

[ABSL-0341] Feasibility Appraisal – A267, Mark Cross – Pedestrian Island

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1. Introduction

- 1.1. Rotherfield Parish Council (RPC), through the East Sussex Highways (ESH) Community Highways programme, has submitted an application for a study to be carried out on the feasibility of installing a new pedestrian refuge on the A267, Mark Cross to help pedestrians cross this busy road to access the local community facilities.
- 1.2. The purpose of this report is to review the information submitted by RPC, assess the feasibility of introducing this new crossing facility and provide an indication of potential costs to implement such measures as well as risks to the delivery of a future scheme. This will help RPC decide whether to make a formal application for Community Match funding at a later stage.

2. Objective of Scheme

- 2.1 The A267 is one of the main roads through East Sussex and has high traffic volumes. A 40mph speed limit is in place through the village.
- 2.2 RPC have raised concerns about the lack of formal crossing provision on the A267 serving the northern part of the village and with the construction of additional housing on the western side of the A267, are concerned that new residents would be deterred from using the village's facilities, instead preferring to drive to facilities elsewhere. It is hoped that the introduction of a safer crossing facility would encourage residents to walk to the local facilities in the village, including the School, Nursery and Community Centre.
- 2.3 Currently the only crossing place is at the centre of the village close to the garden centre. RPC would like to supplement this with an additional crossing facility mid-way between this crossing point and the speed limit terminal signs at the northern end of the village.
- 2.4 RPC would also like to introduce a length of new footway along the western verge between Brickyard Lane and the new crossing facility as no footway currently exists.
- 2.5 RPC have identified a possible location for a new pedestrian crossing in the vicinity of properties named 'Hill Top' and 'Greystones'.

3. Existing Situation

General

- 3.1. The A267 is one of the main roads through East Sussex and, consequently, has a high volume of traffic. The road comprises a single carriageway with a speed limit of 40mph through the village.
- 3.2. There is an existing pedestrian crossing facility towards the southern end of the village that comprises a pair of pedestrian refuge islands. There are no other pedestrian crossing facilities along this section of the A267.
- 3.3. At the site identified by RPC as a possible location for the new crossing the road measures 7.6m in width with a 1.5m wide footway running along the eastern side and a grass verge along the western side.
- 3.4. The following image shows the current road layout in the approximate location suggested by RPC for a new crossing facility.



3.5. Figure 1 below shows the section of road included in the current study and the approximate locations of the existing and proposed pedestrian crossing facilities.

