

Road Safety Supplementary Strategy Document



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1. Introduction

- 1.1 The Department for Transport (DfT) require that all Local Authorities outside London produce a third transport plan (LTP3) and that this is place by 1st April 2011, where it will replace the second

Local Transport Plan (LTP2). Slough Borough Council (SBC) has chosen to set out their transport strategy in their LTP3 for the 15 year period up to 2026.

1.2 The LTP3 is supported by a number of supplementary documents that provide detail on the following topics:

- Walking;
- Cycling;
- Accessibility;
- Smarter Choices;
- Parking;
- Public Transport;
- Network Management;
- Freight; and
- Intelligent Transport Solutions.

1.3 This Road Safety Supplementary Document evaluates how Slough has performed in recent years against national road safety targets, identifies the particular problem areas to be addressed, and sets out a long term strategy and an implementation plan.

1.4 In order to develop the evidence base for the Supplementary Documents, consultation was undertaken in May 2010. A survey of transport and travel habits was undertaken in Slough town centre and a Road Safety focus group was held in order to consult with representatives from Neighbourhood Action Groups. This consultation is considered further in Chapter 4.

1.5 The remainder of this document is structured as follows:

- Chapter 2, Context;
- Chapter 3, Challenges and Options;
- Chapter 4, Consultation Results; and
- Chapter 5, Strategy Measures.

1.6 The strategy measures that are set out in the final chapter are an outline of the Council's initiatives that will be progressed through a combination of enforcement, engineering, education, training and publicity. Working in partnership with identified partners such as the Thames Valley Safer Roads Partnership (TVSRP), schools, road user groups, residents, and other London Boroughs will be key to the successful delivery of initiatives.

2. Context

- 2.1 The existing national, regional and local statutory duties, strategies and powers have been used to inform the LTP3 Road Safety Supplementary Document.

National Policy

National Road Safety Strategy

- 2.2 In the year 2000 the Secretary of State for Transport presented the nation's Highway Authorities with the casualty reduction targets to be achieved by 2010. The national road safety strategy 'Tomorrow's Roads – Safer for Everyone' set targets to be measured against the average casualty totals for the period 1994-1998, as follows:

- A 40% reduction in the number of people killed or seriously injured (KSIs);
- A 50% reduction in the number of children killed or seriously injured (children are defined as those under 16); and
- A 10% reduction in the number of all people slightly injured. This figure should be expressed in casualties per 100 million vehicle kilometres travelled.

- 2.3 New national casualty reduction targets (2020) are forthcoming and the impacts on this document will also be considered.

Highways Agency Strategy

- 2.4 The borough boundary of Slough encompasses three junctions and intervening links of the M4 Motorway and a small section of the M25; which are the responsibility of the Highways Agency. Although SBC has no direct influence on road safety performance on Highway Agency roads, collisions that have taken place at these Motorway locations are included in the overall collision and casualty figures.
- 2.5 The strategy will investigate what types of collisions and casualties are occurring on this section of the M4 with a view to discussions with the Highways Agency on how they can be prevented and road safety on the Motorway improved.
- 2.6 The Highways Agency have the following independent targets related to road safety:
- By 2010 to reduce the number of KSI casualties by 1/3 compared with the 1994-1998 average; and
 - By 2010 to reduce the number of slight casualties by 10% compared with the 1994-98 average.
- 2.7 New Highways Agency targets are forthcoming and the impacts on this document will also be considered.

Department for Transport (DfT) goals

- 2.8 The Department for Transport (DfT) published their transport strategy in 2009, which outlined five goals for local authorities
- To support national economic competitiveness and growth, by delivering reliable and efficient transport networks;

- To reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change;
- To contribute to better safety, security and health and longer life-expectancy by reducing the risk of death, injury or illness arising from transport and by promoting travel modes that are beneficial to health;
- To promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society; and
- To improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.

2.9 This Road Safety Supplementary Document will set out a strategy and implementation plan with the aim of reducing the number of people killed or injured on the Borough's roads, and therefore directly relates to the goal of contributing to better safety, security and health and longer life-expectancy.

Local Indicators

- 2.10 The national road safety targets are reflected in a set of indicators that are monitored at a local level. The LTP included a number of 'local' indicators that were chosen to fit Slough's community, corporate and transport objectives and a number of Best Value Performance Indicators (BVPIs) within these local indicators were chosen where they were particularly relevant.
- 2.11 The LTP2 review (September 2008) monitored Slough's progress regarding BVPI 99a (i) – number of KSIs and BVPI 99c (i) – number of people slightly injured in road traffic collisions and established that for 2006/07 and 2007/08 Slough was 'on track' to meet the LTP2 targets for 2010/11. It was reported that there was no clear evidence to assess the progress of the BVPI 99b (i) – number of child KSIs.
- 2.12 The Local Government and Public Involvement in Health Act 2007 removed the requirement for best value authorities to compile and publish an annual Best Value Performance Plan (BVPP). Since April 2008 BVPIs have been replaced with the new National Indicator Set, and performance monitoring from 2008/09 has been covered by these new arrangements.
- 2.13 Slough published details of their outturn performance against BVPIs for 2006/07 and 2007/08¹. Slough's outturn performance was rated as good overall; but for each of the road safety related BVPIs for 2006/07 and 2007/08, a rating of good performance was assigned. However, it was reported that when put into context, SBC's headline data accident statistics for KSI casualties suggested that in general the same trends were observed as in other Berkshire unitaries.
- 2.14 Slough has a high slight injury casualty level per head of population, so in comparison with other unitaries it rates poorly. Slough's slight injury figures are similar to the baseline value, whereas the other unitaries are lower than their baselines. However, although numbers are high, the annual percentage changes are roughly similar to the other unitaries.
- 2.15 Furthermore, although the actual numbers of child KSIs in Slough are small; as for each of the unitaries, the number of child KSIs in Slough increased from 2005 to 2007, and hence both the yearly comparison and the percentage trends are both poor.

¹ <http://www.slough.gov.uk/documents/UnauditedOutturn07-08.pdf>

LTP2 Progress Review

2.16 As previously detailed the LTP2 progress review was carried out in September 2008 and this section details the progress related to reducing road accidents and casualties.

Achievements

Significant reductions in KSI casualties

2.17 It was reported that 49 people were killed or seriously injured (KSI) as a result of collisions in 2007 which represented a 46% decrease on the 1994-98 average (this is the adjusted baseline average which is discussed further in Section 3).

Working with the new Thames Valley Safer Roads Partnership (TVSRP) in order to better understand accident and casualty statistics

2.18 In August 2008, the TVSRP, published a Local Area Profile Report (LAPR) for all the districts in Thames Valley. The purpose of the LAPR was to highlight some of the key information and trends in Slough that would allow simple comparisons to be made with other districts in Thames Valley. The aim was that these comparisons would help to guide road safety activity in Slough and the rest of the partnership area. The key areas of analysis were broken down into six main headings of:

- Spatial, demographic and vehicle;
- Road Casualty Reduction targets for 2010;
- Collisions;
- Casualties;
- Drivers; and
- Enforcement.

2.19 The LAPR that was produced for Slough is a good source of information for identification of our road safety challenges and is used to inform this Road Safety Supplementary Document.

2.20 Data provided by the TVSRP has shown that drivers in Slough involved in accidents are more likely to have:

- Been following other vehicles too closely;
- Driving aggressively;
- Exceeding the speed limit;
- Disobeying traffic signals; or
- Using mobile phones whilst driving.

2.21 Slough's education training and publicity programme was revised to address the issues identified through the TVSRP.

Pre-driver education

2.22 The TVSRP organises 'Safe Drive Stay Alive' which is an innovative stage and film production aimed at year 12 and 13 students (16/17 year olds). This is now in its fourth year and attended by over 10,000 students each year across the partnership area. It is a blend of film and testimonials from people who have been affected by road crashes: emergency staff, hospital staff, parents who have lost a loved one and victims who have sustained life changing injuries. Slough's Road Safety Officer publicises the performance to Slough's school and the Borough pay for the coaches to the location of the performance at the Hexagon in Reading.

Delivery of seven local safety schemes

2.23 Since the LTP2, Slough has delivered the following local safety schemes to treat particular clusters of accidents on the network:

- A355 Tuns Lane junction improvement;
- Stoke Road/Elliman Avenue signals and lighting;
- Stoke Poges Lane/Granville Road pedestrian refuges and other safety measures;
- Buckingham Avenue/Liverpool Road junction improvement;
- A4 Bath Road: Dover Road/Cippenham Lane junction improvement; and
- 'Spiral' safety road marking at Copthorne roundabout and at A4/A412 Wellington Street/Uxbridge Road.
- Chalvey mixed priorities;
- Priors School safer routes to school scheme;
- Cippenham Lane route treatment;
- Manor Park Safety Initiative; and
- A4 London Road: Blandford Road/Upton Court Road junction improvement.

2.24 More detail regarding the local safety schemes is to be found later in this section when the First Year Rate of Returns are discussed.

Completion of three 20mph zones

2.25 The first 20mph zone was implemented in Trelawney Avenue in South Langley during the first LTP period.

2.26 The Manor Park and Cippenham East 20mph zones were completed during the LTP2 period. The Manor Park 20mph speed limit zone covered an area of approximately 0.8sq. km and was completed in early 2007. The proposal stemmed from long standing problems of high speeds in the Manor Park area, located on the northern edge of the Borough, and was the second highest priority in our 20mph zone programme. To ensure that the scheme had maximum impact the scheme included:

- Carriageway modifications and parking restrictions;
- Re-surfacing;
- New lighting;
- Remedial works; and
- New drainage to reduce flood risk.

2.27 The road safety team marked the introduction of these two schemes by running a 'Design the Sign' competition within the local primary schools. The winners had their designs incorporated onto the speed limit signs at the entries to the zones.

Speed Activated Signs

2.28 Six movable vehicle activated signs incorporating 'read your speed' legend were provided by Slough during the LTP2 period. Sites are currently selected for use of these moveable activated signs on the following basis:

- Locations where there is a record of injury collisions, for which excessive speed is considered to be a major contributory factor, or

- The 85th percentile speeds are more than 20% above the stated speed limit.

Delivery of Safer Routes to School (SRtS), route treatments and other schemes to improve safety

2.29 The Council has worked closely with a number of schools across the Borough in order to meet Safer Routes to School (SRtS) objectives. SRtS studies are investigative studies to identify the predominant routes that children use to travel to and from school and to develop traffic and highway engineering measures to upgrade these routes under the SRtS initiative. The study identifies ways of making the journey to/from school safer for those who cycle or walk to school.

2.30 Schools are prioritised for inclusion in the SRtS programme on the basis of accident data within a 250m radius of each school. Typically the engineering measures include elements such as:

- Speed tables;
- Shared use paths;
- Visibility improvements;
- Improved signage and carriageway markings;
- Parking restrictions around school areas and entrances; and
- Pedestrian crossing improvements.

2.31 During the LTP2 period the following schools had SRtS studies:

- Penwood School (April 2007);
- Our Lady of Peace Schools (April 2007);
- Marish Primary (April 2007);
- Ryvers Primary (April 2007);
- James Elliman Primary (October 2009);
- St Bernard's Secondary School (December 2009);
- Godolphin Infants School (December 2009);
- Claycots Primary School (March 2010); and
- IQRA Slough Islamic School (March 2010).

'Bike It' Initiative

2.32 'Bike It' is an initiative set up by Sustrans, the UK's leading sustainable transport charity. Sustrans' team of expert 'Bike It' officers work with schools throughout England and Wales, and run a year-long programme of school projects, training, and fun events to get the whole school community cycling together.

2.33 Since 2008 Slough has had a dedicated 'Bike It' officer who encourages children, teachers and parents to cycle to school, and to do so in a safe manner. Through 'Bike It' children learn how to control their bicycle and how to position their bike and signal when cycling on the road.

2.34 At targeted schools, 'Bike It' officers provide practical experience of cycling with many different kinds of events and activities – including tailored lessons linked to the national curriculum. Schemes tackle issues such as cycle training, storage, travel plans and parental involvement, and officers provide practical experience of cycling with many different kinds of events and activities - including tailored lessons linked to the national curriculum.

2.35 Schools that are keen to encourage cycling are first targeted to become a 'Bike It' school. The 'Bike It' officer worked closely with the following schools in 2009:

- Cippenham Junior School;
- Godolphin Junior School;
- Holy Family Catholic School;
- Parlaunt Park Primary School;
- St Joseph's Catholic High School; and
- Western House Primary School.

2.36 There have also been a number of cycling events at the 'Bike It' schools above. Western House Primary School held a 'Bike Breakfast' during the summer of 2009 which proved very popular and resulted in 112 bikes being cycled to school in order to participate in the event.

School Travel Plans (STPs)

2.37 School Travel Plans (STPs) are a government initiative to reduce traffic and improve safety in the vicinity of schools. They are essentially an action plan with two key players – schools and their communities to say exactly what their needs, travel patterns and road safety problems are, and the local authority to provide guidance, support and access to funding so that together solutions to the identified problems can be produced.

2.38 The DfT/DfES publication 'Travelling to School: an action plan' (Oct 2003) stated that all UK schools should have a STP by 2010. To encourage the development of STPs a capital grant was made available from financial year 2004/5 to all Local Education Authority (LEA) schools that produce approved plans. In 2005 DfT produced a STP Quality Assurance advice note which clarified what was required before an STP could be formally approved.

2.39 Since the 2008 LTP review the following progress has been made:

- All 48 LEA schools have a STP in place.
- STP grants totalling in the region of £225,000 have been received by SBCschools:
 - Primary schools have received c. £150,000 and
 - Secondary schools have received c. £75,000.

2.40 The Road Safety Unit will assist primary schools to maintain their STPs in line with the DfT guidelines and use the information contained within the Plans to assist with the prioritisation of SRTS Studies.

Community safety benefits from street lighting and car park enhancement programmes

2.41 As part of SBC's contribution to the Council's wider policies, partnership working has taken place with the Safer Slough Partnership in order to implement transport related aspects of the Crime, Disorder and Drug Strategy.

Consultation Results

2.42 As part of the LTP3, consultation was undertaken in order to develop the evidence base for the Supplementary Documents. Two forms of consultation took place:

- A survey of transport and travel habits were undertaken in Slough town centre; and
- A focus group predominantly about road safety issues and also some discussion of 'smarter travel choices'. The focus group was comprised of Neighbourhood Action Group (NAG) representatives, which included a Police and Police Community Support Officer, from the following wards in the Borough:

- Langley St Mary's;
- Farnham;
- Baylis and Stoke;
- Cippenham;
- Town Centre/Slough South; and
- Haymill.

2.43 The focus group results were analysed and a summary of the key findings are provided below.

Speeding in residential areas

2.44 Concerns were raised that drivers were speeding through residential areas in Slough. However a police representative suggested that this was perception rather than reality, and that studies had shown that vehicles were not speeding.

2.45 Some participants suggested putting up speed signs that tell the driver how fast they are travelling so that the driver reduces their speed. It was felt by some participants that often drivers do not realise how fast they are actually travelling.

Parking outside schools

2.46 Several participants highlighted that a common problem for most schools in Slough was parental parking in the vicinity during school drop off and pick up times. This was felt to be a contributory factor in collisions because children cannot see approaching vehicles behind parked cars when they are crossing roads.

Cyclists

2.47 Some felt that cycling is unsafe, and some cyclists put themselves in further danger by not wearing cycle helmets. The participants thought that fines should be issued for cyclists not wearing a helmet, as in other countries. Cycling through red lights was also raised as a safety concern.

2.48 It was felt by the majority of participants that safe cycling and driving and an awareness of cyclists should be promoted.

2.49 Some participants felt that some cyclist accidents were the result of a lack of cycle paths and routes for cyclists.

Powered Two Wheelers (PTW)

2.50 Speeding motorcyclists were viewed as a problem in Slough. The participants thought that a restriction on the speed motorcyclists could travel based on their age would help, and something similar could be introduced for car users as well. Some participants felt that the age at which it is legal to ride a motorcycle should be raised, and one participant felt that the test required to ride a motorcycle was too easy to pass.

2.51 Some participants raised the issue that some younger motorcyclists wear unsuitable clothes for riding their motorcycle, and education regarding the importance of wearing the correct clothes was felt to be important.

Teenage 'joyriding'

2.52 The participants felt that teenage 'joyriding' is a problem in Slough as a whole. It was felt by the participants that there are two types of teenagers that are joyriding; there are some that specifically go out with the intention of stealing a car, and there are some teenagers that steal their parents' car so that they can show off to their friends.

- 2.53 Some participants believed that many of the collisions that occur in Slough involve uninsured drivers and some thought that this was linked with drink / drugs.

Ethnicity

- 2.54 There was a discussion regarding the overrepresentation of drivers from an Asian background in road accidents in Slough. It was felt by the respondents parents from a wealthy Asian background that own their own business will give their son or daughter a brand new car, such as a Mercedes (often as a reward for exams etc), which is often too powerful for them to control adequately and it is often used to show off to friends.
- 2.55 Some participants believed that there were accidents involving Eastern European drivers who were driving as part of a work related journey.

Network Layout

- 2.56 The main issues were deemed to be cars parking on the pavements and the uneven surfaces on some roads; the A4 was given as an example, which was said to have lots of potholes.
- 2.57 Other participants reported that some traffic signals are out of synchronisation, particularly at the Brunel roundabout. The problem that this causes was that a driver would go through the lights on green, and keep getting stuck at the next set of lights as they turned to red, rather than the lights being in synchronisation with each other.
- 2.58 The participants felt that there were too many sets of traffic lights in Slough. They accepted that some sets are necessary, but felt that the amount in Slough was excessive. Some participants reported witnessing other drivers going through the lights on red because they were aggravated by waiting.

Specific locations of concern

- 2.59 One of the big issues was traffic outside a new Tesco Express that had opened in Burnham. This had resulted in extra traffic coming to the area and there were reports that access into the Tesco car park is 'awkward'. It was felt by the respondents that this was a road safety concern for schoolchildren, as they may get hit by drivers who see a gap in the traffic and quickly drive into the car park – "*an accident waiting to happen*". It was added that this problem is worse during school time.
- 2.60 One participant noted that there is a youth centre opposite a row of shops in Manor Park. There are short stay car parking spaces outside the shops which results in lots of cars pulling in and out the spaces. This causes problems for young people who go to the youth centre in the vicinity.
- 2.61 Parking was raised as being of particular concern along Dennis Way and St Andrews Way, especially during school arrival and departure times.

Improving Road Safety in Slough

- 2.62 The participants all felt that road safety education in schools was very important, and that it should be included as part of the curriculum.
- 2.63 TV adverts were deemed to be one of the most effective ways to communicate road safety messages by the participants. There was a mix of opinion regarding adverts being shocking and order to scare people into changing their behaviour, with some respondents feeling that these work best, and some that felt that adverts do not need to be shocking or gory in order to be effective.

3. LTP3 Challenges and Options

3.1 The DfT advise that Local Transport Authorities (LTAs) take their five transport goals into account when devising their own LTP3 objectives. In addition, it is necessary for wider local corporate goals to also be considered in the LTP3; such as those contained within Slough’s Sustainable Community Strategy, a 20 year vision for the town and its residents. The links between this local strategy and the DfT’s transport goals are shown below in Table 3.1.

Table 3.1 – DfT and Sustainable Community Strategy links

DfT Transport goals	Sustainable Community Strategy Themes
Promote equality of opportunity	Community in Cohesion
Contribute to better safety, security and health	Health and wellbeing Community safety
Reduce carbon emissions Improve quality of life and a healthy natural environment	Environment
Support economic growth	Economy and skills

3.2 The goals and themes described in Table 3.1 have been taken into account in the identification of Slough’s twelve LTP3 objectives and nine ‘outcomes’ that are listed in Table 3.2 overleaf.

3.3 Table 3.2 shows the linkages between the LTP3 High Level Objectives and the Desired Outcomes. As shown in table 3.2 one of the LTP3 objectives that directly relates to this Road Safety Supplementary Document is to reduce the number of traffic accidents involving death or injury. This objective contributes to the LTP3 output ‘Safer roads, walking and cycling and public transport networks’. Furthermore, reducing the number of traffic accidents involving death or injury also links to the local Sustainable Community Strategy themes of health and wellbeing and community safety and contributes to the DfT goal of better safety, security and health.

3.4 Table 3.3 shows the links between the LTP3 goals and objectives and the road safety challenges and opportunities in Slough including the types of interventions to address the identified problems/issues. Table 3.3 utilises headline information from the LAPR, the latest five years of Slough accident data from 2005 – 2009, and some of the consultation results.

