

**HIGHWAYS & TRANSPORT
TRAFFIC & NETWORK MANAGEMENT**

**BRADFORD ON AVON
(A363 / B3108 / B3109
& surrounding areas)**

**20mph Speed
Restriction Assessment**

Document Control Sheet

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1.0 Introduction and background

Following the publication of Wiltshire Council's policy for 20mph speed limits, the authority made a commitment to undertake assessments across the 18 Community Areas. Each of the Community Areas was requested to nominate a defined area for assessment during 2015/16.

The areas of Bradford on Avon adjacent to the A363, B3108 and B3109 routes have been identified by the Community Area Transport Group as possible locations for 20 mph speed restrictions.

This report assesses the feasibility of the above locations when considered in respect of the guidance contained in the following documents:

- i) "Wiltshire Policy on 20mph Speed Limits and Zones"; and,
- ii) The Department for Transport (DfT) Circular 01/2013 "Setting Local Speed Limits".

The full extent of the area selected to be studied is set out in Appendix A.

2.0 Data Collection

Average speed and volume of traffic was recorded using a device called a Metrocount. This is a roadside unit with sensors placed across the road. Metrocounts were installed at various locations throughout Bradford on Avon and operated during the period 28th November – 4th December 2015.

The data from each Metrocount has been used to identify free flow traffic speeds. Peak time speeds (08.00 to 09.00 and 15.00 to 18.00) have been discounted as volumes of traffic and instances of queuing during those periods are factors that do not realistically represent free flow conditions. The exact location of each counter is identified in Appendix A. The locations have been separated into Bradford on Avon North and South in the following two tables:

Table 1 below sets out a summary of the free flow speeds of each Metrocount for Bradford on Avon North:

Metro Count Number	Total Traffic Volume (annual average daily traffic)	85th %ile Speed (mph) – off peak	Mean Average Speed (mph) – off peak
1	10194	29.9	25.9
2	10268	28.6	25.6
3	8584	29.0	25.5
4	8634	33.0	28.3
5	630	24.0	20.7
6	1113	27.6	22.7
7	5790	29.4	26.0
8	5924	29.9	26.4
9	8195	26.8	23.1
10	8137	26.1	22.8
11	15082	29.6	25.9

Table 1 – Summary of metrocount results Bradford on Avon North

Table 2 below sets out a summary of the free flow speeds of each Metrocount for Bradford on Avon South:

Metro Count Number	Total Traffic Volume (annual average daily traffic)	85th %ile Speed (mph) - off peak	Mean Average Speed (mph) – off peak
1	9378	32.9	28.1
2	9253	34.7	29.5
3	9214	32.7	27.7
4	5646	26.3	22.9
5	5624	29.5	25.8
6	8648	28.9	25.2
7	9078	28.9	25.2
8	14772	28.6	24.3
9 (Southbound)	3465	20.7	17.9
10 (Southbound)	3645	27.0	23.6
11 (Southbound)	3607	29.7	25.1

Table 2 – Summary of metrocount results

3.0 Collision Data

An investigation into the Police Collision Database shows there have been 11 recorded Personal Injury Collisions (PICs) in Bradford on Avon North, resulting in 13 injuries in the 6 years prior to this report. During the same period in Bradford on Avon South there were 16 PICs, resulting in 19 injuries.

A detailed location plan of the incidents is included at Appendix B. The table below shows the summary of personal injury collisions in the last 6 years in both Bradford on Avon North and South:

	Slight injury	Serious injury	Fatal injury
Pedal cyclist	2	1	0
Motorcyclist	0	0	0
Driver / Passenger	4	0	0
Pedestrian	6	0	0
Total	12	1	0

Table 3 PICs in Bradford on Avon North

	Slight injury	Serious injury	Fatal injury
Pedal cyclist	6	0	0
Motorcyclist	4	1	0
Driver / Passenger	6	0	0
Pedestrian	2	0	0
Total	18	1	0

Table 4 PICs in Bradford on Avon South

4.0 Analysis against Wiltshire Council Policy

It is important to remember that all speed limits should be set where it can be expected that overall compliance with the limit can be realistically achieved. There is no expectation that higher speeds can be reduced merely through the provision of signs; it is likely that hard engineering measures would be necessary, such as alteration to the road layout and/or road humps.

There are two different types of 20mph speed restriction – a 20mph Zone and a 20mph Speed Limit.

Wiltshire Council policy has taken into account the experience gained from previous studies into 20mph speed limits and zones, as well as the guidance from DfT Circular 01/2013. The Wiltshire policy identifies options to consider when implementing 20mph zones and limits within the county:

20mph Zones:

20mph zones are defined as areas subject to a 20mph speed restriction which cover a number of roads and is supported by the appropriate traffic order and signs.

Typically there will be traffic calming measures at regular intervals throughout the zone to ensure that speeds remain reasonably consistent in the area. These could include the introduction of road humps and raised junctions, as well as build outs, chicanes and pinch points.

20mph zones to be considered where:

- Roads are already restricted to a 30mph speed limit
- A proven history of road user conflict with vulnerable users such as child pedestrians is apparent.
- New residential developments have been introduced.
- There is an alternative existing route, enabling drivers to avoid the zone.
- On major streets, there are significant numbers of pedestrian or bicycle journeys that are considered to outweigh the disadvantage of longer journeys for motorists.

