

**DEPARTMENT OF NEIGHBOURHOOD & PLANNING  
TRAFFIC & NETWORK MANAGEMENT**

**A3102 Goatacre**

**Pedestrian Crossing Assessment**

# Document Control Sheet

**Project Title:** A3102 Goatacre Pedestrian Crossing

**Report Title:** A3102 Goatacre Pedestrian crossing assessment

**Revision:** Version 1

**Status:** Issue

**Date:** August 2011

## Record of issue

<b>Issue</b>	<b>Status</b>	<b>Author</b>	<b>Date</b>	<b>Check</b>	<b>Date</b>	<b>Authorised</b>	<b>Date</b>
<b>1</b>	<b>Issue</b>	<b>KW</b>	<b>08/08/11</b>	<b>GTR</b>	<b>09/08/11</b>	<b>MJS</b>	<b>09/08/11</b>
<b>2</b>							

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## **1.0 Introduction and background**

This report is in response to a request raised via the Calne Area Board issue system for the provision of a pedestrian crossing on The Green in the vicinity of the junction with Goatacre Lane. The issue was discussed at a meeting of the Community Area Transport Group, who considered it to be one of their priorities for 2010/11 and allocated funding to enable further investigation.

Goatacre is a village located to the north of Calne, and is predominantly residential. The A3102 runs through the centre of the village.

The A3102 is a principal road which links a number of towns in Wiltshire, including Calne, Lyneham, Wootton Bassett and on to Swindon.

With regards to significant local factors which are likely to affect traffic patterns, either pedestrian or vehicle, it is noted that there are bus stops serving both directions within the study area, and the Goatacre Manor Care Centre is located on the nearby Goatacre Lane. This is a 48 bed residential care facility for the elderly.

## 2.0 Data Collection

### 2.1 Site observations

A completed site assessment record can be found at **Appendix A**.

### 2.2 Pedestrian numbers

A pedestrian count survey took place on Wednesday 29<sup>th</sup> June 2011 to establish the numbers and locations of pedestrians currently crossing the road. The survey was carried out between 7.00 am to 7.00 pm by the Hilmarton and Goatacre Group Improving Safety. The survey recorded pedestrians crossing the A3102 in the vicinity of its junctions with Goatacre Lane and Quakers Walk.

A summary is shown below:

	Both Directions		ZONE
	AM (07.00-12.00)	PM (12.00-19.00)	TOTAL
<b>Number of Pedestrians</b>	31	27	58

Table 1: Pedestrian Survey Results

### 2.3 Traffic speeds and volumes

A traffic counter was placed on the A3102 from 29<sup>th</sup> April 2011 to 7<sup>th</sup> May 2011. Total volumetric flow and speeds were recorded. A summary is shown below.

	Both Directions
<b>Av. Speed (mph)</b>	34.5
<b>85<sup>th</sup>ile (mph)</b>	38.3
<b>Traffic Volume (vehicles per day)</b>	7818

Table 2: Traffic data

### 2.4 Collision data

An interrogation of the Police collision database indicates there have been no recorded personal injury collisions in the area of interest in the latest three year period up to the end of May 2011.

## 3.0 Analysis

### 3.1 *Formal crossing justification*

Current Wiltshire Council practise requires a minimum level of pedestrian flow before a formal crossing is considered. A minimum average level of 50 pedestrians per hour (counting vulnerable pedestrians as 2) over the four peak hours is required. The results show that the busiest periods of crossing movement took place from 7.00 to 8.00am, 8.00 to 9.00am, 9.00 to 10.00am, and 3.00 to 4.00pm.

During these time periods a total of 30 pedestrians crossed the road of which 17 were aged 18 and under or over 65. Counting these as 2 gives a total pedestrian movement of 47. When averaged over the 4 peak hours, this gives a figure of 12 pedestrians per hour and therefore a formal crossing, such as a signalised or zebra crossing cannot be considered.

The assessment table (Table 3) overleaf sets out the crossing options available.

Factor	Do nothing	Uncontrolled crossing	Refuge island	Zebra	Signalled crossing
Difficulty of crossing, average wait in seconds	0 – 30 seconds	0 – 30 seconds	0 – 15 seconds (crossing time split in to 2 movements)	1 to 5 seconds	1 to 3 seconds after end of minimum green period
Vehicle delay in peak periods	None	None	None	Limited due to low pedestrian numbers	Limited due to low pedestrian numbers
Road capacity	Not reduced	Not reduced	Not reduced	Will be reduced	Will be reduced
Crossing type appropriate for anticipated pedestrian numbers	N/A	Yes	Yes	No – See previous explanation	No – See previous explanation
Physical constraints	N/A	Would need to be carefully situated to ensure it does not interfere with property access and existing bus stops	A refuge island would need to be carefully situated to ensure it does not interfere with property accesses and existing bus stops	N/A	N/A
Budget construction costs*	£0	£3,000	£20,000	£25,000	£80,000
Does solution meet 85%ile speed criteria	N/A	Yes	Yes	No	Yes
Possible solution?	Yes	Yes	Yes	No	No
Appropriate solution?	Yes	Yes	Yes	No	No