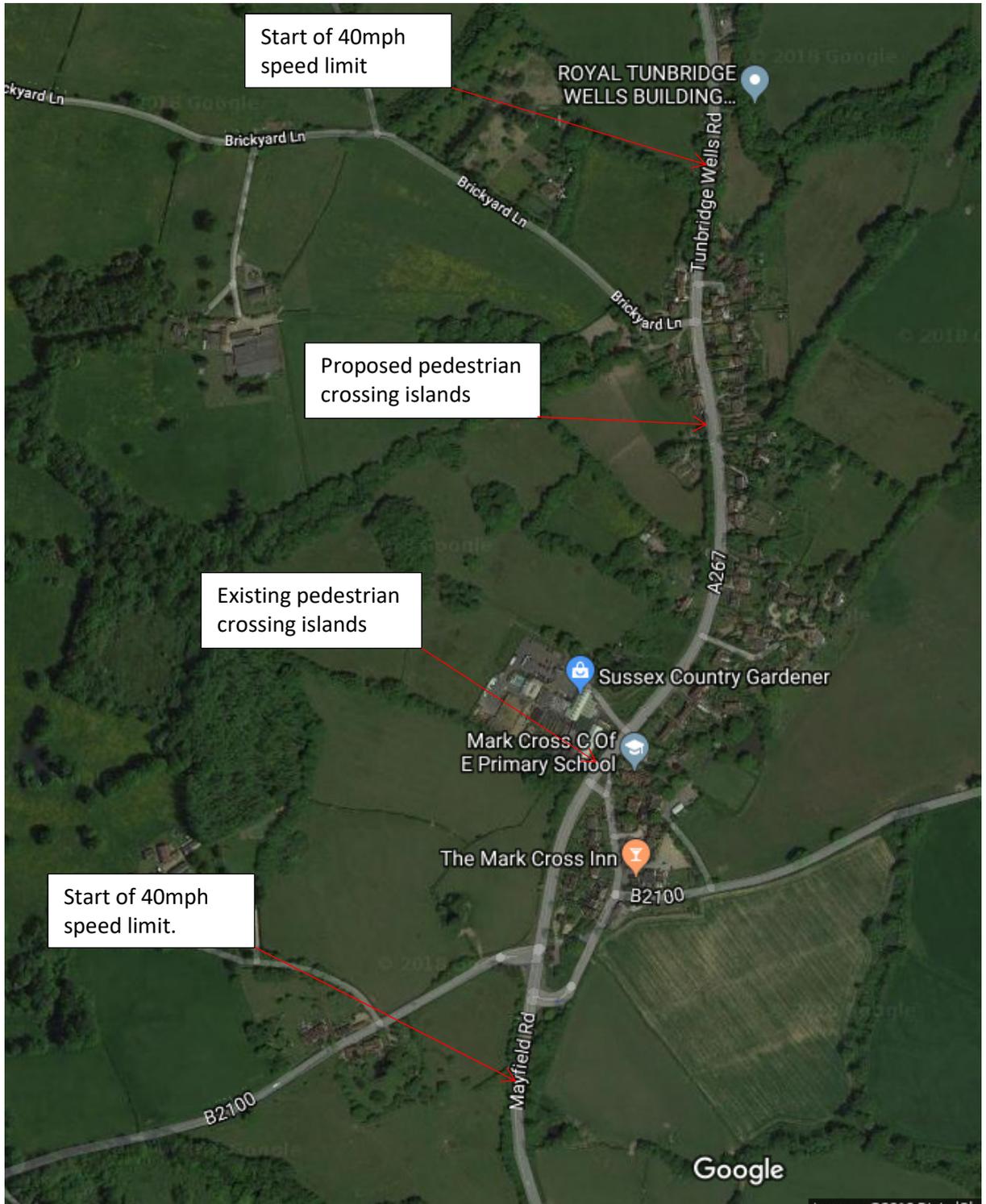


Figure 1 – Approximate locations of existing and proposed pedestrian crossing facilities

Speed Limit / Speed Data / Traffic Data

- 3.6. The section of A267 within the study area has a speed limit of 40mph in place with the adjacent approaches being national speed limit.
- 3.7. Up-to-date traffic speed data is not readily available for this section of the A267 but vehicle speed data from a count in May 2012 has been obtained from East Sussex Transport Monitoring Team. Counters were attached to the existing VAS sign and despite being nearly 6 years old, the data did indicate that at the time the 85thile¹ vehicle speeds southbound were around 48mph with northbound speeds slightly higher at 50mph. It is unlikely that vehicle speeds would have reduced in the intervening period.
- 3.8. East Sussex Transport Monitoring team have permanent traffic counters on the A267 close to its junction with the B2100. Although not directly at the site of the proposed pedestrian crossing, the data does give an indication of traffic volumes along this section of the A267. Data from these counters for the period 1/9/17 to 1/10/17 shows that average traffic volumes northbound were 5,643 vehicles per day and southbound 5,626 vehicles per day, giving a total two-way flow of 11,269 vehicles. This is close to the average traffic volume when compared with traffic volumes on similar roads throughout the County.

4. Crash Data

- 4.1 Information obtained from the Sussex Safer Roads Partnership website shows that there have been no crashes along this section of the A267 recorded between November 2014 and October 2017, this being the most recent data available.

