



B4245 Traffic and Transportation Review Road Safety Report

September 2018

Project No: CS/95831



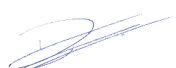
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B4245 Traffic and Transportation Review
Road Safety Report

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Issue Record

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1. Introduction

The B4245 is a single carriageway route which runs from its junction with the A48 Chepstow Road, Langstone to the west to the A48 Parkwall Roundabout near Pwllmeyric to the east.

The seven mile length of the route being studied within Monmouthshire County Council starts just east of the M4 junction 23A, connecting the communities of Magor, Undy, Rogiet, Caldicot and Portskewett to the end of the route at the A48 Parkwall Roundabout. The route serves urban residential communities and the Severn Bridge Industrial Estate, connected by largely rural stretches of carriageway.

The collision statistics for this section of B4245 have been assessed, with analysis then split in into individual links, depending in the varying nature of the road.

2. Route Statistics

Accidents (Table 1)

During the study period (October 2012 – September 2017) there were 36 accidents along the studied 7 mile section of the B4245, of these 5 (14%) were serious and 31 (86%) were slight.

The month with the highest number of accidents was March with 6 (17%), followed by October with 5 (14%). There were no accidents during December.

Thursday was the day of the week with the highest number of accidents at 10 (28%), closely followed by Wednesday with 9 (25%).

As is to be expected, the highest number of accidents occurred in a peak hour (16.00 -17.00) with a total of 5 (14%), the remainder were fairly evenly spread from 08.00 – 19.00 hours. Three accidents (8%) occurred between 05.00- 06.00 hours in the morning.

26 accidents (72%) occurred during the hours of daylight and 10 (28%) during darkness which corresponds with the national average figure for collisions in the dark.

31 accidents (86%) occurred on a dry road surface with the remainder on a wet road surface.

The accident rate for the whole route has been calculated and amounts to 207 accidents per billion vehicle miles, as compared with 608 accidents per billion vehicle miles on all B & C roads in Great Britain.

Casualties

There were 59 casualties over the 5 year period of which 7 were serious (12%) and 52 slight (88%).

Of these, 7 were motorcyclists (12%), 5 were pedestrians (8%) and 5 (8%) were pedal cyclists. Therefore, vulnerable road users account for 29% of the total casualties.

32 of the casualties were car or goods vehicle drivers (54%) with 10 (17%) were passengers.

Manoeuvres

11 collisions (31%) involved turning vehicles. Of these, 9 were right turners (25%) and 2 were left turners (5%).

There were 9 (25%) shunts, 6 head on accidents (17%) and 2 (5%) single vehicle accidents.

3 accidents (8%) involved skidding and 4 (11%) involved loss of control.

Table 1: B4245 Summary of accidents - 01/10/2012 and 30/09/2017

Year		Hour starting		Accident Severity	
2012	2	00:00	1	Fatal	0
2013	7	01:00	0	Serious injury	5
2014	5	02:00	0	Slight injury	31
2015	7	03:00	0	Total	36
2016	11	04:00	1		
2017	4	05:00	3	Light conditions	
Total	36	06:00	0	Dark (Lit 9)	10
		07:00	1		
Month		08:00	3	Light	26
Jan	3	09:00	1		
Feb	3	10:00	0	Road surface	
Mar	6	11:00	3	Wet	5
Apr	4	12:00	2	Dry	31
May	4	13:00	3	Ice/snow	0
Jun	1	14:00	1		
Jul	3	15:00	2	Road user	
Aug	2	16:00	5	Pedestrian Adult	4
Sep	3	17:00	2	Child	1
Oct	5	18:00	3	Pedal cyclist Adult	4
Nov	2	19:00	2	Child	1
Dec	0	20:00	1	Powered two wheel	7
Total	36	21:00	1		
		22:00	0	Manoeuvre	
Day		23:00	1	Right turn	9
Mon	2	Total	36	Left turn	2
Tues	5			Shunt	9
Wed	9			Head-on	6
Thurs	10			Single vehicle	2
Fri	4			(non pedestrian)	
Sat	3				
Sun	3			Casualty types	
Total	36			Driver/Rider	44
				Passenger	10
				Pedestrian	5
Other common factors					
Skid	3			Casualty Severity	
Loss of control	4			Fatal	0
Alcohol	1			Serious injury	7
Road Works	0			Slight injury	52
Circulatory C'way	0			Total	59

3. Route Analysis

The studied route was split into urban and rural sections for the purpose of this analysis.

