East Sussex Highways
A partnership between:
COSTAIN CH2M Supporting East Sussex
East Sussex County Council

Feasibility Appraisal – Provision of Crossing Point on A259 near the Church of St Mary

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1. Introduction

1.1. East Dean and Friston Parish Council (EFPC), through the East Sussex Highways (ESH) Community Highways programme, has requested a feasibility study to be carried out to consider the viability of providing a pedestrian crossing point on the A259 in the vicinity of the Church of St Mary. This will help EFPC decide whether to make a formal application for Community Match funding later in 2017.

1.2. The purpose of this report is to consider options that may address the objectives EFPC wish to achieve and provide an indication of potential costs to implement such measures as well as risks to the delivery of a future scheme.

2. Objective of Scheme

2.1. As confirmed at a meeting between ESH and EFPC on 10 May 2017 the Parish would like to provide a facility to help pedestrians cross the A259 near the Church. A particular problem the Parish experience is for church services. There is insufficient parking beside the church so people who attend the church service park on the opposite side of the A259 in Windmill Lane and then need to cross this busy road. Another concern raised by the Parish was of school children needing to cross the road in the mornings and afternoons to access the bus stops to catch the local school bus service.

2.2. As part of their Community Match application, the Parish has suggested a possible location for a crossing. Refer to Appendix A detailing their proposal. This would consist of a hardstand area, extending from the existing footway on the southern side of the A259. The paved area will be a continuation of the existing footway and be constructed within the leading taper of the bus layby/'off slip' to Crowlink Lane.

3. Existing Situation

3.1. The A259 is a single carriageway unlit rural road with an approximate daily traffic flow of 11750 vehicles[1]. The speed limit through this section is 40 mph.

3.2. Information on the Sussex Safer Roads Partnership website shows there have been five slight personal injury crashes recorded on the A259 at the junction of Old Willingdon Road over the last five years. There were no pedestrian related personal injuries recorded.

3.3. With reference to Figure 1, a series of junctions adjoin the A259 on both the north and southern sides. On the north side, an eastbound bus stop layby merges into the exit taper of the Jevington Road junction whilst on the southern side Crowlink Lane joins the A259 at a westbound bus stop layby. As Figure 2 illustrates this junction forms part of the layby.