Table 3.2 – Linkages between Slough LTP3 High Level Objectives and Desired Outcomes

High level objective	Desired outcomes											
	Less unnecessary movement of people and goods.	Travel by sustainable modes is more attractive than travel by private car.	Minimise effects of stop/start traffic conditions (congestion).	Journey times more reliable on all modes (incl. freight)	Better public transport connectivity to jobs & services, especially from disadvantaged areas	Better public transport connectivity to key locations outside Slough.	More of the public transport network / information accessible to disabled people.	An integrated, high quality, multi-lingual public transport network	Safer roads and public transport networks.	Reduced impacts of travel and transport on our communities.	Reduced impacts of travel and transport on our natural environment & heritage	Enhancement of the public realm
To make sustainable transport options accessible to all							✓		✓			
To enhance social inclusion and regeneration of deprived areas					✓		✓					
To reduce the number of traffic accidents involving death or injury	✓								✓			
To minimise the opportunity for crime, anti-social behaviour and terrorism and maximise personal safety on the transport network									✓			
To protect and improve personal health	✓	✓	✓						✓			
to reduce transport's CO ₂ emissions and make the transport network resilient to the effects of climate change	✓	✓	✓		✓	✓	✓	✓				
to minimise the noise generated by the transport network, and its impacts											✓	
To mitigate the effects of travel and the transport system on the natural environment, heritage and landscape.											✓	
To achieve better links between neighbourhoods and access to the natural environment.				✓				✓				
To improve the journey experience of transport users across Slough's transport networks.							✓	✓				
To ensure that the transport system helps Slough sustain its economic competitiveness, and retain its position as an economic hub of the South East.			✓	✓	✓							
to facilitate the development of new housing in accordance with the LDF		✓			✓							

Table 3.3 – Linkages between the LTP3 Goals and Objectives and Slough’s Road Safety Challenges and Opportunities, including the types of interventions to address the identified problems/issues

Slough LTP3 goals, objectives and the Road Safety problems/issues and the types of interventions			
LTP3 Goals	LTP3 Objectives	Road Safety problems/issues in Slough	Type of interventions to address problems/issues
Promote equality of opportunity, celebrating diversity and enabling inclusion.	1. To make sustainable transport options accessible to all.	Improvements or modifications in road design can make the environment not only safer but also more accessible and pleasant for pedestrians, cyclists, and people with disabilities.	<p>Local safety schemes to improve/modify road design and in turn make it safer and more accessible can include: the creation of safer crossing places, slowing down traffic, and the implementation of 20mph zones and reallocation of road space in order to give more space to pedestrians and cyclists.</p> <p>Safer Routes to School (SRtS) also investigate the predominant routes that children use to travel to school and recommend traffic and highway engineering measures to upgrade these routes. The overall aim is to make the journey to/from school safer and encourage travel by sustainable modes by making routes more welcoming for pedestrians and cyclists.</p> <ul style="list-style-type: none"> It also involves recommendations for improvements to public transport which can include working with transport providers to bring about positive changes including improved accessibility and connectivity between routes in order to better link neighbourhoods.
	2. To enhance social inclusion and regeneration of deprived areas.	<p>Research carried out elsewhere (Jolley et al, 1993) has found a correlation between areas of deprivation and injury risk in London, both across the boroughs and within individual boroughs.</p> <p>Slough has a very diverse multi-cultural population. Socio-demographic research carried out by the LAPR established that ‘Mosaic’ driver ‘types’ C20 ‘Asian Enterprise’ and D26 ‘South Asian Industry’ are over-represented in Slough</p>	<p>The identification of areas of deprivation and correlation with accidents within Slough will assist to target regeneration initiatives, which combined with traffic calming such as 20mph zone can help improve road safety in poor performing places.</p> <p>Educational measures and campaigns will attempt to address the overrepresentation in Slough’s accidents of people from an Asian background.</p> <ul style="list-style-type: none"> The LAPR identified that

		<p>accident statistics.</p> <ul style="list-style-type: none"> • Consultation through the Road Safety focus group revealed that the overrepresentation of people from an Asian background could be due to a cultural issue related to status. Focus group participants discussed that often parents from an Asian background will own businesses and be quite wealthy and will give their child a brand new car, such as a Mercedes (often as a reward for exams etc), and the 'child' will then drive around in it to show off to their friends. The key issue was noted to be the 'child' showing off in a car that is too powerful for them to control correctly. <p>TVSRP research (2005-2007) found that approximately 1% of Slough's injury collisions involve foreign registered vehicles. Slough was found to be second highest in the overall rankings of all districts in Thames Valley for collisions involving foreign registered vehicles. To put into context there were a total of 52 foreign registered vehicles involved in accidents in Slough from 2005 – 2007.</p>	<p>communication channels to select when working with 'Asian Enterprise' include the internet, heavyweight magazines and broadsheet newspapers and when working with 'South Asian Industry' include internet and telemarketing. Although not raised in the LAPR it is likely that the roll out of Asian Sky satellite channels would make the Mosaic class 'South Asian Industry' very receptive to advertisements.</p> <ul style="list-style-type: none"> • The LAPR also identified that family and religion play a vital role in communicating with these groups which could be a real challenge as they do not appear to exhibit a great deal of receptivity to common local media sources with the possible exception of 'outdoor'. However, although not raised as an issue in the LAPR, it is likely that the temples and mosques would not be the best places to distribute road safety messages, as these tend to be attended by the law abiding groups. • Language is also a consideration in communicating with these groups, as there are a significant proportion of homes where English is not spoken. A campaign to show the danger of parental purchasing of high status and high powered vehicles for their children. <p>Efforts will be made to ensure that the appropriate training opportunities and educational and campaign</p>
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			<p>materials reach the drivers of foreign registered vehicles that are resident in Slough.</p> <p>It is the intention that 'MAST' the web based data analysis tool is further utilised in order to provide in-depth socio-demographic road safety analysis. This is in order that an accident analysis comparison by ward can be undertaken using socio-economic and ethnicity data from the Census.</p>
<p>Contribute to better safety and security and adding years to life and life to years.</p>	<p>3. To reduce the number of traffic accidents involving death or injury.</p>	<p>In 2009 there were 422 Personal Injury Accidents (PIAs) in the Borough of Slough, none were fatal, 33 were serious and 389 were slight.</p> <p>These 422 PIAs resulted in 571 Personal Injury Casualties (PICs), 35 serious and 536 slight.</p> <p>In 2009 the 35 serious casualties included the following vulnerable group numbers: 8 children; 16 pedestrians; and 2 pedal cyclists.</p> <p>Slough is on target to meet the national overall KSI and child KSI reduction targets. However, research carried out by TVSRP found that Slough is the worst ranking of all districts in Thames Valley for:</p> <ul style="list-style-type: none"> • Child casualties; • Accidents caused due to impairment by drugs; • Mobile phone usage while driving; • Exceeding the speed limit; and • Disobeying an Automated Traffic Signal (ATS) - the figure for disobeying an ATS is over double the rate of any other district in Thames Valley. <p>Slough was the second ranked worst district for pedestrian accidents and the third worst for</p>	<p>A targeted programme of educational, training and publicity, engineering and enforcement measures to reduce the number of traffic accidents involving death or injury.</p> <p>Continue to work with the TVSRP to monitor and gain a better understanding of collisions and casualties with the aim of achieving road safety improvements.</p>

		<p>alcohol related crashes.</p> <p>The LTP2 progress review highlighted the need for delivery of a revised Education Training and Publicity (ETP) programme in light of the identified trends from the TVSRP and also the need for a greater use of accident data and ‘before and after’ monitoring.</p>	
	<p>4. To minimise the opportunity for crime, anti-social behaviour and terrorism and maximise personal safety on the transport network</p>	<p>There is a link between some forms and crime and anti-social behaviour and road safety issues.</p> <ul style="list-style-type: none"> As discussed under Objective 3 above, a number of illegal activities are the causation factors for a significant number of road accidents: impairment by alcohol or drugs, mobile phone usage while driving, exceeding the speed limit and disobeying an ATS. 	<p>Targeted police enforcement to tackle drink/drug driving, mobile phone usage whilst driving, exceeding the speed limit and disobeying an ATS.</p> <ul style="list-style-type: none"> Provision of strong representation to continue to provide strong representation to increase the number of fixed, mobile and red light cameras in those locations fulfilling the DfT criteria. Use of interactive signs at locations where there is a record of injury collisions, for which excessive speed is considered to be a major contributory factor. <p>Education and campaigns themed to tie in with the road safety problems caused by crime that have been identified.</p> <p>Further locational research to identify if there are any trends regarding illegal activities such as joyriding occurring in Slough.</p> <p>Local safety scheme measures to target speeding: 20mph zones, traffic calming etc.</p>
	<p>5. To protect and improve personal health.</p>	<p>Improvements or modifications in road design can make the environment not only safer, but more accessible for pedestrians and cyclists; which are healthy modes of travel (the walking and cycling supplementary documents have more details</p>	<p>All measures to improve road safety conditions for pedestrians and cyclists and also encourage safe travel by these sustainable modes would in turn impact positively on personal health. Initiatives include local safety scheme improvements such as improvements to</p>

		regarding the specific health benefits of walking and cycling).	pedestrian crossing facilities and SRtS studies as well as educational and campaign measures such as School Travel Plans (STPs); STaRS (primary school incentive scheme); and Walk to School Week. (The walking and cycling strategies have further measures that have the explicit aim of encouraging levels of walking and cycling).
Reduce carbon emissions.	6. To reduce transport's CO₂ emissions and make the transport network resilient to the effects of climate change	<p>Travel in Slough is dominated by the private car. TVRSP research found that in 2007 car licenses made up 85.6% of the total type of licenses in Slough.</p> <p>Road accidents cause traffic congestion and so a reduction in accidents will assist to reduce transport's CO₂ emissions.</p> <p>There is a commuter movement in and out of Slough, as a result of the proximity to the Motorway network and Heathrow airport. During 2005-2009, 18% (768) of the vehicles recorded as involved in accidents were travelling as part of a work journey, and 11% (476) were commuting to/from work.</p> <ul style="list-style-type: none"> Between 2005 and 2009, collisions on the M4 within the Borough of Slough contributed to 16% of total accidents and 41% of all KSI accidents. The M4 Route Management Strategy 2005 recognised two problems relating to such use: congestion at Junction 7 caused by the A4 junction at Taplow; and Junctions 5, 6 and 7 are too close together. <p>In recent years there have been a number of schemes to reduce congestion and improve road traffic conditions (the walking supplementary document details a number of measures such as</p>	<p>In partnership with the Highways Agency improved road traffic conditions on popular commuter routes such as the M4 will help to reduce road accidents and also congestion, and in turn assist to reduce transport's CO₂ emissions.</p> <p>Working with employers in Slough to ensure the safety of staff whilst using the road and managing their occupational road risk could help to reduce accidents (especially on popular commuter routes) and the resultant congestion that they cause.</p> <p>All measures to improve road safety conditions for pedestrians and cyclists and also encourage a modal shift away from travel by private vehicle and travel by sustainable modes would impact positively on climate change.</p>

		the Air Quality Action Plan that are in place).	
Improve quality of life by making Slough a cleaner, greener place to live, work and play.	7. To minimise the noise generated by the transport network, and its impacts	Road traffic leads to noise pollution and is one of the most difficult to control.	Road safety improvements that encourage a modal shift away from car usage to walking and cycling have the potential to reduce noise pollution from traffic; walking does not contribute to noise pollution and cycling leads to considerably less noise pollution than other vehicular modes. However, walking and cycling are more vulnerable modes and encouragement of travel by these modes must be appropriate and targeted.
	8. To mitigate the effects of travel and the transport system on the natural environment, heritage and landscape.	Road traffic causes noise, air and light pollution. Road safety improvements that encourage a modal shift away from car usage to walking and cycling, and also to other more sustainable vehicular modes such as public transport and car sharing, will help to mitigate the effects of travel and the transport system on the natural environment, heritage and landscape.	Road safety initiatives that also encourage a shift towards more sustainable modes of transport (these are discussed in interventions to address LTP3 Objective 5).
	9. To achieve better links between neighbourhoods and access to the natural environment.	Improvements or modifications in road design can make the environment safer for all modes of travel, and assist in achieving better links between neighbourhoods.	An alternative proposed approach to accident evaluation in Slough based on route/area investigation rather than cluster analysis. Route analysis will require the establishment of a network hierarchy and definition of routes. Remedial measures will contain a combination of engineering, education and enforcement initiatives, with the main thrust likely to comprise of low cost engineering measures such as surface treatments, build outs, pedestrian and cycle facilities, signs, road markings and traffic signals. SRtS studies will continue to be rolled out across the borough. As discussed, under LTP3 Objective 1, SRtS investigate the predominant routes that children use to travel to school and recommend traffic and highway engineering measures to upgrade these routes. Walking buses use popular routes to school and could

			also help to achieve better links between neighbourhoods.
	10. To improve the journey experience of transport users across Slough's transport networks.	Road safety improvements, both in the design of roads and in the behaviour of road users, and also improved accessibility will help to improve the journey experience of transport users across Slough's transport networks.	Engineering improvements to make journeys safer for all travel modes and education and training measures to help to improve the road safety behaviour of road users will help improve the journey experience.
Support economic growth, creating prosperity for all.	11. To ensure that the transport system helps Slough sustain its economic competitiveness and retain its position as an economic hub of the South East.	Temporal analysis (2005-2009) has revealed that road accidents peak during times when traffic congestion is likely to be at its highest. Analysis revealed that child and pedestrian accidents peak during peak morning and afternoon school travel related traffic, and pedal cyclist accidents peak during peak morning and evening commuter traffic related traffic. Accident occurrence during these peak traffic flow times will particularly affect essential users and have a negative effect on economic competitiveness. As detailed previously 18% of vehicles involved in accidents were travelling as part of a work journey and 11% were commuting to/from work.	Utilise the temporal road safety analysis that has been carried out (and carry out further research if appropriate) in order to develop appropriate targeted campaigns. Work with employers to ensure the safety of staff whilst using the road and minimising occupational road risk. Improvements and modifications to road design to make roads safer and more accessible to pedestrians and cyclists also have the potential to have a positive impact on economic competitiveness. (The walking and cycling supplementary documents detail the link between physically active methods of travel to work and increased productivity).
	12. To facilitate the development of new housing in accordance with the LDF	Road safety improvements that also encourage travel by sustainable modes will assist to encourage and facilitate the delivery of new housing in line with the Slough LDF Core Strategy.	Road safety initiatives that also encourage a shift towards more sustainable modes of transport (these are discussed in interventions to address LTP3 Objective 5).

Evidence Base

- 3.5 This section reviews the accident and casualty trends in Slough with a particular focus on the latest five years from 2005 – 2009 in order to establish current accident trends. This collision review provides an evidence base with which to identify the particular road safety problems and issues in Slough and the types of interventions which could address them.

Overview of accident and casualty trends

- 3.6 It is detailed in the LAPR, that before 1999, Thames Valley used different definitions of serious and slight casualties compared to the rest of the country. As is detailed in the LAPR, in order to allow direct comparison of 1994-1998 baselines to recent statistics, it was agreed with the DfT that the “adjusted baseline” number of people that were Killed or Seriously Injured (KSI) on Slough’s roads can be represented as 14.9% of all Personal Injury Casualties (PICs) for the period from 1994-1998. So for example, in 1994 there were the 50 KSIs and 532 PICs recorded overall. Therefore the adjusted number of KSIs for 1994 is 14.9% of 532 which is 79 KSIs. The overall “adjusted baseline” KSI for 1994 to 1998 is the average of the “adjusted baselines” for these five years.
- 3.7 Table 3.4 shows the number of fatal, serious and slight accidents and casualties in the Borough of Slough from 1994 to 2009. Also shown in Table 3.4 are the “adjusted baseline” figures that apply to years 1884-1998.
- 3.8 It is of note that after completion of the accident analysis a revised updated accident dataset was provided for the two months of June and November 2008 with an increased number of accidents than previously reported. The superceded data for which the detailed accident analysis is based is still shown in italics in the Table 3.4.

Table 3.4 Accident (casualty data) January 1994 – December 2009

Year	Severity					Total accidents (casualties)
	Fatal accidents (casualties)	Serious accidents (casualties)	KSI accidents (casualties)	Adjusted baseline KSI casualties ²	Slight accidents (casualties)	
1994	4 (4)	42 (46)	46 (50)	79	381 (482)	427 (532)
1995	4 (4)	24 (25)	28 (29)	89	437 (570)	465 (599)
1996	4 (4)	38 (42)	42 (46)	87	421 (540)	463 (586)
1997	1 (1)	30 (30)	31 (31)	98	462 (630)	493 (661)
1998	2 (3)	36 (36)	38 (39)	91	460 (576)	498 (615)
1999	7 (6)	49 (55)	56 (61)	N/A	430 (591)	486 (652)
2000	6 (7)	73 (81)	79 (88)	N/A	431 (561)	510 (649)
2001	5 (5)	60 (68)	65 (73)	N/A	463 (628)	528 (701)
2002	6 (6)	64 (72)	70 (78)	N/A	470 (596)	540 (674)
2003	4 (4)	53 (55)	57 (59)	N/A	447 (610)	504 (669)
2004	7 (8)	34 (37)	41 (45)	N/A	400 (507)	441 (552)
2005	3 (4)	36 (40)	39 (44)	N/A	436 (543)	475 (587)
2006	3 (3)	43 (49)	46 (52)	N/A	405 (575)	451 (627)
2007	5 (6)	42 (43)	47 (49)	N/A	410 (553)	457 (602)
2008	8 (8)	44 (50)	52 (58)	N/A	409 (544)	461 (602)
2008	7 (7)	36 (38)	43 (45)	N/A	354 (476)	397 (521)
2009	0 (0)	33 (35)	33 (35)	N/A	389 (536)	422 (571)

3.9 Figure 3.1 shows the number of KSI casualties in Slough from January 1994 to December 2009 and a downward trend in the number of KSIs since 1998.

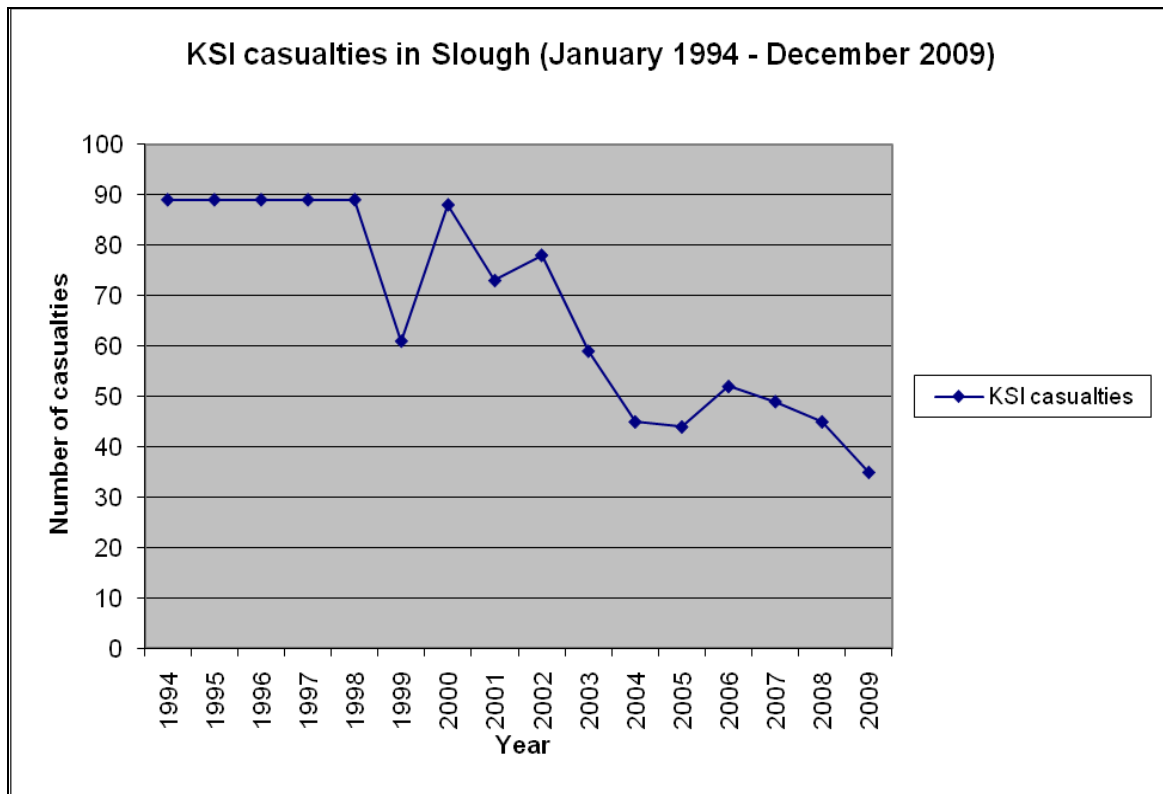


Figure 3.1 – KSI casualties in Slough (January 1994 – December 2009)

3.10 Figure 3.2 shows that slight casualties in Slough during 1994 – 2009 ranged from 476 to 630 with an overall picture one of fluctuating annual totals within this range, with little discernable downwards trend.

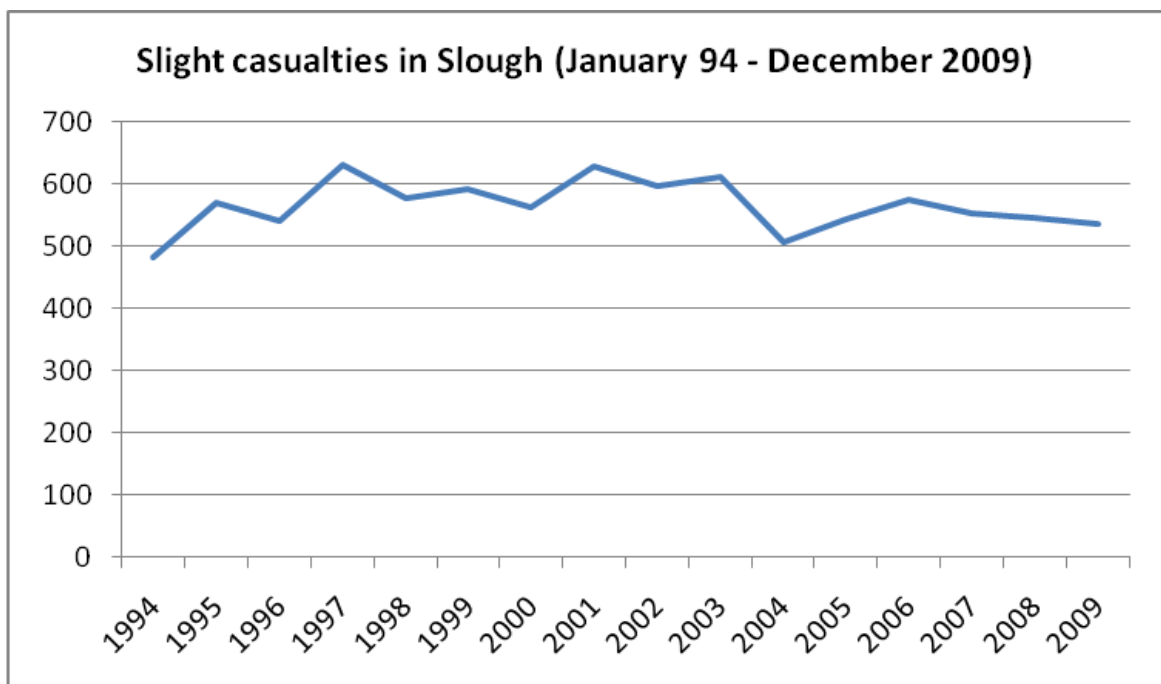


Figure 3.2 – Slight casualties in Slough (January 1994 – December 2009)

Progress towards National Casualty Reduction Targets

- 3.11 As reported in the LAPR, before 1999 Thames Valley used different definitions of serious and slight casualties compared to the rest of the country. As is detailed in the LAPR, in order to allow direct comparison of 1994-1998 baselines to recent statistics, it was agreed with the DfT that “adjusted baseline” KSIs can be represented as 14.9% of all Personal Injury Casualties (PICs) for the period from 1994-1998. These adjustments have been applied for all KSI baseline figures.