20mph Speed Limits:

20mph limits are defined as streets where the speed restriction has been reduced to 20mph but where there are no physical calming measures. Drivers are alerted to the restriction by the use of terminal and repeater signs only.

20mph Speed Limits to be considered where:

- Mean before speeds are at or below 24mph (if they are just above this threshold lighter touch engineering measures to reduce speed may be implemented)
- Roads do not have a strategic function or where motor vehicle movement is not the primary function.
- On major streets there are significant numbers of pedestrian or bicycle journeys that are considered to outweigh the disadvantage of longer journeys for motorists.
- In rural areas the location, in addition to the above conditions, meets the definition of a village as set out in Traffic Advisory Leaflet "01/04 – Village Speed Limits".

5.0 Analysis

The A363 is a strategic route from Trowbridge to Bath and beyond, to the M4. This is demonstrated by the number of vehicles using the road: an average daily traffic flow of 15,082 vehicles being recorded near Christ Church with 14,772 vehicles being recorded on Frome Road near the railway bridge. In addition, the B3108 Winsley Road records an average daily traffic flow of 10,268 vehicles near the junction of Huntingdon Place. These figures demonstrate the importance of the roads in question as strategic routes for vehicular movement.

The A363 is the main north/south route through Bradford on Avon and its primary function is the movement of motor vehicles. Since it is an A class road the use of physical traffic calming features is not permitted. On both Trowbridge Road and Bath Road the recorded free flow vehicle speeds are well above the threshold level for a 20mph limit. While it is recognised that a level of pedestrian and bicycle movement takes place on both roads the numbers are not considered to be high. The use of lighter touch engineering measures is unlikely to reduce free flow speeds to a level where a 20mph limit would be successful.

The speeds recorded on St Margarets Street, Junction Road and Frome Road (on the length from Junction Road to St. Margarets Street) would meet the criteria for a 20mph limit. However these roads are all classed as A363 and, as previously stated, their primary function is to facilitate the movement of motor vehicles. However, it can be argued that in such close proximity to the town centre the number of pedestrian and cycle movements would be comparatively high; consequently, with speeds already at a low level, no additional delay to motorists would be incurred if a 20mph limit were to be introduced.

The B3109 Frome Road is similar in that its primary function is to facilitate the movement of motor vehicles. However, since vehicle speeds are already contained by virtue of alignment, topography and existing physical traffic calming features it can be argued that no additional delay would occur if a 20mph limit with light touch measures were to be introduced. In addition, the length of Frome Road in the vicinity of the Canal Bridge is subject to high levels of pedestrian and cycle movements.

The recorded speeds along the B3109 at Mount Pleasant and Sladesbrook are relatively low but this is due chiefly to the relative shortness of the lengths of road in question, together with the speed reducing effect of on-street parking. While the introduction of short sections of 20mph on these lengths may be possible it is necessary to consider possible future changes to overall traffic management arrangements within the town centre (potential full or partial one way working in Market Street/Masons Lane) as this would have a significant effect on both Mount Pleasant and Sladesbrook, in terms of vehicle speeds and volumes.

The average vehicle speeds recorded along the B3108 Winsley Road are between 25.5 and 25.9mph. A 20mph speed limit cannot therefore be recommended without the introduction of additional physical measures. The character of Winsley Road in terms of width and alignment is more conducive to the free flow of traffic, with good forward visibility and little on-street parking. The use of lighter touch engineering measures is unlikely to reduce free flow speeds to a level where a 20mph limit would be successful and the use of physical traffic calming measures cannot be recommended. While pedestrian and cyclist movements take place they are predominantly transverse rather than longitudinal in nature.

The main roads serve numerous residential roads that are considered suitable for 20mph speed limits without the need for further engineering measures. The following residential roads qualify for such consideration:

Berryfield Road
Christchurch Road

Palmer Drive
Sladesbrook Close
Leigh Park Road
Bancroft
Bainton Close
Priory Close
Priory Park
Jones Hill
Southleigh
Elms Cross
Spencers Orchard
Poulton
Culver Road
St Laurence Road
Loddon Way
Widbrook View
Southville Road
Southville Close
St Aldhelm Road
Mythern Meadow
Avonfield Avenue
Kingstone Avenue
Downavon
Avon Close
Greenland View
Regents Place
Upper Regents Park
St Margarets Hill

6.0 Conclusion / Recommendation

Based on the foregoing analysis a case can be made to restrict the speed of traffic to 20mph along limited lengths of some strategic roads. It is emphasised that this would be a departure from the adopted Wiltshire Policy but it is considered that there is sufficient justification.

In addition to the residential roads listed above the following strategic roads are considered suitable for special consideration with regard to the introduction of 20mph speed limits:

B3109 Frome Road – from a point adjacent to Elms Cross Drive to Junction Road
A363 St Margarets Street, Junction Road and Frome Road.

Outline plans of the above recommendations are set out in Appendix C and D.

7.0 Cost Estimate

The estimated costs of this scheme are set out in the table below, broken down into Bradford on Avon North and South.

