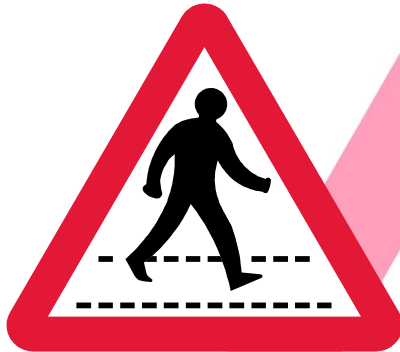


# Highway Improvement Plan Information Pack



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# Highway Improvement Plan

## A. Introduction

As the Local Highway Authority, KCC wants to help deliver changes which our local communities support, but we cannot do this without Parish/ Town Councils input.

We recommend that Parish/ Town Councils have a Highway Improvement Plan (HIP) as we need you to identify and prioritise what your communities see as the main problems on the highway and work collaboratively with us on developing your Highway Improvement Plan.

Within this booklet there are a number of information sheets that have been produced detailing some of the more commonly requested items. Please use this information pack to make a positive difference to your community.

Prices for the construction costs given are indicative only and are a 'starting from' cost. In most cases there are a range of factors that can increase costs. These figures do not include fees and costs for the design and consultation (TRO) which need to be assessed on a case-by-case basis. KCC staff within the Community Engagement Team can assist with providing advice.

In the first instance, please use the email address below. You will then be contacted by the designated point of contact for your area:

**West Kent** (Maidstone, Tonbridge & Malling, Tunbridge Wells, Sevenoaks, Dartford and Gravesham): [west.highwayimprovements@kent.gov.uk](mailto:west.highwayimprovements@kent.gov.uk)

**East Kent** (Swale, Canterbury, Ashford, Thanet, Dover and Folkestone & Hythe): [east.highwayimprovements@kent.gov.uk](mailto:east.highwayimprovements@kent.gov.uk)

## B. Notes on Timescales

For all projects delivered by the Road Safety and Active Travel Team, our contractor has up to 3 months to start the work once it has been handed over for delivery. However, there is typically a 3-to-9-month lead-in, depending on the nature of the work, need for a Traffic Regulation Order (TRO), the allocation of resources and procurement of the required materials.

Works involving new electrical connections or utility service diversions may also be delayed if the relevant utility company cannot carry out the work to our timescale.

The Community Engagement Team will keep you updated throughout scheme delivery.

## C. Traffic Regulation Orders

Some requests may require a Traffic Regulation Order (TRO). A TRO is a legal document which is required to manage traffic flow, speed limits and parking restrictions and is necessary to make the restriction enforceable.

A TRO is required for:

- Change of speed limit
- Parking places
- Waiting, loading and unloading bays including school keep clear markings
- Single and double yellow lines
- Prohibition of vehicles
- Vehicle weight and width restrictions
- Bus lanes
- Cycle lanes

All new TROs are advertised and a formal consultation with relevant stakeholders, including the Police, bus companies and emergency services, will be undertaken.

**It should be noted that an application for a TRO may not result in its successful implementation. All TROs are subject to a statutory legal consultation and democratic scrutiny process, and should a significant number of valid objections be received, it may be necessary to abandon the proposals, or debate them at a meeting of the local Joint Transportation Board.**

**Therefore, we would expect that an informal consultation is undertaken by the County Member or Parish/Town Council as a first step to ensure that the proposal has full community support. The results of the consultation must be evidenced. A template is attached under [Appendix 1](#) to assist with the informal consultation process.**

The example in the template is for parking restrictions but should provide ideas for the general layout, regardless of what is being consulted on. It is up to the Parish Council to determine what questions you would like to ask as part of the informal consultation.

Ultimately the aim is to have a good idea at the end of the informal consultation as to whether or not the scheme will be supported at the formal TRO stage. If a large number of objections are received at this stage, we will be able to review the responses to see what, if any, amendments would be needed in order to gain support from the objectors, so asking for the reasons why a resident might object is key.

If we receive six or more objections to a proposal, a report will be written by KCC and presented to the Joint Transportation Board (JTB) to debate and decide whether or not to proceed with the measures proposed. This could delay a project and Orders can take on average between 9 and 12 months to come into force.

The cost for a TRO is **£2850** with an additional **£650** should the decision be referred to the JTB. Please note the fees will increase yearly on 1 April.

## Highway Improvement Plan (HIP) – Guidance Notes

The Highway Improvement Plan (HIP) is a list of potential highway improvements requested by the community and endorsed by the Parish/Town Council or County Member if led in an unparished area.

The HIP is intended to bring together all the requests for NEW highway improvements requested via the community and endorsed by the Parish/Town Council and/or County Member.

A copy of the HIP template should have been provided to you by the Community Engagement Team but if not, please contact [east.highwayimprovements@kent.gov.uk](mailto:east.highwayimprovements@kent.gov.uk) or [west.highwayimprovements@kent.gov.uk](mailto:west.highwayimprovements@kent.gov.uk) to request a copy.

KCC always recommends that members of the public contact their Parish/Town Council, or County Member to ensure a community voice helps to prioritise their concerns and ideas and this enables us to assist with requests in a more pro-active way.

The Parish/Town Council/County Member then use the HIP to log and prioritise their concerns and ideas within the community and ultimately identify who is to fund the improvements, should there be mutual agreement between KCC and the Parish/Town Council to take forward an idea.

The Community Engagement Team is committed to meet parishes annually as a minimum and discuss their requests and issues raised. It is recommended that your County Member is also invited to the meeting. **The Parish/Town Council need to be clear on what the problem is that they are trying to resolve when meeting the Community Engagement Team and have evidence to support the concerns being raised.**

KCC is unable to guarantee that all requests will be deliverable, but our Community Engagement Team can advise this once we know what the problems are.

