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## 6. Road Safety

### **Objective 3 – Reduce casualties and the dangers associated with travel**

Road safety continues to be a core priority both nationally and locally reflecting the very high human and other costs of road accidents, valued at over £200 million per year in Oxfordshire.

### **Road Safety Policies**

- Policy RS1**                      **Once the national strategic framework for road safety has been announced, Oxfordshire County Council will develop an updated road safety strategy to reduce the number of road accident casualties, focusing on high risk locations and groups and promoting responsible use of the road and driver behaviour.**
- Policy RS2**                      **Oxfordshire County Council will seek to reduce the casualty rate of motorcyclists by working closely with interested groups to encourage more responsible motorcycling.**

### **The Nature and Type of Accidents**

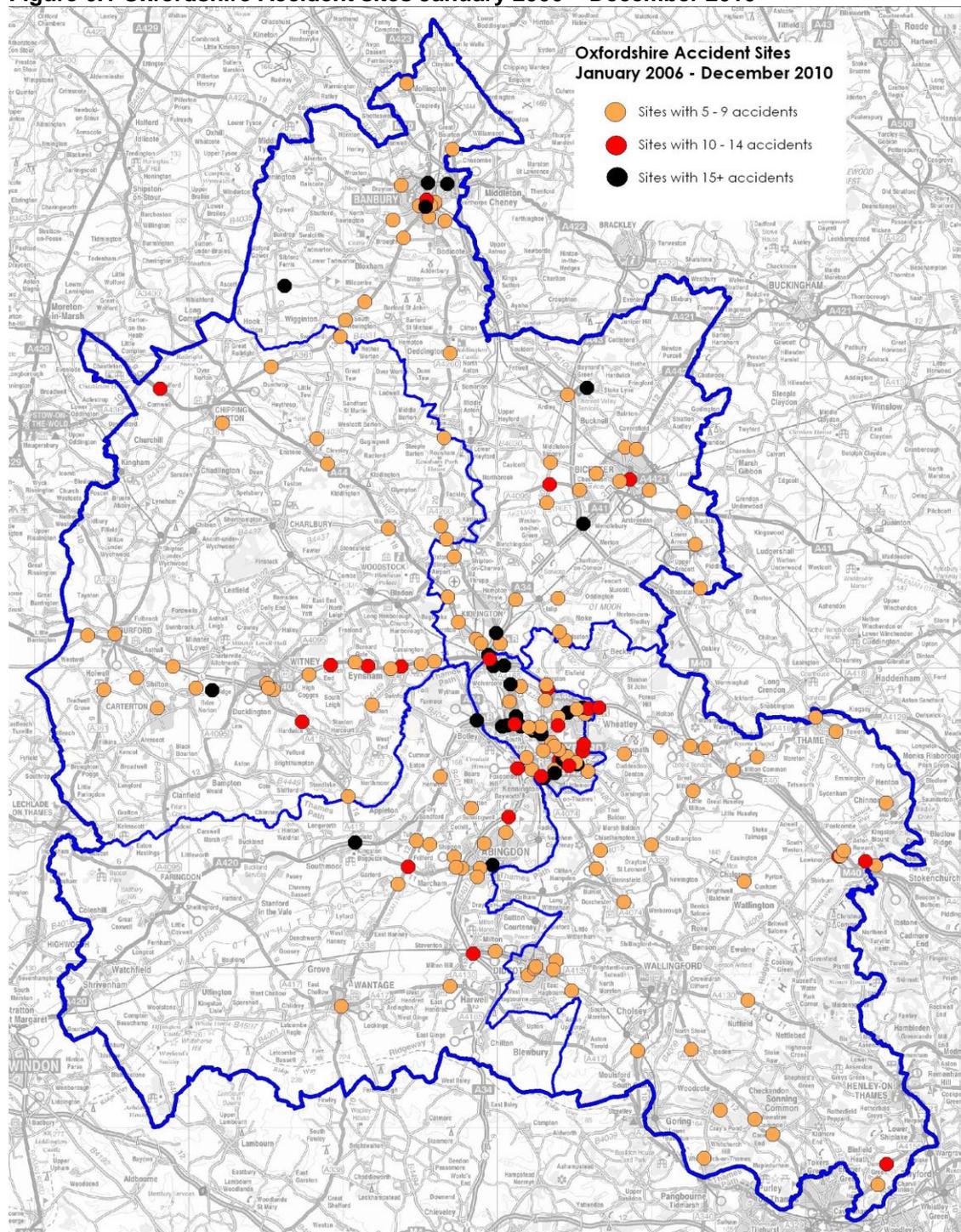
- 6.1 Human factors are usually the main cause of an accident. Many will reflect more persistent higher risk behaviours such as speeding, following the vehicle in front too closely, driving when tired, failure to use a seat belt, and the use of alcohol and drugs. Inexperience, coupled with risk taking behaviours often associated with young adults, accounts for their particularly high rates of accident involvement. Perhaps unexpectedly, despite an ageing population, the numbers of older road users being involved in accidents has shown no very great increase in recent years, although older people do have a higher susceptibility to suffering a severe injury in the event of an accident.

