

Appendix F PIC Review

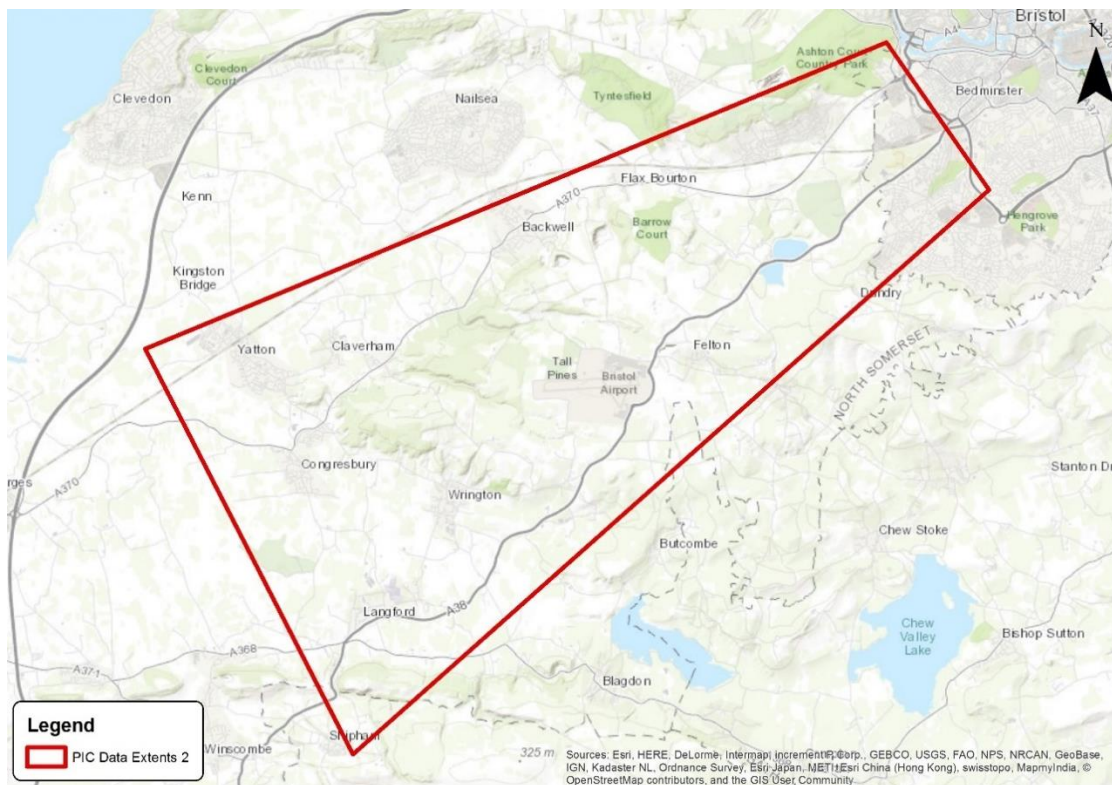
TECHNICAL NOTE

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Introduction

Peter Brett Associates LLP (PBA), now part of Stantec, have obtained the latest available five years of Personal Injury Collision (PIC) data for the agreed study area as shown in **Figure 1**. PBA obtained the PIC Data from North Somerset Council (NSC), who hold and manage the data for this area. The PIC records cover a 54-month period from 01/01/2014 to the 30/06/2018. A copy of the PIC data and locations is attached in **Appendix A**.

Figure 1: PIC Data Extents



The collisions are classed into three categories: slight, serious and fatal, a definition of which is provided below:

- **Slight Injury:** Injuries of a minor nature, such as sprains, bruises, or cuts not judged to be severe, or slight shock requiring only roadside attention (medical treatment is not a prerequisite for an injury to be defined as slight).
- **Serious Injury:** Injuries for which a person is detained in hospital, as an in-patient, or any of the following injuries (whether a person is detained in hospital); fractures, concussion, internal injuries, severe cuts and lacerations, severe general shock requiring medical treatment and

injuries which result in death 30 days after the accident. The serious category, therefore, covers a very broad range of injuries.

- **Fatal Injury:** Injuries which cause death either immediately or any time up to 30 days after the collision

Study Area Review

Collision Summary

A summary of the annual rolling 54-month collision data (01/01/2014 to 30/06/2018) within the study area is provided within **Table 1**. The table is disaggregated to show the total collisions and additionally the vulnerable road users (pedal cyclists and pedestrians) involved in the collisions. The five rolling years are as follows;

- Year 1 - 01/01/2014 – 31/12/2014
- Year 2 – 01/01/2015 – 31/12/2015
- Year 3 - 01/01/2016 – 31/12/2016
- Year 4 – 01/01/2017 – 31/12/2017
- Year 5 – 01/01/2018 – 30/06/2018

Table 1: Summary of Collisions (01/01/2014 – 30/06/2018)

Collisions	Injury Severity	Year					Total
		1	2	3	4	5	
Total	Fatal	1	1	0	3	0	5
	Serious	10	10	8	19	3	50
	Slight	74	59	53	67	13	266
	Sub Total	85	70	61	89	16	321
Pedestrian	Fatal	0	0	0	2	0	2
	Serious	2	2	3	1	1	9
	Slight	6	2	8	4	0	20
	Sub Total	8	4	11	7	1	31
Cyclist	Fatal	0	0	0	0	0	0
	Serious	1	1	1	3	0	6
	Slight	10	7	6	10	1	34
	Sub Total	11	8	7	13	1	40

During the 54-month period between the 1st January 2014 to 30th June 2018, there were 321 collisions resulting in 5 (2%) fatal accident types, 50 (15%) serious accident types and 266 (83%) slight accident types.

Over the entire 5-year period, 22% (71) of the recorded collisions involved a vulnerable road user (pedestrian or cyclists) resulting in 2 fatal accident types, 15 serious accident types and 54 slight accident types. For the individual years, the proportion of collisions involving either cyclists or pedestrians are as follows;

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- 2014: 22% (19),
- 2015: 17% (12),
- 2016: 30% (18),
- 2017: 22% (20); and
- 2018: 13% (2).

Casualties Summary

A summary for the casualties across the 54-month period can be seen in **Table 2**. The table includes a disaggregation of the casualties including vulnerable road users (pedestrians and cyclists).

Table 2: Summary of Casualties (01/01/2014 – 30/06/2018)

Collisions	Injury Severity	Year					Total
		1	2	3	4	5	
Total	Fatal	1	1	0	3	0	5
	Serious	10	10	8	22	3	53
	Slight	105	85	76	105	19	390
	Sub Total	116	96	84	130	22	448
Pedestrian	Fatal	0	0	0	2	0	2
	Serious	2	2	3	1	1	9
	Slight	6	2	8	5	0	21
	Sub Total	8	4	11	7	1	32
Cyclist	Fatal	0	0	0	0	0	0
	Serious	1	1	1	2	0	5
	Slight	10	7	6	12	1	36
	Sub Total	11	8	7	14	1	41

During the 54-month period between the 1st January 2014 to 30th June 2018, there were 448 casualties resulting in 5 (1%) fatal injuries, 53 (12%) serious injuries and 390 (87%) slight injuries.

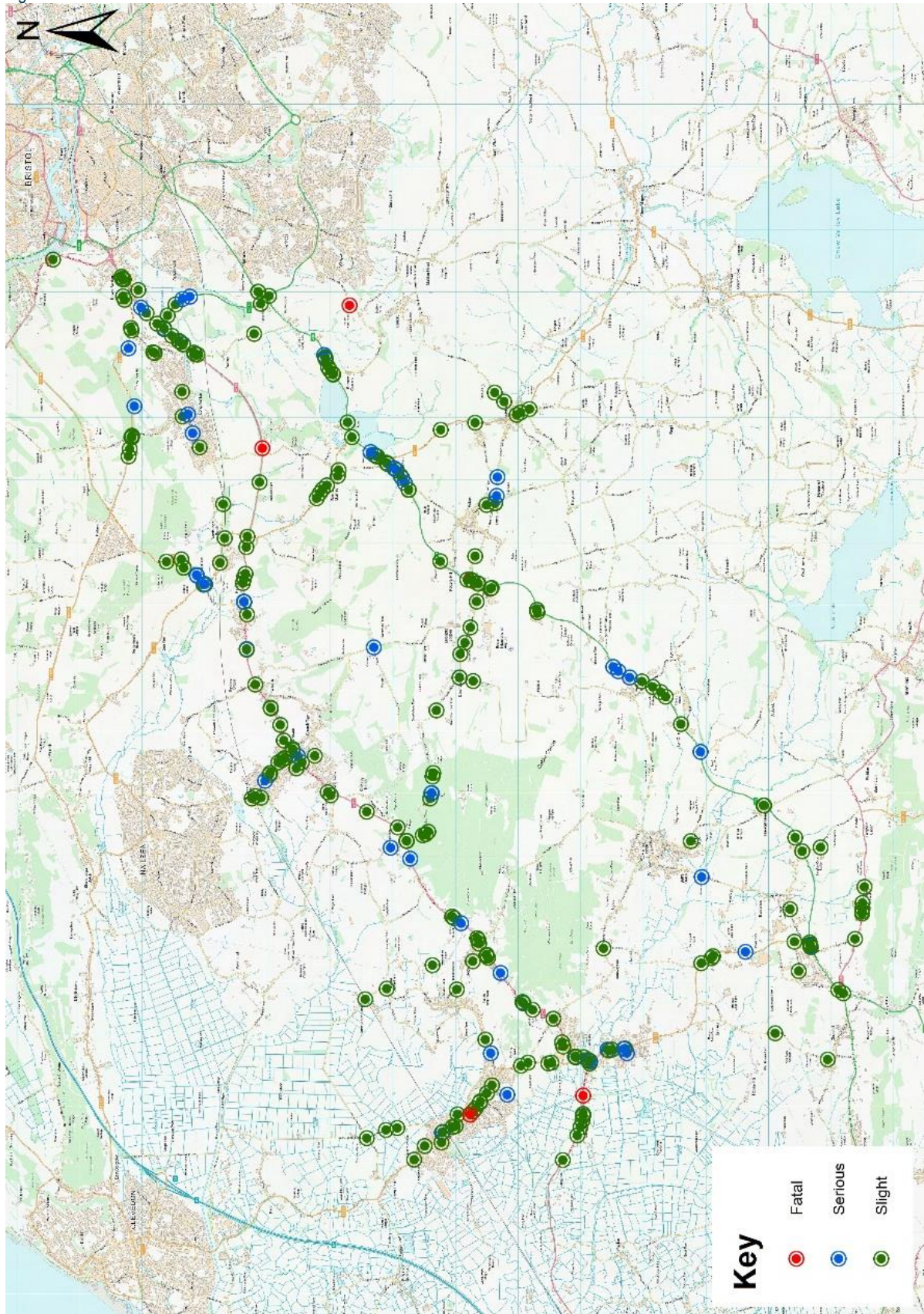
Over the entire 5-year period, 16% (73) of casualties involved a pedestrian or cyclists, 7% (32) were pedestrians and 9% (41) cyclists. There were 2 fatalities involving a vulnerable road user and 14 serious casualties.

