



**2020**

**CONSULTANCY**

# CHERITON VILLAGE ROAD SAFETY ASSESSMENT

FOR SDNPA & CHERITON PARISH COUNCIL

**JUNE 2023**



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## 1.0 INTRODUCTION

2020 Consultancy have been commissioned by the South Downs National Park Authority (SDNPA) to work with a number of Parish Councils to identify traffic issues in their communities, design a range of interventions to counter these issues, refine designs to comply with highway regulations and the landscape desires that befit the South Downs National Park. As part of the commission, there is a requirement for 2020 Consultancy to produce a Communities in the South Downs (CitSD) catalogue that contains all the road safety interventions that are considered effective and suitable for the National Park environment, which should be agreeable with the local authority.

To support the CitSD catalogue, a guidance document has been produced that aims to support Parish Councils understanding of the process involved to implement interventions within their communities. Finally, for each of the parishes involved in this commission, a feasibility study will be undertaken to better understand the existing road safety issues, and identify the most appropriate interventions.

The parishes have been identified following discussions with the SDNPA. The parishes selected have been chosen as they:

- Reflect villages in different landscape character areas;
- Sit within different Local Highway Authority areas (LHA) (Hampshire County Council, West Sussex County Council, and East Sussex County Council;
- Have carried out some initial assessment and background investigation into highway design;
- Demonstrate highway issues on different classifications of roads.

There are three parishes that have been chosen for year 1 of the study and two parishes for year 2 of the study. Year 1 Parishes included Jevington, and Fittleworth. Upham initially, but soon after the project commenced Upham decided to withdraw from the pilot study. Cheriton Parish Council had been included as a year 2 parish but have now been moved into the year 1 project. The second year 2 parish is Lodsworth.

The format of the report is a feasibility study, which will look into issues with road safety and the identification of appropriate mitigation interventions. These interventions have been taken from the CitSD Catalogue. It's expected that these interventions will improve the environment and the experience of road safety for the community.

This feasibility study focuses on the village of Cheriton, Hampshire. For the purpose of the study, the study area is where the B3046 meets the A272 from the south through to a point north of the 30mph/60mph speed limit terminals which are approximately 185m north of the junction of the B3046 and North End Lane.



The study area is illustrated in figure 1 below and includes the following key roads:

- B3046;
- Westfield Road;
- School Road;
- Hill Houses Lane.

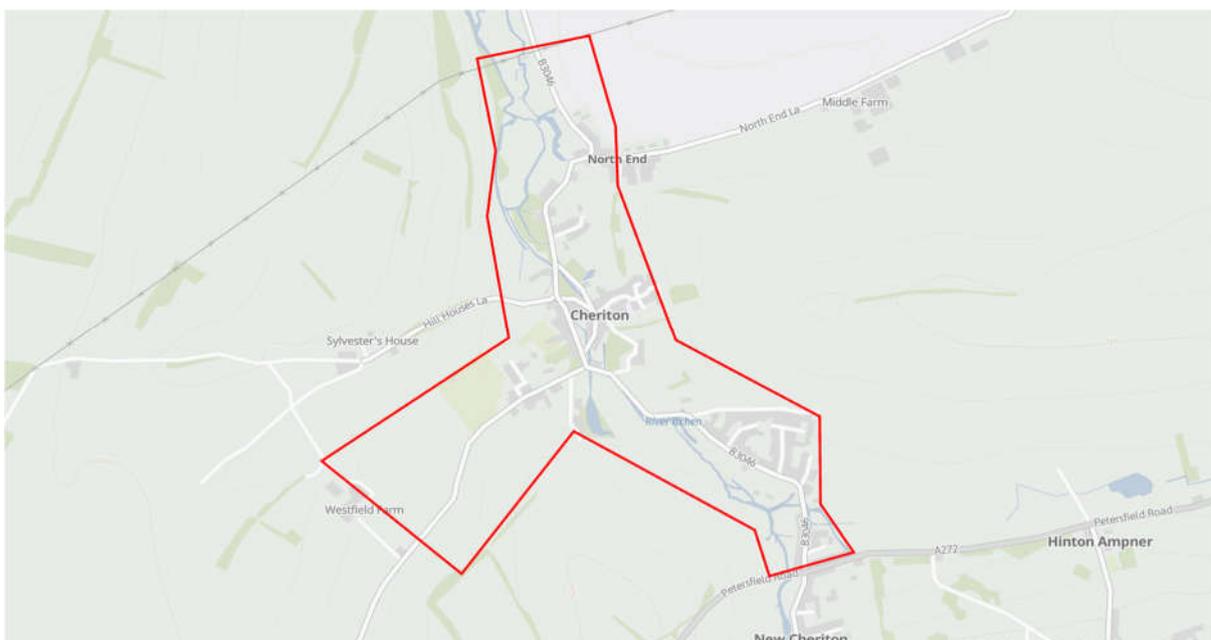


Figure 1 – A map showing the extent of the study.

It is a requirement for 2020 Consultancy to engage with all relevant parties that include officers from the SNDPA, officers from the Local Highway Authority (LHA), and the Parish Councils to establish the issues facing each pilot community and develop solutions to the issues. The key requirements of the project for Cheriton include:

- Identify relevant contacts in the pilot Parishes and LHAs.
- Review issues identified by Parish Councils, with possible need for site visits to further establish or understand highways issues.
- Analyse existing evidence base, summarise evidence and identify gaps in existing evidence base.
- Work with Parish Councils to prioritise which highways issues can be tackled by this project.
- Field research to verify identified issues and establish baseline data.
- Design of initial draft solutions to identified issues.
- Facilitate workshop sessions with stakeholders (Parish/LHA/SDNPA) to refine and develop the interventions to meet Highway regulations and SDNPA landscape requirements and ensure local buy in from the Parish council as representatives of their wider community.
- The pilot Parish projects should identify a series of highways interventions, these should be developed into modular solutions which tackle specific highways issues, in a specific landscape character area, on particular classification of road. These individual products can then be incorporated into a catalogue of interventions that can be used to build bespoke traffic management treatments.

## 2.0 BACKGROUND

Following the designation of the South Downs National Park, the South Downs National Park Authority (SDNPA) began work on developing the Partnership Management Plan (PMP). As part of this work the SDNPA consulted with all Town and Parish Councils on key issues facing their communities. Extensive engagement was carried out with the wider community and a full review of all community led plans (Parish plans etc) identified the common issues facing communities in the National Park.

One of the key issues identified through consultation related to highways. The problems experienced ranged from speeding, anti-social driving, inappropriate parking, inadequate road infrastructure, concerns about the anticipated increase in traffic resulting from National Park designation, rat running and the negative impact of highways and associated infrastructure on the landscape and setting of the towns and villages in the National Park.

The responsibility for highways falls with the LHAs and there is a limited role for the SDNPA in relation to this issue. However, following ongoing lobbying from town and Parish Councils, the SDNPA ran a series of Parish workshops in Spring 2018 to gather more information on the issues facing local communities. The relevant LHA Officers were also invited to the workshops.

Cheriton is a village and civil parish located in Alresford in Hampshire with a population of 1000 people. Cheriton village is located approximately 4km south of New Alresford and around 16km west of Petersfield. The village sits around 10km due east of Winchester and is separated into two distinct sections Cheriton and New Cheriton, which is located to the south of Cheriton. The closest major arterial road to the village is the A272 which is an east-west in orientation and located just south of Cheriton.

The village includes a local shop and recreational facilities that include cricket pitches and tennis courts. In addition, it has two public houses and a village hall which are held in high regard with residents. The village is distributed around the B3046 which is the central trunk road that runs north to south in orientation. There are various greenspace and agricultural parcels of land located around the village, which

contributes to the rural feel. Figure 2 below shows the key centralised trip generators requiring access by residents and visitors alike.

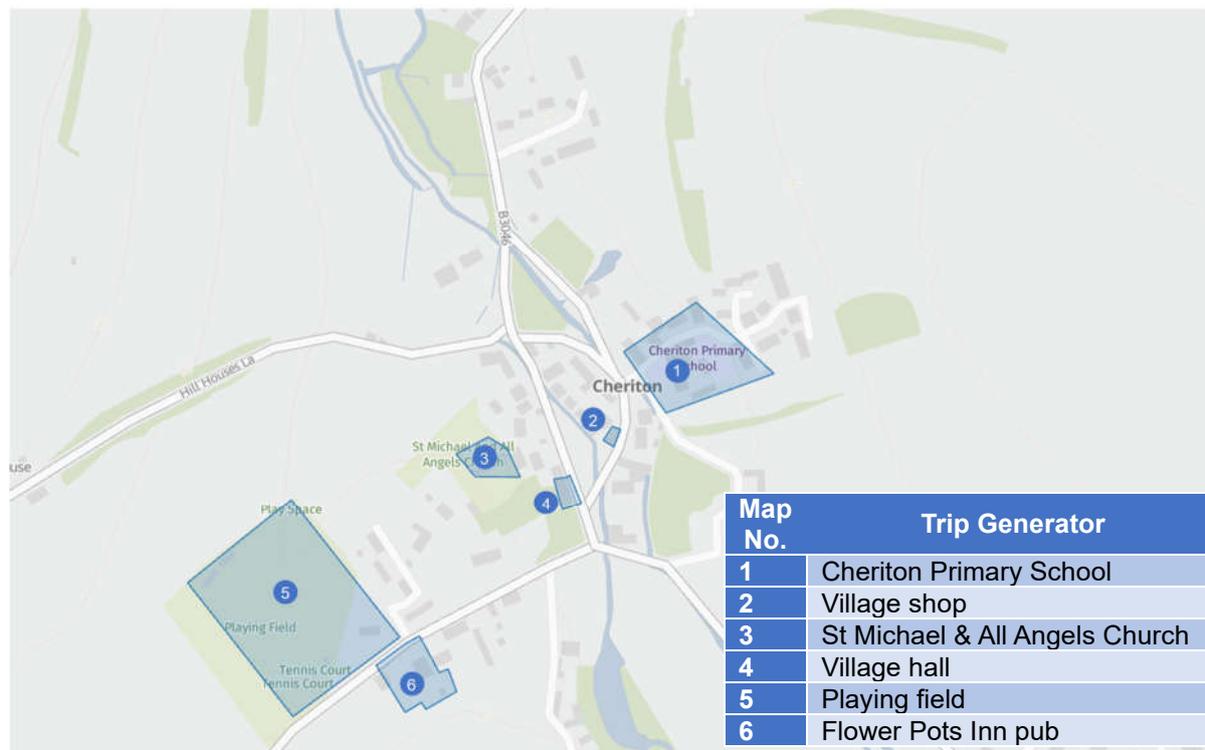


Figure 2 – Key trip generators within Cheriton village

During the development of the CitSD project, a number of Town and Parish Councils have submitted funding bids to the Community Infrastructure Levy (CIL) to carry out highways improvements. The SDNPA are considering these bids, but the SDNPA is keen to ensure a consistent approach to highways improvements, delivering schemes which are proven to tackle local issues. The SDNPA would also like to see highways enhancements developed with some consistency, so there is a consistent theme across the towns and villages of the South Downs, clearly showing they are a town or village in the South Downs (such as the use of the shared identity).