- 6.2 The road environment is a significant factor in many accidents. The highest accident rates are generally found on busy roads in towns, where the combination of pedestrians, pedal cycles and motor traffic and frequent junctions lead to high levels of potential conflict. However, the majority of road deaths and serious injuries are sustained on rural roads due to higher speeds; rural single carriageway roads (rather than high standard dual carriageways and motorways) typically carry the highest risks. A wide range of road engineering measures have proved effective in reducing accident risks in both urban and rural areas.
- 6.3 Different types of road user have different patterns of accident involvement and also different injury severity risk in the event of an accident. Around 85% of reported accidents involve cars, and car occupants are the single largest road casualty group, although substantial improvements in car design have helped both reduce the rate of accident involvement and improve occupant protection. Conversely, pedal cyclists and motorcyclists have much higher accident involvement rates, reflecting a range of factors, including that their comparatively small size can lead to them being less obvious to other road users (especially a risk when exploiting their flexibility to pass other traffic). Motorcyclists in particular stand out as a high risk group, accounting for 1% of traffic but around 20% of deaths and serious injuries. Pedestrians, particularly those who are frail or elderly, are also a highly vulnerable group.

### **Car users**

- 6.4 Car drivers comprise the largest category of road-user casualties. The long term trend has stabilised to some extent, in part due to a recent decrease in the number of casualties from the highest risk age group (17 to 24 year olds). In recent years there has been very little change in the number of older car drivers involved in accidents, even though there are more (and older) senior-citizen drivers.
- 6.5 A major concern is that a third of fatal injuries are sustained by car drivers not wearing seat belts - in over half of these incidents, the driver would have probably survived if they were wearing a seatbelt. Of the nearly 500 people have died on Oxfordshire's roads over the past ten years, it is likely that a significant number would still be alive today had they taken the simple step of wearing a seat belt.

Figure 6.1 Oxfordshire Accident sites January 2006 – December 2010



6.6 Car passengers form the second largest casualty group after car drivers. Recent trends in casualty numbers appear to have been generally downwards after a long period of relatively stable numbers. As would be expected, the circumstances of accidents

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where car passengers are injured are very similar to those for car drivers:

- \* the majority of the injuries are sustained on non-built up roads;
- \* the majority of severe injuries occur on high speed roads; and
- \* around 30% of front seat passengers and 65% of back seat passengers who died were not wearing seat belts;

There is also evidence of increased risk when young drivers (under the age of 25) are accompanied by their peers, due to a combination of increased potential for distraction and peer pressure to drive at speed or more aggressively.

## **Pedestrians**

6.7 Long-term trends for both adult and child pedestrian casualties are downwards. However, this reduction is likely to be due, at least in part, to reduced levels of walking over this period. The highest numbers of pedestrian casualties are sustained in the town centres and other busy shopping streets. Most residential areas have, by comparison, very low densities of pedestrian casualties, as do areas close to schools, with only a minority of child pedestrian injuries being sustained on a journey to or from school. Although the numbers of pedestrians injured on rural roads is a very small proportion of the total, the risk of fatal or serious injury on such roads is very much higher due to the greater speeds.

6.8 Behavioural factors (such as failure to look or crossing where visibility is restricted) feature in many accidents, particularly those involving early teens (12-15 year olds), while alcohol impairment is a significant factor among adults. Older pedestrians are especially vulnerable because of reduced mobility and higher susceptibility to serious injury.

## **Cyclists**

6.9 Long-term trends in overall injuries are downward, mainly due to the reduction of close to 60% in child cyclist injuries since 1999 (whilst the numbers of adult cycle casualties have dropped by only eight percent). This decrease has occurred against a background of a marginally increased cycling rate.

6.10 The great majority of cycle accidents occur in built up areas;

Oxford in particular has a tradition of very high cycle use and comparatively high cyclist casualties compared to many other areas. However, the risks to individual cyclists appear to be appreciably lower than the national average. This may be due to the extensive provision of cycle facilities but there is also evidence that in areas with high cycle use drivers become more accustomed to sharing the road with cyclists. Two particular situations which result in accidents for cyclists involve vehicles, usually lorries, turning left into a side road across the path of a cyclist or where large vehicles give way to oncoming right turning vehicles at the same time that cyclists are passing them unseen on their nearside.

