

# **A245 Between Streets Cobham Pedestrian Improvements Feasibility Report**

**December 2017**



**SURREY**

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Pedestrian Improvements

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## 1. INTRODUCTION:

The Highways Design & Delivery Team was commissioned by the North East Area Highways Manager to undertake a study to investigate the feasibility of providing a new pedestrian refuge island on A245 Between Streets in Cobham, near the entrance to Painshill Park, together with safety improvements to assist pedestrian movement towards the High Street.

The study was funded by Elmbridge Local Committee at their meeting held on 19 December 2016.

This report considers the existing conditions at the site and evaluates three possible options for improvement.

## 2. SITE ANALYSIS:

### 2.1 Location

Cobham is a large village with a thriving commercial centre which is home to a number of businesses, shops, supermarkets, bars and restaurants. There is a 192 space pay and display car park owned by Elmbridge Borough Council, accessed from Hollyhedge Road/Downside Bridge Road, and this is regularly filled to capacity.

Cobham has excellent transport links, with A245 Between Streets linking the High Street with the A307 Portsmouth Road and the A3 at Painshill, to the west, and A245 Stoke Road linking it with Leatherhead Town Centre, to the east. Downside Bridge Road also provides a route from Cobham to the A246 in East Horsley, to the south.

A plan showing the local road network is shown in Figure 1 below.

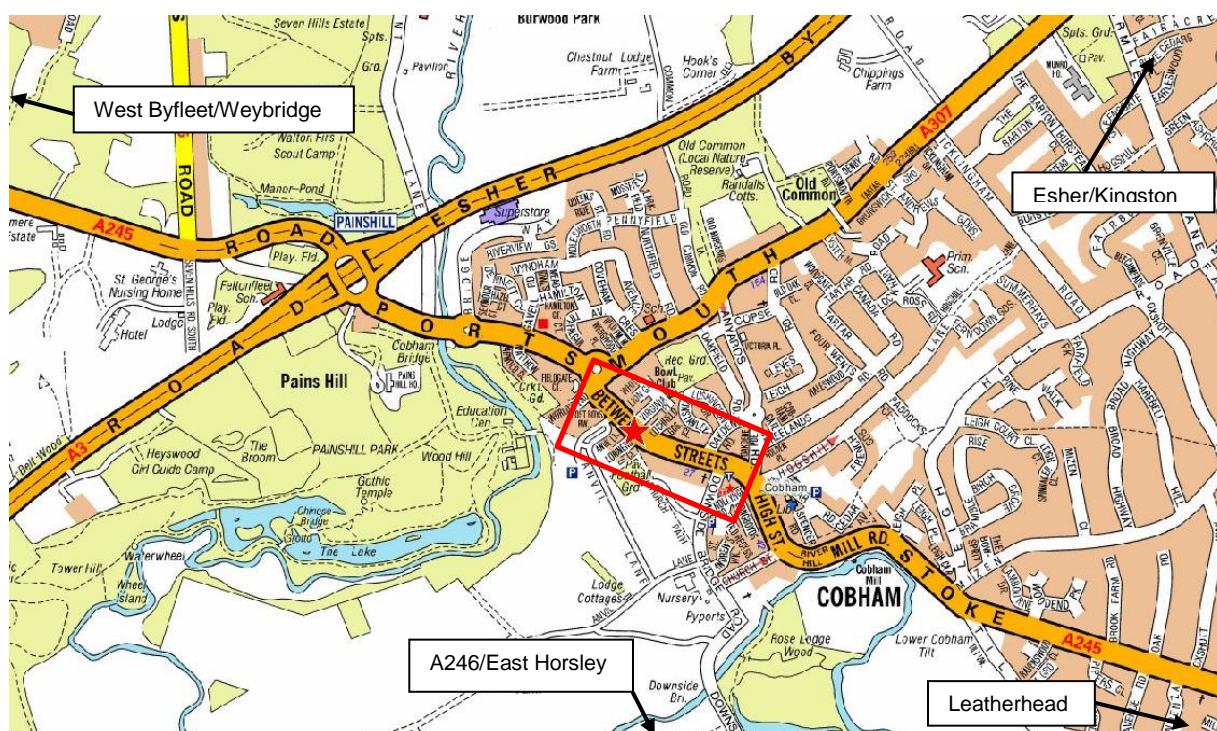


Figure 1 – Local Road Network

As a consequence of the village's location on the strategic road network, A245 Between Streets carries a high volume of traffic, including a significant proportion of commercial vehicles. This makes it potentially difficult for pedestrians, especially the elderly, those with disabilities, or children, to find suitable gaps in the traffic to cross the road safely without some form of assistance.

