

Feasibility Appraisal – C23 Friars Hill / Pett Road Speed Reduction

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| DATE: | 14 August 2017 |
| REVISION NO.: | P03 |
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1. Introduction

- 1.1. Guestling Parish Council (GPC), through the East Sussex Highways (ESH) Community Highways programme, has submitted an application for funding to reduce the existing 40mph speed limit on the C23, Friars Hill / Pett Road, between the A259 and Peter James Lane, with a 30mph speed limit.
- 1.2. A petition was submitted to ESCC for consideration at Lead Member meeting on 28 September 2016 to introduce the lower speed limit. At the meeting ESCC advised that the proposal did not rank sufficiently high enough to be included for funding from ESCC and recommended instead that GPC consider supporting the speed limit reduction through the Community Match fund scheme.
- 1.3. GPC have already undertaken speed counts at two locations and carried out limited investigation into introducing the lower speed limit.
- 1.4. The purpose of this report is to review the information submitted by GPC, assess the feasibility of introducing the lower speed limit 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 GPC decide whether to make a formal application for Community Match funding later in 2017.

2. Objective of Scheme

- 2.1. GPC would like to reduce the existing 40mph speed limit along the western section of the C23, from its junction with the A259, Winchelsea Road eastwards to its junction with Peter James Lane, to 30mph. Friars Hill / Pett Road is bordered by a mix of residential properties and rural land. There are no footways along this section of Pett Road and this, in combination with the speed of traffic, make the route undesirable for pedestrians, equestrians and cyclists. By reducing the traffic speed limit GPC consider this would, in turn, improve the environment for these vulnerable road users and residents alike.

3. Existing Situation

- 3.1. The C23 Friars Hill / Pett Road is a rural, single carriageway linking the A259, Winchelsea Road with Pett Level Village on the coast.
- 3.2. The speed limit along the majority of the C23 is 30mph except for the section at the western end between the A259 and Peter James Lane. Over this section the speed limit is 40mph. The approximate length of the 40mph section measures 1400m (0.86 miles).
- 3.3. The road is unlit and there are no footways within the section covered by the 40mph speed limit.
- 3.4. GPC report that this section of Friars Hill / Pett Road is regularly used by horse riders.
- 3.5. Information obtained from the Sussex Safer Roads Partnership website shows that there has been one slight and 2 serious personal injury crashes recorded on Pett Road over the last five years. All of these crashes occurred on the section of Pett Road east of the Peter James Lane within the existing 30mph speed limit. There have been no recorded personal injury crashes along Friars Hill / Pett Road within the length covered by the 40mph speed limit.
- 3.6. Figure 1 below shows the section of road included in the current study. Point A indicates the junction of Friars Hill with the A259 and Point B indicates the approximate location where the speed limit changes from 40mph to 30mph. From this point (Peter James Lane) the 30mph speed limit continues to Pett Level Village.

