Beech Road Safety Working Group
Report to Beech Parish Council

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Contents

Acknowledgements

The authors thank the following Beech residents who have contributed to the work of the BRSWG and, hence, to the development of this report. In alphabetical order: Eric Baker, Roger Ison, Tony Ransley, Brian Wagstaff, David Walker.

Summary

This report contains the recommendations of the Beech Road Safety Working Group (BRSWG) for improving the safety and security of pedestrians and all other road users in Beech.

BRSWG find that the traffic problem is partly to do with speed - for most of Medstead Road and Kings Hill, 55%[1] of drivers break the speed limit - and partly the lack of pavements, which forces all users onto the same narrow winding road. BRSWG has reviewed traffic calming and pedestrian safeguarding measures and proposes a series of measures for the full length of the village (the Recommended Scheme). The report also contains information on:

- An analysis of the Beech speed camera data.
- Land ownership next to Medstead Road and Kings Hill, including woodland areas.
- HCC's policies on highway safety and scheme funding.
- Schemes used elsewhere to solve problems such as those in Beech.
- Initial views from HCC on possible schemes and their likelihood of gaining approval.
- Scheme costs based on contractor quotations or estimates.

Conclusions:

- HCC has indicated willingness to provide help and advice on local road safety initiatives.
- To gain HCC approval, any scheme must take account of current policy statements and pass a rigorous road safety audit.
- HCC will not fund any local road safety programmes and has instead set up a Community Funded Initiative (CFI) that requires funds to be generated locally.
- HCC policy is to not approve physical traffic calming measures such as speed bumps or chicanes, the installation of speed cameras or new 20mph zones, except under special circumstances, including a history of repeated serious traffic accidents - which is not the case for Beech. HCC will also discourage proposals that involve a commitment to significant ongoing maintenance.
- Regarding funding, in November 2020 a £3.28 million Active Travel Fund was allocated to HCC to boost cycling and walking infrastructure in the county. Gaining an allocation for Beech should be an immediate priority as soon as the application process for such funds is put in place.
- In view of the above, the number of available safety measures is limited. After discussing our objectives with people involved in similar schemes elsewhere, it is recognised that gaining approval can be a lengthy and painstaking process.

[1] Based on comparing data from the Beech speed camera between 7 October 2019 and 6 October 2020 when it was in the Kings Hill and Mid-Village locations. Speeds at the camera location next to the village hall are lower, due to the junction, bend and pinch point.

Recommended Scheme

1. Where the road runs next to the woodland area, create new off-road rural pathways 1.44km long in total and 1.5m wide, to HCC design specification. Approval to build has been given in principle by both the owner of the private woodland and Hampshire Highways where they own the land next to the road. A small section (approx. 150m) crosses land owned by Forestry England who previously rejected the concept of a much longer path and will need to be approached again regarding this reduced scheme. The estimate for this is £63k-£70k (excl. VAT).

2. Where there is no room for an off-road pathway (which is the rest of the route apart from the first section at the eastern end), create on-road "virtual pathways" on Medstead Road and Kings Hill. This pathway will be indicated by a low (20mm, ¾ inch) kerb and a different coloured tarmac, giving drivers tactile and visual reminders that they are entering the pedestrian zone. If drivers need to enter the pedestrian zone to pass oncoming vehicles, they may do so, though they must be prepared to give way to pedestrians, as required by Highway Code rule 206. The virtual pathway will also guide pedestrians onto a recommended side of the road (usually the side offering the pedestrians and drivers the best view of the road ahead). This delivers a safer area for pedestrians than currently exists and for drivers, creates the impression that the carriageway may not be wide enough for vehicles to pass each other, resulting in reduced speeds. The expectation is that the virtual pathway will not be designated officially as a pedestrian pavement or footpath but will remain part of the carriageway. Experience from other similar schemes suggests that so long as the virtual footway looks sufficiently like a pavement, drivers will anticipate pedestrians and avoid driving on it unnecessarily.[2]

   Hampshire Highways has not objected to the virtual pathway concept in principle but it will need to pass their formal safety audit and it is anticipated that some adjustments may be required during the detail design and review stages. The cost estimate for the 'virtual' footways is between £69k and £135k (excl. VAT). The variance reflects the difference between contractor estimates.

Total estimated cost of this scheme (1 and 2 above) is £135k - £205k (excl. VAT).

[2] More information on 'virtual' footways is given in Appendices 1 and 2, including alternative types. Some are cheaper but may not be as effective or as durable.

1. Background

Road traffic has been named consistently as the foremost community issue that concerns the residents of Beech. Therefore, in February 2020, Beech Parish Council set up a Working Group to investigate this challenge and propose possible solutions to the problem of pedestrians and other non-vehicle users having to share the carriageway with motor vehicles travelling at 30 mph or more. This report contains the output and recommendations from the Working Group.

1.1 Beech Road Safety Working Group (BRSWG) – Objectives

Conduct a roadway and footway improvement project to:

- Improve road safety in Beech for all road users and particularly for pedestrians and, as a result -
- Promote walking and other non-vehicle travel within the village, increasing the opportunity for physical exercise.
- Improve community cohesion, social interaction, recreation and health.

1.2 BRSWG – Scope of Work

The Scope of Work listed below is drawn from the Parish Council document presented at a village meeting at the end of January 2020. It details the work done to date by BRSWG, the output from which is presented in this Report. Additional elements not covered so far are described in the "Next Steps" section.

- Devise an ideal road safety scheme (traffic calming measures and/or roadside footways) for the full length of Medstead Road and Kings Hill.
- Establish ownership of land bordering the full length of Medstead Road and Kings Hill. Where such land is not controlled by HCC, establish whether the land may be included in any footway scheme.
- Consider whether any footways should include provision for other users (e.g., cyclists), and so set an outline specification.
- Consider what physical traffic calming elements may be required.
- Obtain outline costs for all scheme elements.
- Narrow down and refine feasible options, including checking acceptability with HCC.

NB: Engineering works that would be likely to require the purchase of private land were deemed beyond the scope of this review.

2. Analysis of the Beech traffic problem

2.1 Statement of the problem

For pedestrians, traffic in Beech is sufficiently intimidating to prevent them from walking in Medstead Road - Kings Hill or, when they do, to find the experience unpleasant. By necessity, most walkers take extreme care and it is not surprising that the accident figures are low, but this has undesirable consequences. Many parents feel that the road is too dangerous for family walks or for unaccompanied children and for the same reason, other road users like joggers, cyclists and horse riders are also discouraged. Similarly, the safety of children walking along the road to reach the school bus stop is seriously compromised. There are two main consequences of this situation:

- A lack of cohesion between the two ends of the village.
- Residents are more likely to drive outside the village and within the village for recreational or social activities, which creates yet more traffic and pollution.

For pedestrians to feel totally comfortable and safe sharing a space with motor traffic, the traffic needs to be restricted to not much more than walking pace, which is usually the case in places such as car parks, 'pedestrianised' shopping areas, railway station forecourts etc. In Beech, despite the roads being residential throughout the village, as shown by the presence of street lighting, pedestrians are forced to walk in the narrow carriageway with traffic travelling in both directions at up to 30 mph or more.

2.2 Root causes

a. There are no pavements or footpaths, except for the bottom of Medstead Road and a few metres next to the bus stop at the Medstead Road/Wellhouse Road junction.
b. In many places there is no grass verge. Hedges or steep banks regularly come down to and even over the edge of the carriageway.
c. The roads are narrow and parts of Medstead Road and Kings Hill, including most of the village-centre section, are a particularly awkward width from a pedestrian safety perspective, being just wide enough for two cars to pass each other without slowing down, providing both drivers keep close to their left-hand side. The regular appearance in Medstead Road and Kings Hill of glass and pieces of plastic from door mirrors shows that minor collisions are a frequent occurrence and the sense that drivers' attention is focussed on avoiding oncoming vehicles, to the detriment of vulnerable road users, causes great distress to pedestrians.

2.3 Other contributary factors

d. Although the traffic volume amounts to nearly half a million vehicle movements per year, with the exception of the area near the junction between Medstead Road and Wellhouse Road, the traffic is mostly evenly spaced out and is not much slowed down by any natural features or pinch points (during the day, vehicles travelling in the same direction on Medstead Road - Kings Hill are typically 30 seconds to 2 minutes apart).
e. Unlike some village settings, Beech does not have many stone walls or hard structures close to the carriageway that feel intimidating to drivers and cause them to drive more slowly. Hedges and grassy banks are not perceived by drivers in the same way.
f. Particularly in the summer, the trees and hedges conceal the houses and driveways and make the road look more like a quiet country road than a residential area.
g. Although Beech has street lighting, these are telegraph pole mounted and largely obscured by vegetation in daylight hours. So, motorists do not get the usual visual cue that they are driving along a residential road with a 30 mph speed limit.
h. The road is on a gradient, dropping 110 metres (361 ft) between Alton Abbey and the junction with the A339. This encourages faster driving in this direction and drivers need to use their brakes or select a lower gear to control their speed, but these are not skills much taught to new drivers or featured in the driving test.
i. Poor driver behaviour – some treat pedestrians with courtesy and consideration, many do not.
    - Many drivers do not **slow down sufficiently** near pedestrians or **leave enough room**, sometimes passing with only inches to spare and often not **pulling out sufficiently early**. They might be intending to swerve round but pedestrians do not know that.
    - From the perspective of the pedestrian, it appears that **many drivers are travelling far too fast for the conditions**, even when they do keep to the speed limit.

3. General Approach

Adopting a safety management approach to this problem, the solutions can be drawn from measures that will separate the individual from the hazard (preferred) or, where this cannot be achieved, the risks posed by the hazard are reduced through pro-active mitigation. In the case of road safety, the “hazard” under consideration is the motor vehicle.

BRSWG have investigated several different options under the following headings:

- Separate footpaths - where possible, protect pedestrians and other non-vehicle users by providing new rural pathways separate from the roadway. Alternatively, consider providing conventional verge footways where land is available.
- Virtual footways – where separate footpaths are not possible, consider including a virtual footway within the existing road width with measures that induce or encourage better driver behaviour towards other road users.
- Other solutions to reduce traffic speeds.

3.1 Method

Medstead Road and Kings Hill have been split into different segments defined by conditions within each (See Map - Section 4, where road segments are marked A-G). The advantage of this method is that a solution can be delivered for each segment in phases, based on:

- Perceived benefit
- Cost and available funds
- Approvals complexity / status

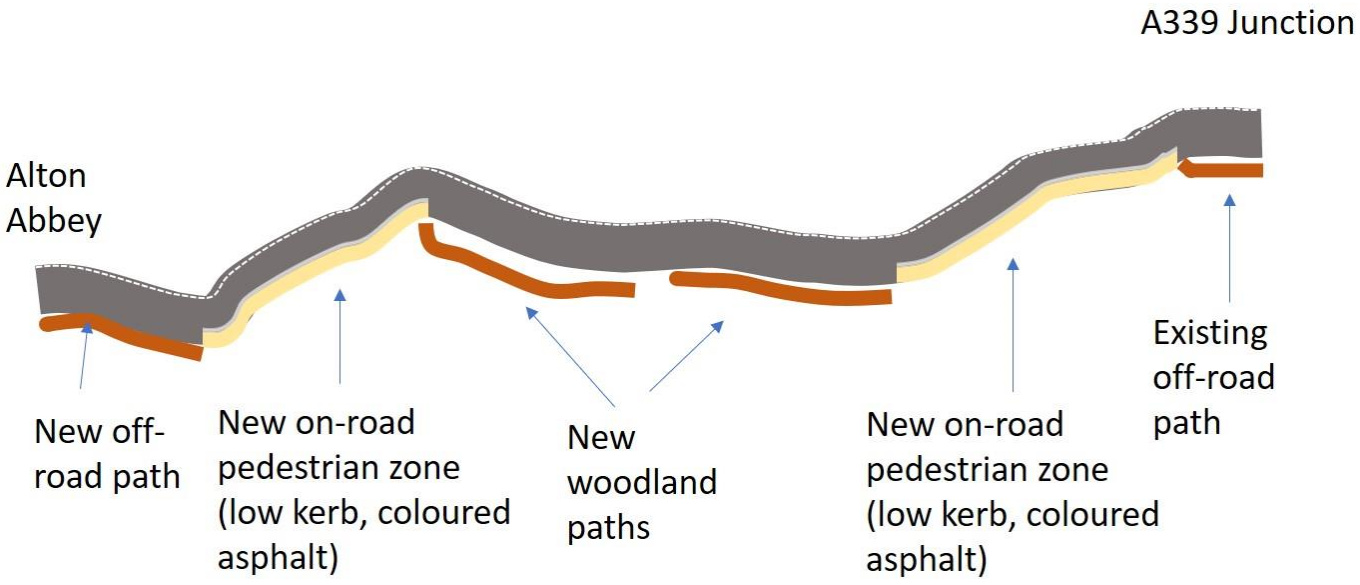
Using this method, the BRSWG has produced an overall Recommended Scheme for the full length of Medstead Road / Kings Hill as required in the Scope of Work.