The Community Engagement Team can provide initial advice on HIP requests at no cost, but it should be noted that officers time for the design and delivery will be charged as we do need to recover our design fees to fund the additional work and staffing required to provide design and delivery services.

The rates have been compiled based on an estimate of the number of person hours required to compile the appropriate documents and project management associated with designing and highway scheme, they are then banded based on the anticipated construction cost of that project. The current fees are as follows:

Anticipated Construction Cost	Design Fee
<£1,000	£326
£1,000 - £10,000	£1,068
£10,000 - £30,000	£1,980

All cost estimates are based on our standard 2023 rates. However, material costs have increased substantially, and each scheme will require a quote from the contractor.

It should be noted that the design costs outlined are very modest, and much cheaper than private highway consultants. We do encourage Parish/ Town Councils to liaise with the Community Engagement Team before engaging a private consultant to carry out any highway designs or investigations. This way we can ensure that the most cost-effective solution is identified, and any suggested changes are acceptable based on KCC's design standards and technical approval process.

In addition to the design fees, any physical changes to the road layout such as traffic calming measures, build outs, zebra crossings etc. will also require a minimum of two Road Safety Audits at a cost of £995 each.

The information on each of the highway improvements detailed in this information pack are to assist the Parish/Town Councils with approximate costs and considerations when requesting any new measures.

Any day-to-day maintenance issues can continue to be logged via the online reporting tool using the link below:

<https://www.kent.gov.uk/roads-and-travel/report-a-problem>

## Community Engagement

The Parish/Town Council/County Member are the voice for their community. Therefore, prior to completing the HIP, Parish/Town Councils/Members are to prioritise the improvements they would like to see within their parish/ward with feedback from the local community.

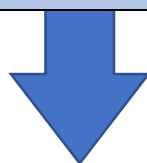


## Completion of HIP

Parish/Town Councils complete the HIP, **taking into account information within this information pack**, and submit to the Community Engagement Team

East: [East.HighwayImprovements@kent.gov.uk](mailto:East.HighwayImprovements@kent.gov.uk)

West: [West.HighwayImprovements@kent.gov.uk](mailto:West.HighwayImprovements@kent.gov.uk)



## KCC to Review HIP

Upon receipt of your HIP, the Community Engagement (CE) Team will review and arrange a meeting to discuss the requests and problems to ascertain what is feasible to take forward and who is funding. KCC officers will also provide advice, guidance and support with matters arising.

The CE Team will annotate the HIP, in the KCC comments column, following the discussions at the meeting, outlining the actions to be taken.



## Outline Estimates

If a scheme is to be externally funded by a Parish/Town Council or County Member, KCC will provide an outline **estimate** of costs and timescales for the design and delivery of the agreed feasible scheme. If the Parish/Town Council wish to proceed, KCC will issue an invoice for the design fee.

**Please note: No designs will be started without payment.**

**The design fee is non-refundable if the Parish/Town Council or County Member decide not to proceed with the scheme.**



## Scheme Delivery

Once the designs and final costs have been agreed and the Parish/Town Council/County Member wish to proceed with a scheme, an invoice for the remaining costs will be issued. Subject to the proposal it may be necessary for a Traffic Regulation Order (TRO) or Road Safety Audit (RSA) which will increase scheme delivery timescales.

**Please note: No TRO, RSA or construction work will be ordered until full payment has been received.**

20mph speed limits are often used in residential areas where there is generally a high proportion of vulnerable road users and where traffic flows are low.

A 20mph speed limit should be designed to be "self-enforcing" so that the traffic naturally keeps to the speed limit. This can sometimes be achieved without additional measures due to the physical layout of the road, on-street parking etc.



otherwise physical traffic

calming measures may be needed to go along with the introduction of the change in the speed limit. This can include gateway treatments, speed humps, chicanes, road narrowing, and other measures to both physically and visually reinforce the reduced speed limit.

Where existing measured traffic speeds are above 24mph it may be necessary to install traffic calming features to reduce speeds below 24mph. These might be physical or virtual traffic calming depending on the nature of the road. It is worth noting that while residents may support a 20mph zone in principle they often object to traffic calming measures near their home and design requirements often give little scope to adjust the location.

Signing alone is unlikely to have a significant effect on traffic speeds (typically around a 2mph reduction to the mean speeds is all that is likely) and so KCC will consider requests on a case-by-case basis, with the whole road environment and context being assessed.

### 20mph Limit

20mph limits are signed with terminal signs and at least one repeater sign and do not require traffic calming measures. Average existing speeds need to be 24mph or below. Kent Police are supportive of appropriate 20mph schemes where a high level of compliance is expected.

### 20mph Zone

20mph zones require traffic calming measures (e.g. speed humps or chicanes) or repeater speed limit signing and/or roundel road markings at regular intervals. Zones usually cover a number of roads.

## Site Requirements

- KCC will very rarely be able to install physical traffic calming measures on A or B classified roads due to emergency services as well as high flows of HGV's. This is consistent with other Local Authorities and national guidance.
- Traffic speed surveys will need to be carried out to identify current traffic speeds and to enable the design of possible traffic calming measures depending on



average speeds.

- Physical traffic calming measures must be lit at night and so 20mph zones that require a system of physical traffic calming must be in areas with street lighting.
- No point within a 20mph zone should be more than 50m from a traffic calming feature (this can be a natural feature such as a tight bend, on-street parking or an installed measure).
- The minimum length of a speed limit should generally be not less than 600 metres to avoid too many changes of speed limit along the route.
- An informal consultation will need to be carried out by the scheme promoter prior to the formal Traffic Regulation Order (TRO) being advertised to ensure there is community support for a 20mph limit.
- A Traffic Regulation Order (TRO) for the new speed limit will then need to be advertised and if there are sufficient valid objections, a report to the Joint Transportation Board will be required and the recommendation may be not to allow the new limit to be implemented.
- There needs to be suitable locations to install the speed limit signing on all the entry points into the zone. In more rural locations this may not be possible if highway land is not available.