Killed or Seriously Injured (KSIs)

- 3.12 Table 3.5 shows overall KSI, child KSI and slight casualties, between 2005 – 2009, compared to the 1994 – 1998 “adjusted baseline” KSIs, and the National Casualty Reduction Target 2010.
- 3.13 Figure 3.3 shows that between 2005 – 2009 Slough had an average of 48 KSIs and achieved a 50% reduction in the number of KSIs compared to the 1994 – 1998 “adjusted baseline”, and is therefore on target to meet the Government’s National Road Casualty Reduction Target for 2010.

Table 3.5 – Slough’s Progress towards National Casualty Reduction Targets

Category	1994-98 Baseline KSI	Adjusted 1994 – 1998 Baseline	National Target	2005	2006	2007	2008	2009	2005-2009 average	2010 Target	Reduction Achieved
KSI											
All	39	89	40%	44	52	49	58	35	48	53	50%
Children (<16)	9	12	50%	2	7	11	3 ³	8	6	6	50%
Slight											
All	560	N/A	10%	543	575	553	544	536	537	N/A	4%

³ The updated dataset for 2008 did not have any additional child KSIs.

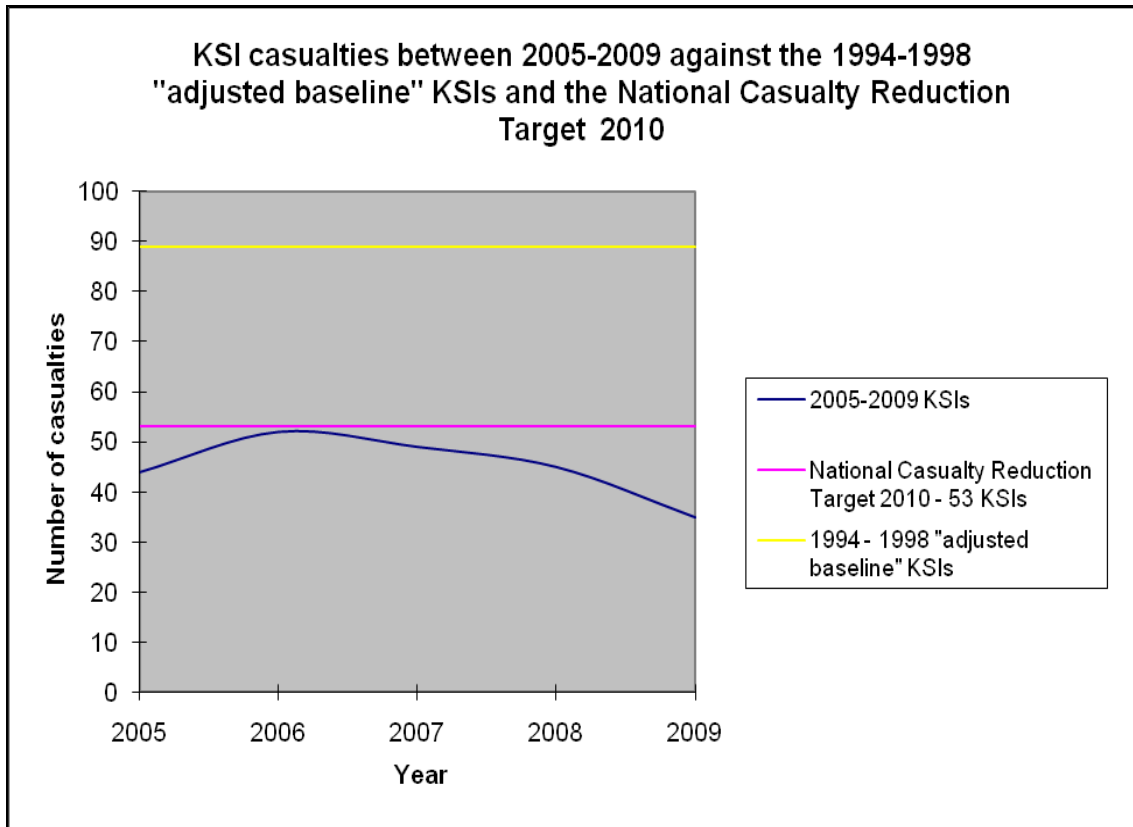


Figure 3.3 –KSI casualties between 2005 – 2009 against the 1994 – 1998 “adjusted baseline” KSIs and the National Casualty Reduction Target 2010

- 3.14 The LAPR compared KSI casualties for each district from 2005 to 2007. Only non-Highways Agency roads were represented as certain districts have a very high percentage of Highways Agency crashes which can significantly distort the ranking tables. Collision statistics per 100,000 people for each district were provided, allowing for district-to-district comparisons.
- 3.15 The LAPR provided a ranking for each district (1 for the highest or worst figures to 16 for the lowest or best). Out of the 16 districts in Thames Valley, Slough was ranked 4th for PIC casualties overall but 15th for KSI casualties reflecting the very low KSI figures in the borough.

Child KSIs

- 3.16 The child KSI casualty trend from 2005 – 2009 against the 1994 – 1998 “adjusted baseline” KSIs and the National Casualty Reduction Target 2010 is shown in Figure 3.4 below. The annual fluctuations from 2005 – 2009, due to the low number of child casualties recorded each year is shown in Figure 3.4. In comparison to the 1994 – 1998 “adjusted baseline”, child KSI casualties between 2005 - 2009 decreased by 50%, from an average of 12 child KSIs to an average of 6. Slough is therefore on target to meet the National target of a child KSI reduction of 50% compared to the 1994-1998 “adjusted baseline”, despite the annual fluctuations.

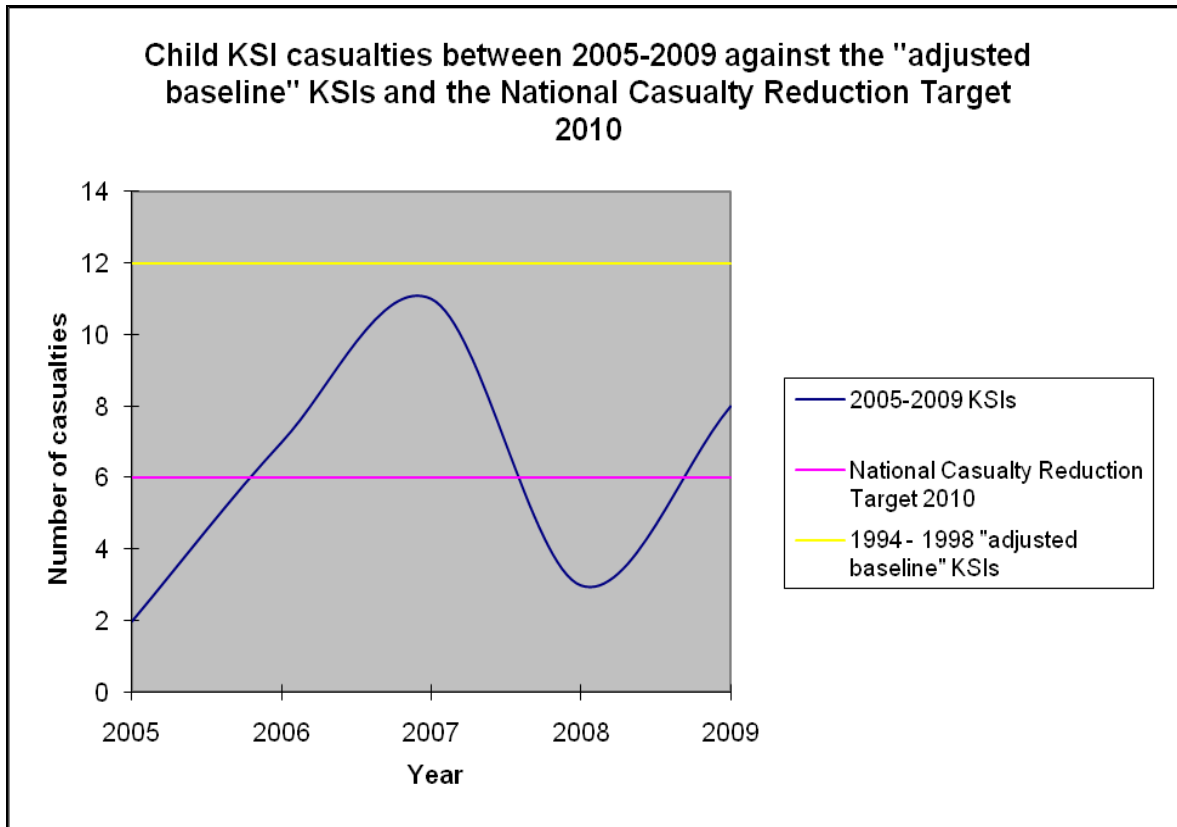


Figure 3.4 - Comparison of child KSI casualties between 2005 – 2009 against the 1994 – 1998 “adjusted baseline” and the National Casualty Reduction Target 2010

Slight Casualties

- 3.17 The slight casualty trend between 2005 – 2009 against the 1994-1998 baseline average, is shown in Figure 3.5 below. It is of note that the Government target is based on vehicular distance travelled. However, as the Government has not yet determined a mechanism for calculating this, figures are shown as casualty numbers rather than a casualty rate.
- 3.18 Although Slough is not in line to meet the National Casualty Reduction figure, it is positive that the slight casualties have decreased by 4% between 2005 to 2009, from an average of 560 slight casualties to an average of 537.

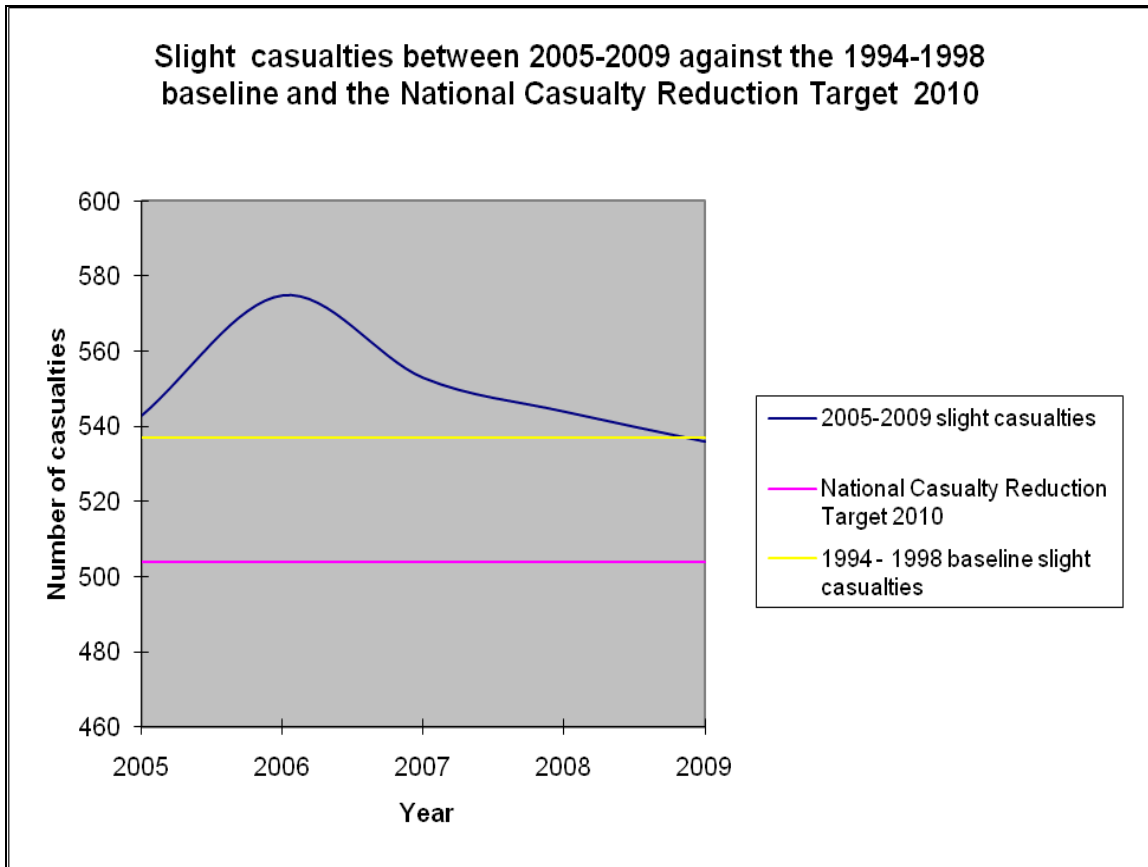


Figure 3.5 - Comparison of slight casualties between 2005 – 2009 against the 1994 – 1998 “adjusted baseline” and the National Casualty Reduction Target 2010

Current Accident and Casualty Trends in Slough

- 3.19 As shown in table 3.6 below, during the period 2005 - 2009 there were 2202 accidents in Slough⁴: 18 (1%) fatal, 190 (9%) serious and 1994 (90%) slight. During the study period there was a reduced trend from 587 Personal Injury Casualties (PICs) to 572 PICs per year, averaging 582 PICs per year in total.

Table 3.6 - Accident (casualty data) January 2005 – December 2009

Severity	2005	2006	2007	2008	2009	Total
Fatal accidents (casualties)	3 (4)	3 (3)	5 (6)	7 (7)	0 (0)	18 (20)
Serious accidents (casualties)	36 (40)	43 (49)	42 (43)	36 (38)	33 (35)	190 (205)
KSI accidents (casualties)	39 (44)	46 (52)	47 (49)	43 (45)	33 (35)	208 (225)
Slight accidents (casualties)	436 (543)	405 (575)	410 (553)	354 (476)	389 (537)	1994 (2683)
Total accidents (casualties)	475 (587)	451 (627)	457 (602)	397 (521)	422 (572)	2202 (2909)

- 3.20 Figure A.1 of Appendix A shows the locations of the KSI accidents in Slough from 2005 – 2009.
- 3.21 The 2202 Personal Injury Accidents (PIAs) that occurred from 2005 to 2009 resulted in a total of 2909 PICs: 1460 (50%) were the driver, 631 (21%) were the passenger (of this number 414; 14% were car passengers), 353 (12%) were pedestrians, 238 (8%) were pedal cyclists, and 227 (8%) were Powered Two Wheelers (PTWs).

Accidents and Temporal Trends

- 3.22 This section examines how accidents in Slough vary by month, day and hour of the day. Accident rates per 100 mvkm by time of day and day and day of the week would reveal any underlying trends that might include traffic flow, congestion, speed and behavioural elements. In the absence of this data the following trends that are presented are indicative of the temporal trends.
- 3.23 Figure 3.6 below shows the relationships in the monthly totals of accidents between 2005 – 2009. During the study period the monthly totals of accidents peaked during the months of October (227) and May (212).

⁴ The in-depth accident and casualty analysis is based on the accident and casualty data that was obtained prior to updated dataset provided for the two months of June and November 2008.

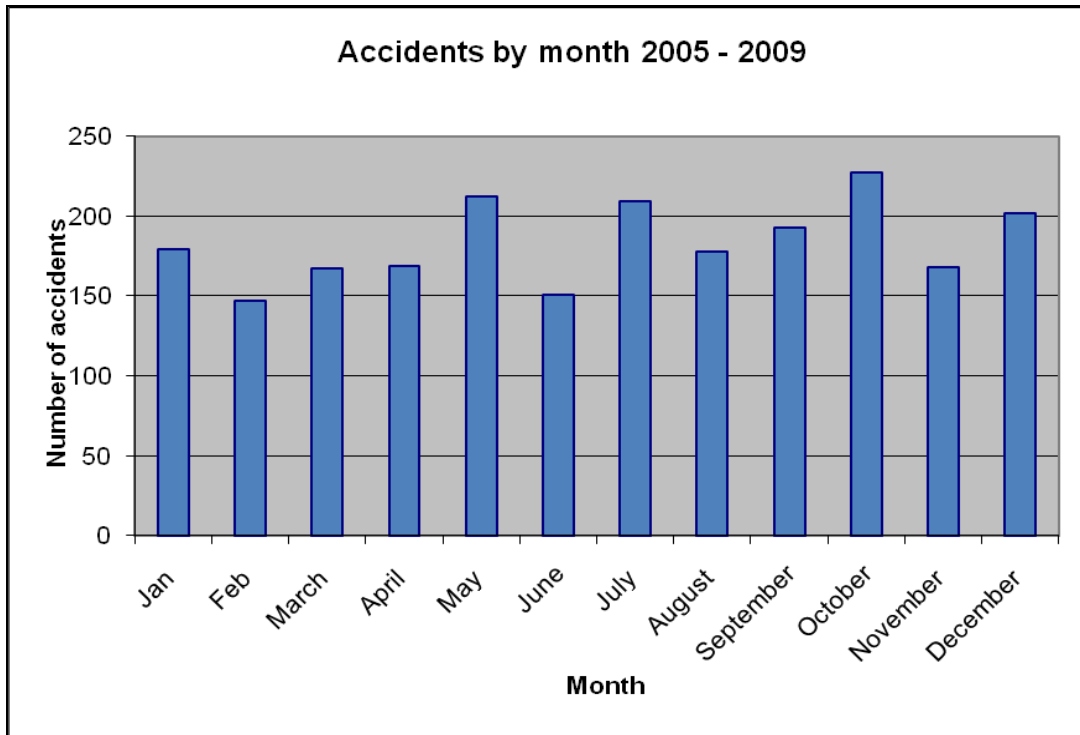


Figure 3.6 – Accidents by month (2005-2009)

3.24 As is shown in figure 3.7 below the highest total daily accident frequencies were on a Friday with 366 accidents.

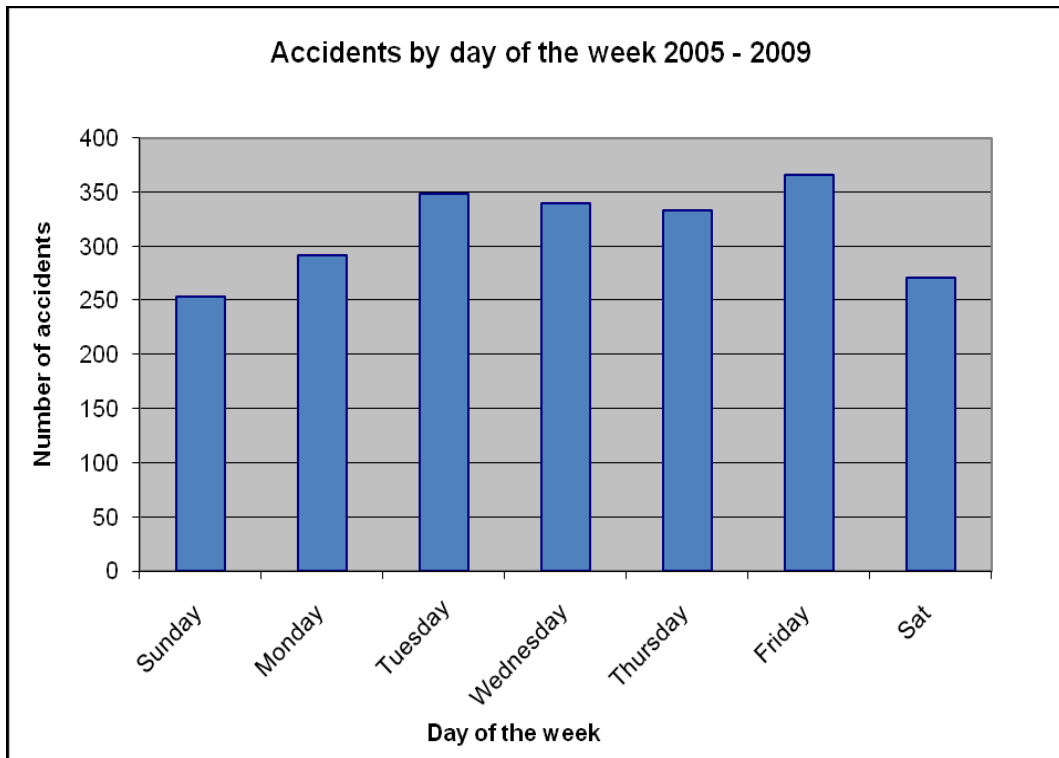


Figure 3.7 - Accidents by day of the week 2005-2009

3.25 As figure 3.8 below shows, accidents peak during the hour of 17:00 with a total of 199 accidents. After the hour of 17:00 accidents fall till the hour of 04:00 to 9 accidents, before steadily rising to

165 during the hour of 08:00. There is also another peak accident frequency of 183 during the hour of 15:00.