3.2 Sources

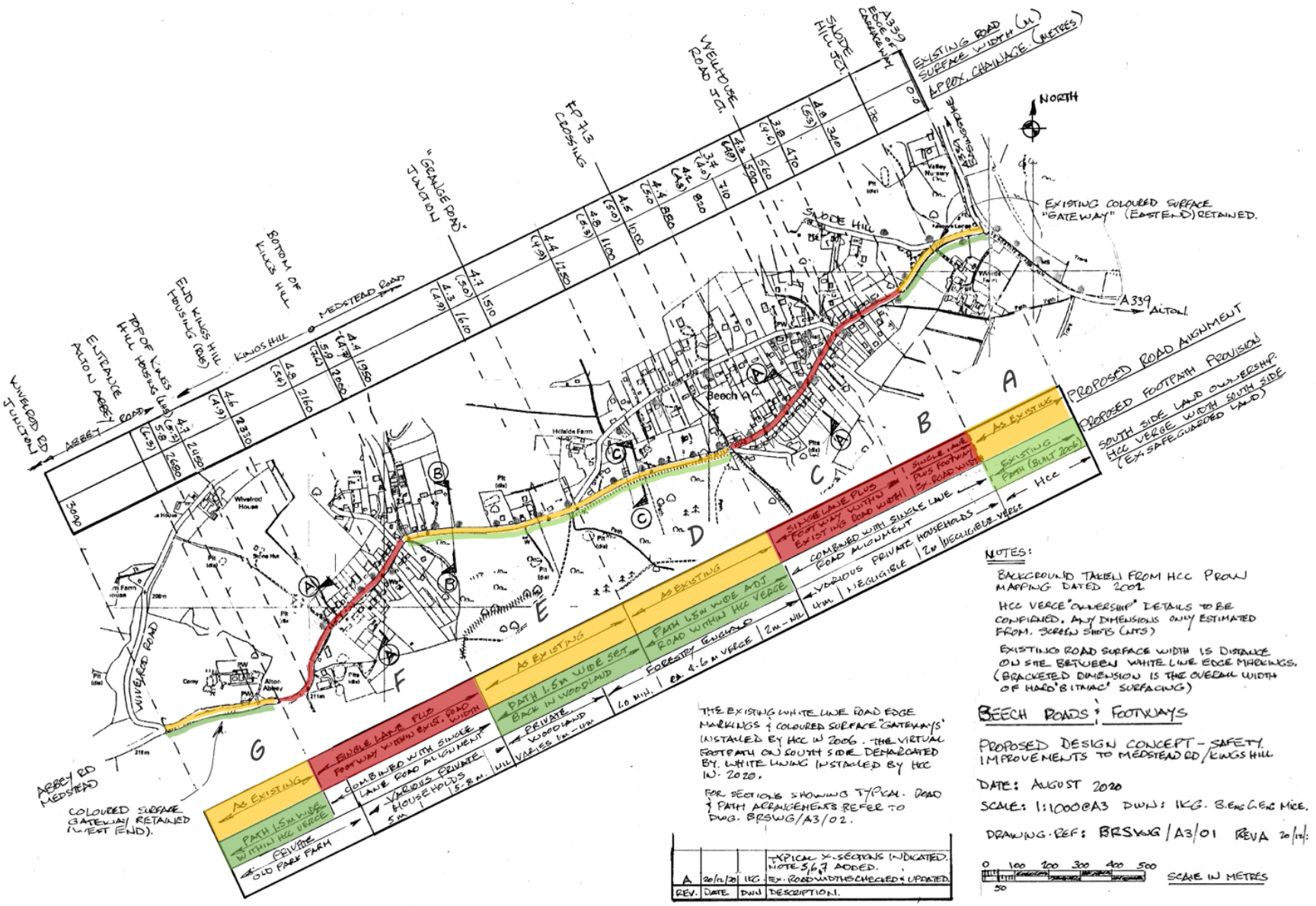
The Working Group has drawn on a variety of sources, including previous traffic calming initiatives in the village, the experiences of other similar villages, historical traffic data for Beech, published information on traffic speed, road design and traffic calming, and the latest local and national government policies on community cohesion, recreation and health. The Group is in contact with HCC Highways Department and has initiated consultation and discussions (as HCC is a key decision maker and the final approving authority for most options assessed). Within this consultation, specific note has been taken of the current policies that Highways apply to road safety measures.

4. Village Maps and Engineering Cross Sections

The illustration below is a schematic of the Recommended Scheme. Note that the road width and the woodland path and pedestrian zone widths are not to scale.



On the following page is a marked-up village map (Drawing BRSWG/A3/01 REV.A) covering the full length of Medstead Road and Kings Hill and showing the different segments (A-G), together with their specific characteristics and the BRSWG preferred options. The following page (Drawing BRSWG/A3/02) provides indicative cross-sections to illustrate the proposed options.



NOTES:

BACKGROUND TAKEN FROM HCC PROW MAPPING DATED 2002.

HCC VERGE "OWNERSHIP" DETAILS TO BE CONFIRMED. ANY DIMENSIONS ONLY ESTIMATED FROM SCREEN SHOTS (ATTS)

EXISTING ROAD SURFACE WIDTH IS DISTANCE ON SITE BETWEEN WHITE LINE EDGE MARKINGS. (BRACKETED DIMENSION IS THE OVERALL WIDTH OF HARD 'BITMAC' SURFACING)

THE EXISTING WHITE LINE ROAD EDGE MARKINGS & COLOURED SURFACE "GATEWAYS" INSTALLED BY HCC IN 2006. THE VIRTUAL FOOTPATH ON SOUTH SIDE DEMARCATED BY WHITE LINING INSTALLED BY HCC IN 2020.

FOR SECTIONS SHOWING TYPICAL ROAD & PATH ARRANGEMENTS REFER TO DWG. BRSWG/A3/02.

REV.	DATE	DWN	DESCRIPTION.
A	20/11/20	IKG	TYP. ROAD WIDTHS CHECKED & UPDATED. TYPICAL X-SECTIONS INDICATED. NOTE 5, 6, 7 ADDED.

REVISION SCHEDULE:

BEECH ROADS : FOOTWAYS

PROPOSED DESIGN CONCEPT - SAFETY IMPROVEMENTS TO MEDSTEAD RD/KINGS HILL

DATE: AUGUST 2020

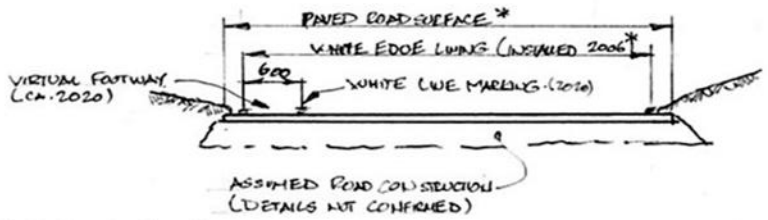
SCALE: 1:1000@A3 DWN: IKG. B.ENG(HONS) MICE.

DRAWING REF: BRSWG/A3/01 REV A 20/11/

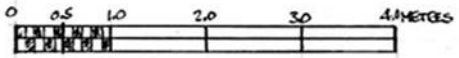
0 100 200 300 400 500

50

SCALE IN METRES



EXISTING ROAD X-SECTION



SCALE: 1:50 @ A3

* FOR ROAD WIDTHS REFER TO DRAWING BRSWG/A3/01 REV A.

- THE VIRTUAL FOOTWAY EXTENDS FROM APPROX. CH 1100 TO CH 2200.
- HCC VERGE OWNERSHIP WIDTHS VARY AND ARE TO BE CONFIRMED.

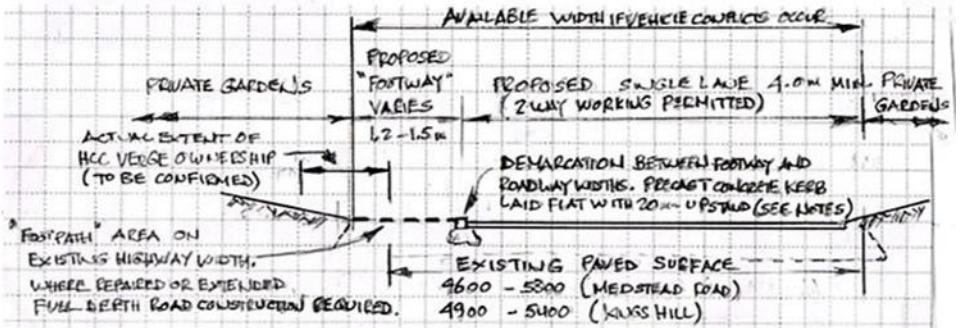
BEECH ROADS & FOOTWAYS

PROPOSED DESIGN CONCEPT - SAFETY IMPROVEMENTS - INDICATIVE SECTIONS

DATE: AUGUST-SEPT. 2020.

SCALE: 1:50 @ A3 DWN: IKG BEYCE & MIKE.

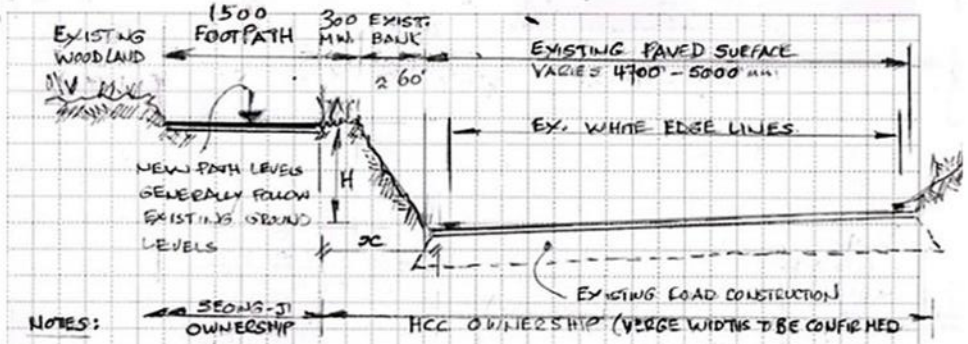
DRWNG REF: BRSWG/A3/02



NOTES:
1. THE FOOTWAY WIDTH WILL BE DEMARCATED FROM ROAD AREA USING PC KERBS LAID FLAT; ALTERNATIVELY BY WHITE PAINT LINE. FOOTWAY TO HAVE COLOURED SURFACE FINISH AND PEDESTRIAN PRIORITY SIGNAGE.
2. VEHICULAR TRAFFIC PERMITTED TO USE FOOTWAY AREA WHEN REQUIRED TO PASS OPPOSING VEHICLES.
3. WHERE EXISTING PAVED WIDTH VARIES, ROAD WIDTH REMAINS CONSTANT AND VARIATION TAKEN UP IN FOOTWAY WIDTH.