Table 3: Crossing Options Assessment Table

*\*based on average costs – may vary according to site conditions*

It is felt that due to the width of the carriageway and vehicle speeds, the most appropriate informal crossing option for this location would be to provide a pedestrian refuge island.

## 4.0 Recommendation

It should be noted that the fundamental and overriding consideration when introducing any new pedestrian crossing is the safety of pedestrians. The justification for any pedestrian facility must be to make crossing the road safer for users. Pedestrian crossings do not automatically make crossing the road safer; moreover badly sited, underused or misused crossings can detract from road safety, as can an inappropriate choice of facility.

Taking into consideration the data collected, the site assessment, the crossing options available and the adopted Wiltshire Council practise for pedestrian crossings it is recommended that a pedestrian refuge sited to the north of the existing bus stops would provide the most appropriate measure to assist pedestrian movement.

It is recognised that the visibility requirements as set out in Local Transport Note 2/95 The Design of Pedestrian Crossings are not met at this location. However, the visibility requirements set out in the guidance note tend to be tailored toward formal crossings, such as Zebra or signal controlled facilities. It is felt that a refuge island in this location will have sufficient visibility for pedestrians and vehicles such that it does not have a detrimental impact upon pedestrian safety. A Road Safety Audit to formally assess the impact of the proposals on road safety will be undertaken as part of the detailed design process and any recommendations made by the auditor will be taken into consideration.

The introduction of a pedestrian refuge would require an extension to the footway into the verge on both sides of the carriageway to allow access to the refuge island. The pedestrian refuge island is to be sited such that it does not interfere with the dropped kerb property access on the eastern side of the carriageway or the existing bus stops. .

It is recommended at this stage that a 1.8m wide island be installed. This width of island is sufficient to accommodate bicycles and push chairs without them protruding into the carriageway. This will allow vehicle running lanes on either side of the island of 3.5m. The dimensions of the island may be subject to change dependant upon further detail design.

A plan outlining the recommendation is included in Appendix C.

The street lighting in this location should also be reviewed and upgraded in order to meet the required British Standard in association with the refuge island.



## 5.0 Appendix A – Site Assessment record

### Site Location:

**Carriageway Type:**            **Single**            Double  
   One-Way           **Two-Way**

No. of Lanes: 2

### Carriageway Width:

**Footway Width:**            Side one (East): 1.0m (verge 3.9m btw c/way and f/way)  
   Side two (West): 1.5m

**Refuge Island:**            Yes/**No**

### Road Lighting Standard – BS5489 classification

Is lighting below/above standard?            Below

Full assessment needed?            Yes

Are amendments to lighting needed?            Yes

### Minimum visibility

Pedestrian to vehicle:            To North: 40m            To South: 50m

Vehicle to crossing:            To North: 50m            To South: 40m

### Waiting/Loading/Stopping restrictions

At prospective site?            Yes/**No**

Within 50m of site?            Yes/**No**

### Public Transport stopping points

At prospective site?            **Yes**/No

Within 50m of site?            Yes/**No**

If yes provide details of approx locations etc: see plan in Appendix

### Nearby junctions

Distance to significant traffic junction            Toward Calne:            20m (junction with Goatacre Lane)

Toward Lyneham:            None

## **Other Crossings**

Distance to next crossing: n/a

**School crossing patrol** N/A

Distance if less than 100m: None

## **Carriageway skid risk / condition**

Does surface meet skid resistance requirements **Yes/No** (Visual only)

## **Surroundings (entrances within 100m)**

Hospital/Sheltered Housing etc **Yes/No**

School **Yes/No**

Post Office **Yes/No**

Railway/Bus Station **Yes/No**

Pedestrian leisure/shopping area **Yes/No**

Sports stadium/entertainment venue **Yes/No**

Junction with cycle route **Yes/No**

Equestrian centre/junction with bridal path **Yes/No**

Others – car park **Yes/No**

## **CROSSING TRAFFIC INFORMATION**

### **Flow and Composition**

Pedestrian Count: 58 crossing movements over 12 hours

Prams/Pushchairs: Not recorded

Elderly: 16 over 12 hours

Unaccompanied young children: Not recorded

Disabled: Not recorded

Crossing cyclist: Not recorded

Equestrians: Not recorded

Others: None

**Time to cross road**

Able pedestrians                      Approx 10 to 12 seconds

Elderly or disabled                      Approx 13 to 15 seconds

**Difficulty of crossing**

Able pedestrians                      Low                      **Average**                      High

Elderly/Disabled                      Low                      Average                      **High**

**Latent Crossing Demand**

Estimate                      **Unlikely**                      Likely                      Very Likely

**OTHER NOTES**

## 6.0 Appendix B - Types of crossing

Further detail on crossing types, the advantages and disadvantages of each type, and other details can be found in the Wiltshire Practise for Pedestrian Crossings. Below is a summary of the crossing types.

