Beech Road Safety Working Group
Report to Beech Parish Council

Authors: Sir Charles Cockburn BA - Chairman

Ian Gibson BEng CEng MICE

Malcolm Ward-Close BSc PhD CEng FIMMM

Nick Ward BSc

Date: 11th January 2021

Contents

Acknowledgements

The authors wish to 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 roadway. BRSWG has reviewed traffic calming and pedestrian safeguarding measures and proposes a series of costed options for the full length of the village. To recommend a solution that delivers enhanced pedestrian road safety with the highest probability of gaining HCC approval, BRSWG sought information on the following:

- 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 of 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 comply with 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 oppose any physical traffic calming measures such as speed bumps or chicanes, the installation of speed cameras or new 20mph zones unless there is a history of repeated serious traffic accidents - which is not the case for Beech. HCC will also discourage proposals that involve surfacing treatments that require 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 difficult process.

Recommendations

To provide an improved pedestrian road safety experience for the full length of Kings Hill and Medstead Road, BRSWG recommends the following preferred scheme, made up of two new measures:

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

1. Where the road runs adjacent to the woodland area create a new, off-road rural pathway 1.44km long and 1.5m wide, built 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 adjacent to the road. A small section (approx. 150m) crosses land owned by Forestry England who 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 an on-road "virtual pathway" on the South side of Medstead Road and Kings Hill. This pathway will be separated from the road surface by a low (20mm) kerb and a different coloured surface, giving drivers tactile and visual reminders that they are entering the pedestrian zone. Where drivers need to enter the pedestrian area to pass oncoming vehicles, they may do so with care. This delivers a safer area for pedestrians than currently exists and ensures that traffic speeds are reduced as drivers must consider oncoming vehicles in their path. Hampshire Highways has not objected in principle but has expressed concerns as to whether it will pass their formal safety audit and it is anticipated that some adjustments will be required during the detail design and review stages. Whilst there are examples of this solution installed successfully elsewhere, each County Council has its own safety rules and design standards. The cost estimate is between £69k and £135k (excl. VAT). The large variance reflects the difference between contractor estimates.

Total estimated cost of this preferred scheme (1 and 2 above) is £135k - £205k (excl. VAT). Of course, individual segments can be completed at different times to suit priorities and funding capacity. [NOTE: this scheme is defined as "Recommended Solution" in Section 6.4]

We have also proposed two variations for cost savings. These both retain the off-road pathway as described above but with the on-road 'virtual pathway' being denoted by a white line and 'pedestrian' decals plus a coloured pedestrian zone (Variation 1) – cost estimate £105k - £116k, or simply a white line and 'pedestrian' decals (Variation 2) - cost estimate £65k - £72k. This latter variation would be a more substantial version of the existing 600mm wide white-lined virtual pathway. That has been a partial success but with user comments that it is too narrow to give sufficient sense of security, plus it does not adequately discourage pedestrian/vehicle conflict when two-way traffic passes pedestrians.

Further cost savings could be achieved by replacing the off-road pathways with a virtual footway, consisting of a white line and pedestrian decals running the entire length of the village. It would cost an estimated £10-15k. This would offer a consistent approach, giving clear priority to pedestrians. 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 variant, or part thereof, might be appropriate on a trial basis if a permanent scheme cannot be agreed or funded at present.

1 Background

Road safety has consistently been identified 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 problems caused by vehicles travelling through the village. This report contains the output and recommendations from the Working Group.

1.1 Beech Road Safety Working Group (BRSWG) – Objectives

Conduct a road safety improvement project – a project to:

- Improve road safety in Beech for all road users, but 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) or one or more options, 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 (eg. 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.

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. Many families with children feel that the road is too dangerous for family walks or to allow unaccompanied children to use the road for walking or cycling 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 evidenced by the presence of street lighting, pedestrians are forced to walk in the narrow carriageway with traffic travelling in both directions at up to 30mph or more.

2.2 The 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. At approximately 4.4 - 4.7 metres the road is just wide enough for two cars to pass each other without slowing down, providing both drivers keep close to their left-hand side. The frequent sight of broken door mirrors on the road bears witness to how common minor collisions are. Drivers concentrate on avoiding oncoming vehicles to the exclusion of everything else and this 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 1 minute apart).
e. Unlike some village settings, Beech does not have many stone walls or hard structures immediately next 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 making them almost invisible 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. Many drivers fail to slow down sufficiently near pedestrians or leave them enough room and often do not pull out early enough.
j. 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 a number of 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 delivered
- Cost and available funds
- Approvals complexity / status

Using this methodology, the BRSWG has then produced an overall recommended solution for the full length of Medstead Road / Kings Hill as required in the Scope of Work.