Collision Location

NSC's collision record data showed that there were 321 collisions in the 54-month period. The location of these are illustrated in **Figure 2**.

TECHNICAL NOTE

Figure 2: Location of Collisions



Fatal Casualties

The collisions resulting in fatalities are reviewed below:

- **SU06949/14**, 14/08/2014; The collision occurred on the A370 Long Ashton bypass. The collision involved a single vehicle. The report states the contributory factors attributed for this collision were 'aggressive driving' and 'Careless, reckless or in a hurry'.
- **SU03414/15**, 25/04/2015; The collision occurred on the A38 near to the junction with West Lane. A single vehicle (motorcycle) was involved in the collision. The contributory factors for this collision were attributed to the driver as 'Loss of control' and 'Learner or inexperienced driver / rider'.
- **SU03190/17**, 11/05/17; The collision occurred on Highridge Road towards Bristol. A single vehicle (motorcyclist) was involved in the collision. The contributory factor attributed to the rider was 'Loss of control'.
- **SU03882/17**, 09/06/17; The collision occurred at a puffin crossing on the A370 Station Road near Congresbury. The collision involved a pedestrian who suffered a fatal injury and a motorcycle. The contributory factor attributed to the motorcyclist was 'Distraction outside of vehicle'.
- **SU08612/17**, 14/12/17; The collision occurred on the High Street, Yatton in night time hours. The collision involved a pedestrian who suffered a fatal injury and a car. The contributory factor attributed to the pedestrian was 'Pedestrian wearing dark clothing at night'.

In summary, 60% (3) of the 5 fatal collisions involved a single vehicle with injuries sustained to the driver/rider. 40% (2) of the 5 fatal collisions involved pedestrians.

Serious Casualties

Analysis of the 50 serious collisions highlighted that 15 (30%) of the collisions involved a vulnerable road user

These are reviewed below:

- **SU02331/14**, 14/02/2014; The collision occurred on A38 Redhill outside Hunters Lodge. The collision involved a cyclist who sustained serious injuries. The contributory factor attributed to this collision was 'Rain, sleet, snow or fog'.
- **SU08548/14**, 11/10/2014; The collision occurred on Northend Road outside the Market Inn. The collision involved a pedestrian who suffered serious injuries and a car. The contributory factor attributed to the driver was 'Exceeding speed limit'.
- **SU08836/14**, 10/11/2014; The collision occurred on the B3133 Stock Lane outside Wood Solar Farm. The collision involved a pedestrian who sustained serious injuries, a car and a HGV. The contributory factors attributed to the car were 'passing too close to cyclist, horse rider or pedestrian' and 'Careless, reckless or in a hurry'.
- **SU06781/15**, 09/08/2015; The collision occurred on the A390 Main road, Brockley. The collision involved a pedestrian who sustained serious injuries and a car. The contributing factor attributed to the pedestrian was 'Impaired by alcohol'.
- **SU06557/15**, 18/08/2015; The collision occurred on the B3133 Smallway by the A370 junction. The collision involved a pedestrian who sustained serious injuries and a car. The contributory factors attributed to the pedestrian were 'Disability or illness, mental or physical' and those attributed to the car driver were 'Failed to judge vehicle's path or speed', 'road Layout' and 'Exceeding speed limit'.

- **SU06990/15**, 10/09/2015; The collision occurred on Belmont hill. The collision involved a cyclist who sustained serious injuries and a car. The contributory factors of the collision were attributed to the cyclist were 'Travelling too fast for conditions', 'Loss of control' and 'Careless reckless or in a hurry'.
- **SU08019/16**, 08/09/2016; The collision occurred on the A38 Bridgwater Road. The collision involved a pedestrian who sustained serious injuries and a car. There were no contributory factors for the collision.
- **SU08503/16**, 21/10/2016; The collision occurred on Stonewall drive junction with Stonewall lane. The collision involved a pedestrian who sustained serious injuries and a car. The contributory factor attributed to the pedestrian was 'Failed to look properly'.
- **SU08501/16**, 11/11/2016; The collision occurred on Brockley Lane near to Brockley Hall. The collision involved a cyclist who sustained a serious injury and a car. The contributory factors attributed to the car was 'Failed to look properly' and 'Road layout'.
- **SU08939/16**, 18/11/2016; The collision occurred at the Station Road junction with Amberlands Close. The collision involved a pedestrian who sustained serious injuries and a car. The contributory factors attributed of this collision were 'Crossing road masked by stationary or parked vehicle', 'Failed to look properly' and 'Careless, reckless or in a hurry'.
- **SU02622/17**, 09/04/2017; The collision occurred on A370, long Ashton. The collision involved a pedestrian who sustained serious injuries and a car. There were no contributory factors for this collision.
- **SU06623/17**, 12/08/2017; The collision occurred on Belmont Hill. The collision involved a cyclist who sustained serious injuries and a car. The contributory factor attributed to this collision was 'Road layout'.
- **SU06636/17**, 21/09/2017; The collision occurred on the Clevedon road junction with Belmont Hill. The collision involved a cyclist who sustained serious injuries and a car. The contributory factor for the collision attributed to the cyclist was 'Loss of control'.
- **SU08194/17**, 22/09/2017; The collision occurred on the Felton Lane junction with Raglan Lane. The collision involved a cyclist who sustained serious injuries and a car. The contributory factors of the collision attributed to the car were 'Following too close' and 'Passing too close to cyclist, horse rider or pedestrian'.
- **SU04974/18**, 22/06/2018; The collision occurred on Brinsea Road outside of Waverley Road. The collision involved a pedestrian who sustained serious injuries and a car. The contributory factors attributed to the car driver were 'Disobeyed pedestrian crossing facility'.

It can be seen from above that 9 (60%) of the 15 collisions resulting in a serious injury involved a pedestrian. Upon further analysis the following can be concluded:

- 22% (2) were attributed to a car driver exceeding the speed limit
- 22% (2) were attributed to the pedestrian failing to look properly

It can be seen from above that 6 (40%) of the 15 collisions resulting in a serious injury involved a cyclist. Upon further analysis the following can be concluded:

- 33% (2) were attributed to the cyclist losing control
- 17% (1) were attributed to the vehicle driver following too close

Contributory Factors Review

A summary of the collision contributory factors across the 54-month period summarised in the **Table 3**.

Table 3: Contributory Factor Review

	Contributory Factor			
	Very Likely	Possible	Total	Rank
Road Environment	40	21	61 (10%)	4
Vehicle Defects	2	4	6 (1%)	8
Injudicious Action	48	27	75 (12%)	2
Driver/ Rider Error or Reaction	188	97	285 (45%)	1
Impairment or Distraction	28	25	53 (8%)	5
Behavior or Inexperience	52	21	73 (11%)	3
Vision Affected by	30	22	52 (8%)	6
Pedestrian Only (Casualty or Uninjured)	17	10	27 (4%)	7
Special Codes	5	0	5 (1%)	9
Total	410	227	637	

Over the entire 54-month period, 45% (285) of the contributory factors were attributed to driver/rider error or reaction. Upon further analysis of the contributory factors attributed under the 'Driver/Rider Error or Reaction' category, the following can be concluded:

- 'Failure to look properly' accounted for 29% (82) of the driver/rider error or reaction factors
- 'Failure to look properly' was the most frequently attributed contributory factor overall, accounting for 13% (82) of the 637 factors.
- 'Failure to judge other person's path or speed' accounted for 21% (59) of the driver/rider error or reaction factors
- 'Failure to judge other person's path or speed' was the second most frequently attributed contributory factor overall, accounting for 9% (59) of the 637 factors.

From **Table 3** it can also be seen that 12% (75) contributory factors were attributed to injudicious action over the five-year period. Upon further analysis of the contributory factors attributed under the 'Injudicious Action' category, the following can be concluded:

- 'Travelling too fast for conditions' accounted for 33% (25) of the injudicious action factors
- 'Exceeding speed limit' accounted for 23% (17) of the injudicious action factors

Over the five-year period, 10% (61) of the contributory factors were attributed to road environment. Upon further analysis of the contributory factors attributed under the 'Road Environment' category, the following can be concluded:

- 'Slippery Road' accounted for 59% (36) of the injudicious action factors

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- 'Slippery Road' was the 5th most frequently attributed contributory factor overall, accounting for 6% (36) of the 637 factors.
- 'Road Layout' accounted for 18% (11) of the injudicious action factors

Junction Cluster Review

A junction cluster review has been undertaken at key junctions within the study area. The defining radius around each junction that has been considered for detailed assessment has been set at approximately 50 metres. A minimum of 5 collisions at a junction has been used to define a cluster of collisions, exceptions have been made for location in which there is a concentration of serious/fatal injuries.

Figure 3 shows the locations of the junctions reviewed as part of the junction cluster analysis.

