



**Buckinghamshire County Council**

## **Chearsley Village. Traffic Calming Measures.**

**Feasibility Study Report**

**CHEAR.PC.TCM / FEA / DOC / 01**

**August 2017**

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**Document No:** CHEAR.PC.TCM / FEA / DOC / 01

**Revision No:** 00

**Date:** September 2017

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**Revision box**

Revision No.	Date	Description of Changes	Originator	Checker	Approver
0	08/09/17	Original	TJB	PTS	PTS

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## **1 Introduction**

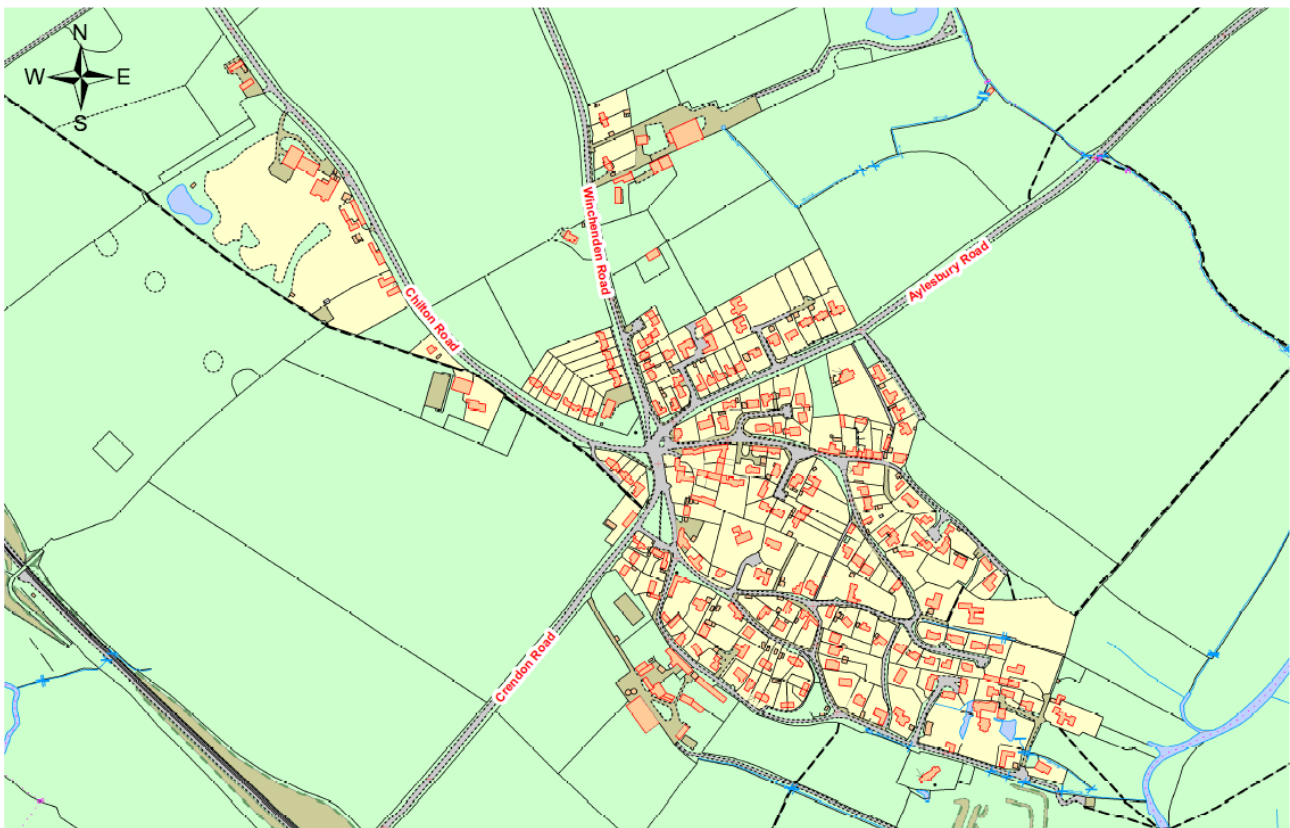
- 1.1 Chearsley Parish Council commissioned Transport for Buckinghamshire (TfB) to undertake a feasibility study to review additional traffic calming measures on the main roads through Chearsley Village.
- 1.2 Chearsley village is situated north of the A418 on the C57 / C56 (secondary distributor routes) between Long Crendon, Cuddington and the A41 east of Waddesdon. Chearsley sits on a hill with the River Thames running north / south east of the village. The main part of the village is located to the east of the main road which runs through the village. Chearsley village contains a village green, shop and school.
- 1.3 This study is to review various options for traffic calming measures within the village while taking into account its location, environment, parish requirements and a recent HGV study carried out by the Parish Council. The aim is to reduce traffic speeds through the village and to discourage HGV's from using the village roads as a cut through to the A41.