Magor: Figure 1

During the five year study period there were 10 accidents (Reference numbers 1 to 10), of which 1 was serious and 9 were slight, resulting 19 casualties along the urban 1.5 mile length of the route running through Magor.

Three of the accidents involved right turning vehicles, two of which involved a car and a motorcyclist. Three of the accidents were shunts and two were head on accidents between two cars with one of these resulting in a serious injury.

One accident occurred on the roundabout and involved a car and a cyclist.

One accident involved a driver who had a medical episode and one where a driver waiting to turn left was struck on its offside by an oncoming vehicle.

Eight of the accidents occurred during daylight (80%) and two (20%) during darkness.

No heavy goods vehicles were involved in any of the accidents along the route in Magor.

The accident rate for this section of the B4245 has been calculated at 268 vehicles per billion vehicle miles.

Rural Carriageway from the Eastern Boundary of Magor to the Western Boundary of Rogiet: Figure 2

During the five year study period there were 5 slight accidents (Reference numbers 11,13,16,17 & 18) and 6 casualties along the rural 1 mile stretch of carriageway.

Three of these accidents occurred on the Green Farm bends:

- a car clipping the rear of a motorcycle;
- a single vehicle loss of control; and
- an oncoming vehicle causing vehicles to break suddenly and shunt.

The other two accidents involved a three vehicle shunt and a car overtaking a pedal cyclist.

Three of the accidents occurred during daylight (60%) and two (40%) during darkness. This exceeds the national average for collisions in the dark.

No heavy goods vehicles were involved in any of the accidents along the rural section of the route from Magor to Rogiet.

The accident rate for this section of the B4245 has been calculated at 259 accidents per billion vehicle miles.

Rogiet: Figures 2 & 3

During the 5 year study period there were 6 accidents (Reference numbers 12,14,15,19,20 & 26) of which 1 was serious and 5 were slight, resulting in 12 casualties along the urban 0.7 mile length of route running through Rogiet.

Two of the accidents involved right turning vehicles, one of which involved a car and a motorcyclist.

Two of the accidents involved reversing vehicles on/off driveways, one involving an oncoming motorcyclist.

One accident was a head on and one a shunt.

Four of the accidents occurred during daylight (67%) with two (33%) during darkness. This figure of 33% exceeds the national average for accidents in the dark.

No heavy goods vehicles were involved in any of the accidents along the urban section of the route through Rogiet.

The accident rate for this section of the B4245 has been calculated at 371 accidents per billion vehicle miles.

Caldicot: Figures 3 & 4

During the 5 year study period there were 12 accidents (Reference numbers 21,22,23,24,25,27,28,29,30,31,33 & 35). Three serious and 9 slight accidents resulted in 17 casualties, along the urban 1.5 mile length of route running through Caldicot.

The three serious accidents involved the following conflicts:

- a head on;
- a car and a motorcyclist; and
- a car and a pedestrian.

Overall, eight accidents involved vulnerable road users: one motorcyclist, three pedal cyclists and four pedestrians.

Three of the collisions involved a right turning vehicle, one where a pedestrian was injured and one where a pedal cyclist was injured.

There were two pedestrian accidents, one involving a goods vehicle and one where a car reversed into two pedestrians. Only one pedal cyclist accident occurred, due to a collision with a car.

Two of the collisions were shunts.

One accident involved a motorcyclist overtaking a parked car and colliding with an oncoming vehicle.

Eight of the accidents (67%) occurred during daylight and four (33%) during darkness. 33% exceeds the national average for accidents in the dark.

No heavy goods vehicles were involved in any of the accidents along the urban section of the route through Caldicot.

The accident rate for this section of the B4245 has been calculated at 348 accidents per billion vehicle miles.

Mitel Roundabout to A48 Parkwall Roundabout: Figure 4

During the 5 year study period there were 3 slight accidents (Reference numbers 32,34 & 36) resulting in 6 casualties along the rural 1.9 mile length of route from the Mitel Roundabout to the A48 Parkwall Roundabout.

One accident involved a motorcyclist who lost control on a right hand bend. There was also a head on accident on the same bend. The third accident involved a right turning vehicle.

