' is any accompanying change in the volume of travel by car. The amount of car traffic explains the total incidence of traffic injury¹¹ and several studies have also found that traffic volume is predictive of the number of cyclist injuries.^{12,13} Reducing traffic volume has the potential to improve cycle safety and road safety in general.
- 3.5 It is not inevitable that more cycling will lead to more cycling accidents. One study¹⁴ found that slightly more walking and cycling accompanied by the same decrease in car use was broadly safety neutral, but that a large shift from driving to walking or cycling could reduce accidents. Another suggested that replacing 10% of car trips shorter than 7.5 km by bicycle would be safety neutral.¹⁵
- 3.6 Cycle Safety Action Plans, such as the London Cycle Safety Action Plan¹⁶ and the Cycling Action Plan for Scotland,¹⁷ provide a strong framework for combining increased cycling with reduced cyclist casualties.
- 3.7 Injuries are not evenly distributed through society; the risk of being injured as a cyclist is greater for people from lower socio-economic groups, especially for child cyclists where there is a large difference in the risk of injury between the most and least affluent. A RoSPA review¹⁸ of the social determinants of injury found that the difference is most likely due to differences in the amount of road use by cycle, in the design of the physical environment and in the social environment. Addressing or mitigating these social determinants could help to reduce cyclist injuries. This could be done through road design, and the introduction of 20mph zones is effective at reducing inequalities, for example. Many of the approaches suggested by the Marmot Review¹⁹ to tackle health inequalities may also be beneficial.

4 SAFER CYCLING ENVIRONMENT

- 4.1 Generally, successful attempts to prevent injury have been based around changing the physical environment. In road safety, the Safe Systems approach, as advocated by the World Health Organisation, is an example of this. It is based on the understanding that injury is caused by an exchange of energy in quantities higher than human tolerance to it and that preventing or minimising the exchange of energy prevents injuries. The Safe Systems approach to road safety places human vulnerability to injury at the centre of road design, and proposes that roads and vehicles should be modified to prevent exchanges of energy which are likely to cause fatal injuries. It provides a good starting point for cycling safety, ensuring that measures to prevent injuries extend beyond trying to change individual behaviour, and include changing vehicles, roads and vehicle speeds.
- 4.2 Creating a coherent network that cyclists can use, separate from high-volume vehicle routes, leads to a safer infrastructure. This can be achieved by creating and linking quieter streets, and by developing routes alongside rivers and canals and through parks. Marked on-road bike lanes can lead to lower injury rates, although these must help cyclists safely negotiate junctions - usually the highest-risk points on the road network. Appropriate street lighting also prevents cyclist injuries.
- 4.3 Where vehicle and cycle traffic cannot be separated, a Safe System can be achieved by limiting traffic speeds. Countries which have adopted the Safe System typically set speed limits of around 20mph or 30km/h in these circumstances. This limit is chosen because the risk of fatal injury rises steeply at higher impact speeds.
- 4.4 Traffic speeds can be reduced by 20 mph schemes, which are well proven to significantly reduce casualties, especially amongst the most vulnerable road users: children, pedestrians and cyclists. RoSPA strongly supports the use of 20 mph zones as an effective means of reducing road casualties. 20 mph limits, without traffic calming, are being implemented in an increasing number of places because they are cheaper and quicker to introduce, and so can cover a wider area than 20 mph zones with traffic calming. The effects of introducing 20mph limits are generally positive, but as they are more recent than traffic-calmed 20 mph zones, there is still a need for long term evaluations of their effect. They can also be a step towards introducing more effective zones (with traffic calming) especially in locations where there is need to further reduce traffic speeds even after a 20 mph limit has been introduced.
- 4.5 Recent years have seen considerable investment in cycling (for example, the Cycling City and Towns Programme²⁰ and in London). It would be useful to assess how well the good practice developed with this investment is being adopted on a wider scale around the country and if it is not being adopted, what can be done to ensure that it is.
- 4.6 Although most cyclist casualties occur in urban areas, those that occur on rural roads are more likely to be serious or fatal. A specific review of the measures for protecting cyclists on rural roads would be very useful.