Figure 3: Junction Cluster Locations

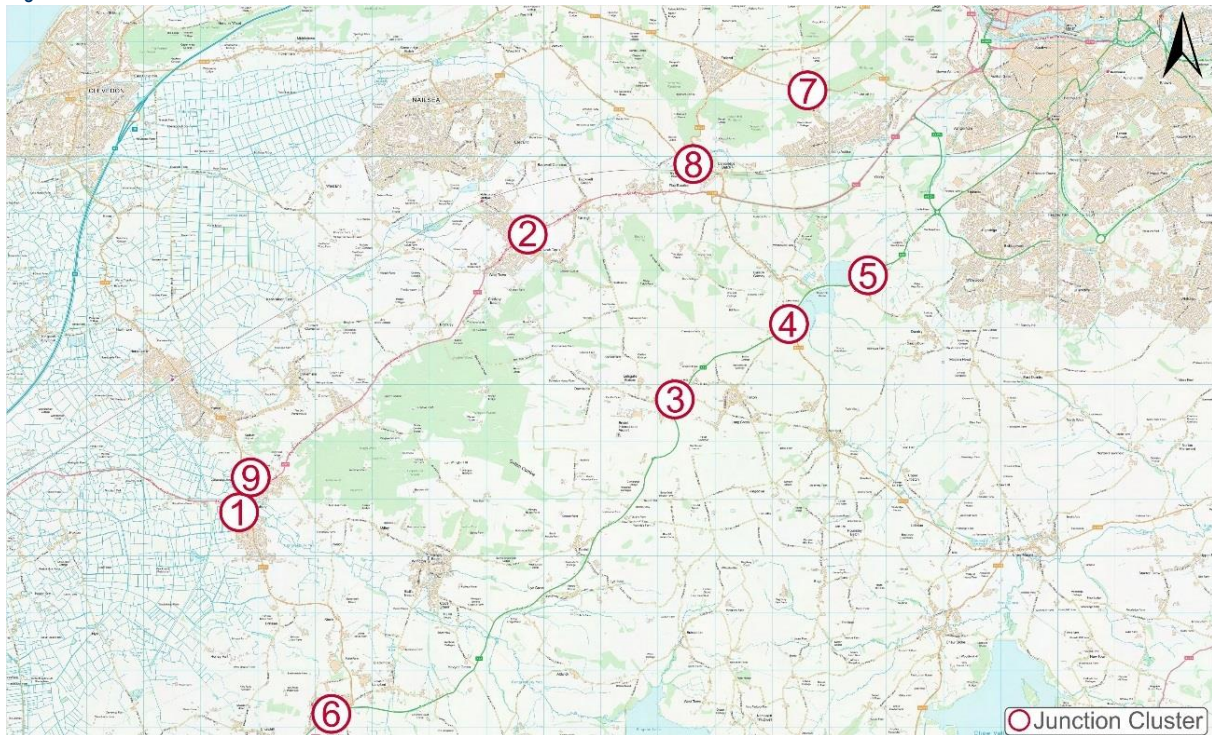


Table 4 summarises the cluster reviews for each junction over the 54-month period.

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Table 4: Junction Cluster

Reference	Junction	Year	Severity of Injury				Road User				
			Fatal	Serious	Slight	Total	Pedestrian	Cyclist	Motorcycle	Vehicles Only	Total
1	Bristol Road/ High Street	1	0	0	3	3	0	0	0	3	3
		2	0	1	1	2	0	0	0	2	2
		3	0	1	0	1	1	0	0	0	1
		4	0	0	1	1	0	0	0	1	1
		5	0	0	0	0	0	0	0	0	0
		Total	0	2	5	7	1	0	0	6	7
2	West Town Road/ Station road / Dark Lane	1	0	0	5	5	0	0	0	5	5
		2	0	1	2	3	1	0	0	2	3
		3	0	1	1	2	0	0	0	2	2
		4	0	0	2	2	0	0	0	2	2
		5	0	0	0	0	0	0	0	0	0
		Total	0	2	10	12	1	0	0	11	12
3	A38/Downside road/West Lane	1	0	0	1	1	0	1	0	0	1
		2	1	0	4	5	0	0	1	4	5
		3	0	0	2	2	0	0	0	2	2
		4	0	0	1	1	0	0	0	1	1
		5	0	0	0	0	0	0	0	0	0
		Total	1	0	8	9	0	1	1	7	9
4	Barrow Lane/ Hobbs Lane	1	0	0	2	2	0	0	1	1	2
		2	0	1	2	3	0	0	2	1	3
		3	0	0	3	3	0	1	0	2	3
		4	0	0	0	0	0	0	0	0	0
		5	0	0	0	0	0	0	0	0	0
		Total	0	1	7	8	0	1	3	4	8
5	A38/Dundry Lane	1	0	0	2	2	0	0	0	2	2
		2	0	0	1	1	0	0	0	1	1
		3	0	1	0	1	0	0	1	0	1
		4	0	0	1	1	0	0	0	1	1
		5	0	0	0	0	0	0	0	0	0
		Total	0	1	4	5	0	0	1	4	5

TECHNICAL NOTE

Reference	Junction	Year	Severity of Injury				Road User				
			Fatal	Serious	Slight	Total	Pedestrian	Cyclist	Motorcycle	Vehicles Only	Total
6	Bristol Road / Langford Road	1	0	0	0	0	0	0	0	0	0
		2	0	0	1	1	0	0	0	1	1
		3	0	0	0	0	0	0	0	1	1
		4	0	1	2	3	0	0	0	3	3
		5	0	0	1	1	0	0	0	1	1
		Total	0	1	4	5	0	0	0	6	6
7	Longwood Lane/B3128/Providence Lane	1	0	0	2	2	0	0	1	1	2
		2	0	0	2	2	0	1	1	0	2
		3	0	0	2	2	0	0	1	1	2
		4	0	0	3	3	0	1	0	2	3
		5	0	0	0	0	0	0	0	0	0
		Total	0	0	9	9	0	2	3	4	9
8	Station Road / Clevedon Road	1	0	0	3	3	0	0	0	3	3
		2	0	1	2	3	0	1	0	2	3
		3	0	0	1	1	1	0	0	0	1
		4	0	0	1	1	0	0	0	1	1
		5	0	0	0	0	0	0	0	0	0
		Total	0	1	7	8	1	1	0	6	8
9	Smallway/B3169/Bristol Road	1	0	0	6	6	0	1	0	5	6
		2	0	1	2	3	1	0	0	2	3
		3	0	1	1	2	0	0	0	2	2
		4	0	0	2	2	0	0	0	2	2
		5	0	0	0	0	0	0	0	0	0
		Total	0	2	11	13	1	1	0	11	13

Bristol Road / High Street (Congresbury)

A total of 7 collisions were recorded across the 54-month period at the Bristol Road / High Street junction resulting in 2 serious injuries and 5 slight injuries. Of the 7 collisions, 1 involved a pedestrian. There were no collisions involving cyclists recorded. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Of the 7 collisions, the majority of casualties involved the car driver/passenger (6);
- Of the 7 collisions, there were 17 contributory factors. 9 of these were recorded as 'very likely' and 8 as 'possible';
- 43% of the contributory factors attributed were recorded as Driver/Rider Error or Reaction. The remaining 57% of factors were mostly comprised of Road Environment (14%) and Injudicious Action (14%);
- Year 1 had the highest amount of collisions with 3 recorded. Year 2 had 2 collisions, Year 3 had 1 collision, Year 4 had 1 collisions and Year 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 5**.

Table 5 Bristol Road / Yatton High Street Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	1	11%	4	50%	5	29%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	1	11%	1	13%	2	12%
Driver/ Rider Error or Reaction	4	44%	2	25%	6	35%
Impairment or Distraction	0	0%	0	0%	0	0%
Behavior or Inexperience	0	0%	1	13%	1	6%
Vision Affected by	1	11%	0	0%	1	6%
Pedestrian Only (Casualty or Uninjured)	2	22%	0	0%	2	12%
Special Codes	0	0%	0	0%	0	0%
Total	9	100%	8	100%	17	100%

West Town Road/ Station road / Dark Lane

A total of 12 collisions were recorded across the 54-month period at the West Town Road / Station Road / Dark Lane junction resulting in 2 serious injuries and 10 slight injuries. Of the 12 collisions, 1 involved a pedestrian. There were no collisions involving cyclists recorded. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 12 collisions, the majority of casualties involved the car driver/passenger (11);
- From the 12 collisions, there were 32 contributory factors. 20 of these were recorded as 'very likely' and 12 as 'possible'.
- 53% of the contributory factors attributed were recorded as Driver/Rider Error or Reaction. The remaining 47% of factors were mostly comprised of Injudicious Action (14%) and Road Environment (9%).

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- Year 1 had the highest amount of collisions with 5 recorded. Year 2 had 3 collisions, Year 3 with 2 collisions, Year 4 with 2 collisions and Year 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 6**.

Table 6 West Town Road / Station Road / Dark Lane Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	3	15%	0	0%	3	9%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	2	10%	2	17%	4	13%
Driver/ Rider Error or Reaction	10	50%	7	58%	17	53%
Impairment or Distraction	0	0%	3	25%	3	9%
Behaviour or Inexperience	1	5%	0	0%	1	3%
Vision Affected by	2	10%	0	0%	2	6%
Pedestrian Only (Casualty or Uninjured)	2	10%	0	0%	2	6%
Special Codes	0	0%	0	0%	0	0%
Total	20	100%	12	100%	32	100%

Downside Road / West Lane

A total of 9 collisions were recorded across the 54-month period at the Downside Road / West Lane junction, 1 resulting in fatal injury and 8 resulting in slight injuries. Of the 9 collisions, 1 involved a cyclist. There were no recorded collisions involving pedestrians. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 9 collisions, most casualties involved the car driver/passenger (7);
- From the 9 collisions, there were 9 contributory factors. All 9 of these were recorded as 'very likely'.
- 78% of the contributory factors attributed were recorded as 'Driver/Rider Error or Reaction'. The remaining 22% of factors were mostly comprised of 'Impairment or Distraction' (11%) and 'Behaviour or Inexperience' (11%);
- Year 2 had the highest amount of collisions with 5 recorded. Year 1 had 1 collision, Year 3 with 2 collisions, Year 4 with 1 collisions and Year 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 7**.