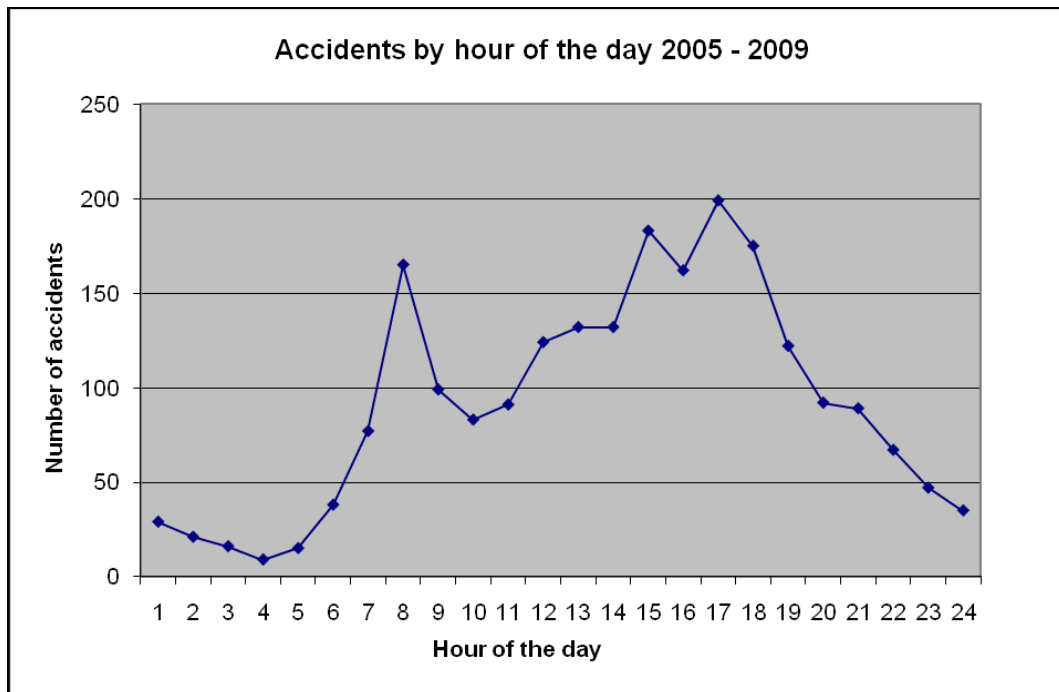


Figure 3.8 – Accidents by hour of the day 2005 – 2009

Accidents and Vehicles Involved

- 3.26 Figure 3.9 below shows the breakdown in vehicle types involved in accidents in Slough from 2005 – 2009. Of the 4341 vehicles recorded in accidents from 2005 to 2009, 3460 (78%) were cars, 270 (6%) were goods vehicles, 248 (6%) were motorcycles, 240 (6%) were pedal cyclists, 62 (1%) were taxi/private hire vehicles, 28 (1%) were bus or coach, 20 were other motor vehicles and 13 were minibuses.
- 3.27 Data regarding the vehicle kms by vehicle type is not currently available, but would be useful in order to ascertain whether some types of vehicles are more likely to be involved in an accident.

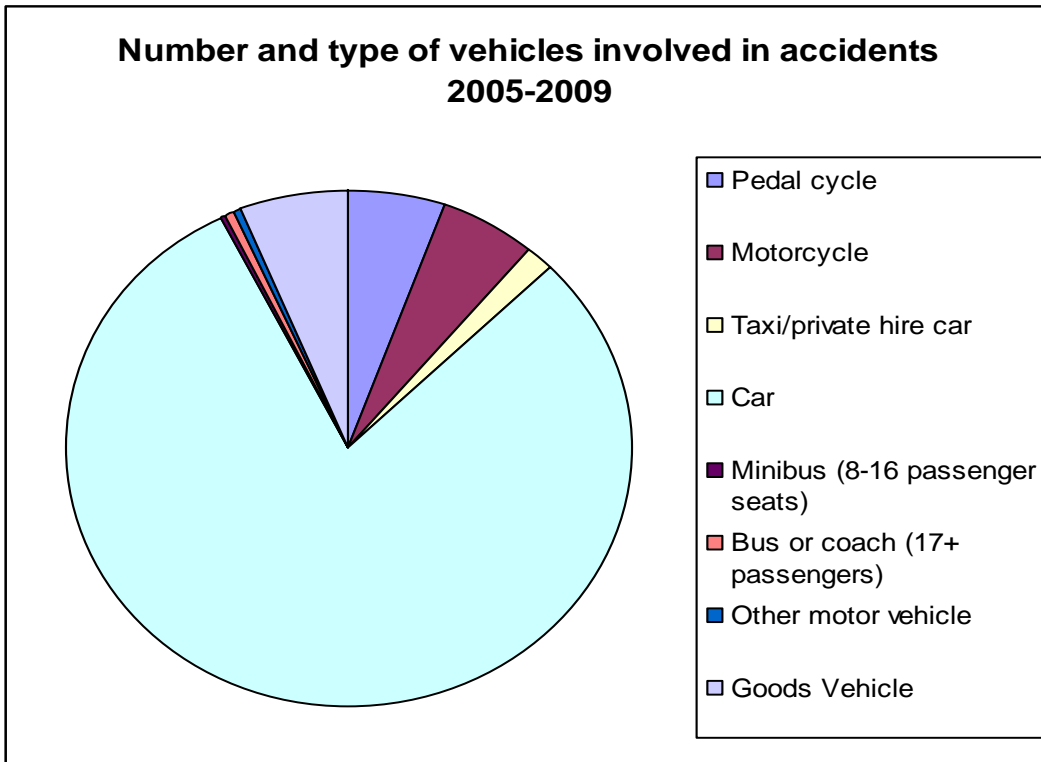


Figure 3.9 – Number and type of vehicles involved in accidents 2005-2009

- 3.28 Figure 3.10 below shows the journey purpose of vehicles involved in accidents. Of the 4341 vehicles that were recorded in accidents 768 (18%) were travelling as part of a work journey and 476 (11%) were commuting to/from work.
- 3.29 The LAPR investigated the method for travel to work in Slough and found that car or van is by far the biggest sector with a ratio of a little under one passenger to every ten drivers. Motorcycle use as a method of travel to work was found to be very small; smaller than public transport and cycling.

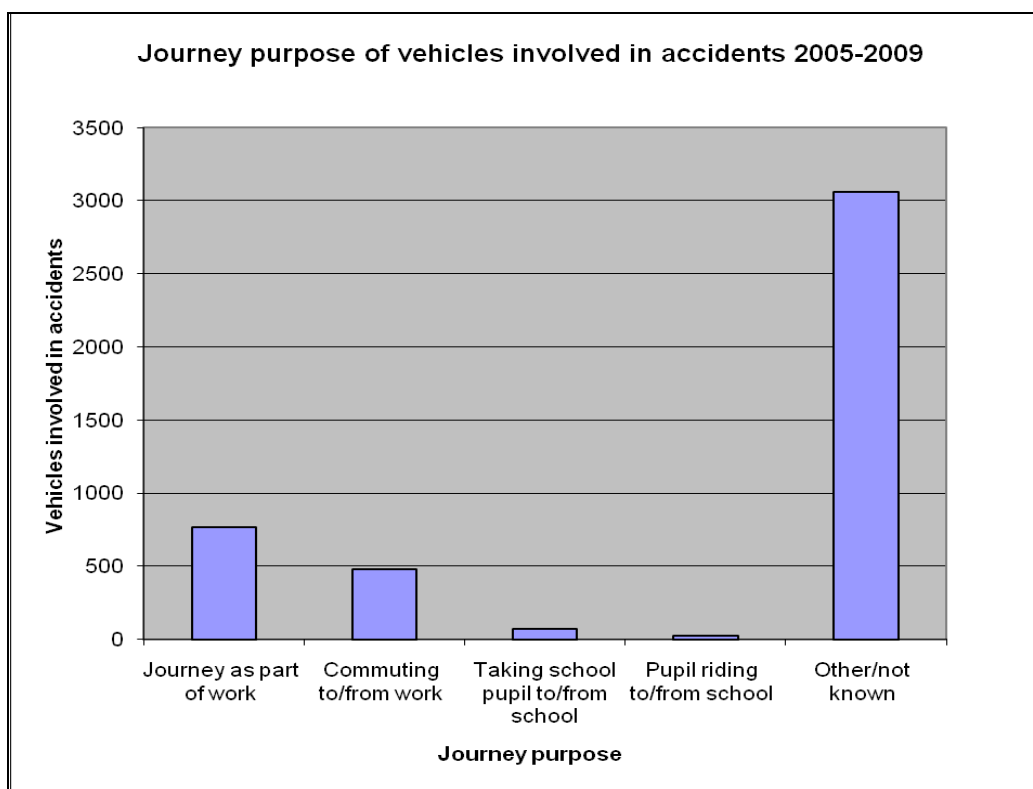


Figure 3.10 – Journey purpose of vehicles involved in accidents 2005-2009

Foreign Registered vehicles

3.30 Table 3.7 below shows that there were a total of 52 foreign registered vehicles involved in accidents in Slough from 2005 – 2009. The LAPR carried out research into the number of foreign registered vehicles involved in accidents in each Thames Valley district during the period 2005-2007 and found that approximately 1% of Slough’s injury collisions involve foreign registered vehicles.

Table 3.7 – Number of foreign registered vehicles involved in accidents (January 2005- December 2009)

Number of Foreign Registered Vehicles	2005	2006	2007	2008	2009	Total
Left hand drive vehicle	8	18	7	4	8	45
Right hand drive	2	2	1	1	1	7
Total	10	20	8	5	9	52

Accidents and Highways Agency Roads

3.31 The M4 Motorway, junctions 5, 6 and 7 are included within Slough Borough and provides a quicker route for people who are travelling from one part of Slough to the other without going through the town itself. Between 2005 – 2009 collisions occurring on the M4 within the Slough area contributed to 16% of the borough’s total accidents. As Table 3.8 below shows further

examination of the data reveals that during this period collisions on the M4 contributed to 41% of all KSI accidents in Slough (28% of fatal, 13% of serious) and 16% of all slight accidents in Slough.

3.32 As has been mentioned previously, the M4 is the responsibility of the Highways Agency and Slough has no direct influence on road safety performance on Highway Agency Roads.

Table 3.8 – Number and severity of Motorway accidents in Slough (January 2005- December 2009)

Severity of Motorway Accidents in Slough	2005	2006	2007	2008	2009	Total	% of total accidents in Slough
Fatal	1	0	1	3	0	5	28
Serious	6	9	2	5	2	24	13
Slight	70	60	68	55	60	313	16
Total	77	69	71	63	62	342	16

3.33 The TVSRP compared the number of collisions on non-Highways Agency roads in the Thames Valley districts with collisions on the HA roads over the period 2005-07 (as discussed in the LARP) and found that HA road collisions represented 16% of the total collisions in Slough. Collisions on Highways Agency roads in Slough were found to have remained more or less constant over 5 years.

3.34 The M4 Route Management Strategy 2005 recognised two problems relating to such use:

- Congestion at Junction 7 caused by the A4 junction at Taplow; and
- The close proximity of junctions 5, 6 and 7 suggests weaving and congestion related accidents.

Accidents and Contributory Factors

3.35 Contributory Factors (CFs) summarise the events and influences which led directly to an accident. Since January 2005, CFs have been included by all police forces as part of STATS19 for all injury road accidents recorded. Each accident can be allocated up to six CFs by the reporting police officer from a potential of 77 individual CFs that are split into nine CF Groups concerning the road user, the vehicle or the road environment. On average 2.4 CFs are allocated to each accident (DfT 2003). CF analysis may direct and potentially prioritise interventions, road safety campaigns and remedial measures as they assist in the identification of the key actions, occurrences and failures that led directly to an actual impact.

Key Contributory Factor Groups

3.36 Table 3.9 below shows that the largest group of CFs to be attributed to all accidents in Slough during the five years from 2005 to 2009 are 'Driver/Rider Error or reaction' with a total of 984 CFs and comprising 45% of the total number of all CFs. The second largest group of CFs are 'Injudicious Action' with a total of 350 CFs (16% of the total).

Table 3.9 – Contributory Factor Group and severity of accidents in Slough (January 2005- December 2009)

Code	Contributory Factor Group	Fatal	Serious	Slight	Total (of all CF groups)	% of total (of all individual CF codes)
100	Road Environment Contributed	0	10	103	113	5
200	Vehicle Defects	0	3	24	27	1
300	Injudicious Action	4	27	319	350	16
400	Driver/Rider Error or reaction	4	64	916	984	45
500	Impairment or distraction	2	13	137	152	7
600	Behaviour or Inexperience	0	17	204	221	10
700	Vision affected by	0	5	69	74	3
800	Pedestrian only (casualty or uninjured)	5	43	160	208	9
900	Special Codes	4	7	51	62	3
	Total	19	189	1983	2191	

3.37 Table 3.9 shows that the largest group of CFs to be attributed to fatal accidents in Slough from 2005 and 2009 are 'Pedestrian only (casualty or uninjured)' with a total of 5 CFs. The second largest groups of CFs to be attributed to fatal accidents are 'Injudicious Action' and 'Driver/Rider Error or Reaction' with a total of 4 CFs each.

3.38 The largest group of CFs to be attributed to serious accidents in Slough from 2005 to 2009 are 'Driver/Rider Error or Reaction' with a total of 64 CFs and the second largest group are 'Pedestrian only (casualty or uninjured)' with a total of 43 CFs.

3.39 The largest group of CFs to be attributed to slight accidents in Slough from 2005 to 2009 are 'Driver/Rider Error or Reaction' with a total of 916 CFs and the second largest group are 'Injudicious Action' with a total of 319 CFs.

Individual Contributory Factors

3.40 Table 3.10 below illustrates the top ten CFs within Slough during 2005 to 2009.

Table 3.10 – Top ten contributory factors in Slough (January 2005 – December 2009)

Ranking	Code	Contributory Factor Group	Total (of all CF groups)	% of total (of all individual CF codes)
1	405	Failed to look properly	485	22
2	406	Failed to judge other person's path or speed	186	8
3	403	Poor turn or manoeuvre	131	6
4	802	Failed to look properly	121	6
5	602	Careless/reckless/in a hurry	118	5
6	308	Following too close	94	4
7	501	Impaired by alcohol	78	4
8	103	Slippery road (due to weather)	68	3
9	307	Travelling too fast for conditions	65	3
10	601	Aggressive driving	63	3

3.41 The most frequently recorded individual accident contributory code in Slough from 2005 to 2009 was 'Failed to look properly'. As shown above in Table 3.10, this code had a total of 485 CFs and represented 22% of the total of all individual CF codes. The second most frequently recorded CF was 'failed to judge other person's path or speed' which had a total of 186 CFs and represented 8% of the total.

3.42 The LAPR compared collisions by CFs in each of the 16 districts in Thames Valley for 2005-2007. Only non-Highways Agency roads were represented and collision statistics per 100,000 people for each district were provided, allowing for district-to-district comparisons.

3.43 Slough was found to be the highest/worst ranked district in Thames Valley for impairment by drugs, mobile phone usage while driving, exceeding the speed limit, and disobeying an ATS. The figure for disobeying an automatic traffic signal is over double the rate of any other district in Thames Valley.

3.44 Furthermore, it was reported in the LAPR that Slough was the third highest/worst ranked of the 16 districts in Thames Valley for alcohol related crashes.

Socio-demographics and Accidents

- 3.45 Socio-demographic analysis was carried out by the TVSRP and reported in the LAPR. This analysis utilised the Experian Mosaic socio-demographic database associated multimedia guide. There are 61 'Mosaic Types' that are used around the country to summarise the sorts of people who live in an area.
- 3.46 The Experian database assigns short titles to each of the 'Mosaic Types' in order to give a flavour of the class. The portraits for each type are accessed through the multimedia guide. Each of these portraits seeks to highlight key features which make these categories distinctive and which would be useful to consider when devising communications or treatment strategies targeted at them. They are necessarily subjective descriptions and are intended to highlight key issues rather than to be comprehensive.
- 3.47 The socio-demographic analysis carried out by the LAPR identified that Mosaic class C20 'Asian Enterprise', described as living in suburbs sought after by the more successful members of the Asian community, are overrepresented in Slough's accident statistics by more than seventeen times compared to the national average.
- 3.48 The LAPR reported that many people in Mosaic class C20 'Asian Enterprise' are first generation migrants who, before they arrived in the United Kingdom, belonged to middle class Asian families engaged in commerce or administration. C20 contains well-qualified minorities, who have settled in suburban semi-detached houses in inter war suburbs. The parents have successfully established themselves, often in difficult circumstances, and are pushing their children to achieve the same or better.
- 3.49 The LAPR showed drivers resident in Slough that had crashed in Thames Valley between 2000 and 2007, grouped by their Mosaic class. The two Mosaic driver 'types' that were over-represented in the accident statistics were C20 'Asian Enterprise' (as described above) and D26 'South Asian Industry'.
- 3.50 Mosaic class D26 'South Asian Industry'; are described as 'Communities of lowly paid factory workers, many of them of South Asian descent'. Many within this group are extremely poor with ancestral links back to Bangladeshi and often live in very low quality 19th century terraced housing in the inner areas of industrial towns. Educational attainment is low, with close to 50% having no formal qualifications.
- 3.51 The LAPR also found that the Mosaic type that is most represented in the speeding offences list is 'Asian Enterprise' with 21% and it does show some over-representation with 118% of the expected number of offences.

Targeting these groups

- 3.52 The LAPR identified that the communications channels to select when working with 'Asian Enterprise' include the internet, heavyweight magazines and broadsheet newspapers and to avoid television. 'South Asian Industry' were found to be receptive to internet and telemarketing and unreceptive to TV, newspapers and leaflets. However, although not raised in the LAPR it is likely that the roll out of Asian Sky satellite channels would make this Mosaic class very receptive to advertisements.
- 3.53 Family and religion play vital role and communicating with these groups could be a real challenge as they do not appear to exhibit a great deal of receptivity to common local media sources with the possible exception of 'outdoor'. The strength of religious observance, however, may provide avenues in to these communities. However, although not raised as an issue in the LAPR, it is likely that the temples and mosques would not be the best places to distribute road safety messages, as these tend to be attended by the law abiding groups. Language is also a consideration in communicating with these groups, as there are a significant proportion of homes where English is not spoken.

Summary – Accident Data Overview

CURRENT ACCIDENTS AND CASUALTY TRENDS

- During the period 2005 – 2009, there were 2202 accidents in Slough: 18 (1%) fatal, 190 (9%) serious and 1994 (90%) slight.
- The 2202 Personal Injury Accidents (PIAs) from 2005 to 2009 resulted in a total of 2909 PICs: 1460 (50%) were the driver, 631 (21%) were the passenger (of this number 414; 14% were car passengers), 353 (12%) were pedestrians, 238 (8%) were pedal cyclists, and 227 (8%) were Powered Two Wheelers.
- Out of the 16 districts in Thames Valley Slough was ranked 4th for PIC casualties overall but 15th for KSI casualties reflecting the very low KSI figures in the borough.

PROGRESS TOWARDS NATIONAL CASUALTY REDUCTION TARGETS

- In comparison to the 1994-1998 adjusted baseline average, KSI casualties between 2005 and 2009 reduced by 50% from an average of 89 KSIs to an average of 45. Slough therefore is well on target to meet the Government's National Road Casualty Reduction Target of a KSI reduction of 40% compared to the adjusted 1994-1998 averages.
- In comparison to the 1994 – 1998 adjusted baseline average, child KSI casualties between 2005 and 2009 decreased by 50% from an average of 12 child KSIs to an average of 6. Slough is on target to meet the National target of a child KSI reduction of 50% compared to the 1994-1998 adjusted baseline averages.
- In comparison to the 1994-1998 baseline average, slight casualties between 2005 and 2009 decreased by 4%, from an average of 560 slight casualties to an average of 537. Slough is not on target to meet the National Road Casualty Reduction Target of a 10% reduction in slight casualties by 2010 compared to the 1994-1998 baseline average.

TEMPORAL TRENDS

- The highest total monthly accident frequencies were in October peaking at 227 accidents.
- The highest total weekly accident frequencies were on a Friday which peaked at 366 accidents.
- The highest hourly accident frequency was during the hour of 17:00 which peaked with 199 accidents. There was also another peak hourly accident frequency of 183 during the hour of 15:00.
- Accident rates per 100 mvkm by time of day and day and day of the week would reveal any underlying trends that might include traffic flow, congestion, speed and behavioural elements.

VEHICLES

- Cars were the highest frequency of vehicle type recorded in accidents in Slough and comprised 78% of the total number of vehicles.
- 18% of vehicles were travelling as part of a work journey and 11% were commuting to/from work.
- Statistics regarding the number of trips made for each journey purpose would be useful in order to reveal whether different journey purposes are more or less likely to involve a road traffic accident.

- There were a total of 52 foreign registered vehicles involved in accidents in Slough and Slough was found to be the second highest ranked district in Thames Valley for accidents involving foreign registered vehicles.
- Data regarding the vehicle kms by vehicle type is not currently available, but would be useful in order to ascertain whether some types of vehicles are more likely to be involved in an accident.

HIGHWAY AGENCY ROADS

- Collisions occurring on the M4 within the Slough area contributed to 16% of the borough's total accidents and 41% of all the KSI accidents.

CONTRIBUTORY FACTORS (CFs)

- The largest group of CFs to be attributed to all accidents in Slough are 'Driver/Rider Error or reaction' with a total of 984 CFs. The second largest group of CFs are 'Injudicious Action' with a total of 350 CFs.
- The most frequently recorded individual contributory codes are behavioural related; the most frequently recorded was 'Failed to look properly' and the second most frequently recorded was 'Failed to judge another person's path or speed'.
- Slough is the highest/worst ranked of all 16 districts in Thames Valley for accidents caused by impairment by drugs, mobile phone usage while driving, exceeding the speed limit and disobeying an ATS (the figure for which is over double the rate of any other district in Thames Valley).
- Slough is the third highest/ worst ranked district of all 16 districts in Thames Valley for alcohol related collisions.
- The strategy should focus on campaigns and enforcement measures to target driving whilst impaired by drugs or alcohol, mobile phone usage whilst driving, exceeding the speed limit and disobeying an ATS.

SOCIO-DEMOGRAPHICS

- Socio-demographic analysis has revealed that the Mosaic class 'Asian Enterprise' are overrepresented in Slough's Accident statistics by more than 17 times, compared to the national average.
- The two Mosaic driver 'types' that were over-represented in the accident statistics were 'Asian Enterprise' and 'South Asian Industry'.
- Family and religion have been found to play a vital role in communicating with these groups. Language is a consideration when communicating with these groups as there are a significant proportion of homes where English is not spoken.

Current Casualty Trends

Table 3.11 - Casualties by Road User Group January 2005 – December 2009

User Group	Fatal	Serious	KSI	Slight	Total	% of total	% KSI
Pedestrian	5	65	70	283	353	12	31
Pedal cycle	1	27	28	210	238	8	12
PTW	5	41	46	181	227	8	20
Vehicle Driver	3	46	49	1411	1460	50	22
Car passenger	4	26	30	384	414	14	13
Other passenger	2	0	2	215	217	7	1
TOTAL	20	205	225	2684	2909		
Age group							
0-15	1	30	31	252	283	10	14
16-19	1	26	27	277	304	10	12
20-29	8	51	59	770	829	29	26
30-39	4	38	42	541	583	20	19
40-49	2	21	25	395	420	14	11
50-59	2	16	18	258	276	9	8
60-69	0	12	12	84	96	3	5
70+	2	8	10	84	94	3	4
Not recorded	0	3	3	23	26	1	1
Total	20	205	225	2684	2909		

- 3.54 The largest casualty age group is the 20-29 year old age group which forms 29% of the total number of casualties and 26% of the total number of people Killed or Seriously Injured (KSIs). This is likely to correlate to population age distribution of Slough which, as is comparable with the other urban districts in Thames Valley, predominantly young. The LAPR established that the peak age group is 25-29 for females and 30-34 for males.

