COMMUNITY-LED APPROACHES TO TRAFFIC SOLUTIONS

CATALOGUE OF INTERVENTIONS

South Downs National Park Authority

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SOUTH DOWNS
NATIONAL PARK

This report was prepared by Ethos Consultants

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For Brighton and Hove City Council, East Sussex County Council, Hampshire County Council, South Downs National Park Authority and West Sussex County Council

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INTRODUCTION AND CONTEXT

This catalogue is an essential companion piece to the Community-led Approaches to Traffic Solutions (CATS) guidance for Town and Parish councils working with Local Highway Authorities (LHAs), to better understand the use of, and standard of design for, traffic interventions expected in the National Park. The guidance includes direction for choosing a suite of complementary interventions to form a scheme that addresses a traffic related issue identified by the Town/Parish Council. This document contains the interventions considered proportionate and appropriate for use within the National Park and are deemed acceptable from an LHA perspective.

The catalogue should be used in conjunction with the guidance document to devise solutions for a variety of traffic issues, it is not a stand-alone, one-stop-shop for every situation. The individual interventions presented within this catalogue need to be combined together to form a complete scheme which will serve to emphasise their individual benefits and effects on traffic.

While there is a large range of interventions available, some have not been included in the guidance as they are unsuitable for use in a Protected Environment or have significant costs.

For example, LHAs, to enhance the visibility of a road sign, often surround it with a backing board featuring a fluorescent yellow retro-reflective surface. This is inappropriate for use in most locations within the National Park. The highway guidance Traffic Signs Manuals note that ''Yellow backing boards can be especially environmentally intrusive,' and instead recommend increasing the size of a sign one step or increasing the level of retro-reflectivity. While this may seem to contradict one of the Design Guidelines, a slightly bigger sign is less intrusive than a fluorescent yellow backed sign.

Items that would likely be beyond the budget of most Town/Parish councils include signalised crossings, such as Zebra, Toucan or Pegasus crossings. There are also solutions that would be both inappropriate to the National Park environment *and* beyond the usual budget of Town/ Parish councils, such as the installation of speed cameras.

The specific schemes developed using the interventions in this catalogue need to align with the overall design principles and guidelines set out within the guidance document.

OVERARCHING PRINCIPLES

- Design principles should be considered and addressed at the initial design stage of development.
- Take a minimalistic approach, this is likely to have the least impact on the special qualities of the National Park.
- Consideration of appropriate design for the National Park should be at the forefront of thinking when developing a scheme to avoid a retrofitting approach.
- Deliver highway infrastructure in a consistent method, across all LHA's within the SDNP to avoid a piecemeal approach.
- Ensure design is inclusive of all users with protected characteristics.
- Interventions should acknowledge the road classification with a two-stage hierarchal approach:
    - A and B class roads may need to have greater focus on vehicle movement.
    - Other road classes should prioritise non-vehicular movement.

DESIGN GUIDELINES

- Gateway features should be the consistent approach to village entry points. These should include shared identity and be coordinated to avoid overuse of signage.
- The widening of footways can be used to rebalance the dominance of roads and, where appropriate, the associated removal of clutter.
- Use natural high-quality alternate surfacing materials where possible.
- Reduce traffic dominance through surface treatment and layout.
- Simple use of street furniture, with suitable locally significant materials or timber in the first instance, dark grey or heritage black finished metalwork, or if necessary faux- wood style plastic in a light oak colouration.
- Where spaces need to be defined between transport users, use green infrastructure or changes in surfacing. Avoid standard bollards and barriers.
- Avoid use of overly large-scale signage and bright or fluorescent colours which can urbanise and diminish the scenic value of the area.
- Reduce the clutter of interventions where possible, thereby improving the environment and public realm.

HOW TO USE

When a traffic issue has been appropriately identified and investigated, the Town/Parish Council will have data indicating the nature of the issue ie traffic speeds or safety issues. A scheme shall be assembled using the interventions best suited to the issue, the location and the context that can be submitted to both the relevant LHA and the SDNPA for agreement in principle.

The catalogue lists the interventions within a series of tiers that are generally ranked based on ease of achievability and cost. These tiers are:

Tier 1 – Simple 'quick win' interventions that should require minimal additional investigation from the LHAs, possibly a Stage 1 Road Safety Audit (RSA).

Tier 2 – Interventions that should receive agreement in principle but may require additional details/RSA to ensure they are correctly sited.

Tier 3 – Primarily physical infrastructure interventions likely to require the LHA to carry out some level of inspection to ensure suitability of measure and location. This may incur a charge for the Town/Parish Council.

Tier 4 – Interventions requiring a Traffic Regulation Order to create and come with added expense and timescales. An LHA will be required to carry out a suitability assessment. This is likely to incur a charge for the Town/Parish Council and certainty of funding is likely to be required.

Whilst the interventions in this catalogue have been deemed appropriate for use within the National Park, it doesn't mean they can be applied in any location, nor does this mean that the LHA will automatically approve their delivery. The LHAs views on the interventions differ from county to county and what is considered acceptable to one may not be acceptable to another. While the LHAs within the National Park have indicated their support for the guidance some specific interventions were highlighted as counter to local policy. To support and manage expectations, a suitability scale has been produced which has been applied against each intervention.

The suitability scale illustrates at a high level the viewpoint of each LHA on the specific intervention. This is broken down into three categories:

Green: The intervention is deemed suitable within both the SDNPA and LHA guidelines based on the design expected in the National Park. This means that the intervention should be deliverable without the need for any major change to be made to the design, though may still need some specific investigation. An example of this would be decluttering.

Amber: The intervention is within the SDNPA guidelines but may need refinement by the LHA prior to delivery. This means that the intervention may need to be assessed in more detail and adjusted to be considered suitable for delivery. An example of this would be an uncontrolled crossing point.

Red: The intervention may be accepted by the SDNPA but not the LHA based on current policy. This means unless the LHA policy changes, the intervention cannot be delivered. An example of this is major speed reductions without a demonstrated safety concern (history of injury collisions).

LHA	SUITABILITY	NOTES
HCC	GREEN	LOREM IPSUM
WSCC	AMBER	LOREM IPSUM
ESCC	RED	LOREM IPSUM

The interventions that may need refinement by the LHA are expected to be ones that need greater investigation into location and context to ensure it remains suitable or have a specific framework that needs to be followed, for example HCC's 20mph speed limit program. This guidance is likely to evolve over time as policies and best practice change.

Following the tiers of interventions, there is a matrix that shows which interventions complement each other well as part of a scheme, such as Gateway Furniture linking to Gateway Signage, Road Narrowing and Road Marking removal.

One thing to note is that in order to approve non-standard infrastructure/furniture, the LHA is likely to require a Town or Parish Council to add it to their asset register for insurance purposes, and/or to provide a commuted sum to cover the costs of replacing like-for-like.

It is difficult to estimate costs for individual interventions, and simply adding these costs together might not produce a representative cost for the scheme as a whole. Therefore, there are some example schemes included within the catalogue that are based on case studies from within the National Park and have an outline price drawn from LHA estimates. This is intended to give a representative cost of installation for expectation management purposes, and to guide Town/Parish Councils on the funds required, which should also assist in securing both agreement in principle and funding.

These costs will be regularly reviewed to ensure that they remain representative of schemes. The more schemes delivered using the CATS guidance, the more case studies will be available to inform the pricing.

ROAD SAFETY AUDITS

A Road Safety Audit (RSA) should be carried out for any intervention, but this is a requirement for interventions involving physical infrastructure. The relevant LHA may not accept an intervention unless an initial RSA has been carried out.

An RSA should be carried out by a team independent from both the 'Overseeing Organisation' which could be the LHA or, in some cases, the Town or Parish Council, *and* the design team. This is to ensure a truly independent assessment of the safety implications of the scheme. Applying the recommendations is not mandatory, but there should be reasons presented to not implement measures for each individual issue raised. The LHAs have Road Safety Teams and there are independent consultants who also undertake RSAs, this will likely incur a cost.