## **2 Background**

### **2.1 Study Area**

- 2.2 The site assessment initially looked to appraise sections of Crendon Road, Aylesbury Road, Chiltern Road and Winchendon Road for potential locations to establish safe areas for pedestrians and ways to reduce traffic speeds through this section of the village. Image 1 below shows the section of Chearsley that this feasibility study covers:

**Image 1 – Chearsley Village Street Plan.**



2.2.1 On the west side are the two main roads which run through the edge of the village, Crendon Road and Aylesbury Road which carry most of the through traffic. Winchendon Road is a spur road heading north which connects onto the A41 just east of Waddesdon, this road acts as a short cut for HGV's heading for the A41.

2.2.2 Village facilities include:

- St Nicholas Church
- Village Hall & Playing Field
- Village Shop
- The Bell P.H.
- Village Green, used for local events

2.2.3 There is one bus stop location for each direction located near the village green, both have a shelter. There are no formal crossing points in the village and only a small number of dropped kerbs.

## **2.3 Chearsley Parish Council Objectives**

2.3.1 An initial site meeting was held with members of Chearsley Parish Council on 24<sup>th</sup> March 2017 with a village walk to discuss the problems and to look at various locations.

2.3.2 The main areas of concern are:

- The main road through the village, Crendon Road and Aylesbury Road - traffic speeds.
- Gateway entry points into the village.
- Improvements to the area near the village green.
- Straight exit from Crendon Road onto Winchendon Road.
- HGV vehicles through the village (volume and causing damage).

### 3 Collision Data

- 3.1 The recorded collision data for the last 5 years 01/12/2011 – 30/11/2016 records only one collision in 2014 rated as slight. This collision resulted in a vehicle failing to give way when exiting Chilton Road onto Aylesbury Road.
- 3.2 The collision and casualty data that Buckinghamshire County Council holds is provided by Thames Valley Police which are reported, where a personal injury has occurred.

### 4 Traffic Data

#### 4.1 Vehicle Speed Survey

- 4.1.1 Speed surveys are used to generate an 85<sup>th</sup> percentile speed; this is used as a design speed to establish the stopping sight distance which in turn informs the desirable visibility requirements at the location of any proposed traffic calming.

**Table 4.1 C56 Aylesbury Road Speed Data Summary (mph)**

05/05/2017 - 18/05/2017		
Direction	Location	C56 Aylesbury Road, between Evans Close and Willow Gate
East bound (exiting village)	85th percentile speed	40mph
	Mean speed	33mph
West bound (entering village)	85th percentile speed	39mph
	Mean speed	32mph

**Table 4.2 C56 Crendon Road Speed Data Summary (mph)**

05/05/2017 - 18/05/2017		
Direction	Location	C56 Crendon Road, between Gateway and Village Green
Southwest bound (exiting village)	85th percentile speed	36mph
	Mean speed	30mph
Northeast bound (entering village)	85th percentile speed	33mph
	Mean speed	27mph

## 5 Proposed Options.

### 5.1 Option 1 – Enhanced Gateway Features

5.1.1 Gateway features provide a more prominent entry feature to notify motorist that they are entering a change in the environment and to aid in reducing traffic speed through the village. At present there are two gates one on each side of the carriageway at the speed limit terminal points on Crendon Road, Aylesbury Road and Winchendon Road. Chiltern Road has no gateway feature. There are no Village nameplates at present at any entry points into the village.

**Figure 5-1 Image of Western Entrance on Crendon Road**



5.1.2 Improvement to these features would include provision of nameplates within the gateway. However, it is noted that the preferred signs will not fit within the current gateway, therefore new gateways would potentially be required to accommodate the signs.

#### 5.1.3 Pros

- A typical village gateway entry point can reduce traffic speeds between 0-4mph and should ideally be located at the start of any speed reduction (Terminal Signs).
- A typical gateway feature can consist of Gates, Village Nameplate, Dragons Teeth, Bar Markings, Coloured or Textured road surface and a Speed Roundel or any combination of the listed items.
- Can be inexpensive.
- Can increase driver awareness of their environment.
- Defines the boundary of a village.