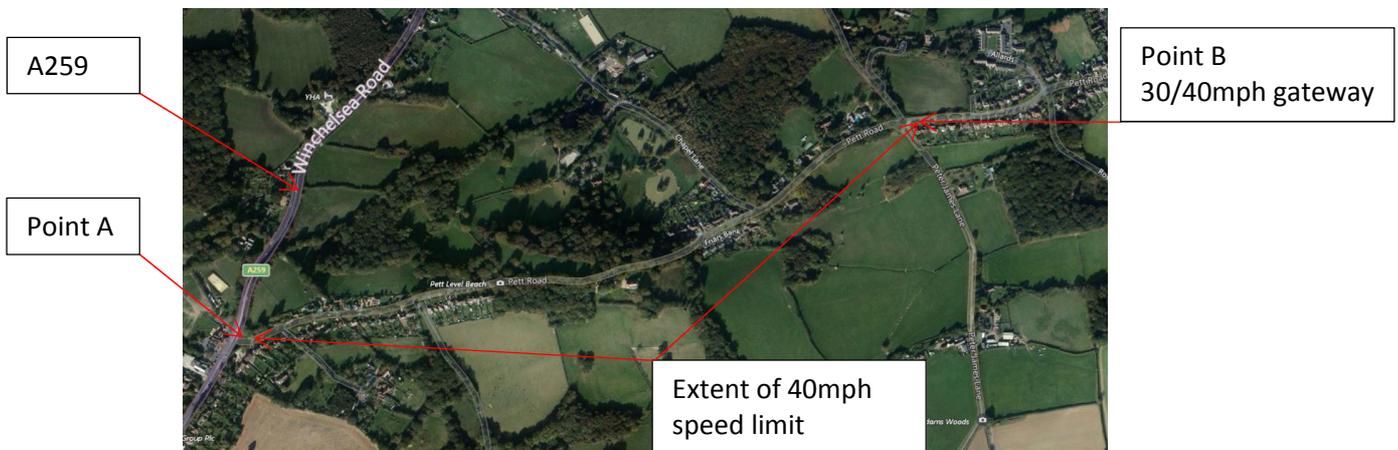


Figure 1 – Extent of 40mph speed limit

- 3.7. GPC have commissioned traffic speed counts to support their initial application to ESCC. Two traffic counters were installed, one close to the property named ‘Aldershaw’ and the other close to the property named ‘Well House’ as shown in Figures 2 and 3 below.