## Typical Costs

The cost of 20mph zones can vary significantly and will depend on the number of roads affected, the number of entry points into the zone and the type and amount of traffic calming required. Typical starting costs for the installation of a 20mph zone are:

- Traffic Regulation Order from £2850 (required for all 20mph Zones)
- Zone entry treatment (2x pairs of signs on new posts plus carriageway roundel) from £1100 each which will be needed for each entry point into the zone

Please note that the overall cost can increase significantly if any of the following additional costs are incurred:

- The carriageway may need to be resurfaced to provide a sound, even surface for the entry treatment if provided.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- A Public Notice will need to be published if road humps are to be installed.
- Utility services in the verges may need to be relocated in order to install gates or enhanced signing (this can be very expensive, especially if there are fibre optic cables)
- Amendments to the existing TROs (parking etc.) may be needed to accommodate the changes.
- Drainage alterations
- Enhanced construction materials
- Provision or enhancement of street lighting which can be a substantial cost
- Road safety audits giving independent safety advice on proposed changes

Traffic calming is used to manage traffic speeds where there is a speeding issue, evidenced by average speeds of more than 10% +2mph above the posted speed limit.

Traffic calming can also have an effect on the volume of traffic as drivers may use alternative routes to avoid calmed streets. There are many different forms of traffic calming which can include gateway treatments, speed humps, chicanes, and road narrowing.



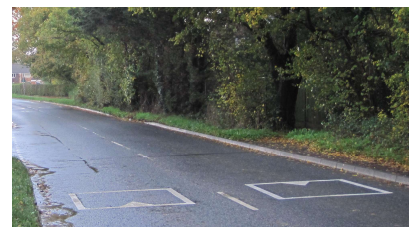
The type of measure which is most appropriate will vary from site to site and careful consideration will be needed to ensure the most appropriate type of calming is used.



It is worth noting that there are unfavourable side effects to most types of calming. Speed humps and cushions for example can cause unwanted vibration and noise for nearby residents. Chicanes and narrowing may result in the loss of on-street parking and can increase noise levels, cause congestion and, in extreme cases, lead to road rage incidents.

Virtual traffic calming measures could be an option if the site requirements do not allow for physical measures.

This could include, but is not limited to, virtual narrowing using hatched edge line markings at 30mph and 40mph sites, or virtual humps at 30mph and 40mph sites throughout the speed limit co-located with speed limit repeater signs as a speed management feature in poorly observed limits.



### Site Requirements

- Physical traffic calming measures are not appropriate on A or B class roads.
- Traffic speed surveys will need to be carried out to identify current traffic speeds and to enable the design of traffic calming measures.
- Most physical traffic calming measures need to be lit at night and so a system of street lighting will need to be present or provided by the scheme.
- The traffic calming features must be provided at regular intervals to properly manage traffic speeds. For large areas, this can become very expensive.
- An informal consultation will need to be carried out with affected residents by the scheme promoter in relation to the traffic calming measures.
- The road surface needs to be in good condition without ruts, crack or potholes. The material needs to be laid in reasonably warm, dry conditions and so will only be laid from mid-spring through to mid-autumn.

## Typical Costs

The cost of traffic calming can vary significantly and will depend on the number of roads affected and the type and amount of traffic calming required. Typical starting costs for the installation of some of the more commonly used traffic calming measures are:

- Traffic Regulation Order from £2,850 (required for a speed limit change or if changes are needed to on-street parking provision for example)
- Blacktop speed hump from approximately £1600 each.
- Pre-cast concrete speed cushions from approximately £9000 per pair.
- Carriageway speed limit roundel £180 per pair.
- Road narrowing from £1700 each.
- Chicane from £3,600 each.
- Road Safety Audit will be required

Please note that the overall cost can increase significantly if any of the following additional costs are incurred:

- The carriageway may need to be resurfaced to provide a sound, even surface.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- A Public Notice will need to be published if road humps are to be installed.
- Utility services may need to be relocated in order to accommodate some types of calming features (this can be very expensive, especially if there are fibre optic cables).
- Amendments to any existing TROs (parking etc) may be needed to accommodate the changes.
- Drainage alterations.
- Enhanced construction materials.
- Provision or enhancement of street lighting.
- A Traffic Regulation Order (TRO) will be needed if the speed limit is to be changed.

In some situations, the existing speed limit may be considered to be inappropriate and there may be a wish to change it. The speed limit on a road should reflect the local environment, nature of the road and its use. The Department for Transport sets out how speed limits should be set and KCC follows this guidance with any new requests: [Setting local speed limits - GOV.UK \(www.gov.uk\)](http://www.gov.uk).

Speed limits should be evidence-led and self-explaining and seek to reinforce people's assessment of what is a safe speed to travel. They should encourage self-compliance. Speed limits should be seen by drivers as the maximum rather than a target speed.

Speed limits should not be used to warn of single hazards, but relate to the whole road environment, and the average speed should be around the proposed speed limit change to ensure compliance (i.e. no higher than the enforcement speed of 10% plus 2).

A change in the posted speed limit alone will rarely make a significant change to the actual speeds of vehicles being driven along a road. Typically, a reduction of only 2-3mph is achieved through signing alone.

In instances where the majority of drivers are already driving at or below the desired speed limit, especially in a National Speed Limit (NSL), installing new signage could have a negative impact on speeds, as drivers may feel the need to drive at the posted speed limit as a safe target speed to aim for, where before they were driving below this.

A Traffic Regulation Order (TRO) is needed to change a speed limit and if there are significant objections, KCC may decide not to proceed with the change. In particular, Kent Police should not have objections to the speed limit when they are consulted where a high level of compliance is expected.