Vulnerable Road Users Trends

Children

- 3.55 As previously discussed, in comparison to the 1994 – 1998 baseline average, child KSI casualties between 2005 and 2009 decreased by 50% and Slough is on target to the 2010 national casualty reduction targets.
- 3.56 As shown in Table 3.13 below there were a total of 283 child casualties from 2005 - 2009; 1 fatal, 30 (11%) serious and 252 (89%) slight. There were a total of 31 child KSIs during the study period with an average of 6 per year. The number of child KSIs ranged from 2 to 11 per year (and rose during the study period from 2 to 8).

Table 3.12 – Child casualties from 2005 – 2009 by severity

Year	Fatal	Serious	KSI	Slight	Total
2005	0	2	2	62	64
2006	0	7	7	56	63
2007	0	11	11	46	57
2008	1	2	3	37	40
2009	0	8	8	51	59
Total	1	30	31	252	283

3.57 Figure A.2 of Appendix A shows the locations and severity of child accidents from 2005 – 2009.

3.58 The LAPR carried out a comparison of key vulnerable road users for each district, covering the period 2005-2007. As with the comparisons previously discussed, the figures only represent non-Highways Agency roads and each district is ranked on standardised per 100,000 population. The comparative study found that child casualties were the highest/worst ranking of all 16 districts in Thames Valley.

Child Accidents and Temporal Trends

3.59 As Figure 3.11 below shows the monthly totals of child accidents reach a peak in July with 31 accidents, and steadily fall to the lowest total of 10 in December.

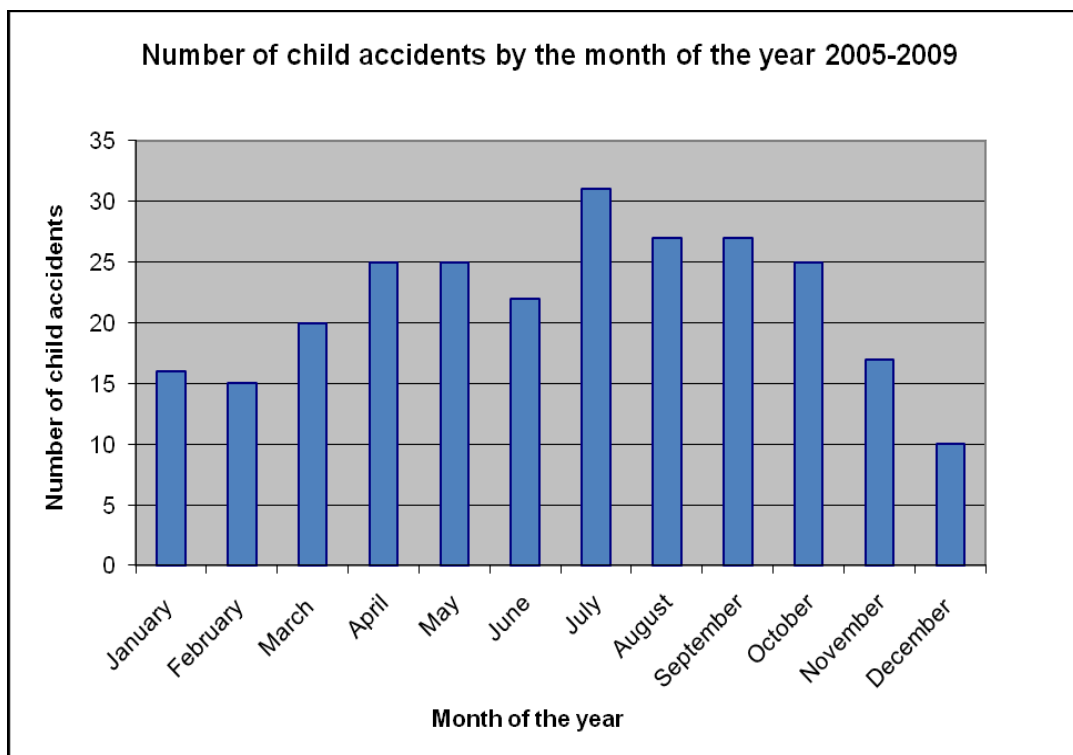


Figure 3.11 – Child accidents by the month of the year 2005-2009

3.60 Figure 3.12 below shows that the daily totals of child accidents peak on a Tuesday with 48 accidents and fall to the lowest total of 30 on a Saturday.

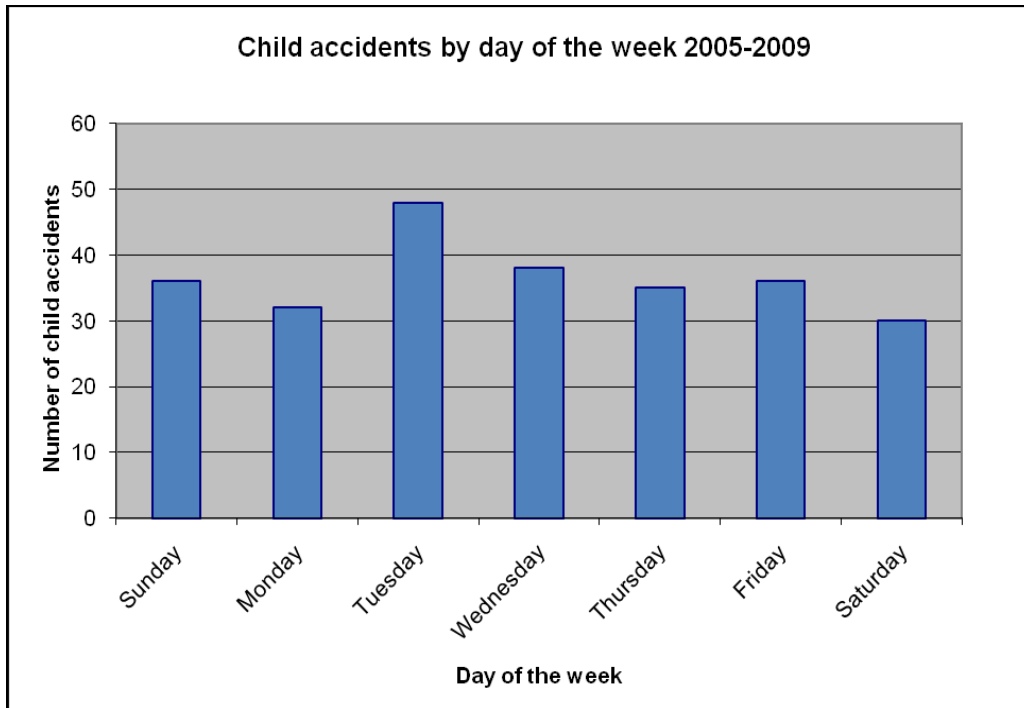


Figure 3.12 – Child accidents by the day of the week 2005-2009

3.61 Child accidents peak at 15:00 with 42 accidents and there is also another peak at 08:00 with 33 accidents (as shown in Figure 3.13 below). These peaks are likely to be associated with school travel morning and afternoon related traffic.

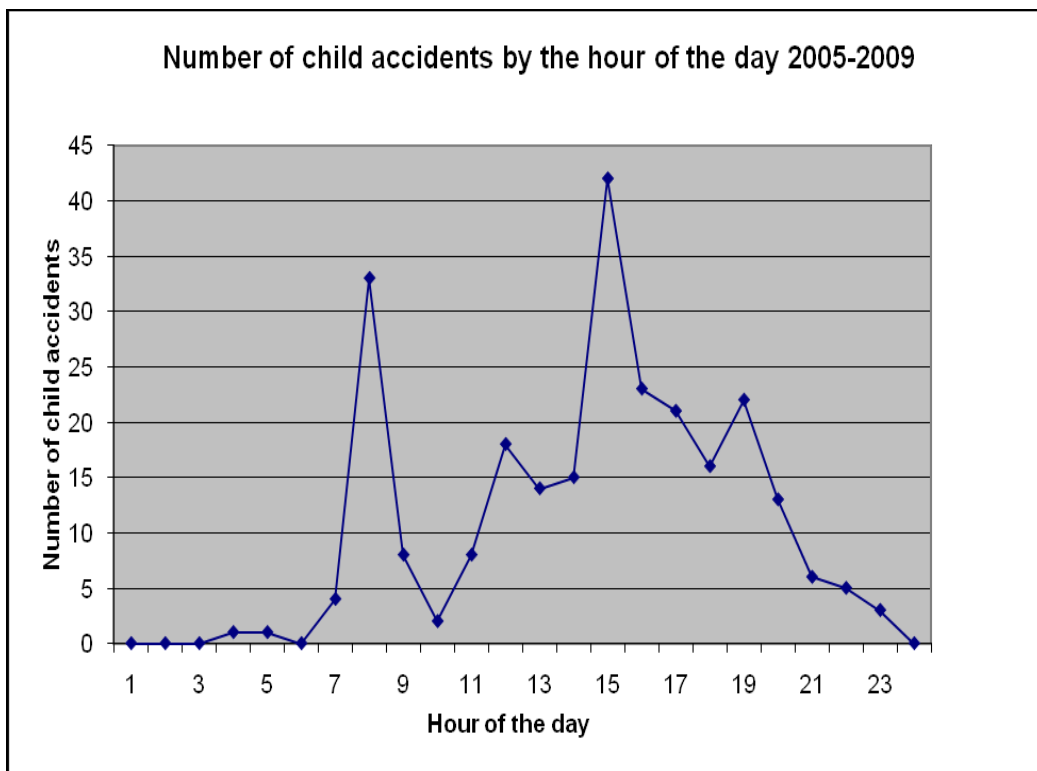


Figure 3.13 – Child accidents by the hour of the day 2005 – 2009

3.62 As is shown in Figure 3.14 below, the child casualties between 2005 and 2009 were comprised of the following casualty class: there were 115 (41%) vehicle/pillion passengers; 111 (39%) pedestrian casualties and 57 (20%) driver/rider casualties.

- Of the 57 child casualties recorded as driver/rider 4% (2) were <10 and 96% (55) were between 10 and 15 years.
- Of the 115 child casualties recorded as vehicle/pillion passengers 60 were < 10 and 55 were between 10 and 15 years.
- Of the 111 child pedestrian casualties 60 were < 10 and 51 were between 10-15 years.

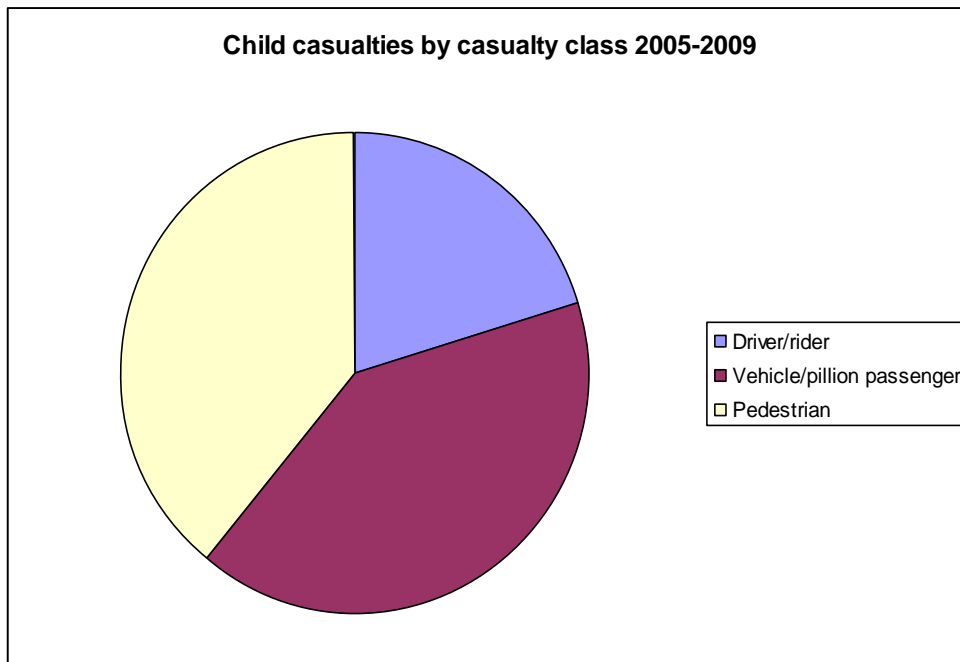


Figure 3.14 – Child casualties by casualty class 2005-2009

3.63 As Figure 3.15 below shows child pedestrians comprise the largest number of child KSI casualties. There were 31 child KSIs that were comprised of 21 (68%) pedestrians, 5 (16%) driver/rider and 5 (16%) vehicle/pillion passenger.

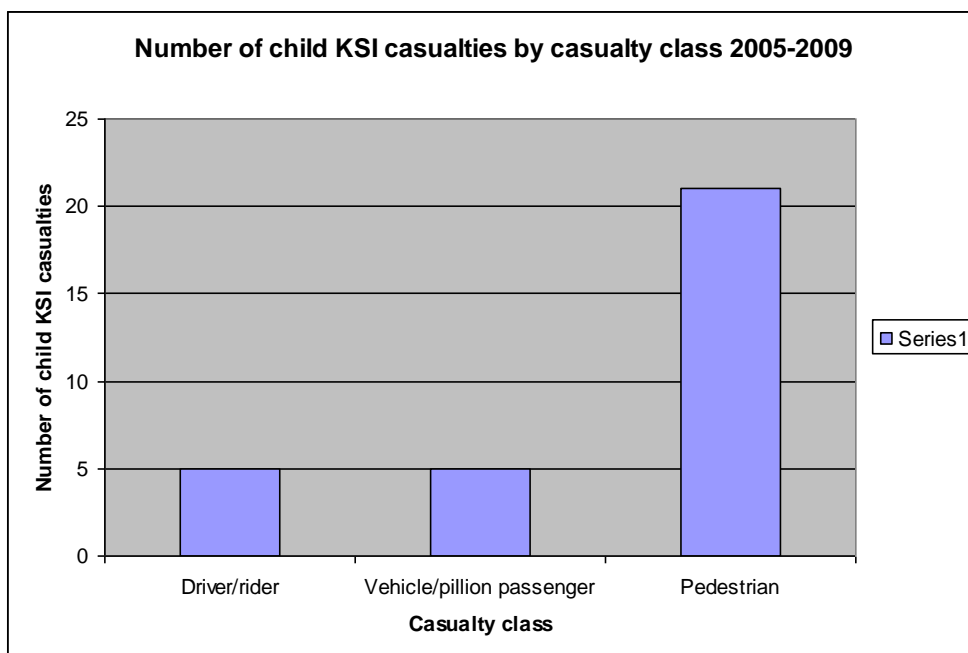


Figure 3.15 – Child KSI casualties by casualty class 2005-2009

3.64 34 child casualties were recorded as occurring on the journey to or from school; 2 serious and 32 slight. Of this number 16 were pedestrians, 11 were vehicle passenger, 21 were vehicle passengers and 8 were driver/riders.

SUMMARY – CHILD ACCIDENTS/CASUALTIES

- There were a total of 283 child casualties from 2005-2009; 1 fatal, 30 (11%) serious and 252 (89%) slight.
- During 2005 – 2009, child KSI casualties comprised 14% of all KSIs in Slough.
- Child casualties are the highest/worst ranking of all 16 districts in Thames Valley. It is therefore important that the strategy prioritises measures aimed at reducing child casualties.
- The monthly totals of child accidents peaked in July with 31 accidents, the daily totals peaked on a Tuesday with 48 accidents, and the hourly totals peaked at 15:00 with 42 accidents.
- The largest majority of child casualties (115, 41%) were comprised of vehicle/pillion passengers. This shows the importance that the strategy should give to measures related to in car child safety and the wearing and correct fitting of seatbelts.
- 39% (111) of child casualties were child pedestrians. Furthermore child pedestrians comprise the largest number of child KSI casualties. Consideration should therefore also be given to measures to improve child pedestrian safety in the strategy.

3.65 As Table 3.12 showed there were a total of 353 pedestrian casualties over the study period; 5 (1%) were fatal, 65 (23%) were serious and 282 (80%) were slight. Pedestrian casualties formed

12% of the total road user groups and 31% of all KSIs; the largest percentage of KSIs of all user groups.

3.66 Figure A.3 of Appendix A shows the locations of the pedestrian accidents by severity from 2005 – 2009.

3.67 A specific National Casualty Reduction Target for pedestrian casualties was not set. However, in order to put the latest pedestrian casualty figures into context, Figure 3.16 below shows that in comparison to the 1994-1998 “adjusted baseline” of 11, the average number of pedestrian KSIs during 2005 – 2009 increased by almost 4%, to an average of 14 KSIs.

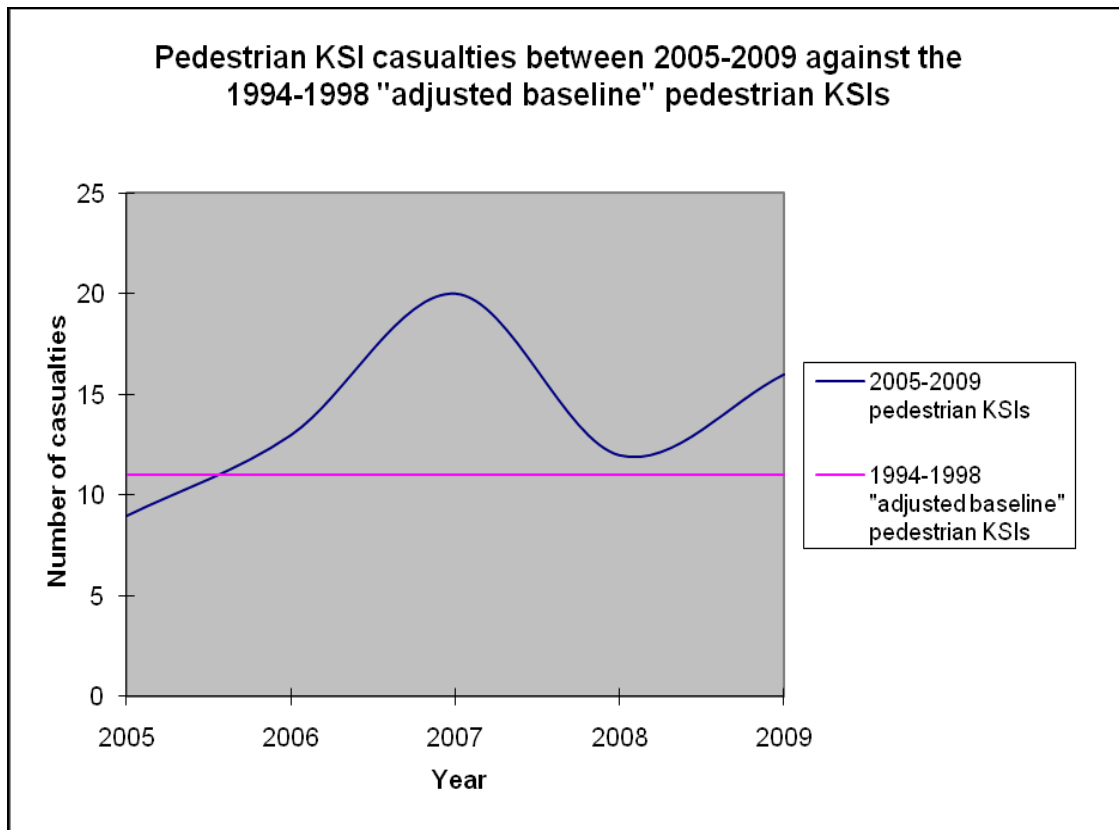


Figure 3.16 - Comparison of pedestrian KSI casualties between 2005 – 2009 against the 1994 – 1998 “adjusted baseline” pedestrian KSIs

3.68 The LAPR compared pedestrian casualties for each district in Thames Valley, covering the period from 2005-2007. As with the comparisons previously discussed, the figures only represent non-Highways Agency roads and each district is ranked on standardised per 100,000 population. Pedestrian casualties in Slough were the third highest/worst ranking of all 16 districts in Thames Valley.

3.69 There were a total of 347 pedestrian accidents during 2005 – 2009 and, as is shown in figure 3.17 below, the total monthly profile of pedestrian accidents peaked during the month of October with 42 accidents.

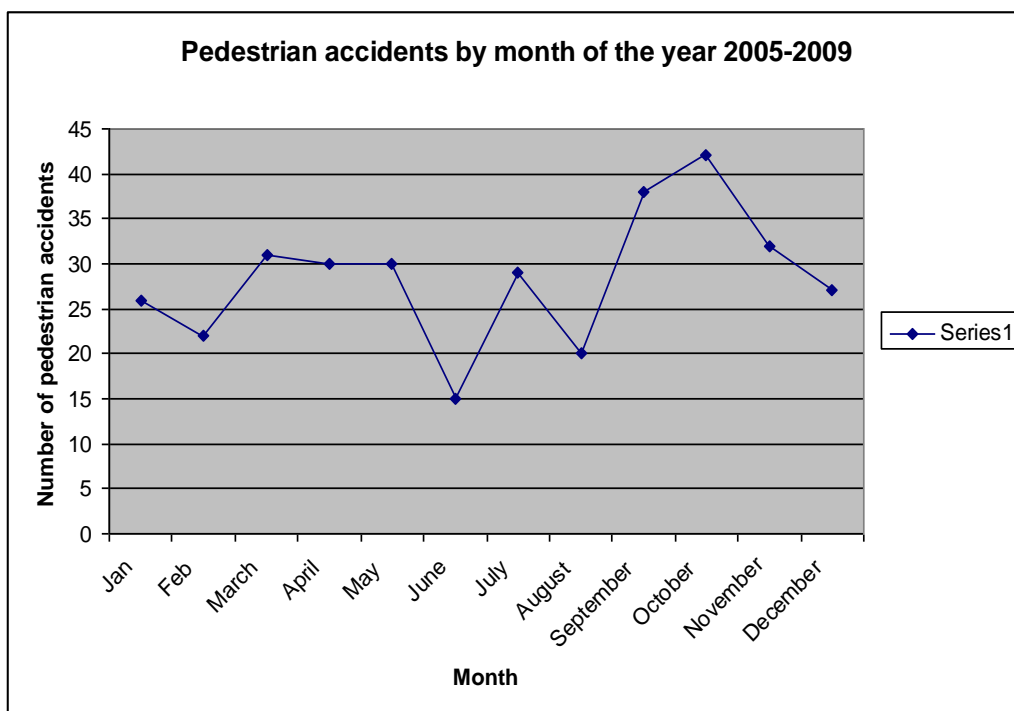


Figure 3.17 – Pedestrian accidents by month of the year 2005-2009

3.70 As Figure 3.18 below shows the highest average daily pedestrian accident frequency was on a Wednesday with 61 accidents.