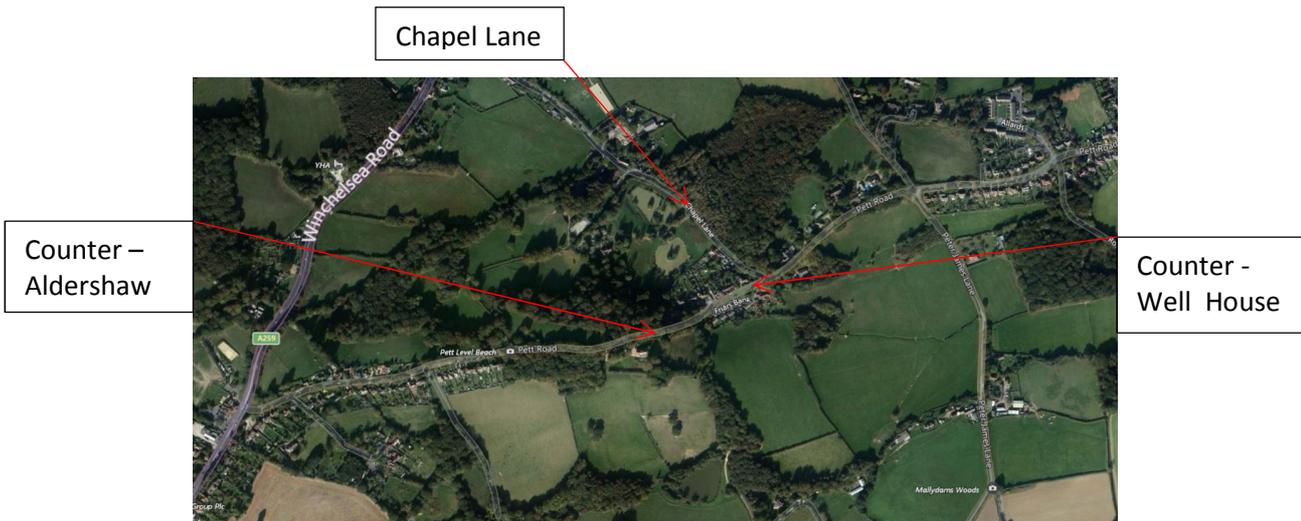


Figure 2 – Approximate location of speed counters

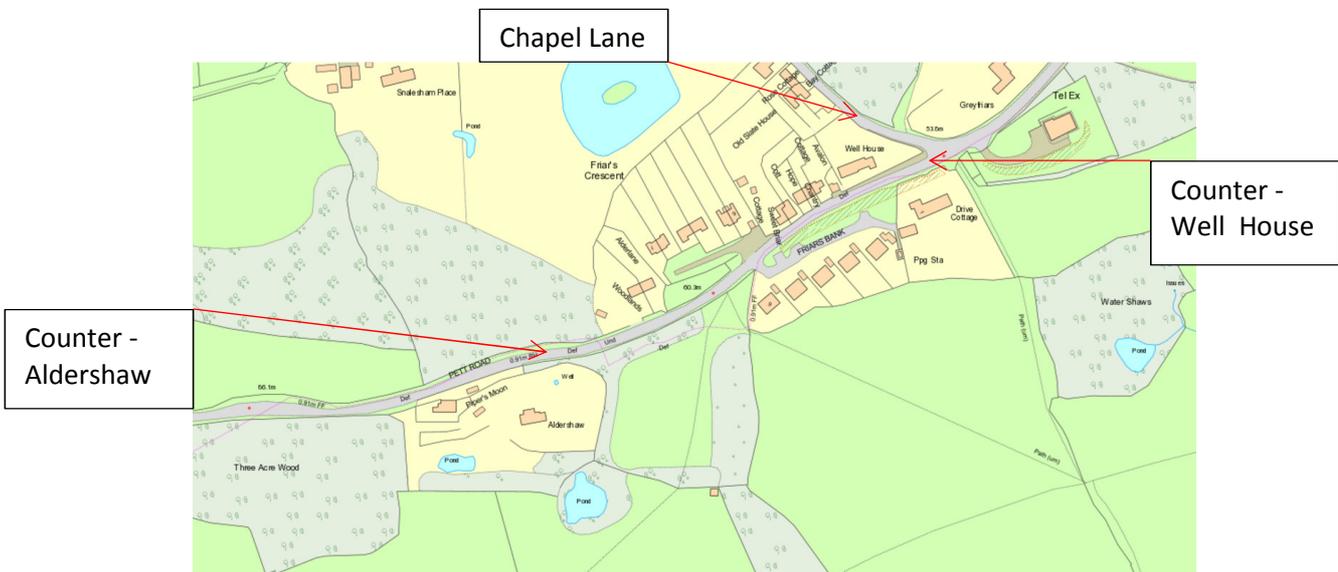


Figure 3 – Approximate location of speed counters

3.8. From the information provided by GPC the average speeds recorded are within the 40mph speed limit as detailed in Table 1 below. The 85th %-ile speeds are also highlighted in this table. Whilst being within the legal speed limit, however, GPC consider the current vehicle speeds to be too high and are concerned about pedestrian, equestrian and cyclist safety.

Table 1 – Recorded Traffic Speeds

| Site | Eastbound Average Speed | Westbound Average Speed | Eastbound 85%ile speed | Westbound 85%ile speed |
|------------|-------------------------|-------------------------|------------------------|------------------------|
| Aldershaw | 30mph | 29mph | 35mph | 34mph |
| | | | | |
| Well House | 33mph | 32mph | 40mph | 38mph |

- 3.9. Between the A259 and 'Aldershaw', Pett Road is relatively narrow and winding and is bordered on both sides by an almost continuous length of high shrubs / hedging. This would have a natural traffic calming effect on vehicle speeds. East of 'Aldershaw', however, the road widens visually and becomes more open and this is likely to be a key factor in the increased vehicle speeds recorded at the second counter by 'Well House'.
- 3.10. Friars Hill / Pett Road are not densely populated but there are residential properties along both sides.