- Can create an illusion that the road is narrower.
- Can reflect the character of an area.
- High visual impact (particularly when used in conjunction with coloured surfacing or dragons teeth road markings).

#### 5.1.4 Cons

- Any road markings can fade from traffic wear.
- Will require regular maintenance, with higher long term costs.
- Limited verge space.
- Can be perceived as unsightly.
- Road markings can be unpopular with motorcyclists (Slippery when wet).

5.1.5 Within the budget estimate for this scheme additional allowance for a drainage soakaway has been made to ensure that no ponding is created by the kerbing and excessive run-off is not directed towards private properties. Further investigation in detailed design would be required.

## 5.2 Option 2 - Road Markings

5.2.1 Removal of the existing centre line and road studs from within the village between the speed limit terminal signs may provide a traffic calming effect. DfT studies show where centre line markings have been removed it recorded a reduction in traffic speed of up to 5mph. This is due to greater driver uncertainty.

5.2.2 The provision of additional road markings I.E. Carriageway edge line, Dragons Teeth markings, carriageway SLOW markings may also provide a speed reducing feature. Carriageway 'slow' markings are best placed adjacent to a traffic warning sign, however a recent DfT study has shown that they have little to no effect in reducing traffic speeds and can be intrusive in a rural village location.

5.2.3 Removal of the existing carriageway edge line from in front of the bus shelter and its replacement on a new alignment to provide a consistent carriageway width through the village could provide a speed reducing feature due to the reduction in carriageway width at this location. Note this would not be required if a new footway at this location were built (see Option 4).

5.2.4 A Road Safety Audit may be required for the removal of road markings on the bend and near junctions, particularly when narrowing the carriageway. This has been reflected in the budget estimate.

#### 5.2.5 Pros

- Inexpensive.



- Effective message reinforcement.

#### 5.2.6 Cons

- Any road markings can fade from traffic wear.
- They will require regular maintenance.
- Can be perceived as unsightly.
- Road markings can be unpopular with motorcyclist (slippery when wet).

### 5.3 Option 3 - Traffic Signs

- 5.3.1 This option is the removal of traffic signs without compromising road safety within the village which are no longer required. The existing directions signs could be up-graded or replaced with an old style traditional sign (Finger direction signs) to give a more rural village setting. (The removal of signs conforms to DfT requirements in decluttering street furniture).

**Figure 5-2 Existing Direction Sign Opposite junction with Chilton Road**



- 5.3.2 Consideration can also be given to the re-design village nameplates located at entry points to give the village an individual identity.

### 5.4 Option 4 - New Footway by Bus Shelter

- 5.4.1 This option is to provide a new footway section adjacent to the bus stop on the east side between School Lane and The Green. This would be made up of Granite Sets or Precast Concrete kerbs, dropped kerb at each end with tactile paving and of tarmac construction. This will provide a safe area for pedestrians when waiting at the bus stop and for pedestrians from Aylesbury Road accessing The Green, village shop and public house. The new kerb line will also reduce the carriageway width at this point thus having an effect on reducing traffic speed through the village.

A dropped kerb would also be required at the bus stop opposite to complete the link. Additional drainage may be required to remove any ponding areas near the bus shelter, which would need to be confirmed through further investigations.

**Figure 5-3 – View west towards bus stop**



## **5.5 Option 5 – Extend Footway Western End of Village**

- 5.5.1 Option to extend the existing footway on the west side from the Public Right of Way to The Old Grain Store entrance, this will provide an additional safe area for pedestrians and will also provide a safe walking route for the last few remaining properties within the village. Granite set kerbing or precast concrete kerbs to match in with existing, this would allow for a new kerb line to help reduce the carriageway width and also define a kerb line which in turn will assist in reducing traffic speed.

**Figure 5-4 – View east from Old Grain Store Entrance**



#### 5.5.2 Pros

- Can provide a safe area for pedestrians.
- Can have the effect of reducing road width.
- Can have a speed reducing effect on traffic.
- Reflect a change in the environment.

#### 5.5.3 Cons

- Expensive to build.
- Will require regular maintenance.
- Can add to any flooding areas without any drainage.

### 5.6 Option 6 - New footway Grass Island, School Lane.

- 5.6.1 Option to provide a new footway at the back of the grass verge island with new dropped kerbs and tactile paving. To lay a dropped kerb across the carriageway and to lay a coloured surface treatment in the side road carriageway to connect each dropped kerb to provide a visual appearance of a footway.

