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An examination of road traffic collisions on the A1 Dual Carriageway, 2009-2018



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DEFINITIONS

A1 dual carriageway: The A1 dual carriageway is a major route in Northern Ireland. It starts at the M1/A1 Link roundabout at Sprucefield where the A101 Magharageery Road (accessed from exiting the M1 at Junction 8) meets the A1 roundabout just south of the Sprucefield Roundabout and ends at the border close to Killeen in Newry, Mourne & Down. After crossing the border, the road becomes the N1 dual carriageway which eventually leads to the M1 motorway on the way down to Dublin.

Junctions: There are over 60 junctions which join onto the A1 dual carriageway. A collision that occurs at a junction is defined as being within 50 metres of the junction. See page 11 for further definition of the criteria used for counting the number of collisions at each junction.

Collisions: Collisions involving personal injury occurring on the public highway (including footpaths) in which a vehicle is involved. Collisions are categorised as either 'Fatal', 'Serious' or 'Slight' according to the most severely injured casualty. All the collision data used in the report is supplied to the Department for Infrastructure from the Police Service of Northern Ireland (PSNI).

Killed: Died within 30 days from injuries received in a collision.

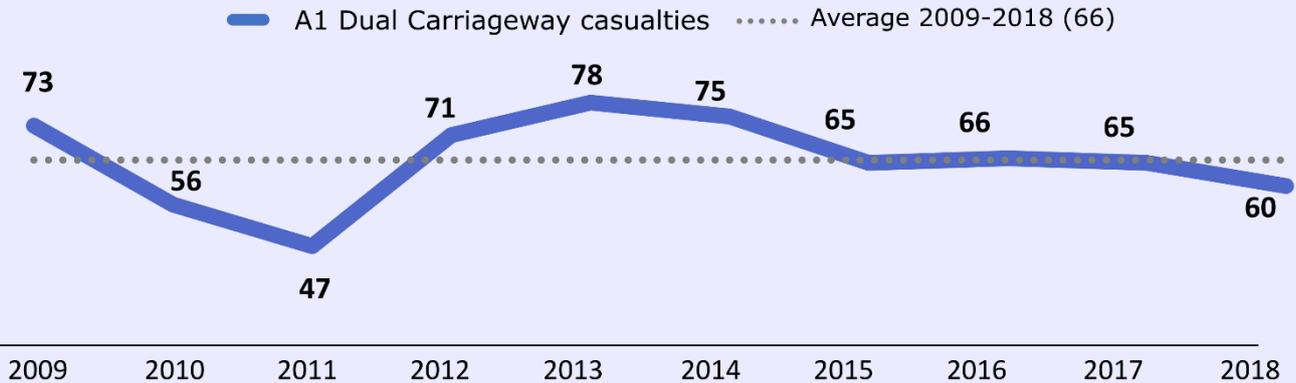
Serious Injury: An injury for which a person is detained in hospital as an 'in-patient', or any of the following injuries whether or not the person is detained in hospital: fractures, concussion, internal injuries, crushing, burns, severe cuts and lacerations or severe general shock requiring medical treatment.

Slight Injury: An injury of a minor character such as a sprain, bruise or cut not judged to be severe, or slight shock requiring roadside attention.

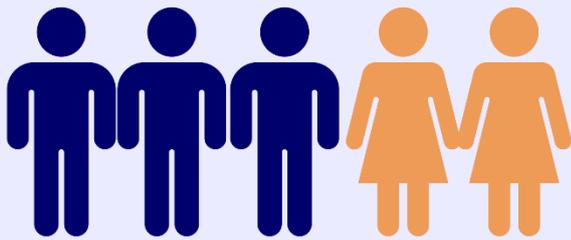
KSI: Refers to collisions or casualties where someone was killed or seriously injured.

Overall casualties: A person who sustains a slight, serious or fatal injury.

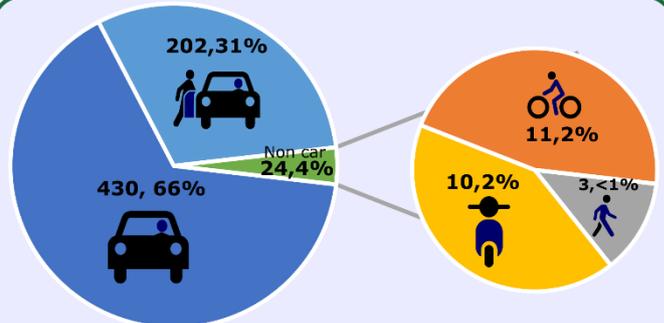
Trend Information 2009-2018



Since 2009, the series was at its lowest in 2011 and its highest in 2013. Despite these peaks and troughs, in more recent years the numbers have levelled off to around the series average of 66



57% of casualties recorded on the A1 Dual Carriageway were **male**



97% of casualties on the A1 Dual Carriageway were **car users**



50% of casualties on the A1 Dual Carriageway were aged **25-49**

Over three quarters (76%) of all casualties on the A1 Dual Carriageway occurred between 7am and 7pm

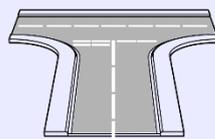
Junctions with most collisions on the A1 Dual Carriageway?*

A1

- Dromara Road Link** - 11 collisions
- Moira Road** - 8 collisions
- Eglantine Road** - 7 collisions

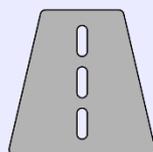
* excludes roundabouts

A1 Dual Carriageway collisions - top 5 causation factors



At a junction

Principal Causation Factor	Collisions
Emerging from a minor road without care	42
Inattention or attention diverted	24
Changing Lane without care	22
Crossing or entering a road junction without care	22
Wrong course/position	18
Base	228



Not at a junction

Principal Causation Factor	Collisions
Inattention or attention diverted	30
Excessive speed having regard to conditions	16
Changing Lane without care	15
Driving too close	13
Ice, frost or snow	10
Base	163

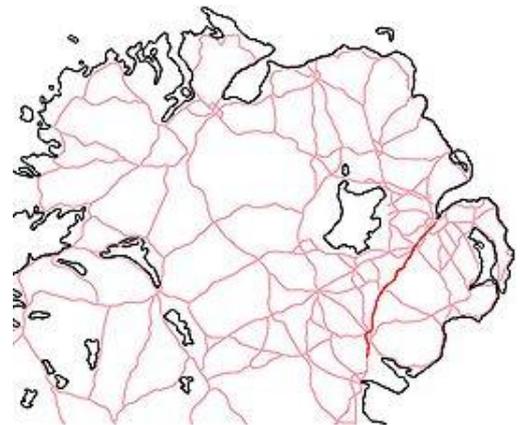
INTRODUCTION

Analysis, Statistics and Research Branch (ASRB) in DfI is responsible for producing the statistical content of the Northern Ireland Problem Profile. Historically, this document focused on the latest five year road casualty data and reported on a wide range of road user groups and behaviours. The document had grown in size over the years and was becoming cumbersome to update. It was therefore agreed at the Road Safety Strategy Research Coordination Group (RSSRCG) that ASRB would seek to develop a series of smaller, topic specific documents which could form the shape of a live Problem Profile and the profile would be maintained and updated regularly to ensure relevance with existing and emerging road safety issues.

These reports have typically focused on road user groups such as cyclists, pedestrians or motorcyclists or causation factors such as speeding or alcohol. However, to expand on the problem profile content this report on the A1 dual carriageway has been developed to examine road traffic collisions that have occurred on this busy part of the road network. The type of analysis included within this report are trend information since 2002, a day and hour profile of when these collisions are likely to occur plus a breakdown by age, gender and road user category. There is also a section on the top ten causation factors of collisions on the A1 dual carriageway plus a mapping section which shows where the collisions have occurred and which junctions have the most collisions recorded.

OVERVIEW

The A1 dual carriageway is approximately 32 miles in length and runs from Sprucefield, just outside of Lisburn via Hillsborough, Dromore, Banbridge, Loughbrickland and Newry. After the Newry bypass, the A1 crosses the border eventually becoming the N1 road, leading to the Republic's M1 towards Dublin. There are hard shoulders throughout most of the A1's length in which there are over 60 junctions, property accesses and bus stops. For the majority of the carriageway, the National Speed Limit applies, although there are some short sections subject to a 60 mile per hour limit. The Newry bypass was the last remaining section of single carriageway between Belfast and Dublin, but was completed to dual carriageway in mid-2010. This section has been completed to 'motorway' standard, with full grade separation and restrictions on property access/frontage.



RECENT AND PLANNED DEVELOPMENTS

It is important to point out that some of the junctions along the A1 dual carriageway have changed over time with improvements to the road having an impact on road safety. Some junctions haven't changed as they necessitate right turning movements across the central reservation while the busier junctions have been improved by the provision of bridges or underpasses. Major improvements over the last 15 years include:

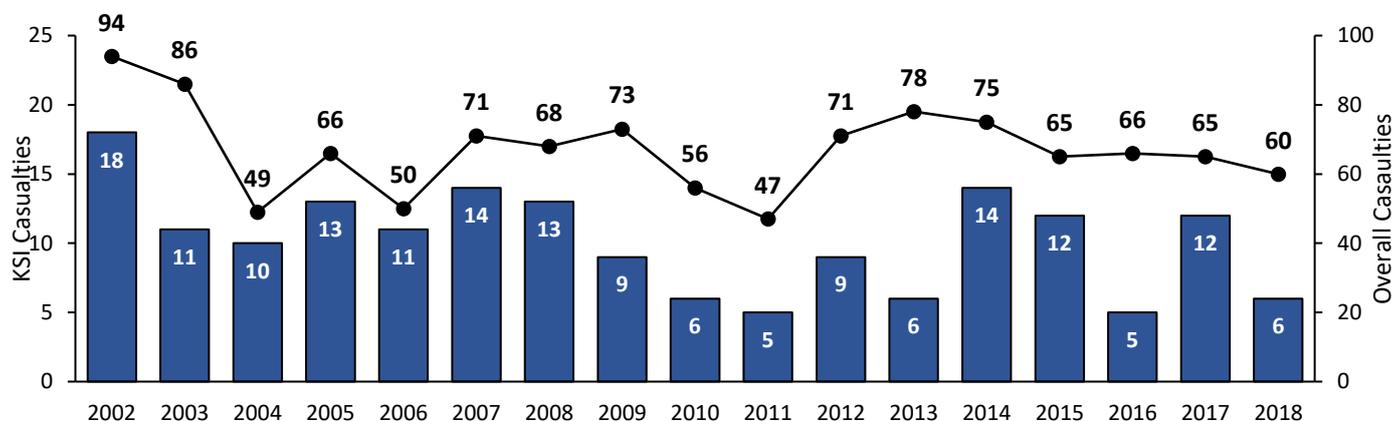
- A flyover at the busy Rathfriland Road junction in Banbridge and an underpass at the Hillsborough road junction in Dromore was completed in June 2005.
- Improved junctions at Banbridge and Hillsborough opened in September 2009, at Loughbrickland in December 2009 and at Banbridge Road, Dromore in February 2010.
- The dualling of the carriageway between Beech Hill and Cloghogue was completed in July 2010.

There is also intention to improve road safety and accessibility further with plans to provide four further grade separated junctions. These are located at the junctions of Listullycurran Road, Gowdystown Road, Skeltons Road, and Waringsford Road. Further measures envisaged include a central reservation safety barrier to be constructed from the A1's junction with the M1 at Sprucefield to Loughbrickland. This will involve the closing of many of the dual carriageway's central cross-over points. Finally, there are plans to improve the link between the M1 and A1 at Sprucefield in a scheme that would include a flyover at Hillsborough, the last remaining roundabout on the carriageway between Dublin and Belfast.