Painshill Park is an 18<sup>th</sup> century landscape garden restored and operated by Painshill Park Trust. Its main entrance is located in Between Streets at roughly its mid-point.

A bus stop is located close to the entrance to Painshill Park. Passenger Transport Group have confirmed that this stop is used by the following services:

- Route 715 (Stagecoach). Monday-Saturday service, running 28 journeys between 5.25am and 8.25pm.
- Route 408 (Epsom Buses). Monday-Friday only service, running 19 journeys between 6.35am and 7.20pm.
- Route 862 (Edward Thomas School Bus). Monday-Friday service, running three journeys.
- C1/C2 Chatterbus (The East Surrey Rural Transport Partnership). Monday-Friday service, running 13 journeys between 7.00am and 7.40pm. Saturday service, running 8 journeys between 8.50am and 4.15pm.

Cobham has a significant number of elderly residents. Cobham Centre is located in nearby Oakdene Road, providing services for local residents over 50 and the disabled. There is also a small estate of sheltered accommodation in Lushington Drive/Winstanley Close, operated by Elmbridge Housing Trust, and a number of private developments in Between Streets specifically, aimed at elderly residents, have been constructed in recent years. A footpath running parallel to Litchfield Gardens connects Between Streets with Winstanley Close, allowing residents to access bus services and the gardens at Painshill Park.

## 2.2 Existing Road Layout

A245 Between Streets is a single carriageway which varies in width from 6.8m at its western end, near Painshill Park, to 9.6m at its eastern end, at the ghosted island at the junction with Downside Bridge Road. The road follows a generally straight horizontal alignment with a single change in direction on a long-radius bend. The vertical alignment follows a relatively flat gradient with no significant changes in level.

The road is lit and subject to the urban national speed limit of 30mph. Waiting restrictions at any time (double yellow lines) are in operation over almost the entire length of the road, with the exception of the junctions with Oakdene Road and Downside Bridge Road where limited waiting restrictions (single yellow lines) are in operation Monday to Saturday 8.30am to 6.30pm.

Footway widths on the northern side of the road are generally 2.0m or greater for the entire length of the road. On the southern side, widths are again 2.0m or greater between Downside Bridge Road and property number 37, at which point they narrow noticeably to approximately 1.20m up to the junction with Painshill Park. This reduction in width was highlighted by several local residents during site visits.



There are a number of private driveways on the southern side of the road all of which are served by either single or shared vehicle crossovers. These are less frequent on the northern side as many of the original private houses have been replaced with developments served by a single access road.

For pedestrians walking from the western end of Between Streets towards the High Street, existing pedestrian crossing facilities are provided as follows:

- A staggered Zebra crossing on the eastern arm of the roundabout at the A307/A245 junction.
- An uncontrolled crossing (with tactile paving) across the splitter island on the southern arm of the roundabout at the A307/A245 junction.
- Uncontrolled crossings with pedestrian refuge islands within the ghost island opposite the junctions with Oakdene Road (2.0m wide x 1.2m deep, no tactile paving) and Downside Bridge Road (2.0m wide x 2.4m deep, no tactile paving).

Uncontrolled crossing facilities are also provided to assist pedestrians to cross side roads at both Oakdene Road and Downside Bridge Road. However, these are generally of sub-standard width and poor alignment with no tactile paving to help visually impaired pedestrians.

No formal crossing facilities are available for pedestrians between these existing facilities, a distance of approximately 430m.

A location plan showing the key existing features of the site together with site photos are shown in Figures 2-8 below.

