

NORTH EAST Regional Road Safety Resource

Project Report: 1.

Regional Overview of Pedal Cycle Accidents 2005 – 2007.

**Produced May 2008.
Natalie Goodman**

Project is supported by the Department of Transport.



Contents

Contents	2
Introduction.....	3
Profile of Pedal Cycle Accidents 2005 – 2007	3
Gender.....	4
Road Class	4
When do accidents occur	4
Time of the day	5
Location of accident.....	6
Distance from home.....	7
Hospital admissions.....	8
Urban / rural accidents.....	9
Headline notes.....	10

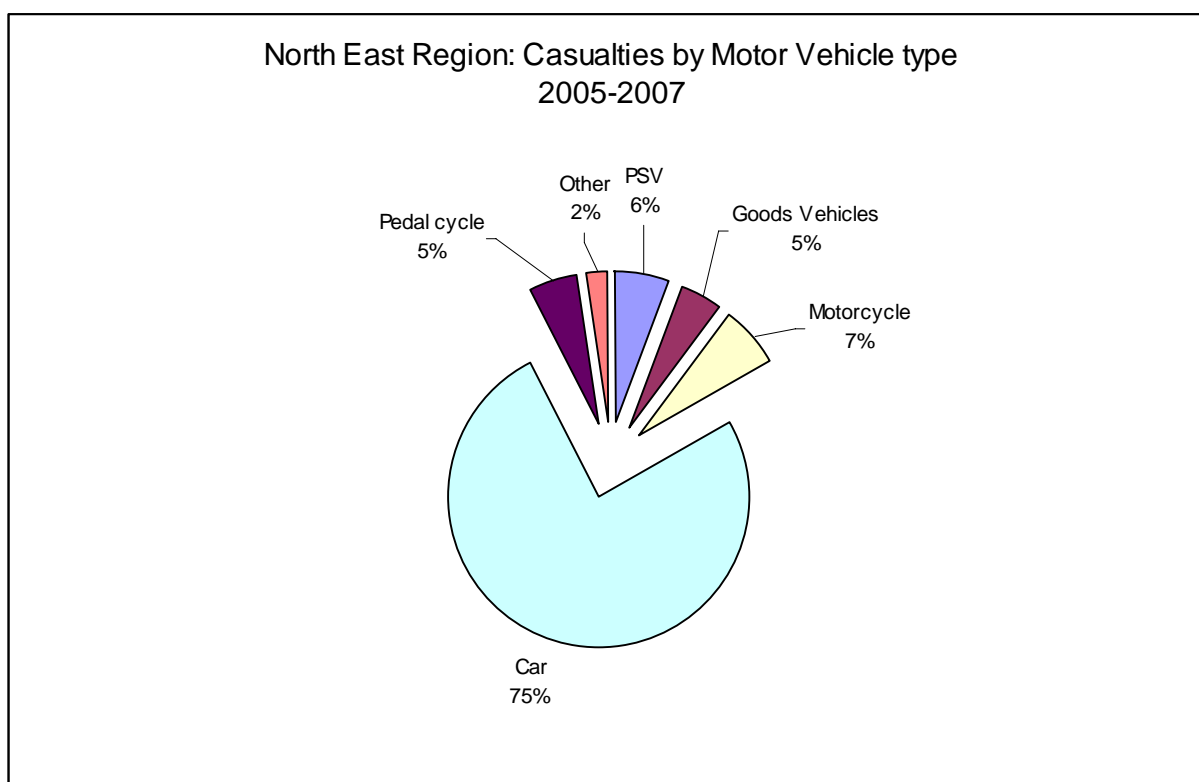
Introduction

This report has been produced by the North East Regional Resource as an overview of accidents involving pedal cyclists in the NE region 2005 -2007. The data used to produce the report is based on the project database of Stats 19 provided by Cleveland, Durham and Northumbria police forces.

Profile of Pedal Cycle Accidents 2005 – 2007

Pedal cycle accidents account for 5% of the North East Region road accident casualties.

Figure 1. Casualties by Motor Vehicle Type – 2005-2007.



The majority of pedal cycle accidents occur in the Northumbria Police area (58%) but the type of location, timing and age group of cyclist are very similar for cyclists in all areas.