### Site Requirements

- The proposed speed limit must comply with the Department for Transport's guidance document Circular 01/2013 - Setting Local Speed Limits: [Setting local speed limits - GOV.UK \(www.gov.uk\)](http://www.gov.uk).
- Traffic speed surveys will be needed to provide evidence of existing speeds for use in the assessment. The number of surveys required will depend on the extent of the speed limit change.
- The minimum length of a speed limit should not be less than 600 metres to avoid too many changes of speed limit along the route.

- There must be a suitable location to install the signs at each end of the limit as well as any repeater signs (i.e. sufficient highway land, good visibility of the signs, clear of obscuring vegetation etc).
- A Traffic Regulation Order (TRO) will need to be advertised. Objections to the proposal may result in KCC deciding not to proceed with the new restriction. Costs up to this point will need to be paid by the applicant.

### Typical Costs

The cost of new speed limits will vary and will depend on the number of entry points into the limit. Typical starting costs for the provision of a new speed limit are:

- Traffic Regulation Order from £2,850 (required for virtually all changes to the speed limit)
- Speed limit entry signing (2x pairs of non-illuminated signs on new posts) from £650 each which will be needed for each entry point into the zone.
- Painted carriageway roundels can be added from £100 each.
- Speed limit repeater signs (not permitted for 30mph limits with street lighting) from £280 each.

Please note that the overall cost can increase significantly if any of the following additional costs are incurred:

- In certain circumstances the signs may need to be lit requiring lighting units and new power supplies.
- Vegetation may need to be cleared to provide sufficient advance visibility of the signs or permission may be required from the landowner if not publicly maintainable land.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- Removal and disposal of existing speed limit signs.

In some locations, there is a desire to draw drivers' attention to the fact that they are entering a lower speed limit or a village environment.

A variety of measures can be installed which will increase the prominence of the speed limit change or entry to the village. These can include a speed limit roundel on the carriageway, village nameplates and white 'gates' in the verges.



A mix and match approach can be used to select elements appropriate for the location.

“Dragon’s teeth” markings and coloured surfacing are not a prescribed road marking and should not be used except where there is a need to increase conspicuity to address a significant safety issue and more traditional engineering solutions would not be practicable or have proved unsuccessful.

### Site Requirements

- These gateway treatments will need to be installed where there is an existing speed limit change or at a suitable point at the entry to a village. Please note that village gateways should be sited as close as possible to the start of the main centre of a village in order to achieve the maximum effect.
- For the coloured carriageway patch, the road surface needs to be in good condition without ruts, crack or potholes. The material needs to be laid in reasonably warm, dry conditions and so will only be laid from mid-spring through to mid-autumn.
- Village gateways will be white in colour and will require at least 1.5m of clear verge in which to install them as the smallest gate is about 1m wide and they need to be set back at least 0.5m from the edge of the carriageway for clearance.
- Village signs will be provided with a white background, black border and black text. No other colours may be used. A shaped mangle type backing board is not to be used.

### Typical Costs

The starting costs for the gateway element installation are:

- Village nameplate from £400 each including posts although the cost will vary depending on the length of the village name, additional information included and speed of approaching traffic which determines the sign size.
- Speed limit carriageway roundel from £100 each.
- White gates from approximately £1200 each.

Please note that the overall cost can increase significantly if any of the following

additional costs are incurred:

- The carriageway may need to be resurfaced to provide a sound, even surface for the carriageway patch.
- Vegetation may need to be cleared to provide sufficient improved visibility of the gateway.
- Existing speed limit signs may need to be changed or relocated to suit the new layout.
- Utility services in the verges may need to be relocated in order to install gates or enhanced signing (this can be very expensive, especially if there are fibre optic cables).
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- **Future maintenance:** At end of life, funding will need to be found by the scheme promotor to maintain/ replace the gateways as KCC are not in the position to fund this. We would advise that the Parish Council add these assets to their insurance.

In some locations, excessive numbers of large vehicles using a road can be very disruptive to local people. Where these large vehicles are using a road as a through route (rather than those going to local farms, businesses etc.) and there is a more appropriate route, a weight limit could be considered.



A traffic survey would usually be needed to assess the extent of the problem and would act as a guide for the best course of action.

Environmental weight limits are usually set at 7.5 tonnes which allows smaller twin axle lorries, horseboxes etc. to use the roads but excludes anything larger.

Please note that for environmental weight limits we will always include an exemption for vehicles gaining access to properties within the restricted area.

Any restriction should be largely self-enforcing, and its reason should be obvious to drivers and not cause them significant inconvenience or cost. Only Kent Police have the power to enforce such restrictions but may not be willing for its officers to spend significant time on this.

Where a weight or width restriction does not meet the criteria, an advisory “unsuitable for HGVs” signage or positive lorry direction signage may be considered more appropriate. Please note that an advisory sign would not be enforceable.

### Site Requirements

- The entry point to the restriction must be sited at a point where oversized vehicles can turn away or advance warning must be provided.
- There must be suitable locations to install the signs on the entry points to the restriction (i.e. sufficient highway land, good visibility of the signs, clear of obscuring vegetation etc).
- A traffic survey will be needed to provide evidence of existing traffic for use in the assessment.
- There must be a suitable alternative route for vehicles to use to avoid the restriction.
- A Traffic Regulation Order (TRO) will need to be advertised. Objections to the proposal may result in KCC deciding not to proceed with the new restriction. Costs up to this point will need to be paid by the applicant.

### Typical Costs

The cost of new width or weight limits will vary and will depend on the number of entry points into the restriction. Typical starting costs for the provision of a new width or weight limit are:

- Traffic Regulation Order from £2,850



- Restriction entry signing (2x pairs of non-illuminated signs on new posts) from £600 each for width restrictions and £800 for weight limits which will be needed for each entry point into the zone.