Bradford on Avon – North

Item	Quantity	Approximate costs
New 20mph Terminal Points	3	£1600
20mph Repeater Signs	12	£2500
Traffic Management Costs		£500
Traffic Regulation Order Costs		£2000
	Total Costs	£6600

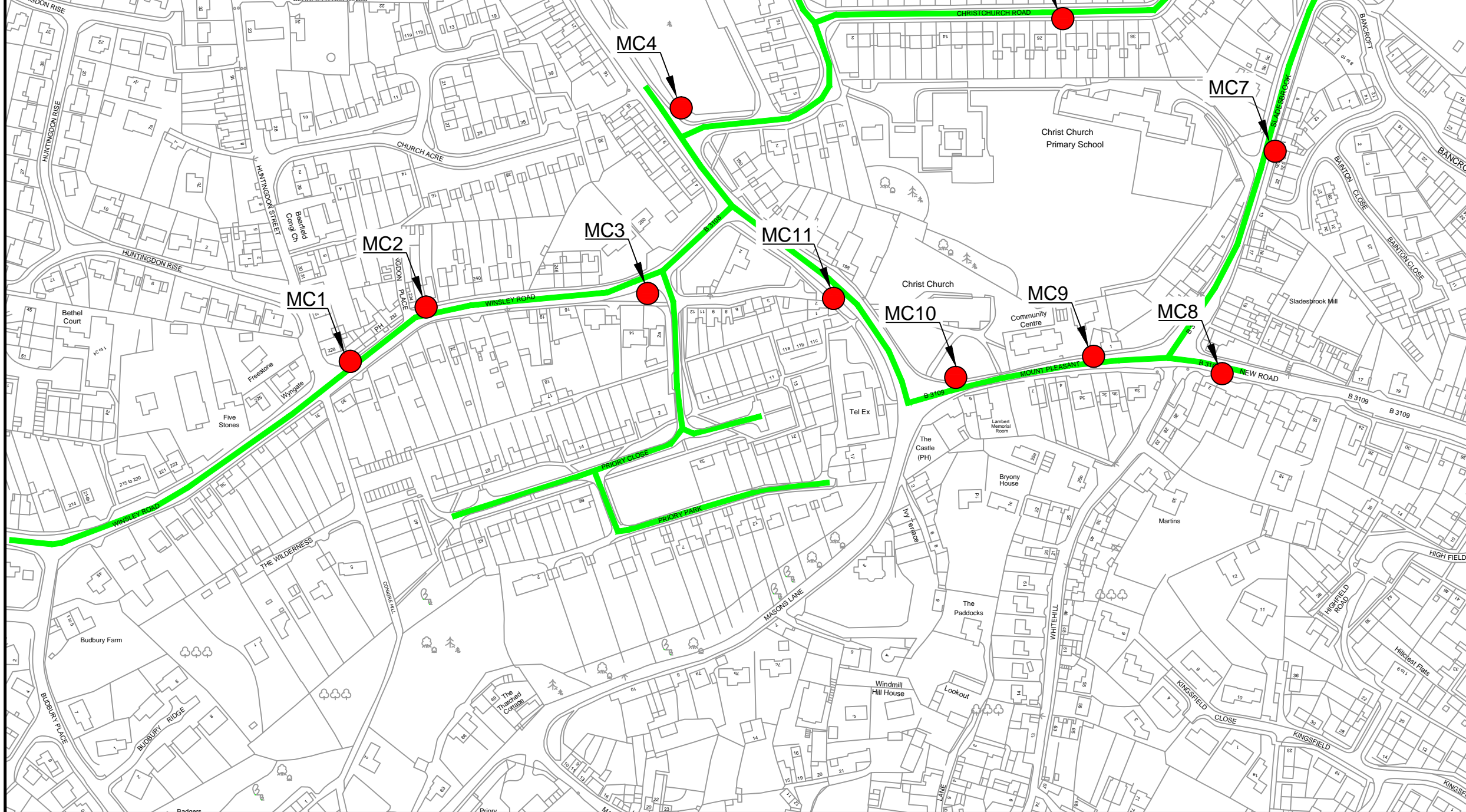
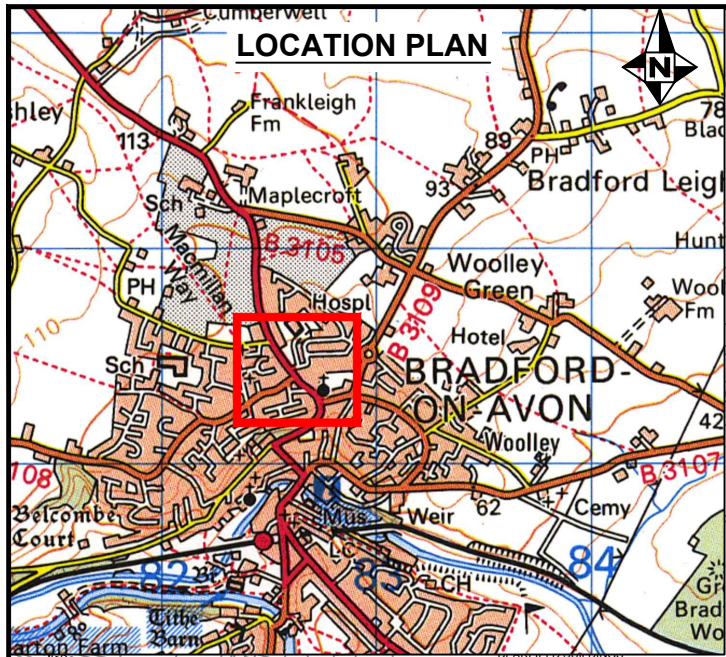
Bradford on Avon – South

Item	Quantity	Approximate costs
New 20mph Terminal Points	11	£5700
20mph Repeater Signs	28	£6000
Traffic Management Costs		£500
Traffic Regulation Order Costs		£2000
	Total Costs	£14,200

If both these schemes were agreed at the same time, the costs of the Traffic Regulation Order could be combined and therefore the estimated costs to complete both the areas together would be in the region of **£21,000**.