All three accidents occurred during daylight.

No heavy goods vehicles were involved in any of the accidents along the rural section of the route from the Severn Bridge Industrial Estate to the A48 Parkwall Roundabout junction.

The accident rate for this section of the B4245 has been calculated at 73 accidents per billion vehicle miles.

4. Conclusions and Recommendations

Accident rates calculated for the studied route and individually considered urban and rural sections of carriageway have been compared with the national figures for urban and rural B roads published in the DfT Reported Road Casualties Great Britain 2016 Annual Report. All accident rates for the B4245 were considerably lower than the national averages. There were no fatalities in the study area within the five year period analysed and no accidents involving heavy goods vehicles.

Of the collisions reported:

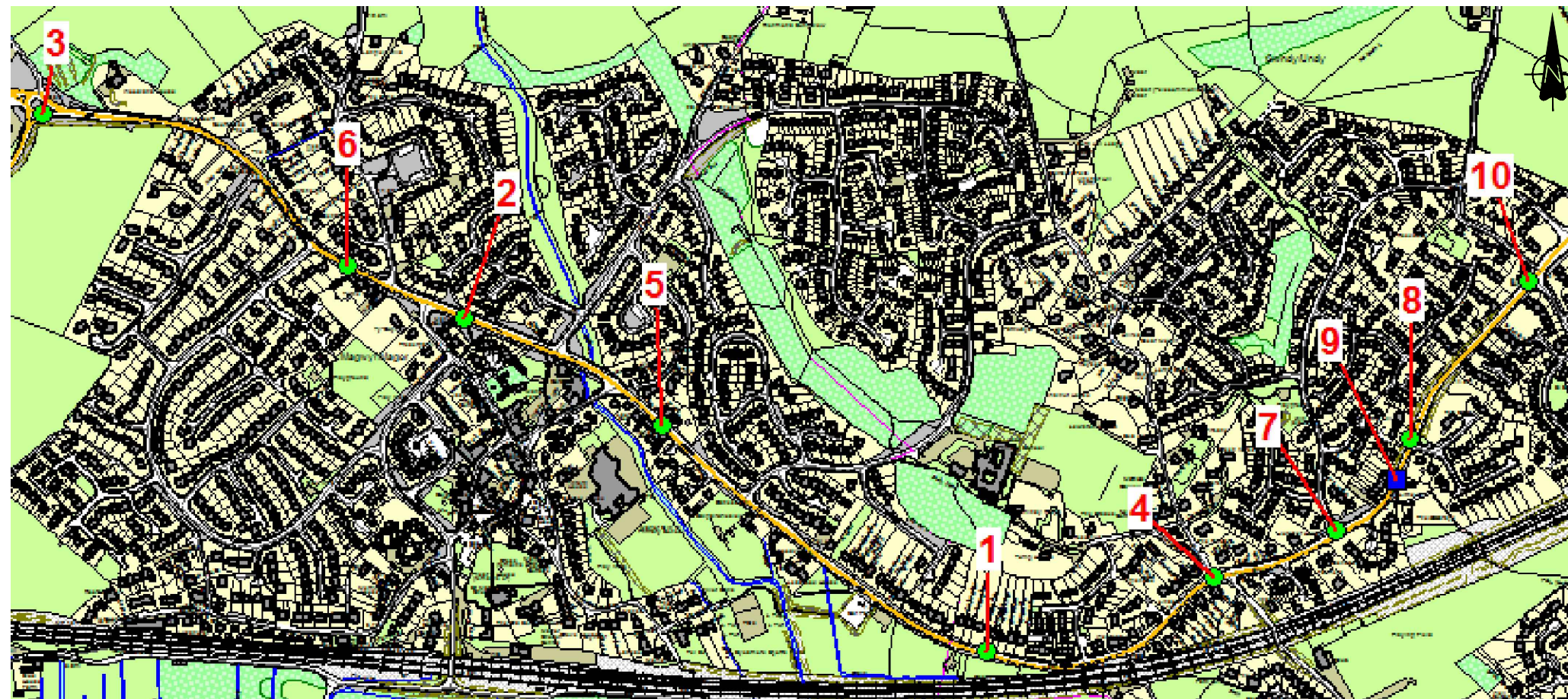
- A high proportion of accidents involved a right turning vehicle colliding with another vehicle on the main road and with motorcyclists in particular.
- Between Magor and Caldicot a high number of accidents involved vulnerable road users. It is recommended that speed surveys are undertaken and consideration be given to the introduction of traffic calming measures.
- In Caldicot 33% of accidents occurred in the dark, which is above the national average. It is recommended that lighting levels are reviewed.