SECTION A-A (KINGS HILL & LOWER MEDSTEAD ROAD)

(SINGLE LANE PLUS FOOTWAY WITHIN EXISTING ROAD WIDTH)

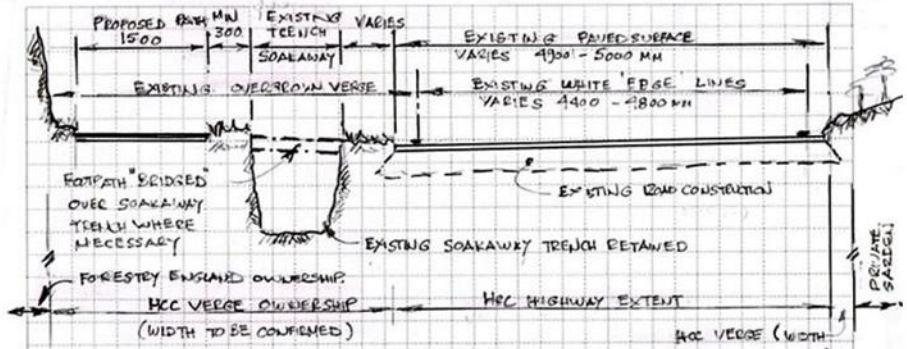


NOTES:

4. EXISTING ROAD SURFACE/WIDTH AND EDGE LINES RETAINED (2 WAY TRAFFIC)
5. CONSTRUCT NEW FOOTPATH ON SOUTH SIDE SET BACK FROM TOP EDGE OF THE EXISTING ROADSIDE EMBANKMENT; WITH HORIZONTAL ALIGNMENT TO AVOID EXISTING SIGNIFICANT TREES.
6. NEW FOOTPATH LEVELS FOLLOW EXISTING GROUND PROFILE WITH MINIMAL EXCAVATION BELOW EXISTING LEVELS; TYPICALLY 900 - 1600 MM ABOVE ROAD LEVELS. DIMENSION "X" VARIES 900 - 1600 MM.

SECTION B-B (SEONG-JI WOODLAND)

(DRAWN CH 1960 APPROX)



NOTES

7. NEW FOOTPATH CONSTRUCTED WITHIN EXISTING HCC VERGE WIDTH ON THE SOUTH SIDE OF MEDSTEAD ROAD, FOLLOWING EXISTING VERGE LEVELS.
8. EXISTING ROAD WIDTH AND EDGE LINING RETAINED (2 WAY TRAFFIC FLOW)

SECTION C-C (FORESTRY ENGLAND SOUTH SIDE)

(CH 1000 - CH 1510)

5. Discussion and Recommendations

The recommendations below (in Section 5.4) have been drawn from our analysis and consideration of the following critical items:

- Ownership of land next Medstead Road and Kings Hill.
- Physical layout of the roads along their length and the potential road safety measures that can therefore be deployed.
- Relative ease with which approvals for such road safety measures can be secured currently.
- Potential changes in policy that might provide alternative solutions in future.
- Costs of the different measures plus the status of funding options and opportunities for funding in future.

5.1 Land ownership next to Medstead Road & Kings Hill

Confirming land ownership and associated boundaries has been quite a complex task, mainly because, with current Covid restrictions, Hampshire Highways cannot access the definitive documents. However, we do believe we have sufficient confidence on this point to be able to make secure recommendations for our Preferred Scheme. Hampshire Highways has maps of the roads in question, showing the extent of the verges that Highways own. We have been shown copies in the form of an interactive software package enabling zooming in and dimensional measurement and have received screenshots of these maps (see Appendix 4). These are adequate for confirming which road safety measures are possible for each segment, though for detail design, we will need better quality information and will require Highways' assistance in this.

One section of the road where Highways themselves have some uncertainty on ownership, relates to the South side of Medstead Road between number 27 and the start of Bushy Leaze Wood (section C of the map). Along this stretch Highways' interactive mapping shows their land ownership mainly limited to the road width itself. However, there is the possibility that land next to the road on the south side was either dedicated[3] or compulsorily purchased from the then house owners back in the 1970's, specifically for the purpose of building an off-road path and carrying out other changes such as road widening and straightening. Subsequently Hampshire Highways decided not to proceed with that plan. This decision was confirmed in a solicitor's letter to the then owner of one of the affected properties. Clearly, from a road safety perspective, having an off-road path in this

[3] A dedication is an option to acquire land for which the property owner would have been compensated.

section could be highly beneficial in getting pedestrians off the road. However, this would not necessarily lead to the reduction of traffic speeds and might even result in an increase. Highways has been unable to confirm one way or another whether they do indeed still own or hold options to acquire an unbroken strip of land sufficient to build an off-road footpath, simply because the legal paperwork is held in a deed safe in HCC's offices with the legal team working from home since March 2020 due to the Covid-19 crisis.

It is the conclusion of the Road Safety Working Group that, even if Highways do confirm that this land or options to acquire it is owned by HCC, it is likely that proposing to build such a path today would be both unpopular with the householders affected and expensive to construct. Furthermore, the senior officer responsible for Hampshire Highways' assets takes the view that it would be unwise to rely on fifty year old dedications. He believes that these dedications would be the subject of a legal challenge by one or more property owners and that HCC would conclude that fighting such a challenge would not represent a good use of public funds.

As a result, we have dismissed this option as untenable both for now and in the future.

5.2 Securing Approvals – Status Summary (for each measure)

To implement any measures, some level of approval will be required typically from the owner of the land where Works are proposed which, for the most part, will be Hampshire Highways.

Hampshire County Council policy on road safety initiatives fundamentally changed in 2016/17 following its need to implement substantial cost savings. The new Traffic Management policy makes it clear that no Council support or funds will be allocated to the delivery of "engineered" traffic and safety measures that do not demonstrate a casualty reduction benefit. In October 2020 HCC issued a technical note on traffic calming[4], updating their approach to traffic management and restating their policy of focussing traffic calming schemes on locations with a history of injury accidents. In its discussion of different traffic calming measures the guide states: "Only if considered absolutely necessary for improvement of pedestrian and driver safety on an existing road, should one or more of the following be considered" and goes on to offer "Road markings – removal or introduction" (which includes 'virtual narrowing' HCC TG11 Section 3.2), as first in their order of preference out of a list of eight measures.

[4] https://documents.hants.gov.uk/transport/TG11TechnicalGuidanceNote-TrafficCalming.pdf

We have concluded that, with the circumstances in Beech and the increased national emphasis on social cohesion, personal wellbeing and locally based recreational activity, it has become "absolutely necessary" to address the pedestrian/vehicle issues in our village and we believe that our Recommended Scheme is a realistic and effective option with minimal alteration to the highway and low ongoing costs.

It might be said that providing an on-road virtual footway might encourage pedestrians to put themselves in harm's way but, at present, residents of Beech have no option other than to walk on the roadway and mix with traffic travelling at 30 mph or more. We believe that a virtual footway would help to separate pedestrians from the motor traffic, guide pedestrians, equestrians and cyclists to use one side of the road, as opposed to the present situation where drivers often meet pedestrians on both sides of the road and encourage traffic to slow down, which will enhance the security and wellbeing of all road users.

The following table assesses the **current** level of difficulty that each measure presents when seeking approval. (Please note that, where relevant, our assessment has been validated by a Highways official referencing current Council policy – see Appendix 5 and "HHC Guide Documents – Traffic Calming" link in Appendix 8). The classifications are as follows:

1 = Approval is **unlikely** to be needed (subject to confirmation).
2 = Approval is **likely** to be granted subject to certain conditions/standards being met.
3 = The likelihood of approval being granted is **unknown** at this time. Further assessment required from approving body.
4 = Approval is **unlikely** to be granted as the proposed measure is not a priority consideration for the approving body.
5 = Approval is **very unlikely** to be granted as the proposed measure goes against the current policy of the approving body.

PROPOSED MEASURES	**Likelihood of approval**				
	1	**2**	**3**	**4**	**5**
Rural pathway (on Highways land)		X			
Rural pathway (on private woodland)	X				
Rural pathway (on Forestry England land)				X	
On road footway (virtual or actual)			X		
Chicanes + speed tables					X
Speed humps or pillows + pinch points					X
Reduced speed limit (20mph)					X
ANPR speed camera + enforcement				X	
Make Medstead Rd "Access only"					X
Improve road safety signs *(Implemented)*		X			

5.3 Potential Future Policy Changes

The table above that describes the situation around gaining approvals for improved road safety measures, reflects the position based on current policy. This has been used as a key element in deciding the Recommended Scheme.

However, there is discussion taking place, mainly in central government, around future policy direction. It is not yet clear when any timetable for decision-making and the production of implementation plans for any changes will emerge. The Working Group has attempted to capture details about the most relevant potential changes and thus make recommendations, either for future options to further enhance road safety in the village or to progress plans to access new funding for the current recommended options.

In broad terms the policy changes that have been considered fall into two distinct areas:

- **Changes in policy around promoting walking and cycling.**
  One of the few benefits to emerge from the COVID-19 pandemic is the recognition by the Government of the need to promote health and wellbeing in the community. Specifically of interest to this report is the new funding that is being allocated to support cycling and walking and coupling this with traffic reduction schemes.
  The top level announcement from the UK Government was issued on 9th May 2020 by the Department for Transport pledging a "£2bn package to create a new era for cycling and walking" between now and 2025. The policy profile of cycling and walking has been raised, with responsibility moving to Minister of State level at the Department for Transport. This has been followed up more recently and locally on 23rd November 2020 when a £3.28 million Active Travel Fund was allocated to Hampshire County Council to boost cycling and walking infrastructure.

  The Working Group's opinion is that this new policy and fund allocation is unlikely to change the current HCC policy around traffic calming works very soon, nor about 20 mph speed limits, but is likely to make funds available specifically around the creation of new paths and cycle routes. Attempting to gain an allocation of these or other Active Travel Funds for Beech should be an immediate priority.

- **Changes in policing priority for rural Hampshire.**
  Whilst doing nothing to improve the local infrastructure for pedestrians, some of the lowest cost options for improving vehicle speed management in the village would become viable if policing priorities around speed limit enforcement were changed. Specifically, if police authorities were willing to take information from Automatic Number Plate Recognition (ANPR) speed cameras and use this to issue fines and

points to offending motorists, adherence to speed limits would improve substantially.

The Road Safety Working Group (specifically Charles) has engaged with Hampshire Constabulary around the ever reducing policing activity in rural Hampshire in general and, more specifically, around the problem of speeding motorists on rural rat runs. Whilst accepting and acknowledging the reality of the problem, Hampshire Constabulary has yet to come back with any concrete proposals. The BRSWG recommends this initiative continues but accepts that progress is likely to be slow.

5.4 Recommendations

The Road Safety Working Group recommendation provides a solution for the full length of Medstead Road and Kings Hill, consisting of a combination of two specific measures:

- Off-road (rural) pathways – to be built parallel and close to the roads.
    - Village map sections: D, E, G.
- Virtual footway (on the road) – to be built where there is no room for an off-road pathway. The demarcation between the main road surface and the virtual footway is delineated with a 20 mm kerb providing instant feedback to a driver that the threshold has been crossed.
    - Village map sections: B, C, F.

The recommendation delivers enhanced pedestrian road safety with the highest probability of gaining requisite approvals.