The SDNPA anticipates a large number of Town and Parish Councils using their CIL receipt as well as other financial resources to deliver highways improvements. The CitSD project will influence the type of solution implemented through a design guide which can be used by Parishes and Highway Authorities, as well as a catalogue of ‘off the shelf’ products to resolve local highways issues.

Cheriton Parish Council are intending to improve road safety within the village by exploring a number of measures to assist in speed reduction and driver behaviour.

This in turn will improve road safety, and the attractiveness of the village. A particular focus is on creating a placemaking hub in the centre of the village within the vicinity of the village hall, which draws residents, and visitors from a wide area. Safety has been highlighted as a concern at this location due to narrow footways and carriageways, as well as the location being a key aspect of the village for placemaking.

In addition to this residents having the ability to travel safely throughout the village to visit required destinations is also an important aspiration.

### 1.3 REPORT STRUCTURE

The feasibility report comprises of the following:

- Gateway treatments at 30mph terminals;
- Improvement to traffic signage;
- Implementation of new 40mph speed limit to the north of the village along the B3046 & Westfield road;
- Extension of 30mph along Westfield Road;
- 20mph zone along School Road;
- Installation of Vehicle Activated Signage;
- Uncontrolled pedestrian crossing point;
- Junction improvements at B3046 and Hill Houses Lane complete with new footway;
- Proposed road closure on one way located along B3046;
- Removal of centre line along B3046;
- Installation of virtual footway along B3046;
- Priority give way along B3046 south of junction with Lower Lamborough Lane;
- Road enhancements at junction of B3046 and Westfield Road;
- Road enhancements near village hall along B3046.

This report presents the feasibility study for the viability of the proposals and includes the following elements:

- Assessment of existing situation;
- Feasibility design and evaluation;
- Recommendations on the next steps to implement the scheme.

### 3.0 EXISTING SITUATION

#### 3.1 TRAFFIC SPEED INTO AND THROUGH CHERITON

As Cheriton is approached from the north on the B3046, the road is currently subject to a national 60mph speed limit, until the start of the village where a 30mph speed limit commences. This 30mph limit continues throughout the village until the village signs to the south are approached where the speed limit increases back to a 60mph maximum limit. The 30mph speed limit is located close to the extents of the village, which may impact traffic speed as vehicles begin to drive through the village.



The orientation of many roads and the narrow running lanes gives the impression that it would be hard to travel through the village at excessive speeds along many sections within the village. However it is felt by residents that the village is abused by many vehicles and at certain points speed is deemed excessive due to the layout and orientation of the village.

The village could benefit from installing a 40mph limit to the north along the B3046, and to the east along Westfield Road prior to entering the village and the 30mph limit. This is discussed further in section 5.4 of this report.

Cheriton village appear to be pro-active in undertaking SpeedWatch within the village. The data obtained previously contributes to a strong data set that can be used if needed for future applications or studies such as this one. The regular application of SpeedWatch will contribute positively on traffic speed through the village.

As the traffic enters from the west, north and south there are existing 30mph roundels strategically positioned along the route in and out of the village. All signs within Cheriton conform to the directions set in the Traffic Signs and Regulations & General directions (TSRGD). However it is possible to make signs more conspicuous which will likely lead to a speed reduction. Through the village there are a number of 30mph repeater signs, which are partially obscured due to vegetation, meaning they can be easily missed by drivers.

### 3.2 TRAFFIC VOLUME THROUGH CHERITON VILLAGE

Traffic volume as expected can be higher at peak periods. It is likely if a formal ATC survey were undertaken that the data would confirm this. The road network orientation is such that Cheriton can be used as a cut through for vehicles wishing to travel to onward destinations or to larger settlement areas located around the village. to the north of the village i.e. Alresford. It has been seen on various site visits that several large vehicles have been seen travelling through the village, for what specific purpose is unknown.

The reason for this could be housing development areas or more individual hire/contract. This contributes to the volume of traffic through the village and more specifically contributes to disruption due to narrow passing lanes on the carriageway and conflict areas due to tight village placement.

It is acknowledged that the most effective method to reduce traffic flow through the village is to improve the Strategic Road Network (SRN) as less congestion on the SRN would reduce the volume through the village. This falls outside the scope of this report. Measures have been investigated that would potentially reduce the convenience of Cheriton as a cut through, such as rumble strips and raised tables. However, these are likely to have a negative impact on the village and have been discounted. Further, more suitable measures for the National Park have been investigated and are outlined in section 5 of this report.

### 3.3 EXISTING SIGNAGE AND ROAD MARKINGS

The signage throughout the village is adequate but could be improved which would positively impact factors such as congestion and speed. There are several 30mph repeater signs located in strategic positions throughout the village. However, as previously discussed many appear to be obscured by overgrown vegetation.

There are numerous locations where there is no signage, where there could be a benefit such as advance warning and chevron warning signs. Positioning these signs in appropriate locations may assist in the control of speed on the approach to the village and at key areas of conflict.

There are areas which could benefit from the introduction of specific road markings. Strategic placement of edge of carriageway markings which will create a feeling of narrowing of the carriageway and hence the possibility of a decrease in driver speed.



### 2.4 CROSSING FACILITIES

Throughout Cheriton village there are no formal or informal crossing facilities present. This can contribute to an increase in road safety issues as Non-Motorised Users (NMUs) look to cross the carriageway. A location at which this is a particular issue is at the central greenspace area near the school and church. Many pedestrians look to migrate from the east of the village across the B3046 to access village facilities on the west of the road.

There are further areas where the safe ability to cross the carriageway is required and areas where no footway is present, these two factors add to an increase in safety issues for NMU's.



## 2.5 FOOTWAYS

In Cheriton, the vast amount of the village has no footway provision, some areas have small amounts of provision which overall leads to a lack of coherence for pedestrians wishing to access different parts of the village. The lack of safe walking provision in conjunction with excessive speed increases the probability for pedestrian injury. With the lack of safe walking provision pedestrians are required to enter the carriageway at points to be able to bypass particular areas to reach their desired location.



## JUNCTION OF B3046 WITH WESTFIELD ROAD

The junction of B3046 and Westfield Road is located on a swooping bend with limited visibility for drivers and no safe walking facilities. This area is an area of concern for residents as the traffic speeds coupled with the lack of safe pedestrian facility is a concern for safety. It is proposed that the area in question has a change of surface colour to alert drivers to an area of importance and possibly improving driver behaviour.



## 4.0 COLLISION DATA

Collision data has been investigated as part of this feasibility study. Reviewing the Crashmap website for a period of five years from 2017 to 2021 has demonstrated that there have been three reported collisions within the village extents. These only included collisions that have involved the emergency services. It doesn't include small collisions that have been settled at the scene. Therefore, it can be assumed that three is the absolute minimum number and there is likely to have been many small collisions.

There has been one serious collision, which is represented by the red icon on the map in figure 3. The serious collision occurred along the B3046 south of the junction with North End Lane, and involved two vehicles and one casualty. The collision occurred in July 2018. The two slight collisions also occurred along the B3046, one near the same junction as the serious collision, and the other between the junctions of Hill Houses Lane and School Road. Both these collisions included two vehicles and one casualty, and occurred in September 2018, and October 2021.

There are numerous collisions that have occurred in and around the village, most notably along the A272 Petersfield Road. These haven't been included on the plan as this is outside the scope of the CitSD project.

Figure 3 illustrates the two reported collisions that have occurred within close proximity to Cheriton village.