An RSA consists of an assessment of the scheme at multiple stages to identify potential safety risks and to recommend general solutions to them. These stages are at;

Stage 1 – Completion of Preliminary Design

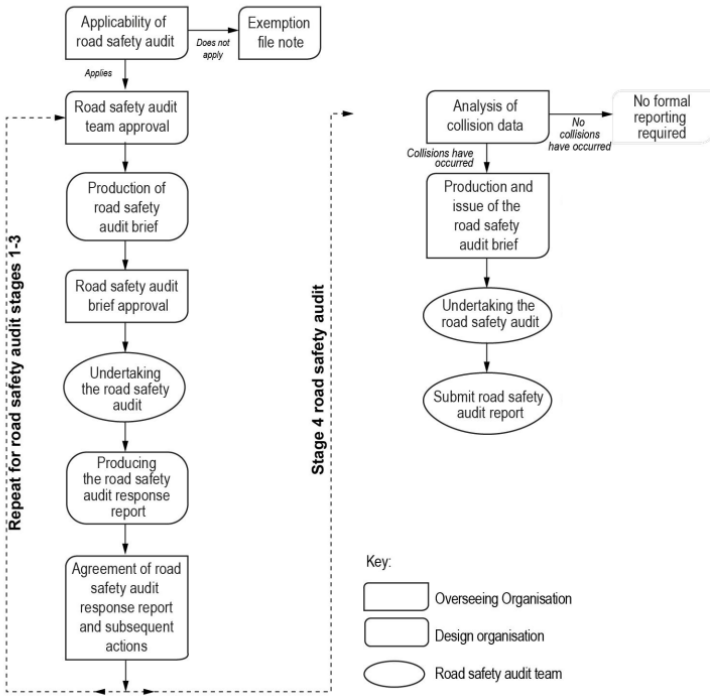
Stage 2 – Completion of Detailed Design

Stage 3 – Completion of Construction

Stage 4 – Post Opening

The diagram below, taken from the GG 119 Road Safety Audit guidance shows where the RSA interacts with the steps generally involved in implementing a traffic intervention scheme.

Figure 1.3 Road safety audit process overview



TIER 1 INTERVENTIONS

Simpler solutions that are likely to require minimal extra investigation by an LHA. Do be aware that this can vary across the LHAs and even these interventions may have nuances that could require greater preparatory work to receive agreement in principle.

DECLUTTERING

Decluttering will be one of the most effective low-cost interventions that can enhance the local environment

In the right location, decluttering unnecessary street furniture can support enhancing community environments to create a more befitting setting for the South Downs National Park along with potential improved accessibility, safety and a reduction in confusion for road users.

Over time, community environments have been subject to delivery of various pieces of street furniture for a variety of reasons, such as safety, accessibility, guidance etc. While many pieces of street furniture are crucial for all road users, they may not have been installed in a sympathetic, or rational, manner. Items such of road signs can be incorporated and rationalised or, as guidance has progressed, some items may be removed completely. Decluttering unnecessary street furniture from villages will support the process of enhancing village environments to create a more befitting setting for the South Downs National Park

It's vitally important that a detailed assessment is undertaken to ensure any essential or required street furniture remains to avoid the possibility of creating a road safety risk, for example, removing a priority give-way sign on a narrow bridge with restricted visibility would increase the likelihood of front-on collisions with vehicles who wouldn't know who had right of way. Examples of signage that may not be appropriate or necessary within the National Park include yellow-backed signs (unless visibility is severely restricted) and more strategic directional signage i.e. to major destinations in rural locations. Examples of street furniture that may be able to be removed includes, guard railing, unnecessary road markings, and bollards not serving a purpose. It's vital that critical street furniture isn't removed as this may cause safety issues.

This can often be done in conjunction with other interventions, for example, reducing a speed limit may remove the need for vehicle retention barriers, and national policy now advises against wholesale use of pedestrian guard rail.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Removes obstructive and/or redundant street furniture	Unlikely to result in speed reductions.	HCC	GREEN	Aligns with Policy
Reduces ongoing maintenance liabilities.	Removal of some items could pose a safety risk	WSCC	GREEN	Aligns with Policy
Provides opportunity to incorporate signage and provide clearer messages for road users	Integrated signage needs to be correctly designed to be less confusing.	ESCC	AMBER	May require an RSA

IMPROVED WAYFINDING

Improving wayfinding for non-motorised user routes can improve walking, wheeling and cycling modes in and around communities.

Wayfinding can be within the communities themselves or indicating long-distance routes such as the South Downs Way, Serpent's Trail, Egrets Way etc.

Road users are not necessarily just people in cars, and people using active travel methods to navigate communities have access to alternate routes from motorised users. Wayfinding provides direction and distance generally for walking, wheeling and cycling routes, these need to be highlighted and advertised to encourage use of these alternate, more appropriate and safer routes. Wayfinding is often presented within the National Park as metal fingerposts in the urban centres or wooden fingerposts and way markers in the more rural communities. If towns and villages do not have any wayfinding such as finger posts there is an opportunity to consider the introduction of wayfinding especially if it can support sustainable and active travel modes.

Wayfinding also provides an opportunity to create bespoke branding that could be aligned to the National Park. This can be linked to the many pedestrian wayfinding signs in place across the National Park such as directional signs for active travel routes and SSSI.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Improves visibility of active travel routing.	Can add clutter to a streetscape.	HCC	GREEN	Aligns with Policy
Opportunity to integrate SDNP shared identity to link communities.	Often bespoke materials with increased cost.	WSCC	GREEN	Aligns with Policy
Could encourage mode shift with off-road, safer, more direct routes.		ESCC	GREEN	Aligns with Policy

ROAD MARKINGS

Removing road markings has the potential to reduce traffic speed by up to 2-3mph based on data analysis from previous sites.

Removing a centreline through a community can cause greater attention, and slower speeds from the driver. If this is done from an entry point, it can give a distinctive 'road feel' within the community. This can be combined with offset edge lines to visually, but not physically, narrow the road and/or lined narrowing alongside other interventions to highlight their presence. Some lines should not be removed.

Road markings provide a degree of certainty to drivers on where to maintain their lateral position which can lead to a tunnelling effect where drivers focus solely on 'their lane', increasing speeds. White line road markings can be adjusted to counter this effect from adjusting their position to removing them entirely, where appropriate. Removing road markings such as centre lines in settlements can be an effective method of reducing traffic speed as the level of confidence in vehicle positioning is reduced. Some systems of lining may be in place for safety reasons (solid double white lines, warning lines at bends) and require greater investigation to change, though a lack of lining elsewhere can help emphasise these safety related markings.

Reducing confidence in where a vehicle should be positioned often results in drivers naturally reducing traffic speed. This is because there is a perception of an increased possibility of head-on collisions with other vehicles. Removing road markings can include give-way markings and other road markings in the right location. A decision on removing road markings should be made on a location-by-location basis, high trafficked roads with a higher number of larger vehicles using the road such as A and B class roads may require centre lines for safety however, there are opportunities for some A and B class roads within the National Park to have the centre lines removed. Examples of A and B class roads where it's likely to be feasible to remove the centre line include the A286 through West Dean or the B2105 through Jevington.

It should be possible, through dialogue with the LHA, for the centre line to be removed through most of the communities within the National Park that are not designated A or B class roads, this will remove a large degree of comfort for drivers, with the resulting uncertainty in road position resulting in a reduction in traffic speed. It will also support the environment of the National Park by reducing clutter and reinforcing the rural nature of a majority of settlements along with presenting a shared design language for communities across the National Park.

To further reduce costs, consideration should be given to a 'do-not-refresh' stance, where it could be requested that the LHA do not repaint the road markings when they are fading, which avoids the need to burn-off or cover over the road markings. This may take some time, depending on the condition of the road markings.