## **Motorcyclists**

- 6.11 Although motorcyclist casualties have fallen in recent years, they are a key target for casualty reduction in Oxfordshire, as they not only have a high rate of accident involvement but also riders of large motorcycles in particular have a high average injury severity. Motorcyclist safety is dealt with separately below.

## **Road Safety Strategy**

### **Measuring and understanding the road safety problem**

- 6.12 Understanding the road safety problem is the essential first step in developing effective measures to improve safety. The core resources are the reports of injury accidents compiled by Thames Valley Police (TVP) in accordance with the national accident reporting system overseen by the Department for Transport (DfT). We play a major part in the process by entering and validating the police reports. This includes identifying accident problem sites and routes, trends in accident numbers both in aggregate and for specific road user groups, and exploring behavioural and other factors (including for example links between accident risks and social deprivation). We will continue to process and analyse this data, and will also continue to contribute to the ongoing review of data quality and effectiveness of data analysis.
- 6.13 The accident history of all roads in the county is carefully monitored to identify problem sites and routes which may be addressed by road safety engineering measures. These include both maintenance schemes – for example to rectify substandard skid resistance - and improvement schemes; the latter include a very diverse range of measures, from low cost signing schemes to

comprehensive improvements of a route. It can also involve building in a safety element to larger multi-objective schemes. The assessment of the priority of a safety scheme will take account of its cost and anticipated accident savings.

- 6.14 It is however recognised that many accidents are, for a variety of reasons, not reported and that the police data only provide a partial picture of serious and slight injury accidents; this is especially true for accidents involving pedestrians and pedal cyclists. Some work has been carried out with local NHS hospitals to compare police data with their records on road accident casualties treated and there is some evidence that the police data have shown a stronger decline in road casualties as compared to that reported by the NHS. The NHS data also highlight the relationship between injury severity and NHS costs and the cost savings that would result from casualty reduction.
- 6.15 Road safety problems are however not just measured by reported casualties. Concerns over poor road safety have a major adverse impact on the quality of life and feature highly in the list of community safety concerns across the county.

### **Safer for children**

- 6.16 Children need to learn safe behaviour and skills for a lifetime of road use. They progress from using roads as passengers in cars and buses, to becoming pedestrians and riders of pedal cycles, and as adolescents they may ride or drive motor vehicles. Oxfordshire County Council manages a wide range of activities and programmes to minimise risks during their development. This work is supported by a range of external partners including the Health Service and Police.
- 6.17 The safety, health and well-being of children is a high priority but it is important to consider this from a broader perspective. Concern is rightly growing that sedentary lifestyles among children appreciably increase the risk of a wide range of serious diseases. Activities such as walking and cycling are extremely beneficial in developing fitness and although they carry some risk, provided this is well managed, the overall benefits of encouraging these activities considerably outweigh the dangers.

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## Tackling high risk behaviour and actions

6.18 Most if not all road users have occasional lapses; however a minority exhibit persistent dangerous or unsocial behaviour. The much higher probability of accident involvement seen amongst young adults (and males in particular) reflects not only the dangers due to inexperience but also the immature attitudes and risk taking which are more prevalent in this age group. A major challenge is to get the message across that large numbers of accidents are due to behaviour such as following too close, moderate excess speed and driving when tired or being distracted. While failure to wear a seatbelt can result in more serious injury or death in the event of a collision.

6.19 A large number of activities are carried out to address these problems, including a range of awareness-raising activities:

- \* workshops and presentations to young people (mainly in Years 7-13) involving joint working with the police and the relatives of road-accident victims;
- \* preparation and circulation of information (including leaflets, posters and displays) on road-safety matters, typically with the assistance of schools, colleges, health centres, libraries and local businesses; and
- \* joint roadside operations involving county council and police to target behaviour such as speeding, fatigue and non-wearing of seat belts.

## Safer road environment

6.20 Maintaining and improving roads has proved a highly effective way of improving safety. The County Council and the Highways Agency (HA) (responsible for the M40 and A34 and A43 trunk roads) have a duty to:

- \* maintain public highways in a safe condition; and
- \* investigate road accident problems and introduce remedial measures to address problems, where practical and cost effective.

6.21 Nevertheless, with approximately 2800 miles of public highway within Oxfordshire, the cost of carrying out all the maintenance and improvement work that could be justified far exceeds the

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available budgets, requiring all work to be prioritised on the basis of need and cost effectiveness.

