
Red Route Study
B4525 Crowfield to
Middleton Cheney

30th Sept 2012



QM

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3
Remarks	Final			
Date	23/07/13			
Author	Matthew Barratt			
Signature	<i>Matthew Barratt</i>			

MGWSP Northamptonshire Highways
Brixworth Depot, Harborough Road, Northamptonshire, NN6 9BX
DDI: +44(0)1604 883415
Web: www.mgwsp.co.uk

Author: Matthew Barratt

Contents

1 Introduction	4
2 Site Location & Layout	4
3 Accident Analysis	5
4 Site Observation	12
5 Preliminary Proposal for Consideration	12
APPENDIX NO 1: Accident Plot	13

1 Introduction

1.1 This Study has been prepared Northamptonshire County Council. Its key objective is to analyse the personal injury accidents on the B4525 from the roundabout at the junction with the A422 near Middleton Cheney to the village of Crowfield to reduce the frequency and severity of accidents by engineering methods.

2 Site location and layout Introduction

2.1 The B4525 runs from the junction with the A43 near to Crowfield to the junction with the A422 near to Middleton Cheney. The study route is slightly shorter as it ends at the village of Crowfield and is approximately 14 kilometres long.

2.2 The study section of the B4525 is an undulating rural road surrounded entirely by open countryside with exception of a group of houses and a mobile home sales garage as it passes over the northern end of Middleton Cheney. There are numerous accesses to farms and agricultural buildings and several side roads leading to a number of villages.

2.3 The route is subject the national speed except for a section with a 40mph limit approximately 1100 metres long either side of the crossroads at the junction with Banbury Lane and Thorpe Manderville Road.

2.4 There is no street lighting along the study route.

3 Accident Analysis

3.1 ACCIDENT ANALYSIS

3.1.1 There were a total of 17 personal injury accidents recorded on the section of the B4525 described above between 1st July 2009 and 1st July 2012. The yearly breakdown over the 3 years is shown in Table 3/1 below.

Accident Severity	2009	2010	2011	2012	Total	%
Fatal	0	0	1	0	1	5.88
Serious	2	2	3	1	8	47.06
Slight	3	2	3	0	8	47.06
Total	5	4	7	1	17	100
Severity Ratio	40%	50%	57.14%	100%	52.94%	

Table 3/1

3.1.2 The accident severity ratio for the study length is 52.94% which is above the national average of 18.63% for Rural roads (Non A Rural roads) (Road Casualties Great Britain 2009).

3.1.3 Table 3/2 below summarises the number of accidents for each of the main accident types:-

Casualty Type/ Vehicle Manoeuvre	Total	%
Loss of control	6	35.29
Non-Conformity at junctions	3	17.65
Turning Accident	2	11.76
Overtaking	2	11.76
Nose to tail	2	11.76
Other	2	11.76
Total	17	100.00

Table 3/2

3.2 LOSS OF CONTROL ACCIDENTS

3.2.1 There were six accidents as a result of loss of control. One was a fatality [13], three were serious [3], [4] and [8] and the remaining two were slights [1] and [5].

3.2.2 All of the accidents occurred in dry conditions and two occurred during the hours of darkness [5] and [13].

3.2.3 The first loss of control accident occurred during daylight hours and in dry conditions as the driver of a vehicle travelling west lost control for reasons unknown and left carriageway to the nearside resulting in a slight injury [1].

3.2.4 Loss of control accident [3] occurred again as a vehicle travelling west lost control and left the carriageway to the offside before colliding with a tree. The driver of the vehicle claimed that a white van travelling on the wrong side of the road caused her to lose control. The collision occurred in dry conditions and during the hours of daylight and resulted in a serious injury.

3.2.5 Serious loss of control accident [4] occurred as a vehicle began to lose control causing the back end to come out. The vehicle then veered onto the opposing carriageway and collided with a goods vehicle travelling in the opposite direction. The collision occurred in dry conditions and during the hours of daylight.

3.2.6 Loss of control accident [3] occurred again as a vehicle travelling west lost control and left the carriageway to the nearside before colliding with a tree. The collision occurred in dry conditions and during the hours of daylight and resulted in a serious injury.