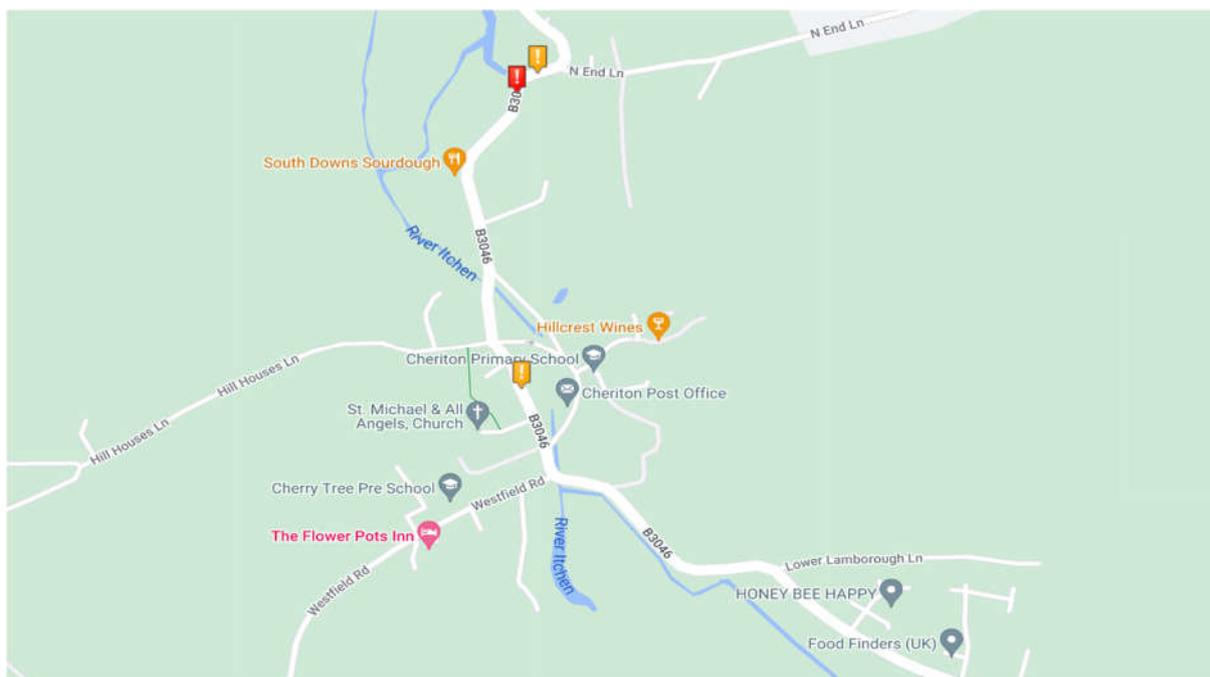


Figure 3 – Road collisions within close proximity to Cheriton

## 5.0 FEASIBILITY DESIGN

### 5.1 INTRODUCTION

This section outlines the interventions that have been assessed by 2020 Consultancy for consideration with Cheriton village and details the potential impact as well as providing an effectiveness score out of 10 and an appropriate cost. The effectiveness considers the likely reduction on traffic speed and improvements to road safety, and compares this against the potential cost. For instance, if a potential intervention is low cost and very effective it will score high. If a proposal is high cost and is unlikely to impact road safety and/or traffic speed, it will score low.

There are 14 interventions that have been considered potentially suitable for Cheriton village and are outlined below. A further five measures were considered but have not been included within this report as they were deemed unsuitable for a village within the National Park or will be too complex to deliver for reasons such as the cost or high amounts of private land that will be required. These measures are:

- Raised tables / speed humps;
- Controlled crossing point located along B3046;
- Extending the proposed footway (as detailed in section 5.9) further along the B3046;
- Vegetation maintenance program.
- Construction of footways along the B3046 south of Raeburn Close to Dark Lane and Westfield Road.

The score supplied with each intervention has been tabulated based on four specific criterion, which contribute to give an overall score.

The criterion is as follows.

- Road safety;
- Traffic speed
- Traffic volume
- Impact on the road network.

The criterion for road safety includes all modes of transport such as vehicular traffic, pedestrians, and cyclists. For the intervention to score highly, it is expected to deliver

substantial road safety benefits at either a specific site or a wider area. The intervention will score low if there are minor or no road safety benefits. Poorly designed or located road safety interventions can actually create additional safety concerns in an area. Any interventions where a wider safety concern may arise results in no score.

In most villages, traffic speed is likely to be a concern, especially along the key roads. In Cheriton, the key roads are likely to be the B3046 and Westfield Road. Road safety interventions should always be seeking to reduce traffic speed when the primary focus is on vehicular traffic. The criterion for traffic speed has been separated into five categories based on the likely traffic speed reduction achieved. If an intervention can achieve an average speed reduction of 6mph this will score high. The other categories include a speed reduction of 3-5mph, 1-2mph, and no speed reduction. If the intervention may encourage speed, this would result in no score.

Achieving a reduction in non-residential traffic within a village is the most difficult outcome from the criteria. Road safety, and traffic speed can be reduced with relatively low cost intervention. Often, the most effective method of reducing traffic in villages is through significant investment on the Strategic Road Network. This can involve hundreds of millions. Therefore, achieving a high score for the traffic volume criterion is unlikely. Higher cost interventions may discourage traffic from certain routes within the village, but they are likely to use another route. Based on this, any reduction in traffic volume on the road network will result in a positive score for this criterion.

The final criterion focuses on the impact of the intervention. If the intervention is likely to result in a substantial positive impact on the site, the assessment score will be high. A noticeable or slight impact from the intervention will result in a positive score for the intervention. Minor or no impacts will result in a low score, and a negative impact on the site will result in no score. This criterion will be influenced by the other criterion.

Table 1 summarises the scoring assessment used as part of this study to determine how effective the intervention will be within Cheriton as described above.

Effectiveness				
Score	Safety	Speed	Volume	Impact
10	Substantial improvements to road safety	Average speed reduction over 6mph	Substantial reduction in non-residential traffic flow	Substantial impact at the site
9				
8	Noticeable safety improvements likely	Average speed reduction between 3-5mph	Noticeable reduction in non-residential traffic flow	Noticeable impact at the site
7				
6	Safety Improvements likely	Average speed reduction between 1-2mph	Reduction in non-residential traffic flow	Impact at the site
5				
4	Minor or no safety improvements likely	No speed reduction	Minor or no reduction in non-residential traffic flow	Minor or no impact at the site
3				
2	Intervention likely to cause additional safety concerns	Intervention may encourage excessive speed	Intervention may attract additional traffic	Intervention may cause negative impact at the site
1				

Table 1 – Intervention effectiveness assessment criteria

In addition to the effectiveness of the intervention, it's important that consideration is given to the cost of the intervention. In most cases, the higher cost interventions will be the most effective. This assessment would be unproductive if no consideration was given to the delivery costs as the higher cost interventions would be the highest scoring interventions. There would then be challenges for implementation due to the costs associated with the intervention. Therefore, the assessment criteria include the approximate cost of interventions, as well as additions such as statutory process costs.

Table 2 demonstrates the criteria used for determining the score based on the likely cost range of the intervention.

Score	Cost Range
10	£0 - £5,000
9	£5,000 - £10,000
8	£10,000 - £20,000
7	£20,000 - £40,000
6	£40,000 - £75,000
5	£75,000 - £100,000
4	£100,000 - £150,000
3	£150,000 - £200,000
2	£200,000 - £250,000
1	£250,000+

Table 2 – Cost Assessment for interventions

As part of this feasibility study, 14 interventions have been considered potentially suitable for Cheriton and are outlined below. These interventions include measures that primarily focus on traffic i.e. speed limit extensions, and signage, and measures that primarily focus on pedestrians i.e. widened footpaths, and accessibility improvements. However, most interventions are linked. For example, widening a footpath may result in a narrowing of the carriageway, which will reduce traffic speed.

One intervention that hasn't been considered as part of this feasibility study is speed humps / cushions. The intervention wasn't progressed as there were a number of negative impacts including impact on local traffic and the decrease in village aesthetic. This type of intervention is also considered more urbanised and not in-keeping with the environment associated with Cheriton.

## 5.2 GATEWAY TREATMENTS AT 30MPH TERMINALS

Speed entering Cheriton from the north and south along the B3046 appears to be excessive, which isn't a surprise due to the nature of the road and volume of traffic passing through the village. This suggests that the existing 30mph speed limit terminal signs are being ignored. It is possible to redesign the current 30mph gateway terminal signs to create a more conspicuous gateway entry on the approach to the village in both directions.



A gateway treatment can vary in design, but average speeds can be reduced by approximately 3-4 miles per hour as vehicles enter the village. However, speed reductions of up to 5-6 miles per hour can occur within the first 20 metres of the

gateway treatment which results in traffic speed being slower as vehicles enter the village rather than slowing down as they enter the village. There are no specific design requirements of gateway treatments providing the 30mph signs are clear and the correct dimensions (600mm in size and at least 2.1 metres above the ground).

A village gateway will be one of the most effective interventions that can incorporate a SDNPA branding or consistent design type that will be recognisable as being within the National Park. It is also one of the most effective interventions that do not involve physical traffic calming. Figure 4 provides an example of such a type of design.

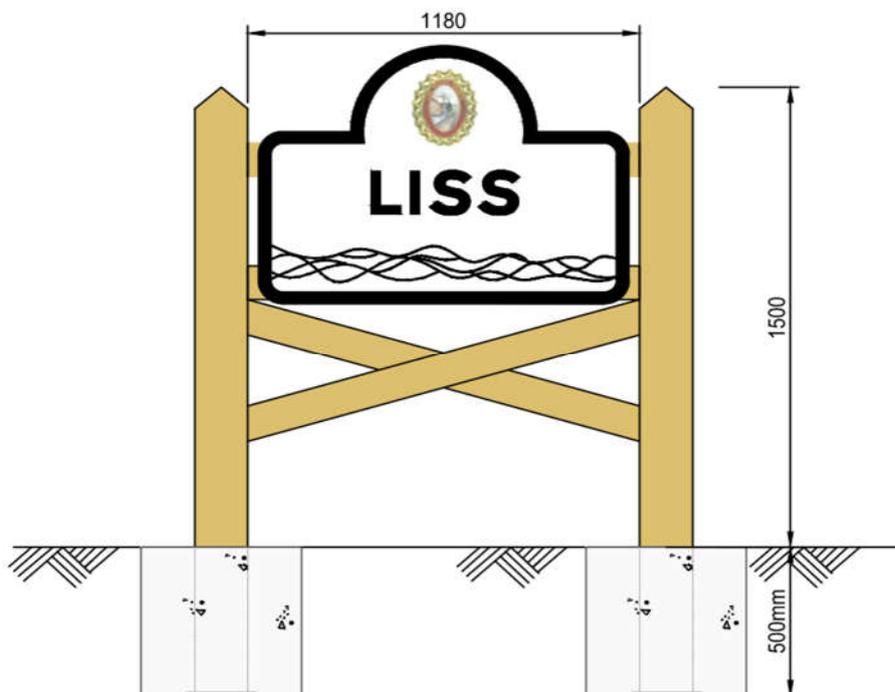


Figure 4 – Example of gateway with speed limit and name plate

The cost of gateway treatments can vary depending on the type of treatment implemented. The most common treatment is the construction of a gate arrangement which is usually in a white colour or natural to contrast against the grass verge. Each gate is likely to cost approximately £2,000. Therefore, three sites are likely to cost approximately **£12,000** as it's important to have the gateway on both sides of the carriageway. Costs can increase depending on the materials used, design used, and where the delivery is from. It is also possible to install road markings to support the introduction of the new speed limit.