With the assumption that the recommended solution as stated can proceed, the cost to deliver it is in the range of £132k. to £205k. (exclusive of VAT). These costs have been derived from contractor estimates with an allowance for contingency. Final costs will be defined at the detailed design stage and inevitably will be subject to any amendments in specification or other mitigations required to gain approval.

For completeness, the Working Group has also considered other variations but has not explored them in as much detail or costed them as they appear to be less viable:

- **A wider off-road rural footpath.**
  Considered because it could provide safer cyclist and/or equestrian routes for those parts of the village. Although land appears to be available for such increase, this was dismissed because of cost.

- **Use rumble strips to delineate the edge of the virtual pathway instead of a 20mm kerb.**

  Considered because it is perceived to be a lower cost solution than a continuous kerb but dismissed because this is not an approved application for rumble strips and HCC Technical Guidance Note TG11 – Traffic Calming (October 2020) lists it as the least preferable traffic calming option from a list of eight. It is also more difficult to integrate with coloured footway surface treatment.

- **Reduced length of Works**
  Considered excluding the length of Abbey Road between the top of Kings Hill and Wivelrod Road (map Section G) to reduce cost as there are no residential properties along this section. Dismissed as it reduces safe pedestrian access to Wivelrod.

5.5 Note on Cyclists and Equestrian Road Users

Impact on cycling

In August 2020, East Hampshire District Council (EHDC) published its Local Cycling and Walking Infrastructure Plan (LCWIP).[5] The establishment of LCWIPs has been encouraged by central government not least because cycling and walking can be shown to produce health, environmental and social benefits. The EHDC plan followed an online engagement survey in February to March 2020, which indicated high demand for walking and cycling infrastructure in East Hampshire. Meanwhile, the impact of Covid-19 shows that people locally are keen to take outdoor exercise. BRSWG believes its proposals for an on-road, virtual footway will encourage both walking and cycling in Beech.

Like pedestrians, cyclists are among the road users defined as 'vulnerable'. We do not have access to data showing how many cyclists use Medstead Road/Kings Hill, either as a through road on a local commute, or as part of wider leisure use. What we do know is that the descent of Kings Hill's steep incline is a popular challenge for local cyclists, though this can create tensions with residents of Kings Hill who experience cyclists moving at, or above, the speed limit with little audible warning of approach. However, we think it unlikely that cyclists enjoying the thrill of the long downhill run will wish to move onto a virtual footway, especially if it is on the other side of the road.

So, we anticipate that the virtual footway will offer the added benefit of removing pedestrians from the path of the high-speed cyclists. Conversely, we think it is probable

[5] https://cdn.easthants.gov.uk/public/documents/East%20Hants%20LCWIP%20V1.2%20Summary%20(1).pdf

that cyclists tackling the slow climb up to Alton Abbey will use the virtual footway when there are no pedestrians in the vicinity. This will enable overtaking despite the narrowing effect of the footway.

In summary , we believe that the proposed on-road pedestrian footway will have a largely beneficial effect for cycling locally, by slowing motor traffic and helping to protect both cyclists and pedestrians alike.

Cycling UK, in its response to the Department for Transport's consultation on Cycle Safety in June 2018[6] recommended that speeds in all urban areas should be reduced to 20 mph, while rural roads should have a limit of 40 mph. Beech is not urban but it is residential throughout the length of the village, though this is often not recognized by motorists travelling through the village who see it as entirely rural on account of the steep banks, hedges and other vegetation.

An on-road footway would tend to encourage motorists to travel more slowly and thus create a safer environment for cyclists; but if the space for the virtual footway is to be shared with cyclists, then the quality of the surface would be of key importance[7] and this would have to be recognized in any design.

Equestrians

We have not set out to address the needs of equestrians, who regularly use the roads through the village to access the network of local bridleways. However, it seems reasonable to assume that the slower movement of through traffic would have the same beneficial effect on equestrians as it would have on cyclists.

6. Funding

We understand that funding, or part-funding, for this project from HCC Highways is currently unlikely. Depending on policy, there may be some HCC funding available in future years through Highways or through other HCC streams such as rural communities' grants as one outcome of the scheme will be to improve vastly the village's social cohesion if residents are able to walk safely to community facilities and to their neighbours' properties. Nevertheless, we recognise that a significant portion of the necessary funding will need to

[6] page 112 https://www.cyclinguk.org/sites/default/files/document/2018/06/1806_cuk_response-to-dft-call-for-evidence_finalv2.pdf

[7] Para 16 c. https://democracy.hants.gov.uk/documents/s38237/Report.pdf

be sourced elsewhere by the Parish Council and applied to the project in accordance with HCC Highways' Community Funded Initiatives (CFIs).

On a more positive note, and as discussed in Appendix 6, new Government policy around supporting initiatives to promote walking and cycling has resulted in brand new funding becoming available, with Hampshire receiving £3.28m. as recently announced (November 2020).

The criteria for receiving an allocation from this fund or other tranches of the Active Travel Fund plus the process to be followed to make an application, have not yet been finalised as this report is being issued. The BRSWG acknowledges that access to this fund will be vital if the recommendations put forward in the report are to be realised.

7. Proposed Next Steps

The Working Group proposes the following next steps:

- Respond to questions and feedback from Beech Parish Council.
- Maintain close contact with Hampshire Highways representatives
    - Work with HH to obtain a Safety Audit for the preferred option and possible variations.
    - Attempt to understand and mitigate any objections that may arise.
- Present the findings and recommendations to the village.
    - Exhibition in the Village Hall
    - Live on-line presentation and Q&A session
    - Potential other approaches subject to COVID rules at the time.
- Communicate village preferences to the Parish Council and, subsequently, HCC.
- Continue to seek out and follow through with national and local funding opportunities
    - Focus on accessing part of the Hampshire allocation of The Active Travel Fund.
- Commence other fundraising activities.
- Assuming the above are delivered successfully,
    - Make a formal request to Hampshire County Council for “Agreement in Principle” for the proposed solution.
    - Approach Forestry England for approval to include a much reduced length of rural pathway over its land (than was originally requested and rejected by FE). This section encompasses the area between Bushy Leaze vehicle entrance and the border with Seong-Gi’s land (150m maximum).
- Obtain costs for and commence detailed design work.

Appendices

1 Assessment of Possible Road Traffic and Pedestrian Access Measures. (including indicative costs).

2 Alternative variations for ‘virtual footway’ elements of recommended scheme

3 Analysis of the Beech speed camera data

4 Land ownership (adjacent to Medstead Road / Kings Hill)

5 Hampshire County Council – Traffic Management Policy (and website information)

6 Hampshire County Council – Community Funding Initiative material

7 Articles on and links to websites about new Government investment in cycling and walking – Active Travel Fund.

8 Links to Key Documents

Appendix 1: Assessment of Possible Road Traffic and Pedestrian Access Measures. (Including Indicative Costs)

The following pages review the full range of Road Safety Measures explored by BRSWG. For each measure, the structure is the same:

- a description
- a photo
- a strengths and weaknesses assessment
- a table describing.
    - the segments of Beech to which the Measure is applicable.
    - indicative cost range (per section). NOTE – all costs shown are at 2020 prices and exclusive of VAT.
    - expected ease of achieving approval for the measure.
    - whether the BRSWG recommend the measure now, in the future (if policy changes) or not at all.

The Measures reviewed are as follows:

1. Rural Pathways
2. On-road Virtual Pathways (flush with the road surface)
3. Physical Traffic Calming - Speed Tables, Chicanes, Speed Humps and Pinch Points
4. Lower speed limit
5. Automatic Number Plate Recognition (ANPR) speed cameras with enforcement
6. “Village access only” for Medstead Road and Wellhouse Road
7. Road safety awareness signs

MEASURE 1

Rural Pathways

Rural pathways can be deployed to separate pedestrians from vehicles on the road thus eliminating the risk of conflicts and creating a safer environment for walkers. The proposed design for these in Beech would be similar to that already built that runs from the A339 / Medstead Road junction to 22, Medstead Road (the first house on the left). The design will be to Hampshire County Council design specification with a width of 1.5m.

Indicative 1.5m wide pathway (as budgeted for)

STRENGTHS

1. Major safety improvement for pedestrians as they would be separated from the dangers of vehicular traffic.
2. Walking in the village will become more pleasurable and interlinked, increasing this healthy way of getting about.
3. If point 2 above is successful, this will reduce the number of local cars travelling within the village.
4. This option could be extended in width to provide a safer and more attractive route for cyclists and equestrians as well, albeit at extra cost.

WEAKNESSES

1. Pedestrians might not use pathways if they are longer, more arduous, darker, wetter, muddier than the road.
2. Most cyclists passing through the village will continue to use the road, as many cycles are not suitable for off road use.
3. This solution will not reduce road speeds – indeed drivers may feel encouraged to drive faster knowing there are paths.
4. There will be an ongoing maintenance costs.
5. Where existing properties lie on the opposite side of the road to the pathway, additional measures will be required to give them easy access to it.

APPLICABLE ROAD SECTIONS (See Map)	**INDICATIVE COST RANGE** (Per Section)	**EASE OF APPROVAL** (1 = Easy; 5 = Difficult)	**BRSWG RECOMMENDATION**
D	£23,950 - £26,350	2	Yes
E	£20,450 - £22,500	4 & 1**	Yes
F*	£13,310 - £14,650	5	No
G	£18,750 - £20,700	2	Yes

[* = This path only goes part way up Kings Hill to the point where the road becomes too narrow]

[** = 4 refers to the section over Forestry England land; 1 refers to the section over Seong-Gi's land]

NOTE: Indicative costs above do not include lighting.

MEASURE 2

On-Road ‘Virtual’ Footways

On-road ‘virtual’ footways usually take the form of a coloured strip running on one side of the road, which is flush (or nearly flush) with the road surface, indicating the pedestrian zone. This reduces the apparent width of the carriageway for motorised vehicles and creates the impression that the carriageway may not be wide enough for cars to pass each other in opposite directions. This uncertainty causes vehicles to slow down and, when necessary, they will cross over the virtual path to pass. Experience suggests that drivers adapt well to virtual footways, understanding that they are intended for pedestrians and usually avoid driving on them unnecessarily.

Virtual footways have been deployed successfully elsewhere. For example, in South Perrott, Dorset a virtual footway has a 20 mm (3/4 inch) high kerb and a different coloured surface, giving drivers tactile and visual reminders that they were entering the pedestrian zone. This is on the main A356 through the village. In Rowledge, Surrey, the pedestrian zone is distinguished from the vehicle zone by a dotted white line, a different coloured surface and periodic ‘pedestrian’ decals painted on the path.

Rowledge

South Perrott, Dorset.

Note that in neither of the examples above is the ‘virtual footway’ officially designated as a pedestrian pavement. The pedestrian zone remains as part of the carriageway and a perception of road narrowing is created by the appearance of the coloured strip and, in South Perrott, the drop kerb. In South Perrot, in places where vision ahead is restricted, drivers are warned with “Oncoming Vehicles in the Middle of the Road” signage. It has been reported that the ‘virtual footway’ in South Perrott did not result in a reduction in average vehicle speeds through the centre of the village. However, the average speeds were already relatively low before the pathway was installed and residents have told BRSWG that the pathway succeeded in its aim of creating a safer and more comfortable route for pedestrians and that they view it as a significant asset.