86% of all pedal Cycle accidents occur in urban areas with the majority of cycle accidents (84%) occurring on roads with speed limits of 30 mph or less. That percentage climbs to 94% of cyclists aged 0-15 years. The majority of accidents involving young cyclists in the NE Region are among those aged 8 – 15.

Figure 2. Age profile of Pedal Cycle Casualties 2005-2007

Age group	Number
0-4	22
5 to 7	85
8 to 11	221
12 to 15	275
Over 16	995
Grand Total	1598

Gender

In the North East Region the majority of cyclists are male (87%). In the age group 0-15 there are more female cyclists as shown in Table 2 below.

Figure 3. Gender of cyclist casualties in the NE Region 2005-7

Age group	Male	Female
0-15	81%	19%
16 and over	90%	10%
Grand Total	87%	13%

Road Class

Young cyclists have most of their accidents on unclassified roads, while adult cyclists (16 and over) have accidents across the range of road classifications.

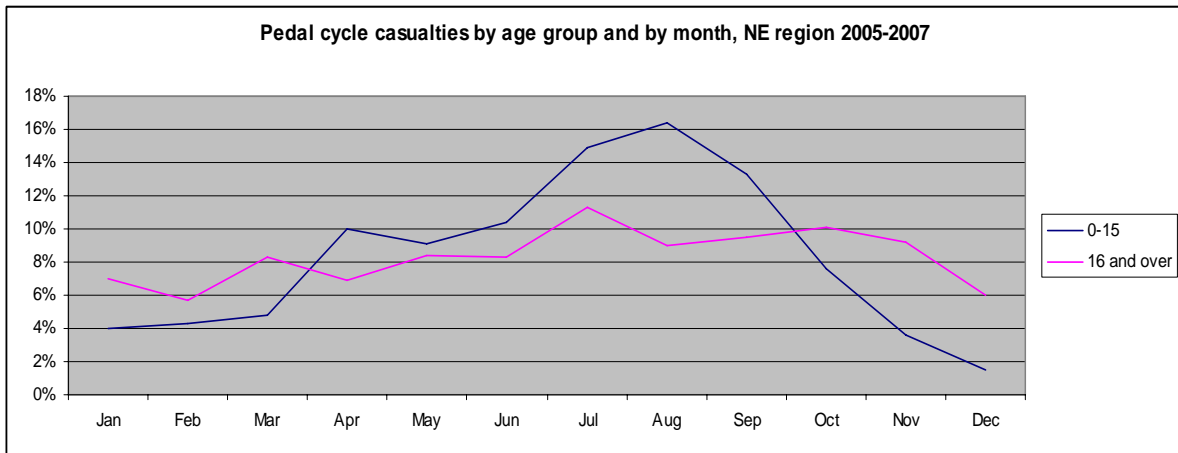
Figure 4. Road Class profile of Cyclist Casualties 2005-2007

Road Class	0-15	16 and over	Total
A	12%	41%	30%
A (M)	0%	0%	0%
B	9%	16%	13%
C	15%	18%	17%
Unclassified	64%	25%	40%

When do accidents occur

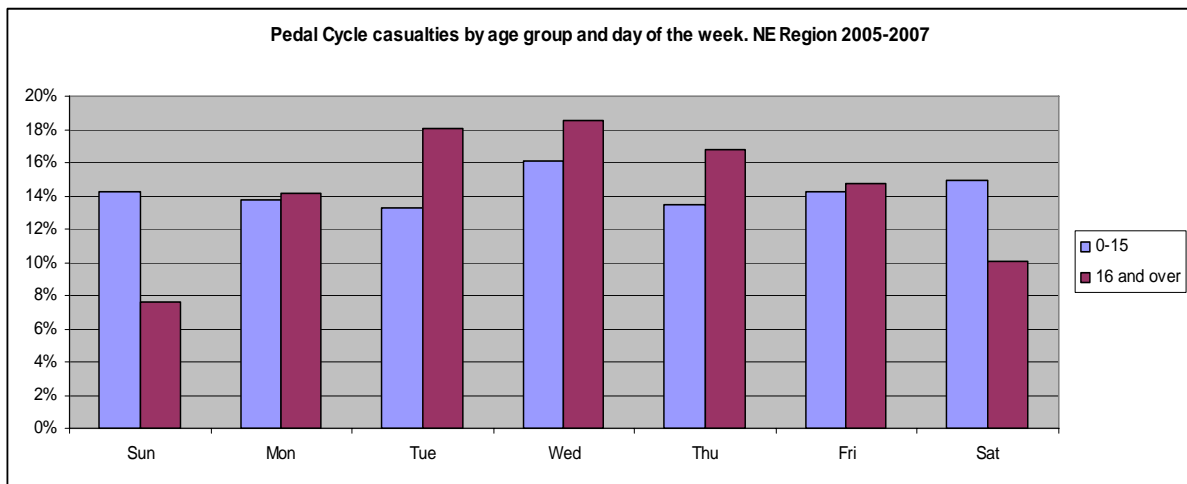
Accidents involving cyclists vary by month with 0-15 year olds having more casualties in the summer time, peaking in August. Cyclists aged 16 and over have accidents throughout the year and this probably reflects differences in cycle usage, for example using a pedal cycle to commute to work everyday as opposed to leisure use.