It is therefore recommended that:

- Between Magor and Caldicot a series of speed surveys are undertaken and consideration be given to the introduction of traffic calming measures.
- The existing lighting levels in Caldicot are reviewed.

Figures

	1	2	3	4	5	6	7	8	9	10
Police Ref:	00100/16	11617	14417	00239/14	29117	00334/16	00544/16	00595/13	00740/13	00851/13
Day:	Thursday	Friday	Wednesday	Wednesday	Thursday	Wednesday	Wednesday	Sunday	Thursday	Wednesday
Date:	03/03/2016	31/03/2017	03/05/2017	21/05/2014	06/07/2017	20/07/2016	23/11/2016	06/10/2013	28/11/2013	23/10/2013
Time:	16:42	12:19	05:46	18:41	13:00	17:40	08:13	16:10	04:08	18:24
Visibility:	Light	Light	Light	Light	Light	Light	Light	Light	Dark	Dark
Road Condition:	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Severity:	Slight	Slight	Slight	Slight	Slight	Slight	Slight	Slight	Serious	Slight
Conflict:										
Weather:	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind
CFs:	Impaired by drugs (illicit or medical).	Failed to look properly.	Poor turn or manoeuvre.	Failed to judge other persons path or speed.	Fatigue.	Following too close.	Failed to look properly.	Following too close.	Exceeding speed limit.	Failed to look properly.



Rev	Drawn	Chkd	App'd	Description	Date
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Purpose of Issue
Reference Plan