5. Scheme Options

- 5.1. In their application, RPC have indicated where they consider the best location for a new pedestrian crossing point would be. This being adjacent to the properties named 'Hilltop' and 'Greystones'. The location is also close to two small development sites on the western side of the road on which three new properties are currently under construction. ESH have visited the site and taken measurements to determine its suitability for a crossing.
- 5.2. Included in the information provided by RPC were comments made from one of the residents about vehicular access to their property and how the positioning of a refuge island is critical so as not to impede their private access. ESH have spoken with this resident and have taken their concerns into consideration whilst assessing the suitability of the site.
- 5.3. Before any consideration is given to the location of a pedestrian refuge island the first element to consider is whether an informal at-grade crossing is appropriate for this location. In accordance with design guidance (TA 91/05 – Provision for Non-Motorised Users), on a single carriageway an annual average daily traffic flow of below 8,000 vehicles would be considered 'appropriate' for an at-grade crossing. Traffic volumes between 8,000 and 12,000 vehicles are considered 'potentially appropriate' and volumes greater than of 12,000 vehicles are considered to be 'not normally appropriate'.
- 5.4. From the traffic volume data obtained from East Sussex Transportation Monitoring team dated September 2017, the Average Annual Daily Traffic (AADT) flow on the A267 just south

¹ The 85th percentile speed is the speed at, or below, which 85 percent of the traffic is travelling, or viewed another way, the speed that only 15 percent of drivers exceed.

of the village is around 11,269 vehicles. This means that the installation of an at-grade crossing would be considered 'potentially appropriate'. This, however, is guidance only and the designer is given freedom to consider a range of site factors before determining whether the site would be suitable for a crossing. These factors include the potential demand to cross, types of user, types of journey undertaken and the overall diversion and delay if a crossing were not provided.

- 5.5. In the case of this site the lack of any other crossing facility within close proximity and the potential demand from pedestrians journeying to the local facilities, including taking children to the local schools, would be considered appropriate justification for a new crossing point. In addition, RPC comments that residents currently drive to the local facilities instead of walking as a direct result of not having a safe way to cross the A267 would support this view.
- 5.6. Having determined that an at-grade crossing is appropriate for this site, the next stage of the design process is to determine the space required to provide such a feature. The recommended crossing width for a pedestrian refuge island is 2.0m. This width ensures that appropriate clearance is provided between the edge of the running lane and any street furniture on the island and ensures that pedestrians with prams, pushchairs, wheelchairs, for example, have a safe area to wait.
- 5.7. To ensure the smooth flow of traffic past the islands minimum running lane widths need to be provided. In the case of this site it would be appropriate to replicate the existing running lane widths, these being 3.25m northbound and 3.5m southbound.
- 5.8. In view of the above geometric requirements, the minimum road width needed to provide a new refuge island would be 8.75m. As the existing road width only measures approximately 7.6m this means road widening of approximately 1.15m would be necessary to provide the crossing facility. It is assumed that this widening would be carried out along the western side due to the limited footway width on the eastern side.
- 5.9. On a straight section of road this amount of widening would usually be achieved by re-aligning approximately 30m – 40m of kerbing. As this site lies on a left-hand bend, however, the distance over which the kerbing would be re-aligned would increase to ensure that a smooth kerb profile is still provided. It is envisaged that approximately 150m of kerb re-alignment would be needed to facilitate a new pedestrian refuge.
- 5.10. Initial information obtained from the Statutory Undertakers has indicated that there is an underground electricity supply together with British Telecom apparatus within the western verge. This could be affected by the proposed carriageway widening.
- 5.11. As a part of this feasibility study ESH has also looked to see if an alternative location presents itself for a crossing facility that would enable the island to be provided with lesser impact on the current road layout. Unfortunately, as the road width is constant over this section of the A267, widening of the road would still be required wherever the refuge is placed.
- 5.12. North of the current, proposed, location the problems are compounded by the presence of private driveways and a bus layby.
- 5.13. A location towards the top of the hill south of the current, proposed, position is achievable but road widening would still be required and the length of footway required to link with Brickyard Lane would be significantly increased.
- 5.14. ESH have considered the option of providing a narrower pedestrian refuge, to avoid widening the carriageway. Given the character of the road, coupled with the purpose for the crossing it is unlikely that a sub-standard crossing facility would be accepted by either East Sussex County

Council or the independent safety auditor. In view of this ESH do not consider this an appropriate option.