TREND INFORMATION

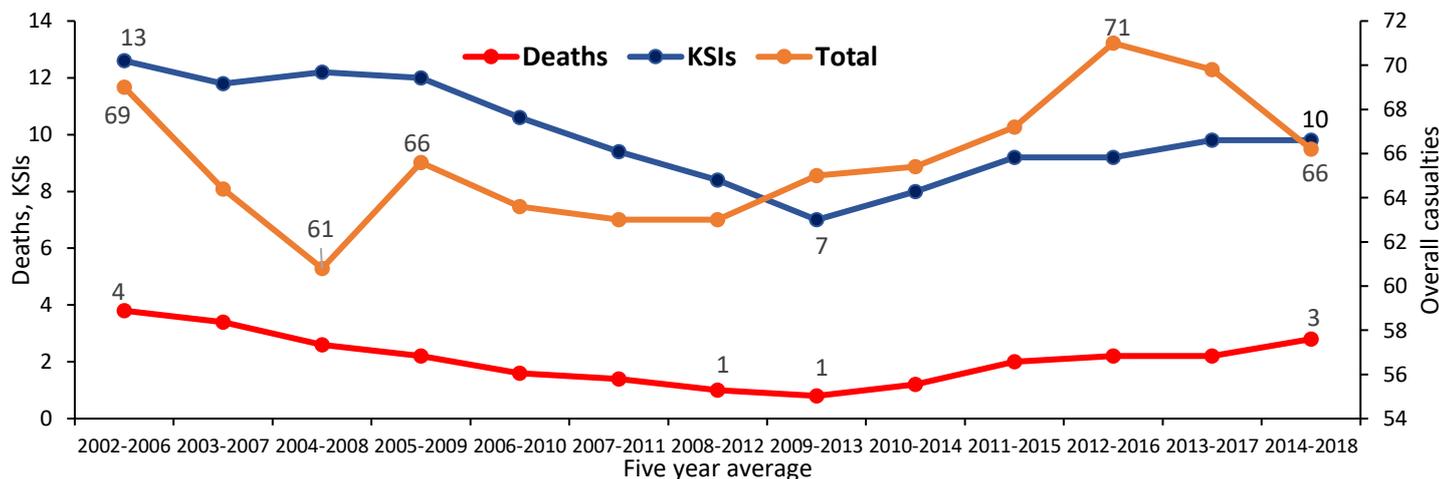
Figure 1 below shows the number of casualties on the A1 carriageway over the seventeen year period 2002 to 2018 (Table 4 in Appendix refers) with those killed or seriously injured depicted as the blue column chart and the total casualties above this in a line graph. As can be seen the series high was recorded in 2002 with 18 KSI casualties and 94 casualties overall recorded during this year, and the series low was in 2011 with 5 KSIs and 47 overall casualties (half that of 2002). While the total casualties on the A1 dual carriageway fell by 45 in two years from 94 in 2002 to 49 in 2004, they have fluctuated but remained in or around the seventeen year average of 67 since then. The KSI trend, however, has shown a reduction in casualties in more recent years, with an average of 13 KSI casualties recorded in the years 2002-2008 reducing to an average of 8 in the years 2009-2018. Proportionately though this is in line with the trend in KSI casualties recorded on all roads within Northern Ireland over this time period suggesting that the downward shift lies with the reduction of KSIs in Northern Ireland overall rather than being due to any underlying factor on the A1 carriageway itself.

Figure 1: KSI casualties and overall casualties occurring on the A1 Dual Carriageway 2002 - 2018



Examining a rolling five year average in Figure 2, which removes the volatility of single year fluctuations, allows us to more easily see the direction of travel of deaths, KSIs and casualties overall that have occurred on the A1. Deaths, as shown by the red line, have followed a shallow bowl shape pattern with the numbers highest at the start and end of the trend and lowest in the middle for the 2009 to 2013 period. KSIs (the blue line) have roughly followed this pattern as well, falling from an annual average of 13 for the period 2002 to 2006 to the low of 7 for 2009 to 2013 and rising gradually to an average of 10 for the most recent five year period. Finally, total casualties depicted by the orange line has shown much more variability than deaths and KSIs over the full time period with several peaks and troughs along the way. These started at an average of 69 casualties on the A1 for 2002 to 2006, fell to 61 for 2004 to 2008, eventually rose to the series high of 71 for the period 2012-2016 before falling again to 66 for 2014-2018.

Figure 2: Deaths, KSIs and overall casualties on the A1 Dual Carriageway (5 year rolling average) 2002 - 2018



CONTEXT

The A1 dual carriageway has seen several developments over the seventeen year time period, including the redesigning of junctions and an entire new section at Sheepbridge in Newry. It was decided, therefore, to narrow the focus of our research and look only at collisions and casualties that occurred during the ten year period 2009 to 2018.

When do collisions on the A1 dual carriageway occur?

There were 391 collisions recorded on the A1 dual carriageway during this time period, of which 67 were either fatal or serious. It is interesting to note that less than a quarter of overall collisions on this route occurred at the weekend, with Saturday (50, 13%) and Sunday (44, 11%) recording the fewest collisions. This perhaps shows that the A1 dual carriageway is used mainly by commuters between Monday and Friday with an average of 59 collisions out of 297 total occurring on a weekday. Lending credence to this, is the fact that over three quarters of all A1 dual carriageway collisions occurred between 7am and 7pm, when there is a high volume of commuter traffic, with at least 20 collisions recorded for each hour over this time period. Unsurprisingly, the rush hour times of 4pm to 5pm (30, 8%) and 5pm to 6pm (36, 9%), had the most collisions recorded with 5pm to 6pm also having the most KSI collisions with seven. Friday had both more injury collisions (75, 19%) and fatal and serious collisions (13, 19%) than any other day of the week, with the hours of 8am to 9am, 11am to 12am and 4pm to 5pm having seven collisions recorded between these times on a Friday. However, the greatest single hour for collisions on the A1 dual carriageway in the last ten years was between 5pm and 6pm on a Wednesday, when 10 took place. Table 1 below shows this information for all collisions and Table 6 in the Appendix shows time of day and day of week for fatal and serious collisions.

Table 1: All collisions on the A1 dual carriageway by hour of day and day of week 2009-2018

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total	
	3	0	1	1	1	3	1	10	0601 - 0700
	3	1	6	2	5	3	0	20	0701 - 0800
	4	3	3	3	7	4	2	26	0801 - 0900
	2	5	4	1	5	3	1	21	0901 - 1000
	2	5	6	2	3	1	1	20	1001 - 1100
	3	3	2	1	7	4	3	23	1101 - 1200
	4	7	2	4	3	3	1	24	1201 - 1300
	3	4	3	6	5	4	3	28	1301 - 1400
	3	2	1	2	6	5	2	21	1401 - 1500
	4	4	2	6	5	4	3	28	1501 - 1600
Key	7	3	3	4	7	4	2	30	1601 - 1700
0	3	7	10	5	5	2	4	36	1701 - 1800
1-2	3	4	5	4	1	1	3	21	1801 - 1900
3-4	1	2	1	2	4	1	1	12	1901 - 2000
5-6	0	6	1	2	2	1	2	14	2001 - 2100
7+	1	0	1	0	3	2	2	9	2101 - 2200
	0	1	0	1	3	1	1	7	2201 - 2300
	1	1	2	2	0	2	0	8	2301 - 2400
	2	1	2	2	1	0	1	9	0001 - 0100
	2	0	1	1	2	0	2	8	0101 - 0200
	0	1	0	2	0	1	3	7	0201 - 0300
	0	0	0	1	0	1	4	6	0301 - 0400
	0	0	0	0	0	0	2	2	0401 - 0500
	0	0	1	0	0	0	0	1	0501 - 0600
Total	51	60	57	54	75	50	44	391	

Figure 3: A1 dual carriageway collisions by time of day – weekday vs weekend, 2009-2018

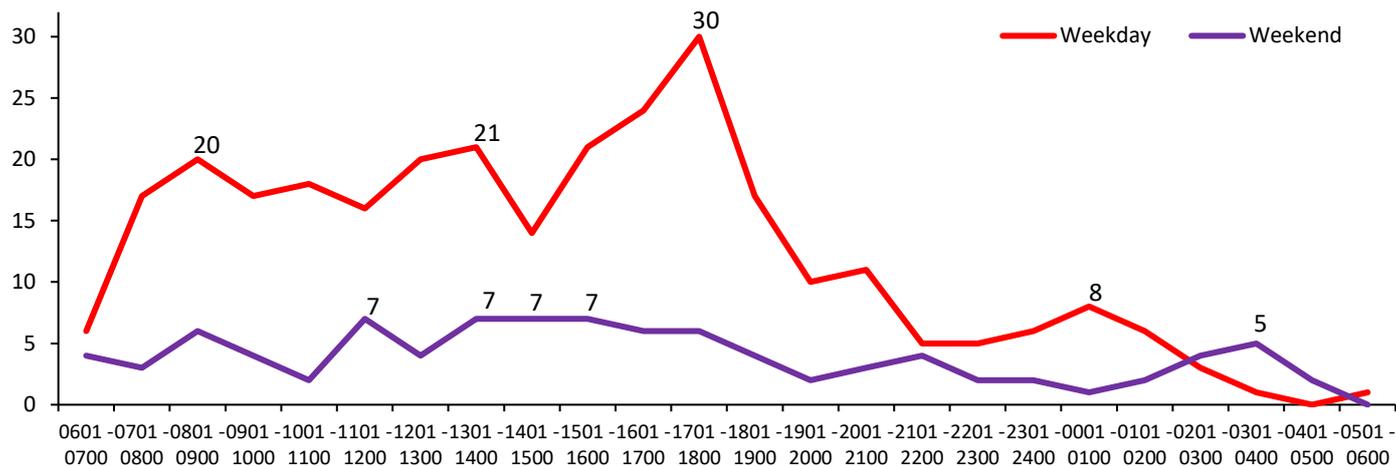
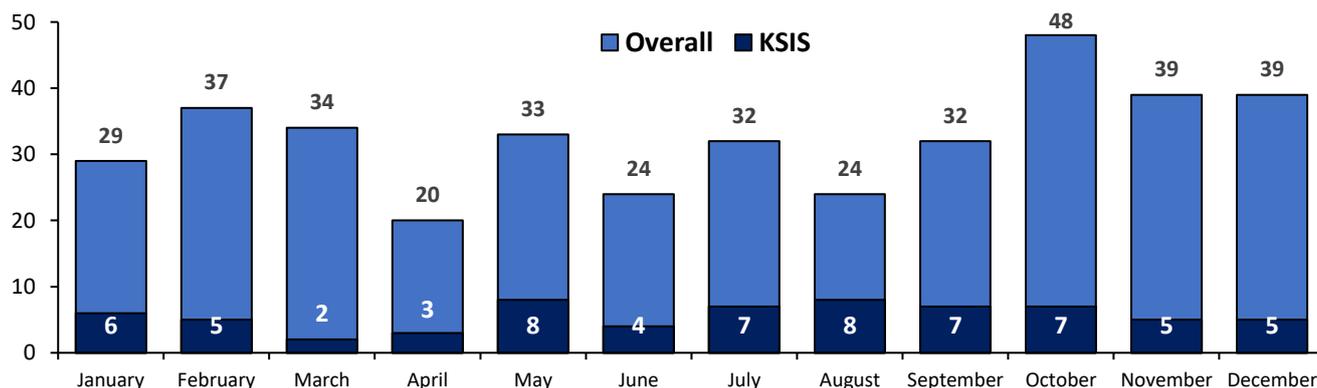


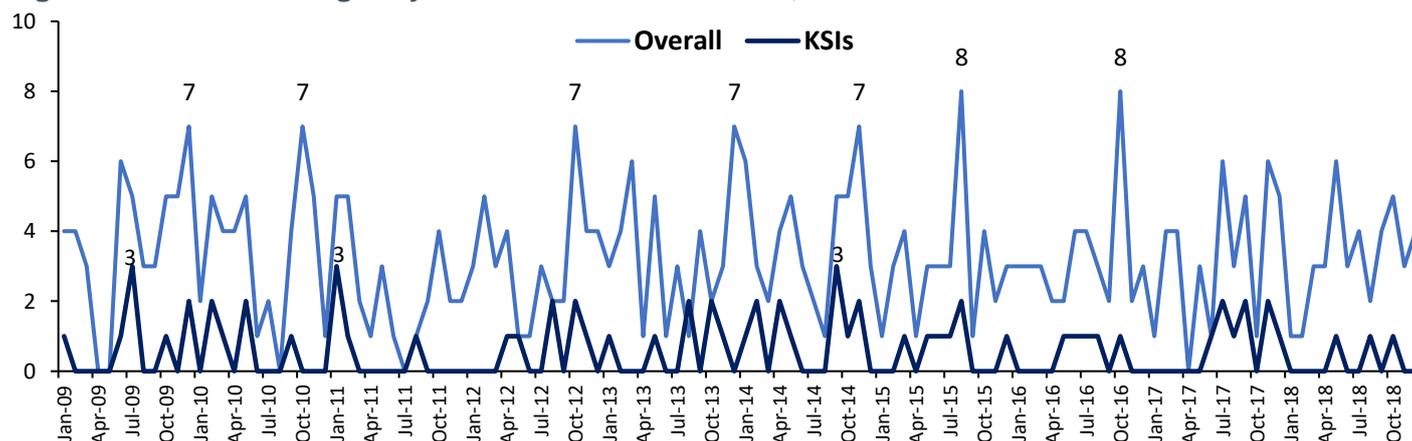
Figure 3 presents the number of overall collisions on the A1 dual carriageway by time of day for both Monday to Friday and at the weekend. The peak at 5pm to 6pm is very noticeable in the weekday trend whereas there is much less variability in the weekend figures with the afternoon figures in particular remaining fairly constant. It is interesting to note, though, that there is a spike in the weekend collisions between 2am and 4am which doesn't occur in the weekday collisions.