Classification
Commercial in Confidence

Client
 monmouthshire sir fynwy

Project
B4245 From Parkwall R/A to east of the M4 Junction 23A

Drawing
Stick Diagram - 01/10/2012 to 30/09/2017
Magor

Scale @ A3	Drawn	Checked	Approved
NTS	SP	HK	KE

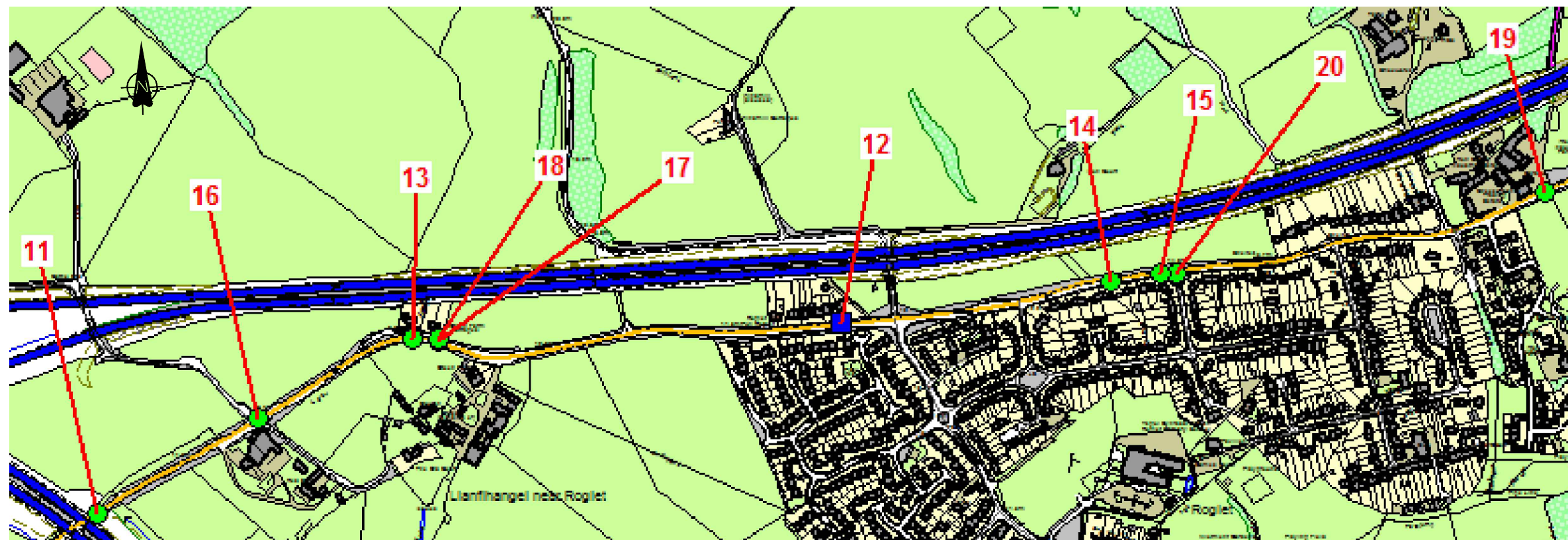
Project No.	Date
CS/090215	05/09/2018

Drawing Identifier
Project - Originator - Zone - Level - File Type - Role - Number
Figure 1

BS1192 Compliant
rev
P01.

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	11	12	13	14	15	16	17	18	19	20
Police Ref:	00004/16	00050/16	00144/16	15317	00297/16	00374/15	00375/15	00410/16	00485/15	00583/12
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Date:	09/01/2016	22/01/2016	20/02/2016	28/04/2017	11/07/2016	06/02/2015	31/05/2015	06/09/2016	07/09/2015	09/10/2012
Time:	21:20	23:12	12:26	09:06	13:07	11:30	00:13	08:30	11:37	20:07
Visibility:	Dark	Dark	Light	Light	Light	Light	Dark	Light	Light	Dark
Road Condition:	Wet/Damp	Dry	Dry	Dry	Dry	Dry	Wet/Damp	Wet/Damp	Dry	Dry
Severity:	Slight	Serious	Slight	Slight	Slight	Slight	Slight	Slight	Slight	Slight
Conflict:										
Weather:	Rain-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Rain-no wind	Other	Fine-no wind	Fine-no wind
CFs:	Following too close.	Impaired by alcohol.		Illness or disability, mental or physical	Failed to look properly.	Failed to look properly.	Slippery road due to weather.	Slippery road due to weather.	Failed to look properly.	Failed to look properly.



Rev	Drawn	Chkd	App'd	Description	Date
				Purpose of Issue	
				Reference Plan	
				Classification	
				Commercial in Confidence	
				Client	



Project
B4245 From Parkwall R/A to east of the M4 Junction 23A

Drawing
Stick Diagram - 01/10/2012 to 30/09/2017 Rogiet

Scale @ A3	Drawn	Checked	Approved
NTS	SP	HK	KE

Project No. CS/090215 Date 05/09/2018

Drawing Identifier Project - Originator - Zone - Level - File Type - Role - Number rev
Figure 2 BS1192 Compliant P01.

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	21	22	23	24	25	26	27	28	29	30	
Police Ref:	00082/13	00116/16	00133/15	00137/13	00269/15	00305/14	00404/15	00449/15	00556/12	00882/14	
Day:	Thursday	Thursday	Thursday	Thursday	Wednesday	Thursday	Tuesday	Tuesday	Thursday	Wednesday	
Date:	07/02/2013	24/03/2016	12/03/2015	21/03/2013	20/05/2015	05/06/2014	11/08/2015	15/09/2015	04/10/2012	20/08/2014	
Time:	05:39	15:35	19:20	18:46	11:30	19:30	13:07	16:10	05:47	15:37	
Visibility:	Dark	Light	Dark	Dark	Light	Light	Light	Light	Dark	Light	
Road Condition:	Dry	Dry	Dry	Wet/Damp	Dry	Dry	Dry	Dry	Wet/Damp	Dry	
Severity:	Serious	Slight	Serious	Slight	Slight	Slight	Slight	Slight	Slight	Slight	
Conflict:											
Weather:	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	
CFs:	Poor turn or manoeuvre		Disobeyed automatic traffic signal	Wrong use of pedestrian crossing.		Failed to look properly.	Following too close.	Failed to look properly.	Slippery road (due to weather)	Failed to look properly.	



Rev	Drawn	Chkd	App'd	Description	Date
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Purpose of Issue

Reference Plan

Classification

Commercial in Confidence

Client



monmouthshire
sir fynwy

Project

B4245 From Parkwall R/A to east of the M4
Junction 23A

Drawing

Stick Diagram - 01/10/2012 to 30/09/2017
Caldicot.