STRENGTHS OF VIRTUAL FOOTWAYS

1. An on-road footway will result in what is known as 'virtual narrowing' of the carriageway, creating the impression that the carriageway may not be wide enough for two vehicles to pass each other. Experience with existing 'virtual narrowing'[8] schemes suggests that drivers will then use the edge portions of the road to pass each other when necessary but the overall effect is to reduce traffic speeds.
2. Pedestrian safety is improved as it creates a pedestrian zone on one side of the road which vehicles are encouraged to avoid.
3. The virtual path guides pedestrians to the one side of the road. Whereas, at present pedestrians in Beech are liable to use either side of the road, sometimes walking on the more dangerous inside edges of bends.
4. Drivers will also benefit from the reassurance that any pedestrians are likely to be in the pedestrian zone. At present drivers sometimes encounter pedestrians on both sides of the road.
5. The low kerb and coloured surface give drivers tactile and visual reminders that they are entering the pedestrian zone.
6. Proven solution elsewhere with several years' experience and no reported safety incidents.
7. This type of virtual footway is aesthetically pleasing and in keeping with the rural character of Beech.
8. The recommended type of virtual pathway is likely to have minimal maintenance requirements and a service life of at least 20 years.

WEAKNESSES

1. Some drivers might ignore the pedestrian zone.
2. Depending on the materials used, there may be an ongoing maintenance requirement, which Highways have made clear they do not expect to fund.
3. Where clear visibility from start to end of the section cannot be provided, there would be a greater chance of vehicle conflicts. The inclusion of periodic passing places for vehicles and/or pedestrian refuges would reduce such hazards; this is a matter for the detail design stage.

APPLICABLE ROAD SECTIONS (See Map)	**INDICATIVE COST RANGE** (Per Section)	**EASE OF APPROVAL** (1 = Easy; 5 = Difficult)	**BRSWG RECOMMENDATION**
B + C	£35,450 - £69,800	3	Yes
D	£30,150 - £59,300	3	No
E	£32,500 - £63,950	3	No
F	£33,100 - £65,120	3	Yes
G	£27,800 - £54,650	3	No

NOTE: Costs shown are based on contractor estimates for the "low kerb" virtual footway solution

[8] Beech already has examples of a type of 'virtual narrowing' with the second single solid white line along the south side of Medstead Road adjacent to Bushy Leaze Wood and another short section on Kings Hill. Pedestrians seem to accept this as a footway zone even though there is no indication that it is so designated, and comments indicate that it helps to make pedestrians feel more secure but that it is rather too narrow to be fully effective. Some drivers have been observed to completely ignore the extra white line, possibly because there is nothing about it to suggest that it is intended as a pedestrian zone. See HCC Technical Guidance Note TG11 – Traffic Calming - October 2020 (link in Appendix 8) for further information on this type of 'virtual narrowing'.

MEASURE 3

Physical Traffic Calming Features: Chicanes, Speed Tables, Speed Humps, and Pinch Points

These more familiar road safety measures operate by providing physical obstructions in the road causing drivers to slow down to avoid other vehicles (chicanes) or prevent damage to their own vehicle (speed tables). Used in combination at the critical risk points they would improve pedestrian road safety by reducing vehicle speeds in the immediate vicinity. The fundamental issue with this type of "engineered solution" is that it falls outside the current HCC policy which states "The new policy focuses the County Council's limited traffic management resources on measures and projects where there is evidence, they will benefit casualty reduction by responding to issues at locations with the greatest scope to reduce casualties." Those with the greatest scope to reduce casualties are identified by killed and seriously injured (KSI) figures. Beech is not one of these locations although it should be noted that this may in part be the result of villagers driving short distances within the village rather than risking their lives on the rat-run that is Kings Hill and Medstead Road. In short, would-be pedestrians are intimidated into not walking.

STRENGTHS

1. Pedestrian safety is improved as vehicles are forced to slow down meaning there is less chance of collision and less damage if one does occur.
2. Slower vehicles add to the tranquillity of the village making the idea of walking more attractive.
3. These traffic-calming measures are common in local towns and villages, so everyone understands how they operate.

WEAKNESSES

1. HCC policy clearly states that these solutions will not be approved unless proven casualty reduction can be achieved. (See Appendix 5). Thankfully, Beech has a relatively low number of casualties, although a jogger was seriously injured in a hit and run incident in Beech in March 2020.
   HCC has no plans to review current policy.
2. This type of physical obstruction can increase noise, irritating residents living nearby.
3. Visually intrusive.

APPLICABLE ROAD SECTIONS (See Map)	**INDICATIVE COST RANGE** (Per Section)	**EASE OF APPROVAL** (1 = Easy; 5 = Difficult)	**BRSWG RECOMMENDATION**
B + C	£20,000 - £50,000	5	No
F	£20,000 - £50,000	5	No
[Allows for 2 x chicanes and 2 x speed tables per section]			

NOTE: BRSWG considered and dismissed "speed humps" as a solution to the problem of speeding traffic. They are no longer viewed as acceptable, specifically because the Emergency Services and bus operators object to them. Also, they tend to be seen as an urban solution to traffic calming which is inappropriate in a rural setting.

MEASURE 4

Lower Speed Limit

Twenty miles per hour speed limits and zones have been applied extensively in London and many other towns and cities. This year the Welsh Government has voted to make 20 mph the default for residential areas and it is widely expected that the other parts of the UK will follow. In the Welsh proposal, residential streets are defined as those with streetlights spaced no more than 200 yds apart and under that condition Beech would qualify. Any speed limit is most effective when combined with speed camera recording or other enforcement measures but, even without this, reports by ROSPA and others show that the introduction of a 20 mph speed limit is almost always beneficial.[9]

STRENGTHS

1. Pedestrian safety is improved as vehicles are required to slow down, reducing the chance of a collision, and reducing injuries if one does occur. Government figures show the chances of a fatality reduce from 45% at 30 mph to 5% at 20 mph. (Source - DfT Advisory 7/93)
2. Slower vehicles add to the tranquillity of the village, making the idea of walking more attractive.
3. A 20 mph limit may also lead to a reduction in traffic volumes, as some drivers seek other routes. For example, sat navs would be less likely to suggest Four Marks - Medstead – Beech as a short cut between the A31 and the A339.

WEAKNESSES

1. It is HCC's policy to oppose the introduction of more 20 mph zones or limits in Hampshire, except in certain cases where injury accidents attributed to speed are identified.
2. Similarly, Hampshire Constabulary will not agree to speed reductions which it cannot enforce due to lack of resources.
3. A speed limit alone may not change other undesirable driver behaviours e.g., driving too close to pedestrians and other road users.
4. Unless combined with other enforcement or traffic calming measures, the reductions in speed may be relatively small and, although significant in terms of severity of injury in a collision, they may not be apparent to pedestrians and other non-vehicle road users.

APPLICABLE ROAD SECTIONS (See Map)	**INDICATIVE COST RANGE** (Per Section)	**EASE OF APPROVAL** (1 = Easy; 5 = Difficult)	**BRSWG RECOMMENDATION**
All	< £1000	5	In the future

[9] New rules provisionally agreed by the EU mean that speed limiters will become mandatory for all vehicles sold in Europe from 2022 and the UK's Vehicle Certification Agency (VCA) has stated it intends to mirror EU rules post-Brexit. The system will use in-vehicle GPS and cameras to determine the speed limit for any road. The system will be on by default but the driver will be able to override it temporarily. For Beech, this means that gradually, as older vehicles are retired, vehicles will be limited to 30 mph unless the driver deliberately decides they want to break the speed limit. The Beech traffic surveys show that the average speeds through the village are, depending on the location, typically 25-30 mph, with 85% of vehicles travelling at less than 31-36 mph. So, it is probable that the effect of the new system will be modest. However, if the official speed limit were 20 mph the effect of enforced compliance would be much more significant for Beech residents.

MEASURE 5

Automatic Number Plate Recognition (ANPR) speed cameras plus enforcement

Automatic Number Plate Recognition (ANPR) speed cameras have been in use for some years now. Unlike the old-style speed cameras, which relied on roll film, the ANPR cameras identify the number plate of speeding vehicles and use optical character recognition (OCR) software to read the number. The authorities then obtain driver details from the DVLA and issue a speeding ticket.

STRENGTHS

1. ANPR speed cameras result in high compliance with the speed limit, especially when used in pairs to calculate average speed and linked to the automatic issuing of fines.
2. Combined with a 20 mph speed limit for all or parts of the village, ANPR cameras would probably make a significant difference to traffic speeds and pedestrian experience in Beech.

WEAKNESSES

1. Strict enforcement of the 30 mph limit is unlikely to improve the traffic experience for pedestrians where 30 mph is perceived as already too fast (e.g., the bottom of Medstead Road sections A, B and C) or stop dangerous driver behaviour towards pedestrians: failing to slow down, pulling out too late, passing too close and competing with drivers approaching from the opposite direction to get past the "obstruction" first.
2. It is HCC's policy to oppose the introduction of any new speed cameras in Hampshire, except in certain cases where injury accidents attributed to speed are identified.
3. Although it is possible to buy speed cameras with ANPR, the police will not act against speeding drivers unless the camera is officially designated for that purpose.
4. Positioning is critical. An average speed over a given length would not catch vehicles driving too fast/speeding over short distances between recording positions.
5. The threat of a speeding conviction might cause some drivers to focus more attention on staying below the limit and less on other road users.
6. They might not be considered to be sympathetic within our rural environment.

APPLICABLE ROAD SECTIONS (See Map)	**INDICATIVE COST**	**EASE OF APPROVAL** (1 = Easy; 5 = Difficult)	**BRSWG RECOMMENDATION**
All	£20,000*	5	In the future
*Average speed system – two cameras.			

MEASURE 6

Make Medstead Road "Village Access Only"

Access restrictions are widely used to tackle the problem of drivers using a road as a short cut, aka "rat running".

STRENGTHS

1. Previous Speed Watch initiatives showed that almost all drivers breaking the speed limit were not Beech residents. An "Access Only" order should reduce speeding and traffic volumes.
2. A local example. Traffic counts in Ackender Road, Alton have shown that the "Access Only" designation has been extremely effective in maintaining traffic flows below the levels recorded before its introduction more than 25 years ago, despite the increase in Alton's population and new housing developments on both sides of the town.

WEAKNESSES

1. To sign a route as `access only' it is necessary to make a Traffic Regulation Order (TRO) to prohibit all through traffic, allowing only those with legitimate business in the area to enter. It is stated policy that the police will not support a new TRO unless a primarily self-enforcing regime can be presented.
2. Approval from HCC is unlikely because the road provides access to Medstead and other neighbouring villages and any restrictions would result in increased traffic flow elsewhere and increased driving distances.

APPLICABLE ROAD SECTIONS (See Map)	**INDICATIVE COST**	**EASE OF APPROVAL** (1 = Easy; 5 = Difficult)	**BRSWG RECOMMENDATION**
All	<£1000	5	No

MEASURE 7

Road Safety Awareness Signs

HCC has approved six of our designs for use at four locations in the village and the first set of four signs were installed on the 6th of October 2020. The signs will be rotated around the different locations every two months. To determine the effect of the signs on traffic speed, the Beech SLR camera is being used to compare data from after deployment of the signs with the same periods and locations twelve months previously. Early indications suggest that, at all three camera locations, there has been small reduction in the percentage of drivers traveling at excessive speed (see Appendix 3). It is hoped that the signs will also remind drivers to take particular care when passing pedestrians and other road users and anecdotal evidence suggests that this may be the case, it is not something that can be verified by the speed camera.

The new road signs featured in the Alton Herald on the 22nd of October, providing welcome publicity for the Beech Parish Council's road safety initiative.


New signs to help curb 'rat run' motorists


Alton Herald

Village declares war on speeding drivers

We must all fight to save town centres

Win... chocolates, wine, £50 Elphicks voucher – and more

Bartlett & Butcher

CLOSING DOWN SALE

STRENGTHS

1. Low cost

WEAKNESSES

1. More signage is more roadside clutter for a rural environment.
2. Pedestrians, cyclists, and equestrians still share the road width with vehicles.