5 VEHICLE DESIGN

5.1 Intelligent Speed Adaptation (ISA) is a technology that enables the vehicle to "know" the speed limit of the road and either warns the driver if it is exceeded, or limit the vehicle's speed – the latter would have the greatest casualty reduction benefits. This has remarkable potential to reduce road casualties. The technology is currently available and is relatively low cost. However, there has been little progress on creating a digital map containing the speed limit of every road in the country which is required for the technology. RoSPA recommends that the government fund or commission the creation and maintenance of such a digital map

5.2 Vehicle design to protect occupants has improved vastly over the last 50 years. Changes to the front of vehicles to prevent injuries to vulnerable road users has been slower, although in recent years there have been improvements, including exterior airbags on some vehicles. The majority of these technologies are optimised for pedestrians, whereas the impact point of a cyclist's head tends to be further back

5.3 Cyclists and Large Vehicles

An issue that needs specific focus is cyclists being hit by large vehicles, especially when the vehicle is turning left at junctions. A considerable amount of good practice in the management of large vehicles and reducing the risk of HGV/cyclist collisions has been developed in London, especially with the Cross Rail project. RoSPA recommends that a review of these developments be published so that the lessons learned can be widely shared. RoSPA would also like to see 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.

6 DRIVERS

6.1 Several road safety measures which would be effective for preventing injuries to all road users should also be considered in the context of safer cycling.

6.2 Helping drivers not to speed

It needs to be easier for drivers to choose to drive at safe speeds. The over-riding principle of speed limit signing should be to ensure that the limit is as clear and obvious as possible; drivers should not be expected to work it out. Manufacturers could do more to help drivers by, for example, improving the design of speedometers and continuing to develop speed awareness technology.

6.3 Drink Driving

RoSPA was very disappointed by the Government's decision not to lower the drink drive limit nor to introduce wider powers for the police to breath test drivers as recommended in the North Report²¹. However, both Scotland and Northern Ireland are intending to lower the drink drive limits in their countries. RoSPA believes that this will provide further evidence (although not for a few years) to support the case for lowering the limit across the whole of the UK.

6.4 Careless Driving

The Department for Transport proposes to make minor careless driving a fixed penalty offence in order to increase the level of enforcement. RoSPA supports this proposal²² because it will increase the police's ability to enforce careless driving laws, and so increase the deterrent to careless driving. However, as with all road traffic laws, its ultimate effectiveness will depend upon sufficient numbers of roads police to implement it.

7 CYCLISTS

7.1 Although this response is focused primarily on creating safer environments for cycling, it is clearly essential that cyclists themselves play their part in reducing accidents and casualties, principally by riding in a responsible and considerate manner, and following the rules of the road, just as they expect motorists to do.

7.2 Cyclist Training

As a member of the DfT's Cycling Training Standards Board, RoSPA believes that practical cyclist training schemes to the National Standards for Cyclist Training are an important way to both help cyclists to stay safe and to encourage more cycling. We would like to see an evaluation of the effectiveness of these practical cyclist training schemes. Details of older research about the effectiveness of practical cyclist training are available in a RoSPA paper,²³ but there is little recent research.

7.3 There is a general lack of good evaluations of road safety education, training and publicity (ETP) interventions, partly because it is much more difficult to evaluate education interventions, than engineering ones, but also due to a lack of capacity within the road safety profession. To help address this, RoSPA and the Department for Transport, working with local authority representatives, developed www.roadsafetyevaluation.com, and E-valu-it, an interactive tool to help practitioners plan, conduct and publish evaluations of their road safety education interventions. This could be used to evaluate cycling safety interventions.

7.4 Cycle Helmets

RoSPA strongly recommends that all cyclists wear a cycle helmet, as they reduce the risk of suffering a serious head or brain injury in an accident. Of course, they do not prevent accidents, nor do they guarantee survival, but they do provide a last line of defence for the cyclist's head. However, RoSPA does not support calls for compulsory cycle helmet laws because current voluntary wearing rates are too low and it is not clear whether such a law might discourage some people from cycling, thereby losing the health and environmental benefits from cycling.

7 CONCLUSION

7.1 Great Britain has made considerable progress in reducing death and injury on our roads, with very substantial reductions in the last quarter of the previous decade. However, cyclist casualties have fluctuated over this period, and are significantly under-reported. The increase in cycling may result in more people being killed or injured on the road (even if the injury rate per distance travelled falls). Therefore, it is crucial to seek sustained and substantial improvements to the cycling environment, and to the behaviour of both drivers and riders.

7.2 A potentially significant and under developed area of road safety policy is in realising the benefits that could be achieved from reducing traffic volume. Increasing the amount of cycling can play a role in this, in the long term through urban design and ensuring that new developments are accessible by cycle, and in the short term through measures to encourage cycling for local journeys. However, any immediate growth in cycling has to be supported by safe environments, for which the Safe System approach provides a good model.

7.3 RoSPA thanks the AAPGCG for the opportunity to submit evidence.

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