8.0 Appendix A

Requested area of assessment and exact locations of Metrocounts:



- NOTES: **Metro Count Locations:**
- MC1 - Attach to lamp column
 - MC2 - Attach to lamp column
 - MC3 - Attach to lamp column
 - MC4 - Attach to lamp column
 - MC5 - Attach to lamp column no.186
 - MC6 - Attach to lamp column
 - MC7 - Attach to lamp column
 - MC8 - Attach to lamp column/directional sign
 - MC9 - Attach to lamp column
 - MC10 - Attach to lamp column
 - MC11 - Attach to lamp column
 - █ Proposed extents 20mph limit

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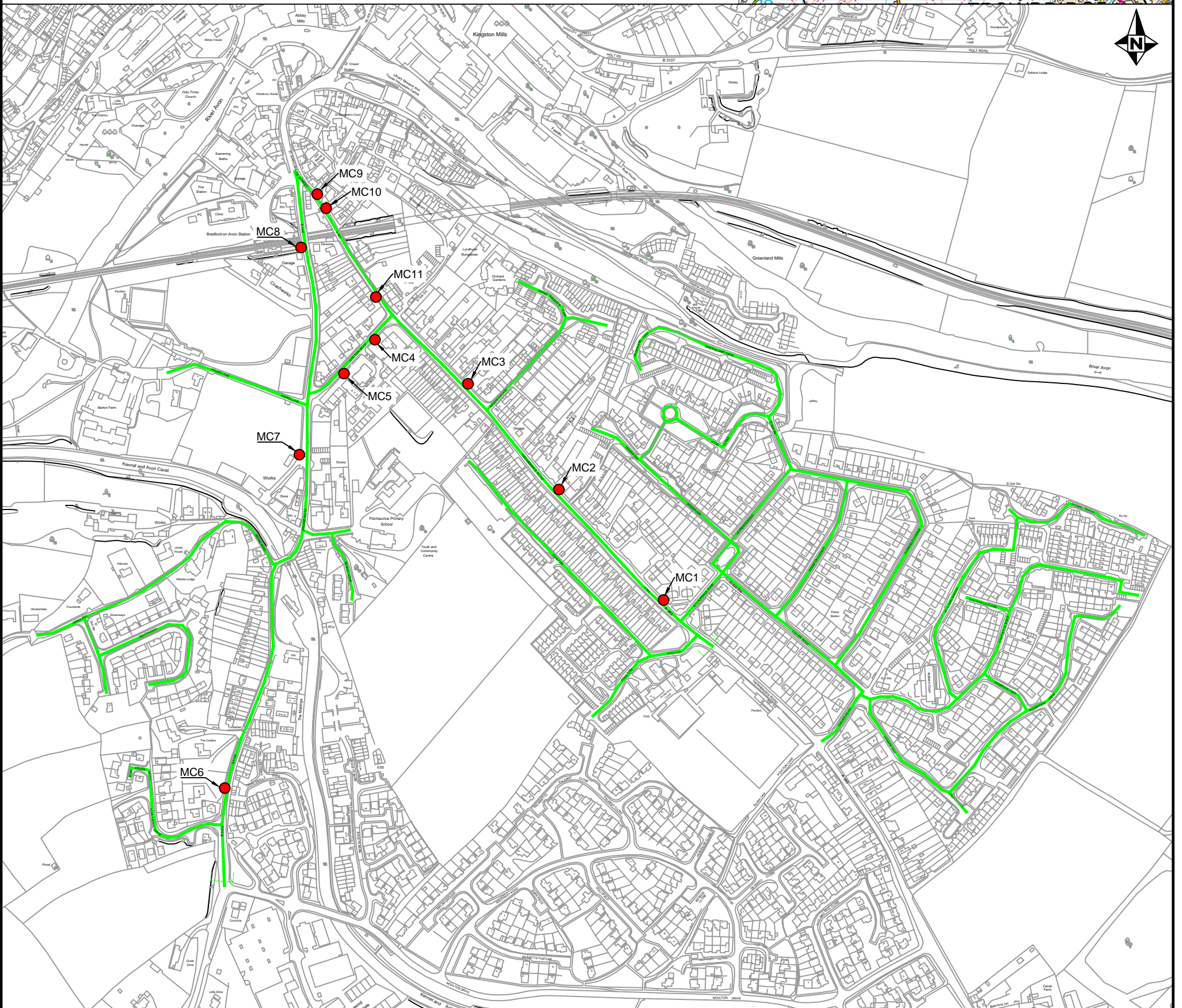
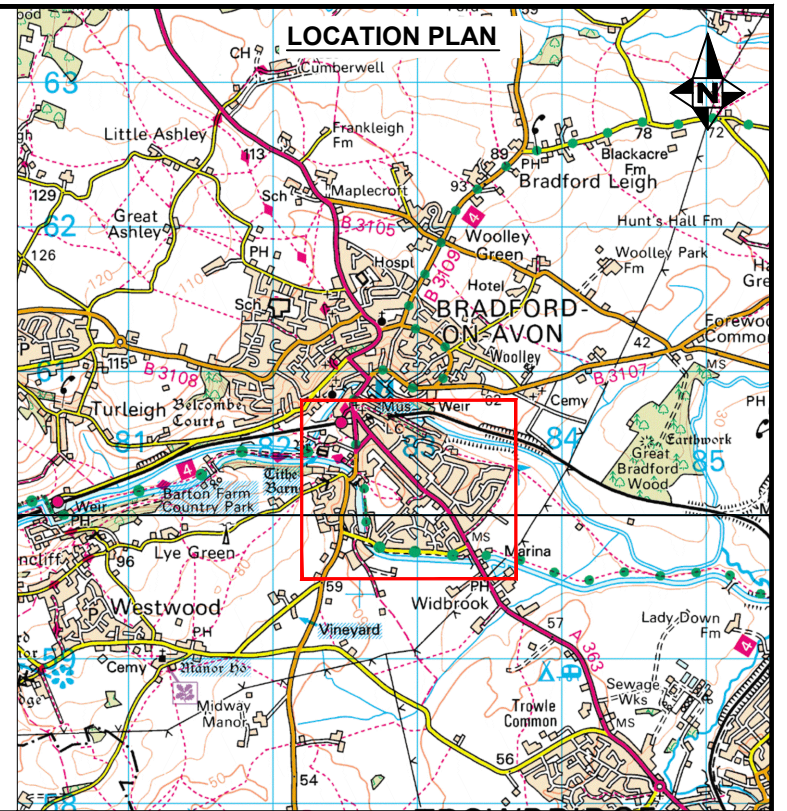
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Proposed Locations for Metro Counts
BRADFORD ON AVON - NORTH
APPENDIX A