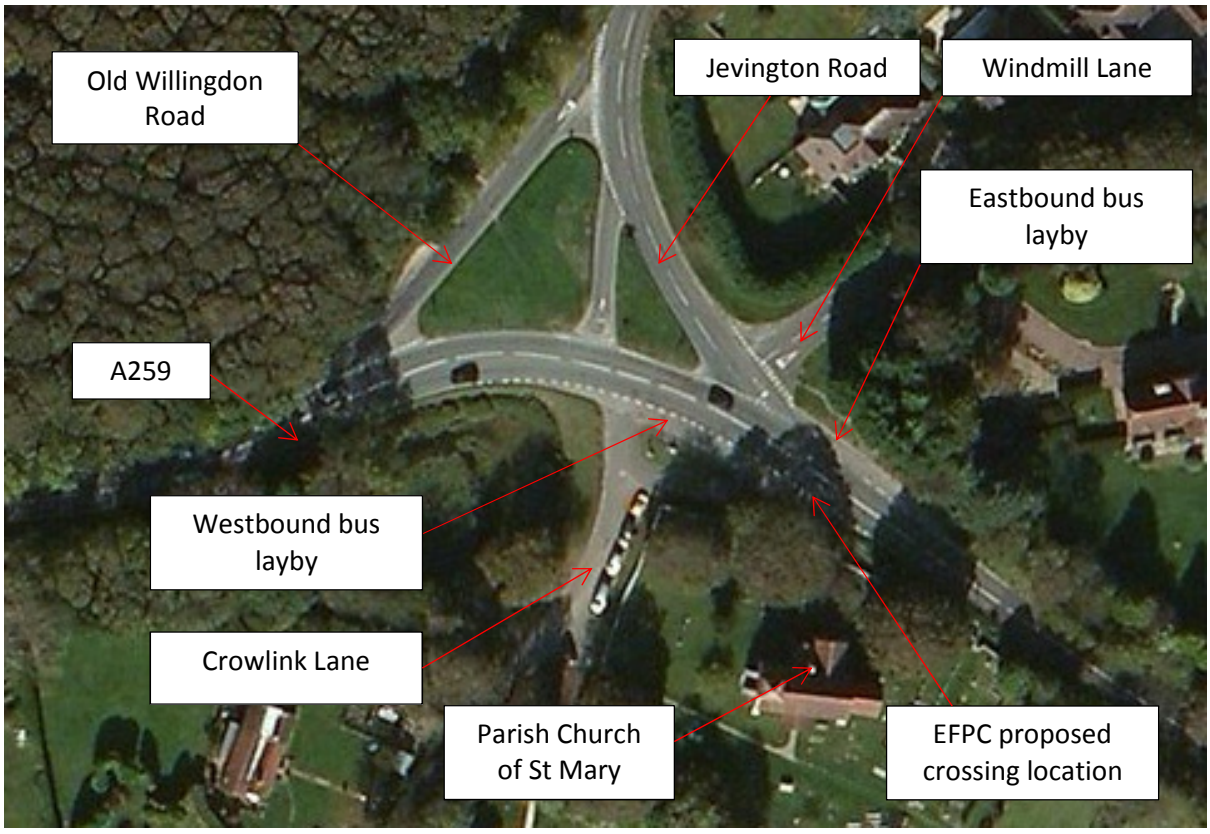

Figure 1 – Existing Road Layout

[1] Reference DfT traffic count information (site reference 78170)

Figure 2 – Crowlink Lane Junction with the A259

3.4. In respect to the alignment of the road, the section of the A259 under review (the Site) is on a sweeping bend and forward visibility for eastbound traffic is restricted to between 60m and 80m. East of the Site the A259 follows the existing ground contours and drops on a steady gradient. This gradient compounds the restricted visibility for westbound traffic. For this initial study there are no details to confirm the vertical alignment of the road and further survey work would be required to determine forward visibility on the westbound approach. Based on site observations, however, it is estimated that this would be in the region of 70m. Industry standards stipulate that forward visibility (sight stopping distance) should be a desirable minimum of 120 m for a 40mph road. It is acknowledged that this standard applies to new construction and achieving this for existing roads would not, normally, be practicable as significant alterations to the highway alignment would usually be required. It is imperative, however, that the safety of road users is maintained and any new facility that is introduced that reduces the current level of safety without any mitigation measures, would have to be dismissed.

4. Scheme Options

Type of Crossing Facility

4.1. The types of pedestrian crossing facility available to consider can be divided into two categories - a controlled crossing and an uncontrolled crossing point. Uncontrolled crossings are those where pedestrians cross the road when there are gaps within the traffic and these can incorporate a central refuge island to help pedestrians to cross. Controlled facilities are those where traffic has to stop to allow a pedestrian to cross and these include zebra crossings and puffin crossings. Choosing the type of crossing facility is dependent on pedestrian demand and traffic speed/volume but budget constraints and environmental considerations also need to be taken into account.