3.2.7 Accident [5] occurred in dry conditions and during the hours of darkness as a vehicle lost control on a patch of ice possibly caused by a water leak. This caused the vehicle to leave the carriageway to the nearside and end up in a ditch resulting in a slight injury.

3.2.8 Loss of control accident [8] occurred as the rider of a two wheeled vehicle lost control on a right hand bend and ended up in a ditch resulting in a serious injury. The loss of control was believed to be as a result of spilled grain on the carriageway from nearby harvesting. The accident occurred in dry conditions and during the hours of daylight.

3.2.9 The final loss of control accident [13] occurred again as a vehicle travelling east veered onto the opposite carriageway for reasons unknown and collided with a second vehicle travelling in the opposite direction. The collision occurred during the hours of darkness and in dry conditions.

3.3 NON-CONFORMITY AT JUNCTIONS

3.3.1 There were three collisions involving non conformity at junctions. One was a serious injury collision [11] and the other two were slight injury collisions [10] and [16].

3.3.2 All of the accident occurred during the hours of daylight and one occurred in wet conditions [11].

3.3.3 Slight accident [10] occurred as the driver of a vehicle, dazzled by the sun, pulled away from a junction and into the path of a petrol tanker travelling from the right resulting in a collision. The collision occurred in dry conditions and during the hours of daylight.

3.3.4 Serious accident [11] occurred as a vehicle failed to stop at the junction and continued straight onto the B4525 and into the path of a second vehicle travelling in a north-easterly direction resulting in a collision. The collision occurred during daylight hours and in wet conditions.

3.3.5 Another Slight accident [16] occurred during daylight hours and in dry but foggy conditions as a vehicle pulled out onto the B4525 and into the path of a second vehicle travelling in a north-easterly direction resulting in a collision.

3.4 TURNING ACCIDENTS

3.4.1 There were two turning accidents. One was a serious injury collision [7] and one was a slight injury accident [12]. Both turning accidents occurred at the junction between Chacombe Road and Banbury Lane.

3.4.2 Both of the accidents occurred in dry conditions and during daylight hours.

3.4.3 Turning accident [7] occurred as a vehicle turned right off the B4525 into Chacombe Road and into the path of a second vehicle travelling south-west resulting in a collision and serious injury. The second vehicle is then pushed into a third. The collision occurred in dry conditions and during the hours of daylight.

3.4.4 Another slight turning accident [12] occurred during daylight hours and in dry conditions as a vehicle turned right into Chacombe Road and into the path of a vehicle travelling south west along the B4525 resulting in a collision.

3.5 OVERTAKING ACCIDENTS

3.5.1 There were two slight overtaking accidents on the study section of the B4525, [6] and [9].

3.5.2 Accident [6] occurred in dry conditions during daylight hours and [9] occurred in wet conditions during the hours of darkness.

3.5.3 Accident [6] occurred as a police vehicle with its siren and blue lights on was overtaking a line of vehicles following a slow moving goods vehicle. A vehicle in the line of traffic started to overtake all the other vehicles and as it pulled out it collided with the nearside of the police vehicle.

3.5.4 Accident [9] occurred as a vehicle travelling in a north-easterly direction attempted to overtake two lorries when it collided with a second vehicle travelling in the

opposite direction. The driver of the first vehicle admitted that he believed he was on a different stretch of the road that was longer and straighter when he began to undertake this manoeuvre.

3.6 NOSE TO TAIL ACCIDENTS

3.6.1 There were two nose to tail accidents on the study section of the B4525. One was a slight [2] and one was a serious [14].

3.6.2 Both accidents occurred during the hours of daylight and in dry conditions.

3.6.3 Accident [2] occurred as a coach had pulled half onto the verge whilst picking up some school children from a nearby farm. A vehicle travelling east along the B4525 collided with the rear of the coach. The driver of the vehicle claimed that his vision was impaired by the low position of the sun.

3.6.4 Accident [14] occurred as a vehicle was stationary waiting to turn onto a farm track and was struck from behind by a power two wheeler who failed to stop in time. A witness stated that the powered two wheeler was accompanied by two other riders who had overtaken her immediately prior to the scene of the accident at excessive speed.