Coloured surfacing can cause the speed limit to be much more visible when overlaying white roundels on the road surface. White road markings can be used to create virtual narrowing, which will cause traffic to slow down as the road appears to be narrower than it is. This can add a further 1-3mph average speed reduction on top of what can be achieved using the gateway treatment on its own. Installing coloured road surfacing and road markings is likely to add an additional **£7,000** on top of the gateway treatment cost. Any consideration on coloured surfacing should be in line with the requirements for the National Park, and the CitSD catalogue of road safety interventions.

Implementing gateway treatments on all key approaches to Cheriton can be very effective in reducing traffic speed through the village, and it's expected to see a speed reduction of approximately 5-7mph on the approach to the village if the gateway treatment is combined with the road surfacing and road markings.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Gateway treatments at 30mph terminals on approaches to Cheriton	6/10	7/10	3/10	8/10	24/40	9/10

Figure 5 below provides some examples of gateway treatments.



Figure 5 – Examples of speed limit gateway treatments

### 5.3 IMPROVEMENTS TO TRAFFIC SIGNAGE

Traffic signs are implemented to give road users information, instructions and direction. Traffic signs are normally erected along the carriageway and can range in purpose from speed information to leisure or tourism indicators. The position of the sign and the text included on the sign is of great importance as it needs to be in a clear and defined area and its proximity to the point or area of interest is important.

Throughout Cheriton, there are a number of signs that are either worn or the sign has become inconspicuous due to overgrown vegetation or infrastructure obscuring the sign. This can create a safety risk, especially if the sign is providing key information such as bend ahead or a pedestrian focused area.



There are 300mm 30mph repeater at infrequent intervals throughout the village. Without regular repeater signs along a route the road is assumed to be the national speed limit for a single carriageway. However, some of the existing repeater signs are not conspicuous due to the size of the signs and their location. Vegetation obscures some of the signs and the condition is poor for several of the signs. As a result of this drivers do not have a regular reminder of the speed limit.



Undertaking a traffic signage improvement regime across the village would be a beneficial and low cost intervention. The responsibility of signage falls within the remit of Hampshire County Council (HCC) and therefore any intervention would be executed by HCC. Priority should be given to the most important signs, and those in the worst condition. The cost of traffic signage improvements is a low-cost measure. This intervention is likely to cost in the region of **£4,000-£5,000** for all signage across the village. This is a low-cost measure as the only cost is the manufacturing and installation of the signs.

There may be a slight speed reduction through the village as a result of increased visibility of warning signage. This is likely to be in the region of 1-2mph. However, the increase in signage is likely to reduce the possibility of collisions occurring at key points such as junctions and on bends. Further investigation of the Stats 19 form may support this assumption.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Improvements to traffic signage	4/10	5/10	3/10	5/10	17/40	9/10

## 5.4 IMPLEMENTATION OF NEW 40MPH SPEED LIMIT TO THE NORTH OF THE VILLAGE ALONG THE B3046 & ON WESTFIELD ROAD

To the north of Cheriton, there is a national 60mph speed limit prior to the 30mph along the B3046. There is a possibility that traffic will be travelling in excess of 30mph proceeding through the village. It is unrealistic to expect drivers to reduce speed from a 60mph to a 30mph limit through terminal signs alone.

However, the road alignment does assist in slowing traffic down with a number of bends, limited carriageway widths, and vegetation causing restricted visibility, all of which will contribute to a lower average speed. To further assist the speed reduction, it can be effective to introduce an intermediate speed limit. In this instance, a section of 40mph. The impact of this means drivers will slow down twice, once for the 40mph speed limit and again for the 30mph speed limit. This process has proven to work effectively for other rural villages.

It is also possible to consider this intermediate speed limit intervention along Westfield Road. The existing 30mph/60mph speed terminal signs are located just west of the entrance into the sports club and car park. These terminal signs are considered too close and the 30mph speed limit should be extended further west. This is a separate intervention discussed in section 5.6. However, even with the 30mph extension along Westfield Road, there is benefit in introducing a 40mph speed limit between the new 30mph terminal and 60mph terminal to encourage drivers to slow down prior to reaching the more built-up village areas.

Figure 6 below depicts the section of the B3046 to the north, and the section of Westfield Road to the west that would be used to establish the proposed intermediate 40mph limit along with the existing 30mph limit. Please note, this plan is based on the existing situation, and doesn't consider the potential intervention to extend the 30mph limit as discussed in section 5.5 below.



Figure 6 – Proposed 40mph speed limit to the north and west of village

To design this intervention, measurements need to be taken to establish the most suitable location for the 40mph speed limit to commence. It is recommended to be at least 300-400 metres in length to have the desired effect. It is anticipated that this proposal would reduce traffic speed by approximately 4-6 miles per hour as vehicles enter the village. Drivers who are aware that the 40mph limit starts at the end of the village are likely to maintain a low speed throughout the village.

The cost of implementing a 40mph speed limit is low. There is very little cost involved in supplying terminal signs and repeater signs. The main part of the cost for this proposal is the design, consultation, and legal cost of advertising the new speed limit. To carry out the work from design through to implementation approximately **£8,000 - £10,000** is required.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Implementation of new 40mph speed limit to the north of the village along the B3046 & Westfield Road.	7/10	7/10	3/10	8/10	25/40	9/10

## 5.5 EXTENTION OF 30MPH SPEED LIMIT ALONG WESTFIELD ROAD

As touched upon above, the national 60mph and 30mph speed limit terminal signs are located just west of the entrance into the sports pitches and car park. This is too close to a key part of the village, especially as there is no footway along Westfield Road, meaning there will be pedestrians walking within the carriageway on a frequent basis. Whilst the 40mph intermediate speed limit will help pedestrian safety, it's still a concern to have a 40mph limit this close to the sports pitches and car park.

In a rural village, traffic is more likely to slow down when entering a new speed limit whereas in more urban environments the speed reduction tends to be in advance of the speed limit. In the instance of Westfield Road, there is potential that traffic is passing the entrance into the sports pitches and car park at excessive speed, which will create a significant safety risk for pedestrians walking in the carriageway. Extending the 30mph speed limit further west, will mean that traffic will be passing this point of the village at a lower speed. Combined with the 40mph intermediate limit traffic will be close to the 30mph speed limit at this point.

Whilst extending the 30mph speed limit is a recommended intervention along Westfield Road, it should be noted that extending the 30mph too far can have an adverse reaction. If the speed limit appears to be too low without reason it can cause drivers to ignore the limit, which is likely to extend into the village. Therefore, the extension should be for approximately 300m in length.



Consultation will be crucial to this proposal. Engagement with the LHA and the local Police is required to gain their support and buy-in. Objections are often received from the Police where insufficient engagement is undertaken. Ensuring the benefits and justification is provided the Police shouldn't object as the suggested extension is sensible and will improve road safety throughout Cheriton village. Extending the 30mph speed limit will require a Traffic Regulation Order, which involves legal work.

Along with the design work (minimal) and implementation of new signage and road markings, the cost will be in the region of **£8,000-£10,000**. It is recommended to tie this proposal into the terminal gateway proposal discussed in section 4.2.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Extension of 30mph speed limit along Westfield Road	7/10	7/10	4/10	9/10	27/40	9/10

### 5.6 20MPH ZONE ALONG SCHOOL ROAD NEAR SCHOOL

An area with high footfall within the village is likely to be School Road, due to the location of the primary school. The vehicle flow through this area will be high at peak school drop-off, and pick-up times. In a bid to improve safety along this core area in Cheriton, it is proposed to introduce a 20mph zone. A 20mph zone differs from a 20mph speed limit. 20 mph zones require traffic calming measures (e.g. road narrowings) or repeater speed limit signing and/or roundel road markings at regular intervals, so that no point within a zone is more than 70m from such a feature

A 20mph zone can include physical and/or non-physical traffic calming measures. The effectiveness of a 20mph zone is far greater when physical traffic calming features are used. These physical traffic calming measures can be both high cost and low cost. Examples of low-cost measures include speed limit signage and road markings (carriageway repeater signs and edge of carriageway markings) whilst examples of high-cost measures include surface treatment and road realignment.



School Road is approximately 300m long. To reduce overall cost but ensure effectiveness is high it is recommended to implement this intervention with a mixture of both high cost and low-cost infrastructure. To ensure the intervention is suitable for the National Park environment, it's recommended to consider road enhancement treatments as oppose to more traditional traffic calming measures. Examples of treatment that would be effective along School Road include new surface materials, and / or new surface colour. In addition to this, consideration could be given to the reallocation of roadspace, where footways are widened, which will reduce the width of the carriageway. Road enhancement interventions also provide the opportunity to incorporate green infrastructure. This can be combined with signage & road markings.

Alongside the above, there is also likely to be footfall with children and parents/carers walking into the school if they live within the village. There is no footfall on either approach to the school, which means footfall will be within the same space as vehicles.

Due to the costs involved, it isn't recommended to consider the road enhancement treatment for the full length of School Road. This should be focused on the area within close proximity to the primary school. The signage and road markings will enable the full length of the road to be included as a 20mph zone.

Figure 7 provides a plan that demonstrates the type of treatment recommended along School Road. The green line represents the road enhancement area, and the blue line represents the lower cost signs and road markings treatment for the 20mph zone.