Figure 4: A1 dual carriageway collisions by month of year, 2009-2018



Examining a monthly breakdown in Figure 4 shows that the number of overall collisions tend to be greater in the autumn and winter months with 58% of collisions occurring between October and March. October had the highest overall with 48 and April the least (20). Interestingly, there were more fatal and serious collisions in the summer months with May and August both having the most with 8 KSI collisions each. Figure 5 shows that month on month there are peaks and troughs throughout the figures indicating that collisions are subject to randomness rather than having any underlying seasonal trend.

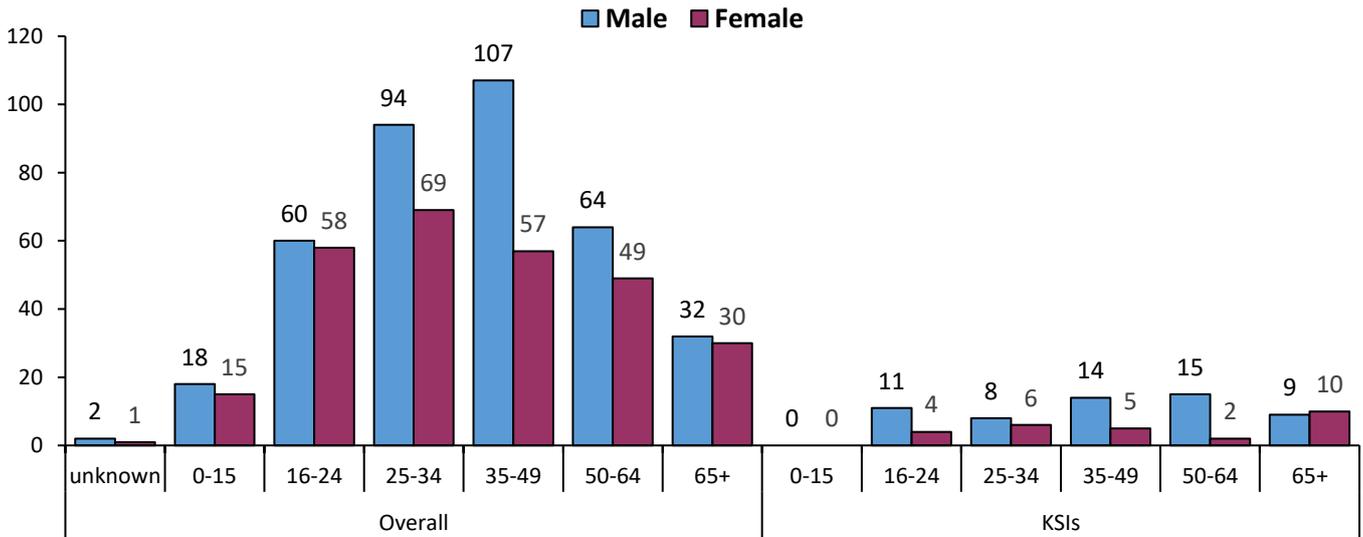
Figure 5: A1 dual carriageway collisions for each month, 2009-2018



CASUALTY PROFILE

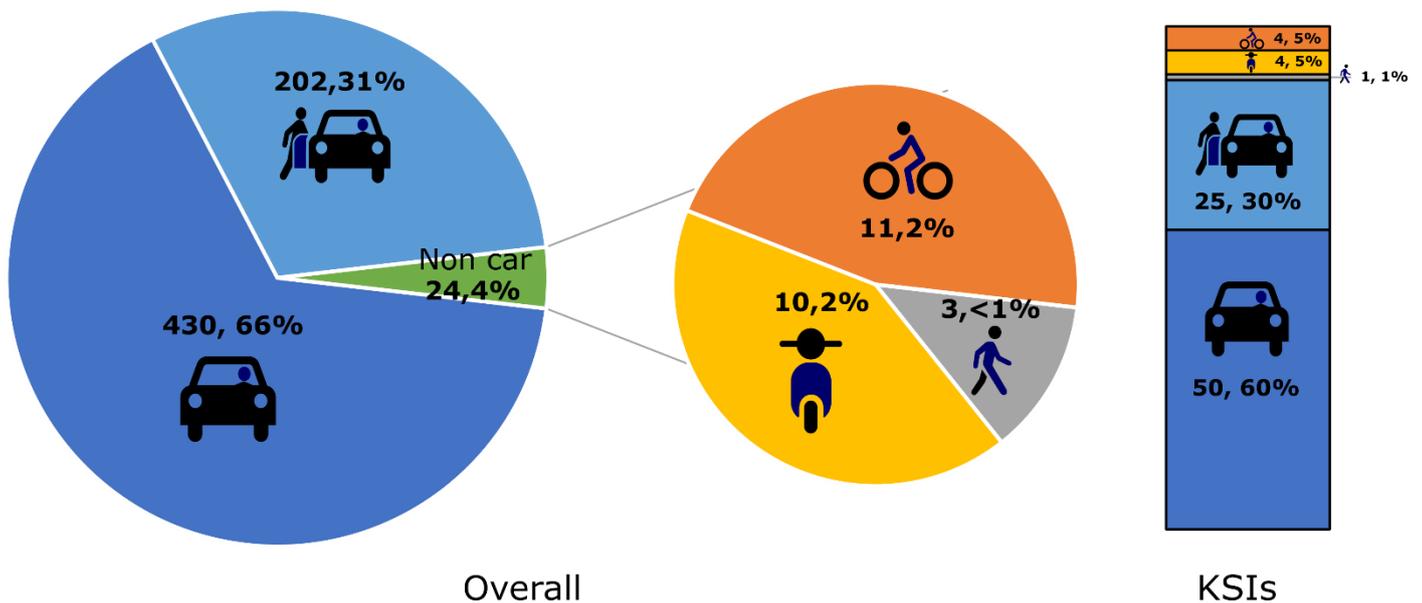
Of the 391 collisions recorded on the A1 dual carriageway between 1st January 2009 and 31st December 2018, there were 656 casualties of whom 18 were killed, 66 were seriously injured and 572 were slightly injured. Males made up almost three fifths of casualties occurring on the A1 dual carriageway (57%) and over two thirds the number of KSI casualties (57 out of 84, 68%). In terms of age, over a quarter (28%, or 107 out of 377) of male casualties were aged 35 to 49 while a quarter of female casualties were aged 25 to 34 (25%, or 69 out of 279). Proportionately there were more overall male casualties than females for every age category ranging from 51% males for young people to 65% male for those aged 35 to 49. Only KSI casualties amongst those aged 65 and over had more females killed or seriously injured than males with 10 out of the 19 KSIs from this age group being female.

Figure 6: A1 dual carriageway overall casualties and KSI casualties by age and gender, 2009-2018



Concerning road users, unsurprisingly the vast majority of casualties on the A1 dual carriageway in the last ten years were car users (97%) with 430 being drivers (66%) and 202 (31%) being passengers. The remaining 24 casualties were comprised of 11 pedal cyclists, 10 motor cyclists and 3 pedestrians. The proportions were fairly similar for the 84 KSI casualties with 75 (90%) being car users of which 50 were drivers (60%) and 25 were passengers (30%). Four pedal cyclists, four motor cyclists and one pedestrian made up the other nine KSIs. See Figure 7 below:

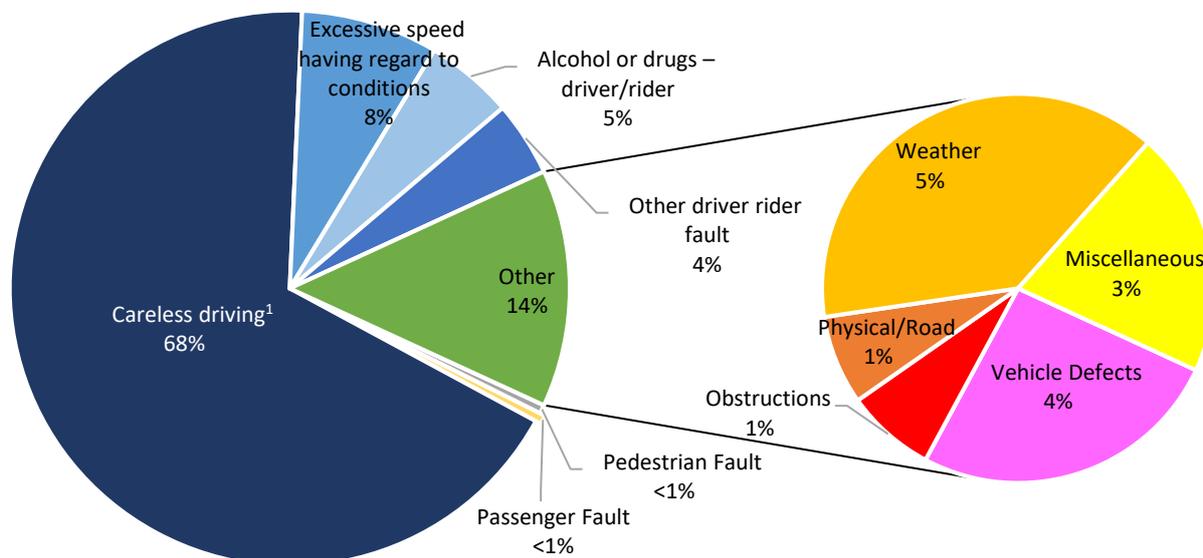
Figure 7: A1 dual carriageway overall casualties and KSI casualties by road user, 2009-2018



RESPONSIBILITY

Figure 8 shows the grouped causation factors for collisions on the A1 dual carriageway. Of the 391 collisions recorded on the carriageway between 2009 and 2018, 333 (85%) were attributed to a driver/rider involved in the collision. This is shown in the blue shading below. Careless driving¹ was the principal causation for two thirds (68%) of all the collisions occurring on the dual carriageway in the last ten years and equates to 85% of collisions in which a driver/rider was at fault. Of the remaining 15% of collisions which were not attributed to driver/rider fault, weather (e.g. ice, frost or snow, heavy wind, glaring sun) accounted for the most with 5%, closely followed by vehicle defects (approximately 4%).

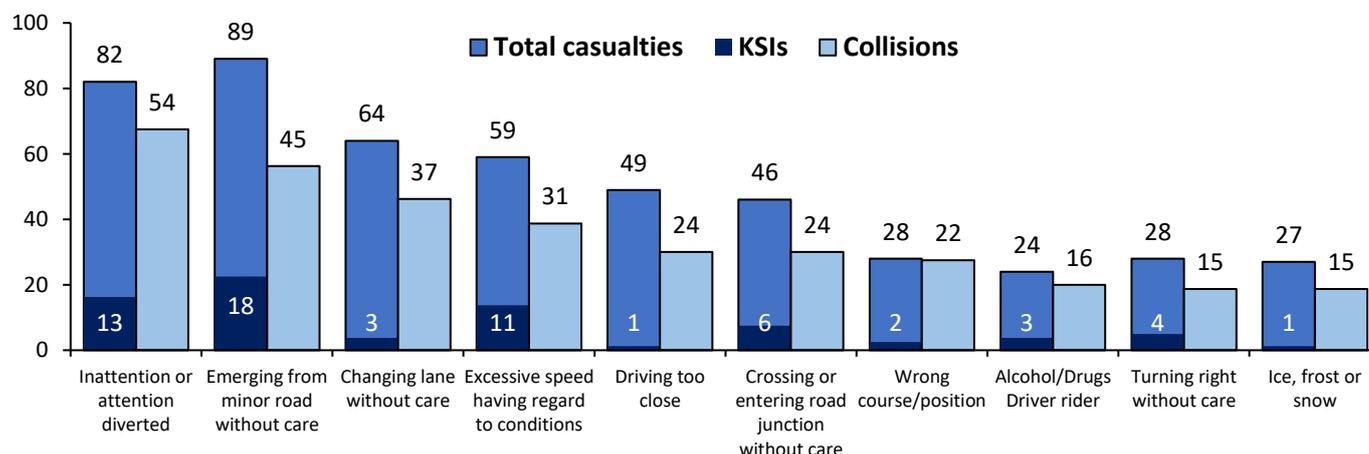
Figure 8: Collisions on the A1 dual carriageway by grouped causation factor, 2009-2018



¹ This is a composite causation factor comprised of several causation factors including 'inattention or attention diverted' and 'driving too close'.