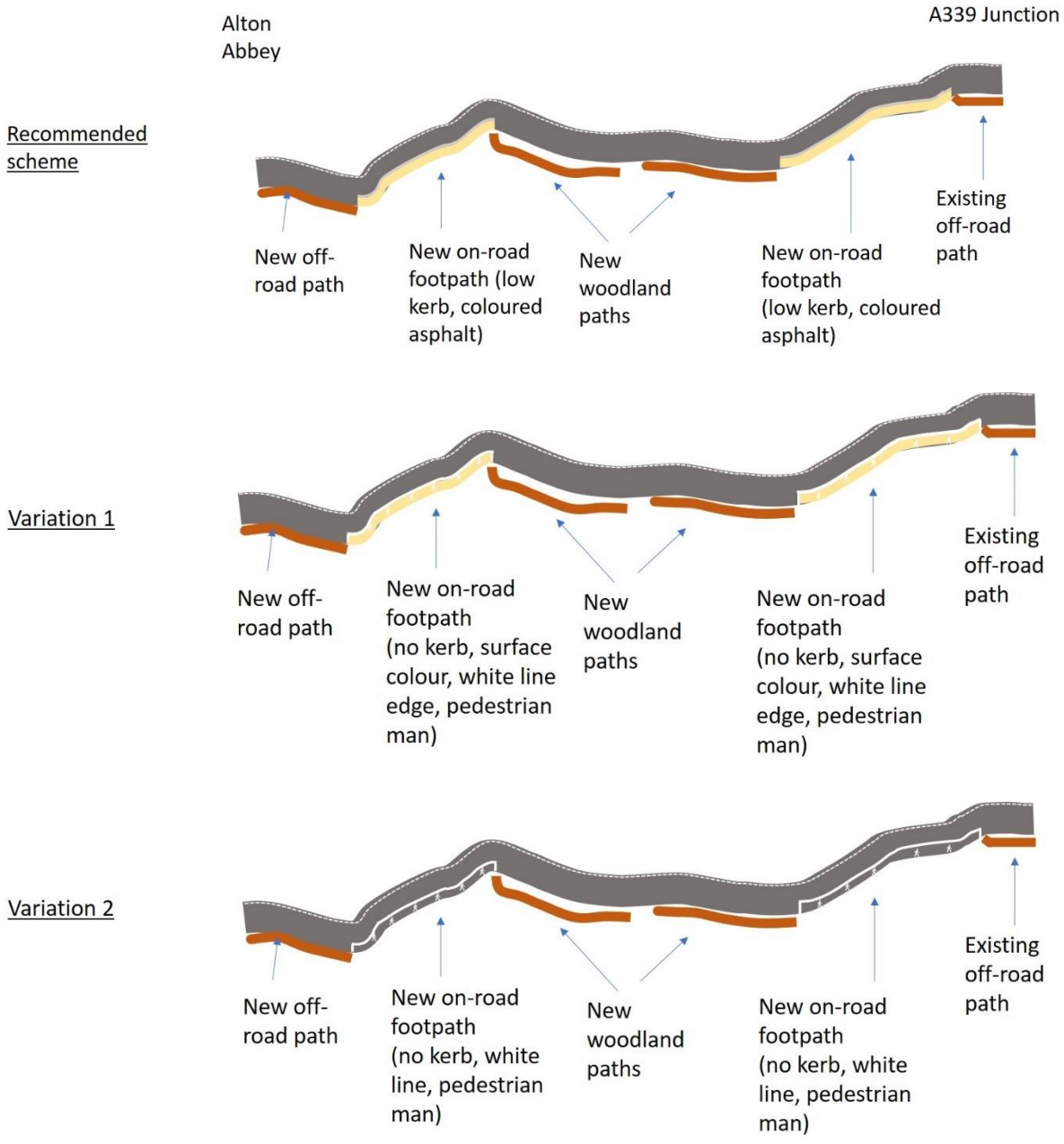
3.2 Sources

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 it is a key decision maker and the final approval authority for most options assessed). Within this consultation, specific note has been taken of the current policies that Highways operate with respect to road safety measures.

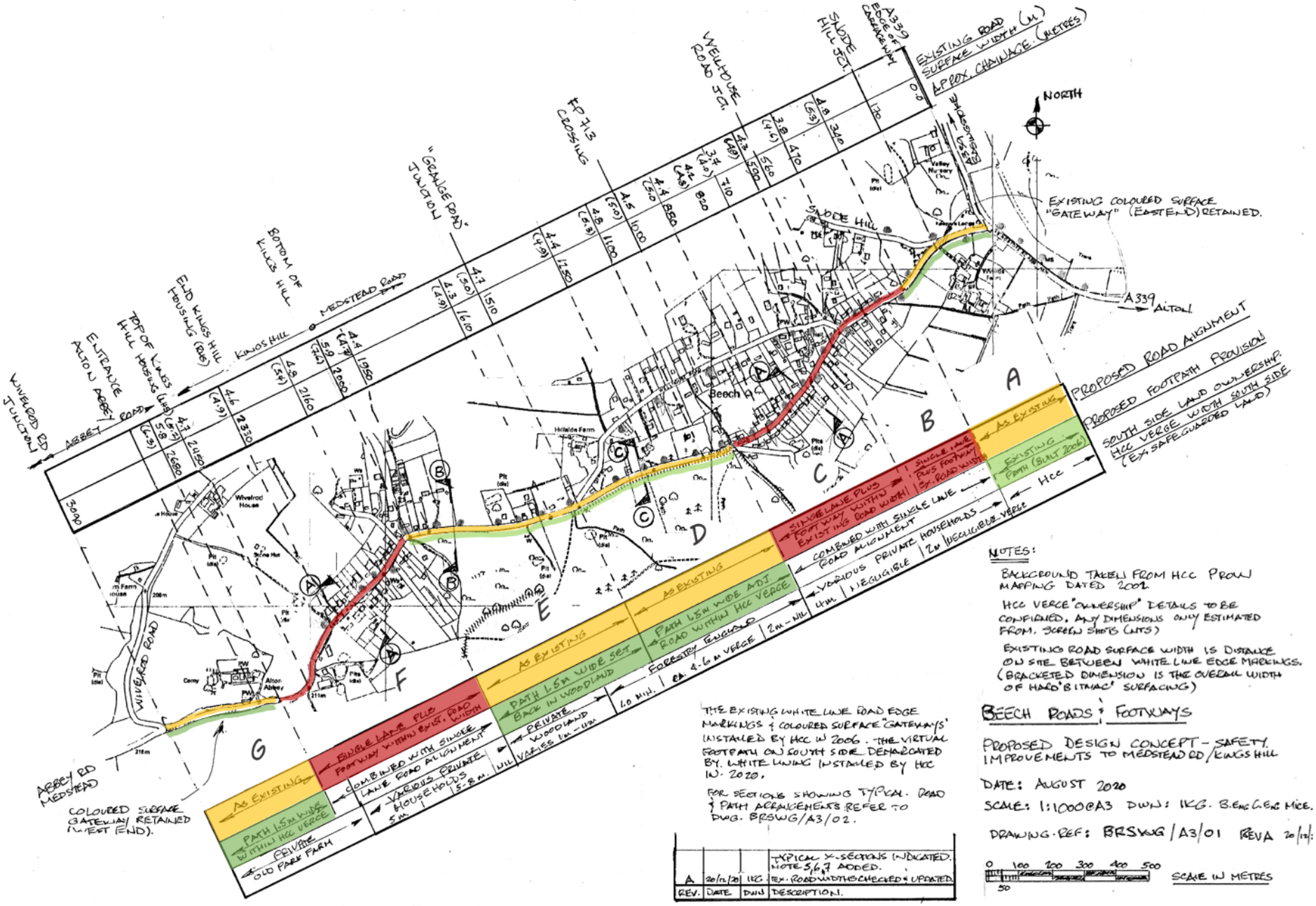
4 Village Maps and Engineering Cross Sections