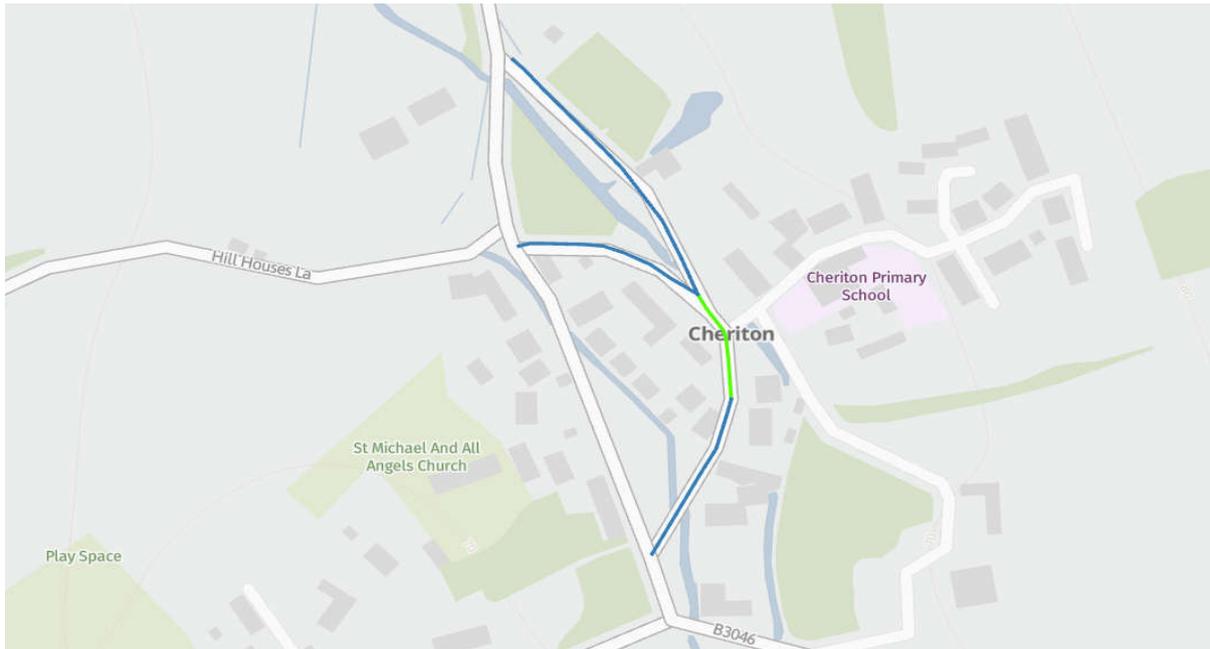


Figure 7 – Proposed 20mph treatment areas for School Road

Statistically, 20mph zones with physical measures demonstrate greater speed reductions of approximately 7mph against zones which don't have physical measures, which is more likely to be 1-3mph depending on the nature of the road. This makes the intervention one of the most effective at reducing traffic speed within the village.

Improving the environment within the area of the school will likely encourage more footfall to the school, assisting in achieving modal shift. There is a concern that without an enhancement intervention, there is risk of collisions occurring between pedestrians and vehicles. Alongside this, the width of the roadspace outside the school is quite wide, which means there is scope to include a footway provision or space for pedestrians within a shared use environment.

Figure 8 below provides an example of the impact a surface colour treatment can have within a village environment. This is an alternative to different surface materials.



Figure 8 – Example of changing the surface colour to enhance the environment

A 20mph zone varies in cost due to a number of variables such as the length of the road, number of features, the type of features, location, and consultation involved. This means estimating a cost can be difficult at this stage. The cost of the 20mph zone signage and road markings will be low. £5,000 should be sufficient for this aspect. For the purpose of this study implementing a 20mph zone along School Road is likely to cost in the region of **£60,000-£80,000**, which is based on the inclusion of both road enhancements in the core area, and lower cost measures.

Implementing a 20mph zone along School Road will be very effective in reducing non-residential traffic this is due to the primary reasoning for non-residential traffic is to decrease journey time or to increase journey coherence for which a 20mph zone would inhibit. Based on observations onsite, there appears to be a proportion of non-residential traffic travelling along School Road. These enhancements will reduce traffic along the road due to the reduction in coherence the proposals will bring.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
20mph zone along School Road	8/10	8/10	7/10	8/10	31/40	6/10

## 5.7 VEHICLE ACTIVATED SIGNAGE

Vehicle Activated Signs (VAS) are one of the most effective non-physical methods for slowing traffic in a specific location. There are a number of different types of VAS that range in cost but also provide different results. The basic signs reinforce the speed limit by flashing “Slow Down” as vehicles travel past. More effective signs display the actual speed vehicles are travelling, often with a happy face if the speed is not above the limit or an angry face if the speed is above the limit. The more effective signs are likely to see average speed reductions of 3-4mph, whereas the basic signs are likely to result in an average speed reduction of 1-2mph.

Figure 9 provides an example of a basic VAS, and figure 10 provides an example of a higher cost VAS that displays vehicular speeds.



Figure 9 – Example of basic VAS displaying speed limit



Figure 10 – Example of more expensive VAS displaying vehicle speed

However, the signs are most effective within the first two to three weeks where drivers are often surprised by the sign illuminating and reduce their speed accordingly. This is especially the case for the signs that display motorists speed as they travel past.

An alternative to fixed VAS, is to utilise mobile VAS. These are signs that can be operated in any location due to the sign sitting on a stand. These signs are most commonly found as part of SpeedWatch programmes. This is an option that Cheriton Parish Council could consider, as this would enable the sign to be rotated through the village, which is likely to increase the effectiveness.

Figure 11 provides an example of a mobile VAS that displays vehicle speeds.



*Figure 9 – Example of mobile VAS displaying vehicle speed*

The installation of VAS should be limited regardless of the size of the town / village, to avoid the effectiveness of the signs reducing, which may occur through implementation of multiple devices. In the case of Cheriton a maximum of three signs should be considered, one approaching the village from the west, one from the south, and one approaching the village from the north. For eastbound traffic along Westfield Road, a suitable location would be near the junction with the playing field. For southbound traffic, a suitable location would be near the junction with North End Lane. For northbound traffic, a suitable location would be south of Westfield Road.

Figure 12 provides a plan that illustrates the suggested locations of the three VAS. Please note that the purpose of this plan is to highlight suitable locations. This doesn't

mean to say that the village requires three signs. One or two signs would still prove to be effective. Speed surveys could be used to identify the priority of the sites.

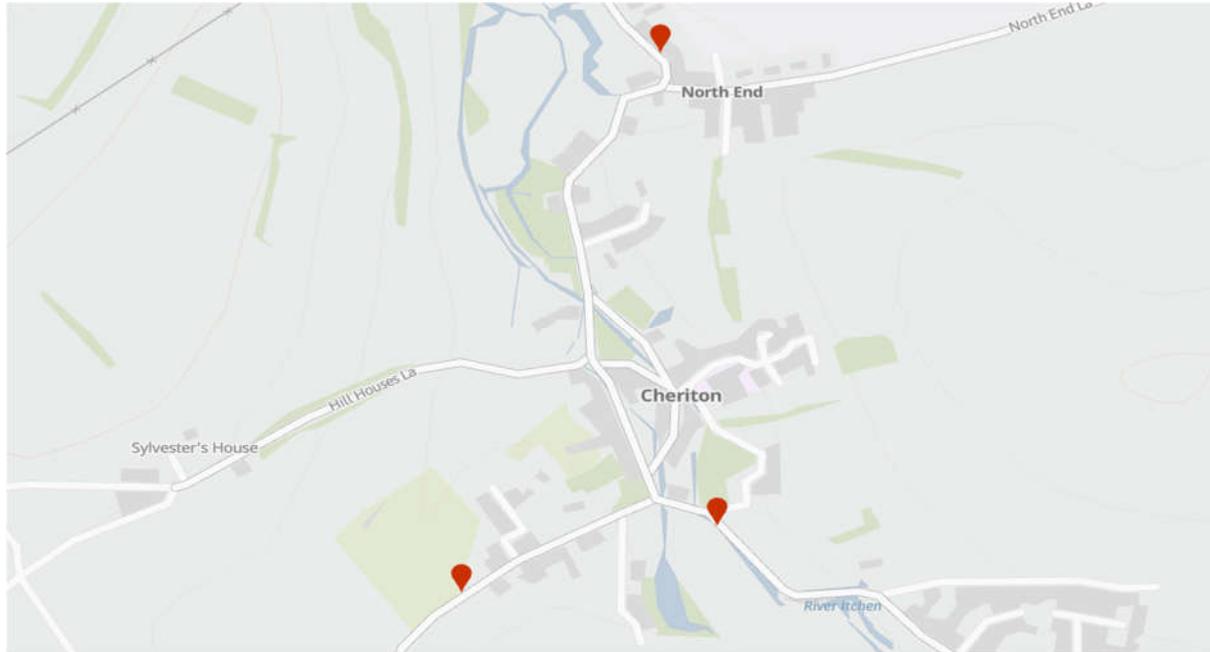


Figure 12 – Suggested locations for VAS

The cost is dependent on the type of sign purchased. Due to the rural environment, and the amount of traffic travelling through the village, which may encourage speed, it's recommended to purchase the higher cost, greater effectiveness VAS. This can either be fixed position signs, or mobile signs that can be rotated through the village.

These signs are likely to cost in the region of **£3,000-£5,000** per sign. Therefore, two signs will cost approximately **£9,000-£15,000**.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Installation of Vehicle Activated Sign (VAS)	7/10	8/10	4/10	8/10	27/40	9/10

## 5.8 UNCONTROLLED PEDESTRIAN CROSSING

Crossing points are required to provide safe crossing points for pedestrians who wish to cross from one side of the carriageway to the other. There are many different crossing points that can be implemented, and these are dependent on both road safety and footfall. It is important when implementing the desired crossing point that it is safe to use so exploration into vehicle sight lines and stopping distances need to be robust.

Pedestrian crossing points are required to provide safe crossing point for NMU's who wish to navigate across a road. There are many different crossing points that can be implemented, and these are dependent on both road safety and footfall. It is important when implementing the desired crossing point that it is safe to use so exploration into vehicle sight lines and stopping distances needs to be robust.

Within the village of Cheriton a popular path runs east-west to navigate to specific areas within the village. Users of the path currently have to attempt to cross the B3046 at a busy section. The carriageway has no crossing facilities at present and it would be the proposal to implement an uncontrolled crossing point with tactile pathing. The current infrastructure at this section of the carriageway is limited in allowing the sufficient facilities to incorporate two passing lanes and a crossing point. This coupled with the inadequate sight lines for advancing traffic makes this proposal a difficult application.