3.7 REMAINING ACCIDENTS

3.7.1 There were two remaining accidents on the study section of the B4525. Both were serious [15] and [17].

3.7.2 Both accidents occurred during the hours of daylight and [15] occurred in wet conditions

3.7.3 Serious accident [15] occurred as a vehicle strikes a deer that had run into the carriageway before leaving the carriageway to the nearside and collided with a road sign.

3.7.4 The final accident occurred as a cyclist was negotiating a roundabout. A vehicle entered the roundabout into the path of the cyclist resulting in a collision causing the rider to fall from the bike [17].

3.8 WEATHER SURFACE AND LIGHT CONDITIONS

3.8.1 The following tables (3/3, 3/4 and 3/5) summarise the weather, road and lighting conditions at the time of the accidents:-

Weather conditions		
	number	%
Fine	16	94.12
Fog	1	5.88
Total	17	100.00

Table 3/3

Road surface condition		
	number	%
Dry	14	82.35
Wet	3	17.65
Total	17	100

Table 3/4

3.8.2 The percentage (17.65%) of accidents occurring on wet road surface conditions is below the national average 34.9% for non-built-up roads (Road Casualties Great Britain 2009).

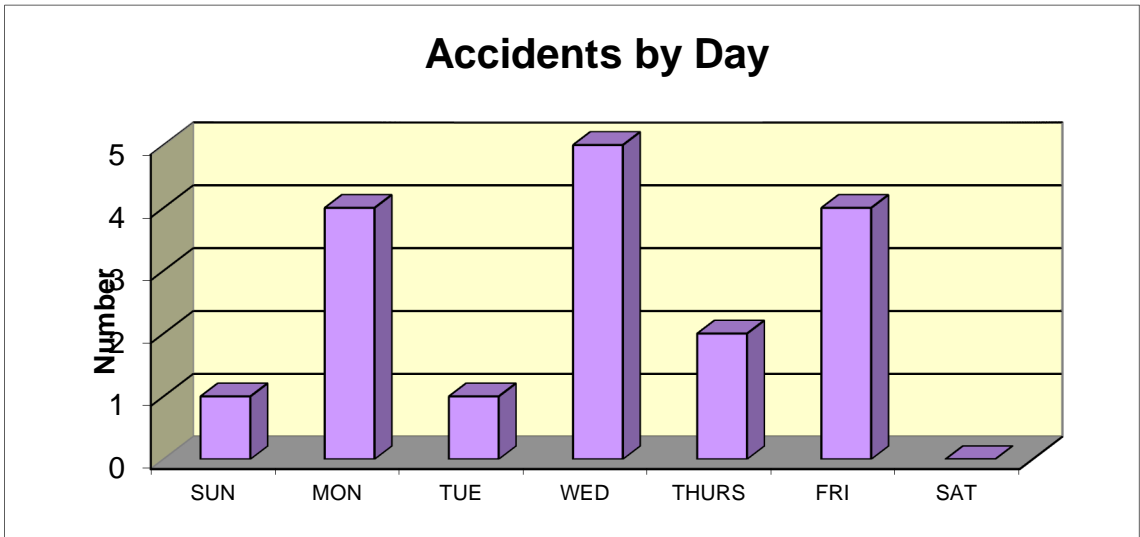
Light conditions		
	number	%
Day	14	82.35
Darkness	3	17.65
Total	17	100