Please note that the cost can increase significantly if any of the following additional costs are incurred:

- In certain circumstances the signs may need to be lit requiring lighting units and new power supplies.
- Vegetation may need to be cleared to provide sufficient advance visibility of the signs.
- Additional signs will be needed if there are any side roads not included in the TRO.
- Advance warning signs may be required.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.



Where pedestrians are having difficulty crossing a road, a new zebra crossing may be a suitable solution to deal with this issue. They consist of dropped kerbs, tactile paving, belisha beacons on posts and sometimes high friction surfacing on the approaches to help vehicles stop quickly.

These are only suitable where the existing speed limit is 30mph and below

and pedestrian flows are medium to high throughout the day.

A signal-controlled crossing is usually preferable for high or very high pedestrian flows to reduce delays to traffic by grouping pedestrians and existing speed limit is 40mph and above (see relevant information sheet).

## Site Requirements

- Existing 20/30mph speed limit. The measured 85<sup>th</sup> percentile speed (the speed at, or below 85% of traffic travels) must be below 35mph for a zebra crossing to be safe.
- Street lighting must be in place to illuminate the crossing at night. If missing or insufficient it will need to be provided or upgraded at significant cost.
- Footways on both sides of the road, usually at least 1.8m wide.
- Nearby power supply for the belisha beacons.
- Good visibility for drivers and pedestrians (i.e. not on or near a bend, on a hill or obscured by trees or parked vehicles etc). The minimum distances for visibility of pedestrian crossings for approaching traffic are based on the 85<sup>th</sup> percentile speed. For example, the recommended stopping sight distance for a road in which 85% of drivers travel at 20mph is 22m and at 30mph is 40m.
- Away from junctions (absolute minimum 5m from side roads and well away from signal junctions) and clear of private driveways.
- Pedestrian and traffic speed surveys will be required to justify the need and to assess the safety and operation of this type of crossing.

## Typical Costs

Initially, a Pedestrian count and traffic speed survey will be required at a cost of approximately £700 for each location.

The cost for a basic zebra crossing then typically starts from about £21,000 but can increase significantly if any of the following additional costs are incurred:

- Resurfacing of the carriageway if the existing is unsuitable.
- Additional street lighting.
- Enhanced belisha beacons.
- Widened or extended footways.
- Pedestrian guardrail.

- Additional electrical costs if there is no nearby suitable supply.
- Kerb build-out to narrow the road at the crossing point.
- Drainage alterations.
- Enhanced construction materials.
- Traffic Regulation Orders (TRO) for changes to the speed limit, waiting restrictions etc.
- Utility alterations/diversions.
- Road safety audits giving independent safety advice on planned changes.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.

Puffin crossings have replaced pelican crossings and are much more responsive to pedestrians' needs. They consist of dropped kerbs, tactile paving for people with vision impairments, traffic signals to control traffic flow and sometimes high friction surfacing on the approaches.

Puffin crossings are used to help pedestrians cross the road where traffic speeds are higher (40mph and above), and a zebra crossing would not be safe.



In addition, they are used at sites with high pedestrian flows to reduce delays to traffic by grouping pedestrians.

### Site Requirements

- Street lighting must be in place to illuminate the crossing at night. If missing or insufficient it will need to be provided or upgraded at significant cost.
- Footways on both sides of the road, usually at least 1.8m wide.
- Nearby power supply for the traffic signals.
- Good visibility for drivers and pedestrians (i.e. not on or near a bend, on a hill or obscured by trees or parked vehicles etc). The minimum distances for visibility of pedestrian crossings for approaching traffic are based on the 85<sup>th</sup> percentile speed. For example, the recommended stopping sight distance for a road in which 85% of drivers travel at 20mph is 22m, at 30mph is 40m, and at 40mph is 80m.
- Away from junctions (absolute minimum 20m from side roads and well away from signal junctions) and clear of private driveways.
- On dual carriageway roads, the central reservation needs to be wide enough to accommodate a waiting area for pedestrians and effectively two crossings will be provided, one for each carriageway to minimise delays to vehicular traffic.
- A pedestrian count and traffic speed survey will be required to justify the need for the crossing and to assess the safety and operation of this type of crossing.

### Typical Costs

The works cost for a basic puffin crossing typically starts from about £46,000 but can increase significantly if any of the following additional costs are incurred:

- Resurfacing of the carriageway if the existing is unsuitable.
- Additional street lighting.
- Widened or extended footways.
- Pedestrian guardrail.
- Additional electrical costs if there is no nearby suitable supply.
- Kerb build-out to narrow the road at the crossing point.

- Drainage alterations.
- Enhanced construction materials.
- Traffic Regulation Orders (TRO) for changes to the waiting restrictions etc.
- Utility alterations/diversions.
- Vegetation/tree clearance to ensure visibility of the signals.
- Alternative vehicle detection equipment if microwave detectors are not suitable for the site.
- Road safety audits giving independent safety advice on planned changes.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.



Toucan crossings are similar to puffin crossings, but they are also designed to be used by cyclists.

They consist of dropped kerbs, tactile paving, traffic signals to control flow and sometimes high friction surfacing on the approaches.

A Toucan crossing is only to be used if there is an existing or planned cycle route on both sides of the road that need to be linked.

### Site Requirements

- Street lighting must be in place to illuminate the crossing at night. If missing or insufficient it will need to be provided or upgraded at significant cost.
- Footways and cycleways on both sides of the road.
- Nearby power supply for the traffic signals.
- Good visibility for drivers and pedestrians (i.e. not on or near a bend, obscured by trees etc.). The minimum distances for visibility of pedestrian crossings for approaching traffic are based on the 85<sup>th</sup> percentile speed. For example, the recommended stopping sight distance for a road in which 85% of drivers travel at 20mph is 22m, at 30mph is 40m, and at 40mph is 80m.
- Away from junctions (absolute minimum 20m from side roads and well away from signal junctions) and clear of private driveways.
- On dual carriageway roads, the central reservation needs to be wide enough to accommodate a waiting area for pedestrians/cycles and effectively two crossings will be provided, one for each carriageway to minimise delays to vehicular traffic.
- A pedestrian count and traffic speed survey will be required to justify the need for the crossing and to assess the safety and operation of this type of crossing. In addition, a cycle count will be needed unless this is part of a new cycle route.