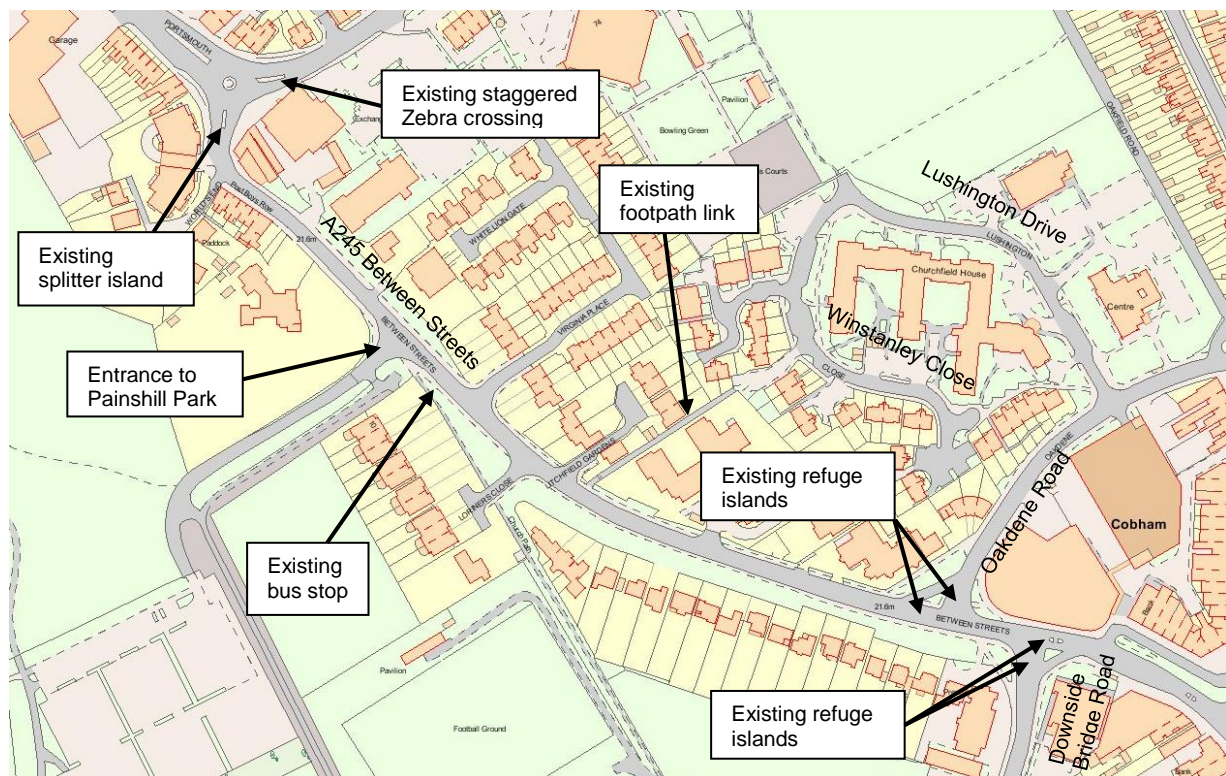


Figure 2 – Location Plan Showing Key Existing Features





Figure 3 – Photo A245 Between Streets (bus stop near to Painshill Park)



Figure 4 – Photo A245 Between Streets (J/W Loriner's Close)





Figure 5 – Photo A245 Between Streets (J/W Litchfield Gardens)



Figure 6 – Photo A245 Between Streets (J/W Cobham Grange)





Figure 7 – Photo A245 Between Streets (J/W Oakdene Road)



Figure 8 – Photo A245 Between Streets (J/W Downside Bridge Road)

### 3. DATA COLLECTION:

#### 3.1 Personal Injury Collision Data

Analysis of collision data for the most recent three-year period, between 1 January 2014 and 30 April 2017, shows a total of three personal injury collisions occurred on A245 Between Streets from the junction with A307 Portsmouth Road to the junction with Downside Bridge Road. Full details of the collisions are shown in Appendix A.

One of the collisions was serious in severity and two were slight. All the collisions occurred at different locations and at different times of the day. There is no clear pattern other than they all occurred at the weekend, two of them in the hours of darkness.

The serious collision occurred at the junction with Downside Bridge Road and involved a pedal cyclist.

One of the slight collisions occurred near the entrance to Painshill Park and involved a pedestrian under the influence of alcohol indirectly causing an incident that resulted in personal injury. The other involved an elderly pedestrian who was hit by a car while crossing Oakdene Road.

No collisions involving pedestrians crossing the A245 Between Streets have occurred during the last three years.