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Locations of Metro Counts:

- MC1 - Attach to lamp column 112
 - MC2 - Attach to lamp column 108
 - MC3 - Attach to lamp column 103
 - MC4 - Attach to lamp column 3
 - MC5 - Attach to lamp column 5
 - MC6 - Attach to telegraph pole
 - MC7 - Attach to traffic sign
 - MC8 - Attach to traffic sign
 - MC9 - Attach to traffic sign
 - MC10 - Attach to lamp column
 - MC11 - Attach to lamp column 2
- Proposed area of 20mph Speed Limit



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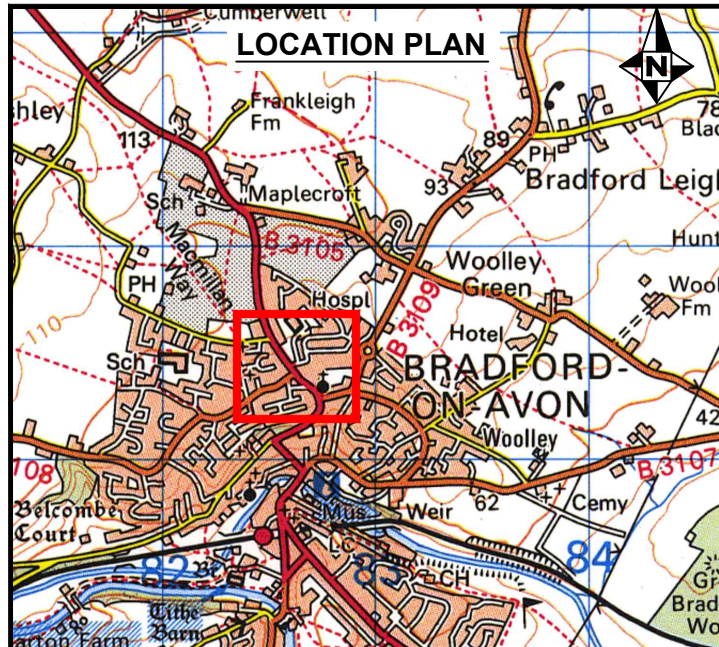
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9.0 Appendix B

Personal Injury Collisions: Sep 2009- Aug 2015.



★ Personal Injury Collisions:

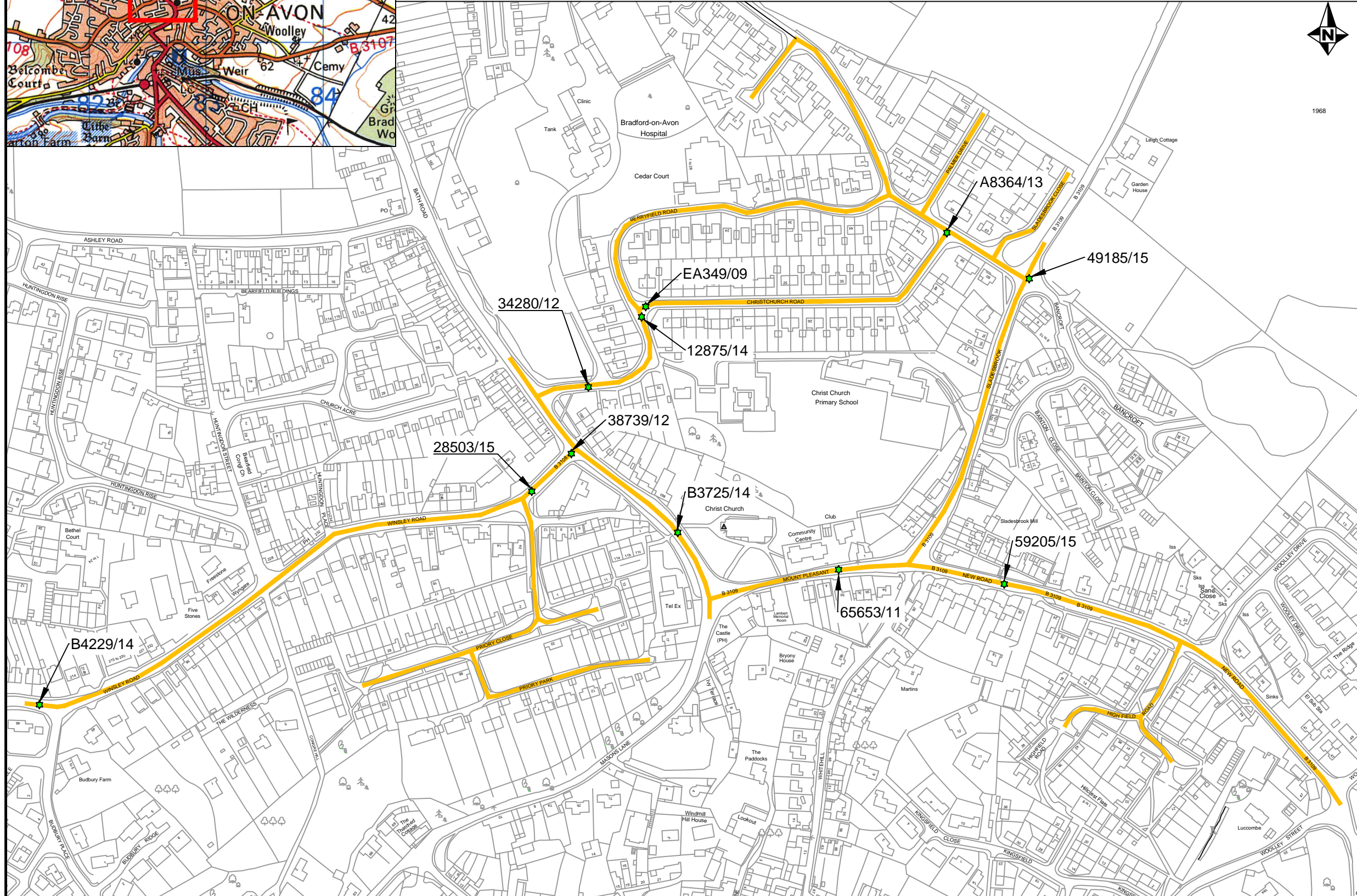
- A8364/13** - Cyclist approached junction preparing to turn right, vehicle failed to see the cyclist and offside wing mirror struck cyclist displacing rider (1 slight cyclist injury)
- 49185/15** - Driver suffered medical episode whilst approaching roundabout, continuing straight onto roundabout without stopping and collided with a van (1 slight driver injury)
- EA349/09** - Vehicle shunted another vehicle waiting to go ahead at junction (1 slight driver injury).

- 12875/14** - Vehicle waiting to turn left onto main road pulled out and collided with 2 pedestrians crossing from nearside (2 slight pedestrian injuries)
- 34280/12** - Vehicle collided with pedestrian emerging from behind parked cars (1 slight pedestrian injury).
- 38739/12** - Vehicle struck on roundabout (1 slight driver injury)
- 28503/15** - Pedestrian stepped in between slow moving vehicles and was struck (1 slight pedestrian injury)

- B4229/14** - Vehicle contravened red light at pelican crossing (1 slight pedestrian injury - child)
- 59205/15** - Car reversed into pedestrian (1 slight pedestrian injury)
- 65653/11** - Driver attempted to overtake cyclist, who was overtaking parked cars. Driver struck handlebars displacing rider. (1 serious injury - cyclist)
- B3725/14** - Car collided with a vehicle stopped at pelican crossing (1 slight injury).

NOTES:

Proposed area of 20mph speed limit



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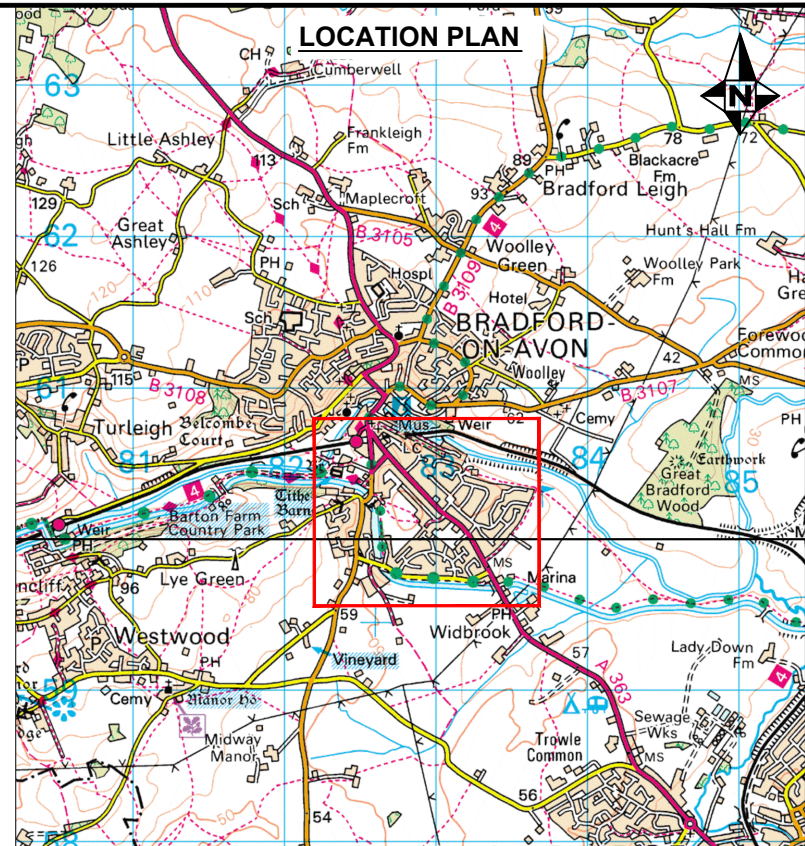
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 BRADFORD ON AVON - NORTH
 APPENDIX B