The approximate cost for the installation of an informal crossing point long the B3046 with a small section of footpath would be in the region of **£25,000-£30,000**. The main

element of the works would be construction of a footpath to connect the crossing point to the existing path and coloured road surface.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Uncontrolled pedestrian crossing	6/10	3/10	3/10	6/10	18/40	7/10

### 5.9 JUNCTION IMPROVEMENTS AT B3046 AND HILL HOUSES LANE COMPETE WITH NEW FOOTWAY

After several site visits it was noticed that there is a lack of adequate footway present through the whole of Cheriton which is mainly due to limited space within the public highway. There are some areas of footway but they provide little connection throughout the wider village. However, if certain land ownership can be mitigated correctly there is a possibility for a 1.8m footway to be implemented on the east side of the B3046 opposite the Hill House Lane junction travelling north to connect to the junction with School Road. This implementation would help to improve pedestrian safety when mitigating through the village.

In addition, it would create a safe starting point for pedestrians to cross the B3046. If this intervention was coupled with junction improvements with Hill House Lane and the closing of the one-way road (section 5.10) to traffic, it would mean that the footway would pass across the existing junction of the one-way road and the B3046. This would mean the pathway would act as a closing of the road complete with some aesthetically pleasing safety bollards.

The existing arrangement of the B3046 & Hill House Lane junction is unusual and provides opportunity for intervention to improve safety. Pedestrians currently require having to cross the wide junction, which doesn't offer any benefit as the carriageway then reduces in width considerably. Larger vehicles are likely to take a wider line to enter the junction to clear the narrowing, which means the wide junction is redundant.

Although the proposal is to implement the footway on the opposing side of the B3046, building out this junction will provide a safe place for pedestrians on the western side to cross to access the new footway without waiting within the carriageway. Within the proximity of this junction, visibility is better at this location, making it a better position for pedestrians to cross the carriageway.

Figure 13 illustrates the existing layout of the junction.



*Figure 13 – Existing layout of B3046 and Hill House Lane junction*

The cost of creating this footway and junction modification will be high. The main part of the cost for this proposal is the construction costs to install the footway. To implement this intervention to the junction at B3046 and Hill Houses Lane is likely to cost in the region of approximately **£60,000 - £80,000**.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Junction improvements at B3046 and Hill House Lane complete with footway provision	6/10	6/10	4/10	6/10	22/40	5/10

### 5.10 PROPOSED ROAD CLOSURE OF ONE WAY LOCATED OFF B3046

In Cheriton close to the centre of the village there is a one way narrow road that links the B3046 to School Lane. It is proposed that this narrow road be formally closed at the junction with B3046 to allow for a safe area for pedestrians to cross the B3046 and use the cut through. There is suitable alternatives for traffic to use to gain access to School Lane from the B3046. Access would need to remain for properties.



In addition to this benefit it would mean that any traffic wanting to access the school from the north has only one access point from the school lance junction located further to the south. This would limit the volume of traffic at the junction which would be closed which interacts with the B3046 and the junction of Hill House Lane.

The cost of closing the junction would be low. The restriction would need consideration for residential traffic to access. Physical bollards could be used but the road would need to change to two-way for access. This intervention would need a TRO to stop the road access for non-residential traffic. Therefore, the main cost of this proposal would be for the design, consultation, and legal cost. To carry out the work from design through to implementation approximately **£8,000-£10,000** is required.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Proposed road closure on one way located along B3046	6/10	4/10	5/10	5/10	20/40	9/10

## 5.11 REMOVE CENTRE LINE ALONG THE B3046

Cheriton is accessed from the north and the south via the B3046. This road at times can have large amounts of traffic flow travelling in both directions. Through the central part of the village there is many residences, and key locations that sit close to the carriageway edge which increases the chance of safety issues if vehicles are travelling at excessive speeds. To mitigate against this the proposal would be to remove the centre line on the carriageway.

Figure 14 provides an image of the existing situation along the B3046 and an example of how the route may look without the centre line through the village centre.



Figure 14 – Existing layout of B3046 and example with no centre line

In removing the centre line marking it can reduce the drivers confidence to travel at excessive speed by ensuring that there is no defined area to travel on the road. This lack of confidence in the position you undertake when travelling means that the driver at times will decrease speed because of potential conflict on the carriageway.

This intervention is best used primarily on B roads and minor roads as the traffic flow should be moderate to low. It is proposed that this intervention be introduced on sections of the B3046 that pass through Cheriton. The B3046 at peak periods has high volumes of traffic so the introduction of this measure would contribute to an overall reduction in speed and an improvement in safety.

The cost of extending the centre line removal is low. There is very little cost involved for a removal of centre line. The main part of the cost for this proposal is the cost of the preferred contractor that would remove the line. It’s likely that HCC would be required to pay a day date for this, despite the work most likely taking no more than half a day. Therefore, it’s likely that approximately **£2,500 - £3,000** is required.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Remove centre line along the B3046	5/10	6/10	4/10	4/10	19/40	10/10

### 5.12 INSTALLATION OF VIRTUAL FOOTWAY ALONG B3046

There is a long straight section of the B3046 from a point south of the junction with Westfield Road and north of the junction with Lower Lamborough Lane. Within this section there are no footway facilities for pedestrians. Due to the layout of the road, it is likely that vehicles will pick up speed, making this section one of the faster areas within the village. For pedestrians, this environment isn’t likely to be welcoming and through discussions with residents it appears many do not walk along this section for the fear of collisions with vehicles.

Due to the layout of this section of the B3046, there will be limited interventions that will be effective. Those that are, may not necessarily encourage pedestrians to walk along the carriageway. This would be considered an important aspect as it connects many properties to the village centre.



There is an edge of carriageway marking along the western side of the B3046. This provides a small strip of pedestrians but the width is insufficient, especially as the River Itchen is behind the post and rail. With the width of the existing carriageway, there is scope to widen this strip slightly to create a virtual footway. A virtual footway is an area marked out for pedestrians using paint as opposed to a full footpath construction. The benefit of this intervention is the low cost along with the flexibility it can provide in locations with limited roadspace. The drawback is the safety aspect as there is no kerblines that provides segregation from traffic.

Although vehicles are likely to use the virtual footway when passing traffic and there are no pedestrians present, it will provide more confidence for pedestrians that they can use the space and vehicles will be cautious when travelling along the road. To make the virtual footway more conspicuous, a different colour surface can be used to differentiate between the carriageway and footway. Traditionally, this is a green surface. In doing this, it does increase the maintenance liability.

Figure 15 illustrates a virtual footway along the section of B3046 using the green surface to assist in the illustration. The image shows that there is sufficient room for the creation of the footway without impacting traffic flow, although the virtual footway has been brought out into the carriageway further than the existing edge of the carriageway marking.



Figure 15 – Example of virtual footway along B3046 to protect pedestrians

A virtual footway is a low-cost measure, although the cost will increase with the inclusion of the coloured surfacing. A lower cost alternative to the coloured surfacing would be bollards placed throughout the route. This still provides an ongoing maintenance liability as these bollards are often struck and damaged by vehicles who are not aware of the reduction in roadspace.

The cost of implementing the intervention is low as no traffic order is required and very little design is required. To implement the intervention along the B3046 from a point south of the junction with Westfield Road and north of the junction with Lower Lamborough Lane is likely to cost in the region of approximately **£5,000-£6,000** without the coloured surfacing and **£10,000-£15,000** with the coloured surfacing.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Installation of virtual footway along the B3046	7/10	6/10	3/10	7/10	23/40	9/10

### 5.13 PRIORITY GIVE WAY ALONG B3046 SOUTH OF JUNCTION WITH LOWER LAMBOROUGH LANE

It has been observed from numerous site visits that a viable intervention would be to implement a priority give-way to the south of the village. This would involve a carriageway build out and give-way markings that would increase the overall safety of the area and also condition drivers of the awareness of entering into a village area where there are increase of possible conflicts and NMU interactions.

There is an existing pinch point along the B3046 located to the south of the junction with Lower Lamborough Lane, where a property boundary causes the carriageway to narrow slightly on the eastern side. This is only a slight narrowing and two small vehicles are likely to pass without issue. However, larger vehicles will need to give way accordingly.



A priority give-way prevents two-way traffic passing. As a result of this, it is necessary to signpost a direction of traffic that has priority, as well as the direction of traffic that is required to give-way. Due to a direction of traffic having priority, it's vital that the most appropriate direction is determined. Implementing a priority give-way on the approach to Cheriton village means the priority should be given to traffic exiting the village. Therefore, southbound traffic should have priority.

This intervention will be effective at mitigating against the tidal traffic flow that may occur when traffic is using the B3046 as a cut through to access other locations in the local area i.e. Alresford. Having a requirement to give-way entering the village from the south may discourage traffic from using the route, especially during busier periods of the day. It also forces traffic speed to reduce at a key point in the village.

Figure 16 below provides an example of a priority give-way system in operation.



Figure 16 – Example of a priority give-way system

A priority give-way system would be a medium cost measure and is likely to require a budget of approximately **£20,000-£25,000** to implement with design costs and any associated works. Priority give way-systems work best with a by-pass for cyclists so they do not have to enter into the narrowed carriageway. The costs include the relevant signage and road markings needed including the priority and give way signage.

A priority give-way system requires illumination such as street lighting or illuminated bollards. There is currently no street lighting within Cheriton village. This means that consideration would need to be given to alternative illumination requirements. There are examples across the country where priority give-way systems are implemented without street lighting, but this increases the risk of vehicles colliding with the measure.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Priority give way along B3046 south of junction with Lower Lamborough Lane	6/10	7/10	6/10	7/10	26/40	7/10

## 5.14 ROAD ENHANCEMENTS AT JUNCTION OF B3046 AND WESTFIELD ROAD

One of the most effective methods of reducing traffic speed without the introduction of physical traffic calming measures such as speed humps and priority give way systems is through changing the environment in a substantial way. Examples of this include the type of road surface or the surrounding buildings/landscape. Without necessarily realising it, the majority of drivers will reduce speed when they pass schools or see lots of children nearby.

In rural villages, the changing of landscapes isn't always a viable solution to achieving a reduction in speed due to the lower footfall and facilities because of the size of the village. This is one of the primary reasons there is often speed issues within rural villages. As a large number of rural villages are not within the strategic, it does provide the opportunity to consider adjusting the road surface to achieve the perception of a changed environment. The most common and effective method of achieving this is changing the colour of the road surface i.e. to buff coloured.