A summary of the data for the three collisions is tabulated below:

Description of Collision	Ref.	Severity	Conditions	Time/ Month	Year
Turning conflict with P/C at J/W Downside Bridge Road	EL15941/ 14	serious	light/dry	08.20 June	2014
Shunt by moped with stationary vehicle	EL20938/ 14	slight	dark/icy	23.17 Dec	2014
Conflict with pedestrian crossing J/W Oakdene Road	EL35830/ 15	slight	dark/wet	18.15 Dec	2015

Table 1 – Personal Injury Collision Data

When the police attend personal injury collisions they assess and log the contributory factors that lead to the collision. The table below shows all the factors that led to the collisions that have been recorded at this site during this period. Some collisions have more than one factors attributed to them.

Collision Contributory Factors	Number
No factors given	2
Failed to judge vehicle's path or speed	1

Table 2 – Collision Contributory Factors

The Police and Surrey County Council do not collect or hold 'damage only' collision data, and therefore any such incidents are not included in this summary. Injury categories are defined by the Department for Transport 'Instructions for the Completion of Road Accidents Reports from non-CRASH Sources' document, which can be found at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/230596/stats20-2011.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/230596/stats20-2011.pdf)



### 3.2 Speed

A manual speed survey was undertaken on Wednesday 4 October 2017 between 1.35pm and 2.35pm, using a hand held radar device. This was intended to provide an indicative measurement of existing speeds in free flow conditions. It should be noted, however, that free flow was not fully achieved during the survey due to a consistently high volume of traffic. Thus, speeds may not reflect the actual speeds of traffic at other times when the road network is less congested.

The full results are shown in Appendix B. A summary of the mean and 85<sup>th</sup> percentile speeds in each direction is tabulated below:

Location	85%ile (SE bound)	Mean (SE bound)	85%ile (NW bound)	Mean (NW bound)
Between Virginia Place and Litchfield Gardens	33	29	35	31

Table 3 – Traffic Speed Data (mph)

The results indicate that that average mean speeds are generally compliant with the limit currently in force.

### 3.3 Extent of Public Highway

The Highways Information Team was consulted to determine the extent of the publically maintainable highway along the route of A245 Between Streets. This information is shown in Appendix C.

The highway boundary typically extends to the adjacent property boundaries and includes the wide grass verge on the southern side of the road, as well the verge area around the junctions of Oakdene Road and Downside Bridge Road.

### 3.4 Pedestrians

A pedestrian count to establish demand and desire lines has not been undertaken as part of this study. If needed, a count could be arranged for the estimated cost of £750.

Site observations indicate that pedestrian traffic is moderate to low with infrequent crossing movements. Crossing facilities are provided at either end of Between Streets and in view of the high traffic volumes and limited availability of gaps, it is likely that pedestrians are reluctant to cross between these points unless they have a specific reason to do so.

As mentioned in para. 2.1 above, a footpath links the sheltered housing estate at Winstanley Close with A245 Between Streets, near to Painshill Park. A crossing there would provide a safe facility for pedestrians using this link to access both Painshill Park and the nearby bus stop. Also, it is roughly mid-way between the existing crossing facilities and would therefore provide a useful opportunity for other pedestrians to cross the road.

### 3.5 Cyclists

A traffic survey has not been undertaken as part of this study. However, site observations indicate that A245 Between Streets is well used by cyclists, especially at the weekend and in the summer months.

### 3.6 Utility Apparatus

New Roads and Street Works Act C2 enquiries were issued through Kier Services to determine the presence and location of utility apparatus. Record plans are referenced in Appendix D but have not been included in the report due to the amount of information received. If copies of these records are needed they can be provided on request.

Where proposed works could potentially affect existing utility apparatus, either necessitating diversion or protection works, further enquiries would need to be issued to the respective companies to establish the feasibility, cost and duration of such works. For that reason it is not possible to provide estimated costs at this stage.

## **4. DISCUSSION AND OPTIONS:**

Design options have been prepared to achieve the two main objectives of the brief.

- To provide a new pedestrian refuge island near to the entrance to Painshill Park.
- To provide safety improvements to assist pedestrian movement towards the High Street.

A 'do nothing' option has not been included in the study because, despite the absence of personal injury collisions associated with crossing the A245 Between Streets, there is a strong argument for at least making improvements to footway widths and other crossing facilities in the village, as these are currently sub-standard. Option 3 therefore aims to address the objective of providing pedestrian improvements only as a 'do minimum' option.

Design options have not yet been submitted for Stage 1 Road Safety Audit, nor have they been circulated to colleagues in Passenger Transport Group for their comments. The terms of reference for road safety audits are as described in Departmental Standard HD19/15 which can be found at: <http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol5/section2.htm>

It should be noted that designs have been based on OS mapping supplemented by site measurements. This would normally provide sufficient information to determine the feasibility of proposals. However, in situations where space is critical, the need for more accurate topographical information may be highlighted below.