### Typical Costs

The works cost for a basic toucan crossing typically starts from about £50,000 but can increase significantly if any of the following additional costs are incurred:

- Resurfacing of the carriageway if the existing is unsuitable.
- Additional street lighting.
- Widened or extended footways.
- Pedestrian guardrail.
- Additional electrical costs if there is no nearby suitable supply.
- Kerb build-out to narrow the road at the crossing point.
- Drainage alterations.
- Enhanced construction materials
- Traffic Regulation Orders (TRO) for changes to the speed limit, waiting restrictions etc.

- Utility alterations/diversions.
- Vegetation/tree clearance to ensure visibility of the signals.
- Alternative vehicle detection equipment if microwave detectors are not suitable for the site.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- Road safety audits giving independent safety advice on planned changes.



Where pedestrians are having difficulties crossing the road, an alternative to a formal pedestrian crossing is a refuge island.

This allows pedestrians to cross the road in two halves and is particularly useful on busier roads, where getting a gap in traffic in both directions at the same time is difficult and where a zebra or puffin crossing is not warranted.

### Site Requirements

- There must be sufficient carriageway width within which to construct the island. A minimum of 10m road is needed to avoid the need to widen the road.
- There needs to be sufficient visibility of the crossing and pedestrians for approaching traffic. The minimum distances for visibility of pedestrian crossings for approaching traffic are based on the 85<sup>th</sup> percentile speed. For example, the recommended stopping sight distance for a road in which 85% of drivers travel at 20mph is 22m, at 30mph is 40m, and at 40mph is 80m.
- The crossing should ideally be sited where it is not hidden in a dip in the road or just over the crest of a hill as drivers will not be able to see it or any pedestrians using it.
- There needs to be a standard footway of 1.2m (minimum) in width on either side of the road for pedestrians to use. If the kerbs are not dropped and tactile paving (to assist blind or partially sighted pedestrians) in place, this will need to be included in the project work.
- The island should be on, or close to the 'desire line' for pedestrians wishing to cross the road.
- The island must be sited so that it doesn't obstruct the turn in and out of junctions or private accesses.

### Typical Costs

The cost for a pedestrian refuge island with new dropped kerbs on either side of the road starts from about £9,000 but can increase significantly if any of the following additional costs are incurred:

- Widening of the carriageway to provide sufficient space to install the island. May be issues if not highway land as private land would need a land transfer and deed of dedication to publicly maintainable highway.
- Drainage provision or alterations.
- Enhanced construction materials.
- Relocation of street furniture (bollards, signs, streetlights etc.).
- Alterations or additions to the street lighting to ensure the crossing and users are visible in the dark.
- On traffic islands and pedestrian refuges, non-illuminated bollards may be used however, should illuminated bollards or a high-level beacon requiring a nearby power supply be more suitable, this would be at additional cost.



- Utility alterations/diversions.
- Alterations to parking restrictions may be required to ensure the crossing point is kept clear.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- Road safety audits giving independent safety advice on planned changes.

Where pedestrians currently have to walk in the verge or carriageway, there may be a wish to provide a footway for them to use.



Consideration needs to be given to the number of pedestrians walking along a road against the practicalities and cost of providing a footway.

New footways typically consist of a new kerb (if not already present) with a 1.8m wide blacktop pavement behind.

The footway width may be reduced to 1.2m minimum at pinch points if

necessary or widened if there is expected to be a high pedestrian flow or other special access requirements. If the verge is particularly wide, it may be preferable to leave a grass strip between the footway and carriageway.

### Site Requirements

- There must be sufficient highway land on which to construct the footway (at least 1.8m wide).
- The land on which the footway is to be constructed should be reasonably level as an embankment or cutting may require retaining structures to be built at additional cost.
- Existing trees that need to be removed must not have a Tree Preservation Order.
- Obstructions such as signs, telegraph poles or lamp columns that need to be relocated must have a suitable location for them to be moved to.
- A new footway would usually connect into the existing network at either end or lead to a particular destination such as shops, a school etc.
- Dropped kerbs with tactile paving will need to be provided as a minimum at all road crossing points.

### Typical Costs

The cost for a basic blacktop footway with kerbing typically starts from about £120 per linear metre based on a length of 100m length of footway.

Please note that this could increase significantly if any of the following additional costs are incurred, or short lengths of footway are required:

- If the verge is not level, a retaining structure may be needed.
- Drainage provision or alterations.
- Enhanced construction materials.
- Relocation of street furniture (bollards, signs, streetlights etc.).
- Additional construction costs at private vehicle accesses.
- Drop kerbs/tactile paving at crossing points.
- Vegetation/tree clearance.
- Utility alterations/diversions.

- Land acquisition costs if insufficient highway land is available. If land is required from private landowners, a Deed of Dedication would be necessary which would add to the cost.
- Accommodation works such as new fences or planting.
- Ecology/environmental surveys and resulting additional works.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- Road safety audits giving independent safety advice on planned changes.

KCC can look at providing warning signs where there is an identified and evidenced safety issue.

Scheme promoters should consider the potential visual intrusion of any new signage, particularly as many parts of the County fall within the Kent Downs AONB or Conservation Areas.

In addition, too many signs can lead to “sign blindness” where drivers start to ignore signs because there are too many and they lose their impact.



Generally, the number of traffic signs should be kept to a minimum, although this needs to take into consideration legal requirements, the need to address safety issues, and the benefits of providing highway users with appropriate information.