The diagram below is a simple schematic of the Recommended scheme proposed plus two lower cost variations (note that, in this drawing, the road width has been greatly exaggerated).

On the following page is a marked-up village map covering the full length of Medstead Road and Kings Hill and detailing the different segments (A-G), together with their specific characteristics and the BRSWG preferred options and the third drawing provides indicative cross-sections to illustrate the proposed options.



Schematic diagram of the Recommended Solution plus two, lower cost variations.
[NOTE: Details and costings can be found in Section 6.4, Recommendations]



NOTES:

BACKGROUND TAKEN FROM HCC PROW MAPPING DATED 2002

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

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' INSTALED 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.

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 20/11/20

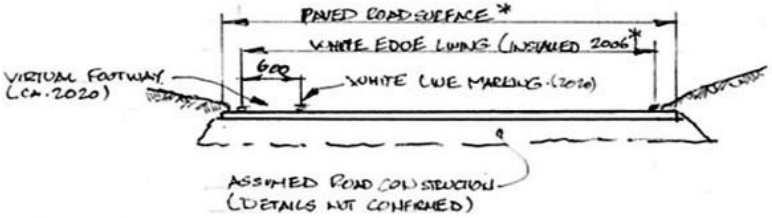
0 100 200 300 400 500

50

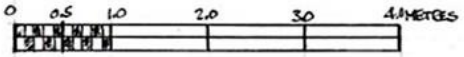
SCALE IN METRES

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

REVISION SCHEDULE:



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.

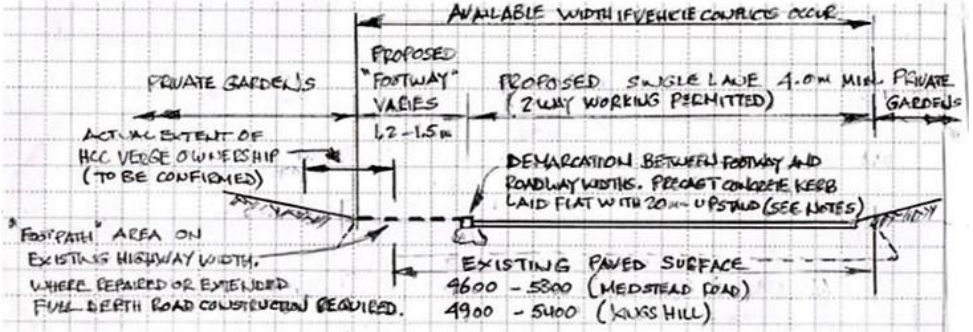
BEECH ROADS & FOOTWAYS

PROPOSED DESIGN CONCEPT - SAFETY IMPROVEMENTS - INDICATIVE SECTIONS

DATE: AUGUST-SEPT. 2020.

SCALE: 1:50 @A3 DWN: IKG BEAUCHAMP

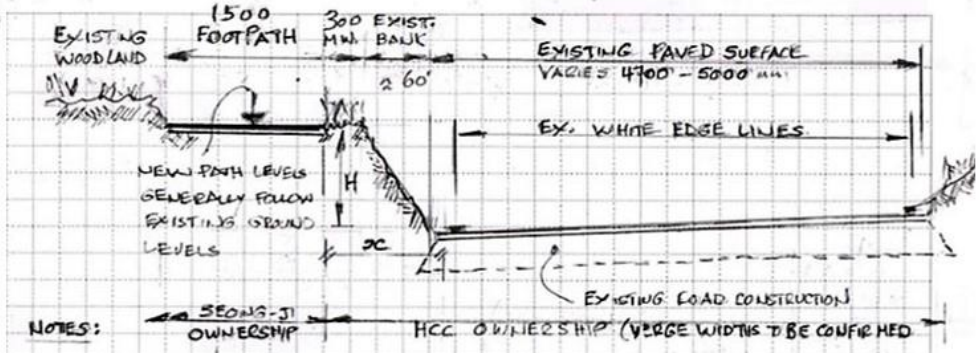
DRAWING REF: BRSWG/A3/02



NOTES:
1. THE FOOTWAY WIDTH WILL BE DEMARCATED FROM ROAD AREA USING PLC 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:

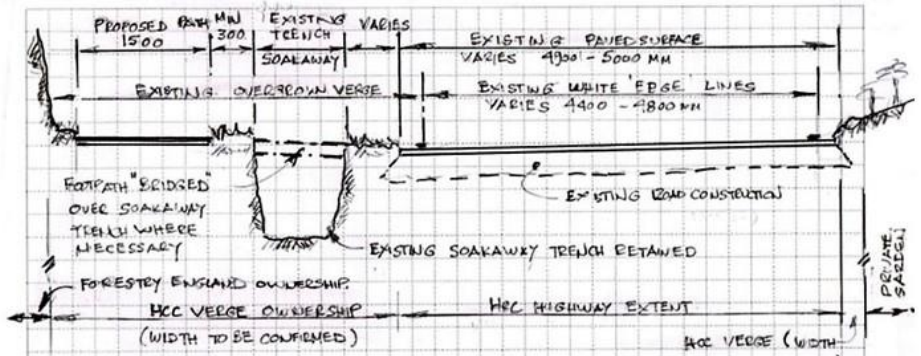
4. EXISTING ROAD SURFACE/WIDTH AND EDGE LINES RETAINED (2 WAY TRAFFIC)

5. CONSTRUCT NEW FOOTPATH ON SOUTH SIDE SET BACK FROM TOP EDGE OF THE EXISTING ROADSIDE EMBANKMENT; WITH HORIZONAL 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 "3C" VARIES 900 - 1600 m.

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 Safety Measures Assessment (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 Road Safety Measures reviewed are as follows:

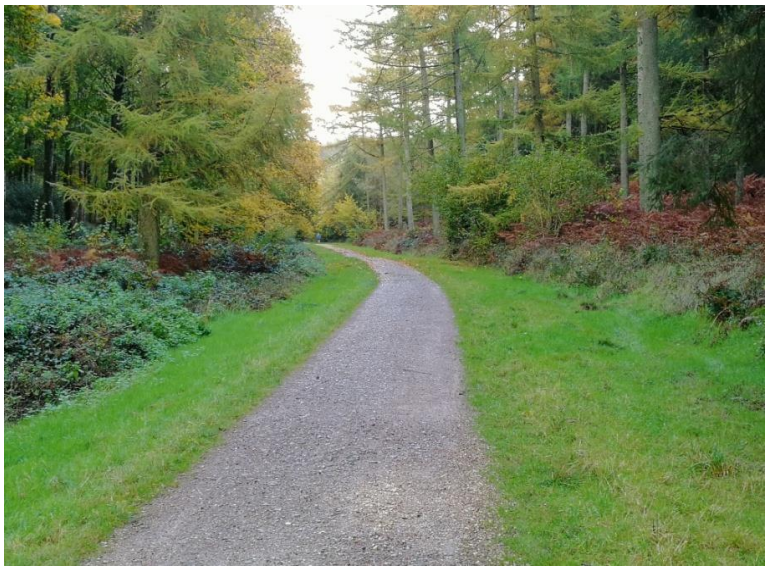
1. Rural Pathways
2. On-road Footways – Real (conventional raised pavement with kerb) or Virtual (flush with the road surface)
3. Physical Traffic Calming - Speed Tables, Chicanes, Speed Humps and Pinch Points
4. Lower speed limit
5. Automatic Number Plate Recognition (ANPR) speed cameras
6. “Village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

ROAD SAFETY MEASURE 1

Rural Pathway

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, hopefully 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. This solution will not reduce road speeds – indeed drivers may feel encouraged to drive faster knowing there are paths.
3. There will be an ongoing maintenance responsibility and cost to be managed.
4. 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 allow for any lighting to be installed.

ROAD SAFETY MEASURE 2

On-Road Footways

On-road footways can take the form of normal raised pavements or can be what are known as 'virtual' footways, which are flush (or nearly flush) with the road surface. Both versions reduce the width of the carriageway for motorised vehicles and, in a two way road, would normally be combined with designated passing places or, in the case of 'virtual footways', allowing vehicles to move onto the pedestrian zone temporarily to pass vehicles traveling in the other direction.

Virtual footways have been deployed successfully elsewhere. For example, in South Perrott, Dorset a virtual footway was designed to be separated from the vehicle zone by 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.

In this example, near Brentwood, Essex, dangerously high speeds and hazardous conditions for pedestrians on a notorious cut-through were alleviated with sections of new raised pavement and frequent passing places.[2]

(Notes: the footway is effectively narrowing the vehicle zone width at the bend in the distance).

2 Department for Transport, TAL 2-04 Rural Traffic Calming - Bird Lane Essex

STRENGTHS

For most of Medstead Road/King's Hill, creating an on-road footway will reduce the road width to a single lane, which could drastically reduce traffic speed, bringing enhanced security and safety to all road users.

Raised Pavement and Kerb

1. This is the standard for most residential areas in the UK and clearly understood by all road users.
2. Provides a safe route for pedestrians and a refuge for pedestrians waiting to cross the road or waiting for traffic ahead to clear.
3. Impractical for vehicles to drive along the footpath at speed.
4. Where road width is limited, passing places are provided for vehicles.

Virtual Footway – "low kerb" or "white paint only"

1. Pedestrian safety is improved as it creates a pedestrian zone on one side of the road which vehicles are encouraged to avoid.
2. The route of the virtual footway will guide pedestrians to the safer side of the road.
3. Drivers are strongly encouraged to pay more attention as they are only allowed onto the pedestrian zone to pass vehicles coming in the opposite direction. Right of way clearly belongs to the pedestrian on the footway.
4. A "white paint only" option is very inexpensive (approx. £2k/km).
5. The "low kerb" version gives drivers tactile and visual reminders that they are entering the pedestrian zone and the 20mm height provides the opportunity to use a different coloured tarmac on the pedestrian zone.
6. Proven solution elsewhere with several years' experience and no reported safety incidents.
7. It is anticipated that Highways would not classify this as an "engineered solution" meaning it does not run counter to current policy.