6.22 All three emergency services play a vital role in assisting and treating those involved in accidents, and the timely arrival of emergency vehicles is essential. Traffic conditions and traffic management activities can clearly impact on attendance times for all types of emergency call outs. We will therefore liaise closely with the emergency services in respect of traffic management measures that are likely to impact on attendance times for emergency vehicles.

### **Safer speeds**

6.23 Speed reduction measures have proved highly effective in reducing the number and severity of accidents. Even relatively small reductions in average speeds can bring worthwhile casualty reduction. Speeding also features very highly in the list of community safety concerns: it can prove a major worry, even at sites where there is little or no history of injury accidents. A balance has to be struck between the need for our road network to allow reasonable progress and the provision of adequate safety. Procedures are in place, including public consultation, to ensure that new speed limits or traffic calming measures are reasonable and realistic.

6.24 A number of measures can be used to help address these concerns. We will continue to support speed reduction measures to address community concerns with the assistance of the district councils, local councils and neighbourhood policing teams.

6.25 Oxfordshire County Council withdrew support for road safety camera enforcement in the county in July 2010 following the announced reduction of the DfT's special road safety grant, which had been allocated to fund traffic safety camera operations in Oxfordshire by the Thames Valley Safer Roads Partnership. Discussions with TVP have subsequently been held with the aim being to re-instate enforcement at the fixed speed camera sites in the county, with the county council funding the maintenance of the roadside equipment.

6.26 Lower speed limits, where indicated by the character of the road and the accident history, have been found to be effective in reducing accident rates. A general review of the county's A and B roads has recently been completed, applying the DfT guidelines

on the setting of speed limits; the resulting changes (mainly reductions in limit, but also, in a small number of cases, an increase) are due to be implemented in 2011. While no further general review of limits is currently planned, we will investigate additional changes in response to new development and also our ongoing accident monitoring. In Oxford, the great majority of residential roads were reduced to 20mph in 2009, and this project is being monitored to assess whether it may have application elsewhere, although it is likely to be some years before any firm results are available. In the longer term we would like to see a general reduction in the maximum speed on rural roads to 50 mph.

## Motorcycle Safety

- 6.27 After a major and sustained fall in casualty numbers from the early 1980s through to the mid 1990s, largely attributable to a corresponding fall in use, motorcycle accident numbers increased slightly in the early 2000s although recent casualty trends appear to be downward again. Users of all sizes of powered two wheel vehicles are disproportionately vulnerable to accidents and have a high average severity of injury, while users of larger machines have an especially high risk of severe injury. Motorcyclists account for 20% of road deaths nationally despite motorcycles comprising only one percent of traffic.
- 6.28 While the 16-24 age group has the highest risk of accident involvement, older riders suffer an appreciably higher proportion of high severity injuries. Nationally there is a problem with riders being injured by drivers who have not seen them, in particular while turning at junctions; in Oxfordshire 70% of motorcycle casualties occur at junctions.
- 6.29 Tackling motorcyclist casualties by standard road safety interventions is challenging. The accidents are typically dispersed on the network (this is especially true for high severity incidents) and so are less readily addressed by safety engineering measures which focus on accident cluster sites. Road safety education, training and publicity measures for motorcyclists need to take account of the motivations of riders, which in many cases will include the enjoyment of speed and an acceptance of some level of risk.
- 6.30 Motorcycles are more vulnerable to surface defects such as potholes and surface irregularities and, although accounting for

only a small proportion of the reported accidents, improved maintenance will particularly benefit motorcyclists. Glass stud type reflectors have been implicated in a small number of motorcycle skid accidents and, although a change in their pattern of use appears to have resolved this problem, the county council will continue to monitor closely all accidents reported to identify problem sites where remedial measures may be required.

- 6.31 Oxfordshire County Council has developed a county motorcycle strategy after extensive consultation with riders and partner agencies, to help address these issues by focusing resources. It considers the issues of information and communication, safety awareness and education, road conditions and facilities, and policy and planning.
- 6.32 Although motorcycle accident patterns are diverse, riders of larger machines do congregate in groups more than other road users. This provides an opportunity to meet them in order to promote safety and receive feedback, although it is recognised that proportionally fewer riders of commuter machines join such groups.
- 6.33 Safety awareness and education will be enhanced by running a pilot for free assessment rides for existing motorcyclists, establishing Operation Pit Stop (a safety event hosted by ourselves and the Police to establish trust and rapport with years 12 and 13 students who use motorcycles and mopeds) and by attending bike meetings to promote safety messages and training opportunities.