Figure 5. Pedal Cyclist Casualties by month, 2005-2007



Analysis by day of the week shows that cyclists aged 16 and over are involved in most accidents between Monday and Friday, while younger cyclists aged 0-15 are having accidents on every day of the week with only a small mid week peak. This could reflect a recreational use by younger people, changes in traffic flows at weekends etc.

Figure 6. Pedal Cyclist Casualties by day of the week, 2005-2007.



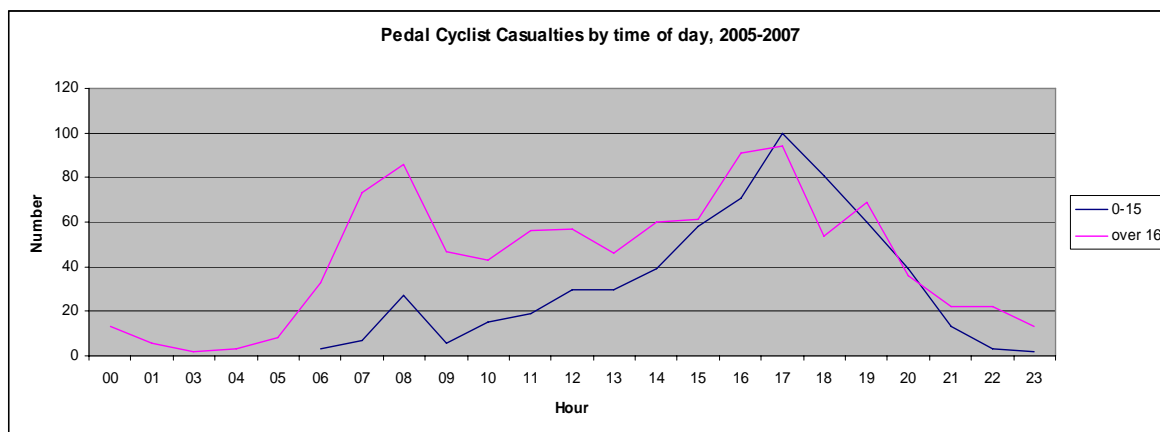
Time of the day

The majority of cycle accidents happen during daylight hours, with adult cyclist casualties (16 and over) being involved in more accidents after dark. Analysis of KSI rate shows that there are 3% more KSIs among cyclists who had accidents after dark. This highlights the importance of cyclists using high visibility materials to improve their visibility to other road users.

Figure 7. Pedal Cyclist Severity of injury and visibility 2005 – 2007.

Severity	dark	light
KSI	21.40%	18.40%
Slight	78.60%	81.59%

Figure 8. Pedal Cycle Casualties by time of day 2005-2007



All cycle casualties peak at 8am and 5pm. For adults this will reflect peak commuting times. Younger cyclists show a peak at going to school time and after school in an evening.