WEAKNESSES

An on-road footway may be unpopular with some drivers and additional signage will be required.

Raised Pavement and Kerb

1. Reduces the road width for vehicles as Highways land is not available over the full length of the segments concerned.
2. Substantially more expensive than a "low kerb" or "painted only" virtual footway, requiring designated passing places and dropped kerbs for driveways.

Virtual Footway – "low kerb" or "white paint only"

1. Some drivers might ignore the pedestrian zone and continue to drive on it (less likely for the "low kerb" version). Residents of South Perrott and Rowledge have commented that this does sometimes happen but not frequently
2. As this is a novel solution for Hampshire it is unlikely to pass the Highways Safety Audit without challenge.
3. Depending on the materials used, there may be an ongoing maintenance requirement, which Highways have made clear they do not expect to fund.
4. A "white paint only" footway will need renewing every few years (but the cost is small).
5. 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 only

ROAD SAFETY 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 3). 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, thus irritating residents living nearby.

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.

ROAD SAFETY 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.

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 Lymington Bottom - 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

*signs only, road markings are more expensive

NOTE: 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 was 20 mph the effect of enforced compliance would be much more significant for Beech residents.

ROAD SAFETY 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 DVLA and issue a speeding ticket.

STRENGTHS

ANPR speed cameras have become familiar to drivers and tend to result in high compliance with the speed limits.

WEAKNESSES

1. 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.
2. 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.

APPLICABLE ROAD SECTIONS (See Map)	**INDICATIVE COST** (Per camera)	**EASE OF APPROVAL** (1 = Easy; 5 = Difficult)	**BRSWG RECOMMENDATION**
All	£10,000	5	In the future

ROAD SAFETY 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 25years 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

ROAD SAFETY 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 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 1). 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 October, providing welcome publicity for the Beech Parish Council's road safety initiative.


Alton Herald

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

We must all fight to save town centres

Village declares war on speeding drivers

Beech pays for own road signs

Bartlett & Butcher
MENSWEAR AT IT'S BEST

CLOSING DOWN SALE

84 High Street, Alton. 01420 89085


New signs to help curb 'rat run' motorists

Slow down No pavement!

You share this road with people!

Slow right down near walkers!

No pavement! Please slow down

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

6 Discussion and Recommendations

The recommendations below (in Section 6.4) have been drawn from our analysis taking into account the following critical criteria:

- Ownership of land adjacent to 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 current status of funding options and opportunities for funding in future.

6.1 Land ownership adjacent to Medstead Road & Kings Hill

Confirming land ownership and associated boundaries has been quite a complex task, mainly because Hampshire Highways cannot be absolutely clear on this key element themselves. However, we do believe we have sufficient confidence on this point to be able to make secure recommendations for our preferred option. Specifically, 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 2) which are adequate for confirming which road safety measures are possible for each segment. For detailed design we will need better quality information and will require Highways' support.

The 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 immediately adjacent 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 this 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 section could be highly beneficial in getting pedestrians off the road. However, this would not

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

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 are 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.

6.2 Securing Approvals – Status Summary (for each Road Safety measure)

To implement any measures, some level of approval will be required typically from the owner of the land where improvements 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. For clarity, this means that until people are killed or seriously injured in sufficient numbers, Hampshire County Council will not even consider installing engineered solutions.

In other areas, the proposals could impact on what is considered private residential property. This would in all likelihood not be popular with the affected Beech residents.

In addition, where enforcement of current or future regulation is proposed, seeking approval and commitment from Police Authorities will be necessary. Currently, Hampshire Constabulary routinely objects to Traffic Regulation Orders, which are the necessary precursor to the introduction of lower speed limits, for example, on the grounds that they don't have sufficient resources to provide the necessary enforcement.

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 3). The classifications are as follows:

1 = Approval is **very likely** to be granted subject to certain conditions/standards being met.

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				

From this table it is clear that there are very few road safety measures currently available that are likely to gain approval from Hampshire County Council. Those not available include all of the more traditional traffic calming measures that one sees deployed widely in Hampshire and the UK. The policy change in Hampshire in 2016/17 had a radical impact on the implementation of road safety schemes.

It may be that HCC will not approve any option that provides a safe pedestrian route along the full length of Medstead Road and Kings Hill. This is because a safety audit for the "on-road

footway" solution, the only potential measure available for substantial parts of the route, may result in some fundamental objections. Each County operates to its own safety rules and design standards meaning that, just because solutions have been approved in Dorset and Surrey for example, does not mean that Hampshire will use the same criteria in its assessment and decision making.

6.3 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 option for the Working Group.

However, there is discussion taking place, mainly in central government, around future policy direction. For the most part 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 will not change the current HCC policy around traffic calming works in the near future, nor about 20mph 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.

6.4 Recommendations

The Road Safety Working Group recommendation provides a solution for the full length of Medstead Road and Kings Hill and consists 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 20mm kerb providing instant feedback to a driver that the threshold has been crossed and that he/she **must** give way to pedestrians walking along the road.
  - Village map sections: B, C, F.

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

However, as stated in Section 6.2, BRSWG is increasingly concerned that HCC will not approve a solution enabling increased pedestrian road safety along the full length of Medstead Road and Kings Hill. In discussion with other groups who have attempted and eventually succeeded in delivering road safety improvements for their localities, the process of gaining approvals for change is time consuming and difficult and may ultimately fail or become cost prohibitive.