On a road where a centre line isn't required, there may be scope to consider an edge of carriageway marking. An edge of carriageway marking is used to provide greater clarity to drivers in identifying where the carriageway stops to avoid overruns. However, it can be used as a virtual form of traffic calming by bringing the edge of carriageway marking slightly further into the carriageway creating an illusion of a narrower road. This will reduce traffic speed as it will provide less confidence to drivers than the wider carriageway without the road marking would. This can be used with gateway furniture to create a visual pinch point as an alternative to building out road narrowing.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Can be an effective communitywide intervention. Low-Cost (if allowed to fade out rather than actively removed). Can enhance the effectiveness of other interventions.	Limited speed reduction alone. Some markings require greater investigation to be removed or may have to stay.	HCC	GREEN	Some may require an RSA
		WSCC	GREEN	Some may require an RSA
		ESCC	GREEN	Some may require an RSA

BLUE/GREEN INFRASTRUCTURE

Green infrastructure can turn traditional road safety interventions into more aesthetically appropriate, and more resilient, measures

B/GI interventions can include rain gardens, Sustainable Urban Drainage Systems (SUDS), grassed buildouts (rather than kerbed and tarmacked), planting, alternately managed verges or planters. These need to be designed sympathetically to allow for those with visual impairments and other disabilities to navigate the space and to ensure that planting does not obscure pedestrians or visibility splays.

Green and blue infrastructure can be defined as a network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation and climate mitigation and adaptation. This network of green (land) and blue (water) spaces can improve environmental conditions and therefore health and quality of life. It also supports a green economy and enhances biodiversity. Both Blue (water related) and Green (planting related) infrastructure are interventions well suited to integration with other items in a scheme. BI can be used to improve flooding and ponding issues around more physical infrastructure points and GI can be used to better integrate the highway into the streetscape and the National Park.

Green infrastructure (GI) is a great example of integrating other design features into road safety interventions, which can significantly enhance local environments and protect villages. There are a number of methods to achieve this including greenery, rain gardens, and sustainable drainage.

All the potential green infrastructure opportunities integrate with road safety interventions. The most common examples include planting and rain gardens that can be incorporated into traffic calming measures such as build outs and road narrowing. In the National Park, green infrastructure will support the aims and objectives of the South Downs National Park Authority and effort should be made to integrate GI into all road safety intervention.

Green and blue infrastructure is a key aspect of the recently adopted SDNPA Design Guide SPD. Within this document there are key design principles specifically on green and blue infrastructure, which include the following:

- A palette of locally appropriate GI and BI components should be generated through the landscape-led approach
- GI and BI should be as multi-functional as possible
- New development should make best use of GI and BI to deliver Ecosystem Services and biodiversity net gains.

The SDNPA Design Guide SPD is a useful resource for Town and Parish Councils to refer to when considering green and blue infrastructure as part of the development on road schemes where these interventions will be considered. The SDNPA Design Guide SPD can be accessed using the following link:

https://www.southdowns.gov.uk/wp-content/uploads/2022/08/SD_Design_2022_23-web-legible.pdf

There are some potential issues with some forms of SUDS, such as balancing ponds, in that they can require additional signage warning pedestrians to keep clear. This could add clutter to a scheme.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Significantly enhance the community environment.	Can be limited by available space.	HCC	GREEN	Aligns with policy
Can tie other interventions into the space in a more National Park appropriate way.	Higher costs for implementation and maintenance.	WSCC	GREEN	Aligns with policy
Improves resiliency and public health.	Can have equity access issues.	ESCC	GREEN	Aligns with policy

TIER 2 INTERVENTIONS

Physical interventions, largely roadside or surface level, aimed at changing the road feel and indicating to drivers a different driving environment. These should receive agreement in principle but may require additional details/RSA to ensure they are correctly sited.

GATEWAY SIGNAGE

Gateway signage has the potential to reduce traffic speeds and create shared identity though should be in conjunction with furniture.

Distinctive signage upon entry to a town, village or parish that can incorporate the name of the settlement, a logo or speed terminal sign and can also carry the SDNP shared identity branding.

A village name plate integrating Town / Parish iconography, this can also integrate the National Park shared identity to contribute to a consistent branding providing a cohesive feel across the National Park. Whilst this will be effective at drawing attention to the village, it must be recognised that the ongoing maintenance and replacement costs will be higher. However, it has been noted that printing a sign incorporating the shared identity is a negligeable cost uplift over a standard sign, roughly equivalent to adding an additional line of text. If gateway signage is seeking to incorporate Town/Parish logos or speed terminals, then adding shared identity will only increase the sign footprint and cost minimally.

The SDNPA has developed a variant of the shared identity with a line weight suitable for use on highway signage. The vector file for this, usable by sign manufacturers should be requested early into the intervention selecting process.

SDNPA shared identity imagery with a line weight suitable for roadside signage.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Can reduce traffic speed on approach & increase awareness of changing road environment.	Can be a slightly higher cost.	HCC	GREEN	Aligns with policy
can incorporate multiple signs into one.	Requires more space.	WSCC	GREEN	Aligns with policy
Opportunity to integrate SDNP shared identity to link communities.	Unlikely to be effective alone.	ESCC	GREEN	Aligns with policy

GATEWAY FURNITURE

Gateway furniture has the potential to reduce traffic speed by up to 3-4mph based on data analysis from previous sites.

Additional items can be arranged at an entry point to draw attention, such as a gate styled piece of furniture. This can carry a gateway sign, be incorporated into a buildout or be emphasised with lining. These will need to be passively safe and should be in locally distinct materials/timber, or if in a faux-wood plastic they should be a light oak colour.

A gateway treatment is one of the most important interventions, apart from any interventions that are designed to improve road safety, on the approach to a settlement, a gateway treatment is the first opportunity to influence driver behaviour as vehicles enter a community. The gateway is usually close to the residential centre and often provides a point for speed limit changes, meaning it's vital that the intervention is as effective as possible.

Traditional gateway furniture often consists of a fence or gate-style structure to which other interventions, such as signage, can be associated. Ideally, this should be done using locally significant materials (subject to passive safety assessments). If this isn't possible then the alternative should be a plastic faux-wood material. If the plastic material is used, the SDNPA recommends the use of a light oak colour, rather than plain white. This is unlikely to impact costs as these are offered in a variety of finishes. It must be recognised that the ongoing maintenance and replacement costs could be higher.

Gateway Furniture will be one of the most effective interventions to combine with others to create an entry treatment that enhances the safety aspect and reduces traffic speeds. Examples of interventions that can be combined with this intervention include road narrowing and build outs. Narrowing the road will force vehicles to slow down, especially when oncoming traffic is approaching. A build out requires one direction to have priority, constructing the build out on the approach side meaning traffic entering the settlement will have to give-way reducing speed to a stop.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Can reduce traffic speed on approach & increase awareness of changing road environment.	Can be a higher cost.	HCC	GREEN	So long as passively safe.
Provides a clear designation of community boundary.	Needs to be passively safe.	WSCC	GREEN	So long as passively safe.
Can Integrate gateway signage.	Unlikely to be effective alone.	ESCC	GREEN	So long as passively safe.

VERGE POSTS

Verge posts provide useful protection for traffic calming measures and for NMU's that may be close to the carriageway

A piece of street furniture with many utility uses. Verge posts can highlight other interventions such as narrowing, buildouts, verges, etc. they can also provide extra protection from traffic for both pedestrians and verges. These will need to be passively safe, contain a reflector and should be in locally distinct materials/timber, or if in a faux-wood plastic they should be a light oak colour.

Verge posts have a number of uses within the highway. Integrating verge posts with larger traffic calming interventions such as narrowings and build-outs provides additional protection from traffic. This includes Non-Motorised Users (NMUs) that may be utilising the traffic calming measures as crossing points. This makes them an effective safety intervention. There are numerous differing designs for verge posts ranging from more urbanised plastic and concrete designs through to wooden posts that are more suited to rural environments such as the South Downs National Park.

It should be noted that overprovision should be avoided, there isn't a need to install high numbers of posts as this will impact the environment and increase maintenance liabilities. Reflectors or retro-reflective bands should be included to increase conspicuously at night as the provision of street lighting in rural settlements is rare within the National Park given its Dark Night Skies Reserve status.

Verge posts can also protect grass verges from damage. If there is limited parking in an area or on-street parking creates narrow carriageways resulting in vehicles travelling over grass verges, it can have a negative appearance on the area. In the colder months, mud bought onto the carriageway can create road safety risks if the mud freezes.