APPLICABLE ROAD SECTIONS (See Map)	**COST**	**EASE OF APPROVAL** (1 = Easy; 5 = Difficult)	**BRSWG RECOMMENDATION**
All	£429.60	DONE	Already installed

Appendix 2: Alternative Lower Cost Variations for 'Virtual footway' Elements of Recommended Scheme

Within the recommended solution there are several variations that impact on cost and effectiveness of the option.

The Working Group has considered these variations and those with the biggest potential for reduced costs are shown in the table below.

- **VARIATION 1:**
  This is the recommended version but with an important change to the design of the virtual footway. Instead of a 20 mm kerb to define the demarcation from the vehicle zone, this solution uses a white line to delineate the edge of the vehicle zone with "pedestrian men" symbols on the pedestrian zone every 30 m. In addition, the pedestrian zone is treated with a coloured polymer surface coating to differentiate it visually from the vehicle zone.

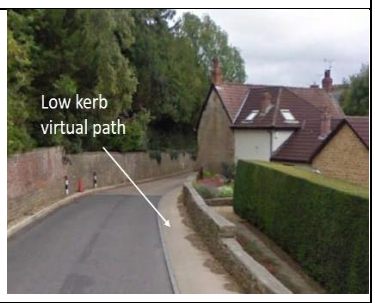
- **VARIATION 2**:
  This is the same as Variation 1 but without the coloured polymer surface coating on the pedestrian zone. This delivers a significant cost saving but the pedestrian zone and vehicle zone look the same apart from the "pedestrian men" decals.

ROAD SECTION	RECOMMENDED SOLUTION	VARIATION 1 Virtual pathway defined by white line, "pedestrian men" markers every 30m and coloured surface treatment	VARIATION 2 Virtual pathway defined by white line only (+ "pedestrian men" markers every 30m.)
			

ROAD SECTION	RECOMMENDED SOLUTION			VARIATION 1 Virtual pathway defined by white line, "pedestrian men" markers every 30m and coloured surface treatment			VARIATION 2 Virtual pathway defined by white line only (+ "pedestrian men" markers every 30m.)		
D,E,G	**OFF-ROAD PATHWAY.** Parallel and close to the road. **Key Strength:** Separates pedestrians from traffic. **Key Weakness:** Ongoing maintenance.			**OFF-ROAD PATHWAY.** Parallel and close to the road. **Key Strength:** Separates pedestrians from traffic. **Key Weakness:** Ongoing maintenance.			**OFF-ROAD PATHWAY.** Parallel and close to the road. **Key Strength:** Separates pedestrians from traffic. **Key Weakness:** Ongoing maintenance.		
B,C,F	**VIRTUAL PATHWAY ON THE ROAD** Where there's no room for off-road. 20mm high kerb transition to pedestrian zone. **Key Strengths:** Creates marked pedestrian priority area Provides a clear indication of transition to drivers - sight/sound/feel. Case studies exist - S.Perrott **Key Weaknesses:** Novel solution for Hampshire - safety audit may treat very cautiously. Residents may object to additional noise Kerbing is expensive.			**VIRTUAL PATHWAY ON THE ROAD** Where there's no room for off-road. Painted white line defines transition to pedestrian zone which is a different colour. **Key Strengths:** Creates marked pedestrian priority area Case studies exist - Rowledge Lower cost option **Key Weaknesses:** Path transition by visual indication only (although colour change is notable) Novel solution for Hampshire - safety audit may treat very cautiously.			**VIRTUAL PATHWAY ON THE ROAD** Where there's no room for off-road. Painted white line defines transition to pedestrian zone. **Key Strengths:** Creates marked pedestrian priority area Very low cost option **Key Weaknesses:** Path transition by visual indication only (similar to current) Novel solution for Hampshire - safety audit may treat very cautiously.		
	COST		**EASE OF**	**COST**		**EASE OF**	**COST**		**EASE OF**
	Min (£k)	**Max (£k)**	**APPROVAL**	**Min (£k)**	**Max (£k)**	**APPROVAL**	**Min (£k)**	**Max (£k)**	**APPROVAL**
A	0.00	0.00	n/a	0.00	0.00	n/a	0.00	0.00	n/a
B+C	35.45	69.80	3	22.00	24.00	3	1.20	1.35	3
D	23.95	26.35	2	23.95	26.35	2	23.95	26.35	2
E	20.45	22.50	4 & 1	20.45	22.50	4 & 1	20.45	22.50	4 & 1
F	33.10	65.12	3	20.00	22.50	3	1.05	1.16	3
G	18.75	20.70	2	18.75	20.70	2	18.75	20.70	2
TOTAL:	**131.70**	**204.47**		**105.15**	**116.05**		**65.40**	**72.06**	
	Costs are derived from contractor estimates. For off-road paths, the range covers contractor estimate plus 10% contingency (as suggested by contractor) For virtual pathway, costs are from the two lowest priced contractors with 10% contingency applied to the higher estimate (as suggested by contractor). All costs shown are 2020 prices and are exclusive of VAT.			Costs are derived from contractor estimates. For off-road paths, the range covers contractor estimates plus 10% contingency (as suggested by contractor) For virtual pathway, the costs are from one contractor with a 10% contingency applied. All costs shown are 2020 prices and are exclusive of VAT.			Costs are derived from contractor estimates. For off-road paths, the range covers contractor estimate plus 10% contingency (as suggested by contractor) For virtual pathway, costs are from three contractors with 10% contingency applied to the higher estimate (as suggested by contractor). All costs shown are 2020 prices and are exclusive of VAT.		

Further cost savings would be possible by replacing parts of the off-road pathway with Variation 2, white line alternative. If all off-road pathways were replaced, this 'virtual pathway' could extend the full length of the village at an estimated cost to £10k-£15k. This would offer a consistent approach, giving clear priority to pedestrians throughout the village. The downside is that driver frustration could build over 2.5km of effective single lane working, which might hinder rather than enhance pedestrian safety.
This option might be appropriate on a trial basis if a permanent scheme cannot be agreed or funded at present.

Summary of In-Road Footway Options

	Type	Features	
1	Low-Kerb Virtual footway – 20 mm (3/4”) high kerb and coloured tarmac. This is the BRSWG recommended option for the main built-up sections of the village.	Easily recognisable as a footway. Drivers likely to avoid it except when passing oncoming vehicles. Drivers receive visual and tactile warnings. Pedestrians feel more secure. Long-life (>20 years) Aesthetically pleasing, in keeping with rural setting.	
2	Flat Virtual footway – with white-line edge and coloured polymer coating (e.g., MMA reaction-curing resin). Variation 1	Drivers may be less inhibited about driving on path compared with the Type 1. HCC is unlikely to approve a coloured coating as it is relatively expensive and needs replacing approximately every 10 years.	
4	White Line Virtual footway with ‘Walking Man’ decals. The virtual footway zone would ideally be minimum 1.2 m wide for comfortable ‘feel’ and to allow pedestrians to easily pass one another. Variation 2	Similar layout but wider pedestrian zone than the existing ‘virtual narrowing’ scheme on Medstead Road adjacent to Bushy Leaze Wood. Requires repainting every 2-3 years. May not discourage drivers from driving on it. Pedestrians may not feel secure. Inexpensive.	

Appendix 3: Analysis of the Beech Speed Camera Data

Since it was purchased in 2013, the Beech speed camera has been moving between three fixed locations in the village (see map) and data records exist for various periods over the last seven years, varying from a few weeks to several months at a time but some records are damaged or incomplete. For the purposes of this analysis, only verifiable data recorded since the October 2019 has been included. The camera detects vehicles heading towards it, records their speed and displays the speed if it is over the limit. It does not photograph vehicles or record registration numbers. Between 7th October 2019 and 17th December 2020, the camera recorded 183,362 vehicle movements. Allowing for the fact that the camera only records vehicles travelling in one direction and for periods when the camera was not functioning, the total traffic flow through Beech is estimated to be 241,617 vehicles for the 12 months to 17 December 2020. Considering that during lock-down traffic flows were often less than half the normal level the figure in a more typical year may be as many as three quarters of a million vehicles movements per year. It should also be noted that, with the current deployment positions the camera will give an accurate count of vehicles passing through the village from end to end, but will fail to record many or, perhaps the majority , of journeys starting or finishing within the village. For example, when the camera is in either the Kings Hill or Mid-Village positions it will not detect any traffic travelling to and from the village centre via the junction with the A339, which is probably a significant portion of village based traffic.

The table below shows the average speed and the percentage of vehicles exceeding 30 mph, 35 mph and 40 mph for all vehicles recorded, and then separately for different time intervals at the three different locations in the village. Also shown are the national average speed and the percentage exceeding the speed limit for cars (under free-flowing conditions) on 30 mph roads in the UK. It is seen that, based on all the data, Beech average speed and percentage of vehicles exceeding the speed limit are below the national averages for 30 mph roads. However, it is noticeable that the speeds recorded by the camera outside the village hall are significantly lower than when the camera is in one of the other two locations.

Further analysis of the data, and simple observation, suggests that due to the junction and the pinch point just below the junction, traffic travelling towards the Wellhouse Road junction is forced to slow down and is not ‘free flowing’. Analysis of the speed data from the other two camera locations shows that almost all vehicles are separated from others travelling in the same direction by at least 30s and therefore are ‘free flowing’. Looking at the three camera positions separately it is apparent that 50-59% of the traffic traveling down Kings Hill is breaking the speed limit (albeit near the national average for a 30 mph road), and a similar percentage of traffic coming down hill towards the centre of the village is still breaking the speed limit but now contains an increasing number of vehicles travelling at the higher speeds. It should be noted that these increases in numbers at the higher speeds do not much affect the average speed because they are still a minority of vehicles. The results for the camera position outside the village hall confirm that approximately 20% of the traffic approaching the Wellhouse Road junction from the A339 is exceeding the speed limit and approximately 4% is exceeding 35 mph.

Conclusions to be Drawn from Speed Camera Data

Vehicle Speeds

- The average speeds calculated by combining all data recorded at the three differing locations in the village are misleading, because of the anomalous data recorded when the camera is by the village hall, where traffic is forced to slow down or stop due to the junction with Wellhouse Road and the pinch point just below the junction.
- For most of the length of Medstead Road and Kings Hill the traffic is free flowing and the 'mid-village' and 'Kings Hill' camera positions show that 55.5% of the traffic is breaking the speed limit.
- The highest speeds are recorded for traffic entering the village centre from the Medstead direction when the camera is in the 'mid village' location. For this location, the percentages of vehicles exceeding 30 mph, 35 mph and 40 mph are consistently above the GB national averages for 30 mph roads.
- Comparison between data collected before and after the Beech road safety signs were deployed shows, in nearly all cases, a small decrease in the percentages of drivers exceeding 30 mph, 35 mph and 40 mph after the signs were deployed.

Vehicle Numbers

- Based on data recorded by the speed camera, it is estimated that there were at least half a million vehicle movements in Beech over the 12 months up to the middle of December 2020 and it is thought that in a non-COVID year the total would be significantly more.
- The camera has recorded daily traffic volumes for the last year in the range 179-1430 vehicles. As the camera only records traffic travelling in one direction, this equates to a total traffic flow of 358-2,860 vehicles per day, with an average of approximately 1,300 per day. There is no agreed national definition of high or low traffic flow but a TRL Report "High Volume Traffic" published in 2014, defined high volume traffic as anything over 200-300 vehicles per day. The conclusion must be that the traffic flow in Beech is high for such a narrow road.
- The population of Beech was reported to be approximately 600 so it is likely that much of the traffic flow is generated by vehicles from outside the village, many of which may be using the village as a cut through.