With the assumption that the recommended solution as stated is allowed to 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.

Within the recommended solution there are a number of 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 20mm 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 30m. In addition, the pedestrian zone is treated with a coloured Rollgrip surface coating to differentiate it visually from the vehicle zone.

- **VARIATION 2**:
  This is the same as Variation 1 but without the coloured Rollgrip 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 reducing the 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.

At the time of submitting this report it is clear to the Working Group that the most critical success factor for delivering this programme is to find a road safety measure, that is acceptable to Hampshire Highways at a cost that is affordable, for the parts of the village where off road solutions are not possible. To move this process forward Highways will require a safety audit to be completed and this needs to be the next critical action to pursue. To allow readers to understand the sort of solutions that might be acceptable, the following gives a more detailed insight.

<u>Summary of In-Road Footpath Options</u>

	Type		Features	
1	Conventional full height pedestrian pavement and kerb with passing places.	Increasing cost →	Forces traffic to slow down. Provides safe refuge for pedestrians. Pedestrians at risk in passing places. Safety and traffic flow issues.	
2	Low-Kerb Virtual Footpath – 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 footpath. Drivers likely to avoid it except when passing oncoming vehicles. Drivers receive visual and tactile warnings. Pedestrians feel more secure. Aesthetically pleasing, in keeping with rural setting.	
3	Flat Virtual Footpath – with white-line edge and coloured MMA reaction-curing resin coating (eg. Rollgrip) Variation 1		Drivers may be less inhibited about driving on path. HCC is unlikely to approve a coloured coating as it is relatively expensive and needs replacing approximately every 10 years.	
4	White Line Virtual Footpath with ‘Walking Man’ decals. Variation 2		Requires repainting every 2-3 years. May not discourage drivers from driving on it. Pedestrians may not feel secure. Inexpensive.	

5	White Line Virtual Footpath.		Same as above.	

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 pathway.**
  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. It is also more difficult to integrate with coloured footpath surface treatment.

7 Funding

The situation on funding has been radically changed by the impact of the COVID 19 pandemic in 2020. Any thoughts that cost reduction pressures might ease with the advent of the new government, meaning HCC might have funds to pay for safety measures in Beech, have receded. This means that, according to HCC policy, funding will have to be sourced using Community Funded Initiatives (CFI's). By definition therefore, the funding has to be found locally.

On a more positive note and as discussed in Section 6.3, 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.

8 Proposed Next Steps

The Working Group proposes the following next steps:

- Respond to questions and feedback from Beech Parish Council.
- Present the findings and recommendations to the village
    - Exhibition in the Village Hall
    - Zoom 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.
- At the same time 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.
- Continue to seek out and follow through with national and local funding opportunities with a 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.
    - If successful, 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. Analysis of the Beech speed camera data

2. Land ownership (adjacent to Medstead Road / Kings Hill)

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

4. Hampshire County Council – Community Funding Initiative material

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

6. Key Documents

APPENDIX 1: 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 located 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 the 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.

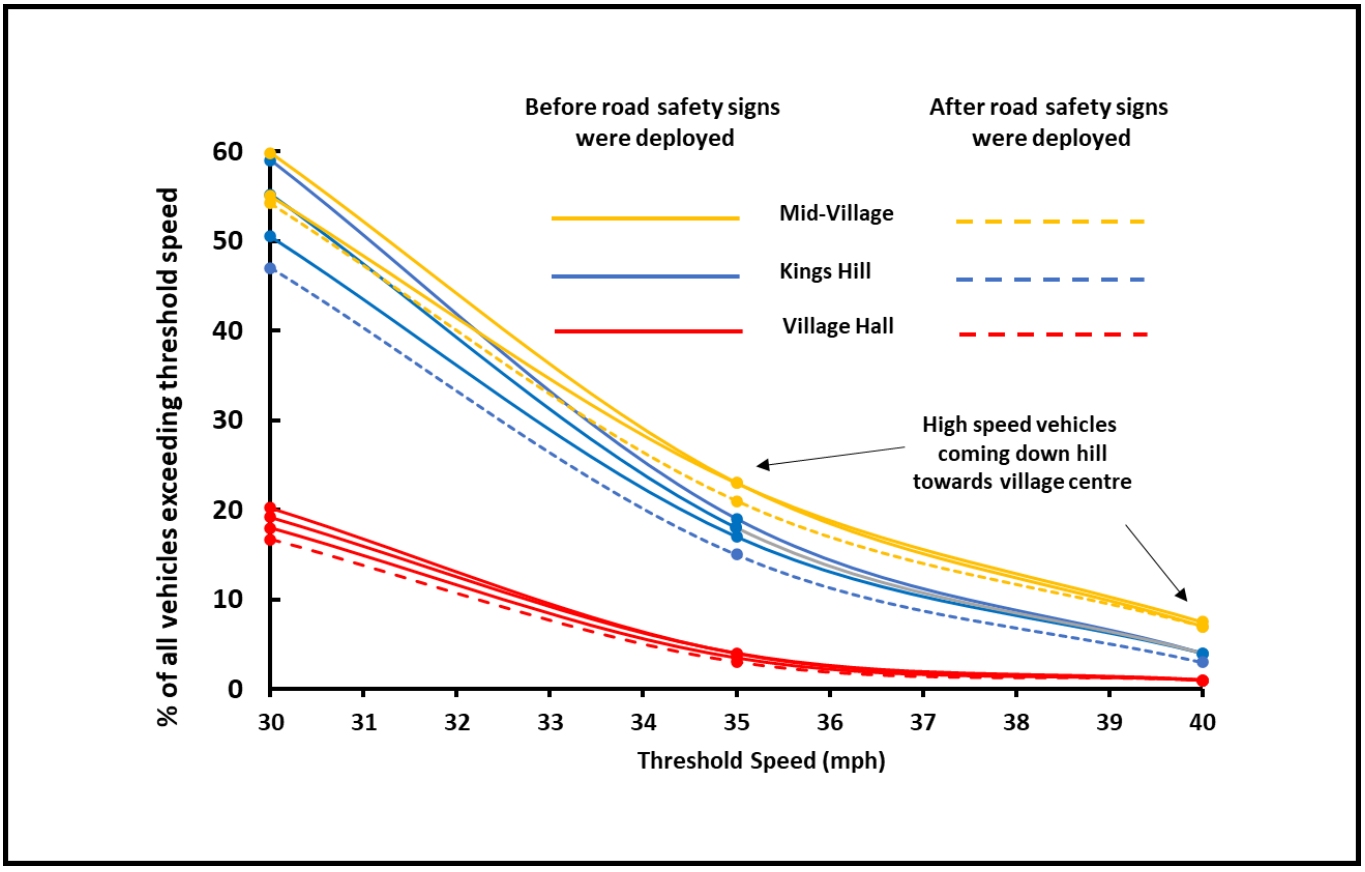
Vehicle Numbers:

- 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.

Location	**Dates**	**Average Speed (mph)**	**% over 30 mph**	**% over 35 mph**	**% over 40 mph**
All data combined	7 Oct 19 – 26 Nov 20	26.8	33.7	10.0	2.5
Kings Hill	7 Nov 19 – 20 Nov 19	30.6	59.0	19.0	4.0
	7 Jan 20 – 16 Feb 20	28.9	50.5	17.0	4.0
	7 Jul 20 – 11 Aug 20	30.1	55.2	18.0	4.0
After road safety signs deployed	**4 Dec 20 – 17 Dec 20**	**29.5**	**47.0**	**15.0**	**3.0**
Mid-Village	24 Feb 20 – 16 May 20	30.3	55.0	23.0	7.5
	20 Aug 20 – 30 Aug 20	31.0	59.8	23.0	7.0
After road safety signs deployed	**13 Nov 20 – 26 Nov 20**	**29.9**	**54.2**	**21.0**	**7.0**
Village Hall	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	18.4	3.0	1.0
After road safety signs deployed	**21 Oct 20 – 1 Nov 20**	**24.6**	**16.7**	**3.0**	**1.0**
GB average for cars on 30 mph roads under free-flowing conditions.[4]		31	52	18	5

Table showing average vehicle speed 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.

[4] 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 2: Land ownership (adjacent to Medstead Road / Kings Hill).

Hampshire County Council – Highways road map 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

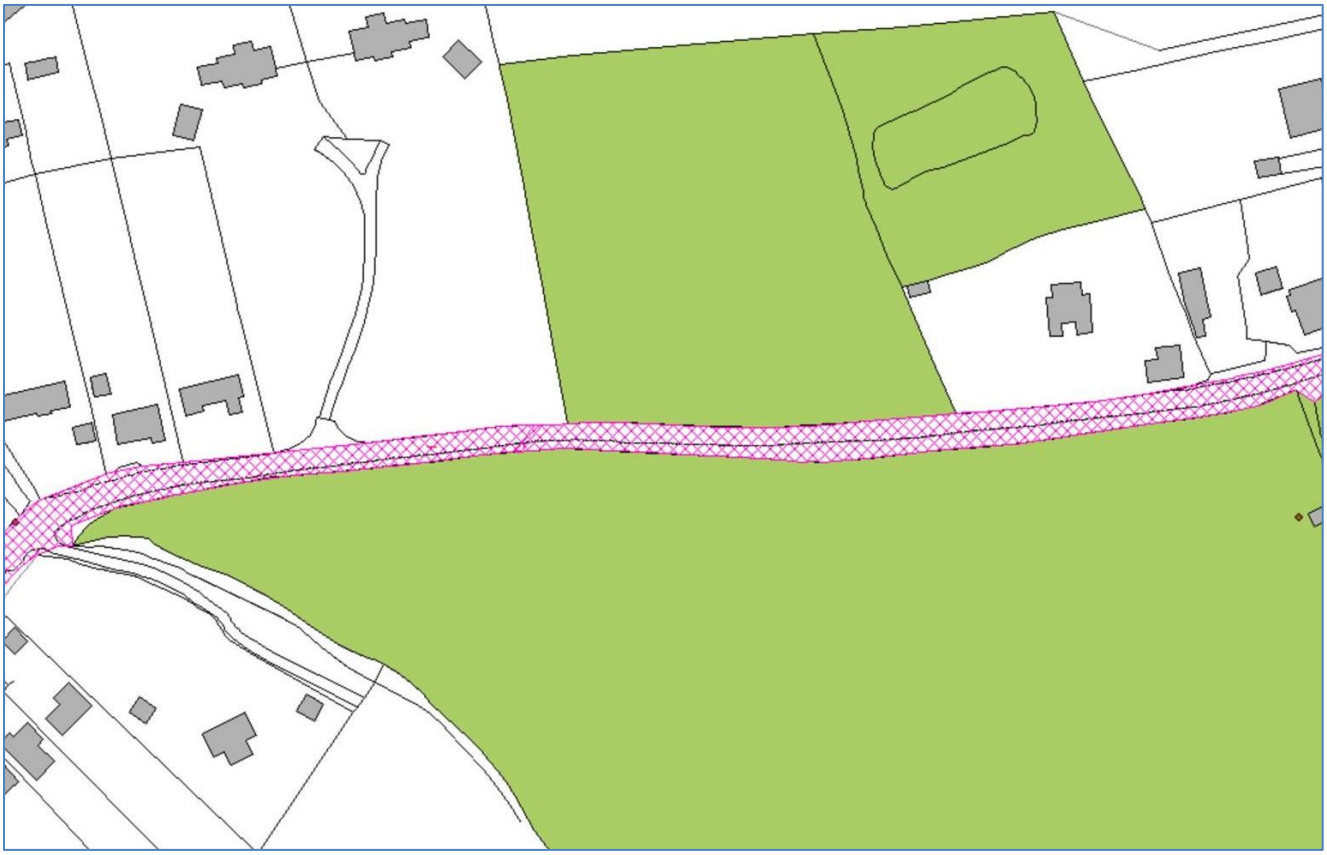
3. MEDSTEAD ROAD: South of Beech Village Hall