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Personal Injury Collisions:

- 60138/11** - Car collided with pedal cyclist on roundabout (1 slight injury to cyclist)
- 40543/12** - Pedal cyclist went into the back of a van who stopped at roundabout, displacing cyclist (1 slight injury to cyclist)
- 07847/12** - Car pulled onto roundabout and collided with motorcycle already on roundabout. (1 slight injury to motorcyclist)
- A5987/12** - Van attempted to overtake a group of cyclists and collides with one (1 slight injury to cyclist)
- 34881/13** - Car waiting to turn right into main road edges forward and motorcyclist collides with front of car (1 slight injury to motorcyclist)
- 45483/15** - After a previous road rage incident, pedal cyclist comes close to car to talk to driver. Car knocks driver off bicycle (1 slight injury to pedal cyclist).
- 61283/12** - Motorcycle following unknown vehicle. Unknown vehicle moves to nearside to allow vehicle traveling in opposite direction to pass, leaving motorcycle in path of vehicle (1 serious injury to motorcyclist).
- 22479/12** - Pedestrian walking on pavement was clipped on the arm by a passing vehicle (1 slight injury to pedestrian)

- 88563/13** - Car lost control on roundabout and collided with wall (1 slight injury)
- 72646/15** - Van attempted to overtake cyclist but cut back in too soon and collided with cyclist (1 slight injury to cyclist)
- 24571/15** - Car turned right into main road at speed without stopping and collided with motorcycle (1 slight injury to motorcyclist)
- 07876/13** - Car turned into the path of a bus causing bus to brake sharply (4 slight injuries to bus passengers and driver)
- 06539/12** - Motorcycle overtaking traffic in a queue collides with a car pulling out of queue as it passed alongside. (1 slight injury to motorcyclist).
- A3937/13** - Passenger boarding rear of parked vehicle is hit by the door of vehicle as car passes too close (1 slight injury)
- 48321/11** - Car collides with pedestrian who steps into carriageway to avoid oncoming pedestrians (1 slight pedestrian injury)
- 95903/11** - Car collides with pedal cyclist on roundabout (1 slight injury to cyclist)



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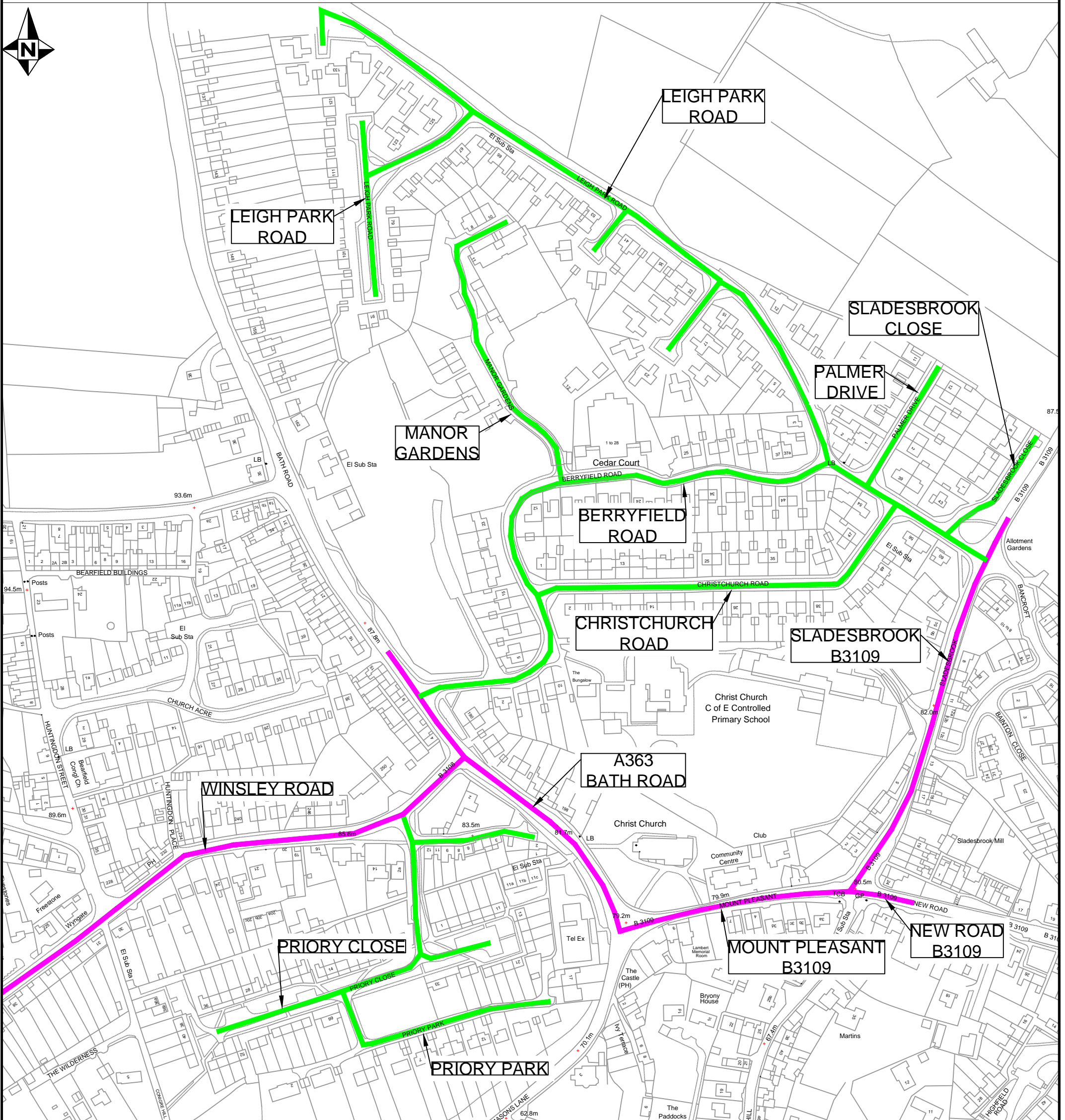
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10.0 Appendix C