Option 1 – Controlled Pedestrian Crossing

4.2. Although the A259 experiences high traffic flow it is not anticipated there will be a significant pedestrian demand, with the main pedestrian demand being concentrated at times for church services. Looking at the controlled crossing option, a zebra crossing would be instantly dismissed as these can only be provided where the speed limit is 30mph or less. In terms of a puffin crossing caution should be exercised where pedestrian flows are generally light or light for long periods of the day. Drivers who become accustomed to not being stopped at the crossing may begin to ignore its existence, with dangerous consequences. The cost of introducing such a facility is also likely to be prohibitive and in terms of environmental impact, these types of facility would be unacceptable given that street lighting will be required. This is a particular issue given that the site is within the South Downs National Park. As highlighted in 3.4 national standards dictate the minimum visibility requirements not only for drivers of vehicles approaching a crossing but also for pedestrians using the crossing. In order to meet these minimum standards it is likely that a significant amount of tree and shrub clearance would be necessary on both approaches to the crossing and it may be necessary for the authority to acquire additional land to ensure that the visibility is maintained. In view of the above issues, it is not recommended that a controlled facility is progressed and instead options for an uncontrolled crossing point should be considered in the first instance.

Option 2 – Uncontrolled Pedestrian Crossing

4.3. Given the volume of traffic experienced on the A259, EFPC have reported that pedestrians currently find it difficult to cross the road at this location. The provision of an uncontrolled crossing facility with a central refuge has been considered to allow pedestrians to cross in two stages. For this to be achieved, however, significant modification to the highway would be required to facilitate the local widening of the carriageway in order to accommodate a refuge. The existing bus laybys would need to be relocated and alterations to the junctions would be needed to accommodate this feature. It is unlikely that the scale of alteration necessary to provide a safe, uncontrolled, crossing facility could be achieved within the budget available. In addition, similar to the comments highlighted in para. 4.2 it is likely that a significant amount of tree / shrub clearance would be necessary to ensure that current visibility standards are met. In view of these issues it is not recommended that an uncontrolled facility in this form be progressed.

Locating a crossing point

4.4. Irrespective of the type of crossing being proposed siting such a facility to ensure it can safely operate for all road users is the principal factor on deciding if a crossing scheme at this location is viable.

4.5. As highlighted in the previous section and shown in Figure 3 and summarised in Table 1 the configuration of the existing junctions on both the north and south sides of the A259, together with the presence of the bus stop laybys, restrict locations where a potential crossing can be provided. There are already a number of potential ‘conflict points’ over this section of road, whereby drivers are required to observe and react to other vehicles turning into or pulling out of the side road junctions or bus stops. Introducing a crossing point in the proximity of these existing features adds another layer of interaction that drivers need to consider and react to.