**Figure 5-5 – View south from Chilton Road**



**5.6.2 Pros**

- Provision of a safe area for pedestrians.
- Visual impact and appearance of a footway.
- Reduce exit speed in lane.

**5.6.3 Cons**

- High maintenance cost for surface treatment. Currently TfB will not maintain coloured surface treatments due to budget restraints. Therefore any future maintenance would need to be funded externally. Any repairs (potholes) in the coloured area would be fixed using standard black tarmac.
- Colour will fade over time.

**5.7 Option 7 – Verge damage by HGV's**

- 5.7.1 Option to reconstruct any damaged verge area with a hard standing of footway type construction to be used as an over run area for HGV's. This would require re-grade the verge at the rear of the hard standing area, replace damaged sign and relocate to stop any further damage to the sign.



**Figure 5-6 Image of previous verge damage on island of Winchendon Road**



## **5.8 Option 8 - Vertical Traffic Calming (not recommended)**

5.8.1 The use of vertical traffic calming measures are only recommended for casualty reduction purpose or as a last resort when other initiatives have failed.

5.8.2 Vertical traffic calming measures have many disadvantages these include:

- Consultations
- Traffic orders
- Illumination - streetlighting and illuminated road signs due to obstruction in road.
- Additional noise associated with braking / acceleration / vibration. (Speed cushions)
- May not slow HGVs, wide wheel base cars or motorcycles. (Speed cushions)
- Should only be used in an area of 30mph or less.
- Should only be used where other forms of traffic calming features have been previously tried.

5.8.3 For the above reasons TfB do not recommend the consideration of vertical traffic calming features.

## **6 Budget Estimates**

6.1.1 All cost components for this project are included in the Cost Summary Sheet in Appendix D of this document.

6.1.2 All budget cost estimates within this report are initial budget estimates based upon recent Transport for Buckinghamshire experience and recent similar schemes.

6.1.3 All costs will include a value for fees associated with the design, procurement, supervision and progression of a scheme. This will vary depending on a scheme complexity.

6.1.4 The cost estimate has been based upon work being undertaken in 2017-18. For future years, a rate of inflation may need to be applied.

- 6.1.5 A contingency has been applied to all costs within the budget estimate. This is representative of a feasibility stage budget estimate and reflects the nature of many of the unknown features that will/may be identified through further detailed design and implementation. As the scheme progresses this contingency would reduce as costs are more accurately defined.
- 6.1.6 If the scheme were to be commissioned, TfB reserve the right to review the detailed design and construction costs. Future work would be commissioned in stages, with detailed design and procurement being the next stage. Once this stage has been complete, the subsequent stage for construction would be commissioned after review.
- 6.1.7 The cost summary sheet provides the full breakdown of the scheme costs to provide a clear indication of the scheme stages. This stage by stage process provides indicative costs, but only requires the Client to commit to the following stage once the costs have been refined to reflect quotations rather than estimate based upon previous stages.
- 6.1.8 Please note if various options are completed in conjunction with one-another, cost savings may be achieved – e.g. if lining works are required for different option and works can be completed within a single lining crew and traffic management crew shift.

## 7 Recommendations

### 7.1.1 Potential recommendations that TfB would support include the following:

- Option 1 - To provide new gateway features on the approach to the village on Aylesbury Road and Crendon Road. The other two entry points can be reviewed at a later date or at the same time due to the combination options available.
- Option 2 - To remove the existing centre line markings and old road studs from within the 30mph speed limit on the main road through the village or do not refresh any worn or add any new road markings as over time they will fade.
- Option 2 - Existing SLOW carriageway markings could also be removed/left to fade
- Option 2 - Remove the existing carriageway edge line from in front of the bus shelter and replace on a new alignment to provide a consistent carriageway width through the village. Note this would not be required if a new footway at this location were built.
- Option 3 - To replace the existing finger direction signs on the grass island near School Lane with an old style traditional finger sign. Review other signs within the village as some could be removed, reduced in size or relocated.
- Options 4, 5 and 6 - To construct new lengths of footways where required with dropped kerbs to provide footway links within the village and to provide safe areas for pedestrians.
- Option 7 - To repair and re-style verge / footway areas where damage has occurred from HGV's.

### 7.1.2 The parish council should consider these options and their associated costs and determine which provide the best value against local priorities and concerns.



**APPENDIX A    Cost Summary Sheets**