Breaking the grouped causation factors down further into individual causations, the top 3 principal factors for collisions occurring on the A1 dual carriageway between 2009 and 2018 were 'inattention or attention diverted' (54 collisions), followed by 'emerging from minor road without care' (45 collisions) and 'changing lane without care' (37 collisions). These 3 categories made up over one third (35%) of the total causation factors for this period. 'Emerging from minor road without care' was the highest causation factor for those killed or seriously injured (18 KSI casualties), though, which shows just how difficult emerging from the many junctions along the A1 dual carriageway can be. 'Inattention or attention diverted' (13 KSI casualties) and 'excessive speed having regard to conditions' (11 KSI casualties) were second and third highest respectively and these three causation factors made up exactly half the total (42 out of 84) assigned to those killed or seriously injured on the dual carriageway over this ten year period.

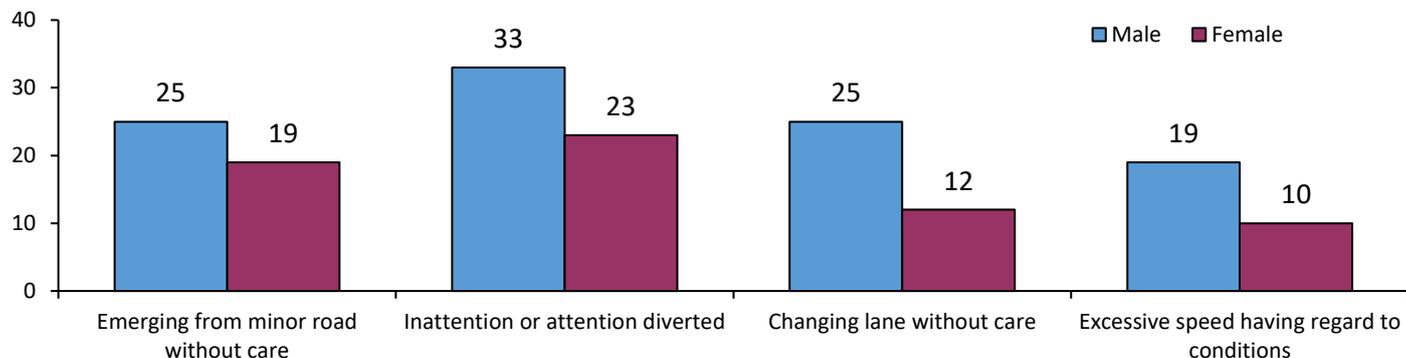
Figure 9 Top ten principal causation factors for collisions on the A1 dual carriageway 2009 - 2018



Who is responsible?

Having established that 'emerging from a minor road without care', 'inattention or attention diverted', 'changing lane without care' and 'excessive speed having regard to conditions' are the causation factors with the highest number of casualties on the A1 dual carriageway, just who is responsible for these types of collisions? It is clear to see that males were responsible for the majority of these factors where the gender is known accounting for 57% of those at fault for emerging, 59% for inattention, 68% for changing lane without care and 66% for speeding. See Figure 10 below:

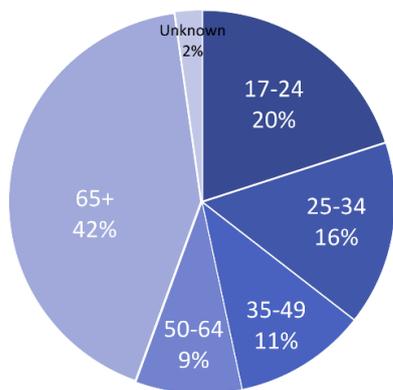
Figure 10 Drivers responsible for collisions on the A1 dual carriageway by gender, selected causation 2009 - 2018



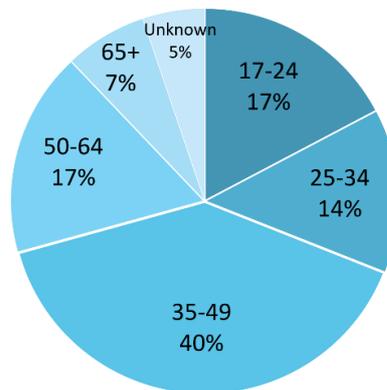
In terms of age group, older people were much more likely to be at fault for emerging from a minor road (42%) and for changing lane without care (32%) while those aged 35-49 were more likely to be responsible for inattention or having attention diverted (40%). It is clear, though, that the younger age groups tended to be more responsible for speeding with 68% of those at fault being aged between 17 and 34 compared with less than two fifths for the other factors having younger people responsible. See Figure 11 below:

Figure 11 Drivers responsible for collisions on the A1 dual carriageway by age group, selected causation 2009 – 2018

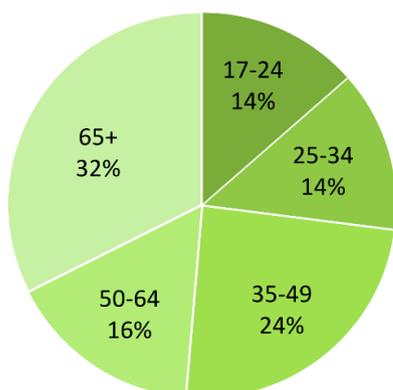
Emerging from minor road without care



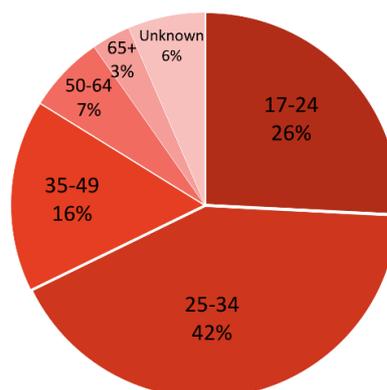
Inattention or attention diverted



Changing lane without care



Excessive speed having regard to conditions



MAPPING SECTION

The following pages present detailed maps of collisions occurring along the length of the A1 dual carriageway, and in order to present the findings easily to the reader, it was necessary to split the length of the dual carriageway into different sections. Using the major towns as natural break points along the route, the carriageway was split as per the map and table below with Section 3 being divided into two further parts due to the number of junctions between Dromore and Banbridge:

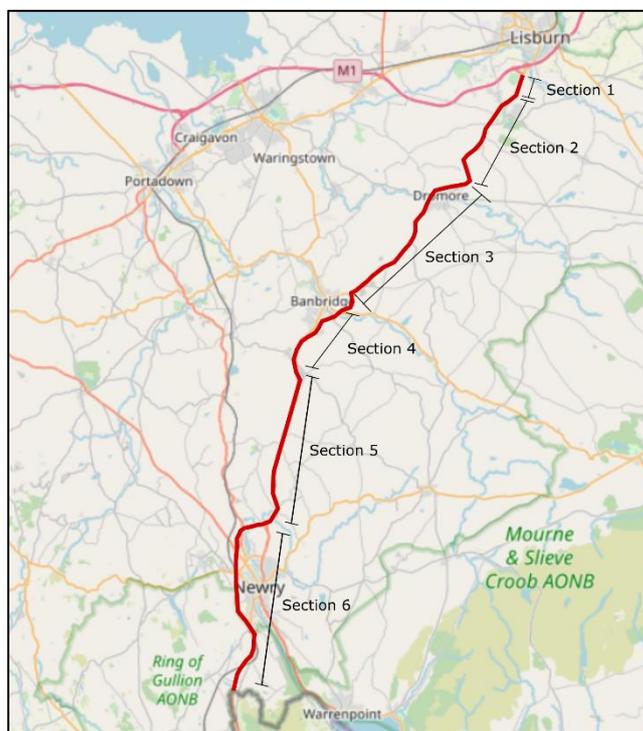


Table 2: Sections of the A1 dual carriageway

Section	Approximate Length	Injury Collisions
Section 1: M1/A1 Link to Hillsborough Roundabout	1.3 miles	81
Section 2: Hillsborough to Dromore	5 miles	96
Section 3: Dromore to Banbridge	7 miles	90
Section 4: Banbridge to Loughbrickland	4 miles	26
Section 5: Loughbrickland to Newry	7 miles	54
Section 6: Newry to border	8.25 miles	44

Methodology

The Department for Infrastructure receives collision data on an annual basis from PSNI and has this information back as far as 2002. All collisions were plotted in ARC Map by using the grid reference and a polygon was drawn around the A1 carriageway. Any collisions recorded between 2009 and 2018 that fell within the polygon were included in the study. Collisions are colour coded according to the following key:

Mapping Key:

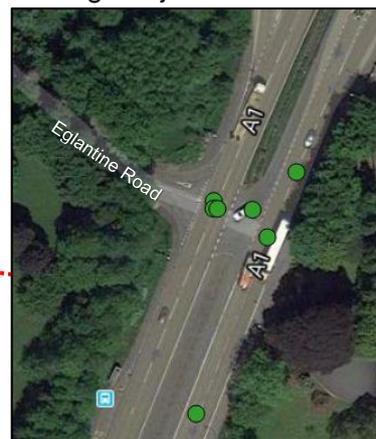
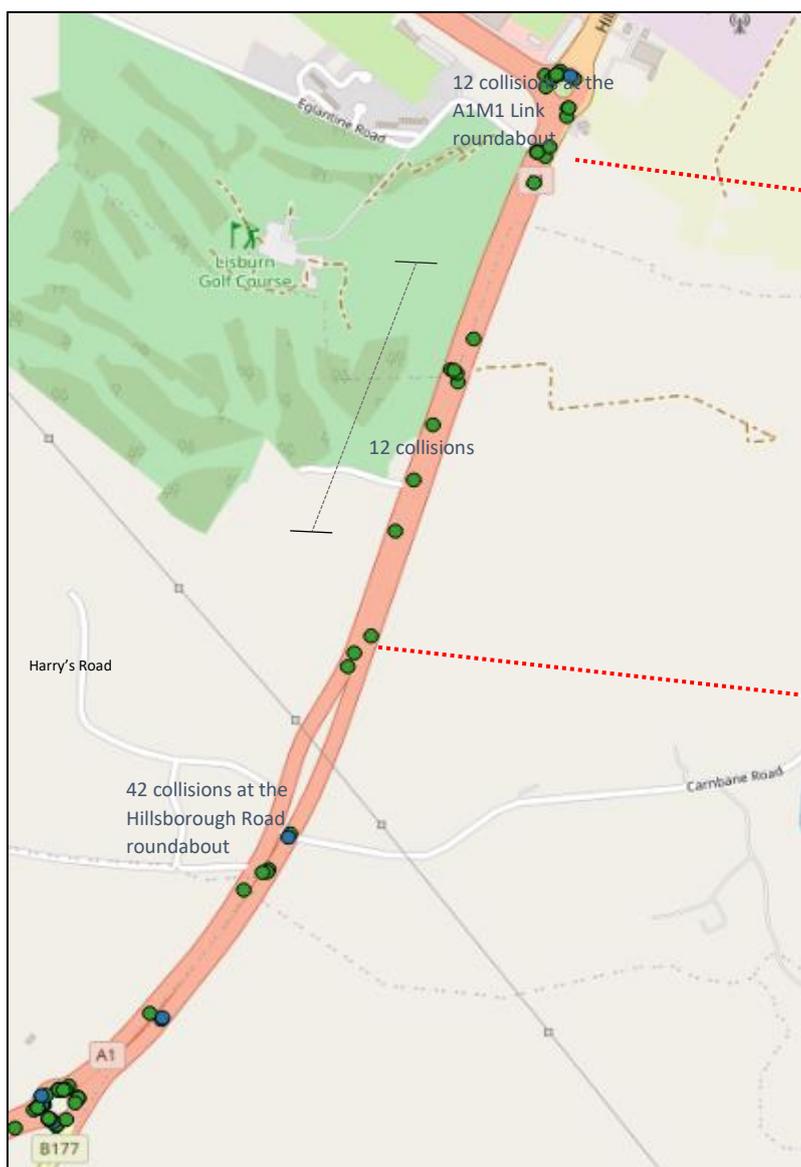
- Fatal Collision
- Serious Collision
- Slight Collision

Counting of collisions at junctions: There are over 60 junctions which join onto the A1. The counting of collisions at junctions was done by using a centroid at the middle point of the junction on the A1 and drawing a circle with a 50 metre radius and counting the number of collisions that fell within this area. Where circles overlapped, the collision was determined to be at the junction closest.