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

5. MEDSTEAD ROAD: Stretch adjacent to Forestry land 1

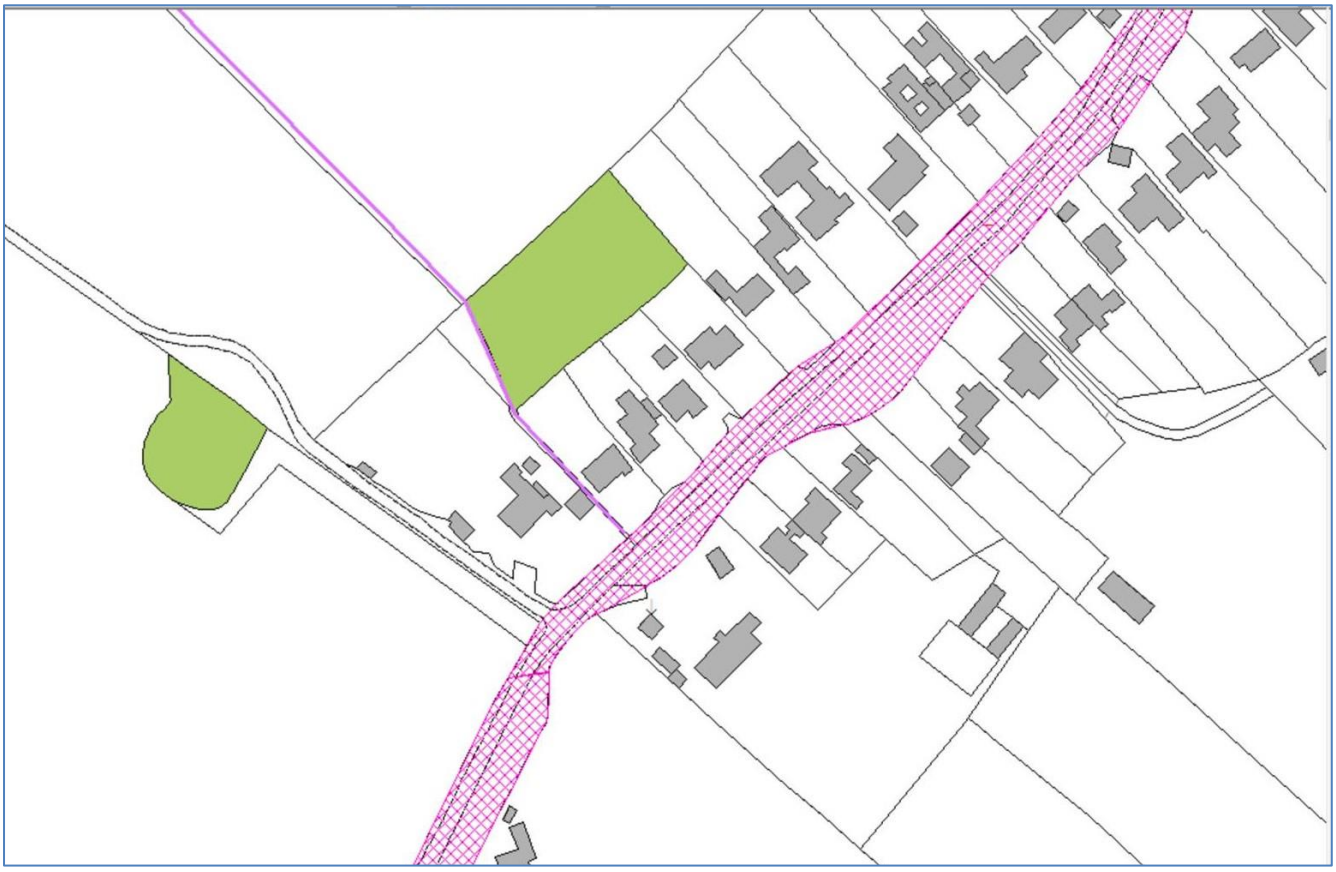
6. MEDSTEAD ROAD: Stretch adjacent to Forestry land 2

7. MEDSTEAD ROAD: Adjacent to private woodland



8. LOWER KINGS HILL

9. UPPER KINGS HILL



APPENDIX 3: Hampshire County Council – Transport and roads

Website Extract - Making roads safer

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

[Elements of the policy description below that are relevant to the content of the BRSWG report are highlighted in yellow for ease of reference]

Casualty reduction 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 are able to 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 a number of 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 where the problem is located (see contact details).

Traffic management policy

[Click on hyperlinks in blue to access documents.

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 4: Community Funded Traffic Measures Initiative

[HCC document extract]

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 directly 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 5: Decision Report – Residential 20mph Pilot Programme - Extract

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.

APPENDIX 6: 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

Other background documents

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