Similar to Gateway Furniture, verge posts should use locally significant materials (subject to passive safety assessments). If this isn't possible then the alternative should be a plastic faux-wood material. If the plastic material is used, the SDNPA recommends the use of a light oak colour, rather than plain white. This is unlikely to impact costs as these are offered in a variety of finishes. It must be recognised that the ongoing maintenance and replacement costs could be higher.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Can provide additional protection for pedestrians.	Overprovision can increase clutter.	HCC	GREEN	So long as passively safe.
Protect verges from damage.	Needs to be passively safe.	WSCC	GREEN	So long as passively safe.
Can provide additional awareness of interventions.	Unlikely to be effective alone.	ESCC	GREEN	So long as passively safe.

VIRTUAL FOOTWAY

Virtual footways may reduce traffic speed slightly and provide a greater visibility and safety provision for pedestrians in key areas.

These are an area on the carriageway that is marked to provide an area where it is expected that pedestrians will walk when there isn't sufficient space or opportunity for a physical footway. These should only be used where it isn't feasible to deliver a constructed footway.

A virtual footway is when road markings (and sometimes coloured surfacing) is used to provide designation for pedestrians when there isn't sufficient space or opportunity for a full footway construction. Whilst this may cause the carriageway to become too narrow for two-way traffic to pass, vehicles can make the appropriate manoeuvre i.e. enter the virtual footway if no pedestrians are present. If a pedestrian is walking within the virtual footway the vehicles should give-way accordingly. Virtual footways often provide links to key trip generators such as schools, village centres, and open spaces. A virtual footway should only be implemented when it isn't feasible to deliver a footway as it isn't intended to be used as a cheaper alternative. A virtual footway is usually designated by a white line that is on the edge of the carriageway, which is usually broken/dashed. Whilst it provides no physical segregation, the markings encourage drivers to provide ample space when passing. Using coloured surfacing can increase the visibility of the virtual footway.

Many of the rural towns and villages across the National Park have historic rural roads and sunken lanes that are narrow/steep sided, this prevents the construction of a footway. In these locations pedestrians are required to walk in the carriageway. Where this is the case, it may be possible to consider the implementation of a virtual footway which can provide many of the benefits of a physical footway i.e. the designation of space between traffic and pedestrians. In areas of high footfall, a virtual footway may provide a compromise between no facilities for pedestrians and a full footway construction.

Without any intervention to create a shared space environment, pedestrians walking within the carriageway can create a significant safety risk. On carriageways that have a 40mph speed limit or above, any collisions involving vehicles and pedestrians are likely to be fatal, therefore Virtual Footways should only be considered on roads where the speed is 30mph or less.

There is flexibility with the design of virtual footways. The intervention can be delivered with little more than a single white line providing the designation. However, for a higher cost, it can be possible to use differing colours, and surface materials to provide the designation however, this increases the cost and the maintenance liability.

Combining the installation of a virtual footway with the removal of a centre line along the carriageway is likely to increase the effectiveness of both interventions.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Can provide a highlighted space for pedestrians. Can reduce road widths and encourage slower speeds. Can encourage active travel.	No physical segregation. Could cause conflict with Cyclists. May incur a higher maintenance burden.	HCC	GREEN	May require RSA.
		WSCC	GREEN	May require RSA.
		ESCC	AMBER	Requires RSA. Concerns with cyclists.

CHANGE OF SURFACE - COLOUR

Coloured surfacing has the potential to reduce traffic speed by up to 3-4mph based on data analysis from previous sites.

Changes to the surface of the highway can be an effective way of creating a different environment through colour and material. Coloured surfacing should be of a buff or beige variety.

Coloured surfacing is an effective method of reducing traffic speed without the introduction of physical traffic calming measures, creating an alternative environment. The colour of the carriageway can have a drastic impact on the local area, the contrast between the traditional tarmacked surface and the new coloured surface causes a driver to slow down, especially if the surface coloured is combined with other interventions such as removal of road markings. It can be very effective when combined with a different surface materials.

While there have been some schemes of large-scale coloured surfacing (see West Meon), it is recommended to consider coloured surfacing for small areas rather than over significant distances to avoid reducing the impact it can have. As well as this, surface treatments usually come with higher maintenance liabilities, especially in areas with high numbers of turning movements, which the local highway authority will likely resist.

The location of where coloured surfacing is used should be carefully considered. It should be restricted where it may be confused with anti-skid surface, as this could encourage a sense of false confidence in drivers. In addition to location, an important aspect is conservation areas and listed buildings where surface colour considerations are key.

Within the park Buff/Beige is the preferred colour as opposed to the traditional red, with a number of examples using it to great effect such as in Rogate and West Meon.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Can highlight a changed environment for drivers.	Specific colours to be used in National Park.	HCC	AMBER	May require more detailed investigation.
Allows key areas to be highlighted, encouraging slower speeds.	Can deteriorate quicker, increasing maintenance burden.	WSCC	AMBER	May insist on red colour.
Assists in road space-allocation.	Should be limited to specific locations.	ESCC	GREEN	Aligns with policy.

CHANGE OF SURFACE – MATERIAL

Alternative surface materials has the potential to reduce traffic speed by up to 3-4mph based on data analysis from previous sites.

Changes to the surface of the highway can be an effective way of creating a different environment through colour and material. Changes to materials need to be aware of maintenance liability, including interaction with buried services

The standard type of surface used for carriageway construction is tarmac. There are many benefits of this surface treatment including longevity and cost. However, it's possible to use different surface materials to create a different appearance and feel that can cause drivers to slow down through the change of environment. Most town and villages within the National Park are within rural environments and have low classified roads where there is scope to consider the implementation of different carriageway surface materials to create a new environment.

There are various surface treatments available, these treatments can range from materials such as granite setts, and yorkstone paving to natural stone, and concrete blocks. This can also include grass reinforcement to narrow the carriageway. Certain materials are more defined in specific colours, which may make the use dependent on surrounding materials and colours, and others may be emblematic of local materials. Differing surface materials can be costly for both capital delivery and ongoing maintenance. Therefore, the use should be limited to small areas.

The decision on the type of surface material should be based on numerous considerations. Certain materials are more defined in specific colours, which may make the use dependent on surrounding materials and colours. As expected, higher quality materials are more costly to install both in the purchasing and construction, and the ongoing maintenance. This is likely to be a major influence for Town and Parish Councils where there may be limited funding.

Due to the higher cost compared to tarmac, including the maintenance costs, the use of alternative surface materials should be limited. Extended use of a material may reduce the impact, as drivers may become accustomed to the changed environment. LHAs are likely to oppose excessive use due to ongoing maintenance implications. Therefore, use should be limited to specific sites such as the creation of community focused spaces, gateways and where it's important to communicate a change of road feel to drivers.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Can significantly change the road environment for drivers.	Can cause noise and vibration issues.	HCC	AMBER	May require more detailed investigation.
Allows key areas to be highlighted, encouraging slower speeds.	Can deteriorate quicker, increasing maintenance burden.	WSCC	GREEN	Depends upon material costs.
Can be used to create informal paths and routes.	Can be one of the highest cost interventions.	ESCC	GREEN	Depends upon material costs.

LIT SIGNAGE (VAS/SID)

Key Intervention Headline

Vehicle Activated Signs has the potential to reduce traffic speed by up to 4-5mph based on data analysis from previous sites. Fixed sites can suffer from a short effective period, mobile units can counteract this.

The exact definition of Vehicle Activated Sign (VAS) and Speed Indicator Device (SID) can vary. Generally, a VAS is a fixed sign, while a SID is a mobile unit that can be transferred to different locations. These require commitment from local community groups to move them at regular intervals. Community Speed Watch groups can also be set up with the assistance of the Police.

A Vehicle Activated Sign is widely considered one of the most effective non-physical traffic calming measure available within the UK. There are various types of VAS, signs that flash "Slow Down", a speed roundel or warning sign which are likely to see average speed reductions of 1-2mph whereas the signs that display the speed a vehicle is travelling are considered more effective and are likely to see average speed reductions of 3-4mph. A permanent VAS will stay in the same location 24/7 and is best suited for warnings of a particular hazard, such as a tight bend.