### Site Requirements

- There must be suitable locations to install the signs. There should be sufficient highway land to ensure the edge of the sign face is at least 450mm back from the edge of the carriageway, good visibility of the signs and clear of obscuring vegetation.
- Chevron signs would require more land available due to the size of the sign and this would be dependent on the speed of the road.
- The size and siting of warning signs should comply with Chapter 4 of the Traffic Signs Manual, which also sets out which signs must be mounted alone rather than with other signs.
- The proposed sign must be an authorised highway sign as defined in the Traffic Signs Regulations and General Directions 2016.
- Consideration should be given to minimising sign clutter and the visual intrusion of any new installation.
- Grey backing boards are not usually used unless there is an evidenced need, and yellow backing boards are only used at crash cluster sites.
- SLOW markings can be used next to a warning sign but not generally in isolation.

### Typical Costs

The cost for a basic warning sign and post typically starts from about £260 but can increase significantly if any of the following additional costs are incurred:

- In certain circumstances the signs may need to be lit requiring lighting units and new power supplies.
- Vegetation may need to be cleared to provide sufficient advance visibility of the signs.
- The size of traffic signs depends on the information being displayed and speed of

traffic. As the size increases, so does the cost of the sign and supporting post.

- On roads where traffic speeds are over 40mph, the sign assembly needs to be “passively safe” which means that special deformable posts may be needed to minimise the risk of injury in the event of a vehicle crashing into a sign. These special posts can significantly increase the cost of providing a sign.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.

A kerb build-out can be provided for a number of reasons. These include:

- narrowing the road as a traffic calming feature
- to bring a pedestrian crossing point out between parked cars to improve visibility and pedestrian safety
- to bring a bus stop out beyond parked cars, reducing the loss of parking needed to get the bus into the kerb to pick up passengers
- when placed either side of a junction the give way line can be brought forward to improve visibility for emerging vehicles.



### Site Requirements

- The site requirements will vary depending on the type of build-out, size and location, but generally the build-out should be positioned so that it is not a hazard to traffic while still performing the required function. It is important to consider whether the build-out will be a hazard if there are no parked cars present.
- A build-out must not reduce the available carriageway width to an extent that large vehicles permitted to use the road are obstructed. Consideration should be given to large agricultural vehicles, for example, which may need to use roads occasionally in rural areas.
- Buildouts will need to be in areas with street lighting so that they do not become a hazard in the dark.
- Where buildouts are used to pinch the carriageway to a single lane, there must be sufficient forward visibility for drivers to see opposing traffic approaching.

### Typical Costs

The cost for a basic build-out typically starts from about £2,200 but can increase significantly if any of the following additional costs are incurred:

- Advance warning signing or priority signing.
- Buildouts used as a pedestrian crossing point will need a corresponding dropped kerb and tactile paving on the other side of the road.
- Utility services may need to be altered or relocated (this can be very expensive, especially if there are fibre optic cables).
- It may be necessary to remove on-street parking and amendments to the existing Traffic Regulation Orders and associated signing and lining may be needed to accommodate the changes.
- Drainage alterations – these are likely to occur as buildouts tend to trap water that would previously flow in front of the kerbs to the nearest gully.
- Enhanced construction materials.
- Provision or enhancement of street lighting.
- Depending on site conditions, traffic management will need to be considered to

ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.

- Road safety audits giving independent safety advice on planned changes.

Many pedestrians have difficulty crossing streets where there are full height kerbs.



This can include people with mobility issues, particularly those with walkers, wheelchairs or mobility scooters. They can also present issues to able bodied pedestrians notably parents with prams or pushchairs. Providing dropped kerbs will help these pedestrians move around more freely.

Adding tactile paving will also help people with vision impairments to find the crossing points and guide them across the road.

Dropped kerbs can also be installed individually to assist people to gain access to a parking area or similar.

### Site Requirements

- Footways on both sides of the road if the dropped kerb is used for a crossing point.
- Located at a safe point with good visibility for drivers and pedestrians. The minimum distances for visibility of pedestrian crossings for approaching traffic are based on the 85th percentile speed. For example, the recommended stopping sight distance for a road in which 85% of drivers travel at 20mph is 22m, at 30mph is 40m, and at 40mph is 80m.
- On, or close to the 'desire line' for pedestrians wishing to cross the road.
- Located where they will not be obstructed by parked vehicles.

### Typical Costs

The works cost for a basic pair of dropped kerbs typically starts from about £1100 but can increase significantly if any of the following additional costs are incurred:

- May be an additional cost to provide tactile paving.
- Additional or extended footway links to connect the crossing point into the nearby footways.
- Drainage alterations (drainage gully gratings in particular can be an issue for wheelchair and buggy wheels etc. and can also trap heels and so should be relocated or the crossing point moved away from them).
- Road marking renewal or alterations.
- Utility alterations/diversions.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.



Parked vehicles near an entrance to a school can be a hazard for children, obscuring their view of traffic and vice-versa.

A School Keep Clear marking prohibits stopping or parking in the vicinity of the pedestrian entrance(s) to the school to deal with this issue.



They can also help to keep an area clear of parking for a crossing patrol to operate safely.

The marking can also be used for combined vehicle/pedestrian access but would not usually be marked for solely vehicular accesses.

The markings only apply Monday to Friday during term times and can either operate for periods at the start and end of the school day or can be continuous between these two time periods depending on the particular local requirements.

### Site Requirements

- The markings can be provided to protect entrances normally used by pedestrians and can be between 25.56m and 43.56m long in steps of 6m.
- If the school has more than one pedestrian entrance, then multiple markings can be provided but their overuse can reduce their effectiveness if drivers cannot find anywhere else to stop.
- There must be somewhere suitable to site the time plates and posts that accompany the markings.
- Currently, a Traffic Regulation Order (TRO) is required for the marking to be enforceable by the local Parking Attendants. Objections to the proposal may result in KCC deciding not to proceed with the new restriction. Costs up to this point will need to be paid by the applicant.
- An informal consultation will need to be carried out by the scheme promoter prior to the formal Traffic Regulation Order (TRO) being advertised to ensure there is community support.