6. Scheme Costs

Construction Cost

- 6.1. The estimated cost of delivering a scheme of this nature would be in the region of £105,000. This estimate includes the following: -
- Installation of a new 2.0m wide pedestrian refuge island complete with reflective keep left bollards and illuminated central light unit;
 - Carriageway widening to facilitate the proposed refuge island, to include new carriageway construction and kerb realignment;
 - Traffic signing and road markings at the approaches to the proposed pedestrian refuge;
 - Approximately 120m length of new footway to link with Brickyard Lane.
- 6.2. This cost excludes design and supervision cost (refer to section below for details) but makes an allowance for the necessary traffic management required to safely facilitate the introduction of this new measure.
- 6.3. At this earlier stage in the process, no costs for utility diversion works have been determined. If this is a project RPC which to proceed with ESH will consult each respective utility company to determine potential costs in diverting their assets resulting from the proposed scheme.
- 6.4. Included within the risk allowance some provision for road lighting has been made. Should the scheme proceed a full lighting assessment will be undertaken to determine the extent of lighting provision required for this new feature. This is an important consideration as this new feature will need to be clearly visible both during the day and at night to approaching road users. The extent of street lighting required will not only increase the cost of a scheme but could risk the viability of a project given the environmental impact street lighting could bring to the area.

Design and Supervision Cost

- 6.5. 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. Stakeholder consultation during design development;
 - ii. Preparation of design;
 - iii. Undertake Environmental Review/Assessment;
 - iv. Undertake Road Safety Audit or Low Impact Review;
 - v. Provide support to Parish during consultation process (assumed to be led by RPC)
 - vi. Preparation of contract documents (drawings and specification)
 - vii. Preparation of health and safety package to support construction phase;
 - viii. Site supervision during construction phase;
 - ix. Undertake stage 3 road safety audit or post construction review;

- x. Update health and safety documents and asset register post construction.
- 6.6. It is envisaged that the cost for design and supervision will be in the region of £20,000 to £25,000. This includes County Council costs to undertake a Road Safety Audit/Review. An allowance has also been made for further ground/pavement investigation of the carriageway and adjacent verge given widening works are being proposed.
- 6.7. 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.
- 6.8. Should the Parish wish to progress with a scheme an itemised design and supervision cost will be provided.

7. Risks to delivering scheme

- 7.1. The following table summarises the risks identified in delivering the project.

Risks	Mitigation Measures
Capital Cost to implement scheme considered too high for County Council to part fund	Early engagement with County Council Offices through Community Match Application process
Significant utility diversion costs to facilitate scheme.	Early engagement with utility companies to determine potential impacts to their plant.
Scheme not supported by the community leading to increased design time and cost to address objections to the project.	Parish to conduct earlier stakeholder engagement before application stage to ensure there is support to the project.
Scheme not supported by Statutory bodies and stakeholder groups, including ESCC Road Safety and Sussex Police Authority, leading to abortive design costs or protracted design phase to re-develop options.	Early engagement with stakeholder groups 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.

8. Summary and Conclusions

- 8.1. RPC would like to introduce a new pedestrian crossing facility on the A267 to encourage residents to walk to the local facilities instead of either driving or traveling further afield.
- 8.2. Traffic speed / volume data obtained from ESCC Transport Monitoring team has shown that a simple at-grade crossing facility is appropriate.
- 8.3. Following a site inspection and a review of the design criteria for this type of crossing facility it is determined that a 2.0m wide refuge island could be provided. To facilitate this new feature carriageway widening would be needed. This would include adjustments to the existing kerb line on the western side of the road.
- 8.4. Initial investigations have indicated that two Statutory Undertakers have apparatus within the western verge, these being electricity and British Telecom. It is likely that these may require alteration for the widened carriageway.
- 8.5. Alternative locations within close proximity of the proposed site have been considered but as the road width does not alter, the same amount of carriageway widening and associated costs would be necessary.
- 8.6. A lesser scheme that provides a sub-standard island and does not require any carriageway widening is unlikely to be accepted in terms of safety and is not, therefore, recommended.