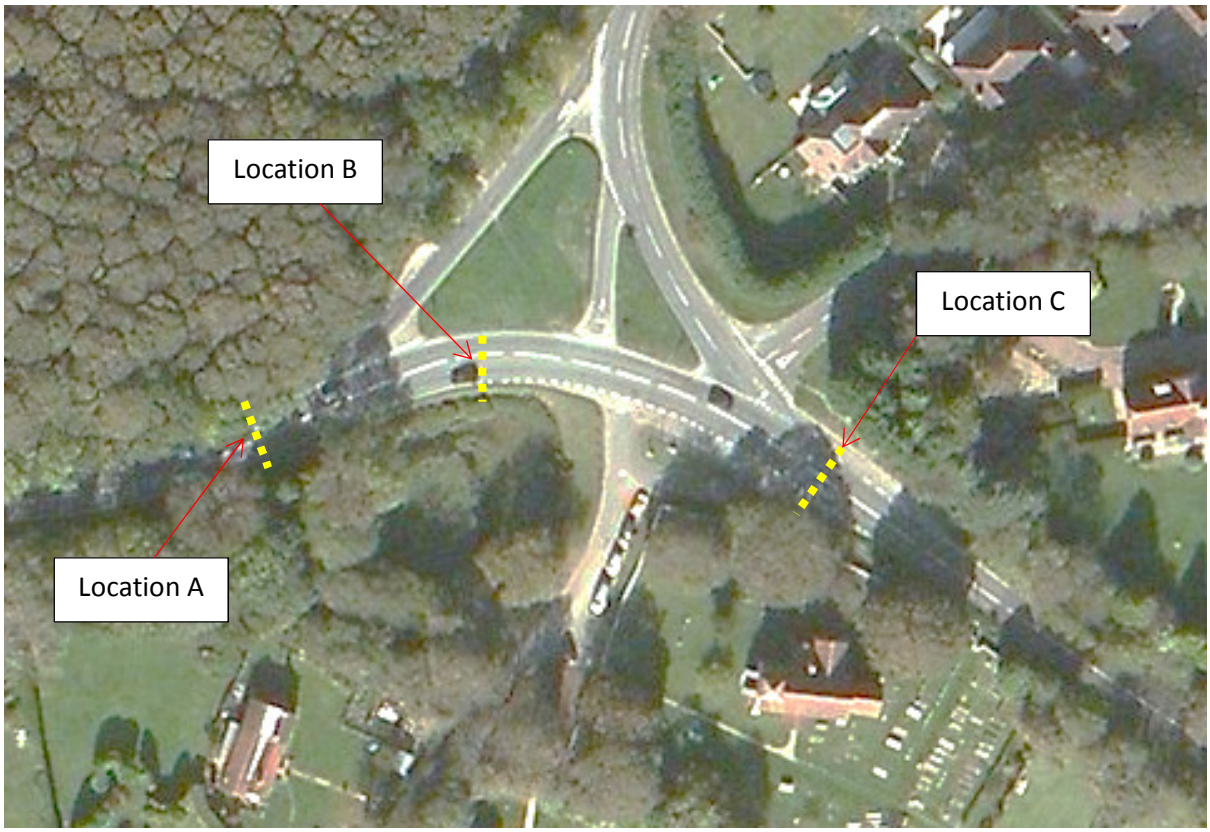

Figure 3 – Options considered for a crossing point

Table 1 – Consideration of crossing Locations

Location A	- Away from pedestrian desire line; - New footways required on north and south verges to access crossing; - Insufficient visibility from north verge to approaching eastbound traffic; - Conclusion – Option dismissed
Location B	- Away from pedestrian desire line; - New footways required on north and south verges to access crossing; - Pedestrians on north side of the A259 will need to cross a further two side roads; - Insufficient visibility from south verge to approaching westbound traffic (site survey required to confirm this) - Conclusion – Option dismissed
Location C	- North side of crossing is within bus layby; - Insufficient visibility from south verge to approaching eastbound and westbound traffic (site survey required to confirm) - Conclusion – Option dismissed

4.6. Unless as part of any crossing scheme major junction reconfiguration is included and relocation of the existing bus laybys can be accommodated there is no position in the vicinity of the Church to promote a safe crossing location which offers the required inter-visibility between approaching drivers and pedestrians waiting to cross the road.

Crossing Option Proposed by EFPC

4.7. In respect to EFPC proposal for a crossing point (See Appendix A) it is not recommended that this be promoted as a pedestrian crossing point given that this would direct pedestrians into the eastbound bus layby. In addition, visibility between users of the crossing and approaching vehicles is also considered to be sub-standard, although further site surveys would have to be undertaken to validate this.

4.8. During the site meeting between ESH and EFPC on 10 May it was understood the location being proposed by the Parish is a recognised desire line for people to cross the road. Those wishing to cross from the southern side often stand in the layby and these users feel vulnerable given there is no footway at this location.

4.9. A solution could be to introduce the proposals similar to those suggested by the Parish but the proposed area of footway would not be promoted as a crossing point. No tactile paving or dropped kerbs would be provided. This area would merely be a continuation of the existing footway. Further refinement of the layout would be required to ensure the new footway would not compromise vehicles using the slip lane to Crowlink Lane or restrict buses using the layby. With this said site observations suggest buses would not be compromised. Although this solution does not address the need of providing a crossing point, it will provide an area that pedestrians feel more secure whilst waiting to cross the road. It should be noted that any alterations to the existing highway have to be subject to an independent safety audit process and the loss of the smooth transition for westbound vehicles from the A259 into Crowlink Lane could be raised as a potential safety problem.