Table 3/5

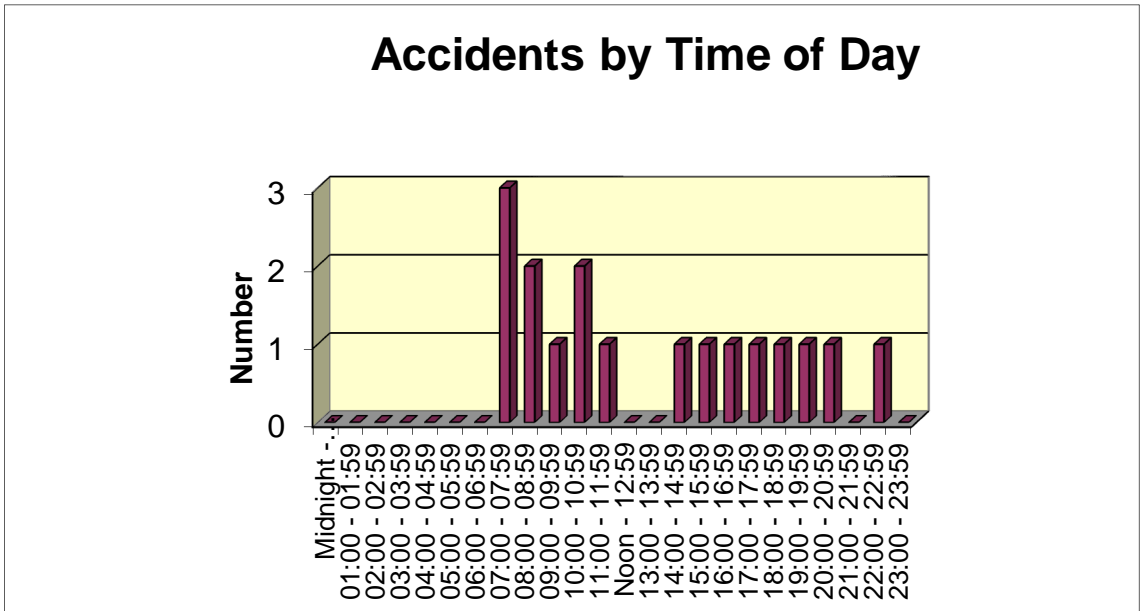
3.8.3 A total of 17.65% of accidents occurred during the hours of darkness, which is below the national average of 27.1% for non-built up roads (Road Casualties Great Britain 2009).

3.9 ACCIDENTS BY DAY, TIME, MONTH

3.9.1 The following graphs (3/1, 3/2 and 3/3) show the distribution of accidents by month, day and time of day.

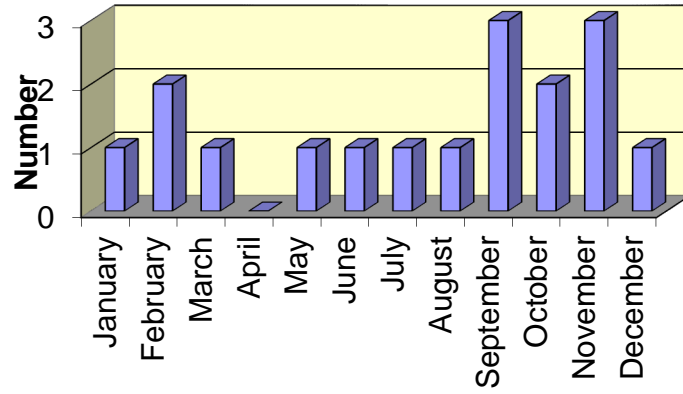


Graph 3/1



Graph 3/2

Accidents by Month



Graph 3/3

4 Site observations

4.1 SITE OBSERVATIONS

4.1.1 A site visit was carried out on 12th October 2012 when the conditions were clear and dry.

4.1.2 As part of a DfT initiative (Rightracks), several yellow backed warning and speed limit signs were provided throughout the study route and are still largely present at the time of this report although some are obscured by vegetation. In addition to the above signs, solar powered cat's eyes were installed along the entire length.

4.1.3 A new mini roundabout together with a 40mph speed limit is to be provided in Middleton Cheney as part of the conditions of a new development. The new Mini roundabout will be situated at the junction with Banbury Lane (B4525) and Chacombe Road.

4.1.4 The B4525 has been programmed for surface dressing along the entire length of the study route in the next financial year.

5 Preliminary proposal for consideration

5.1 ENGINEERING RECOMENDATIONS

5.1.1 Due to the proposed works under 4.1.3 and 4.1.4 above there are no perceived engineering improvements that can be made along this study route. However, if proposal 4.1.3 was not to proceed then the junction will need to be revisited.