Scale @ A3	Drawn	Checked	Approved
NTS	SP	HK	KE

Project No.	Date
CS/090215	05/09/2018

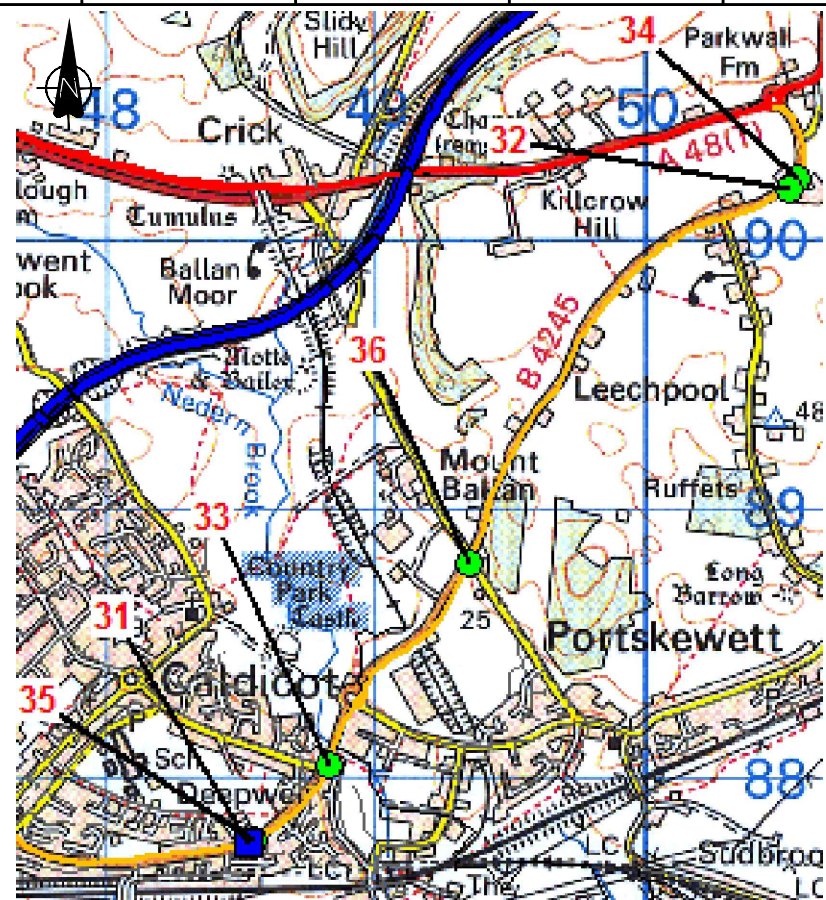
Drawing Identifier	BS1192 Compliant
Project - Originator - Zone - Level - File Type - Role - Number	rev
Figure 3	P01.

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	31	32	33	34	35	36
Police Ref:	00035/13	00145/16	00148/14	00187/13	00496/16	00745/14
Day:	Tuesday	Saturday	Wednesday	Sunday	Wednesday	Thursday
Date:	29/01/2013	23/04/2016	05/03/2014	14/04/2013	26/10/2016	17/04/2014
Time:	07:55	16:27	16:36	14:42	17:28	08:48
Visibility:	Light	Light	Light	Light	Light	Light
Road Condition:	Dry	Dry	Dry	Dry	Dry	Dry
Severity:	Slight	Slight	Slight	Slight	Serious	Slight
Conflict:						
Weather:	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind	Fine-no wind
CFs:		Poor turn or manoeuvre.	Failed to look properly.	Failed to look properly.	Dazzling sun.	Failed to judge other persons path or speed.



Rev	Dwn	Chkd	App'd	Description	Date
Purpose of Issue					
Reference Plan					
Classification					
Commercial in Confidence					
Client					

Project
 B4245 From Parkwall R/A to east of the M4 Junction 23A

Drawing
 Stick Diagram - 01/10/2012 to 30/09/2017
 Portskeewett.

Scale @ A3	Drawn	Checked	Approved
NTS	SP	HK	KE
Project No.		Date	
CS/090215		05/09/2018	
Drawing Identifier			BS1192 Compliant
Project - Originator - Zone - Level - File Type - Role - Number			rev
Figure 4			P01.

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