Table 7 Downside Road / West Lane Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	0	0%	0	0%	0	0%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	0	0%	0	0%	0	0%
Driver/ Rider Error or Reaction	7	78%	0	0%	7	78%
Impairment or Distraction	1	11%	0	0%	1	11%
Behaviour or Inexperience	1	11%	0	0%	1	11%
Vision Affected by	0	0%	0	0%	0	0%
Pedestrian Only (Casualty or Uninjured)	0	0%	0	0%	0	0%

	Contributory Factor					
	Very Likely		Possible		Total	
Special Codes	0	0%	0	0%	0	0%
Total	9	100%	0	0%	9	100%

Barrow Lane / Hobbs Lane

A total of 8 collisions were recorded across the 54-month period at the Barrow Lane / Hobs Lane junction resulting in 1 serious injury and 7 slight injuries. Of the 8 collisions, 1 involved a cyclist. There were no recorded collisions involving pedestrians. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 8 collisions, the majority of casualties involved the car driver/passenger (4);
- From the 8 collisions, there were 20 contributory factors. 14 of these were recorded as 'very likely' and 6 were categorised as 'Possible'.
- 60% of the contributory factors attributed were recorded as Driver/Rider Error or Reaction. The remaining 40% of factors were mostly comprised of 'Road Environment' (10%), 'Impairment or Distraction' (10%) and 'Behaviour or Inexperience' (10%).
- Year 2 and 3 had the highest amount of collisions with each having 3 recorded. Year 1 had 2 collisions, Year 4 and Year 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 8**.

Table 8 Barrow Lane / Hobs Lane Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	0	0%	2	33%	2	10%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	0	0%	0	0%	0	0%
Driver/ Rider Error or Reaction	10	71%	2	33%	12	60%
Impairment or Distraction	1	7%	0	0%	1	5%
Behaviour or Inexperience	0	0%	2	33%	2	10%
Vision Affected by	2	14%	0	0%	2	10%
Pedestrian Only (Casualty or Uninjured)	0	0%	0	0%	0	0%
Special Codes	1	7%	0	0%	1	5%
Total	14	100%	6	100%	20	100%

Bridgewater Road A38 / Dundry Lane

A total of 5 collisions were recorded across the 54-month period at the Bridgewater Road A38 / Dundry Lane junction resulting in 1 serious injury and 4 slight injuries. There were no recorded collisions involving cyclists or pedestrians. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 5 collisions, the majority of casualties involved the car driver/passenger (4);
- From the 5 collisions, there were 11 contributory factors. 9 of these were recorded as 'very likely' and 2 were categorised as 'Possible';

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- 64% of the contributory factors attributed were recorded as Driver/Rider Error or Reaction. The remaining 36% of factors were mostly comprised of Road Environment (27%) and Injudicious Action (10%);
- Year 1 had the highest amount of collisions with 2 recorded. Year 2 had 1 collision, Year 3 had 1 and Years 4 and 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 9**.

Table 9 Bridgewater Road / Dundry Lane Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	2	22%	1	50%	3	27%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	0	0%	1	50%	1	9%
Driver/ Rider Error or Reaction	7	78%	0	0%	7	64%
Impairment or Distraction	0	0%	0	0%	0	0%
Behaviour or Inexperience	0	0%	0	0%	0	0%
Vision Affected by	0	0%	0	0%	0	0%
Pedestrian Only (Casualty or Uninjured)	0	0%	0	0%	0	0%
Special Codes	0	0%	0	0%	0	0%
Total	9	100%	2	100%	11	100%

Bristol Road / Langford Road

A total of 5 collisions were recorded across the 54-month period at the Bristol Road / Langford Road junction resulting in 1 serious injury and 4 slight injuries. There were no collisions involving cyclists or pedestrians recorded. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 5 collisions, the majority of casualties involved the car driver/passenger (4);
- From the 5 collisions, there were 19 contributory factors. 9 of these were recorded as 'very likely' and 10 were categorised as 'Possible';
- 63% of the contributory factors attributed were recorded 'Impairment or Distraction'. The remaining 37% of factors were mostly comprised of 'Injudicious Action' (21%) and 'Behaviour or Inexperience' (11%).
- Year 4 had the highest amount of collisions with 3 recorded. Year 2 had 1 collision, Year 5 had 1 and Years 1 and 3 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 10**.

Table 10 Bristol Road / Langford Road Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	1	11%	0	0%	1	5%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	1	11%	3	30%	4	21%
Driver/ Rider Error or Reaction	0	0%	0	0%	0	0%

	Contributory Factor					
	Very Likely		Possible		Total	
Impairment or Distraction	7	78%	5	50%	12	63%
Behaviour or Inexperience	0	0%	2	20%	2	11%
Vision Affected by	0	0%	0	0%	0	0%
Pedestrian Only (Casualty or Uninjured)	0	0%	0	0%	0	0%
Special Codes	0	0%	0	0%	0	0%
Total	9	100%	10	100%	19	100%

Longwood Lane / Clevedon Road / Providence Lane

A total of 9 collisions were recorded across the 54-month period at the Longwood Lane / Clevedon Road / Providence Lane junction resulting in 9 slight injuries. Of the 8 collisions, 1 involved a cyclist. There were no collisions involving pedestrians recorded. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 9 collisions, the majority of casualties involved the car driver/passenger (4);
- From the 9 collisions, there were 15 contributory factors. 11 of these were recorded as 'very likely' and 4 were categorised as 'Possible'.
- 40% of the contributory factors attributed were 'Impairment or Distraction'. The remaining 60% of factors were mostly comprised of 'Road Environment' (20%) and 'Vision Affected' by (13%).
- Year 4 had the highest amount of collisions with 3 recorded. Year 1 had 1 collision, Year 2 had 1, Year 3 also had 1 collision and year 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 11**.

Table 11 Longwood Lane / Clevedon Road / Providence Lane Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	2	18%	1	25%	3	20%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	1	9%	0	0%	1	7%
Driver/ Rider Error or Reaction	4	36%	2	50%	6	40%
Impairment or Distraction	0	0%	0	0%	0	0%
Behaviour or Inexperience	0	0%	1	25%	1	7%
Vision Affected by	2	18%	0	0%	2	13%
Pedestrian Only (Casualty or Uninjured)	2	18%	0	0%	2	13%
Special Codes	0	0%	0	0%	0	0%
Total	11	100%	4	100%	15	100%

Station Road / Clevedon Road

A total of 8 collisions were recorded across the 54-month period at the Station Road Clevedon Road junction resulting in 9 slight injuries. Of the 8 collisions, 1 involved a cyclist. There were no collisions involving pedestrians recorded. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 9 collisions, the majority of casualties involved the car driver/passenger (4);

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- From the 9 collisions, there were 15 contributory factors. 11 of these were recorded as 'very likely' and 4 were categorised as 'Possible'.
- 36% of the contributory factors attributed were recorded 'Impairment or Distraction'. The remaining 64% of factors were mostly comprised of 'Road Environment' (21%) and 'Vision Affected' by (13%).
- Year 4 had the highest amount of collisions with 3 recorded. Year 1 had 1 collision, Year 2 had 1, Year 3 also had 1 collision and year 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 12**.

Table 12 Station Road / Clevedon Road Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	2	18%	1	33%	3	21%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	1	9%	0	0%	1	7%
Driver/ Rider Error or Reaction	4	36%	1	33%	5	36%
Impairment or Distraction	0	0%	0	0%	0	0%
Behaviour or Inexperience	0	0%	1	33%	1	7%
Vision Affected by	2	18%	0	0%	2	14%
Pedestrian Only (Casualty or Uninjured)	2	18%	0	0%	2	14%
Special Codes	0	0%	0	0%	0	0%
Total	11	100%	3	100%	14	100%

Smallway Road/ Kent Road/ Bristol Road

A total of 13 collisions were recorded across the 54-month period at the Smallway Road / Kent Road / Bristol Road junction resulting in 2 serious injuries and 11 slight injuries. Of the 8 collisions, 1 involved a pedestrian and 1 involved a cyclist. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 13 collisions, the majority of casualties involved the car driver/passenger (11);
- From the 13 collisions, there were 32 contributory factors. 21 of these were recorded as 'very likely' and 11 were categorised as 'Possible'.
- 50% of the contributory factors attributed were Driver / Rider Error or Reaction The remaining 50% of factors were mostly comprised of Injudicious Action (19%) and Behaviour or Inexperience (13%).
- Year 1 had the highest amount of collisions with 6 recorded. Year 2 had 3 collisions, Year 2 had 2, Year 3 also had 2 collisions. Year 4 had 2 collisions recorded and year 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 13**.

Table 13 Smallway Road / Kent Road / Bristol Road Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	2	10%	0	0%	2	6%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	4	19%	2	18%	6	19%

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	Contributory Factor					
	Very Likely		Possible		Total	
Driver/ Rider Error or Reaction	10	48%	6	55%	16	50%
Impairment or Distraction	0	0%	0	0%	0	0%
Behaviour or Inexperience	1	5%	3	27%	4	13%
Vision Affected by	2	10%	0	0%	2	6%
Pedestrian Only (Casualty or Uninjured)	2	10%	0	0%	2	6%
Special Codes	0	0%	0	0%	0	0%
Total	21	100%	11	100%	32	100%

Conclusion

Analysis of the collision records has not identified any specific concern regarding the geometric design / road layout of the local highway network. There are no re-occurring patterns of the frequency of severity of collisions recorded. The data does not highlight any specific concerns to clustering of collisions or locations within the study area.