5. Scheme Costs

Construction Cost

5.1. The cost of providing a hard standing as proposed by the Parish and comprising of standard construction materials (precast concrete kerbs and flexible footway material, tarmac surface) would be in the region of £8,000.

5.2. Influential to this outline budget estimate is the level of traffic management required and the working restrictions imposed to construct the hardstanding. It is envisaged that the westbound traffic lane of the A259 will need to be temporarily closed during the works and two-way temporary traffic lights will be needed to control traffic. As the A259 is a traffic sensitive route any works will have to be undertaken at night. In addition, temporary provisions for relocating bus stops will be required, as the working area to facilitate the construction will prevent buses accessing the current bus stops.

5.3. Other elements that will influence scheme cost which at this stage are unknown include:-

- any drainage requirements to ensure the removal of surface water where features are installed;
- and if diversionary works to existing utilities are required in order to facilitate the infrastructure measures.

Design and Supervision Cost

5.4. These costs will cover the development of the design from concept through to implementation of a scheme and post construction. Typical activities will include:

i. Procurement of topographical survey (may be required to check levels);
ii. Stakeholder consultation during design (such as bus operators);
iii. Preparation of design;
iv. Undertake Environmental Review/Assessment;
v. Undertake road safety audit/safety review;
vi. Provide support to Parish during consultation process (assumed to be led by EFPC)
vii. Preparation of contract documents (drawings and specification)
viii. Preparation of health and safety package to support construction phase;
ix. Site supervision during construction phase;
x. Undertake post construction road safety audit/review;
xi. Update health and safety documents and asset register post construction.

5.5. It is assumed the local community will be in support of the project. Previous experience has shown that schemes where the communities have not been supportive of the proposals result in longer design processes as further consultation and re-iteration of the designs are required.

5.6. It is envisaged that the cost for design and supervision will be in the region of £2,000 to £5,000. Should a topographical survey be required the cost of this would be in the region of £1,000. Should the Parish wish to progress with a scheme an itemised design and supervision cost will be provided.

6. Risks to delivering scheme

6.1. The following table summarises the risks identified in delivering the project.

Risks	Mitigation Measures
Scheme not supported by the community leading to increased design time and cost to address objections to the project.	Parish to conduct early stakeholder engagement before application stage to ensure there is support to the project.
Scheme not supported by stakeholder groups leading to abortive design costs or protracted design phase in order to re-develop options.	Early engagement with stakeholder groups, such ESCC Road Safety Team, bus operators and South Downs National Park is required to establish if the principals of the scheme are acceptable, preferably before application stage.
Insufficient details of the site, such as underground apparatus and base mapping data to sufficiently develop a design to give confidence in scheme costs	Appropriate risk/contingency made. This will be reviewed at each stage of the scheme.

7. Summary and Conclusions

7.1. EFPC would like to provide a facility to help pedestrians cross the A259 near the Church.

7.2. Unless as part of any crossing scheme major junction reconfiguration is included, the relocation of the existing bus laybys can be accommodated and the loss of a significant area of existing trees / shrubs can be accepted, there is no position in the vicinity of the Church to promote a safe crossing location.

7.3. The proposal put forward by the Parish may offer a marginal improvement to the current situation but insufficient visibility and the presence of the eastbound bus stop on the opposite side of the road prevents this from being promoted as a formal uncontrolled crossing point.

7.4. If it is a scheme that EFPC wish to proceed with, further consultation will need to be carried out by the Parish to ensure that the community are fully in support of a scheme and that key stakeholder groups such as ESCC Road Safety Team, bus operators and South Downs National Park are accepting of the proposals.

Appendix A - Suggested solution by the Parish


East Dean and Friston CP
112.5m
Church of St
Bus Shelter
Curb edging + tarmac infill
tarmac foot path
Bus Shelter
Dotted lines for bus lay by
18.5m
Grass island + curbing tapering inwards
ParishOnline