A SID is portable and can be relocated to different locations, generally where mounting brackets have been installed on street furniture, and types that signs that display the speed a vehicle is travelling are again considered the most effective. There are also temporary SIDs that are often deployed by Community Speed Watch groups. Both types of device can provide useful data such as traffic speed and volume data that can be used as evidence when attempting to gain funding for traffic calming.

The signs are most effective within the first two to three weeks where drivers are often surprised by the sign illuminating and reduce their speed accordingly. Whilst permanent VAS can remain effective, especially those warning of a hazard, the SDNPA preference is for mobile signage for several reasons including landscape effect, cost and their ability to combat the limited effective duration of these devices. This provides the opportunity for speed reduction to be achieved in multiple locations. Part of a scheme involving an SID could be the installation of suitable mounting posts for the mobile unit, possibly in heritage black.

Due to highway safety concerns, it's likely that a skilled operative will be required to relocate mobile VAS. The LHA may have access to operatives that can take on this role, although the resource available may be limited due to the large extents of the counties, therefore it is more likely that it requires commitment from local community groups to move them at regular intervals

Town and Parish Councils could consider setting up a contract with a provider that can undertake this task on their behalf. Whilst there is an additional cost involved; this should avoid any issues where the device cannot be relocated when needed.

An alternative to VAS/SID is to employ Community Speed Watch volunteers. For clarity, Community Speed Watch is a process where volunteers, often arranged through the Town/Parish Council undertake speed surveys along roads with a known problem. This process is organised by the Police who provide support and guidance. Drivers caught speeding receive a warning letter and potentially more severe sanctions if they are repeat offenders.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Highly effective non-physical traffic calming measure.	Permanent units can become less effective in a short amount of time.	HCC	GREEN	Mobile only. Permanent signs require safety reason.
Some models can collect speed data.	Requires commitment and training to move mobile units.	WSCC	GREEN	Requires community operation.
Mobile units can counter the limited effective time issues.	Greater risk of criminal damage.	ESCC	GREEN	Requires community operation.

TIER 3 INTERVENTIONS

Physical traffic calming measures generally adjusting the road layout aimed at reducing speed at a specific point where safety would be a key concern i.e. outside a school or on a desire line. These improvements are likely to require the LHA to carry out some level of inspection to ensure suitability of measure and location. This may incur a charge for the Town/Parish Council. They are also interventions that are of a higher cost and some certainty of funding is likely to be required.

ROAD NARROWING (PINCH POINT)

Road narrowings has the potential to reduce traffic speed by up to 2-3mph based on data analysis from previous sites.

A reduction of road width from both sides that should still allow two-way traffic to pass, but at a slower speed at a specific point. This can be used to reduce the crossing distance for a pedestrian crossing.

A road narrowing involves reducing the width of the carriageway on both sides to create a pinch point, road narrowing shares many characteristics to build outs, which is a separate intervention.

The idea of a road narrowing is to allow two-way traffic to pass but due to the reduced width of the carriageway at the point of the narrowing, drivers are likely to slow down considerably to ensure vehicles can pass each other without collision. Narrowing the width of the carriageway often provides an ideal opportunity to integrate pedestrian crossing points within the feature. Providing dropped kerbs and tactile paving will safeguard the point for all pedestrians. Road narrowings often provide the opportunity for green infrastructure to be incorporated such as planting or small rain gardens, which can mitigate pooling/ponding that could occur.

To achieve a road narrowing, a new kerbline should be constructed into the carriageway on both sides. The top of the new kerbline can either be grass or a hard standing, ideally matching the material already in situ. Similarly, if the carriageway is un-kerbed, then a kerb-line should not be introduced. It is recommended that these narrowings be highlighted which can be using bollards with reflectors or retro-reflective bands, which again should use locally significant materials (subject to passive safety assessments). If this isn't possible then the alternative should be a plastic faux-wood material. If the plastic material is used, the SDNPA recommends the use of a light oak colour, rather than plain white.

Whilst the primary aim of a road narrowing is to achieve a speed reduction at a specific point, there are additional benefits the intervention brings. For example, a narrowing can be an extremely effective uncontrolled crossing point, narrowing the carriageway results in pedestrians having less distance to cross but requires installing a dropped kerb and tactile paving to provide required accessibility for users. Bollards could again be considered for protection, but over provision should be avoided.

It can also be possible to integrate other road safety interventions into this measure such as using the narrowing as part of a village gateway treatment. The narrowing can be used for signage such as speed limit terminal signs or the village nameplate sign.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Effective support for active travel measures.	Require supporting infrastructure to be visible.	HCC	AMBER	May need further investigation.
Reduced widths can reduce speeds and improve crossings.	Can increase damage related accidents.	WSCC	AMBER	May require drainage.
Can be easily varied to suit the location/budget.	Ineffective on its own.	ESCC	AMBER	needs RSA and may need further investigation.

PRIORITY BUILDOUT

Priority buildouts have the potential to reduce traffic speed by up to 4-5mph based on data analysis from previous sites.

A narrowing on one side of the road, but to such an extent that traffic can only pass in one direction at a time. A priority needs to be set, usually priority is given to traffic leaving the community, reducing incoming speeds.

A buildout is a piece of infrastructure that traditionally is delivered by implementing a new kerb line into the carriageway. This reduces the width of the carriageway and doesn't allow two-way traffic to pass. Therefore, it becomes necessary to sign a priority of traffic flow, depending on the speed of the road. Usually, in accordance with the Highway Code, the side of the carriageway the buildout is on is the flow of traffic that is required to give-way. An effective use of buildouts as a traffic calming measure is on the approach to settlements, this means traffic will be moving much slower into areas likely to have higher levels of non-motorised users. Therefore, unless there is a specific reason, the priority should always be given to traffic that is leaving the settlement as opposed to entering. This will assist in controlling speeds into the settlement, which increases the likelihood of speed reduction occurring throughout.

There can, however, be issues with cycle traffic as it can increase the danger for cycle traffic trying to navigate the build out. A cycle bypass can be used to allow cyclists to continue straight on but will usually relegate the buildout to a freestanding kerbed structure, rather than being integrated into the existing verge.

This intervention is similar to the road narrowing intervention, as a build out will also narrow the width of a carriageway at a specific point. The main difference between the two interventions is that a build out is not intended for two-way traffic to pass, meaning one direction of traffic must give-way. To achieve a build out, a new kerbline should be constructed into the road on one side. The top of the new surface can be grass or hard standing, though if the carriageway is un-kerbed, then a kerb-line should not be introduced. It is recommended that these build outs be highlighted which can be using bollards with reflectors or retro-reflective bands, which again should use locally significant materials (subject to passive safety assessments). If this isn't possible then the alternative should be a plastic faux-wood material. If the plastic material is used, the SDNPA recommends the use of a light oak colour, rather than plain white.

Whilst the primary aim of a road narrowing is to achieve a speed reduction at a specific point, there are additional benefits the intervention brings. For example, a narrowing can be an extremely effective uncontrolled crossing point, narrowing the carriageway results in pedestrians having less distance to cross but requires installing a dropped kerb and tactile paving to provide required accessibility for users. Bollards could again be considered for protection, but over provision should be avoided.

Enhancing build outs in the National Park can be achieved through integration with 20mph limits and zones. If a build out is installed within a 20mph limit or zone, there are less requirements for supporting infrastructure such as signage, and road markings, which can prevent excess clutter.

It can also be possible to integrate other road safety interventions into this measure such as using the narrowing as part of a village gateway treatment. The narrowing can be used for signage such as speed limit terminal signs or the village nameplate sign. It can also provide the opportunity for green infrastructure to be incorporated such as planting or small rain gardens, which can mitigate pooling/ponding that could occur.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Highly effective speed reduction.	Require supporting infrastructure to be visible, inc signage (dependant on speeds).	HCC	AMBER	May need further investigation.
Reduced widths can improve crossings.	Can increase damage related accidents.	WSCC	AMBER	May require drainage.
Can increase awareness of different road environment.	Higher cost intervention.	ESCC	AMBER	needs RSA and may need further investigation.

CHICANE

In essence, two buildouts in quick succession, on opposite sides of the carriageway. This requires drivers to reduce speeds significantly to navigate the intervention.