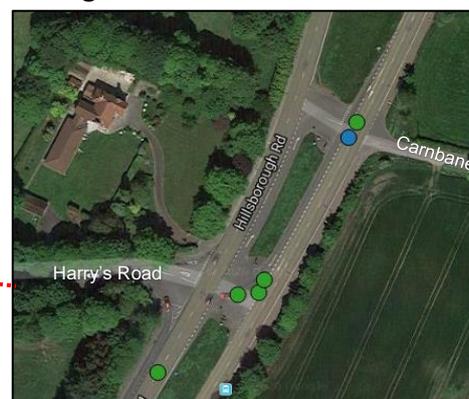
Section 1 - M1/A1 Link to Hillsborough (81 injury collisions)

Section 1 comprises collisions from the start of the A1 dual carriageway, where the Magharageery Road or A101 (accessed by Junction 8 of M1 off slip) meets the M1/A1 link road roundabout at Sprucefield, through to the Hillsborough Roundabout, a stretch of the carriageway which totals 1.3 miles. Overall there were 81 collisions and 119 people injured along this section of road: 12 injury collisions occurred at the M1/A1 link roundabout at the start of this section, 42 at the Hillsborough Road roundabout, and 27 other injury collisions in between. Excluding those that occurred at the roundabouts (which are not subject to the conditions of a dual carriageway), the junction where most collisions have been recorded in Section 1 was at Eglantine Road which gives access to Lisburn Golf Club. There were 7 slight injury collisions within 50 metres of this junction with the most common principal causation factor amongst these being 'changing lane without care'. This might suggest that the cause of these collisions is potentially as likely to be the traffic entering the dual carriageway from the M1/A1 Link roundabout as being the junction itself.

Map 1: M1/A1 Link to Hillsborough Roundabout



Eglantine Road - 7 collisions



Harry's Road and Carnbane Road junctions
There were 7 collisions at these two junctions including one serious

In terms of KSI collisions, there have been no fatal collisions along this section of the A1 dual carriageway in the last ten years, although there were 10 serious collisions which resulted in 11 people being seriously injured. Of the ten serious collisions, one occurred at the M1/A1 link roundabout, one at Carnbane Road, one between the Carnbane Road and the roundabout and seven at the Hillsborough Road roundabout itself, the junction where most injury collisions have been recorded on the A1 dual carriageway during the period of the report. See page 19 for further information on which junctions have the most collisions.

Section 2 – Hillsborough to Dromore (96 injury collisions)

There were 96 injury collisions (including 2 fatal and 15 serious) over the five miles of dual carriageway from the Hillsborough Roundabout to the Hillsborough Road flyover. This comprises several junctions which have a central reservation for right turning. Amongst these are the junction with the Dromara Road Link which had 11 injury collisions recorded (including 2 serious) within 50 metres of this intersection; five each were recorded at the Dromore Road and Taughblane Road junctions (less than 50 metres apart) and six at the junction with the Grove Road. The Moira Road junction, has also proved to have a high number of injury collisions during this ten year time period with 8 recorded at this location including one fatality (although with 7 of these recorded prior to the installation of a continuous central reserve barrier in January 2017, it will be interesting to see if collisions will reduce at this location in the future). Finally, the junctions at Partridge Link which, unlike the others, has slip lanes in and out either side of the carriageway and no central right turn has had six slight injury collisions at this site within the last 10 years.

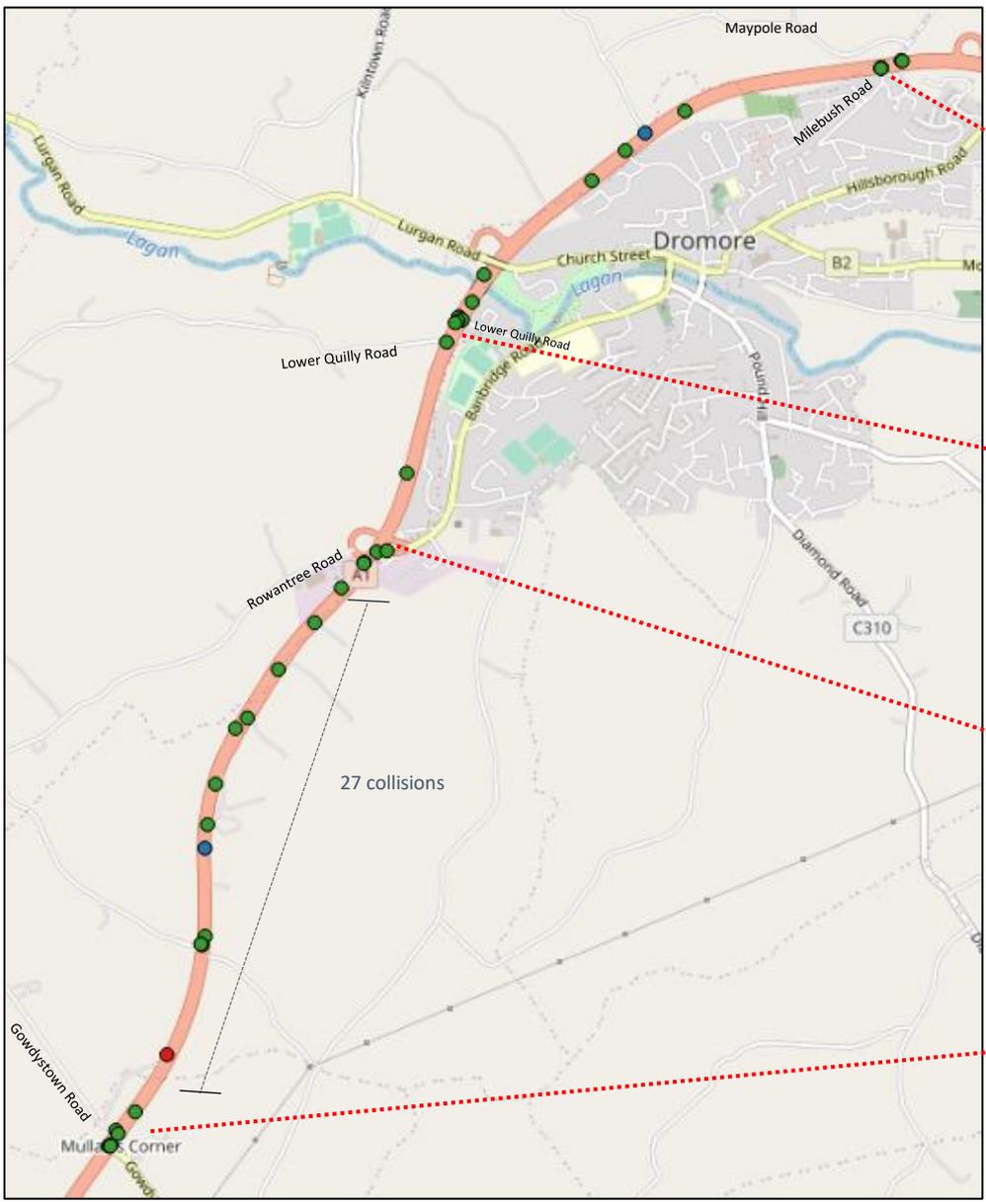
Map 2: Hillsborough Roundabout to Hillsborough Road Flyover



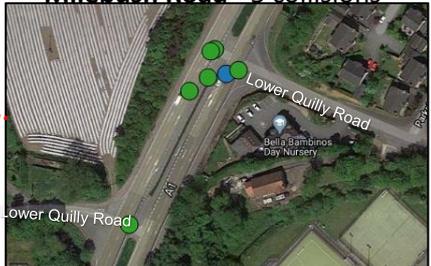
Section 3a – Dromore to Banbridge (42 injury collisions)

Over the 3.5 miles from the Hillsborough Road flyover at the Dromore Road junction to the Gowdstown Road, Dromore, there were 42 injury collisions recorded between 1st January 2009 and 31st December 2018 including one fatal and five serious. The junction with the highest number of injury collisions on this stretch of the carriageway, is the Lower Quilly Road with seven recorded between its east and west junctions, one of which was serious. Six of the seven principal causation factors at this site were junction related with five being 'emerging from minor road without care' and the other being 'crossing or entering road junction without care', highlighting just how difficult emerging from a side road onto a busy dual carriageway can be. Other junctions with the A1 dual carriageway which had a relatively high number of collisions over this stretch include the staggered Milebush Road crossroads with five, the B2 Banbridge Road flyover with four and the Gowdstown Road with six slight collisions between its east and west staggered crossroads. See these junctions depicted on the map below.

Map 3: Hillsborough Road, Dromore to Gowdstown Road, Dromore



Milebush Road - 5 collisions



Lower Quilly Road – 7 collisions



Banbridge Road – 4 collisions



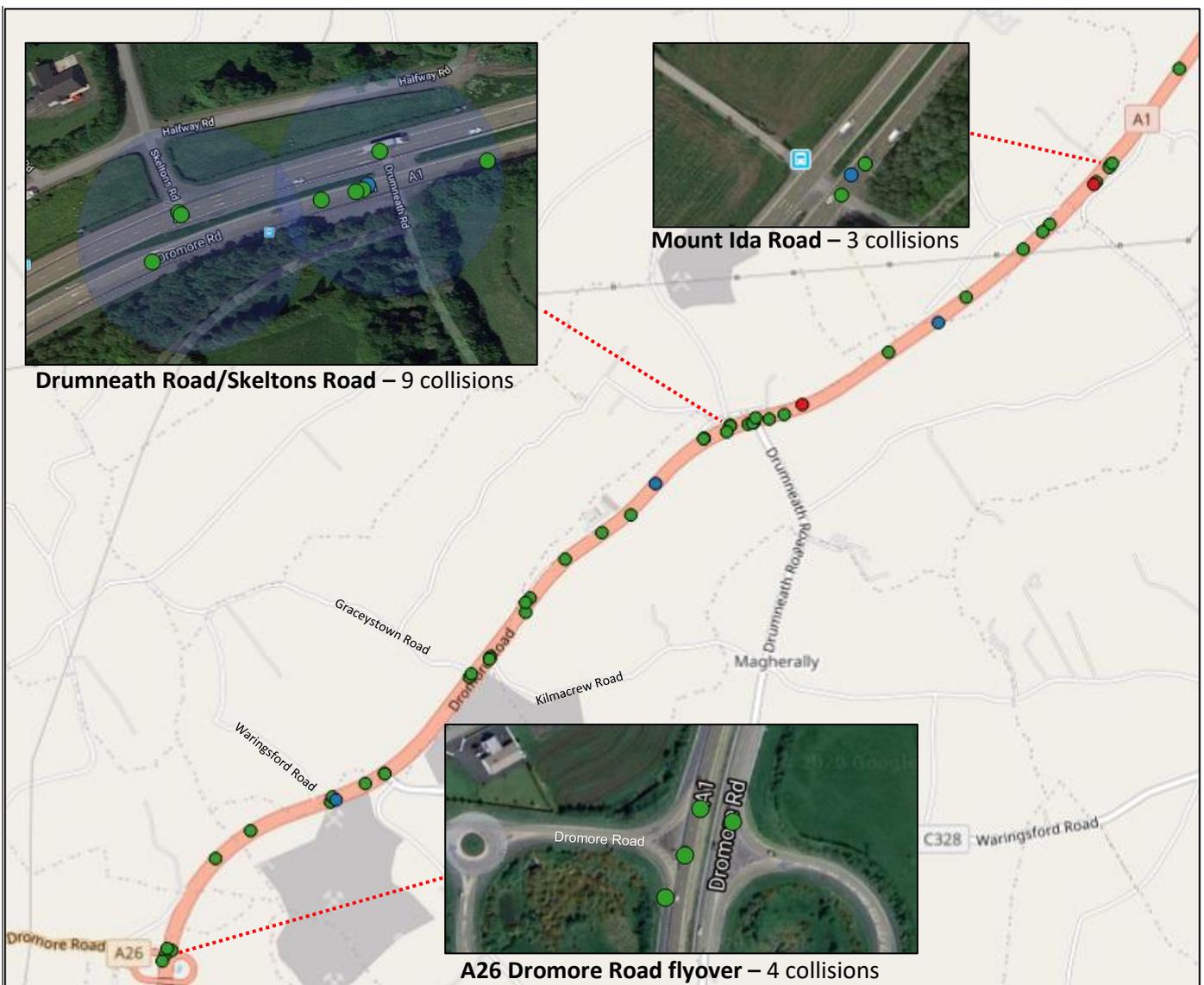
Gowdstown Road – 6 collisions

Section 3b – Dromore to Banbridge (48 injury collisions)

In the second half of the carriageway from Dromore to Banbridge, there were a further 48 injury collisions over the 3.5 miles on the A1 from the Gowdstown Road junction to the A26 Dromore Road flyover at Banbridge. Three of these, including one serious collision, occurred at the start of this stretch within 50 metres of the junction with Mount Ida Road. There were also nine collisions, including one serious, occurring at or between the junctions of the Drumneath and Skeltons Road junctions which are less than 100 metres apart, and two collisions apiece at Kilmacrew Road, Graceystown Road and Waringsford Road junctions. Finally, at the A26 Dromore Road flyover, there were four slight injury collisions recorded within 50 metres of these on and off slips.