Recommendations for the area of Bradford on Avon (North)

 Proposed 20mph Speed Limit

 Retain 30mph Speed Limit



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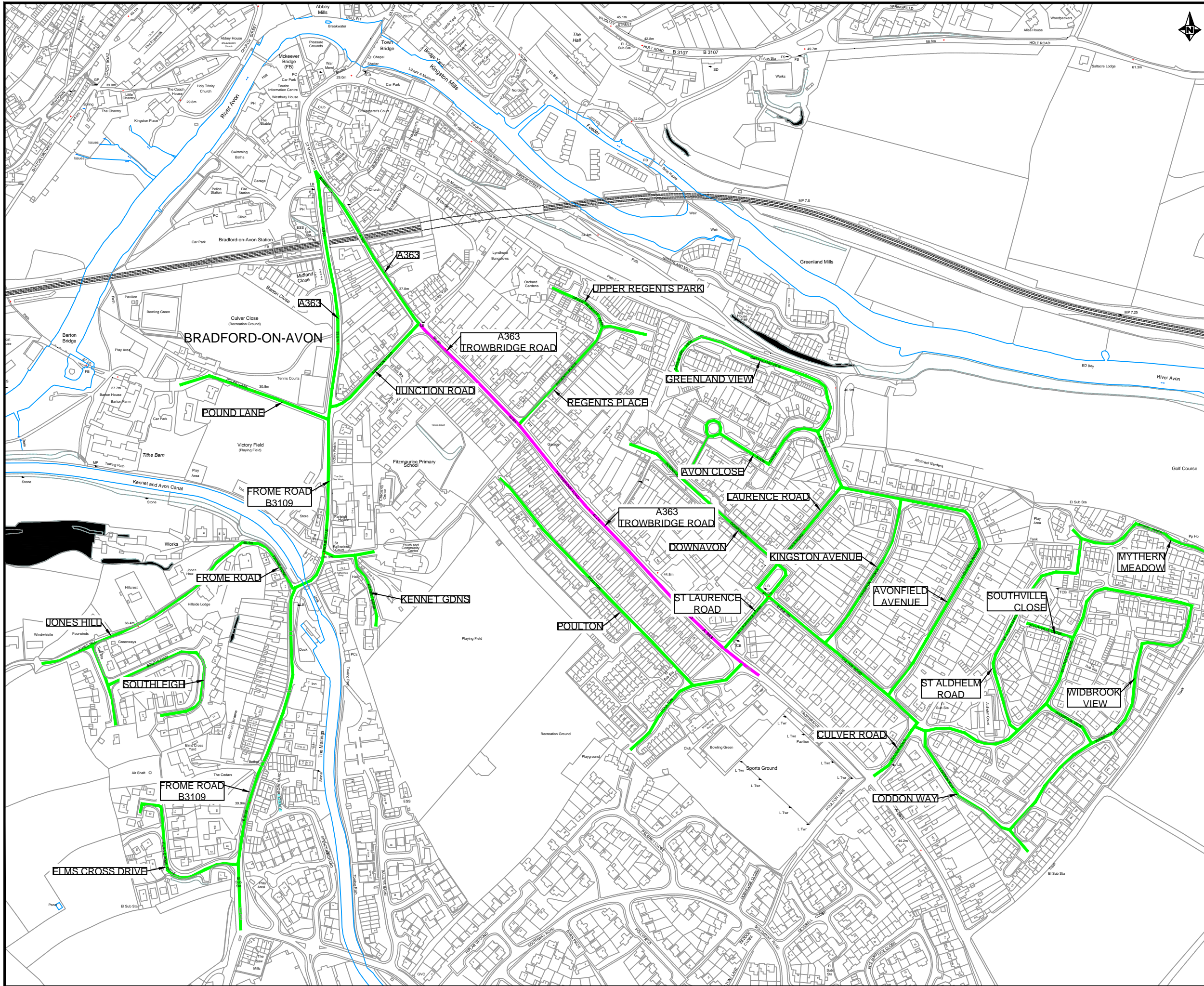
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11.0 Appendix D

Recommendations for the area of Bradford on Avon (South)



NOTES:

- █ Proposed 20mph Speed Limit
- █ Retain 30mph Speed Limit

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Bradford on Avon - South
Appendix D

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