DOCUMENT ISSUE RECORD

Technical Note No	Rev	Date	Prepared	Checked	Reviewed (Discipline Lead)	Approved (Project Director)
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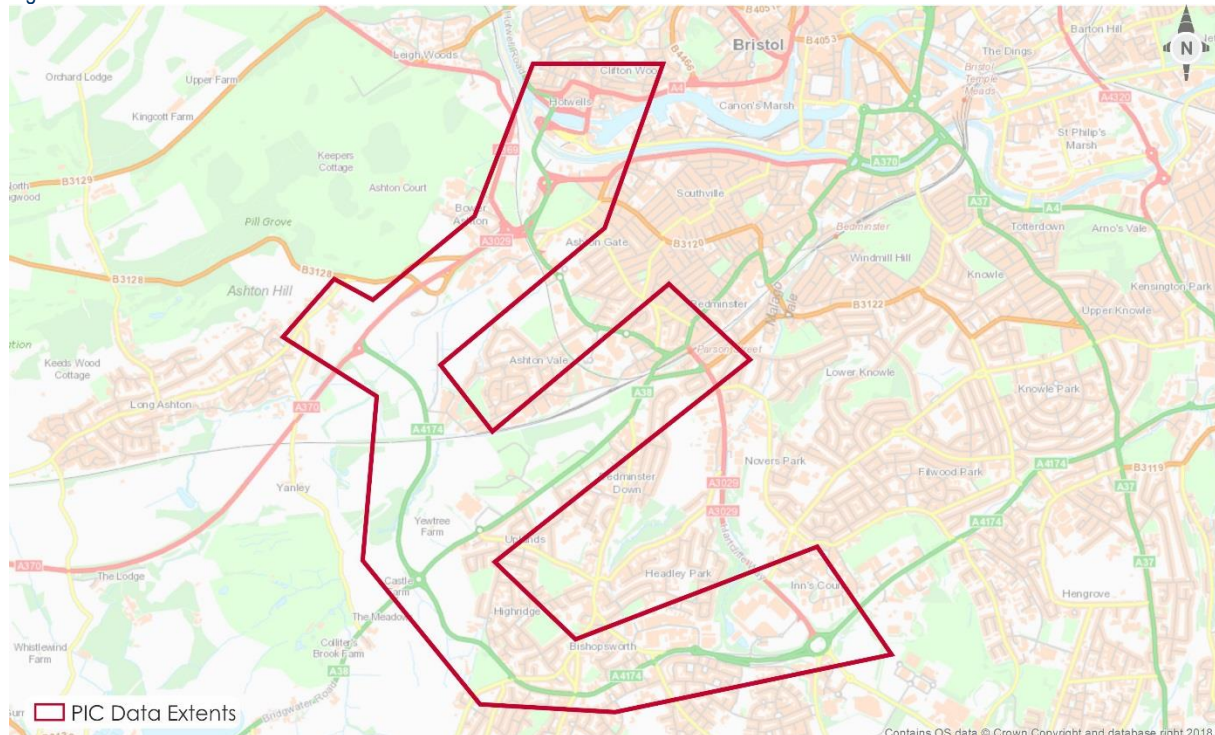
TECHNICAL NOTE

Job Name: Development of Bristol Airport to Accommodate 12 MPPA
Job No: 43321
Note No: TN008
Date: 19th October 2018
Prepared By: S.Blain / A.Lovegrove
Subject: Bristol City Council - Personal Injury Collision Data Analysis

Introduction

Peter Brett Associates LLP (PBA), now part of Stantec, have obtained the latest available five years of Personal Injury Collision (PIC) data for the agreed study area within Bristol City Council (BCC) as shown in **Figure 1**. PBA obtained the PIC Data from BCC, who hold and manage the data for this area. The PIC records cover a 60-month period from 01/10/2013 to the 30/09/2018. A copy of the PIC data and locations is attached in **Appendix A**.

Figure1: PIC Data Extents



The collisions are classed into three categories: slight, serious and fatal, a definition of which is provided below:

- **Slight Injury:** Injuries of a minor nature, such as sprains, bruises, or cuts not judged to be severe, or slight shock requiring only roadside attention (medical treatment is not a prerequisite for an injury to be defined as slight).
- **Serious Injury:** Injuries for which a person is detained in hospital, as an in-patient, or any of the following injuries (whether or not a person is detained in hospital); fractures, concussion, internal injuries, severe cuts and lacerations, severe general shock requiring medical treatment and injuries that result in death 30 days after the accident. The serious category, therefore, covers a very broad range of injuries.

- **Fatal Injury:** Injuries that cause death either immediately or any time up to 30 days after the collision

Study Area Review

Collision Summary

A summary of the annual rolling 60-month collision data (01/10/2013 to 30/09/2018) within the study area is provided within **Table 1**. The table is disaggregated to show the total collisions and additionally the vulnerable road users (pedal cyclists and pedestrians) involved in the collisions. The five rolling years are as follows;

Year 1 - 01/10/2013 – 30/09/2014

Year 2 – 01/10/2014 – 30/09/2015

Year 3 - 01/10/2015 – 30/09/2016

Year 4 – 01/10/2016 – 30/09/2017

Year 5 – 01/01/2017 – 30/09/2018

Table 1: Summary of Collisions (01/10/2013 – 30/09/2018)

Collisions	Injury Severity	Year					Total
		1	2	3	4	5	
Total	Fatal	1	0	0	1	1	3
	Serious	5	4	6	4	3	22
	Slight	49	48	36	41	36	210
	Sub Total	55	52	42	46	40	235
Pedestrian	Fatal	0	0	0	1	1	2
	Serious	1	0	3	1	0	5
	Slight	6	4	6	6	4	26
	Sub Total	7	4	9	8	5	33
Cyclist	Fatal	0	0	0	0	0	0
	Serious	2	0	2	1	0	5
	Slight	7	12	7	7	11	44
	Sub Total	9	12	9	8	11	49

During the 60-month period between the 1st October 2013 to 30th September 2018, there were 235 collisions resulting in 3 (1%) fatal accident types, 22 (9%) serious accident types and 210 (90%) slight accident types.

Over the entire 5-year period, 35% (82) of the recorded collisions involved a vulnerable road user (pedestrian or cyclists) resulting in 2 fatal accident types, 10 serious accident types and 70 slight accident types. For the individual years, the proportion of collisions involving either cyclists or pedestrians are as follows;

- 2014: 19.5% (16),
- 2015: 19.5% (16),
- 2016: 22% (18),
- 2017: 19.5% (16); and
- 2018: 19.5% (16).

Casualties Summary

A summary for the casualties across the 60-month period can be seen in **Table 2**. The table includes a disaggregation of the casualties including vulnerable road users (pedestrians and cyclists).

Table 2: Summary of Casualties (01/10/2013 – 30/09/2018)

Collisions	Injury Severity	Year					Total
		1	2	3	4	5	
Total	Fatal	1	0	0	1	1	3
	Serious	5	4	6	4	3	22
	Slight	61	64	46	48	55	274
	Sub Total	67	68	52	53	59	299
Pedestrian	Fatal	0	0	0	1	1	2
	Serious	1	0	3	1	0	5
	Slight	6	4	6	6	3	25
	Sub Total	7	4	9	8	4	32
Cyclist	Fatal	0	0	0	0	0	0
	Serious	2	0	2	1	0	5
	Slight	7	12	7	7	11	44
	Sub Total	9	12	9	8	11	49

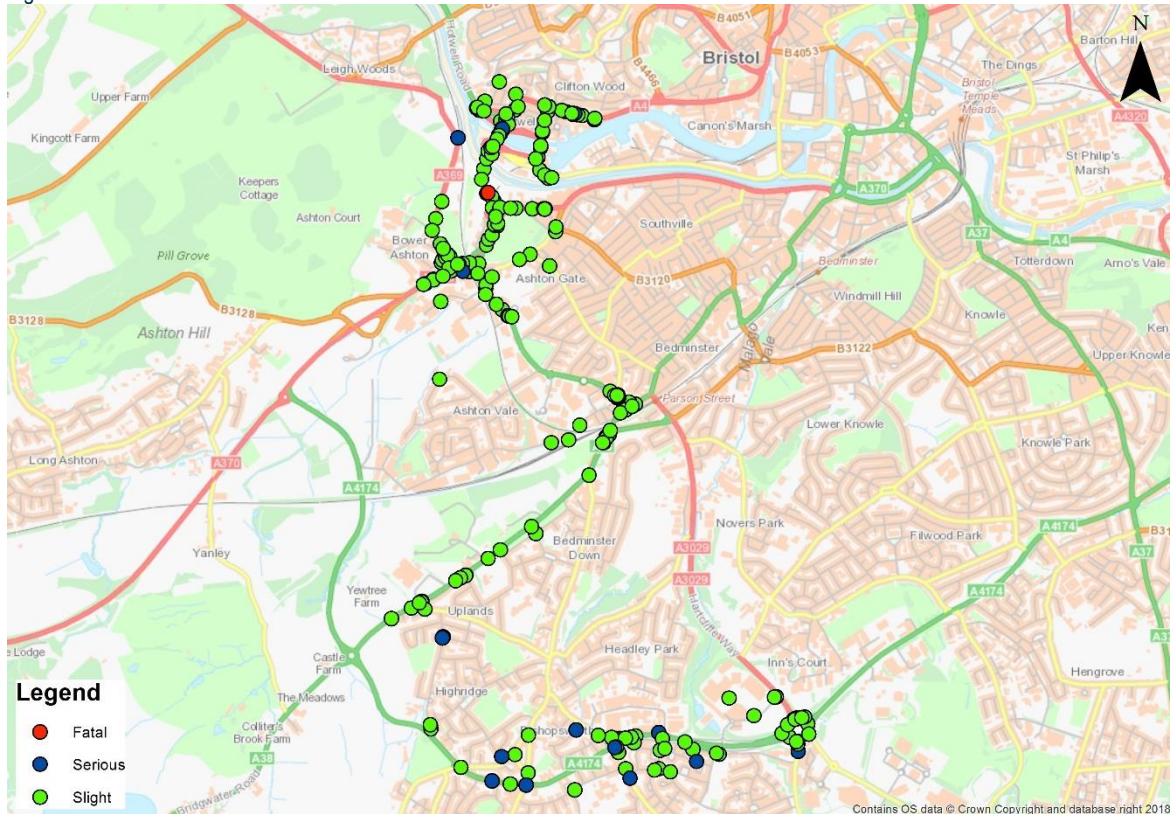
During the 60-month period between the 60-month period between the 1st October 2013 to 30th September 2018, there were 299 casualties resulting in 3 (1%) fatal injuries, 22 (7%) serious injuries and 274 (92%) slight injuries.

Over the entire 5-year period, 27% (81) of casualties involved a pedestrian or cyclists, 11% (32) were pedestrians and 16% (49) cyclists. There were 2 fatalities involving a vulnerable road user and 10 serious casualties.