In terms of fatal and serious collisions, two fatal collisions were recorded less than a mile from each other between the Mount Ida and Drumneath Road junctions and of the five serious collisions recorded on this part of the carriageway, two were at junctions (as mentioned above) and the other three were on the open road (more than 50 metres away from a junction).

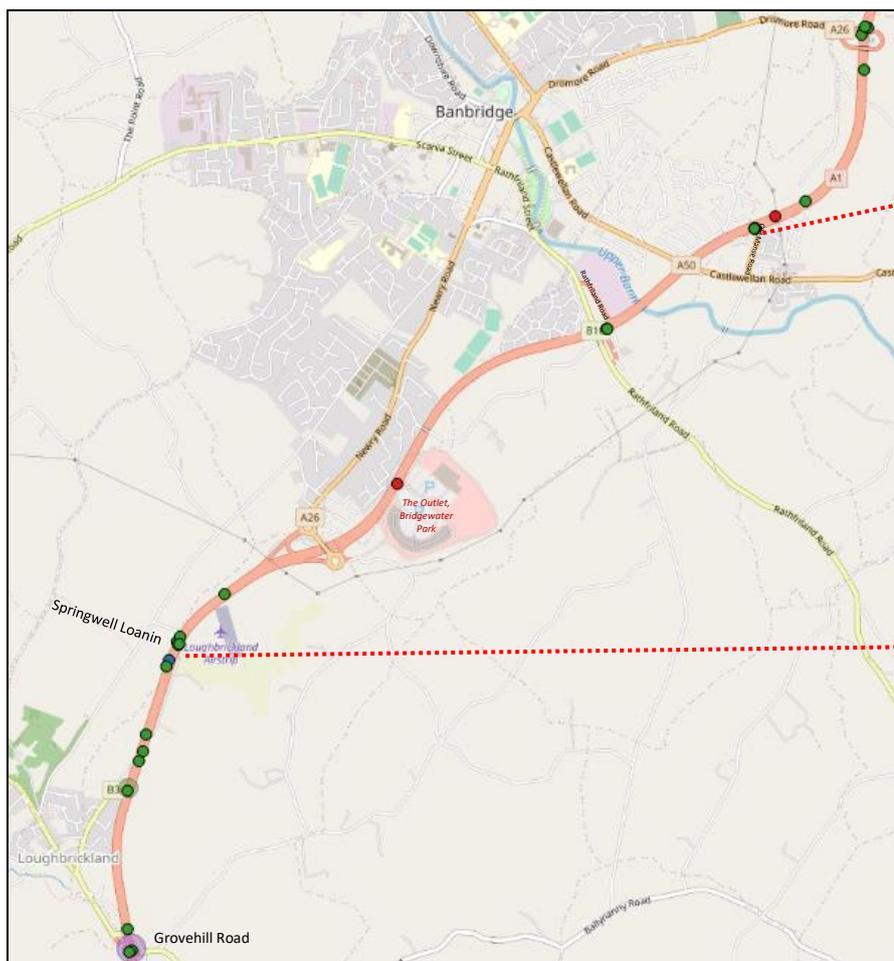
Map 4: Gowdstown Road, Dromore to A26 Dromore Road flyover



Section 4– Banbridge to Loughbrickland (26 injury collisions)

Twenty-six injury collisions were recorded during the ten year period over this four mile stretch of the A1 dual carriageway from the A26 Dromore Road flyover down to the Grovehill Road junction in Loughbrickland. When you look at the map in comparison with the others, there are noticeably fewer collisions on this part of the carriageway than the other sections. Having said this, there were still two people killed, five people seriously injured and 37 slightly injured on this section. The junctions with the most collisions on this part of the A1 were the Old Manse Road with six collisions including one serious and there were also four slight collisions between Springwell Loanin and the layby which leads to Fegan’s Farm shop. All these junctions have a central reservation for right turn with half of the principal causation factors for these ten collisions being related to manoeuvres at junctions such as ‘emerging from minor road without care’, ‘crossing or entering road junction without care’ or ‘turning right without care’.

Map 5: A26 Banbridge Road junction to Grovehill Road, Loughbrickland



Old Manse Road – 6 collisions



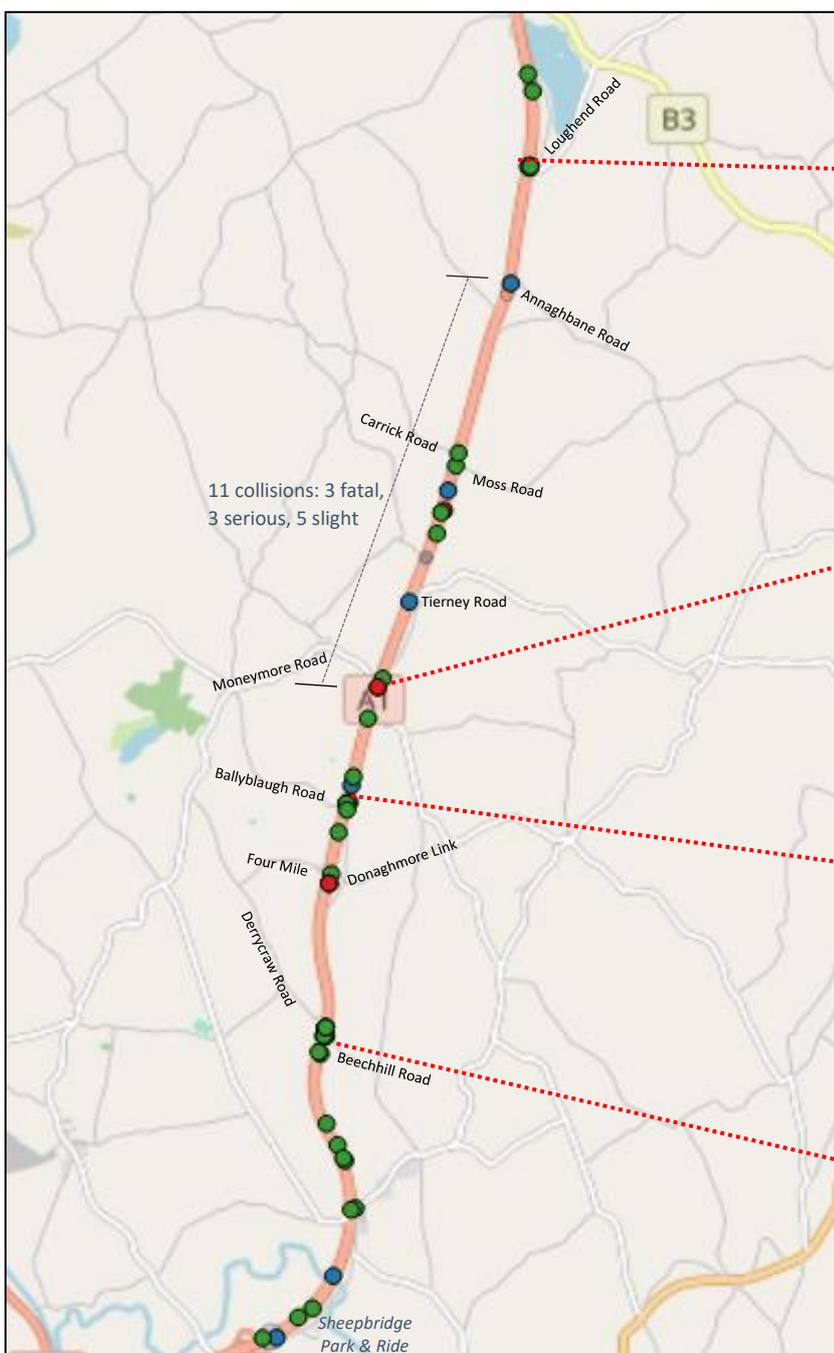
Springwell Loanin/Layby to Fegan’s Farm Shop – there were 4 collisions at these 2 junctions

Section 5–Loughbrickland to Newry (54 injury collisions)

There were 54 injury road traffic collisions on this seven mile part of the carriageway from the Grovehill Road junction down to the Belfast Road off slip which leads to the Sheepbridge Park & Ride. This stretch of the carriageway had the highest proportion of KSI casualties, with the five fatal and nine serious collisions resulting in eight deaths and 13 serious injuries.

The junctions with the most collisions are depicted below, with six injury collisions occurring at the Lough End Road (including one serious), five more at the Ballyblagh Road, five at the Derrycraw Road (including one fatal and one serious) and four slights at the Beech Hill Road junction. Interestingly, there were two fatal collisions recorded at the junction with the Moneymore Road, the only junction to have had more than one fatal collision on the A1 dual carriageway over the ten year recording period, and this is made even more remarkable by these being the only two collisions at this junction within the last ten years.

Map 6: Grovehill Road to Belfast Road offslip (Sheepsbridge Park & Ride)



Loughend Road – 6 collisions



Moneymore Road - 2 collisions (both fatal)



Ballyblagh Road – 5 collisions



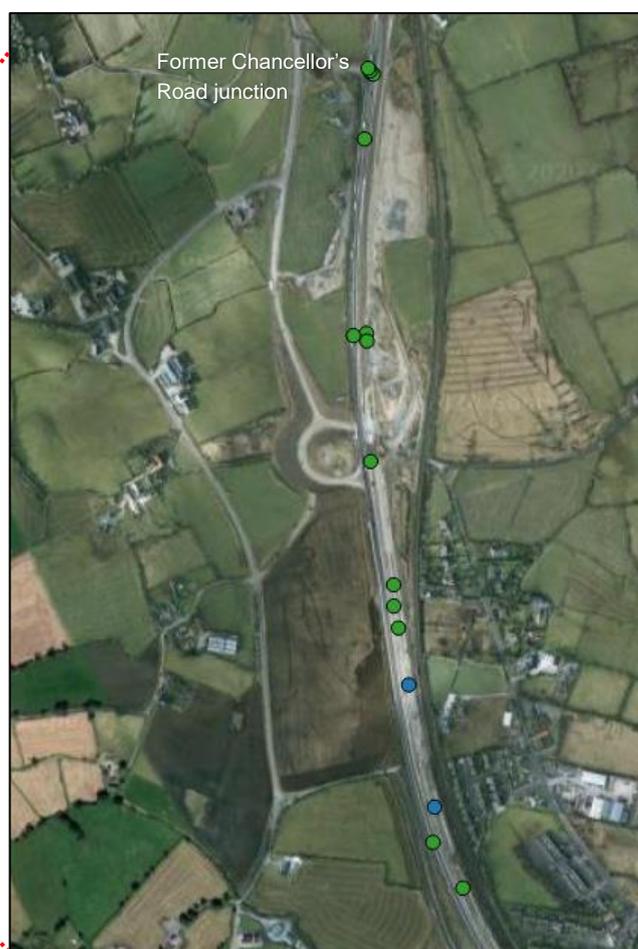
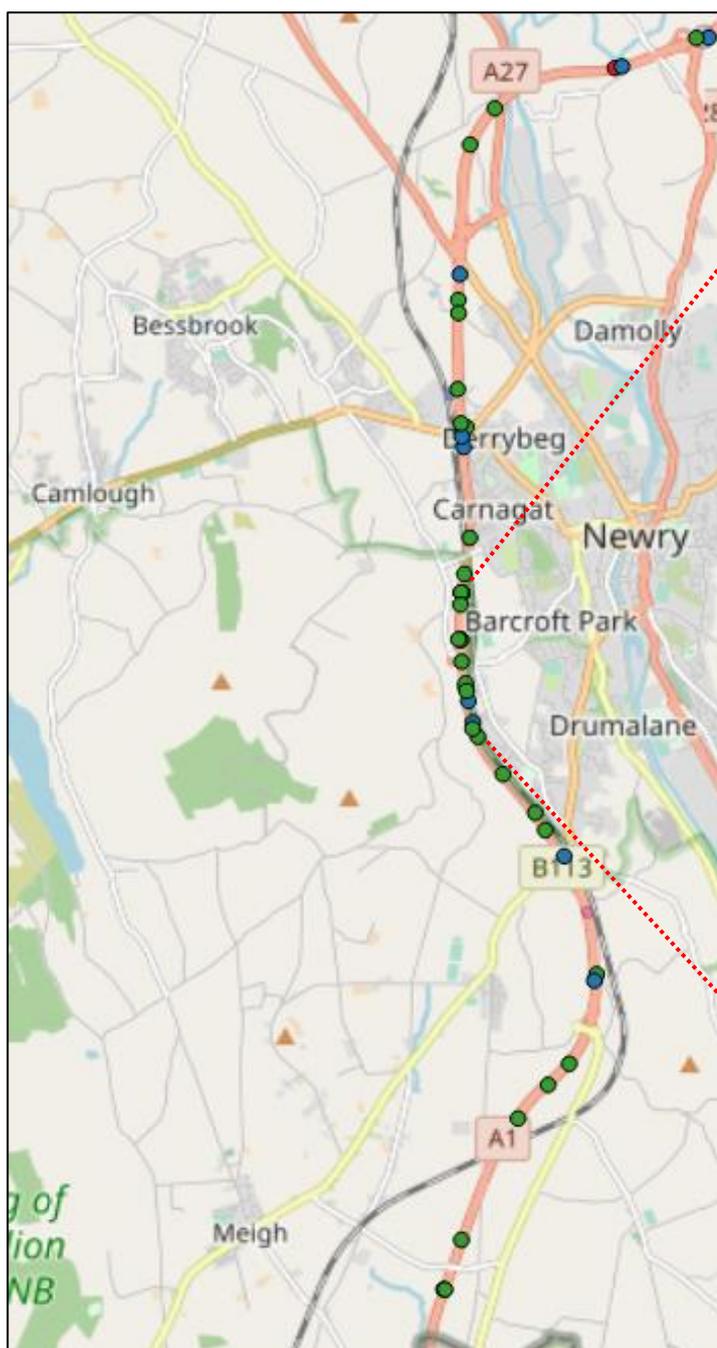
Derrycraw Road/Beech Hill Road – 9 collisions between them