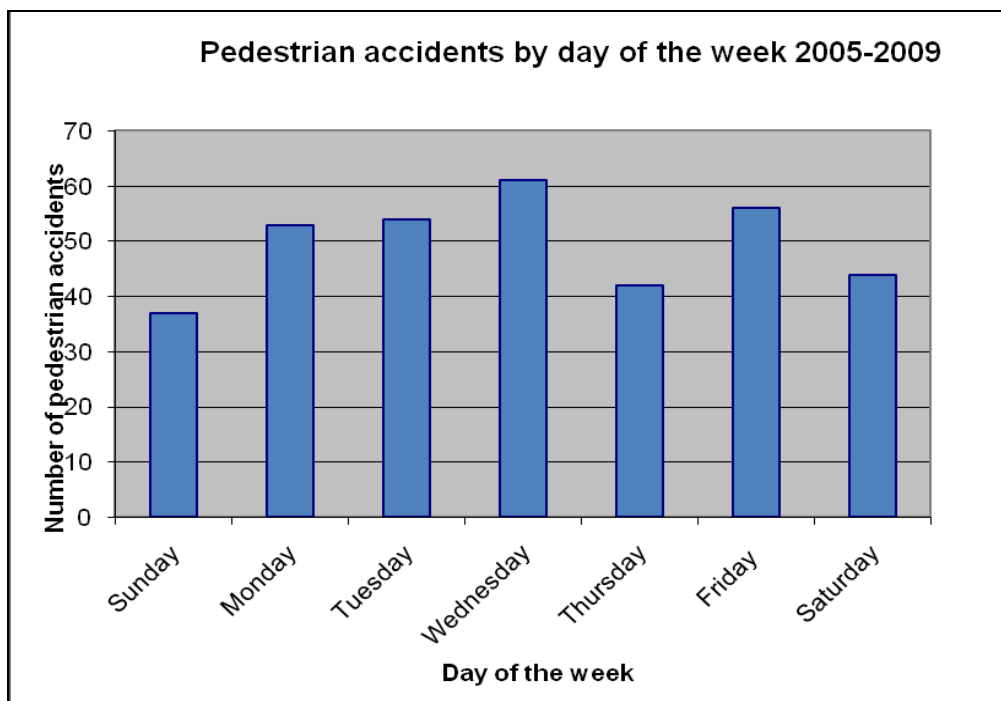


Figure 3.18 – Pedestrian accidents by the day of the week 2005 - 2009

3.71 As shown in figure 3.19 below the total hourly profile of pedestrian accidents peaked at 08:00 with 40 accidents and at 15:00 with 40 accidents, which could be related to peak morning commuter traffic flow and school travel patterns. This information provides a focus for road safety activity in the form of education for both drivers and pedestrians during these times and education/enforcement/engineering measures if appropriate.

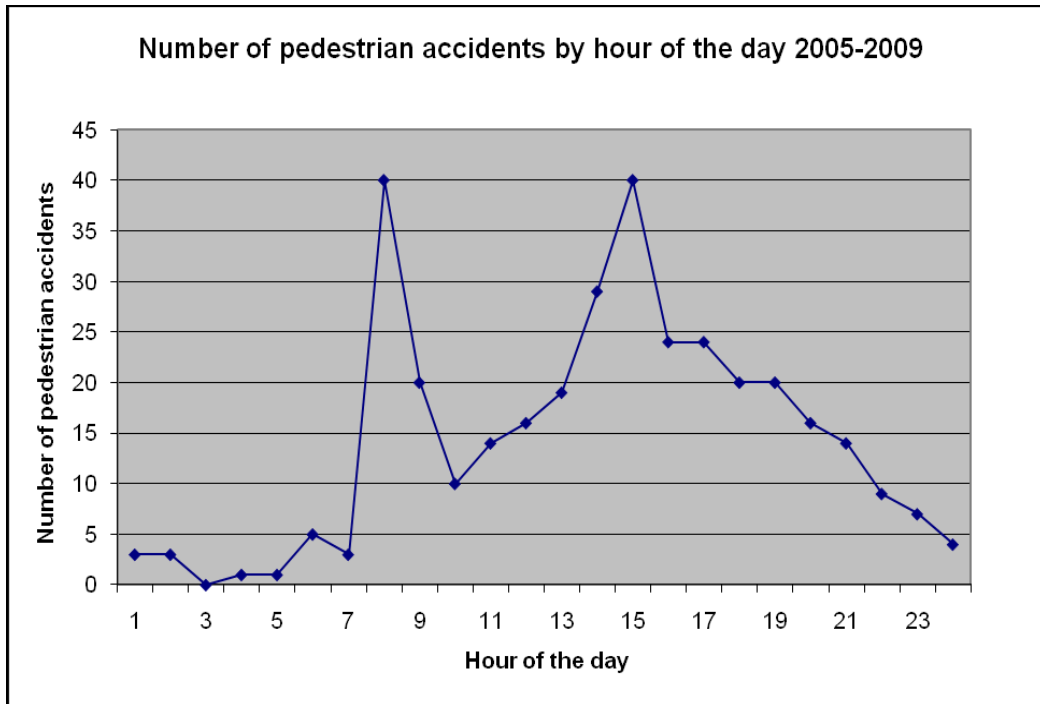


Figure 3.19 – Pedestrian accidents by hour of the day 2005-2009

3.72 As Figure 3.20 below shows, child pedestrians formed the largest age group of pedestrian casualties during 2005-2009. Of the total 353 pedestrian casualties, 111 (31%) were child pedestrians; 24 (7%) were aged up to 5 years, 40 (11%) were aged between 6 and 10 years and 47 (13%) were aged between 11 and 15 years.

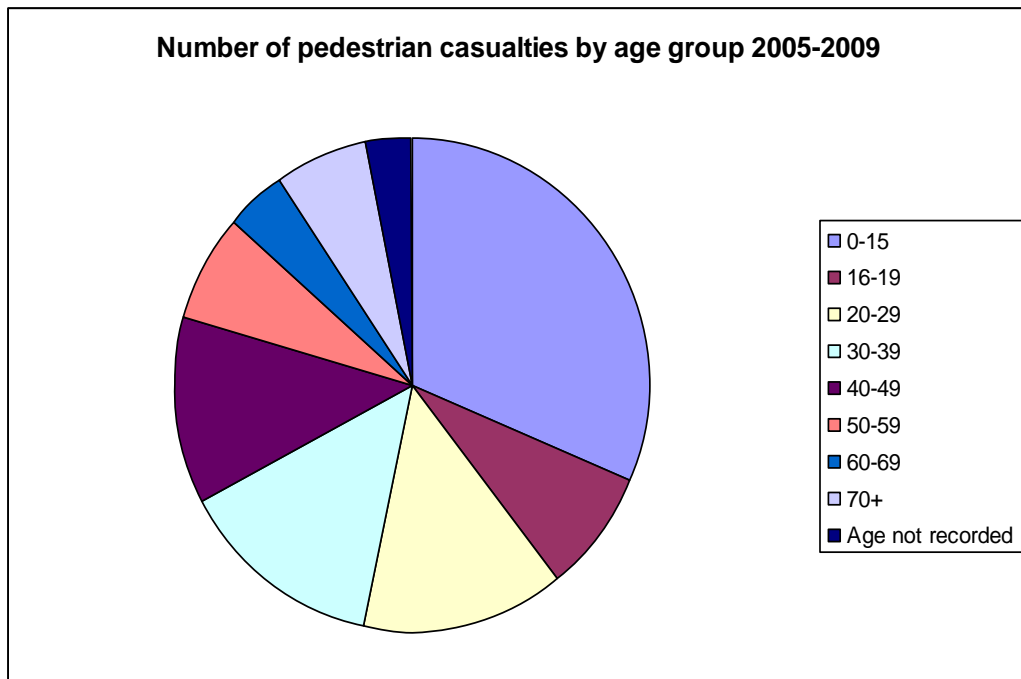


Figure 3.20 – Pedestrian casualties by age group 2005-2009

3.73 Of the 347 pedestrian accidents, the majority of 184 (53%) didn't occur at a junction and 95 (27%) occurred at a T or staggered junction (Figure 3.21). The majority of pedestrian accidents 188 (54%) occurred in the carriageway, crossing elsewhere. Through the identification of these

junctions there is the potential for the implementation of appropriate remedial measures and road safety education /publicity campaigns.

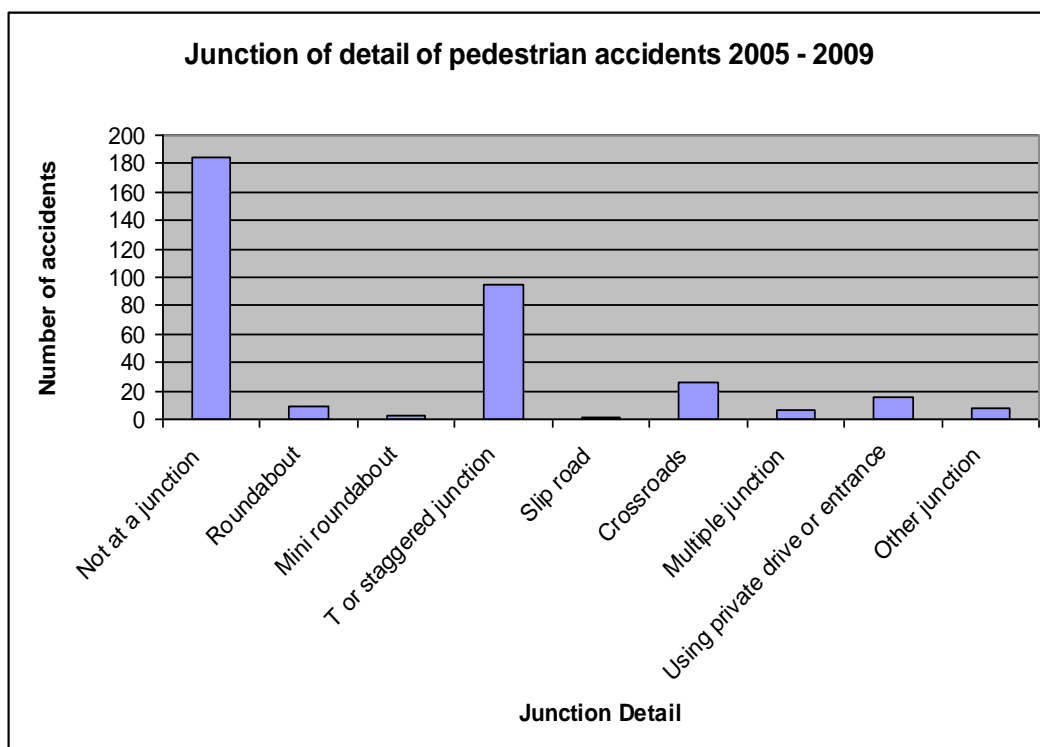


Figure 3.21 – Junction detail of pedestrian accidents 2005-2009

SUMMARY – PEDESTRIAN ACCIDENTS/CASUALTIES

- There were a total of 353 pedestrian casualties during the study period; 5 (1%) were fatal, 65 (23%) were serious and 282 (80%) were slight.
- Pedestrian casualties formed 12% of the total road users and 31% of all user groups; and the largest percentage of KSIs of all user groups. Furthermore, in comparison to the 1994-1998 “adjusted baseline” the average number of pedestrian KSIs during 2005 – 2009 increased by almost 4%, rising from an average of 11 to 14 KSIs.
- Pedestrian casualties in Slough were the third highest/worst ranking of all 16 districts in Thames Valley.
- Child pedestrians formed the largest percentage of pedestrian casualties during 2005 to 2009; of the total 353 pedestrian casualties, 111 (31%) were child pedestrians, of which the largest majority of casualties; 47 (13%), were aged between 11 and 15 years.
- Measures to improve pedestrian safety should be prioritised in the strategy, and particular consideration should be given to improving child pedestrian safety and should include measures that target teenage pedestrians.
- The monthly totals of pedestrian accidents peaked in October with 42 accidents, the daily totals peaked on a Wednesday with 61 accidents and the hourly total peaked at 08:00 both with 40 accidents.

Pedal cyclist casualties

- 3.74 There were a total of 238 pedal cyclist casualties from 2005 – 2009, 1 was fatal, 27 (11%) were serious and 210 (88%) were slight. Pedal cyclist KSIs formed 8% of the total number of KSIs.
- 3.75 Figure A.4 of Appendix A shows the locations of the pedal cyclist accidents by severity in Slough from 2005 – 2009.
- 3.76 Figure 3.22 shows the pedal cyclist KSI casualties from 2005 – 2009 against the 1994 – 1998 “adjusted baseline” pedal cyclist KSIs. Pedal cyclist KSIs have decreased by 33% from a 1994 – 1998 “adjusted baseline” of 9 to an average of 6 from 2005 – 2009.

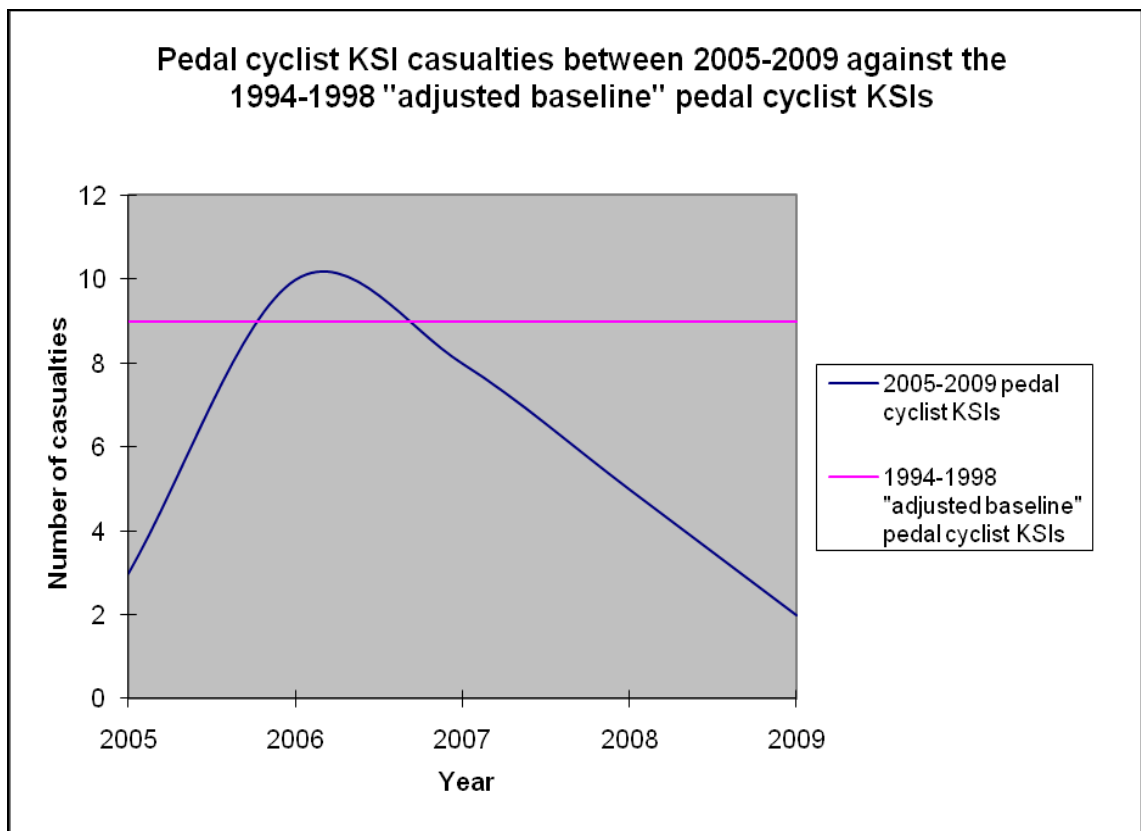


Figure 3.22 – Comparison of pedal cyclist KSI casualties 2005 – 2009 against the 1994 – 1998 “adjusted baseline” pedal cyclist KSIs

3.77 The LAPR compared pedal cyclist casualties for each district in Thames Valley, covering the period from 2005-2007. As with the comparisons previously discussed, the figures only represent non-Highways Agency roads and each district is ranked on standardised per 100,000 population. Pedal cyclist casualties in Slough were the third highest/worst ranking of all 16 districts in Thames Valley.

3.78 Figure 3.23 shows the largest age groups of pedal cyclists involved in accidents are those from the 0-15 year age group and the 20-29 year age group; each group has a total of 55 pedal cyclist accidents.

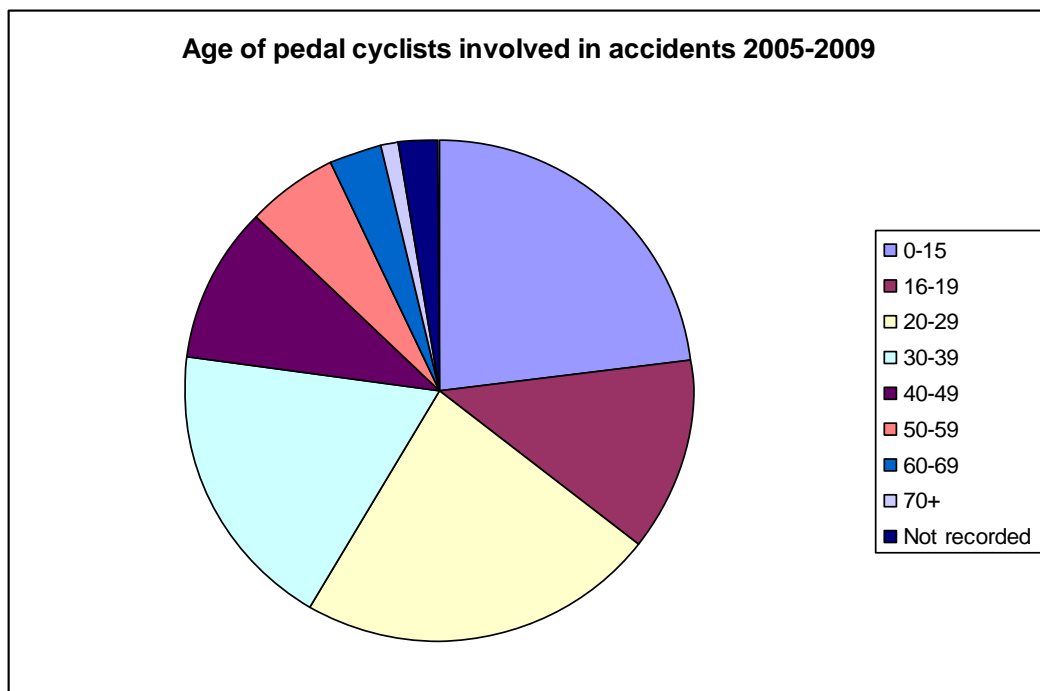


Figure 3.23 – Age of pedal cyclists involved in accidents 2005-2009

3.79 There were a total of 240 pedal cyclist accidents in Slough from 2005 – 2009. As figure 3.24 below shows, total monthly pedal cyclist accidents peak in June with 25 accidents, and fall sharply to the lowest total of 13 accidents in August. Accidents then rise sharply from August and reach another peak in October and November of 24 accidents.

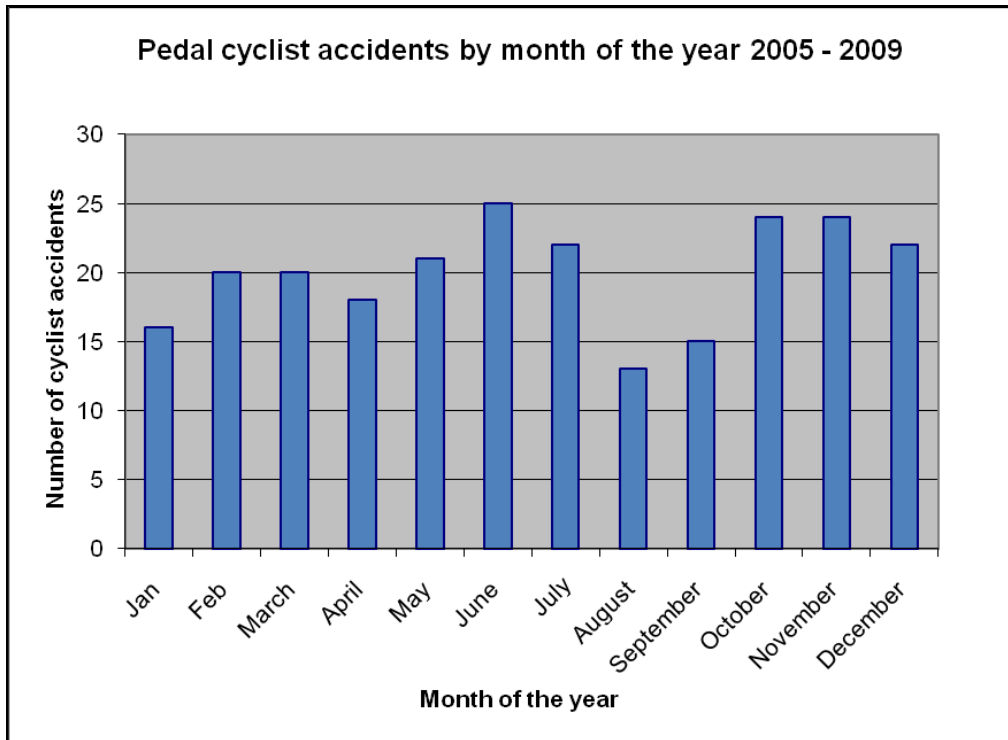


Figure 3.24 - Pedal cyclist accidents by month of the year 2005 -2009

3.80 Figure 3.25 below shows that the lowest total daily pedal cyclist accident figures are on a Sunday with 15 accidents and rise sharply to reach the peak of 49 accidents on a Tuesday. From this peak accidents fall steadily over Wednesday and Thursday before climbing slightly to 38 on Friday and then falling quite sharply to 24 on a Saturday. This pattern in pedal cyclist accidents could be related to higher weekday traffic flows and also tends to suggest that accidents tend to involve commuter rather than leisure cyclists.