Collision Location

BCC's collision record data showed that there were 235 collisions in the 60-month period. The location of these are illustrated in **Figure 2**.

Figure 2: Location of Collisions



Fatal Casualties

The collisions that involved fatalities are reviewed below:

- **SU02027/14**, 20/02/2014; The collision occurred on the A38 Bridgwater Road at the junction with Marguerite Road. The collision involved a motorcyclist who sustained fatal injuries and a car. The report does not provide any contributory factors attributed to the collision.
- **SU03474/17**, 18/05/2017; The collision occurred on Anton Bantock Way. The collision involved a pedestrian who sustained fatal injuries and a car. The report does not provide any contributory factors attributed to the collision.
- **SU07954/17**, 25/11/2017; The collision occurred on the A3029 Brunel Way. The collision involved a pedestrian who suffered fatal collisions and a car. The report does not provide any contributory factors attributed to the collision.

In summary, 33% (1) of the 3 fatal collisions involved a single vehicle with injuries sustained to the driver/rider. Of the 3 fatal collisions, 2 involved pedestrians.

Serious Casualties

Analysis of the 22 serious collisions highlighted the following:

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These are reviewed below:

- **SU06758/13**, 14/10/2013; The collision occurred on Hengrove Way. The collision involved a cyclist who suffered serious injuries and a car. The report does not provide any contributory factors attributed to the collision.
- **SU02216/13**, 23/03/2014; The collision occurred on the A3029 Winterstoke Road at the junction with Luckwell Road. The collision involved a motorcyclist who suffered serious injuries and a car. The report does not provide any contributory factors attributed to the collision.
- **SU05721/14**, 04/07/2014; The collision occurred on Highridge Green at the junction with Westward Road. The collision involved a pedestrian who suffered serious injuries and a motorcyclist. The report states that the contributory factor attributed to the pedestrian was 'Failed to look properly'.
- **SU06257/14**, 09/08/2014; The collision occurred on the A3029 Brunel Way at the junction with the A370 Jessop Underpass. The involved a motorcyclist who suffered a serious injury and a car. The contributory factors that in the report were attributed to the collision were 'Sudden braking', 'Failed to judge other person's path or speed', 'Failed to look properly', 'Failed to signal or misleading sign' and 'Vehicle blind spot'.
- **SU06635/14**, 10/09/2014; The collision occurred on the A4174 Hengrove Way. The collision involved a cyclist who suffered serious injuries and a car. The contributory factor in the report attributed to the cyclist is 'Failed to look properly'.
- **SU01850/15**, 23/02/2015; The collision occurred on the A38 Bedminster Down Road at the junction with the A38 Bedminster Road. The collision involved a car of which the driver received serious injuries. The report states that the contributory factors attributed to the car were 'Exceeding speed limit', 'Travelling too fast for conditions', 'Loss of control', 'Nervous, uncertain or panic', 'Careless, reckless or in a hurry' and 'Stolen vehicle'.
- **SU02104/15**, 20/03/2015; The collision occurred on the A3029 Brunel Way. The collision involved two cars. One of the drivers received serious injuries. The report does not provide any contributory factors attributed to the collision.
- **SU03542/15**, 20/04/2015; The collision A3029 Brunel Way. The collision involved a motorcyclist who received serious injuries and a car. The report states that the contributory factor attributed to the car was 'Failed to look properly'.
- **SU07437/15**, 06/10/2015; The collision occurred on Hareclive Road near to the junction with Gatehouse Avenue. The collision involved a pedestrian who received injuries classified as serious and a car. The report states that the contributory factor attributed with the car was 'Slippery road', 'Rain, sleet or fog'. The contributory factors attributed to the pedestrian was 'Failed to look properly' and 'Failed to judge other vehicles path or speed'.
- **SU00080/15**, 30/09/2015; The collision occurred on the A4 Hotwell Road. The collision involved two cars of which one of the car drivers sustained serious injuries. The report states that the contributory factors attributed to the car were 'Illegal turn or direction of traffic' and 'Failed to look properly'.
- **SU03059/15**, 03/12/2015; The collision occurred on the Derham Road. The collision involved a pedestrian who sustained serious injuries and a car. The report does not provide any contributory factors attributed to the collision.
- **SU01254/16**, 26/01/2016; The collision occurred on Highridge Road at the junction with Cuter Road. The collision involved a cyclist who suffered serious injuries and a motorcyclist. The report stated that the contributory factors attributed with the cyclist were 'Failed to look properly' and 'Cyclist wearing dark clothing at night'.

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- **SU02361/16**, 22/03/2016; The collision occurred on A369 Clanage Road. The collision involved a cyclist who suffered serious injuries and a motorcyclist. The report stated that the contributory factor attributed to the car was 'Passing too close to a cyclist, horse rider or pedestrian'.
- **SU04057/16**, 03/05/2016; The collision occurred on Coleshill Drive. The collision involved a cyclist who sustained serious injuries and a car. The contributory factors stated in the report attributed to the cyclist were 'Cyclist entering road from pavement', 'Failed to look properly' and 'Failed to judge other person's path or speed'.
- **SU05027/16**, 06/07/2016; The collision occurred on Winford Road at the junction with A38 Bridgewater Road. The collision involved a two car drivers, one of which sustained serious injuries. The contributory factor stated in the report for the collision was 'Failed to look properly'.
- **SU01774/16**, 10/10/2016; The collision occurred on the A4 Hotwell Road. The collision occurred a cyclist who suffered serious injuries and a HGV. The report states that the contributory factor attributed to the motorcycle was 'Failed to look properly'.
- **SU00953/17**, 24/01/2017; The collision occurred on the A3029 Brunel Way Swing Bridge. The collision involved two cars. One of the car drivers and passenger sustained serious and slight injuries. The report states that the contributory factor attributed to the collision were 'Slippery road', 'Swerved' and 'Loss of control'.
- **SU03715/17**, 12/05/2017; The collision occurred on the King Georges Road junction with Highbridge Road. The collision involved a pedestrian who suffered serious injuries and a motorcyclist. The report states that the contributory factor attributed to the pedestrian was 'Failed to look properly'.
- **SU05245/17**, 08/07/2017; The collision occurred on Hawkfield Road. The collision involved a car driver who suffered serious injuries. The report states that the contributory factors attributed to the collision were 'Impaired by alcohol', 'Careless, reckless or in a hurry' and 'Exceeding speed limit'.
- **SU01689/18**, 06/02/2018; The collision occurred on the A4174 King Georges Road. The collision involved 2 car drivers. One of the drivers suffered a serious injury. The report states that the contributory factors attributed to the collision were 'Exceeding speed limit', 'Impaired by drugs (illicit or medicinal)' and 'Careless, reckless or in a hurry' and 'Exceeding speed limit'.
- **SU02303/18**, 16/03/2018; The collision occurred on Ashton Road. The collision involved a motorcyclist who received serious injuries and a car. The report states the contributory factors attributed to the car were 'Failed to judge other person's path or speed' and 'Sudden braking'.
- **SU04273/18**, 07/05/2018; The collision occurred on Anton Bantock Way at the junction with Hareclive Road. The collision involved a motorcyclist who received serious injuries and a car. The report states the contributory factors attributed with the car were 'Disobeyed automatic traffic signal', 'Learner or inexperienced driver / rider' and 'Dazzling sun'.

It can be seen from above that 5 (23%) of the 22 collisions resulting in a serious injury involved a pedestrian. Upon further analysis, the following can be concluded:

- 36% (14) were attributed to failure to look properly
- 10% (4) were attributed to the pedestrian failing to judge other vehicle's path or speed

It can be seen from above that 5 (23%) of the 22 collisions resulting in a serious injury involved a cyclist. Upon further analysis, the following can be concluded:

- 26% (16) were attributed to the cyclist failing to look properly.

- 9% (5) were attributed to failing to judge other person's path or speed
- 9% (5) were attributed to cars passing too close to cyclist, horse rider or pedestrian

Contributory Factors Review

A summary of the collision contributory factors across the 60-month period summarised in the **Table 3**.

Table 3: Contributory Factor Review

	Contributory Factor			Rank
	Very Likely	Possible	Total	
Road Environment	15	14	29 (7%)	5
Vehicle Defects	2	2	4 (1%)	9
Injudicious Action	34	17	51 (13%)	2
Driver/ Rider Error or Reaction	108	67	175 (44%)	1
Impairment or Distraction	16	8	24 (6%)	7
Behavior or Inexperience	18	21	39 (10%)	3
Vision Affected by	18	8	26 (6%)	6
Pedestrian Only (Casualty or Uninjured)	19	3	22 (5%)	8
Special Codes	10	22	32 (8%)	4
Total	240	162	402	

Across the 60-month period, 'Road environment' has been a contributory factor for 29 (7%) of the collisions. 'Road Environment' has been disaggregated and summarised in **Table 4**.

Table 4: Road Environment Contributory Factor Review

Road Environment	Contributory Factor			Rank
	Very Likely	Possible	Total	
Poor or Defective Road Surface	0	1	1 (3%)	5
Deposit on Road	0	0	0 (0%)	-
Slippery Road	10	8	18 (62%)	1
Inadequate or Masked Signs or Road Markings	1	2	3 (10%)	3
Defective Traffic Signals	0	0	0 (0%)	-
Traffic Calming	0	0	0 (0%)	-
Temporary Road Layout	1	1	2 (7%)	4
Road Layout	2	2	4 (14%)	2
Animal or Object in Carriageway	1	0	1 (3%)	5
Total	15	14	29	

Of the contributory factors, 62% (18) were attributed to 'Slippery road'. The remaining 38% is mainly comprised of 'Road layout' (14%) and 'Inadequate or Masked Signs or Road Markings' (10%).

Over the entire 60-month period, 44% (175) of the contributory factors were attributed to 'Driver/Rider Error or Reaction'. Upon further analysis of the contributory factors attributed under the 'Driver/Rider Error or Reaction' category, the following can be concluded:

- 'Failure to look properly' accounted for 39% (68) of the driver/rider error or reaction factors
- 'Failure to look properly' was the most frequently attributed contributory factor overall, accounting for 17% (68) of the 402 factors.
- 'Failure to judge other person's path or speed' accounted for 16% (28) of the driver/rider error or reaction factors
- 'Failure to judge other person's path or speed' was the second most frequently attributed contributory factor overall, accounting for 7% (28) of the 402 factors.