The contrast between the traditional tarmacked surface and the new buff coloured surface causes drivers to slow down, especially if the surface colour is combined with other interventions such as the creating of a shared environment or removal of road markings. To achieve the speed reduction it is important that the areas of surface treatment are restricted, if the entire surface through a village was changed, the impact would be lost. As well as this, surface treatments usually come with higher maintenance liabilities, which the local highway authority will likely resist.

Therefore, within Cheriton village, only the three most crucial areas have been considered for this type of intervention. At the junction of the B3046 and Westfield Road the proposal would be to enhance the junction. The highlighting of this area would indirectly condition drivers to reduce their speed. This junction along with the sharp corner are areas that have high levels of traffic flowing in both directions as witnessed on numerous visits to Cheriton.

The road environment in this location is very car orientated, with limited footway provision, and a clearly defined carriageway with road markings in-situ that provide confidence to drivers that they have a fixed position in the road. In addition, visibility is good around the pub, with good sight lines to the north, and to the south.

Due to the car dominance this part of the village has, along with the safety concerns for pedestrians due to areas without any footway, wide junctions to cross, and narrow footways where there is a provision, it is proposed to consider public realm enhancements with an aim to provide greater protection to pedestrians, reduce the comfort for drivers, and create an area that is welcoming at a key part of the village.

It is proposed to utilise this space for alternative surface materials to enhance the road, and create a different environment, which will increase in driver awareness that they are entering a different location that has a more shared space feel. This can be done by means of surface materials and other non-intrusive measures i.e. coloured surface.

There are several different surface materials that can be considered, ranging from high quality materials such as granite setts, and yorkstone paving to cheaper materials such as natural stone, and concrete blocks. The decision on the type of surface material should be based on numerous considerations. Certain materials are more defined in specific colours, which may make the use dependent on surrounding materials and colours. As expected, the higher quality materials such as granite setts, and yorkstone paving are more costly to install, both construction, and maintenance.

Due to the higher costs, the use of these surface materials is far more infrequent than tarmac and other lower cost materials. Apart from major regeneration schemes often reserved for city and town centres, it's rare for continued use of the materials over a wide area. Instead, the materials are used sparingly in conjunction with lower cost materials such as tarmac. It can be effective to use the higher quality materials with coloured road surfacing, which can create an enhanced environment with a much lower cost than only using the materials.

Figure 17 provides an example of a surface treatment using different materials to change the environment, which would be as effective as changing the surface colour.



Figure 17 – Example of changing the surface material to enhance the environment

The cost of enhancing the junction of B3046 and Westfield Road is high. There is a large amount of work required to implement this proposal. To implement the intervention within the junction is likely to cost in the region of approximately **£50,000-£75,000**. This would reduce slightly if surface colour treatments were prioritised over surface materials. It is also possible to combine both to create the enhancement.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Road enhancements at junction of B3046 and Westfield Road	6/10	7/10	4/10	9/10	26/40	6/10

### 5.15 ROAD ENHANCEMENTS NEAR VILLAGE HALL ALONG B3046

The second location where surface treatment would be considered is the section of B3046 around the village hall. This area can be considered to be within the vicinity of the village centre. With the location of the village hall and village green this is likely to be higher footfall than other areas within the village. There is an informal crossing point that connects the village green to the village hall within this section. Therefore, this would be a sensible location for surface treatment.

As there isn't a footway along this section of the B3046, and there is the informal crossing point, consideration should be given to creating a hybrid of a shared environment and specific area for pedestrians to wander within the extent of the B3046 as vehicles frequently travel along the road. However, avoiding a traditional

carriageway and footway environment will control speeds as drivers will not feel comfortable in the roadspace.

Therefore, combining aspects of these two approaches to create a hybrid environment will provide more comfort for pedestrians whilst achieving the impact of the shared space environment for traffic speed. The most effective solution to creating the hybrid environment will be to use different surface treatments within the “vehicular area” and the pedestrian space. This could either be different colours or different materials.

Figure 18 provides an illustration of the B3046 within the extents of the village hall to demonstrate how the environment could look with a change of road surface. As this area combines the proposed uncontrolled crossing point (section 5.7), it provides the opportunity to use hybrid environment for the uncontrolled crossing point as well.

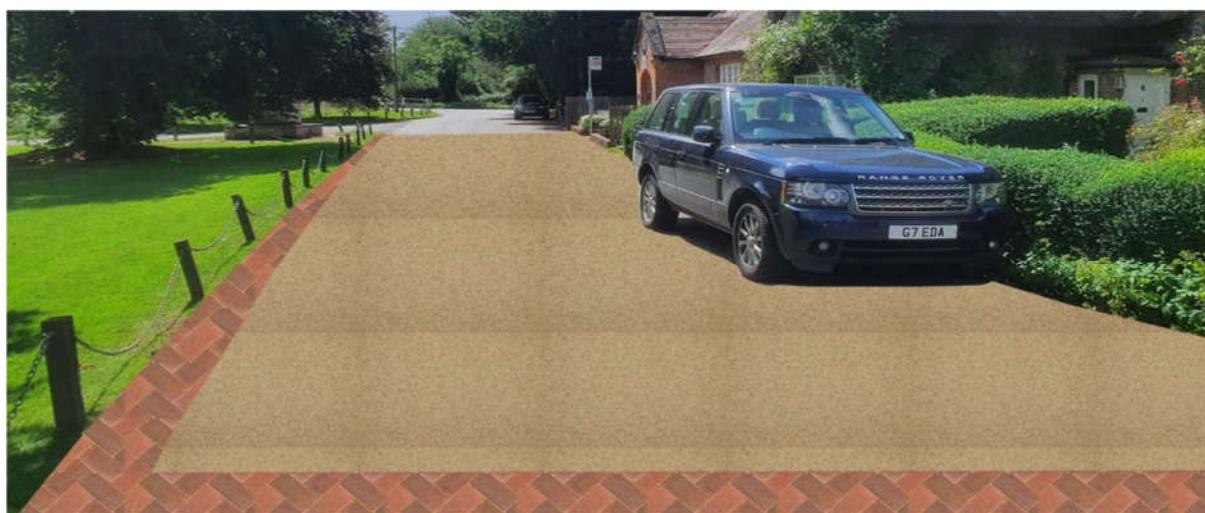


Figure 18 – Example of road enhancement near village hall

The cost of enhancing the B3046 within the vicinity of the village hall is high. There is a large amount of work required to implement this proposal. The main part of the cost for this proposal is the construction of the new surface material and pedestrian area.

Figure 13 above illustrates an enhancement scheme using a block paving surface. This is acknowledged to have a higher maintenance cost so it may be necessary to consider alternatives if the local highway authority resists the intervention. To implement this intervention within the vicinity of the village hall is likely to cost in the region of approximately **£50,000-£75,000**.

Intervention	Safety	Speed	Volume	Impact	Total	Cost
Road enhancements near Village hall along B3046	6/10	7/10	4/10	9/10	26/40	6/10

## 6.0 THE PROPOSALS

Table 4 shows a list of the 14 proposed interventions along with the overall cost effectiveness score. This has been calculated by combining the effectiveness score (safety, speed, volume, and impact score) to create an overall effectiveness score, and dividing the total by four, to create an average effectiveness score.

This score is then combined with the cost score to create an overall score out of 20. For example, extending the 30mph speed limit along the B3046 scored 7/10 for safety, and speed, 4/10 for volume, and 9/10 for impact. This provides an effectiveness score of 27/40, but an average overall score of 6.8/10. Combing the 6.8/10 with the cost score of 9/10 results in an overall intervention score of 15.8/20.

Combining the effectiveness and cost scores prevents the highest cost interventions becoming higher priority interventions, which is likely to occur without this combination, due to the benefits these interventions will bring. For example the study identifies four opportunities for road enhancements within the public highway. These are likely to be well supported by the local community, and will also be suitable for the National Park. Without consideration of cost, these will be the highest scoring interventions overall.

In addition to this, the score has then adjusted to take into consideration the National Park environment. This is important to ensure greater priority is given to interventions that are most suitable for the National Park. The adjusted score for the National Park setting is based on four additional criteria. The score given for each of the four criteria is simply added to the effectiveness cost score to provide an overall intervention score.

The adjusted score for the SDNPA criteria is shown below in table 3.

Adjusted Score for SDNPA Criteria	Score
Compliments the National Park & local communities	3
Compliments the National Park OR local communities	2
Accepted by SDNPA & local communities but limited suitability for the National Park	1
Accepted by SDNPA OR local communities but limited suitability for the National Park	0

*Table 3 – Adjusted score for the SDNPA criteria*

The highest rated intervention for Cheriton village achieves an overall score of 15.8, which is the extension of 30mph along Westfield Road to the west. This intervention can be classified as low cost interventions (cost score of 9/10). The second highest rated intervention was implementation of new 40mph speed limit along the B3046 & Westfield Road, which scored 15.3. This is also a low cost intervention (9/10 score).

Following these two interventions, three interventions scored 14.8 overall. These interventions include Vehicle Activated Signage, the remove of centre line along the B3046, and the installation of virtual footway along B3046. All three of these interventions are low cost, with two scoring 9/10, and the VAS scoring 8/10 if three signs were implemented. Two signs would increase the score to 9/10 for cost.

The highest rated intervention for Cheriton village that isn't classified as a low cost measure is the introduction of a 20mph zone along School Road, which achieved a score of 13.8. This intervention would have been the highest scoring intervention if cost wasn't part of the criteria as the effectiveness score was 31/40. In comparison, the second highest scoring intervention on effectiveness was 27/40. This highlights how effective the 20mph zone could be in Cheriton if external funding is available.

Once the adjusted score for the SDNPA was taken into consideration, The highest rated interventions changed in priority. Gateway treatments at 30mph terminals, which was the fourth highest scoring intervention based on the effectiveness cost rating, became the highest scoring intervention overall. This is due to the intervention complimenting both the National Park environment (due to the type of material, and branding that can be incorporated), as well as benefiting the local community.

Once the adjusted score for the SDNPA was taken into consideration, The highest rated interventions changed in priority. Extension of 30mph speed limit along the A283 remained the highest scoring intervention. Remove of centre line along the B3046 was the joint third highest scoring intervention prior to the adjusted score. With the adjusted score, this becomes the second highest scoring intervention. Implementation of new 40mph speed limit along the B3046 & Westfield Road was the second highest scoring intervention, but this becomes the third highest score with the adjustment.