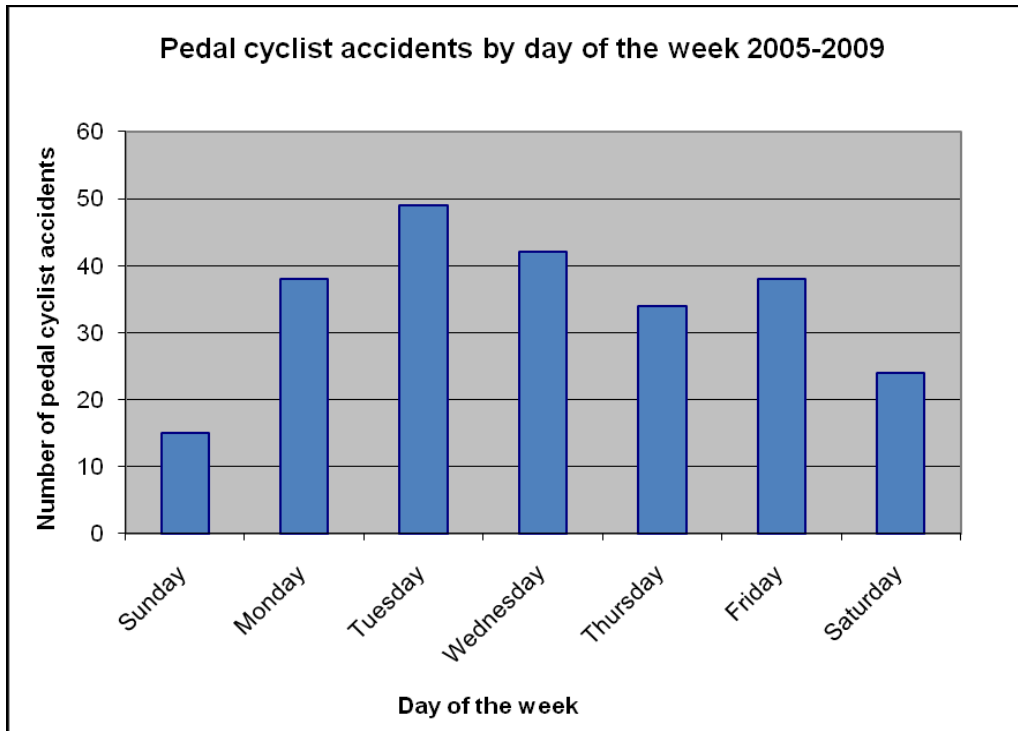


Figure 3.25 – Pedal cyclist accidents by day of the week 2005-2009

3.81 As Figure 3.26 below shows the total hourly profile of pedal cyclist accidents peaked at 17:00 hours with 26 accidents and 08:00 with 21 accidents, which could be related to peak evening and morning commuter traffic flow and also peak morning school travel patterns.

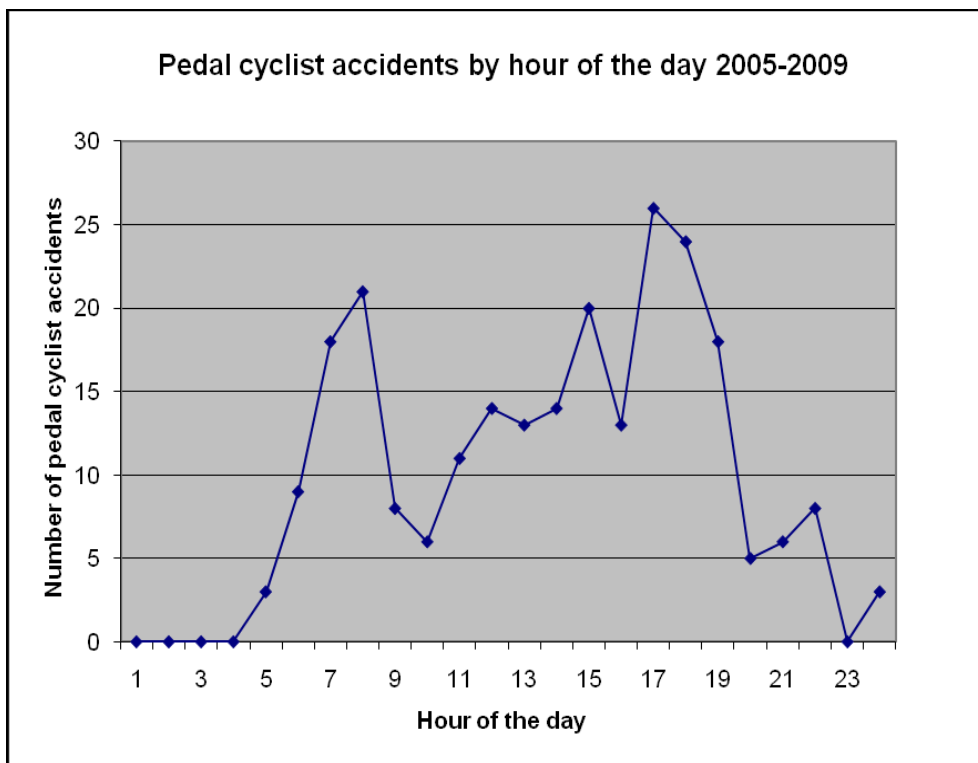


Figure 3.26 – Pedal cyclist accidents by hour of the day 2005-2009

3.82 As Figure 3.27 below shows, the majority of pedal cyclist accidents (92) were recorded as occurring at a T or staggered junction. Lesser numbers occurred at crossroads (36) and at

roundabouts (20); however, these three junction types in total account for nearly two-thirds (62%) of all pedal cycle accidents. Further research to identify the locations of these T or staggered junction, crossroads and roundabouts in order to see if there are any patterns, should be carried out in order to assist with the development of remedial measures.

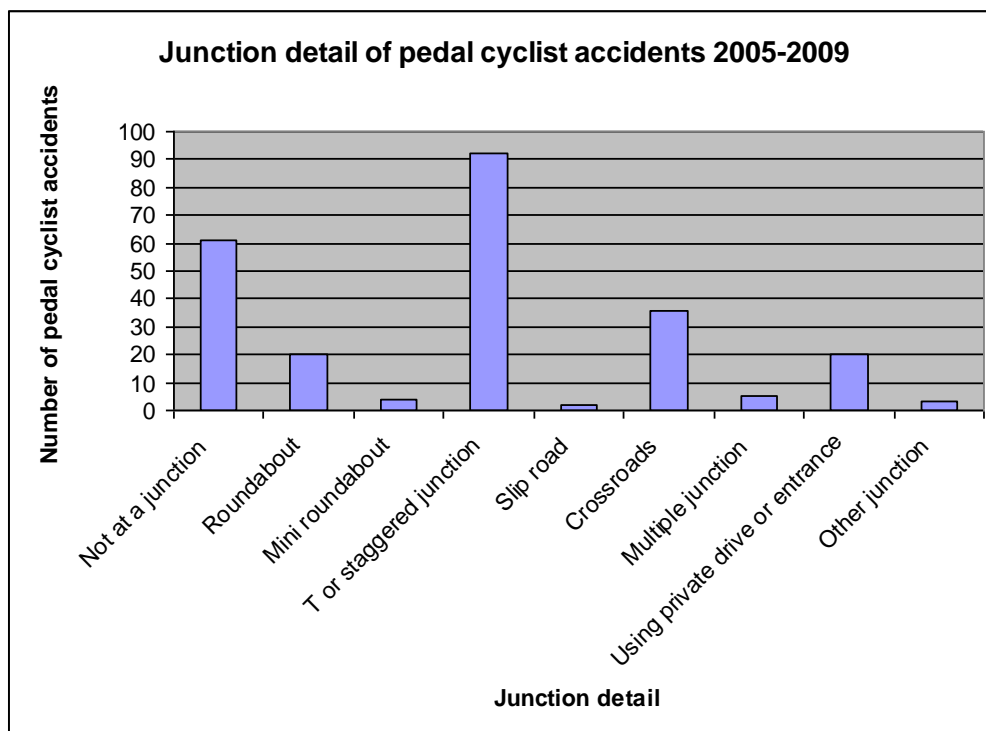


Figure 3.27 – Junction detail of pedal cyclist accidents 2005 – 2009

SUMMARY – PEDAL CYCLE ACCIDENTS

- There were a total of 238 pedal cyclist casualties from 2005 – 2009, 1 fatal, 27 (11%) were serious and 210 (88%) were slight.
- The number of pedal cyclist KSIs during 2005 to 2009 is comparable to the number of pedal cyclist KSIs during the 1994-1998 “adjusted baseline”.
- Pedal cyclist KSIs formed 8% of the total number of KSIs during 2005 to 2009.
- Pedal cyclist casualties in Slough were the third highest/worst ranking of all 16 districts in Thames Valley.
- The largest groups of pedal cyclists involved in accidents are those from the 0-15 year age group and the 20-29 year age group.
- The monthly totals of pedal cyclist accidents peaked in June with 25 accidents, the daily totals peaked on Tuesday with 49 accidents, and the hourly totals peaked at 17:00 hours with 26 accidents.

Powered Two Wheelers (PTWs)

- 3.83 There were a total of 227 Powered Two Wheeler (PTW) casualties in Slough from 2005 – 2009; 5 (2%) fatal, 41 (18%) serious and 181 (80%) slight. PTW casualties formed 8% of the overall five year total and comprised 20% of the KSIs of all user groups.
- 3.84 Figure A.4 of Appendix A shows the locations and severity of the PTW accidents from 2005 – 2009.
- 3.85 The LAPR compared motorbike/pillion casualties for each district in Thames Valley, covering the period from 2005-2007. As with the comparisons previously discussed, the figures only represent non-Highways Agency roads and each district is ranked on standardised per 100,000 population. Motorbike rider/pillion casualties in Slough were the ninth highest/worst ranking of all 16 districts in Thames Valley.
- 3.86 As discussed previously, of the total 4341 vehicles involved in accidents, 248 (6%) were motorcycles. These motorcycles were comprised of the following types:
- Motorcycle 50cc and under: 53 (20%);
 - Motorcycle over 50cc and up to 125cc: 60 (22%);
 - Motorcycle over 125cc and up to 500cc: 33 (12%); and
 - Motorcycle over 500cc: 102 (38%).
- 3.87 Motorcycles over 500cc comprise the majority type involved in accidents. Further research would be useful to establish if these vehicles are associated with commuter or leisure journeys. It is of note that the LAPR reported that research carried out by the TVSRP found that motorcycle use as a method of transport to work was very small; smaller than public transport and cycling.
- 3.88 Research into vehicle licenses in Thames Valley based on 2007 data found that Slough had the lowest level of motorcycle ownership of all the Local Authorities. This research found that motorcycle licenses comprised 1.3% (6534) of the total vehicle licenses.
- 3.89 There were 57 (20%) child casualties that were recorded as being the driver/rider. It would also be useful if further research was completed to establish whether these children were pedal cyclists or whether any were driving unlicensed motorcycles, scooters or mopeds.

SUMMARY – MOTORCYCLIST ACCIDENTS

- Motorbike rider/pillion casualties in Slough were the ninth highest/worst ranking of all 16 districts in Thames Valley.
- There were a total of 227 PTW casualties in Slough from 2005 – 2009; 5 (2%) fatal, 41 (18%) serious and 181 (80%) slight. PTW casualties formed 8% of the overall five year total and comprised 20% of the KSIs of all user groups.
- Motorcycles over 500cc comprise the majority type involved in accidents. Further research would be useful to establish if these vehicles are associated with commuter or leisure journeys.

Local Safety Schemes

3.90 Cluster analysis is used in Slough to prioritise the worst affected sites in the borough. The latest cluster analysis was carried out in March 2010 included a review of all accidents recorded at each of the cluster sites identified over a three year period from 01 November 2006 to 31 October 2009.

Cluster Sites Identified

3.91 In the 2010 review 46 cluster sites were identified. This was a significant reduction in comparison to the 67 sites that were selected by AccsMap in early 2008.

3.92 Figure A.6 of Appendix A is a Technical Note describing in detail the Slough Accident Cluster Analysis that was carried out in March 2010. In summary, of the 46 identified cluster sites:

- 7 sites involved locations on the M4, which falls under the Highways Agency's jurisdiction, and therefore were not considered further;
- 8 sites were reviewed as part of the 2006 / 07 and 2007 / 08 safety review process and were therefore not considered further, except for further Road Safety Audit work;
- 5 sites were reviewed as part of the 2008 / 09 safety review process and were therefore not considered further, except for further Road Safety Audit work; and
- 6 sites were reviewed as part of the 2009 / 10 safety review process and were therefore not considered further, except for further Road Safety Audit work.

3.93 Of the remaining sites, a total of 21 were further evaluated with a resultant five sites recommended for consideration for progression to be taken forward to the safety scheme review stage.

- A355 Tuns Lane j/w A4 Bath Road:
 - Ranked 4th out of 46 accidents in the three year study period;
 - Major signalled controlled junction;
 - The site records a high number of pedestrian casualties (7 in total over the study period);
 - Accidents and casualties recorded over the three year study period have remained at constant levels each year.
- Oatlands Drive j/w B416 Stoke Poges Lane:
 - Ranked 10th out of 46 accidents in the three year study period;
 - Signal controlled junction;
 - Accidents and casualties have increased by 700% and 300% respectively from 2008 to 2009;
 - Previous remedial work carried out in March 2006 by Jacobs to modify the traffic signals.
- A4 Bath Road j/w Cippenham Lane:
 - Ranked 19th out of 46 accidents in the three year study period;
 - Major signal controlled junction;
 - The site recorded increases in both accident and casualty numbers from 2008 to 2009;
 - No remedial work completed at this junction in the last three years.
- High Street Chalvey j/w The Green:

- Ranked 27th out of 46 accidents in the three year study period;
- Priority t-junction, in close association with neighbouring mini-roundabout;
- The site recorded increases in both accident and casualty numbers from 2008 to 2009;
- Three pedestrian and cyclist casualties during the study period.
- A4 Wellington Street j/w Wexham Road:
 - Ranked 29th out of 46 accidents in the three year study period;
 - Left in/Left out priority junctions with dual carriageway;
 - The site records a decrease in accidents although casualties have increased by 133% from 2008-2009;
 - A design to improve the pedestrian crossing refuge and introduce tactile paving at this site adjacent to the eastbound traffic carriageway of Wellington Street is currently at the preliminary design stage;
 - It is recommended to undertake a Road Safety Audit Stage 4 on the completed scheme to introduce anti-skid in 2004/2005 as part of the safety scheme review.

3.94 Safety reviews were commenced in April 2010 at the first three schemes identified in the 2010 cluster analysis, i.e.:

- A355 Tuns Lane j/w A4 Bath Road;
- Oatlands Drive j/w B416 Stoke Poges Lane; and
- A4 Bath Road j/w Cippenham Lane.

3.95 These safety reviews will be finalised and the recommendations progressed to the development of safety scheme designs. Safety reviews will also be carried out at the remaining two sites identified through the 2010 cluster analysis, i.e.:

- High Street Chalvey j/w The Green; and
- A4 Wellington Street j/w Wexham Road.

Road Safety Audits

3.96 Road Safety Audits (RSAs) are a requirement of any scheme designs undertaken by the Council or our consultants. Slough Council has adopted The Highways Agency's Design Manual for Roads and Bridges Standard hd19/03 as the prescribed process for undertaking RSAs. RSAs are conducted after preliminary design (stage 1); detailed design (stage 2) and; at opening (Stage 3). The cluster analysis that was carried out in March 2010 also identified sites where previous remedial works had been completed since 2006/7 and which now require that a Stage 4 Road Safety Audit is completed as a monitoring requirement and in order to assess the impact/effectiveness of the scheme.

Road Safety Audit Stage 3

3.97 It was recommended that a RSA Stage 3 is carried out at Long Readings Lane rbt j/w Northborough Road. The audit will be undertaken when the highway/improvement scheme to introduce a Zebra crossing is substantially complete and preferably before the works are open to road users.

Road Safety Audit Stage 4

3.98 A number of schemes were recommended to have RSA Stage 4 completed. Stage 4 accident monitoring reports should be prepared using 12 months and 36 months of accident data from the time the highway improvement scheme became operational. The analysis should include

identification of changes in the accident population in terms of number, types, and other accident variables, and comparisons should be made with control data. The identified sites which will have RSA Stage 4 carried out are as follows:

- Ledgers Road j/w A4 Bath Road;
- Oatlands Drive j/w B416 Stoke Poges Lane(the RSA Stage 4, representing three year analysis after 2006 modifications, would establish the base data patterns for this site to be taken forward as a safety scheme in 2010/11);
- A4 Bath Road rbt j/w A412 Yew Tree Road;
- A4 Bath Road rbt j/w Goldsworthy Way Huntercombe rbt);
- B416 Stoke Road j/w Elliman Avenue;
- High Street j/w Church Street, o/s 146-148 (A RSA Stage 4 should be completed for the Art @ the Centre scheme); and
- A4 Bath Road j/w A4 Slip Road nr Twiches Lane.

3.99 A number of further schemes were identified in the cluster analysis as requiring RSA Stage 4 within 3-12 months. The following schemes will have RSA Stage 4 within the next year:

- B470 High Street Langley j/w Willoughby Road;
- A355 Farnham Road j/w Salt Hill Way;
- A355 Farnham Road j/w Edinburgh Avenue;
- A355 Farnham Road j/w Montrose Avenue;
- A355 Farnham Road j/w Furnival Avenue; and
- A355 Farnham Road rbt j/w Northborough Road.

Alternative Approach: Route / Area Investigation

3.100 The recent cluster analysis that was carried out also briefly outlined an alternative approach to accident evaluation in Slough for subsequent year analysis.

3.101 Cluster analysis focuses on accumulations of accidents at single sites; the clusters and the sites being defined by geographical limits (e.g. accidents within a 20 or 50 metre radius) together with a threshold of frequency and/or severity occurrence. These are the methods that have been adopted in recent years in order to meet priorities that are defined to address a variety of sites and user groups.

3.102 The accidents and casualties attributed to clusters account for about 40% of recorded injury incidents overall and only a limited number of these are investigated in detail through the selected priority site analysis. Across the network there are therefore 60% of accidents which are not addressed by these methods. Furthermore it has to be acknowledged that, to concentrate only on cluster analysis generally produces a diminishing return in terms of casualty reduction; as remedial action is taken at the worst performing sites the thresholds are lowered and fewer accidents are addressed.

3.103 In order to achieve progressive reduction in road casualties more wide reaching analysis must be undertaken. There is still a role for cluster analysis to continue as the first level of action. However, it is recommended that the annual accident analysis strategy should extend to investigations of routes and areas in a systematic and more holistic approach leading to further casualty reduction potential.

3.104 Route analysis will require the establishment of a network hierarchy and definition of routes; at a fundamental level priority routes can be determined by comparison of accident rates (accident

frequency in relation to traffic volume). Area analysis will require the definition of demographic relationships by numbers and type; e.g. casualties per head of population, age distribution characteristics, ethnic diversity, etc. and whether the root cause of accidents is internal to these areas (local trips) or by external influences (through traffic).

- 3.105 Route based remedial measures containing a combination of engineering, education and enforcement initiatives but the main thrust is likely to comprise low cost engineering measures.

Local Safety Scheme Evaluation

- 3.106 Each year an accident analysis is undertaken to determine the locations that have the highest number of accidents. The local safety schemes are selected from the locations with the highest casualty levels. Individual schemes are designed to address safety issues arising from the accident analysis, using well established engineering techniques.

Review of Effectiveness of Local Safety Schemes

- 3.107 Local safety schemes that have been implemented over the last three years have been evaluated in order to quantify the return on investment from the accident saving. In addition the Langley 20mph zone which was implemented in 2005 was also evaluated.
- 3.108 The First Year Rate of Return % (FYRR) = $100 \times (\text{Annual monetary saving}/\text{scheme cost})$. So a scheme that costs £100,000 and delivers £100,000 of monetarised casualty savings in the first year alone would have a 100% FYRR.
- 3.109 The FYRR is based on three years of pre-scheme and post-scheme accident data. For schemes that were implemented in 2007/8 and 2008/9, casualty data was averaged in order to give an average annual figure and factored up appropriately.
- 3.110 The latest casualty prevention statistics is based on Transport Analysis Guidance⁵ (TAG) and uses values for the prevention of casualties and accidents based on 2007 road accident data, which are given at June 2007 market prices and values. They supercede the values given in Highways Economic Note 1: 2005, dated January 2007.
- 3.111 The detailed calculations that were used to establish the FYRR of the last three years local safety schemes are included in Figure A.7 of Appendix A. Table 3.13 below details the year of implementation of the local safety scheme, description of the scheme, the total scheme costs and the calculated FYRR.