Of the contributory factors, 13% (51) contributory factors were attributed to injudicious action over the five-year period. Upon further analysis of the contributory factors attributed under the 'Injudicious Action' category, the following can be concluded:

- 'Travelling too fast for conditions' accounted for 22% (11) of the injudicious action factors
- 'Exceeding speed limit' accounted for 25% (13) of the injudicious action factors

7% (29) of the contributory factors were attributed to road environment over the five-year period. Upon further analysis of the contributory factors attributed under the 'Road Environment' category, the following can be concluded:

- 'Slippery Road' accounted for 62% (18) of the injudicious action factors
- 'Road Layout' accounted for 14% (4) of the injudicious action factors and 1% of the 402 contributory factors

Junction Cluster Review

A junction cluster review has been undertaken at key junctions within the study area. The defining radius around each junction that has been considered for detailed assessment has been set at approximately 50 metres. A minimum of 5 collisions at a junction has been used to define a cluster of collisions, exceptions have been made for location in which there is a concentration of serious/fatal injuries.

Figure 3 shows the locations of the junctions reviewed as part of the junction cluster analysis.

TECHNICAL NOTE

Figure 3: Junction Cluster Locations

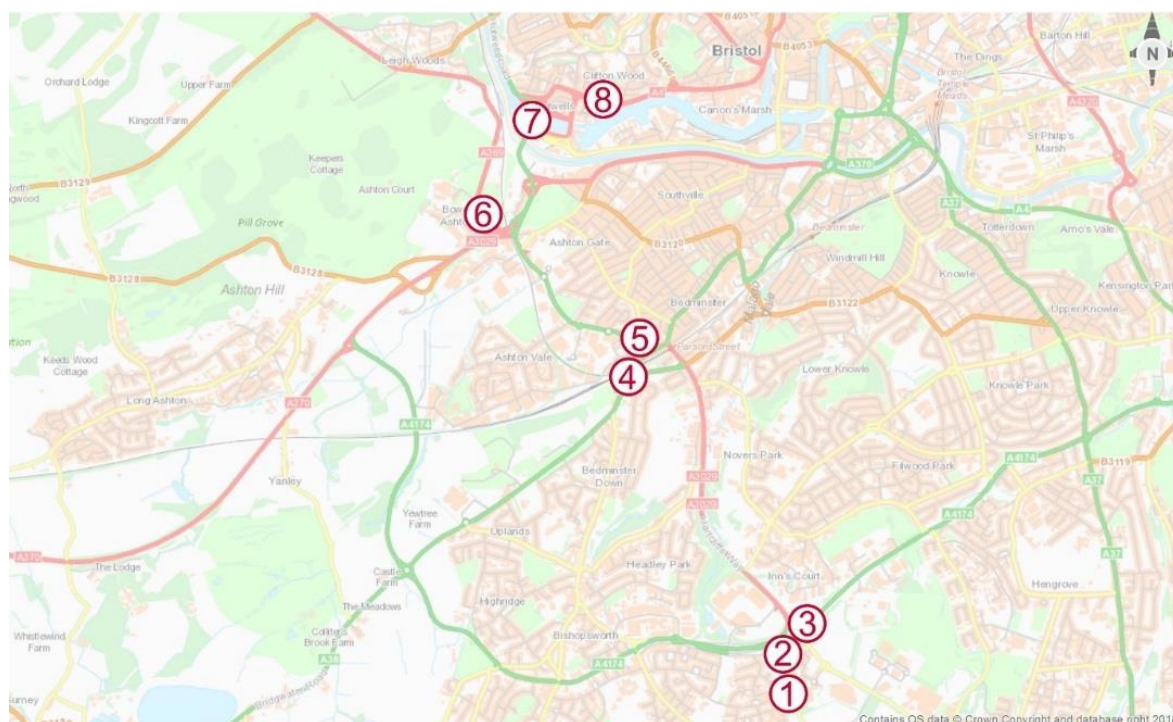


Table 5 summarises the cluster reviews for each junction over the 60-month period.

Table 5: Junction Cluster

Reference	Junction	Year	Severity of Injury				Road User				
			Fatal	Serious	Slight	Total	Pedestrian	Cyclist	Motorcycle	Vehicles Only	Total
1	Whitechurch Lane / Hareclive Road	1	0	0	2	2	0	0	0	2	2
		2	0	0	2	2	0	0	1	1	2
		3	0	0	3	3	0	0	0	0	0
		4	0	0	0	0	0	0	0	0	0
		5	0	0	0	0	1	2	0	0	3
		Total	0	0	7	7	1	2	1	3	7
2	Anton Bantock Way / Hareclive Road	1	0	0	0	0	0	0	0	0	0
		2	0	0	0	0	0	0	0	0	0
		3	0	0	0	0	0	0	0	0	0
		4	1	0	0	1	0	1	0	0	1
		5	0	1	2	3	1	1	1	1	4
		Total	1	1	2	4	1	2	1	1	5
		1	0	1	4	5	0	2	0	3	5

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Reference	Junction	Year	Severity of Injury				Road User				
			Fatal	Serious	Slight	Total	Pedestrian	Cyclist	Motorcycle	Vehicles Only	Total
3	Hengrove Way / Hartcliffe Way / Whitechurch Lane	2	0	0	2	2	0	1	0	1	2
		3	0	0	2	2	1	0	0	1	2
		4	0	1	4	5	0	1	0	4	5
		5	0	0	1	1	0	0	0	1	1
		Total	0	2	13	15	1	4	0	10	15
4	Bedminster Down Road / Bedminster Road	1	0	2	0	2	0	0	0	2	2
		2	0	1	3	4	0	1	0	3	4
		3	0	0	2	2	0	1	0	1	2
		4	0	0	0	0	0	0	0	0	0
		5	0	0	0	0	0	0	0	0	0
		Total	0	3	5	8	0	2	0	6	8
5	Winterstoke Road / Luckwell Lane / Marsh Lane	1	0	1	0	1	0	0	1	0	1
		2	0	0	1	1	1	0	0	0	1
		3	0	0	1	1	0	0	1	0	1
		4	0	0	4	4	1	0	2	2	5
		5	0	0	2	2	0	0	0	2	2
		Total	0	1	8	9	2	0	4	4	10
6	Blackmoors Lane / Clanage Road	1	0	0	1	1	0	0	0	1	1
		2	0	0	1	1	0	0	0	1	1
		3	0	0	2	2	0	1	0	1	2
		4	0	0	1	1	1	0	0	0	1
		5	0	0	4	4	1	2	0	1	4
		Total	0	0	9	9	2	3	0	4	9
7	Plimsoll – Swing Bridge	1	0	0	0	0	0	0	0	0	0
		2	0	1	1	2	0	0	1	1	2
		3	0	0	2	2	2	0	0	0	2
		4	0	1	1	2	0	1	0	1	2
		5	0	0	2	2	0	0	1	1	2
		Total	0	2	6	8	2	1	2	3	8
8	Hotwell Place / Pembroke Place	1	0	0	3	3	1	1	1	1	4
		2	0	0	1	1	1	0	1	0	2
		3	0	1	0	1	0	0	0	0	0
		4	0	1	1	2	0	0	0	2	2

Reference	Junction	Year	Severity of Injury				Road User				
			Fatal	Serious	Slight	Total	Pedestrian	Cyclist	Motorcycle	Vehicles Only	Total
		5	0	0	0	0	0	0	0	0	0
		Total	0	2	5	7	2	1	2	3	8

Whitechurch Lane / Hareclive Road

A total of 7 collisions were recorded across the 60-month period at the Whitechurch Lane / Hareclive Road junction resulting in 7 slight injuries. Of the 7 collisions, 1 involved a pedestrian, 2 involved a cyclist and 1 had a motorcyclist involved. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 7 collisions, the majority of casualties involved the car driver/passenger (3);
- From the 7 collisions, there were 10 contributory factors. 7 of these were recorded as 'very likely' and 3 as 'possible'.
- 30% of the contributory factors attributed were recorded as 'Driver / rider error or reaction'. The remaining 70% of factors were mostly comprised of 'Vision affected by (20%)', 'Pedestrian only' (20%) and 'Special codes' (20%);
- 57% (4) of the collisions involved a vulnerable road user.
- Year 3 had the highest amount of collisions with 3 recorded. Year 1 had 2 collisions, year 2 had 2 collisions, year 4 and year 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 6**.

Table 6: Whitechurch Lane / Hareclive Road Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	0	0%	1	33%	1	10%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	0	0%	0	0%	0	0%
Driver/ Rider Error or Reaction	3	43%	0	0%	3	30%
Impairment or Distraction	0	0%	0	0%	0	0%
Behavior or Inexperience	0	0%	0	0%	0	0%
Vision Affected by	2	29%	0	0%	2	20%
Pedestrian Only (Casualty or Uninjured)	1	14%	1	33%	2	20%
Special Codes	1	14%	1	33%	2	20%
Total	7	100%	3	100%	10	100%

Anton Bantock Way / Hareclive Road

A total of 4 collisions were recorded across the 60-month period at the Anton Bantock Way / Hareclive Road junction resulting in 1 fatal injury, 1 serious injury and 2 slight injuries. Of the 4 collisions, 2 involved a cyclist and 1 involved a motorcyclist. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 4 collisions, the majority of casualties involved cyclists (2);
- From the 4 collisions, there were 10 contributory factors. 8 of these were recorded as 'very likely' and 2 as 'possible'.
- 40% of the contributory factors attributed were recorded as 'Pedestrian only'. The remaining 60% of factors were mostly comprised of 'Injudicious Action (20%)'.
- 75% (3) of the collisions involved a vulnerable road user.
- Year 5 had the highest amount of collisions with 3 recorded. Year 1, year 2 and year 3 had no collisions and year 4 had 1 collision.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 7**.