A buildout is a piece of infrastructure that traditionally is delivered by implementing a new kerb line into the carriageway. This reduces the width of the carriageway and doesn't allow two-way traffic to pass. Therefore, it becomes necessary to sign a priority of traffic flow, depending on the speed of the road. Usually, in accordance with the Highway Code, the side of the carriageway the buildout is on is the flow of traffic that is required to give-way. Unless there is a specific reason, the priority should always be given to traffic that is leaving the settlement as opposed to entering. This will assist in controlling speeds into the settlement, which increases the likelihood of speed reduction occurring throughout.

To achieve a build out, a new kerbline should be constructed into the road on one side. The top of the new surface can be grass or hard standing, though if the carriageway is un-kerbed, then a kerb-line should not be introduced. It is recommended that these build outs be highlighted which can be using bollards with reflectors or retro-reflective bands, which again should use locally significant materials (subject to passive safety assessments). If this isn't possible then the alternative should be a plastic faux-wood material. If the plastic material is used, the SDNPA recommends the use of a light oak colour, rather than plain white.

On routes routinely trafficked by buses and heavier vehicles, the two buildouts of a chicane may need a minimum distance between them, which can diminish their speed reduction effects. Additionally, a chicane is less suitable for integrating pedestrian crossings as it requires multiple manoeuvres to navigate, possibly reducing driver capacity to observe non-motorised users.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Highly effective speed reduction.	Require supporting infrastructure to be visible.	HCC	AMBER	May need further investigation.
Can reduce speeds in both directions.	Spacing is important if routinely used by Bus or heavy vehicles.	WSCC	AMBER	May require drainage.
Can increase awareness of different road environment.	Higher cost intervention.	ESCC	AMBER	needs RSA and may need further investigation.

FOOTWAY WIDENING

Constructing or widening a footway will have an impact on road safety, both on traffic and pedestrians. Having a footway to use or a widened footway will provide clear safety benefits for pedestrians while reducing carriageway widths causes traffic to slow down.

Widening existing footways to meet current minimum width guidance at least or constructing new footway where one does not currently exist. While this will provide a safer space for pedestrians, there needs to be space available and is likely to be a high-cost intervention.

Some towns and many rural villages do not provide footways throughout, generally due to the historic context of the towns and villages in the National Park often connected by 'Historic Rural Roads'. Historic rural roads are defined as those roads outside towns shown in the second edition of the Ordnance Survey, which have not undergone significant widening or straightening in the intervening period. 'Roads' in this context refer to the highway itself as well as any associated pavements or cycle paths, verges, banks, ditches and boundary features. Some settlements do have footpaths that are below standard widths. These footpaths provide opportunity for a pedestrian to walk along, but don't allow pedestrians to pass and are not accessible to those with pushchairs or in wheelchairs.

Whilst it may be possible to construct new footways and widen those already in place that are below the standard width, there are likely to be consequences for this alteration such as the reduction in carriageway widths. Additionally, this is often a high cost intervention due to the distances involved in creating or improving pedestrian links, though there are some instances where only a small length of footway needs constructing, which would be comparatively cheaper.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Provides a safer space for pedestrians.	Can remove and displace parking.	HCC	GREEN	May need further investigation.
Can encourage active travel.	May simply not be enough space available.	WSCC	GREEN	May need further investigation.
Can reduce road widths and encourage reduced speeds.	Higher cost intervention.	ESCC	GREEN	May need further investigation.

UNCONTROLLED CROSSING

Pedestrian crossings may reduce traffic speed slightly but provide a greater safety provision for pedestrians in key areas.

A crossing point for pedestrians that consists of a dropped kerb and tactile paviour arrangement. Pedestrians have no priority over road traffic when using these crossings, but it does guide them to the most appropriate point to cross. These need to be sited appropriately to ensure good visibility to both pedestrians and drivers.

A pedestrian crossing provides a safe location for pedestrians to cross the carriageway. An uncontrolled crossing is where there is infrastructure in place for pedestrians to cross such as dropped kerbs, and tactile paving, but there is no priority over motorised traffic. These should be sited in locations with good visibility to ensure both pedestrians and drivers have good sight lines. Across small residential roads, or access roads, it may be possible to implement continuous footways, which provide priority for pedestrians over vehicles.

The critical aspect of proposing a crossing is understanding the vehicular demand along a road, and the pedestrian crossing demand. For assessing these the collision records will need to be taken into account and LHAs may require a Pedestrian Vehicle Mobility (PVM^2) or an Accident Difficulty Pedestrian Vehicle ($ADPV^2$) survey to be carried out.

There will be many locations where an uncontrolled crossing would be an effective and welcome intervention, especially where Public Rights of Way cross part of the public highway. Providing the crossing point is located within a desire line, most pedestrians will cross at this point. Therefore, it is important the crossing point location is safe with adequate visibility for pedestrians and drivers. A crossing can be highlighted which can be using bollards with reflectors or retro-reflective bands, but over provision should be avoided

Again should bollards be installed, they should use locally significant materials (subject to passive safety assessments). If this isn't possible then the alternative should be a plastic faux-wood material. If the plastic material is used, the SDNPA recommends the use of a light oak colour, rather than plain white.

An uncontrolled crossing in not likely to be effective at slowing traffic speeds unless combined with other interventions such as road narrowing or changes in surface.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Provides a safer space for pedestrian to cross the road.	Needs to be appropriately sited for visibility and use.	HCC	AMBER	May need RSA and further investigation.
Can encourage active travel.	May simply not be enough space available.	WSCC	AMBER	May need RSA and further investigation.
Controls the crossing location, potentially reducing risk of collisions.	Unlikely to reduce speeds.	ESCC	AMBER	May need RSA and further investigation.

TRAFFIC ISLAND

While this improves pedestrian safety, there is minimal speed reduction.

An uncontrolled crossing with a resting point in the middle of the road. This should have a wating area of 2m x 2m, therefore may not be suitable on most roads within the National Park.

Much of the information regarding Uncontrolled Crossings is relevant here, as a traffic island is essentially an uncontrolled crossing with a central resting area to break the crossing into two stages. The island requires some kerbing to shield the resting point, which itself must be formed of at least 2m x 2m of tactile paving, but there is still no priority over motor traffic. It is generally preferred that the kerbed portions have bollards mounted on them with a 'keep left' arrow sign.

These crossings should still be sited in locations with good visibility to ensure both pedestrians and drivers have good sight lines, though there is likely to be few locations where the roads are wide enough to require a traffic island.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Provides a safer space for pedestrians to cross the road. Can encourage active travel. Controls the crossing location, potentially reducing risk of collisions.	Needs to be appropriately sited for visibility and use. May simply not be enough space available. Require supporting infrastructure to be visible.	HCC	AMBER	May need RSA and further investigation.
		WSCC	AMBER	May need RSA and further investigation.
		ESCC	AMBER	May need RSA and further investigation.

TIER 4 INTERVENTIONS

These improvements require a Traffic Regulation Order (a legal document) to create and come with added expense and timescales. An LHA will be required to carry out a suitability assessment and may progress some interventions on safety ground only. This may incur a charge for the Town/Parish Council and certainty of funding is likely to be required.

FORMALISED PARKING

Formalising parking has the potential to reduce traffic speed by up to 3-4mph based on data analysis from previous sites.

This could consist of noting where parking is routinely happening and adding marked bays, possibly protected by buildouts/changed surface materials. It might also involve parking controls such as yellow lines or controlled parking zones (CPZ). These may require TROs

On-street parking can be an effective form of traffic calming. It reduces the width of the carriageway and, in accordance with the Highway Code, often requires traffic in one direction to stop and give-way to opposing traffic. Formalising areas of unrestricted parking in villages can provide benefit to residents whilst assisting in the reduction of speed and improvements to road safety. One of the most common issues with on-street parking causing issues is where vehicles park inappropriately. Formalising parking arrangements provides control as to where the parking provision is provided. This ensures it can be utilised to reduce speed whilst improving road safety within the village. In some locations it will be possible to integrate other interventions such as road narrowings and green infrastructure to enhance the area.