The lowest scoring intervention prior to the adjusted score was junction improvements at B3046 and Hill Houses Lane complete with new footway, and this remains the lowest scoring intervention with the adjusted score. However, the implementation of an uncontrolled pedestrian crossing point is also subject to the same adjusted score.

Table 4 provides all 14 interventions, and the overall intervention score out of 20.

Ref	Proposal	Overall Intervention Score	Adjusted Score for SDNPA
1	Gateway treatments at 30mph terminals	14.0	17.0
2	Improvements to traffic signage	13.3	13.3
3	Implementation of new 40mph speed limit along the B3046 & Westfield road	15.3	17.3
4	Extension of 30mph along Westfield Road	15.8	17.8
5	20mph zone along School Road	13.8	16.8
6	Vehicle Activated Signage	14.8	14.8
7	Uncontrolled pedestrian crossing point	11.5	12.5
8	Junction improvements at B3046 and Hill Houses Lane complete with new footway	10.5	12.5
9	Proposed road closure on one way located along B3046	14.0	17.0
10	Remove centre line along the B3046	14.8	17.8
11	Installation of virtual footway along B3046	14.8	16.8
12	Priority give way along B3046 south of junction with Lower Lamborough Lane	13.5	14.5
13	Road enhancements at junction of B3046 and Westfield Road	11.5	14.5
14	Road enhancements near village hall along B3046	11.5	14.5

Table 4 – Prioritised proposals for Cheriton

Figure 19 provides a plan showing the locations for each of the interventions using the reference number from table 4 above. For instance, 1 demonstrates the proposed location of the 30mph gateway treatments. Please note that reference 2 has not been included in this plan as this proposal would involve intervention throughout the village rather than at specific points within the village like those shown below are.

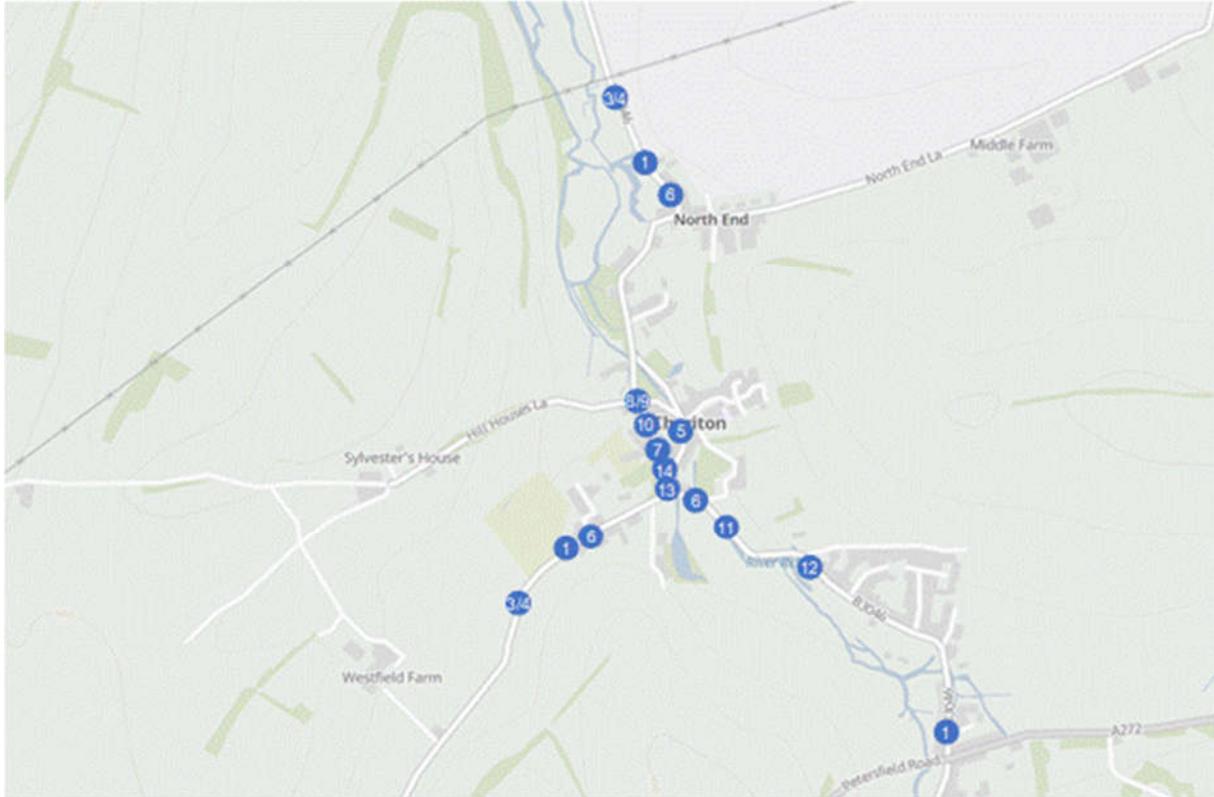


Figure 19 – Location plan for interventions

## 7.0 PACKAGE OF MEASURES

Each of the interventions described in section 5 should achieve either a speed, or volume reduction, and improvements to safety through the village. Some interventions will achieve a greater speed / volume reduction and improvements to safety compared to others. On the whole, these will be related to cost. The most effective application of works would be to implement a package of measures, which collectively contribute to achieving a greater reduction in speed and overall, a greater improvement in safety.

Hence, this means that if improvements to the village gateways coupled with priority build-outs, then this would lead to a greater improvement in speed reduction, and overall safety, as opposed to implementation of just one proposal alone. The more measures combined; the greater the overall improvement is likely to be.

Some measures will work better in combination than others. Therefore, it is crucial that measures that complement each other are grouped together. For example, installing the 30mph gateway treatments, extending the 30mph speed limit to the west of Westfield Road, and Vehicle Activated Signs would work well together as this would provide a consistent message along to the west of the village, where traffic speed may be high. This in addition to road enhancements in one or more location in the village would again reaffirm to the driver that they are travelling within a 30mph speed limit.

Therefore, the ambition for Cheriton Parish Council should be to implement work package of measures that contain a number of interventions. The works package progressed should be largely based on the budget available. Cheriton Parish Council should focus on the overall intervention score, as appose to the cost solely. For instance, if only £50,000 was available to address safety in the village, it wouldn't be recommended to progress a road enhancement intervention as this would utilise all the available budget, leaving no funding for additional interventions in the village.

To support the Parish Council understand what interventions will make the most suitable work packages based on the availability of budget, 2020 Consultancy have produced three work package examples based on low, medium, and high cost budget.

Please note, the approximate costs shown in tables 5-7 are based on a likely average. However, some interventions have been adjusted where there is flexibility in the

budget. For instance, a road enhancement scheme could be delivered for £50,000 but could be delivered for £60,000, based on the type of measures if funding permitted.

Measure	Approximate Cost
Gateway treatments at 30mph terminals on approaches to Cheriton village (based on two village approaches)	£8,000
Extension to the 30mph speed limit along Westfield Road	£8,000
Installation of 2x Vehicle Activated Signs	£8,000
<b>TOTAL COST</b>	<b>£24,000</b>

*Table 5 – Example works package with budget of £25,000*

Measure	Approximate Cost
Gateway treatments at 30mph terminals on approaches to Cheriton village (based on all three village approaches)	£12,000
Implementation of new 40mph speed limit along the B3046 & Westfield Road	£8,000
Extension to the 30mph speed limit along Westfield Road	£8,000
Installation of 2x Vehicle Activated Signs	£8,000
Installation of virtual footway along B3046	£10,000
Remove centre line along the B3046	£3,000
<b>TOTAL COST</b>	<b>£49,000</b>

*Table 6 – Example works package with budget of £50,000*

Measure	Approximate Cost
Gateway treatments at 30mph terminals on approaches to Cheriton village (based on two village approaches)	£8,000
Extension to the 30mph speed limit along Silver Street	£8,000
20mph zone along School Road	£51,000
Implementation of new 40mph speed limit along the B3046 & Westfield Road	£8,000
<b>TOTAL COST</b>	<b>£75,000</b>

*Table 7 – Example works package with budget of £75,000*

Tables 5-7 demonstrate that two interventions have been included in all three work package examples. This is because they are effective regardless of the available budget due to the lower costs involved, and will be suitable for the National Park environment. Based on this, it is the belief of 2020 Consultancy that these should be prioritised. The tables also highlight interventions that have a reduced cost scheme included. These are interventions that can be value engineered to reduce budget. For example, a 20mph zone is expected to cost approximately £60,000. However, the intervention design can be adjusted to deliver within a lower cost budget i.e. £51,000.

## 8.0 NEXT STEPS

Following on from the feasibility report, Cheriton Parish Council have the opportunity to provide any comments they wish to include as part of the project. Following this, the Parish council then need to escalate the findings of this report to the highway authority, Hampshire County Council. It is recommended that the newly produced CitSD guidance, which has been developed as part of this contract is reviewed, as this will provide greater detail and clarity on the processes involved to develop interventions.

If the highway authority is happy to approve the Parish Council carrying out the work on the highway or are willing to contribute to funding, the next stage will be to carry out detailed design of the proposals(s). This will then be consulted on with key stakeholders. Some of the proposals require Traffic Regulation Orders to be created and advertised. This work can then be carried out on site.

Many of the interventions included in this study will require further engagement with key stakeholders. This is either due to the need to undertake statutory processes i.e. new or amended Traffic Regulation Orders, or the need to understand the appetite for the interventions. Key stakeholders include highway authority, local councillors, emergency services, and transport bodies such as bus operators. It is our recommendation that consultation with residents is carried out with all proposals to ensure there is adequate support. This can be done at different stages of the project.

It may be necessary to undertake additional tasks to create an evidence-based to support interventions. For example, commissioning an Automatic Traffic Count survey at one or more location within Cheriton may provide evidence to support adjustments to speed limits, such as extending the 30mph speed limit north, or the intermediate 40mph speed limit either side of the village. Hampshire County Council have this function in-house, and it's recommended they are contacted to arrange the survey.

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