⁵ DfT's Webtag Unit 3.4.1: The Accidents Sub-Objective; Section 2 Benefits to Society Arising from the Prevention of Road Accidents and Casualties (2007 prices now available)

Table 3.13 – First Year Rate of Return (FYRR) of local safety schemes implemented between 2006 and 2009 and the 20mph Zones

Local Safety Scheme	Year Implemented	Description of Scheme	Total scheme costs	First Year Rate of Return (FYRR) (%)
Northern Road	2006	Traffic calming	£65,344.03	262
Buckingham Avenue/Liverpool Road	2006	Junction improvements	£85,002.93	22
Middlegreen Road	2006	New pedestrian footway facility	£18,369.00	78
Cippenham Lane	2006	Route treatment	£60,000.00	610
Stoke Poges Lane/Oatlands Avenue	2006	Modification of the traffic signals	£706,011.08	-3
Tuns Lane Roundabout	2006/2007	Signing, spiral lane markings, anti-skid and introduction of a right-turn lane for northbound vehicles	£24,493.72	-1008
A4 Bath Road/Dover Road/Cippenham Lane	2007	Surface improvements, lining, anti-skid and other minor modifications to the pedestrian islands	£138,446.11	62
Red Cow Roundabout	2007	Lining and signing	£12,292.15	-77
A4 Wellington Street/A412 Uxbridge Road Roundabout	2007		£95,311.40	319
Stoke Poges Lane/Granville Avenue	2007	Pedestrian refuges and safety improvements	£131,731.27	-16
Chalvey Mixed Priorities	2007		£385,000.00	439
Huntercombe Spur Roundabout	2008	Anti-skid, resurfaced lining	£23,369.00	142
Wellington Street Roundabout	2007		£9,534.17	200
A4 Brands Hill: M4 junction 5 to Sutton Lane	2008	Anti-skid and signing	£27,498.00	-449

Local Safety Scheme	Year Implemented	Description of Scheme	Total scheme costs	First Year Rate of Return (FYRR) (%)
gyratory				
Stoke Road/Elliman Avenue	2006	Alteration to traffic signals	£98,820.14	-77
Langley 20mph Zone	2005	20mph Zone & traffic calming	£252,250.97	83
Manor Park 20mph Zone	2007	20mph Zone & traffic calming	£319,920.07	42

3.112 11 of the 18 local safety schemes evaluated have had positive FYRRs ranging from values of 22%;the Buckingham Avenue/Liverpool Road junction improvements scheme to 610%; the Cippenham Lane route treatment.

3.113 6 of the local safety schemes evaluated had negative FYRRs ranging from -3%; the Stoke Poges Lane/Oatlands Avenue scheme to modify the traffic signals, to -1008%; the Tuns Lane roundabout scheme which consisted of improvements to signing, spiral lane markings, anti-skid and the introduction of a right-turn lane for northbound vehicles.

Speed Management

3.114 Behaviours leading to accidents as a result of inappropriate speed include misjudgement of distance, failing to give way; following too close and loss of control.

3.115 DfT research has established that if you hit a pedestrian at 20mph the pedestrian has a 95% chance of survival. At 30mph the survival chance is 80% and if a driver hits a pedestrian at 40mph the pedestrian's chances fall to just 10%. Speeding also increases the likelihood of a collision as an average car travelling at 35mph will need an extra 21 feet (or six metres) more to stop than one travelling at 30mph.

3.116 Work on the feasibility of 20mph zones has led to the adoption of a borough-wide strategy on the introduction of 20mph speed limits. The strategy is based on safety, technical and environmental criteria and includes a points scoring system against which potential 20mph zones are evaluated. Sites are prioritised using a set of criteria including:

- Accident record;
- Proximity to schools;
- Proximity to homes for the elderly or infirm; and
- Proximity to pedestrian attractions such as shops or recreational area.

20mph Zones

3.117 Residential areas can benefit from the introduction of 20mph zones where traffic speed is a danger(research has shown that pedestrians struck by a vehicle travelling at 20mph have a far greater chance of surviving than if struck at 30 or 40mph).

3.118 Both Langley and Manor Park 20mph zones have had positive FYRRs; Langley 20mph zone with 83% FYRR and Manor Park with 42% FYRR. It is too early to report on the Cippenham East 20mph zone.

Safety camera locations in Slough

- 3.119 Regular enforcement of speed limits at particular locations usually results in better compliance. Appropriately targeted publicity and education initiatives addressing both routes and user groups will be carried out in order to further deter people from speeding.
- 3.120 Thames Valley was one of the first areas in the country to operate speed and red light cameras and they have been in use for over 15 years. It is the intention that mobile enforcement teams will continue to target casualty hot-spots and high risk routes.
- 3.121 Safety cameras are placed at sites where excessive speed has significantly contributed to the number of KSI collisions or where high speeds pose a threat to safety. There are currently 31 fixed camera sites, 10 mobile safety camera sites and 5 red light camera sites with the borough of Slough, the locations of which are in shown in Figure A.8 of Appendix A.
- 3.122 The TVSRP LAPR describes the analysis of the Conditional Offers⁶ sent to drivers detected at the camera sites in Slough (2004-2007). The TVSRP LAPR found that 32% of all offences committed were by local residents and the average distance from the camera to the home of the driver reveals a figure of around 14 miles. The percentage of offences committed by local residents was found to be average in comparison to the other districts in Thames Valley, and down on the 55% recorded in Wokingham and Milton Keynes.
- 3.123 The LAPR also highlights analysis of drivers from Slough offending anywhere in Thames Valley and found that 75% of offences are committed locally, which is high, perhaps indicating the drivers from the district do not regularly travel around Thames Valley.

⁶ Conditional Offer of a Fixed Penalty Notice. This is issued once a driver has nominated themselves as the person driving at the time of an alleged offence. This is used rather than the location of the car which may be inaccurate if it is a leased or business vehicle.

4. Road Safety Strategy

4.1 This chapter details the proposed strategy measures that will be developed further in the Mini Implementation Plan to set out the proposals for the next three years in more detail. The strategy measures fall under the following activities:

- Education, Training and Publicity (ETP);
- Engineering;
- Enforcement; and
- Working with Key Identified Partners.

Education, Training and Publicity (ETP)

Child Road Safety Education

4.2 It is important that the strategy prioritises measures aimed at reducing child casualties. Although Slough is in line to meet the National Casualty Reduction Targets for child KSIs for 2010, of all the 16 districts in Thames Valley, Slough is the highest/worst ranking for child casualties.

4.3 There were a total of 283 child casualties from 2005-2009; 1 fatal, 30 (11%) serious and 252 (89%) slight, and during 2005 – 2009, child KSI casualties comprised 14% of all KSIs in Slough.

4.4 The participants of the road safety focus group felt that child road safety education was of vital importance and that it should be delivered through schools and via the curriculum where possible.

4.5 There are a total of 45 schools in the Borough of which 42 are Local Education Authority and 3 are independent. A main priority will be to advise and support parents, carers, pre-school staff and teachers on both road safety best practice and the resources that are available to them.

4.6 For children aged 3-5 years the emphasis will be on pre-school staff and teachers to include safety education within the context of their normal classroom work. Support will include the provision of resources. For children aged 5 to 10 years the emphasis will be on working with Slough primary schools, and for children and young people aged 11 to 18 years the emphasis will be on working with Slough secondary schools.

4.7 The road safety team will also assist secondary schools to maintain their STPs and use the information contained within these plans to assist with the prioritisation of SRTS studies and other road safety related initiatives.

Curriculum resources

4.8 There is a wide range of educational resources, activities and training programmes available for use in schools, all designed to incorporate road safety education into the curriculum. The road safety team will identify a selection of those activities which we feel can best support teachers in incorporating road safety into a well balanced school programme and promote these across the borough.

4.9 Two of the DfT's "Think!" branded campaign themes specifically target 6-9 year olds and 9-11 year olds and one targets teenagers. Slough will tie in with these campaigns and utilise the campaign resources where appropriate; distributing to schools, community centres, youth clubs etc.

4.10 The transitional time for children moving from primary to secondary school can be a hazardous time as it is often the first time that children have travelled unescorted. The road safety team will look at a number of approaches for developing programmes to address this issue. Surrey County Council, for example, have provided 'moving on up' road safety talks in schools and have

developed a magazine for year six children which addresses this issue, and this approach may also be followed in Slough.

Pedestrians

- 4.11 Pedestrian casualties formed 12% of the total road users from 2005 – 2009, 31% of all user groups; and the largest percentage of KSIs of all user groups. There were a total of 353 pedestrian casualties during the study period; 5 (1%) fatal, 65 (23%) serious, and 282 (80%) slight.
- 4.12 In comparison to the adjusted 1994-1998 baseline average, the average number of pedestrian KSIs during 2005 – 2009 increased by almost 4%, rising from an average of 11 to 14 KSIs. Furthermore, pedestrian casualties in Slough were the third highest/worst ranking of all 16 districts in Thames Valley.

Child pedestrian safety

- 4.13 Child pedestrians formed the largest percentage of pedestrian casualties during 2005 to 2009; of the total 353 pedestrian casualties, 111 (31%) were child pedestrians, of which the largest majority of casualties; 47 (13%), were aged between 11 and 15 years.
- 4.14 Measures to improve pedestrian safety should be prioritised in the strategy, and particular consideration should be given to improving child pedestrian safety and should include measures that target teenage pedestrians.

Cyclists

- 4.15 There were a total of 238 pedal cyclist casualties from 2005 – 2009, 1 fatal, 27 (11%) serious, and 210 (88%) slight, and pedal cyclist KSIs formed 8% of the total number of KSIs during 2005 to 2009.
- 4.16 The number of pedal cyclist KSIs during 2005 to 2009 is comparable to the 1994 – 1998 adjusted baseline number of pedal cyclist KSIs. However, pedal cyclist casualties in Slough were the third highest/worst ranking of all 16 districts in Thames Valley.
- 4.17 The largest groups of pedal cyclists involved in accidents are those from the 0-15 year age group and the 20-29 year age group and measures to target these age groups will be prioritised.

Teenagers and Young Adults

- 4.18 DfT research has found that teenagers are easily distracted on the roads, especially when they're in small groups of friends.⁷ As mentioned previously there is a DfT "Think!" branded campaigns that targets teenagers and covers three key areas: teenage pedestrians and cyclists and the promotion of in-car safety, particularly the wearing of seatbelts.
- 4.19 The resources that are offered by the DfT include free posters and flyers, which can be downloaded online. There are also a suite of road safety resources for teachers, pupils and parents, including guidance and planning in order to deliver effective road safety education; teaching ideas; curriculum links; worksheets; interactive activities; and in addition to PSHE lessons includes links to English and Drama and Science. Slough will utilise these resources where appropriate, and liaise with, and distribute to secondary schools.
- 4.20 Slough will also work alongside colleges, community centres, youth clubs and apprenticeship schemes in order to target teenagers and young adults; and distribute appropriate DfT resources. At colleges and apprenticeship schemes, safer driving and motorcycling will also be promoted.

⁷ http://www.dft.gov.uk/think/focusareas/teenagers/?whoareyou_id=

Powered-Two Wheelers

- 4.21 There were a total of 227 PTW casualties in Slough from 2005 – 2009; 5 (2%) fatal, 41 (18%) serious and 181 (80%) slight. PTW casualties formed 8% of the overall five year total and comprised 20% of the KSIs of all user groups.
- 4.22 Resources and advice will be given to motorcycle training establishments targeting both new riders and existing riders moving up a class of motorcycle. DfT motorcyclist publicity campaigns regarding motorcyclists will be supported.
- 4.23 It is intended that liaison takes place with local advanced motorcyclist training groups to encourage motorcyclists to take up further training.
- 4.24 The work of “BikeSafe” will be promoted (the “Bikesafe” initiative is run by Police Forces around the world and is a nationwide plan of action to reduce the number of motorcycle accident casualties by promoting safer riding).
- 4.25 TVSRP organises ‘Safer Rider’ courses which aim to educate motorcyclists. This initiative will be supported, and awareness of it raised through motorcycle dealers and other appropriate outlets.

Vehicle Occupants

Vehicle Drivers

- 4.26 Vehicle drivers formed the largest group of road users injured on the Borough’s roads; 50% of total the total casualties from 2005 – 2009 were vehicle drivers and they formed 22% of the total number of KSIs.

Negative driver behaviour

- 4.27 As has been previously outlined, the LAPR found that Slough was the worst ranked district of all 16 districts in Thames Valley for accidents caused by drivers that were impaired by drugs, mobile phone usage whilst driving, exceeding the speed limit, and disobeying an ATS. Slough was also found to be the third worst ranked district for alcohol related crashes.
- 4.28 Slough safer driving campaigns will focus on targeting the identified issues above. This will involve using national DfT campaign resource materials where appropriate and continuing to develop our own campaign material. A number of campaigns have been developed which have included a localised anti drink drive campaign that coincided with the World Cup.

Drivers on the M4

- 4.29 Collisions occurring on the M4 within the Slough area contributed to 16% of the borough’s total accidents and 41% of all the KSI accidents. The M4 is the responsibility of the Highways Agency and Slough has no direct influence on road safety performance on Highway Agency Roads. Therefore the strategy measures need to include partnership working with the Highways Agency in order to promote safer driving along the M4. Further accident analysis regarding the types of accidents on the M4 will be carried out and campaigns will be targeted appropriately.

Occupational Road Risk

- 4.30 Of the 4341 vehicles that were recorded in accidents from 2005 – 2009, 768 (18%) were travelling as part of a work journey and 476 (11%) were commuting to/from work. Strategy measures will include working with employers to ensure the safety of staff while using the road and managing their occupational road risk.
- 4.31 The Occupational Road Safety Alliance (ORSA) brings together employers, trade unions, local authorities, police forces, safety organisations and professional and trade associations with the aim of helping employers to improve their occupational road risk management. Strategy measures

to improve the safety of staff while using the road will be developed using the guidance and resources provided by the ORSA, and will be initially implemented within SBC, in order that best practice can be demonstrated to other employers in the borough.

- 4.32 Liaison will occur with the Slough and Windsor Education Business Partnership in order to assist working with employers in the Borough to improvement the management of occupational road risk.

The large employers in Slough will be targeted first and these include those on the SERGO trading estate located on the main A4 trunk road between London and the West and large employers in Slough town centre. Vehicle Passengers

- 4.33 Car passengers formed 14% of the total number of the number of casualties from 2005 – 2009 and 13% of the total number of KSIs.
- 4.34 The largest majority of child casualties (115, 41%) were comprised of vehicle/pillion passengers. This shows the importance that the strategy should give to measures related to in-car child safety and the wearing and correct fitting of seatbelts.

Seatbelt Initiatives

- 4.35 The road safety team will continue to support enforcement campaigns organised by the TVSRP promoting the use of seat belts and will actively promote the correct fitting of child car seats. Regular 'Baby and Child Car Seat Check' events will be organised for the public at various stores throughout the year, with Trading Standards and the Fire Brigade.
- 4.36 The DfT run a national campaign to promote the use of seat belts which will continue to be supported by the road safety team via the promotion and distribution of campaign information.
- 4.37 Subject to available resources, further research will be carried out in order to identify locational trends in low seat belt compliance in order to develop regional campaigns and target campaign resources appropriately.

Ethnicity

- 4.38 The LAPR showed drivers resident in Slough that had crashed in Thames Valley between 2000 and 2007, grouped by their Mosaic class. The two Mosaic driver 'types' that were over-represented in the accident statistics were C20 'Asian Enterprise' and D26 'South Asian Industry'.
- 4.39 The LAPR also found that the Mosaic type that is most represented in the speeding offences list is 'Asian Enterprise' with 21% and it does show some over-representation with 118% of the expected number of offences.
- It is the intention that 'MAST' the web based data analysis tool is further utilised in order to provide in-depth socio-demographic road safety analysis. This is in order that an accident analysis comparison by ward can be undertaken using socio-economic and ethnicity data from the Census. This analysis will assist with targeting accident reduction initiatives and resources and also help with the development of targeted regionalised campaigns.
- 4.40 The Road Safety Officer organises a monthly poster campaign that distributes information across the borough in community centres, sports centres etc. A targeted localised theme has included an Asian Entrepreneur anti red light jumping campaign. This was distributed to temples, mosques, libraries and Slough's business groups. Localised campaign initiatives such as this will be continued in order to reduce the over-represented casualties within this ethnic group. A campaign to show the danger of parental purchasing of high status and high powered vehicles for their children is a possible option.

Campaign Mediums

4.41 Various campaign mediums for delivery of road safety messages in the Borough will be considered, and options include:

- Campaign material publicised via public transport such as by 'bus back advertising' and within trains;
- Campaign material run during the advert time of local cinemas;
- Local press advertising;
- Campaign material run during the advert time of local radio stations;
- Multi agency publicity events such as crash scenes in town centres; and
- Regional television advertising campaigns, e.g. on Asian networks.

Monitoring

4.42 There will be a greater emphasis on the monitoring of the effectiveness of education, training and publicity. Options to pursue include:

- Before and after attitudinal monitoring relating to various campaign themes;
- Monitoring through schools, i.e. number of pupils that participate in campaigns, events etc; and
- Monitoring through road safety training outlets, such as motorcyclist training outlets.

Engineering

Local Safety Schemes

4.43 It should be noted that the scope to improve road safety through engineering measures is limited in Slough because the main problem locations have been addressed through the cluster site methodology previously discussed. Furthermore, as was identified in the Contributory Factor (CF) analysis in Chapter 2, the largest group of CFs to be attributed to all accidents in Slough during the five years from 2005 – 2009 were 'Driver/Rider Error or Reaction' with a total of 984 CFs (45% of the total). In comparison the CF group 'Road Environment Contributed' comprised a total of 113 CFs (5% of the total of all CFs).

4.44 The five sites recommended for consideration for progression to the safety scheme review stage as a result of the accident cluster analysis will be taken forward.

4.45 SRtS studies across the Borough with the resultant aim of the upgrade of popular routes to school will also continue. Accident data for the previous five years within a 250m of school will continue to be used in order to prioritise schools for SRtS studies.

4.46 An alternative route / area investigation approach to local safety schemes will be pursued in Slough. Route analysis will require the establishment of a network hierarchy and definition of routes. Area analysis will require the definition of demographic relationships by numbers and type; e.g. casualties per head of population, age distribution characteristics, ethnic diversity, etc. and whether the root cause of accidents is internal to these areas (local trips) or by external influences (through traffic).

Speed Strategy

4.47 A speed strategy will be developed in conjunction with the police and the Highways Agency by:

- Reviewing all existing speed limits so that they conform to DfT standards as detailed in the DfT Circular 1/93 Roads;
- Extending 20mph lengths and implementing new 20mph zones;
- Protecting vulnerable road users;
- Appropriate new fixed safety camera sites;
- Promoting signing and publicity campaigns;
- Re-education of offenders – attendance at a training course is being offered to offenders as an alternative to prosecution in some Safety Camera Partnerships although dependent upon the severity of the accident; and
- Implementing a programme of vehicle activated signs at identified sites to include both speed reactive and interactive warning signs.

Enforcement

Safety Cameras

- 4.48 Compliance with traffic regulations by all road-users is essential for road safety and efficiency of movement throughout the Borough of Slough.
- 4.49 Slough will continue to contribute to traffic law enforcement by enforcement of speed limits (through both fixed and mobile safety camera sites and interactive signs), altering the design of roads to discourage speeding (through traffic calming and 20mph zones), and targeted enforcement of parking regulations to improve both congestion and road safety.
- 4.50 Slough will monitor and evaluate the effectiveness of the speed cameras in liaison with the TVSRP and investigate the operation and siting of cameras in Slough following recommendations from the TVSRP Safety Camera Review Report.
- 4.51 Slough will continue to provide strong representation to increase the number of fixed, mobile and red light cameras in those locations fulfilling the DfT criteria.

Interactive signs

- 4.52 Interactive signs are used to alert drivers who have entered a new speed limit, or are approaching a location with a known speed related collision problem that they have either not reduced their speed to that new limit, or are travelling too fast for the hazard which they are approaching. When the detector is triggered an illuminated sign appears showing the speed limit, or warning sign for the hazard ahead, combined with flashing wig-wag lights above and below the sign, and often, the legend 'Slow Down!'.
- 4.53 Research has shown that interactive signs can be extremely effective in reducing the number of collisions where excessive speed has been the major Contributory Factor.
- 4.54 A further potential tool that will be investigated is the use of other signs warning of junctions, bends and roundabouts. These will potentially be used where more traditional signing or other measures have failed to produce a satisfactory outcome.

Waiting and Loading Restrictions

- 4.55 Parking was decriminalised in Slough from 21 April 2003 and the Council's parking attendants took responsibility for enforcing parking and waiting and loading restrictions in the Borough.
- 4.56 Parking at junctions restricts visibility for pedestrians and drivers and, in turn, can contribute to accidents. Further analysis will be carried out reviewing accidents at junctions in Slough, in order that a priority list can be drawn up of those junction locations with the most KSIs. Targeted

enforcement of the restrictions at these identified junctions will take place in order to aid casualty reduction.

Partnership Working

- 4.57 The TVSPR has been discussed throughout this document and is a key partner for the successful delivery of the strategy.

Thames Valley Safer Roads Partnership (TVSRP)

- 4.58 Regionally, Slough Borough Council is part of and works with the TVSRP. The Council also shares and learns from best practice amongst other road safety groups in the South East including the Road Casualty Reduction group (RCR 2010).
- 4.59 The TVSRP comprises Thames Valley Police and the nine highway authorities across Berkshire, Buckinghamshire and Oxfordshire, the three Fire & Rescue services, the Highways Agency, Crown Prosecution Service and Her Majesty's Courts Service.
- 4.60 Through the Safer Roads Partnership, dedicated road safety funding is being used to target roadside enforcement and to educate drivers about the dangers and risks involved with a variety of road traffic offences; whilst also raising other road safety issues to groups who are at the greatest risk.
- 4.61 TVSRP offers its partners a wide range of services, beyond the basic enforcement of safety cameras. The partnership has been recognised nationally as leading in a number of areas including data provision, the creation of the Road Safety Constable approach, the implementation of new education courses for drivers, and the largest capacity young drivers education event in the country.

Road Safety Constables

- 4.62 TVSRP fund a dedicated team of TVP officers who work with the local authorities on pertinent local road safety issues identified by Road Safety Officers, often tackling behaviours that are not possible to manage through automated enforcement mechanisms. This includes the undertaking of regular roadside checks involving the Road Safety Constables, local authority road safety officers, other TVP officers and other agencies including VOSA. Roadside checks pick up seatbelt offences, vehicle defects, mobile phone offences, driving licence offences, insurance offences and drink drive offences.
- 4.63 The following additional partners have also been identified as key to the successful delivery of the road safety strategy:
- Neighbouring Local Authorities;
 - Fire and ambulance services;
 - Slough and Windsor Education Business Partnership;
 - The Department for Transport (DfT);
 - The Driving Standards Agency (DSA);
 - Slough Primary Care Trust (PCT);
 - Road Safety GB formerly the Local Authority Road Safety Officer Association (LARSOA);
 - Community Speedwatch;
 - Safer Slough Partnership;
 - Local Strategic Partnerships (LSPs); and

- Engagement of local communities.