Section 6–Newry to Border (44 injury collisions)

The final eight and a quarter miles of the carriageway has only existed for just over ten years and has very few junctions. The junctions that do exist have on and off slips and therefore do not have any T junctions or central reservations. The largest principal causation factor is therefore not junction related, with 'inattention or attention diverted' being the most frequently used (in nine collisions).

There were 44 injury collisions over this section with one being fatal, eight serious and the remaining 35 slight. In total 72 casualties were recorded from these collisions of which there was one death, nine people seriously injured and 62 slightly injured. It is interesting to note that an area with a high number of collisions was at the former junction with Chancellor's Road. Five slight collisions were recorded at this site, with all of these having taken place in 2009. There hasn't been any since this junction was removed which shows how road network improvements over time have reduced the number of casualties.

Map 7: Belfast Road offslip (Sheepsbridge Park & Ride) to border

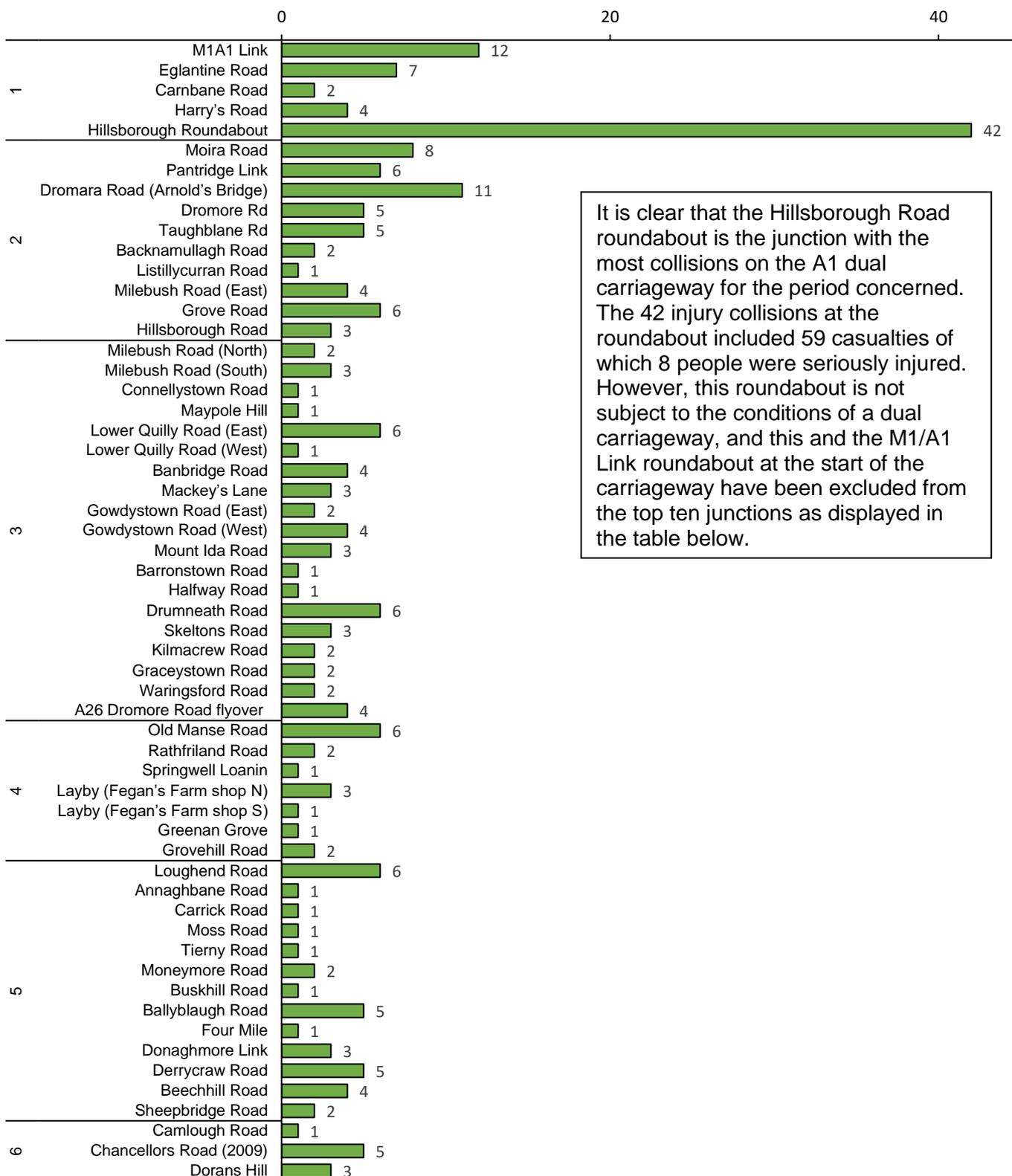


MAPPING SECTION

Where do most recorded collisions on the A1 dual carriageway occur? Analysis by junction

Figure 12 shows the number of collisions that have been recorded on the A1 dual carriageway for each junction running from north to south by section as outlined in pages 12 to 18. Some junctions are not listed such as the Glen Road due to there being no collisions within 50 metres of this junction within the last ten years.

Figure 12: Collisions for each Junction by section on the A1 dual carriageway, 2009-2018



It is clear that the Hillsborough Road roundabout is the junction with the most collisions on the A1 dual carriageway for the period concerned. The 42 injury collisions at the roundabout included 59 casualties of which 8 people were seriously injured. However, this roundabout is not subject to the conditions of a dual carriageway, and this and the M1/A1 Link roundabout at the start of the carriageway have been excluded from the top ten junctions as displayed in the table below.

Table 3: Top ten junctions ordered by number of collisions* on the A1 dual carriageway 2009 – 2018

Junction	Collisions	Killed	Serious	KSIs	Slightly Injured	Total Casualties
Dromara Road Link ^{STC}	11	0	3	3	20	23
Moira Road ^{TC1}	8	1	2	3	11	14
Eglantine Road ^{TC}	7	0	0	0	11	11
Drumneath Road ^{TC}	6	0	1	1	15	16
Old Manse Road ^{STC}	6	0	1	1	12	13
Loughend Road ^{STC}	6	0	1	1	10	11
Lower Quilly Road East ^{TC}	6	0	1	1	8	9
Pantridge Link ^S	6	0	0	0	9	9
Grove Road ^{TC}	6	0	0	0	9	9
Derrycraw Road ^{STC}	5	2	2	4	9	13

^S Slip lane ^T T junction ^C Central Reservation ¹ Central reservation for right turn scrapped in 2017 * excludes M1A1 Link and Hillsborough Road roundabouts

Dromara Road Link

Situated on the stretch from Hillsborough to Dromore (Section 2, page 13), approximately a mile from Hillsborough Castle, the Dromara Road link has had 11 injury collisions at this junction including several multiple injuries within the last 10 years. It has a slip lane in, with a T junction for emerging and a central reservation for a right turn. The most common principal causation factor at this junction is 'Emerging from a minor road without care' with 8 of the 11 collisions being assigned with this factor.



Moira Road



The Moira Road junction which is opposite the grounds of Hillsborough Castle at the start of Section 2 (page 13) had 8 injury collisions with 14 casualties including 3 KSIs of which one was a fatality. Conditions at this site have changed with slip lanes in and out only and the central reservation for right turning having been replaced in 2017. Only one collision was recorded at this junction following this change and it will be interesting to see if collisions at this location drop off in subsequent years.

Eglantine Road

The Eglantine Road (see page 12) had the third highest collisions in the last ten years. Located at the start of the A1 dual carriageway close to the M1A1 Link roundabout and giving access to Lisburn Golf Club this junction had seven slight collisions at this junction accounting for 11 casualties being slightly injured. The most common causation factor used for the seven collisions recorded was 'changing lane without care' perhaps indicating that the busy traffic entering the A1 carriageway from the M1/A1 Link roundabout might be causing an issue for some drivers.



APPENDIX TABLES

Table 4: Casualties on the A1 dual carriageway by severity of injury 2002-2018

Year	Collisions	Killed	Seriously Injured	KSI Casualties	Slight Casualties	Total
2002	52	5	13	18	76	94
2003	41	5	6	11	75	86
2004	33	4	6	10	39	49
2005	31	4	9	13	53	66
2006	28	1	10	11	39	50
2007	44	3	11	14	57	71
2008	41	1	12	13	55	68
2009	45	2	7	9	64	73
2010	40	1	5	6	50	56
2011	28	0	5	5	42	47
2012	39	1	8	9	62	71
2013	40	0	6	6	72	78
2014	46	4	10	14	61	75
2015	36	5	7	12	53	65
2016	39	1	4	5	61	66
2017	39	1	11	12	53	65
2018	39	3	3	6	54	60
Total	661	41	133	174	966	1,140

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 5: Casualties on the A1 dual carriageway 2002-2018 (5 year rolling average)

Year	Number of deaths (5 year average)	Number of KSI casualties (5 year average)	Number of overall casualties (5 year average)	Proportion KSIs of total
2002-2006	3.8	12.6	69.0	18%
2003-2007	3.4	11.8	64.4	18%
2004-2008	2.6	12.2	60.8	20%
2005-2009	2.2	12.0	65.6	18%
2006-2010	1.6	10.6	63.6	17%
2007-2011	1.4	9.4	63.0	15%
2008-2012	1.0	8.4	63.0	13%
2009-2013	0.8	7.0	65.0	11%
2010-2014	1.2	8.0	65.4	12%
2011-2015	2.0	9.2	67.2	14%
2012-2016	2.2	9.2	71.0	13%
2013-2017	2.2	9.8	69.8	14%
2014-2018	2.8	9.8	66.2	15%

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 6: Fatal and serious collisions on the A1 dual carriageway by hour of day and day of week 2009-2018