Existing areas of parking could be protected by buildouts or indicated by a change in surface material. It should be noted that for provisions such as single or double yellow lines, or controlled parking zones, a TRO will be required. For most communities within the SDNP, parking enforcement is a civil matter carried out by the borough/district councils though currently Wealden District in East Sussex has not taken this on, therefore parking enforcement can only be carried out by the Police there.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Parking can reduce road space and reduce speeds.	Existing parking may not be in appropriate location.	HCC	RED	TROs not aligned with policies.
Controlling parking can improve sightlines for junctions and crossings.	Some aspects may require TROs.	WSCC	AMBER	May need RSA and TRO.
Can provide points to integrate B/GI.	Requires enforcement to be effective.	ESCC	AMBER	May need RSA and TRO.

REDUCED SPEED LIMITS

A reduction in the posted speed of the road in general. This does not cover a 20mph scheme nor a buffer zone between two disparate speed limits. This would require a TRO to install.

Implementing an appropriate speed limit can be challenging in rural locations, there is a risk drivers will ignore the speed limit as it will not feel appropriate for the environment, to be effective the reasons for a limit need to be apparent. Do be aware that traffic may be travelling under the posted speed limit, but still 'travelling too fast for the conditions'. This is likely to be an intervention for smaller hamlets not classed as 'built-up areas' (indicated by a system of street lighting) that lie on roads that are 60mph by default. LHAs will require any reduction in speed limit to fit with the characteristics of the road, unless speed reduction interventions are installed to reduce the speeds of traffic in the first instance. They will also generally require a minimum length of a speed limit, often 400-600m.

Excessive speed limit changes will not be supported due to a risk of enforcement issues.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Reduced speeds can reduce severity of collisions.	May require additional signage and clutter	HCC	RED	Not aligned with policies.
Lower posted speeds can reduce the attractiveness of a route to sat-nav.	Require TROs.	WSCC	AMBER	Needs an RSA and TRO.
Can increase safety for non-motorised users.	Requires enforcement to be effective.	ESCC	AMBER	Needs an RSA and TRO.

EXTENDED SPEED LIMITS

Extending the speed limit has the potential to reduce traffic speed by up to 2-3mph based on data analysis from previous sites.

Seeking to move the existing lower speed limit within a settlement further out to change the point where traffic slows down. This could be required if development has extended to settlement boundary but will generally need to still encompass an area that reflects that lower speed limit.

Implementing an appropriate speed limit can be challenging in rural communities, often drivers do not start slowing down until passing a speed limit terminal sign, especially if it is not sited at a clear change in road conditions. There is a potential that traffic is passing key locations such as residential areas, shops and amenities, and schools at an excessive speed if they are located near the settlement entrance, which creates a significant safety risk. Extending the speed limit further away from the start of the settlement can result in traffic entering at a slower speed however it is important not to extend the speed limit too far from a clear change in road conditions (such as an increase in frontages, footways and/or junctions) as there is a risk drivers will ignore the speed limit as it will not feel congruous with the road environment. Extending the speed limit requires the support of the Police. Excessive speed limit extensions will not be supported due to the risk of enforcement issues.

While the extension of the speed limit should be undertaken on a location-by-location basis, it is likely to only be supported where the road environment supports it, such as when development has been constructed since the original speed limit was set. However, an extension is likely to be required to be 400m at minimum.

This intervention is one that requires more input from the Local Highway Authorities and the Police compared to others within this catalogue. Consultation should be undertaken early in the process to ensure any issues with the extension can be identified early.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Reduced speeds can reduce severity of collisions.	May require additional signage and clutter	HCC	RED	Not aligned with policies.
Can reduce speeds before drivers reach the community.	Require TROs.	WSCC	AMBER	Needs an RSA and TRO.
Can increase safety for non-motorised users.	Needs to be congruent with existing limit.	ESCC	RED	Not aligned with policies.

INTERMEDIATE SPEED LIMITS

Providing a speed limit buffer has the potential to reduce traffic speed by up to 2-3mph based on data analysis from previous sites.

Creates a buffer zone of reduced speed between the lower speeds in the community and the high speeds outside. This is often an area of 40mph between a derestricted/60mph limit and a 30/20mph limit. This will need to be at least 400m in length.

Implementing an appropriate speed limit can be challenging in rural communities, often drivers do not start slowing down until passing a speed limit terminal sign, especially if it is not sited at a clear change in road conditions. There is a potential that traffic is passing key locations such as residential areas, shops and amenities, and schools at an excessive speed if they are located near the settlement entrance, which creates a significant safety risk. Many rural settlements have 30mph speed limits but are flanked by the national 60mph speed limit, this means traffic is trying to reduce speeds by 30mph in a short distance. It is often not possible to extend the 30mph limit further due to the road feel and the risk of lack of compliance. To mitigate this risk, introducing an intermediate speed limit (usually 40mph) can be an effective intervention.

This acts as a buffer between the existing 30mph and 60mph limits, this means traffic should slow down at the 40mph speed limit terminals and then again at the 30mph terminals. Similarly buffer zones can help reduce speeds approaching a 20mph limit.

The extents of the speed limit buffer will need to be identified on a site-by-site basis, but generally a distance of 400-600m is required by the LHAs as there is still a risk drivers will ignore the speed limit that is too short or does not feel congruous with the road environment.

Extending the speed limit requires the support of the Police. Excessive speed limit extensions will not be supported due to the risk of enforcement issues. This intervention is one that requires more input from the Local Highway Authorities and the Police compared to others within this catalogue. Consultation should be undertaken early in the process to ensure any issues with the extension can be identified early.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Reduced speeds can reduce severity of collisions.	May require additional signage and clutter	HCC	RED	Not aligned with policies.
Can reduce speeds before drivers reach the community.	Require TROs.	WSCC	AMBER	Needs an RSA and TRO.
Can increase safety for non-motorised users.	Needs minimum lengths to be effective.	ESCC	AMBER	Needs an RSA and TRO.

20 MPH ZONES & LIMITS

20mph zones & limits have the potential to reduce traffic speed by up to 4-8mph based on data analysis from previous sites.

A reduction in the speed limit to 20mph, either via a signed only scheme, or via installation of a ZONE which allows use of specific signage but also requires a feature of traffic calming every 100m. This can be physical deflection, narrowing or tight bends but also signage and road markings.

A 20mph limit involves reducing the speed limit to 20mph without providing any additional traffic calming measures, signage and road markings are used to demonstrate the speed limit. Guidance set by the DfT states that for a signed only speed limit average traffic speed cannot be higher than 10% plus 2mph, therefore, if a road has an average speed above 24mph a 20mph limit cannot be considered, though some LHAs are less restrictive.

A 20mph zone involves reducing the speed limit to 20mph and integrating traffic calming measures alongside the speed limit reduction, though these measures can be physical or non-physical. A 20mph zone doesn't have a specific threshold as they must include traffic calming features every 100m. Traffic calming measures can include build-outs, and pinch points, although VAS, and surface materials can be used.

20mph speed limits are often appealing for rural towns and villages as they can be an effective safety and speed reduction intervention without physical measures, apart from the terminal signs at the start and end of the limit, the only infrastructure required are 300mm repeater signs/road roundels. However, in these rural locations it's often unlikely to see average speed within the 24mph threshold to consider 20mph speed limits, especially on the main routes through the village. Some of the smaller residential roads may have sufficiently low enough speeds, although these roads are often not the concern. LHAs will often consider temporary 20mph limits in certain locations such as outside schools or nurseries.

Often, a 20mph limit can be an aspirational goal for a masterplan approach, with initial stages focusing on interventions such as entry treatments that can reduce traffic speeds to the thresholds LHAs require. In general, the LHAs have a process for communities wishing to implement a 20mph limit and this should be followed, backed up by the investigative evidence procured following the Guidance.

BENEFITS	DRAWBACKS	LHA	SUITABILITY	NOTES
Effective intervention covering a wide area.	May require additional signage and clutter.	HCC	GREEN	Limits only, requires going through LHA process.
ZONE signage can incorporate SDNP Shared identity to link communities.	Require TROs.	WSCC	GREEN	Limits only, requires going through LHA process.
Can increase safety for non-motorised users.	Needs integration with other measures to be effective.	ESCC	AMBER	Limits only, requires going through LHA process.

