

TRAFFIC ENGINEERING TEAM

**A4 Curzon Street, Calne
Pedestrian Crossing Assessment**



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Document Control Sheet.....	2
1.0 Introduction and background.....	4
2.0 Data Collection.....	5
2.1 Site observations.....	5
2.2 Pedestrian numbers.....	5
2.3 Traffic speeds and volumes.....	5
2.4 Collision data.....	6
3.0 Analysis.....	6
3.1 Formal crossing justification.....	6
4.0 Recommendation.....	8
5.0 Appendix A – Site Assessment record.....	9
6.0 Appendix B - Types of crossing.....	12
7.0 Appendix C – Pedestrian movement record.....	14

1.0 Introduction and background

This report is in response to a request raised via the Calne Community Area Transport Group for the provision of a pedestrian crossing on the A4 Curzon Street in the area of Savernake Drive.

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 in May 2014 to establish the numbers and locations of pedestrians currently crossing the road. The survey was undertaken between 0700 - 1900. The survey recorded pedestrians crossing Curzon Street over two zones located either side of the Savernake Drive junction.

A summary of the survey results is shown below:

	Both Directions		
	AM (07.00-12.00)	PM (12.00-19.00)	ZONE TOTAL
Zone A	32	17	49
Zone B	2	1	3
Total	34	18	52

Table 1: Pedestrian Survey Results

The busiest crossing locations in the two zones are shown on the plan at **Appendix C**.

2.3 Traffic speeds and volumes

A traffic counter was placed on Curzon Street in order to record volumetric flow and speeds. A summary is shown below.

	Both Directions
Av. Speed (mph)	25.6
85 th Percentile (mph)	33.35
Traffic Volume (vehicles per day)	17,414

Table 2: Traffic data

2.4 *Collision data*

An interrogation of the Police collision database indicates there have been no recorded personal injury collisions (PIC's) in the study area in the three year period prior to the preparation of this report.

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. In general, 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 within 'Zone A' took place between 7.00 to 8.00am, 8.00 to 9.00am, 15.00 to 16.00pm, and 16.00 to 17.00pm.

During these time periods a total of 30 pedestrians crossed the road of which 1 was aged 18 years and under or over 65. Counting these as 2 gives a total pedestrian movement of 31. When averaged over the 4 peak hours, this gives a figure of 8 pedestrians per hour.

Over the 4 pedestrian peak hours an average of 5298 vehicle movements per day was recorded. This equates to an average of 1 vehicle every 3 seconds during the peak hours of pedestrian movement.

When taking into consideration the number of pedestrians crossing, vehicle volumes, speeds and waiting time for pedestrians during peak hours, a formal crossing cannot be considered in this instance.

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 – 180 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	8-15 seconds	8-30 seconds
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	No
Physical constraints	N/A	None –	The available road width is not sufficient to accommodate a refuge island.	N/A	N/A
Estimated Budget construction costs*	£0	£5000	£20,000	£35,000	£80,000
Does solution meet 85%ile speed criteria	N/A	Yes	Yes	Yes	Yes
Possible solution?	N/A	Yes	No	No	No
Appropriate solution?	No	Yes	No	No	No

Table 3: Crossing Options Assessment Table – see Appendix B for information on crossing types

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

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 an enhanced uncontrolled crossing be provided within Zone A as close as is practical to the busiest crossing location recorded during the pedestrian surveys. It is however noted that this will have to take account of the existing bus stop and shelter provision that exists in this area.

5.0 Appendix A – Site Assessment record

Site Location: Curzon Street Calne

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

No. of Lanes: 2

Carriageway Width: approx 7.5m

Footway Width: Side one (North): approx 1.2 to 1.5m
Side two (South): approx 1.2 to 1.5m

Refuge Island: Yes/No

Road Lighting Standard – BS5489 classification

Is lighting below/above standard? above standard

Full assessment needed? No

Are amendments to lighting needed? No

Minimum visibility

Pedestrian to vehicle: To east: Greater than 80m To west: Greater than 80m

Vehicle to crossing: To west: Greater than 80m To east: Greater than 80m

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: Outbound bus stop and shelter located to western side of Savernake Drive

Nearby junctions

Distance to significant traffic junction Junction with Savernake Drive is in close proximity.

Other Crossings

Distance to next crossing: n/a

School crossing patrol No

Distance if less than 100m:

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 – The site is within 100m of a school.
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 bridlepath	Yes/No
Others – car park	Yes/No

CROSSING TRAFFIC INFORMATION

Flow and Composition

Pedestrian Count:	49 crossing movements in total
Prams/Pushchairs:	None
Elderly:	None
Unaccompanied young children:	1
Disabled:	None
Crossing cyclist:	None
Equestrians:	None
Others:	None

Time to cross road

Able pedestrians	Approx. 7 to 9 seconds
Elderly or disabled	Approx 10 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

None

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 build-outs 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 (Pedestrian User Friendly Intelligent) 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 – Pedestrian movement record