### Dropped kerb crossing

Dropped Kerb crossings consist of a localised lowering of the footway to carriageway level on either side of the road to provide a defined location for pedestrians to cross. Tactile paving can be provided to assist blind and partially sighted people to align themselves to the crossing direction. Where possible consideration should be given to combining dropped kerb crossings with footway build-outs to minimise the crossing width for pedestrians.

### Enhanced dropped kerb crossing

Enhanced dropped kerb crossings are as the standard dropped kerb crossing but in addition are provided with either or both bollards in the footways and coloured surfacing on the carriageway. The additional features help to define the crossing location to both pedestrians and motorists and highlight its presence. Bollard type and size is site specific to the location. In rural environments timber bollards are the preferred option whilst in urban area bollards can be timber, cast or composite. It is possible for signs to be fixed to the bollards giving road safety advice to pedestrians. The use of footway buildouts should be considered.

### Pedestrian Refuge Island

Pedestrian refuge islands consist of kerbing, bollards and signs in the middle of the road to enable pedestrians to cross more easily in two stages. Pedestrian refuges can provide a series of crossing points along a road where it would be impractical to install Zebras or signal controlled crossings at each crossing location. Pedestrians do not have priority at refuges and therefore the onus is on them to establish a safe gap in the traffic before crossing.

The absolute minimum width (across the road) for a pedestrian refuge is 1.2m, and the recommended minimum is 1.5m, although 2m is preferred to accommodate pushchairs, wheelchairs and cycles. The minimum through lane width for traffic is normally 3 to 3.5m. In certain circumstances, it may be possible locally to widen the road to accommodate a central refuge but this would obviously incur additional expense and should not result in substandard footway widths of less than 1.8m.

### Zebra Crossing

Zebra crossings are indicated by black and white bands painted on the road surface and by flashing orange "Belisha" beacons. Zigzag markings are provided on both approaches to alert drivers to the crossing and prevent parking. Drivers are required, under the Highway Code, to stop for pedestrians on Zebra crossings. Legally, pedestrians have to establish precedence by setting foot on the crossing.

Zebra crossings are considered inappropriate on high speed roads or roads with high volumes of traffic. They can also be inappropriate where heavy flows of pedestrians such as children leaving school would cause unacceptable delays to drivers. However, in town centres where the desire might be to discourage through traffic, Zebras are preferred especially as they are considered to be less visually intrusive than signal controlled crossings. Zebra crossings result in reduced delay to pedestrians when compared to signal controlled crossings and are therefore considered to be more

pedestrian friendly.

### **Signal controlled crossings**

Signal controlled crossings are particularly useful at locations where it is necessary to interrupt heavy and/or fast traffic flows to allow pedestrians to cross or where the pedestrian flow is so heavy that breaks are needed to allow vehicles to proceed.

Two types of stand alone signal controlled crossing are used in the UK. The older type is the Pelican crossing but this is gradually being superseded by the Puffin crossing. All new installations in Wiltshire are of the Puffin type.

### **Pelican crossing**

Pelican crossings are a stand-alone signal controlled crossing where pedestrians wishing to cross push a button to register a demand. The Pelican crossing has a far-side red/green man signal. Pedestrians are given a green man signal to cross the road and towards the end of this period the green man flashes. The advice in the Highway Code is that pedestrians should not begin to cross while the green man is flashing. Drivers are presented with the usual traffic light signals except for a flashing amber light that permits drivers to go if all pedestrians have cleared the crossing.