Table 7: Anton Bantock Way / Hareclive Road Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	0	0%	0	0%	0	0%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	2	25%	0	0%	2	20%
Driver/ Rider Error or Reaction	1	13%	0	0%	1	10%
Impairment or Distraction	0	0%	1	50%	1	10%
Behavior or Inexperience	1	13%	0	0%	1	10%
Vision Affected by	1	13%	0	0%	1	10%
Pedestrian Only (Casualty or Uninjured)	3	38%	1	50%	4	40%
Special Codes	0	0%	0	0%	0	0%
Total	8	100%	2	100%	10	100%

Hengrove Way / Hartcliffe Way / Whitechurch Lane

A total of 15 collisions were recorded across the 60-month period at the Hengrove Way / Hartcliffe Way / Whitechurch Lane junction resulting in 2 serious injuries and 13 slight injuries. Of the 15 collisions, 1 involved a pedestrian and 4 involved a cyclist. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 15 collisions, the majority of casualties involved the car driver/passenger (10);
- From the 15 collisions, there were 22 contributory factors. 15 of these were recorded as 'very likely' and 8 as 'possible'.
- 35% of the contributory factors attributed were recorded as 'Driver / rider error or reaction'. The remaining 65% of factors were mostly comprised of 'Injudicious Action (17%) and 'Impairment or Distraction' (17%);
- 33% (5) of the collisions involved a vulnerable road user.
- Year 1 and year 5 had the highest amount of collisions with 5 recorded. Year 2 had 2 collisions, year 3 had 2 collisions and year 5 had 1 collision.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 8**.

Table 8: Hengrove Way / Hartcliffe Way / Whitechurch Lane Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	1	7%	0	0%	1	4%
Vehicle Defects	0	0%	1	13%	1	4%
Injudicious Action	3	20%	1	13%	4	17%
Driver/ Rider Error or Reaction	6	40%	2	25%	8	35%
Impairment or Distraction	4	27%	0	0%	4	17%
Behavior or Inexperience	1	7%	1	13%	2	9%
Vision Affected by	0	0%	1	13%	1	4%
Pedestrian Only (Casualty or Uninjured)	0	0%	0	0%	0	0%
Special Codes	0	0%	2	25%	2	9%
Total	15	100%	8	100%	23	100%

Bedminster Down Road / Bedminster Road

A total of 8 collisions were recorded across the 60-month period at Bedminster Down Road / Bedminster Road junction resulting in 3 serious injuries and 5 slight injuries. Of the 8 collisions, 2 involved a cyclist. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 8 collisions, the majority of casualties involved the car driver/passenger (6);
- From the 8 collisions, there were 23 contributory factors. 14 of these were recorded as 'very likely' and 9 as 'possible'.
- 35% of the contributory factors attributed were recorded as 'Driver / rider error or reaction'. The remaining 75% of factors were mostly comprised of 'Injudicious action' (26%) and 'Behaviour or Inexperience' (17%);
- 25% (2) of the collisions involved a vulnerable road user.
- Year 2 had the highest amount of collisions with 4 recorded. Year 1 and year 3 each had 2 collisions, year 4 and year 5 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 9**.

Table 9: Bedminster Down Road / Bedminster Road Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	0	0%	0	0%	0	0%
Vehicle Defects	0	0%	1	11%	1	4%
Injudicious Action	4	29%	2	22%	6	26%
Driver/ Rider Error or Reaction	4	29%	4	44%	8	35%
Impairment or Distraction	1	7%	0	0%	1	4%
Behavior or Inexperience	2	14%	2	22%	4	17%
Vision Affected by	2	14%	0	0%	2	9%
Pedestrian Only (Casualty or Uninjured)	0	0%	0	0%	0	0%
Special Codes	1	7%	0	0%	1	4%
Total	14	100%	9	100%	23	100%

Winterstoke Road / Luckwell Lane / Marsh Lane

A total of 9 collisions were recorded across the 60-month period at the Winterstoke Road / Luckwell Lane / Marsh Lane junction resulting in 1 serious and 7 slight injuries. Of the 9 collisions, 2 involved a pedestrian and 4 had a motorcyclist involved. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 9 collisions, the majority of casualties involved the car driver/passenger and motor cyclists (4);
- From the 9 collisions, there were 17 contributory factors. 6 of these were recorded as 'very likely' and 11 as 'possible'.
- 53% of the contributory factors attributed were recorded as 'Driver / rider error or reaction'. The remaining 47% of factors were mostly comprised of 'Injudicious action' (18%);
- 60% (6) of the collisions involved a vulnerable road user.
- Year 4 had the highest amount of collisions with 4 recorded. Year 1, year 2 and year 3 each had 1 collision, year 5 had 2 collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 10**.

Table 10: Winterstoke Road / Luckwell Lane / Marsh Lane Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	0	0%	0	0%	0	0%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	1	17%	2	18%	3	18%
Driver/ Rider Error or Reaction	4	67%	5	45%	9	53%
Impairment or Distraction	0	0%	2	18%	2	12%
Behavior or Inexperience	0	0%	2	18%	2	12%
Vision Affected by	0	0%	0	0%	0	0%
Pedestrian Only (Casualty or Uninjured)	1	17%	0	0%	1	6%
Special Codes	0	0%	0	0%	0	0%
Total	6	100%	11	100%	17	100%

Blackmoors Lane / Clanage Road

A total of 9 collisions were recorded across the 60-month period at the Blackmoors Lane / Clanage Road junction resulting in 9 slight injuries. Of the 9 collisions, 2 involved a pedestrian and 3 involved a cyclist. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 9 collisions, the majority of casualties involved the car driver/passenger (4);
- From the 9 collisions, there were 14 contributory factors. 12 of these were recorded as 'very likely' and 2 as 'possible'.
- 50% of the contributory factors attributed were recorded as 'Driver / rider error or reaction'. The remaining 50% of factors were mostly comprised of 'Injudicious action' (21%) and 'Pedestrian only' (14%);
- 56% (5) of the collisions involved a vulnerable road user.
- Year 5 had the highest amount of collisions with 4 recorded. Year 1 and year 2 had 1 collision, year 3 had 2 collisions and year 4 had 1 collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 11**.

Table 11: Blackmoors Lane / Clanage Road Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	0	0%	1	50%	1	7%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	3	25%	0	0%	3	21%
Driver/ Rider Error or Reaction	6	50%	1	50%	7	50%
Impairment or Distraction	0	0%	0	0%	0	0%
Behavior or Inexperience	1	8%	0	0%	1	7%
Vision Affected by	0	0%	0	0%	0	0%
Pedestrian Only (Casualty or Uninjured)	2	17%	0	0%	2	14%
Special Codes	0	0%	0	0%	0	0%
Total	12	100%	2	100%	14	100%

Plimsoll - Swing Bridge

A total of 8 collisions were recorded across the 60-month period at the Plimsoll Swing Bridge resulting in 2 serious and 6 slight injuries. Of the 8 collisions, 2 involved a pedestrian, 1 involved a cyclist and 2 had a motorcyclist involved. On further analysis of the collisions that occurred at this junction, the following can be concluded:

- Within the 8 collisions, the majority of casualties involved the car driver/passenger (3);
- From the 8 collisions, there were 17 contributory factors. 13 of these were recorded as 'very likely' and 4 as 'possible'.
- 53% of the contributory factors attributed were recorded as 'Driver / rider error or reaction'. The remaining 47% of factors were mostly comprised of 'Road environment (18%);
- 63% (5) of the collisions involved a vulnerable road user.
- Year 2, 3, 4 and 5 had the highest amount of collisions with each having 2 recorded. Year 1 had no collisions.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 12**.

Table 12: Plimsoll Swing Bridge Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	2	15%	1	25%	3	18%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	2	15%	0	0%	2	12%
Driver/ Rider Error or Reaction	8	62%	1	25%	9	53%
Impairment or Distraction	0	0%	0	0%	0	0%
Behavior or Inexperience	1	8%	0	0%	1	6%
Vision Affected by	0	0%	0	0%	0	0%
Pedestrian Only (Casualty or Uninjured)	0	0%	0	0%	0	0%
Special Codes	0	0%	2	50%	2	12%
Total	13	100%	4	100%	17	100%

Hotwell Place / Pembroke place

A total of 8 collisions were recorded across the 60-month period at the Hotwell Place / Pembroke Place junction resulting in 2 serious and 6 slight injuries. Of the 8 collisions, 2 involved a pedestrian and 1 involved a cyclist and 2 involved a motorcyclist. On further analysis of the collisions that occurred at this junction the following can be concluded:

- Within the 8 collisions, the majority of casualties involved the car driver/passenger (3);
- From the 8 collisions, there were 12 contributory factors. 4 of these were recorded as 'very likely' and 8 as 'possible'.
- 84% of the contributory factors attributed were recorded as 'Driver / rider error or reaction'. The remaining 16% of factors were mostly comprised of 'Vision affected by' (8%) and 'Special codes' (8%);
- 63% (5) of the collisions involved a vulnerable road user.
- Year 1 had the highest amount of collisions with 4 recorded. Year 2 and year 4 had 2 collisions and year 3 and year 5 had 1 collision.

A summary of the collision contributory factors for the junction's cluster is provided in **Table 13**.

Table 13: Hotwell Place / Pembroke Place Factor Review

	Contributory Factor					
	Very Likely		Possible		Total	
Road Environment	0	0%	0	0%	0	0%
Vehicle Defects	0	0%	0	0%	0	0%
Injudicious Action	0	0%	0	0%	0	0%
Driver/ Rider Error or Reaction	3	75%	7	88%	10	84%
Impairment or Distraction	0	0%	0	0%	0	0%
Behavior or Inexperience	0	0%	0	0%	0	0%
Vision Affected by	0	0%	1	13%	1	8%
Pedestrian Only (Casualty or Uninjured)	0	0%	0	0%	0	0%
Special Codes	1	25%	0	0%	1	8%
Total	4	100%	8	100%	12	100%

Conclusion

Analysis of the collision records has not identified any specific concern regarding the geometric design / road layout of the local highway network. There are no re-occurring patterns of the frequency of severity of collisions recorded. The data does not highlight any specific concerns to clustering of collisions or locations within the study area.

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