COMPATIBLE INTERVENTIONS MATRIX

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Decluttering			■		■		■											■		■		■
2	Improved wayfinding					■		■	■								■						■
3	Road markings	■	■				■		■	■	■												
4	BI/GI					■		■					■	■					■				
5	Gateway signage	■					■			■	■		■	■									
6	Gateway furniture		■		■	■				■	■		■	■									
7	Verge posts					■	■						■				■		■				
8	Virtual footway			■									■				■				■		■
9	Surface – colour			■		■	■				■		■										■
10	Surface – material			■		■	■			■			■	■					■				■
11	Lit signage (VAS/SID)					■	■							■							■	■	■
12	Road narrowing				■	■	■			■	■						■						■
13	Priority buildout			■	■	■	■			■	■						■						■
14	Chicane				■	■	■			■	■												■
15	Footway widening			■									■								■		■
16	Uncontrolled crossing									■	■		■								■		■
17	Traffic Island									■	■										■		■
18	Formalised parking				■			■		■	■		■										■
19	Reduced speed limits											■										■	
20	Extended speed limits					■			■			■		■								■	■
21	Intermediate speed limits					■			■			■		■							■		■
22	20mph	■				■				■	■		■	■			■				■	■	

ESTIMATED PRICINGS

These estimates are based on previous schemes installed within the National Park and draw from examples provided by the LHAs. These costs do not include items such as licencing and permit fees, or Traffic Management costs. These figures will be updated on a regular basis to ensure that they can continue to reflect the costs of a variety of schemes.

Scheme	Estimated Cost	Notes
Wayfinding	~£3,500	Takedown of old signage and manufacture + installation of heritage black metal fingerpost signage.
Entry Treatment	~£2000 - £20,000	Single gateway feature vs multiple features at multiple locations.
Crossing point	~£6,500 - £8000	Single crossing point vs crossing with 10m footway link.
Placemaking	~£50,000 - £300,000	Smaller scheme based on entry points, decluttering & Speed limits vs extensive amounts of changed surfacing and buildouts.

EXAMPLE SCHEMES

ENTRY TREATMENT

An entry treatment is a combination of interventions at the settlement boundary to give a clear point of delineation from highway intended for movement of vehicles to a community. This example draws on the Pilot Project in Cheriton, Hampshire to install 3x entry treatments on the approaches to the main settlement.

This example consists of; Gateway Signage, Gateway Furniture, Road Narrowing, Road Markings, Decluttering.

At the entry point there is a road narrowing, both a minor extension of the verge and markings around the entry point to visually narrow the carriageway. The narrowing has gateway furniture installed on it, in this instance a faux-wood plastic sign carrier. The furniture here is in white, despite the preference noted in this guidance, as it ties in with the repeated use of white paint on other distinctive items of street furniture within the settlement, such as guard railings alongside a waterway. This fulfils the requirement of 'locally distinctive material'.

The signage integrates the SDNPA shared identity, and the introduction of road narrowing markings is combined with the removal of the centre lining to present a stark difference in road environment, indicating the transition from highway to community. Some decluttering of redundant signage was also included.

Previous speed surveys identified the average traffic speeds at this point as ~28mph, with the scheme anticipated to reduce those speeds to between 24 and 26mph to qualify for HCCs 20mph scheme. The gateway signage could then be upgraded to a sign integrating the 20mph speed terminal alongside the Village name and SDNPA shared identity.

Cost: ~£20,000

DECLUTTERING

A settlement wide focus on reducing highway clutter and reinforcing the nature of the roads through other measures. This example draws from Buriton, Hampshire, where a primarily decluttering exercise was enhanced with other measures.

This example consists of; Decluttering, removal of Road Markings, Road Narrowing, Verge Posts, Green Infrastructure, Change of Material, Extended Existing Speed Limit.

The key objective was a reduction of highways clutter including centre lining and standard repeater signage with the removal of approximately 30 road signs and bollards as well as 2 kilometres of centre line road markings and give-way markings at nine road junctions. This was enhanced with entry treatments on the approaches and an extension of the 30mph speed limits. The entry treatments consisted of a buildout narrowing the road with planting to integrate it into the environment, gateway signage, a change of material at the point and integrating repeater signage into verge posts.

Planting was also used to improve the sense of place throughout, and kerb lines were lowered and reinforced to allow for larger vehicles to pass each other without widening the carriageway.

After initial costs, further improvements were undertaken as part of the LHA's existing planned works and maintenance programs, for example, not refreshing the road markings, rather than actively burning them off/covering them over.

Cost: ~£50,000


BURITON
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PLACEMAKING

A settlement-wide scheme to enhance the sense of place and reduce the perception of highway priority and dominance. This example draws on the scheme in Rogate, West Sussex, a settlement on a busy A-class road, integrating a number of uses of changes surface colour to highlight key locations throughout the settlement.

This example consists of; Change of Surfacing (colour), Change of Surfacing (material), Road Markings, Formalised Parking, Intermediate Speed limit, Lit Signage (SID).

Throughout the settlement there are targeted areas of a changed surface colour from standard black tarmac to buff. This serves to highlight the transition to the more populated areas of the settlement with a road narrowing on the approach to a residential estate, a large patch of buff highlighting the junction itself and an extended narrowing, that can be used as a virtual footway, continuing through the settlement. Other patches of buff colour serve to highlight the entrance to a school and a crossroads.

There is a change of material, using blockwork to both delineate an area of parking in front of the pub but also to provide overrun areas at the junctions of the crossroad to visually narrow the bellmouth, while still allowing larger vehicles to turn into them.

The centre lining has been removed within the 30mph limit and edge lining is used to visually narrow the carriageway, emphasising the buff surfacing that also narrows the carriageway through the area with a higher amount of vulnerable, non-motorised users.

The kerb and footway have been built out to shelter strips of formalised parking outside, and across from, community facilities including the village shop and Pub.

There are mounting points for a mobile SID within an existing 40mph intermediate speed limit which is moved between mounting points on a regular basis.

The speed reductions from this placemaking scheme have reduced the average speeds in line with WSCCs 20mph speed limit policy.

Cost: ~£300,000


Grand
National
Shown HERE!


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ADDITIONAL GUIDANCE

To assist in the development of the schemes outlined in this guidance, some engagement with local and national guidance is necessary. This includes:

SDNPA

- Roads in the South Downs
- Adopted Design Guide SPD
- Adopted Village Design Statements
- SDNPA Local Plan
- SDNPA Partnership Management Plan

LHA'S

- Local Transport Plans
- Local Cycling and Walking Infrastructure Plans
- Speed Limit Policy
- S278 policy
- Community Funded Infrastructure
- Community Match Funding policies

NATIONAL

- Manual for Streets 1 & 2
- Road Safety Audit guidance GG119
- Traffic Signs Manuals 2 – 7
- Traffic Signs Regulations and General Directions 2016
- Active Travel England Best Practice Guide to Consultation and Engagement
- Active Travel England scheme review tools
- Construction (Design and Management) (CDM) Regulations 2015

GLOSSARY

ADPV2	Accident Difficulty Pedestrian Vehicle survey
ATC	Automatic Traffic Count
BI	Blue Infrastructure
CIL	Community Infrastructure Levy
CATS	Community-Led Approaches to Traffic Solutions
ESCC	East Sussex County Council
GI	Green Infrastructure
HCC	Hampshire County Council
LCWIP	Local Cycling and Walking Infrastructure Plan
LHA	Local Highway Authority
LTP	Local Transport Plan
NRSWA	New Roads & Street Works Act
PVM2	Pedestrian Vehicle Mobility survey
RitSD	Roads in the South Downs
RSA	Road Safety Assessment
SDNPA	South Downs National Park Authority
SID	Speed Indicator Device
SPD	Supplementary Planning Document
SSSI	Sites of Special Scientific Interest
TRO	Traffic Regulation Order
VAS	Vehicle Activated Sign
VDS	Village Design Statements
WSCC	West Sussex County Council