4. Scheme Options

- 4.1. GPC have carried out some initial study work in preparation for their petition to ESCC and are clear in their requirements for a scheme, this being the reduction of the existing 40mph speed limit between the A259 and Peter James Lane to 30mph. No formal feasibility work has been carried out to date.
- 4.2. There is no formal system of street lighting along Friars Hill / Pett Road which, ordinarily, would automatically imply that a 30mph speed limit was in force if no other speed limit signing was in place.
- 4.3. In terms of physical works, introducing the lower speed limit would require the removal of the existing 30/40mph terminal signs immediately east of Peter James Lane, the introduction of new 40/30mph terminal signs at the junction with the A259 and replacing the existing 40mph repeater signs with 30mph repeaters at regular intervals along Friars Hill / Pett Road. The terminal signing at Peter James Lane, Church Lane and Chapel Lane would also require changing to reflect the new speed limit.
- 4.4. It is unlikely, however, that the introduction of signing alone would have a significant impact on the current vehicle speeds, especially in the vicinity of property 'Well House' due to the more open environment of this section of Pett Road. ESCC Road Safety team have also commented on this in their report prepared for ESCC Lead Member. In these circumstances it is usual to reinforce a speed limit by introducing additional traffic calming features, usually in the form of horizontal or vertical features designed to physically slow vehicles.
- 4.5. Traffic calming schemes, however, can be expensive to implement and generally incorporate a wide range of measures designed to complement each other in both speed reduction and environmental terms. These include both horizontal and vertical features that are designed to be self-enforcing but aligned to this is the requirement to ensure that any feature that is introduced to the Highway meets current design and safety standards. This would mean the introduction of additional street furniture on the Highway, such as signing, lining and possibly street lighting.
- 4.6. Given that Pett Road is a rural road without any other physical traffic calming measures along its length, a comprehensive traffic calming scheme over the short length where higher vehicle speeds have been recorded would not be considered appropriate in the first instance.
- 4.7. Taking this into consideration it is recommended that a scheme that aims to encourage adjustments to driver behaviour as opposed to the introduction of physical measures should be looked into.

4.8. A scheme of measures to encourage lower vehicle speeds would include:-

- Replacing the existing 40mph speed limit signing with 30mph signs.
- Reinforcing the new speed limit by laying '30' roundels on the road surface at each of the repeater signs.
- Reinforcing the visual aspect of the roundels by laying coloured surfacing at these locations.
- Laying additional road markings and, potentially, coloured surfacing on the section of road where the vehicle speeds are highest to provide a visual deterrent to speeding. The following images show typical examples of road markings and coloured surfacing layouts used to change driver behaviour.



Image 1 - A26 Tarring Neville – central hatching



Image 2 - Unknown road - speed roundels with coloured surfacing



Image 3 - Unknown road – ‘SLOW’ marking and central hatching with coloured surfacing

- 4.9. Whilst not guaranteed to result in significantly lower vehicle speeds these measures are a nationally accepted method of encouraging driver behaviour to reduce vehicle speeds. This should help achieve the objective of improving the environment for pedestrians who live along and use Friars Hill / Pett Road.
- 4.10. It is emphasised that any scheme must be fully supported by Sussex Police who will be responsible for enforcement. As part of this study ESH have been in contact with Sussex Police to obtain their initial view on the proposals being put forward. Although they are unable to provide formal comment until a scheme is formally submitted to them they have provided some initial feedback. As with any introduction of a new speed limit scheme, Sussex Police have advised that if they receive new complaints of speeding they would expect the highway authority to introduce further traffic calming measure to bring about better levels of compliance with the new limit. Should this occur ESCC would then look to GPC to support any future works.
- 4.11. As previously advised, an engineered traffic calming solution can be expensive to implement. However if after the implementation of a lining and signing scheme, as detailed in para 4.8, does not sufficiently reduce speeds to the new limit then these measures would have to be re-considered by the Parish.
- 4.12. In respect to the type of calming measure proposed, this can vary. It is recommended that horizontal deflection measures, such as buildouts, priority working or pinch points are considered as opposed to vertical traffic calming features. Although vertical features such as speed cushions and raised tables are the most effective solution to slow traffic, previous experience suggests these measures do affect emergency services operations and buses and can, in some instances, cause vibration and noise therefore making them a less favourable solution.
- 4.13. A key factor when introducing traffic calming features within a 30mph speed limit is the requirement for street lighting. This is an important consideration as the need for street lighting will not only increase the cost of a scheme but will risk the viability of a project given the environmental impact street lighting could bring to the area.