Options 1 and 2 show alternative proposals for the construction of a new pedestrian refuge island. Because this is a route well used by cyclists, these options have been designed with particular reference to current cycle guidance/best practice, taking into consideration the class of road, the traffic conditions, and the speed of traffic.

Current guidance includes:

- Surrey County Council Cycle Facility designer Guidance (Draft)
- Design Guidance: Active Travel (Wales) Act 2013
- Traffic Advisory leaflet 1/97 – Cyclist at Road Narrowings
- Local Transport Note 2/95 – The Design of Pedestrian Crossings

In summary, guidance recommends the following:

- Pinch points/narrowings should be designed to avoid cyclists feeling squeezed or intimidated by vehicles following close behind.
- Lane widths at pinch points should be 4.0m minimum, 4.5m where the 85<sup>th</sup> percentile speed exceeds 30mph.
- Pinch points in the critical range between 3.1m and 3.9m should not be used (assuming a straight alignment – greater width might be required on bends).

#### 4.1 Option 1 – Pedestrian Refuge and Pedestrian Improvements

The measures proposed for Option 1 are shown on Drawing. Nos. PC0809/01 and 02.

This option includes the following features:

- A new pedestrian refuge island, located between the junctions of Virginia Place and Loriners Close, near to the Painshill Park entrance.
- Widening of the existing footway on the southern side of A245 Between Streets, between Painshill Park and property No. 37 to provide a continuous 2.0m facility.
- Reconstruction/widening of three pedestrian refuge islands at the A245/Oakdene Road/Downside Bridge Road junctions together with the introduction of tactile paving.

The proposed refuge island has been shown with a crossing width of 2.0m to allow sufficient space for two wheelchairs to pass and to provide adequate waiting space for pedestrians crossing the carriageway in two stages. An island width of 2.0m has also been shown to provide a comfortable depth for wheelchair users (with personal assistant). This dimension could possibly be reduced to an absolute minimum of 1.5m subject to Road Safety Audit.

Lane widths of 3.5m have been incorporated to accommodate the turning requirements of a pantechnicon making a left-turn out of both Virginia Place and Loriners Close. If either of these movements are not required then some reduction in this dimension might be possible. As the design stands, these lane widths just fall into the critical range that cycle guidance advises should not be used. Running lane widths of 3.2m have therefore been shown in both directions, which is consistent with existing widths further along the A245.

A swept path analysis for three vehicle types (car, refuse vehicle, pantechnicon) has been undertaken to ensure that the proposed refuge island would not impede or restrict any existing movements. This analysis is shown on Drawing No. PC0809/05. It is recommended that this analysis is confirmed by consulting local residents, in case there are any special turning movements that might need to be accommodated.

Visibility to and from the proposed crossing points satisfies at least the desirable minimum requirements shown in Table 1 of Local Transport Note 2/95.



Option 1 would require the carriageway to be widened into the highway verge by approximately 1.45m to allow for the proposed refuge island. It would also necessitate the relocation of the existing bus shelter. This shelter is an Adshell type, so relocation would need to be agreed with both Passenger Transport Group and Clear Channel.

At least one existing lighting column would need to be relocated and it is likely that a review of the current system of lighting would be necessary at detailed design stage to ensure that lighting meets current standards.

Utility apparatus likely to be affected include an above ground cable cabinet, duct box and route, as well as electrical service connections to the bus shelter and lighting column. This would need to be confirmed by New Roads and Street Works Act C3 enquiries if this option is progressed.

Widening of the footway leading into the High Street could be achieved within the existing highway verge.

Reconstruction and widening of the existing refuge islands at the A245/Oakdene Road/Downside Bridge Road junctions would require a more accurate topographical survey to check turning movements. However, it should be possible to install improvements that would make it much easier for visually impaired pedestrians to move around

Conclusion – Option 1 provides a refuge island close to Painshill together with pedestrian safety improvements. The pedestrian refuge island would necessitate carriageway widening, moving a bus shelter and diverting utility apparatus. Further surveys/enquiries to confirm demand, and investigation of the associated costs would need to be undertaken before a decision could be made if this option provides good value for money.

Approximate Construction Costs: £56,000 (excluding utility works, design/supervision fees, statutory procedures etc.)