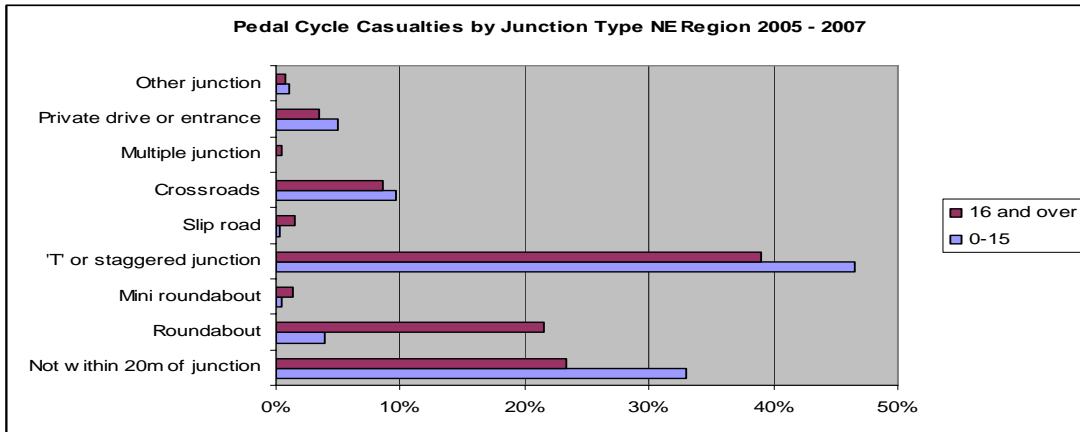
Location of accident

Analysis of accident sites shows that Roundabouts see 7% more pedal cycle accidents after dark than during the daytime. In the main the roundabouts where these accidents occur have street lighting and involve adult cyclists.

All cyclists are vulnerable at junctions as shown below (chart 5), with adults showing high casualties at T junctions and at Roundabouts. When accident causation codes are reviewed it can be seen that 33% of accidents involved pedal cyclists who ‘failed to look properly’, this is a significant factor for cyclist education.

19% of pedal cycle accident causes were coded under ‘injudicious action’ that being a cyclist joining the road from a pavement. The majority of these accidents involved cyclists aged 0-15 years. Both observation skills and correct road behaviour should be a part of cycle training in schools across the region.

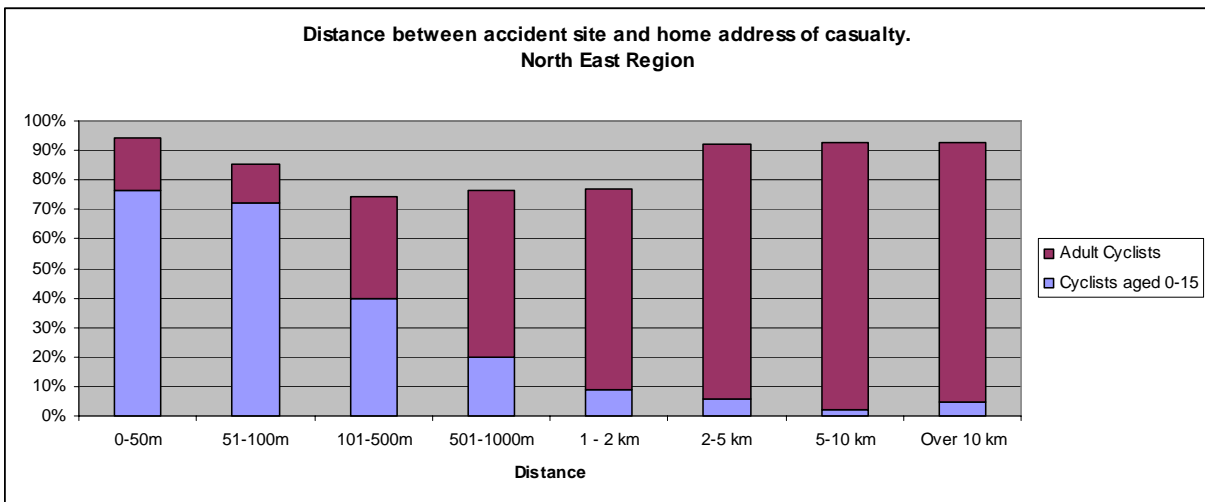
Figure 9. Pedal Cycle casualties by Junction Type 2005-2007.