5. Scheme Costs

Construction Cost

- 5.1. An outline estimate of the cost of reducing the speed limit from 40mph to 30mph along Friars Hill / Pett Road has been prepared based on lining and signing scheme identified above. This estimate includes for traffic signing and road markings with coloured surfacing at regular intervals. It is unlikely that any diversionary costs for utilities would be necessary for this type of work.
- 5.2. Implementation of a scheme on this road is likely to require a road closure given that existing carriageway widths may prevent construction activities taking place whilst safely providing a route for traffic to pass. A closure would require a sizable diversion route that would need to be established and then maintained. It is likely that a temporary closure will be required so an allowance has been made in the estimate to cover the cost of the required diversion signing.
- 5.3. The estimated cost of delivering a scheme of this nature would be in the region of £20,000. However, if after the implementation of a lining and signing scheme this does not sufficiently reduce speeds to the new limit then further traffic calming measures may then be needed to control traffic speed.
- 5.4. The cost of traffic calming measures varies considerably and depends on the type introduced and the extent to which they are used. Without a detailed design, it is difficult to estimate the exact cost of introducing such a scheme over Friars Hill / Pett Road but an outline estimate would indicate the cost to be in the region of £100,000. If the extent of the scheme needs to be increased, to ensure approach speeds are reduced to an acceptable level, additional calming features would be necessary and the project costs will therefore increase. Other elements that will influence scheme cost for an engineered traffic calming scheme include:-
 - whether street lighting is required;
 - the type of material to be used;
 - 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

- 5.5. 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 GPC)
 - vi. Conduct Traffic Regulation Order consultation to support the changes in speed limit;
 - 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 stage 3 road safety audit or post construction review;
 - xi. Update health and safety documents and asset register post construction.
- 5.6. The level of design support will vary depending on the scale and complexity of the project. 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.
- 5.7. It is envisaged that the cost for design and supervision will be in the region of £8,000. This cost includes ESCC legal costs for processing Traffic Regulation Orders (TRO) in support of the change in speed limit as well as County Council cost to undertake a Road Safety Audit/Review. It has been assumed that no objections to TRO will be made and no significant alterations to the design will follow the TRO process given that the community are supportive of this scheme.
- 5.8. Should the Parish wish to progress with a scheme an itemised design and supervision cost will be provided.
- 5.9. If after the implementation of a lining and signing scheme this does not sufficiently reduce speeds to the new limit then further traffic calming measures may then be needed and in turn further design and supervision will be necessary to develop a new scheme. The level of design support will again vary depending on the scale and complexity of the project.

6. Risks to delivering scheme

6.1. 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 |
| 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 or stakeholder groups, such as Sussex Police and other emergency services, leading to abortive design costs or a protracted design phase in order to re-develop options or address objections to the project. | Early engagement with stakeholder groups is required to establish if the principles of the scheme are acceptable 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. |
| Risk that low impact scheme (lining and signing) does not reduced traffic sufficiently and further engineered traffic calming measures are later required. | Parish to ensure budget contingency is available should future works be required. |

7. Summary and Conclusions

- 7.1. GPC would like to reduce the existing 40mph speed limit along the western section of Friars Hill / Pett Road to 30mph in order to improve the environment for pedestrians, equestrians and cyclists.
- 7.2. GPC have already commissioned traffic speed surveys to support their view that traffic speeds along this section are too high.
- 7.3. It is concluded that the introduction of 30mph signs alone would not have much effect on the current vehicle speeds and that a scheme of measures to encourage a change in driver behaviour is also developed, including '30' roundels and coloured surfacing. Additional road markings and coloured surfacing should also be considered where recorded vehicle speeds are highest adjacent to Well House.
- 7.4. Introducing physical traffic calming measures such as buildouts, priority working or pinch points should not be considered in the first instance. However, may be required if the low impact scheme does not reduce traffic speeds sufficiently.
- 7.5. Further consultation shall be carried out by GPC to ensure that the community are fully in support of a scheme and of any potential future works and that key stakeholder groups are accepting of the proposals prior to making a formal Community Match application.