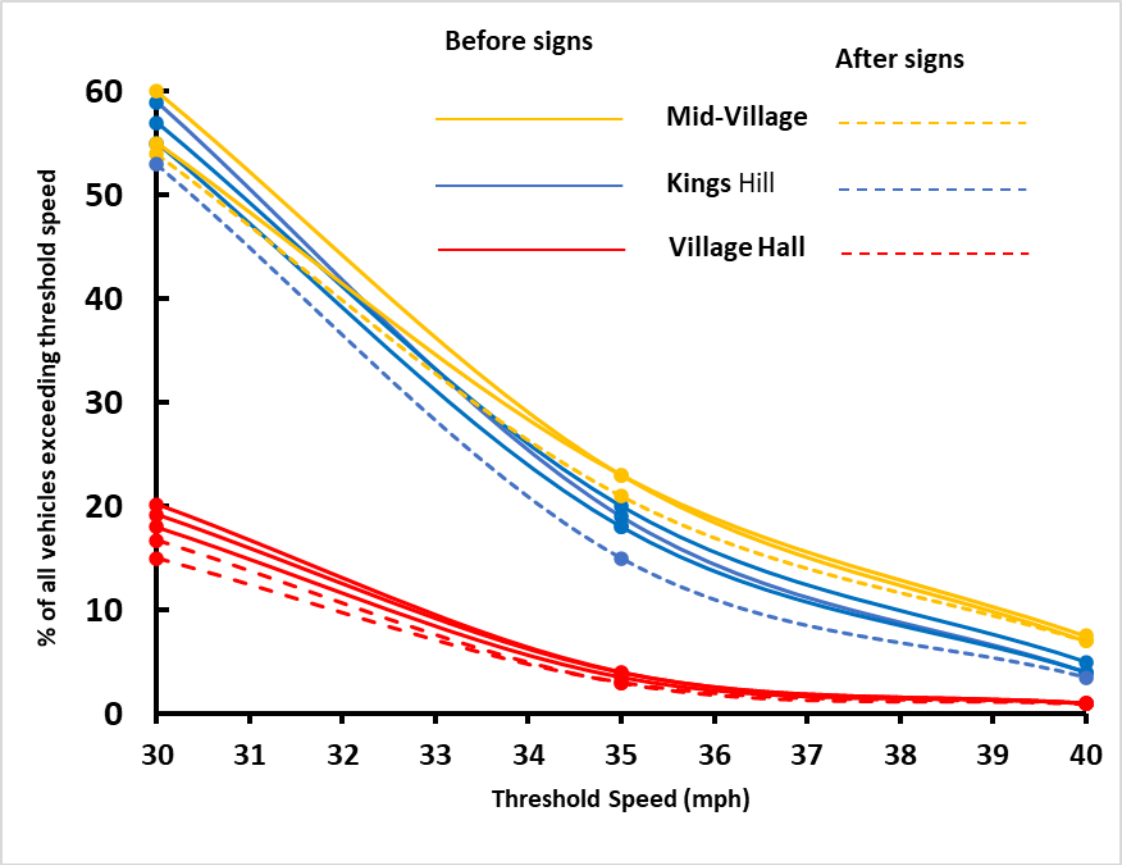
Measuring the Effectiveness of the Beech Road Safety Signs

The new Beech road safety signs were installed on 6 Oct 2020. The following table and graph show the results of a comparison between the speed of vehicles before and after the deployment of the signs. The results show small but consistent reductions in the percentages of vehicles exceeding 30 mph, 35 mph and 40 mph after the signs were deployed. Significance tests have shown that the probability of these results occurring due to random chance is exceedingly small. The conclusion then is that the results are real but whether they are due to the road safety signs or other factors, such as weather, road closures or COVID19 is not known. It should be noted also that individual driver behaviour towards pedestrians is not likely to be reflected in the camera speed data.

Camera Location	Dates	Average Speed (mph)	% over 30 mph	% over 35 mph	% over 40 mph
All locations - combined data	7 Oct 19 – 26 Nov 20	26.8	33.7	10.0	2.5
Kings Hill (facing west)	7 Nov 19 – 20 Nov 19	30.6	59.0	19.0	4.0
	7 Jan 20 – 16 Feb 20	29.5	57.0	20.0	5.0
	7 Jul 20 – 11 Aug 20	30.1	55.0	18.0	4.0
After road safety signs deployed	**4 Dec 20 – 17 Dec 20**	**29.5**	**53.0**	**15.0**	**3.5**
Mid-Village (facing west)	24 Feb 20 – 16 May 20	30.3	55.0	23.0	7.5
	20 Aug 20 – 30 Aug 20	31.0	60.0	23.0	7.0
After road safety signs deployed	**13 Nov 20 – 26 Nov 20**	**29.9**	**54.0**	**21.0**	**7.0**
Village Hall (facing east)	11 Dec 19 – 30 Dec 19	24.5	18.0	3.5	1.0
	4 Jun 20 – 9 Jun 20	25.1	20.2	4.0	1.0
	17 Jun 20 – 27 Jun 20	24.5	19.2	4.0	1.0
	17 Sep 20 – 6 Oct 20	24.3	18.0	3.0	1.0
After road safety signs deployed	**21 Oct 20 – 1 Nov 20**	**24.6**	**16.7**	**3.0**	**1.0**
	18 Dec 20- 30 Dec 20	**24.2**	**15.0**	**3.0**	**1.0**
GB average for cars on 30 mph roads under free-flowing conditions.[10]		31	52	18	5.0

Table indicating percentage of vehicles exceeding 30 mph, 35 mph and 40 mph at different camera locations before and after deployment of road safety signs.

[10] Vehicle Speed Compliance Statistics, Great Britain: 2018, DoT (June 2019)



Graph showing the percentage of drivers exceeding 30 mph, 35 mph and 40 mph at the three camera locations before and after deployment of the road safety signs.

Beech Speed Camera Positions

Appendix 4: Land Ownership (Adjacent to Medstead Road/Kings Hill) HCC Screenshots

The maps below are screenshots from Hampshire Highways interactive road maps. The pink cross hatch area shows the road and land adjacent to the road owned by the highway authority. These are the areas where HH has the power to approve the construction of new facilities. The edge of the carriageway is depicted as a grey line.

1. MEDSTEAD ROAD: Basingstoke Road end to Wellhouse Road junction

2. MEDSTEAD ROAD: Beech Village Hall + Wellhouse Road junction

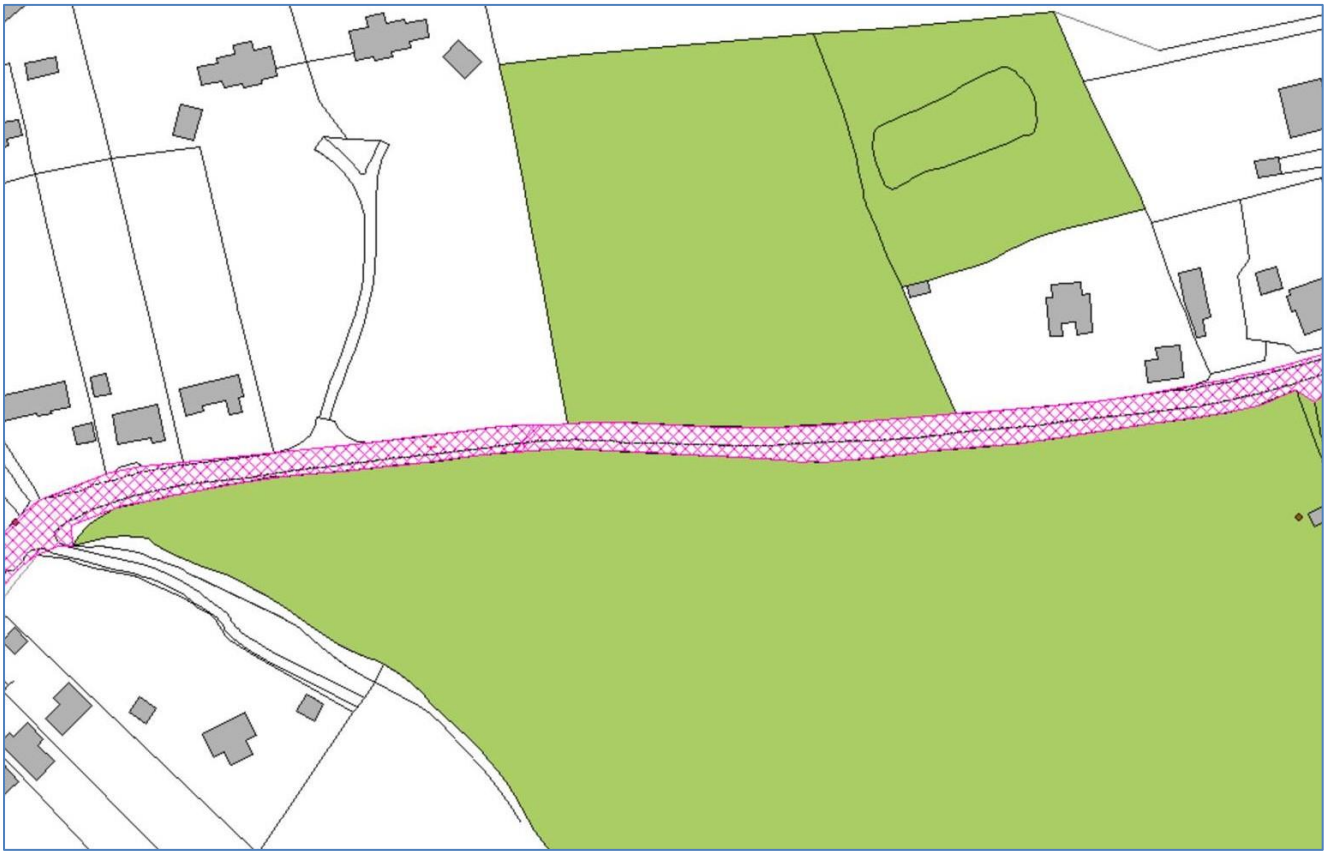
3. MEDSTEAD ROAD: South of Beech Village Hall