Distance from home

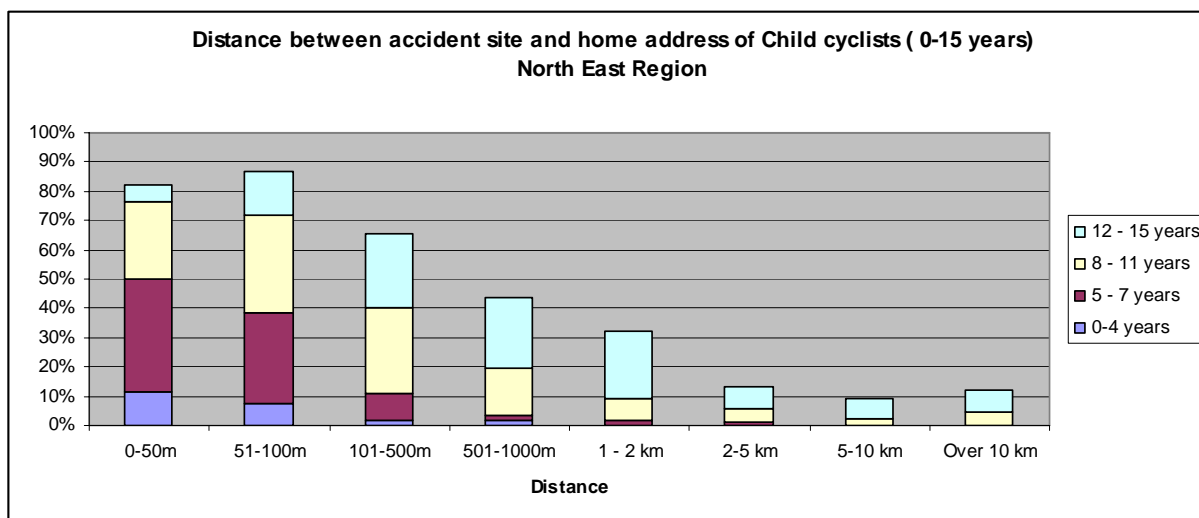
Calculations based on the postcode of the casualty indicate that Adult Pedal Cyclists travel much greater distances than those aged 0-15 years. 69% of adult cycle accidents occurred over 1km from the home address, while 75% of child cyclists are injured within 1km of home.

Figure 10. Distance between accident site and home address of casualty, NE Region 2005-2007.



Specific analysis of accidents involving young cyclists age 0-15 shows that 20% of casualties occur within 100m of home. In the period 2005-2007 in the North East Region, 9 children aged between 0-4 were injured within 50m of their home address.

Figure 11. Distance between accident site and home address of Child cyclists (0-15 years), North East Region 2005-7



* analytical note. Distance calculations are based on those accident records which had casualty postcodes recorded. This relates to 68% of cycle accident records in the NE Region, 2005-2007.

Hospital admissions.