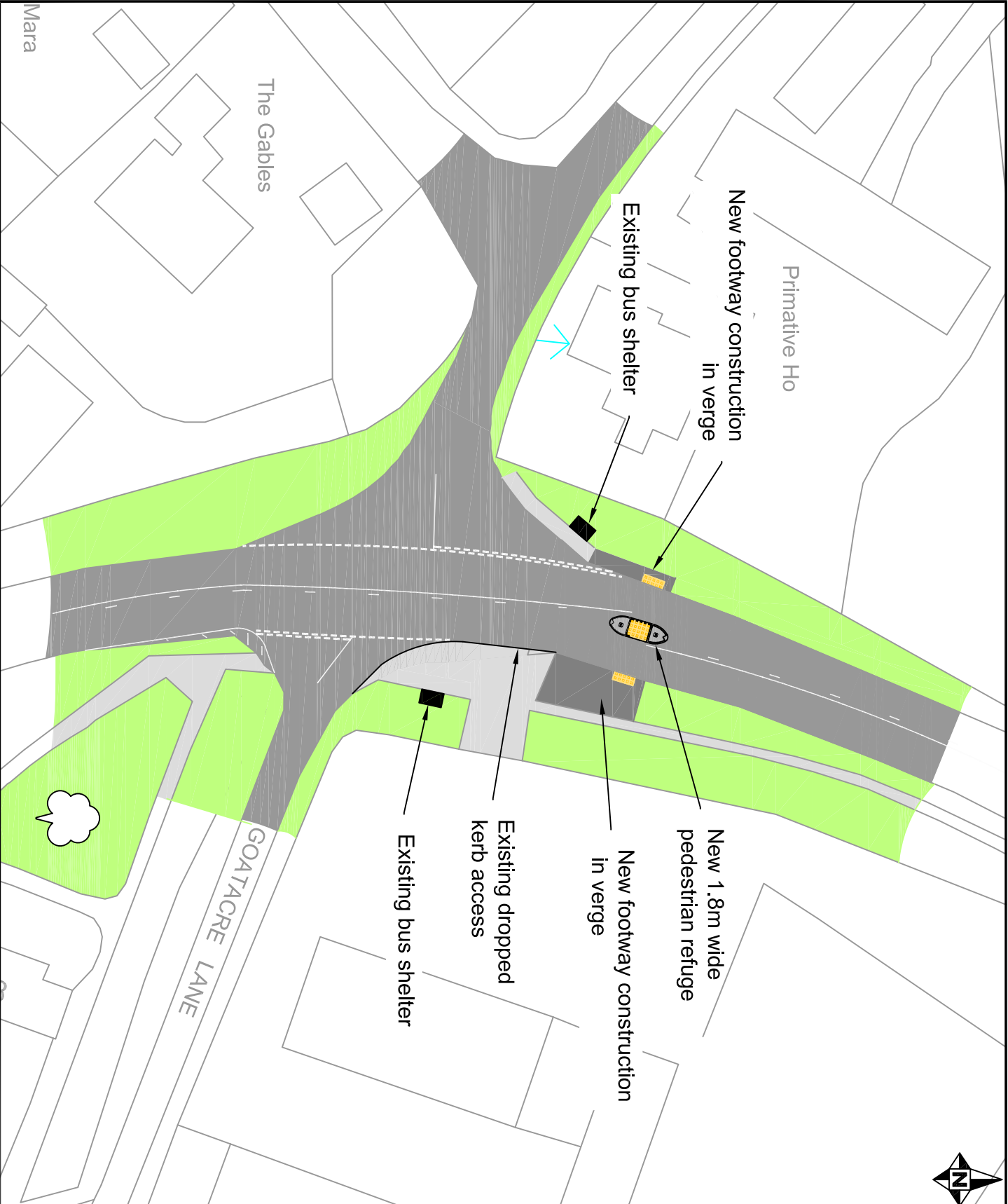
### **Puffin crossing**

Puffin crossings are the most modern type of signal controlled crossing and have been developed to overcome some of the shortcomings of the Pelican. Puffins have a near-side steady red/green man signal which can more easily be seen by pedestrians with sight difficulties. As the pedestrian signals are located on the near side and not visible to a pedestrian on the crossing, there is no confusion or anxiety caused by a flashing green man signal.

## **7.0 Appendix C – Recommendation Plan**



NOTES:  
 Dimensions and location of pedestrian refuge island subject to change dependant upon further design investigations



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E					
D					
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A					
0	08/11	KW	GR	GR	ORIGINAL
REV	DATE	BY	CHKD	APPD	DESCRIPTION

PROJECT:  
 A3102 Goatacre  
 CATG

DRAWING TITLE:  
 Pedestrian Refuge Island

SCALES	1:500	REV	0
DRAWING NO.	DD001.0		
FILE REF:	\\hds\proj\A3102\A3102.dwg		

## 8.0 Appendix D – Cost estimate of recommended option

Typical standard pedestrian refuge Including drop kerbs, Ducting, Road markings & Traffic Management	£10,000
Electrical / Street lighting works	£5,000
Additional Footway Construction	£2,000
Design fees	£1,700
<b>Total</b>	<b>£18,700</b>