4. MEDSTEAD ROAD: South of Beech Village Hall to Forestry land

5. MEDSTEAD ROAD: Stretch adjacent to Forestry land 1.

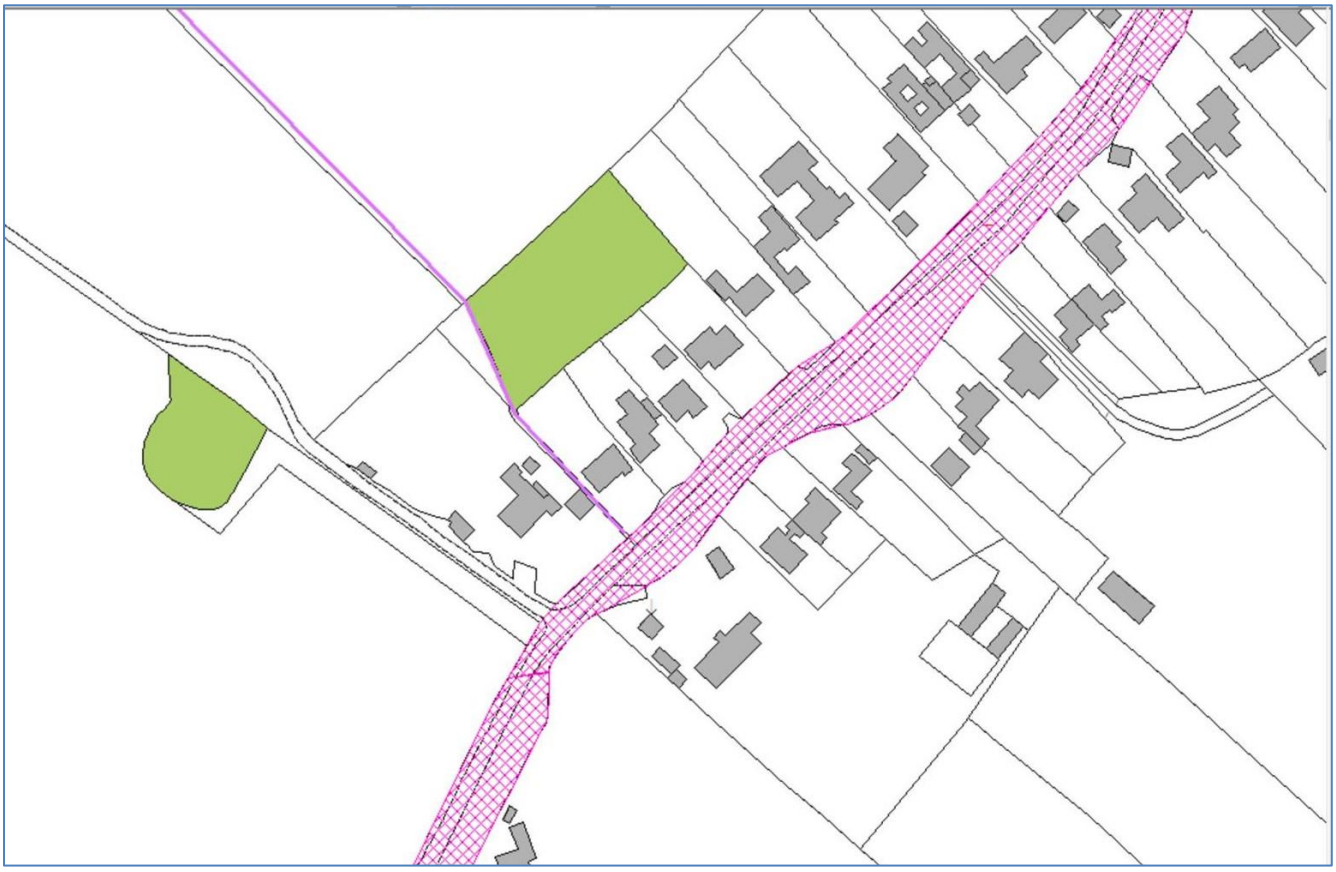
6. MEDSTEAD ROAD: Stretch adjacent to Forestry land 2.

7. MEDSTEAD ROAD: Adjacent to private woodland



8. LOWER KINGS HILL

9. UPPER KINGS HILL



Appendix 5: Hampshire County Council – Transport and Roads Website Extract - Making Roads Safer.

https://www.hants.gov.uk/transport/roadsafety/makingroadssafer#step-2

(highly pertinent passages are highlighted)

Casualty Management and Traffic Management Schemes

Hampshire County Council has introduced a new policy for traffic management measures.

The new policy focuses the County Council's limited traffic management resources on measures and projects where there is evidence, they will benefit casualty reduction by responding to issues at locations with the greatest scope to reduce casualties.

Where schemes are not prioritised by the County Council on safety grounds the local community, including Town and Parish Councils and residents' groups, may wish to consider funding some of the more straightforward traffic management enhancements themselves. Where appropriate, the County Council will be able to facilitate the development and implementation of these on a full cost recovery basis. All proposals will be subject to assessment in order that any new measures are consistent with those implemented by Hampshire County Council across Hampshire.

Traffic management enhancements town and parish, district and borough councils may wish to consider in their local communities include:

- village gateways
- enhanced village place name signs
- traditional finger post signing
- sign de-clutter works.
- electronic Speed Limit Reminder signs
- minor signs and carriageway lining alterations
- bollards to prevent footway overrun.
- informal crossing points for pedestrians

Local councils or community groups interested in this initiative are asked to contact the County Council's Traffic Management Group for further details.

Investigation of accident locations and road safety concerns

The County Council's road safety engineering team proactively examines the database of injury accidents as supplied by Hampshire Police to identify locations that may benefit from engineering measures to reduce the likelihood of more accidents occurring there. They will examine the database for evidence of accidents when concerns are reported to us. In this way we can develop a programme of sites for priority treatment and monitor those locations where there may be an emerging issue.

Investigations will also be undertaken when significant accident patterns are identified over longer lengths of road.

When casualty reduction engineering measures are installed at an accident location, the team monitors it to see whether the measures have made a difference. Sometimes this leads to new issues being identified and further works may be undertaken.

We often receive requests for measures to address hazards with a potential to jeopardise road safety, but where injury accidents are not occurring. The absence of collisions in such locations reflects in part that a hazard may exist and not give rise to problems if road users identify the hazard and adjust their behaviour appropriately. In these circumstances, engineering measures or traffic regulations are unlikely to improve on the current safety record, and the resources will be more effective in improving road safety directed to locations where road users are failing to identify and respond to hazards.

Road safety education and training is also provided by the Council to reduce the likelihood of people being involved in road traffic accidents by improving awareness of road safety issues from an early age. These complement both National and local road safety campaigns which are run in conjunction with several partnership organisations such as the Police. These programmes aim to improve road safety across the county and will over time support the County Council's aim of reducing the number of people killed and injured on its roads.

Traffic management matters are investigated by the County Council's Traffic Management Group or by the local District or Borough Council's Traffic Team, depending on where the problem is located (see contact details).

Traffic Management Policy

The Traffic Management Policy explains how traffic and safety issues are investigated and when traffic management measures may be appropriate.

At a higher level, our new policy endorses that casualty reduction is our highest priority.

Appendix 6: Community Funded Traffic Measures Initiative

Community Funded Traffic Measures

The County Council is looking to introduce a new initiative to provide an opportunity for Town and Parish Councils, along with local community groups, to be able to fund a range of traffic measures that fall outside the scope of County Council funding.

Ongoing reductions in highway funding have resulted in the County Council having to scale back some of the work previously delivered as part of the annual traffic management programmes. Limited budgets now mean Highway Authority funded traffic measures can only generally be considered at locations where accidents resulting in personal injury have occurred.

The County Council receives regular communication from Parish and Town Councils for measures that are not linked to safety. These may include measures aimed at lessening the impact of motorised traffic or changes intended to improve quality of place.

Measures such as village entry 'gates' or more decorative village place name signs can help visually enhance an entrance to a village. Informal 'courtesy crossings' for pedestrians can highlight the most suitable place at which to cross the road whilst traditional timber finger post signs can provide a more sympathetic choice to standard highway signage within rural villages. Works to de-clutter traffic signage, the installation of cast iron style decorative bollards, and small scale engineering measures to improve accessibility are further examples of the changes that may be suitable. More complex schemes such as alterations to speed limits, the implementation of lorry controls and other vehicle movement restrictions are not to be included within the scope of the Community Funded Initiative. Such measures can have wider implications on surrounding areas and would require the making of legal Traffic Orders, a lengthy process that is relatively costly, with current County Council policy limiting such changes to those that address a proven safety problem. Traffic calming schemes would also fall outside the scope of the initiative for similar reasons.

Community groups, including Town and Parish Councils, who are interested in funding traffic measures for their local area should make initial contact with the Traffic Management team via traffic.management@hants.gov.uk . Engineers will be able to provide advice on the suitability of measures along with an estimate of costs. The suitability of any measures requested through this initiative will be considered in line with the Traffic Management Policy - http://www3.hants.gov.uk/2014-traffic-management-policy.pdf

The following are examples of the measures that could be considered as part of this initiative –
Village entry 'Gate' features
Enhanced speed limit 'Gateway' signs
Traffic signs and road markings
Informal pedestrian crossing points.
Enhanced village nameplates
Sign rationalisation and de-clutter
School advisory 20mph speed limit signs
Bollards/posts to prevent footway/verge overrun.
Electronic Speed Limit Reminder (SLR) signs
Traditional finger-post signs
Safety slogan wheelie bin stickers

Appendix 7 Decision Report HCC 20 Pilot Programme

HAMPSHIRE COUNTY COUNCIL

Decision Report

Decision Maker:	Executive Member for Environment and Transport
Date:	5 June 2018
Title:	Review of Residential 20 Pilot Programme
Report From:	Director of Economy, Transport and Environment

Contact name: Martin Wiltshire

Tel: 01962 832223 **Email:** martin.wiltshire@hants.gov.uk

1. Recommendations

1.1. That the Executive Member for Environment and Transport notes the evaluation of recent Residential 20mph Speed Limit Pilots and agrees that no further such schemes will be implemented, but that the existing schemes will be retained.

1.2. That any future speed limit schemes will be prioritised in accordance with the Traffic Management policy approved in 2016, and thereby limited to locations where injury accidents attributed to speed are identified, with proposals assessed in accordance with current policy and Department for Transport guidance on setting speed limits.

2. Executive Summary

2.1. The County Council has been trialling Residential 20mph Speed Limits in a total of 14 locations across the County for varying periods of time since 2012, and has recently concluded an extensive review of their performance in managing average speeds and addressing safety concerns. The schemes in question were selected in consultation with members of the County Council and the community after initial testing against a set of agreed criteria. The decision to start the pilot schemes was taken before the current Traffic Management Policy of 2016 came into being, which requires all future Traffic Management schemes to be led by safety and casualty reduction interventions.

2.2. The purpose of this paper is to report on the outcomes and effectiveness of this programme of 14 Residential 20 mph Speed Limit Pilots, which were introduced in a mix of urban residential and rural village centre areas throughout the county.

2.3. The pilot programme was developed in response to requests for 20 mph restrictions received from residents concerned with excessive traffic speed. Evaluating the pilot 20 mph speed limits enabled their effectiveness in differen locations, with varying traffic conditions, to be assessed.

Appendix 8: Links to Key Documents

HCC Technical Guidance Note TG11 – Traffic Calming (October 2020)
https://documents.hants.gov.uk/transport/TG11TechnicalGuidanceNote-TrafficCalming.pdf

DoT Local Traffic Note 1-07 Traffic Calming Guidance (2007)
https://www.gov.uk/government/publications/traffic-calming-ltn-107

DoT Statistical Release - Vehicle Speed Compliance Statistics, Great Britain: 2018 (June 2019)
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/812500/vehicle-speed-compliance-statistics-2018.pdf

DoT Traffic Advisory Leaflet 1/00 Traffic Calming for Villages on Major Roads (March 2000)
https://www.tsrgd.co.uk/pdf/tal/2001/tal-5-01.pdf

DoT Traffic Advisory Leaflet 11/00 Traffic Calming in Villages – Reducing Accidents (December 2000)
https://webarchive.nationalarchives.gov.uk/20120606202822/http://assets.dft.gov.uk/publications/tal-11-00/tal-11-00.pdf

DoT Manual for Streets (2007)
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/341513/pdfmanforstreets.pdf

Manual for Streets 2 (2010)
https://tsrgd.co.uk/pdf/mfs/mfs2.pdf

Link to Traffic Advisory Leaflet 7/93 – page 6 of the leaflet shows comparative fatality figures at 40 mph, 30 mph and 20 mph.
https://webarchive.nationalarchives.gov.uk/20090511040939/http://www.dft.gov.uk/adobepdf/165240/244921/244924/TAL_7-93

East Hampshire District Council Local Cycling and Walking Infrastructure Plan
https://cdn.easthants.gov.uk/public/documents/East%20Hants%20LCWIP%20V1.2%20Summary%20(1).pdf

Hampshire County Council Cycle Strategy Update – 17 September 2019
https://democracy.hants.gov.uk/documents/s38237/Report.pdf

Cycling UK Response to Department for Transport's Cycling and Walking Strategy Safety Review
https://www.cyclinguk.org/sites/default/files/document/2018/06/1806_cuk_response-to-dft-call-for-evidence_finalv2.pdf