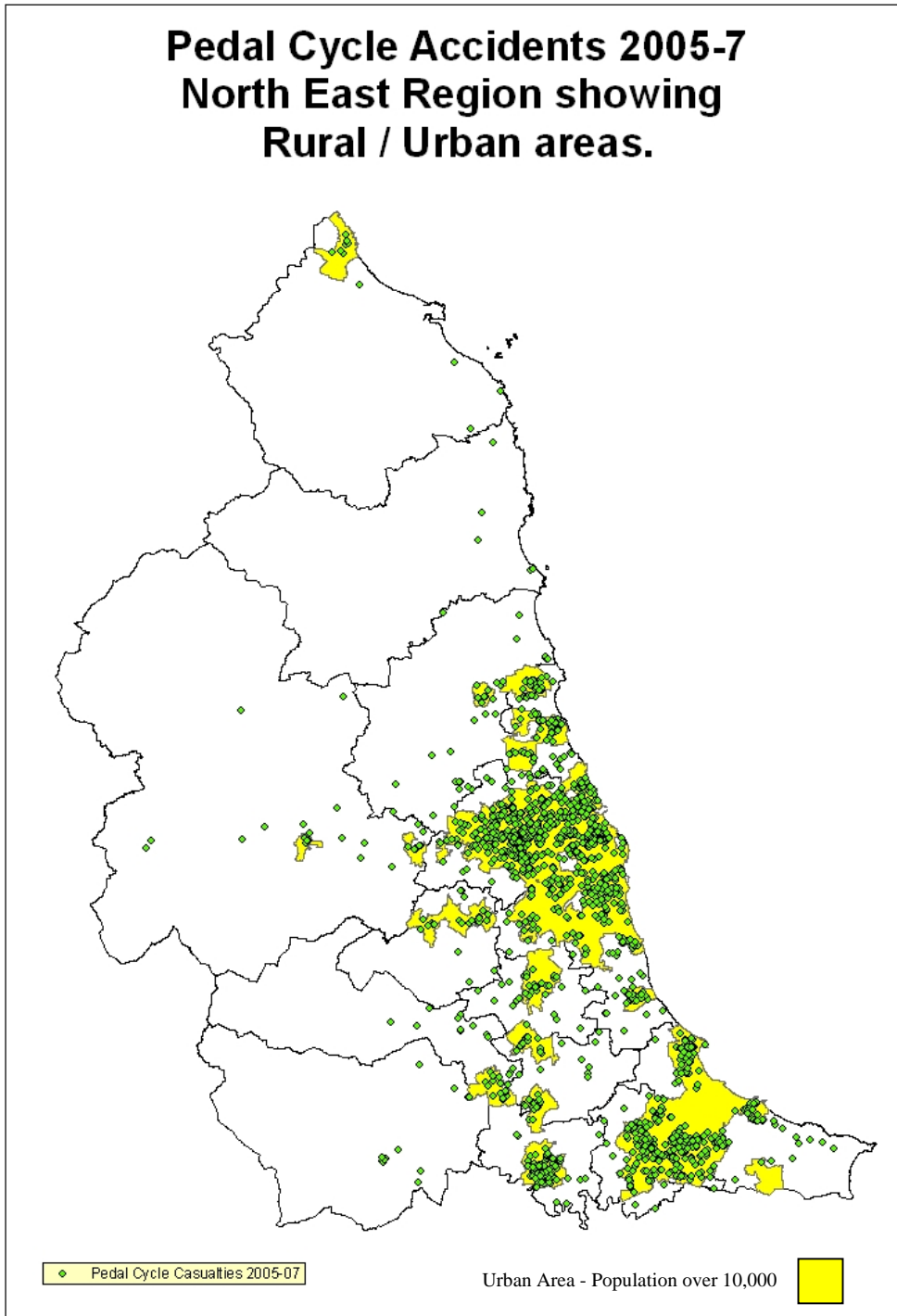
NHS data about the treatment of injuries resulting from road traffic collisions provide a valuable alternative measure for road traffic casualties which can complement and inform the interpretation of police casualty records. The magnitude of serious injury suggested by admissions rates is higher than the number of injuries classified as ‘serious’ on police records, which indicates that using police data alone can underestimate the overall health impact of road traffic accidents. Observed reductions in police ‘killed or seriously injured’ (KSIs) are not mirrored by a reduction in hospital admissions.

In financial year 2006/7 the Hospital Admission figure for ‘Pedal cyclist injured in transport accident’ in the North East Region was 791. In the same period the police recorded 544 pedal cycle accidents of which only 101 were recorded as KSI’s.

Further research into the relationship between Police Stats 19 data and HES data is being undertaken by various academic units in the UK. The overwhelming conclusion is that the treatment of road traffic injuries has improved.

Urban / rural accidents

The majority of pedal cycle accidents occur in urban areas as shown in the map below.



© Crown copyright. All rights reserved. Gateshead Council Licence No. 100019132 (2008).

Headline notes.

- Cyclists are a vulnerable road user group and different age groups have different road use patterns.
- Adult cyclists are more likely to sustain injuries while using the wider road network (A,B,C roads) when they come into conflict with other vehicle types.
- Both cyclists and other road users 'fail to look properly', cycle training in schools is essential, as are educational messages to adult cyclists and other vehicle users.
- Higher night time KSI levels indicate the higher risk of cycling after dark and the need for the use of high visibility clothing and lights.
- T junctions are the most likely accident points for cyclists.
- Adult cyclists have the most collisions on Roundabouts.
- Roundabouts after dark have higher casualty levels than during the daytime.
- Young cyclists are at high risk on unclassified roads
- Not all KSI accidents are reported to the police.