## **4.2 Option 2 – Pedestrian Refuge and Pedestrian Improvements**

The measures proposed for Option 2 are shown on Drawing Nos. PC0809/03 and 04.

This option provides the same features as Option 1 but the refuge island is located near to Litchfield Gardens, opposite the footpath linking A245 Between Streets with Winstanley Close.

The proposed refuge island has been shown with a crossing width and island width of 2.0m as Option 1.

Lane widths of 3.8m have been incorporated to accommodate the turning requirements of a pantechnicon making a left-turn out of both Litchfield Gardens. If this movement are not required then some reduction in this dimension might be possible. As the design stands, these lane widths fall into the critical range that cycle guidance advises should not be used. Running lane widths of 3.2m have therefore been shown in both directions, which is consistent with existing widths further along the A245. These dimensions would need to be discussed and agreed with the road safety audit team if this option is progressed.

A swept path analysis for three vehicle types (car, refuse vehicle, pantechnicon) has been undertaken to ensure that the proposed refuge island would not impede or restrict any existing movements. This analysis is shown on Drawing No. PC0809/06. It is recommended that this analysis is confirmed by consulting local residents, in case there are any special turning movements that might need to be accommodated.

Visibility to and from the proposed crossing points satisfies at least the desirable minimum requirements shown in Table 1 of Local Transport Note 2/95.

Option 2 would require the carriageway to be widened into the highway verge by approximately 2.0m to allow for the proposed refuge island.

Two existing lighting columns would need to be relocated and it is likely that a review of the current system of lighting would be necessary at detailed design stage to ensure that lighting meets current standards.

Utility apparatus likely to be affected include a BT pole and duct box/route, as well as electrical service connections to the lighting column. This would need to be confirmed by New Roads and Street Works Act C3 enquiries if this option is progressed.

Conclusion – Option 2 provides a pedestrian refuge island near (but further away than Option 1) to Painshill together with pedestrian safety improvements. The pedestrian refuge island would necessitate significant carriageway widening and diversion of utility apparatus. Further surveys/enquiries to confirm demand, and investigation of the associated costs would need to be undertaken before a decision could be made if this option provides good value for money.

Approximate Construction Costs: £62,000 (excluding utility works, design/supervision fees, statutory procedures etc.)

### **4.3 Option 3 – Pedestrian Improvements Only**

The measures proposed for Option 3 are shown on Drawing Nos. PC0809/07 and 08.

This option provides the same footway widening and other pedestrian improvements as Options 1 and 2, but does not include a new pedestrian refuge island.

Conclusion – Option 3 does not fulfil the objective of the brief to provide a pedestrian refuge but does provide worthwhile safety improvements that would assist pedestrian movement between Painshill Park and the High Street. If further surveys/enquiries do not confirm demand for a pedestrian refuge island then this option would provide better value for money.

Approximate Construction Costs: £35,000 (excluding utility works, design/supervision fees, statutory procedures etc.)

## **5. SUMMARY AND RECOMMENDATION:**

The A245 Between Streets is a strategically important route on Surrey's highway network and carries a high volume of traffic. Consequently, this makes it difficult for pedestrians, especially those who are more vulnerable such as children, the elderly and those with visual impairment, to find suitable gaps to cross the road safely.

Formal uncontrolled crossing points are provided at either end of Between Streets but there are no intermediate facilities to assist pedestrians wishing to cross the road in the vicinity of Painshill Park and the nearby bus stop.

Site observations indicate that crossing demand is low, although this could be due to concerns regarding safety forcing pedestrians to cross only where formal facilities are provided.

The existing footway on the southern side of A245 Between Streets is sub-standard in width over a significant length. There is also an absence of tactile paving to assist visually impaired pedestrians at the junctions with Oakdene Road and Downside Bridge Road and the crossings are narrow and poorly aligned.

It is recommended that a pedestrian count is undertaken to measure the current level of use and the demand for a new crossing. Once this information is available, it should be possible to decide if there is sufficient justification to proceed with Options 1 or 2. If so, these designs should be developed further to determine which would be most useful and offer the best value for money.

If the pedestrian count does not establish a clear demand for a new crossing facility, it is recommended that Option 3 is developed and implemented to improve accessibility on the southern side of A245 between Streets and to upgrade the crossing facilities at the junctions with Oakdene Road and Downside Bridge Road.



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