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total	
0601 - 0700	1	0	1	1	0	0	0	3	0601 - 0700
0701 - 0800	1	0	2	0	1	0	0	4	0701 - 0800
0801 - 0900	0	0	0	0	2	1	0	3	0801 - 0900
0901 - 1000	1	1	0	0	1	0	1	4	0901 - 1000
1001 - 1100	0	1	2	1	0	1	1	6	1001 - 1100
1101 - 1200	0	1	0	0	2	1	1	5	1101 - 1200
1201 - 1300	1	2	1	1	0	1	0	6	1201 - 1300
1301 - 1400	1	0	0	2	2	0	0	5	1301 - 1400
1401 - 1500	1	0	0	1	1	2	0	5	1401 - 1500
1501 - 1600	1	1	0	1	1	0	0	4	1501 - 1600
1601 - 1700	0	0	0	0	2	0	0	2	1601 - 1700
1701 - 1800	1	1	2	1	0	0	2	7	1701 - 1800
1801 - 1900	0	0	0	0	0	1	0	1	1801 - 1900
1901 - 2000	0	0	0	0	0	0	0	0	1901 - 2000
2001 - 2100	0	1	0	1	1	0	0	3	2001 - 2100
2101 - 2200	0	0	0	0	0	0	1	1	2101 - 2200
2201 - 2300	0	0	0	0	0	0	0	0	2201 - 2300
2301 - 2400	1	1	1	0	0	0	0	3	2301 - 2400
0001 - 0100	1	0	1	0	0	0	1	3	0001 - 0100
0101 - 0200	0	0	0	0	0	0	0	0	0101 - 0200
0201 - 0300	0	0	0	0	0	0	0	0	0201 - 0300
0301 - 0400	0	0	0	0	0	0	2	2	0301 - 0400
0401 - 0500	0	0	0	0	0	0	0	0	0401 - 0500
0501 - 0600	0	0	0	0	0	0	0	0	0501 - 0600
Total	10	9	10	9	13	7	9	67	X

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 7: Collisions on the A1 dual carriageway by month and year 2009 - 2018

Month	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
January	4	2	5	3	3	6	1	3	1	1	29
February	4	5	5	5	4	3	3	3	4	1	37
March	3	4	2	3	6	2	4	3	4	3	34
April	0	4	1	4	1	4	1	2	0	3	20
May	0	5	3	1	5	5	3	2	3	6	33
June	6	1	1	1	1	3	3	4	1	3	24
July	5	2	0	3	3	2	3	4	6	4	32
August	3	0	1	2	1	1	8	3	3	2	24
September	3	4	2	2	4	5	1	2	5	4	32
October	5	7	4	7	2	5	4	8	1	5	48
November	5	5	2	4	3	7	2	2	6	3	39
December	7	1	2	4	7	3	3	3	5	4	39
Total	45	40	28	39	40	46	36	39	39	39	391

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 8: Fatal and serious collisions on the A1 dual carriageway by month and year 2009 - 2018

Month	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
January	1	0	3	0	1	1	0	0	0	0	6
February	0	2	1	0	0	2	0	0	0	0	5
March	0	1	0	0	0	0	1	0	0	0	2
April	0	0	0	1	0	2	0	0	0	0	3
May	0	2	0	1	1	1	1	1	0	1	8
June	1	0	0	0	0	0	1	1	1	0	4
July	3	0	0	0	0	0	1	1	2	0	7
August	0	0	1	2	0	0	2	1	1	1	8
September	0	1	0	0	1	3	0	0	2	0	7
October	1	0	0	2	1	1	0	1	0	1	7
November	0	0	0	1	0	2	0	0	2	0	5
December	2	0	0	0	1	0	1	0	1	0	5
Total	8	6	5	7	5	12	7	5	9	3	67

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 9: Casualties on the A1 dual carriageway by age and gender 2009 - 2018

Age Group	Overall			KSIs		
	Male	Female	Total	Male	Female	Total
Under 16	18	15	33	0	0	0
16-24	60	58	118	11	4	15
25-34	94	69	163	8	6	14
35-49	107	57	164	14	5	19
50-64	64	49	113	15	2	17
65+	32	30	62	9	10	19
Unknown	2	1	3	0	0	0
Total	377	279	656	57	27	84

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 10: Casualties on the A1 dual carriageway by road user category, age and gender 2009-2018

	Gender		Age Group						Total*
	Male	Female	< 16	16-24	25-34	35-49	50-64	65+	
Pedestrians	3	0	1	1	0	0	0	1	3
Drivers	251	179	0	64	122	125	76	42	430
Passengers	104	98	32	51	39	32	29	17	202
Motorcyclists	9	1	0	0	2	4	3	1	10
Pedal cyclists	10	1	0	2	0	3	5	1	11
Total	377	279	33	118	163	164	113	62	656

*Includes one driver and two passengers of unknown age

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 11: KSI casualties on the A1 dual carriageway by road user, age and gender 2009-2018

	Gender		Age Group						Total
	Male	Female	< 16	16-24	25-34	35-49	50-64	65+	
Pedestrians		0	0	0	0	0	0	1	1
Drivers	34	16	0	6	11	12	11	10	50
Passengers	14	11	0	9	3	2	4	7	25
Motorcyclists	4	0	0	0	0	2	1	1	4
Pedal cyclists	4	0	0	0	0	3	1	0	4
Total	57	27	0	15	14	19	17	19	84

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 12: Collisions and fatal and serious collisions (KSI) on the A1 dual carriageway by grouped causation factor – 2009 to 2018

	All Collisions	%	KSI Collisions	%
<i>Driver/Rider Fault</i>				
Alcohol or drugs – driver/rider	20	5%	4	6%
Excessive speed having regard to conditions	31	8%	8	12%
Careless driving	265	68%	44	66%
Other driver rider fault	17	4%	4	6%
Total	333	85%	60	90%
Passenger Fault	2	1%	1	1%
Pedestrian Fault	2	1%	0	0%
Vehicle Defects	14	4%	1	1%
Obstructions	4	1%	1	1%
Physical/Road	4	1%	1	1%
Weather	21	5%	1	1%
Miscellaneous	11	3%	2	3%
Total	58	15%	7	10%

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 13: Top ten principal causation factors for collisions on the A1 dual carriageway 2009 - 2018

Causation Factor	Collisions	KSIs	Slightly Injured	Total Casualties
Inattention or attention diverted	54	13	69	82
Emerging from minor road without care	45	18	71	89
Changing lane without care	37	3	61	64
Excessive speed having regard to conditions	31	11	48	59
Driving too close	29	1	48	49
Crossing or entering road junction without care	24	6	40	46
Wrong course/position	22	2	26	28
Alcohol/Drugs Driver rider	16	3	21	24
Turning right without care	15	4	24	28
Ice, frost or snow	15	1	26	27

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 14: Section 1 - M1A1 Link to Hillsborough Roundabout collisions by junction 2009 – 2018

Junction	Collisions	Killed	Serious	KSIs	Slightly Injured	Total Casualties
M1A1 Link ^R	12	0	1	1	16	17
Eglantine Road ^{T^C}	7	0	0	0	11	11
Carnbane Road ^{T^C}	2	0	1	1	3	4
Harry's Road ^{T^C}	4	0	0	0	7	7
Hillsborough Roundabout ^R	42	0	8	8	51	59
Not at a junction	14	0	1	1	20	21
Total	81	0	11	11	108	119

^R Roundabout ^T T junction ^C Central Reservation

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 15: Section 2 - Hillsborough Roundabout to Dromore collisions by junction 2009 – 2018

Junction	Collisions	Killed	Serious	KSIs	Slightly Injured	Total Casualties
Moira Road ^{S¹}	8	1	2	3	11	14
Pantridge Link ^S	6	0	0	0	9	9
Dromara Road Link ^{S^TC}	11	0	3	3	20	23
Dromore Rd ^{T^C}	5	0	1	1	6	7
Taughblane Road ^{T^C}	5	0	1	1	6	7
Backnamullagh Road ^{T^C}	2	0	1	1	4	5
Listillycurran Road ^{T^C}	1	0	0	0	1	1
Milebush Road (east) ^{T^C}	4	0	0	0	6	6
Grove Road ^{T^C}	6	0	0	0	9	9
B2 Hillsborough Road ^S	3	0	0	0	4	4
Not at a junction	45	1	10	11	70	81
Total	96	2	18	20	146	166

^S Slip lane ^T T junction ^C Central Reservation ¹ Central reservation for right turn scrapped in 2016

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 16: Section 3a - Dromore to Banbridge collisions by junction 2009 – 2018

Junction	Collisions	Killed	Serious	KSIs	Slightly Injured	Total Casualties
Milebush Road (north) ^{S^TC}	2	0	1	1	3	4
Milebush Road (south) ^{T^C}	3	0	0	0	4	4
Connellystown Road ^{T^C}	1	0	1	1	1	2
Maypole Hill ^{T^C}	1	0	0	0	2	2
Lower Quilly Road East ^{T^C}	6	0	1	1	8	9
Lower Quilly Road West ^{T^C}	1	0	0	0	3	3
B2 Banbridge Road flyover ^{T^C}	4	0	1	1	7	8
Mackey's Lane ^{T^C}	3	0	0	0	5	5
Gowdystown Road West ^{S^TC}	2	0	0	0	3	3
Gowdystown Road East ^{S^TC}	4	0	0	0	4	4
Not at a junction	15	1	1	2	24	26
Total	42	1	5	6	64	70

^S Slip lane ^T T junction ^C Central Reservation

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 17: Section 3b - Dromore to Banbridge collisions by junction 2009 – 2018

Junction	Collisions	Killed	Serious	KSIs	Slightly Injured	Total Casualties
Mount Ida Road ^{TC}	3	0	1	1	2	3
Barronstown Road ^{TC}	1	0	0	0	2	2
Halfway Road ^{TC}	1	0	0	0	2	2
Drumneath Road ^{TC}	6	0	1	1	15	16
Skeltons Road ^{TC}	3	0	0	0	5	5
Kilmacrew Road ^{TC}	2	0	0	0	4	4
Graceystown Road ^{TC}	2	0	0	0	5	5
Waringsford Road ^{TC}	2	0	0	0	4	4
A26 Dromore Road flyover ^{TC}	4	0	0	0	4	4
Not at a junction	24	4	3	7	33	40
Total	48	4	5	9	76	85

^S Slip lane ^T T junction ^C Central Reservation

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 18: Section 4 - Banbridge to Loughbrickland collisions by junction 2009 – 2018

Junction	Collisions	Killed	Serious	KSIs	Slightly Injured	Total Casualties
Old Manse Road ^{STC}	6	0	1	1	12	13
B2 Rathfriland Road ^S	2	0	0	0	3	3
Springwell Loanin ^{TC}	1	0	0	0	1	1
Layby (Fegan's Farm shop N) ^{TC}	3	0	0	0	6	6
Layby (Fegan's Farm shop S) ^{TC}	1	0	0	0	1	1
Greenan Grove ^{SC}	1	0	0	0	1	1
Grovehill Road ^S	2	0	0	0	2	2
Not at junction	10	2	4	6	11	17
Total	26	2	5	7	37	44

^S Slip lane ^T T junction ^C Central Reservation

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 19: Section 5 - Loughbrickland to Newry collisions by junction 2009 – 2018

Junction	Collisions	Killed	Serious	KSIs	Slightly Injured	Total Casualties
Loughend Road ^{STC}	6	0	1	1	10	11
Annaghbane Road ^{STC}	1	0	1	1	0	1
Carrick Road ^{TC}	1	0	0	0	1	1
Moss Road ^{TC}	1	0	0	0	3	3
Tierny Road ^{STC}	1	0	1	1	2	3
Moneymore Road ^{STC}	2	3	1	4	4	8
Buskhill Road ^{STC}	1	0	0	0	2	2
Ballyblaugh Road ^{STC}	5	0	0	0	8	8
Four Mile ^{STC}	1	0	0	0	1	1
Donaghmore Link ^{STC}	3	1	3	4	3	7
Derrycraw Road ^{STC}	5	2	2	4	9	13
Beechhill Road ^{STC}	4	0	0	0	8	8
Belfast Rd offslip (Sheepbridge P & R) ^S	2	0	1	1	4	5
Not at junction	21	2	3	5	24	29
Total	54	8	13	21	79	100

^S Slip lane ^T T junction ^C Central Reservation

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics

Table 20: Section 6- Newry to border collisions by junction 2009 – 2018

Junction	Collisions	Killed	Serious	KSIs	Slightly Injured	Total Casualties
Camlough Road ^S	1	0	0	0	1	1
Chancellors Road ¹	5	0	0	0	5	5
Dorans Hill ^S	3	0	0	0	4	4
Not at junction	35	1	9	10	52	62
Total	44	1	9	10	62	72

^S Slip lane ¹ Previously a T junction at this location which was sealed up in 2009

Source: Police Service of Northern Ireland (PSNI) Road Traffic Casualty Statistics