### Typical Costs

The cost for the Traffic Regulation Order starts from £2,850 and the installation of a basic School Keep Clear and associated signs typically starts from about £800.

Please note that this can increase significantly if any of the following additional costs are incurred:

- Any existing controlled parking bays will need to be removed and the relevant TRO amended to reflect the change.
- Vegetation may need to be cleared to provide sufficient visibility of the signs.
- If more than one marking is required there will be extra costs for the markings and

signs.

- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- If the school changes its access arrangements or operating times, it is expected that they will fund any changes to the TRO and/ or Keep Clear markings and signage.

In some locations, irresponsible parking can cause a safety hazard or obstruction. Each request for double yellow or single yellow lines is assessed and considered on a case-by-case basis.

It is imperative that the Parish/Town Council or County Member carries out an informal consultation with affected residents to ensure there is community support, as any restriction could cause displacement of vehicles to a more unsuitable location.



Enforcement and ongoing maintenance of restrictions is the responsibility of the District/Borough Council as the local parking authority.

### Site Requirements

- If supplementary signs are required, there must be somewhere suitable to site the time plates and posts that accompany the markings.
- A Traffic Regulation Order (TRO) is required for the marking to be enforceable by the local Parking Attendants. Objections to the proposal may result in KCC deciding not to proceed with the new restriction. Costs up to this point will need to be paid by the applicant.
- An informal consultation will need to be carried out by the scheme promoter prior to the formal Traffic Regulation Order (TRO) being advertised to ensure there is community support.

### Typical Costs

The cost for the Traffic Regulation Order starts from £2,850 and the installation of lines, and associated signs where single lines are installed, typically start from about £800.

Please note that this can increase significantly if any of the following additional costs are incurred:

- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely, including no parking cones. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- Amendment to existing road markings.
- Resurfacing of the carriageway if the existing is unsuitable.

## Keep Clear Markings:

White “Keep Clear” markings tend to be over-used and should only be used where traffic waiting at a junction blocks traffic at another junction where waiting times would be unacceptable, or to indicate where a road should be kept clear of waiting or parked vehicles to allow access to side roads. They could be used outside of premises but the above applies and only if the premises is used by the general public.



## Yellow Box Markings:

Yellow box markings are a strategic tool used to maintain traffic flow. They are mainly used on the principal road network, but may be used on lower classes of road, where traffic blocks a junction, and indicate that a road must be kept clear of waiting or queuing vehicles to allow access to side roads.



In Kent, yellow box markings have historically been overused and are expensive to install and maintain. To maintain the usefulness of yellow box markings the marking will only be considered for installation at specific locations.

## Site Requirements

- A traffic survey should be carried out to determine the extent of the problem.
- A good quality road surface is required before road markings are installed.
- A Traffic Regulation Order (TRO) is not required to install a yellow box marking, although the views of the Police should be sought before installation as marking is subject to the Road Traffic Act.

## Typical Costs

The installation of a ‘Keep Clear’ typically starts from about £150.

Please note that all costs can increase significantly if any of the following additional costs are incurred:

- The carriageway may need to be resurfaced to provide a sound, even surface, if the existing is unsuitable.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.

Bollards are often requested to prevent vehicles parking on the verge or footway and potentially causing significant damage to highway infrastructure or statutory undertakers services.

Bollards should only be provided where they are needed and where alternative solutions have been considered and rejected. Bollards are frequently damaged, costly to maintain, and add to general street clutter. They can also present a hazard for people with visual impairments and restrict available footway width.



KCC is unable to install any measures to protect private property in the footway or verge. Trying to barrier or deflect vehicles in this way could cause additional safety risks and likely increase the severity of any injuries. Nationally there is a move to make road environments more passively safe by reducing the scale and amount of street furniture alongside the carriageway.

This is not just for the purpose of reducing injury severity of vehicle occupants, but also of other road users. When barriers and bollards are hit or vandalised, they are often left in a dangerous state for example in some cases damaged bollards are left blocking footways forcing pedestrians to walk in the carriageway.

KCC has a policy of not installing physical features to protect private property, and this is partly due to ongoing maintenance considerations, but also due to longer term highway safety as outlined above.

### **Site Requirements**

- Under current standards, we are unable to install bollards where the minimum footway width following the installation of bollards is not met. Current rules require minimum footway widths of 1.2 metres be maintained where new highway works are taking place.
- Bollards must be set back at least 450mm from the edge of the carriageway.
- We are unable to install bollards on verges which are service strips, housing utility plant and cables.
- Generally, bollards will be wooden or of recycled plastic construction, as these are cost effective and safe. Plastic bollards will be provided in black except where they are required to match existing bollards or street furniture. The use of metal bollards, including traditional cast-iron bollards, is not generally permitted in Kent, as they can result in injury if struck by vehicles.

### **Typical Costs**

The cost of a standard bollard is approximately £240.

Please note that this can increase significantly if any of the following additional costs are incurred:

- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation

Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.

- Depending on the site and what is trying to be achieved, there may be different fixing requirements.

A one-way street allows vehicles to move in one direction down the road. 'No-entry' signs are used to prevent vehicles travelling the wrong way along the road, and sometimes road junctions are redesigned to make it difficult to turn against the flow of traffic. For traffic travelling in the correct direction, arrow signs are used to show it is a one-way street.

When considering one-way systems, it helps to fully understand the problem that is trying to be resolved. One-way systems are generally used as a last resort and should be short in length. It is therefore important to first consider whether or not there are any other improvements that could be made which would address the issues being experienced.



One-ways can only be investigated if there is evidence of substantial local support as they can often lead to increased driver speeds, as motorists are aware that they will not meet oncoming vehicles, and can lead to notable diversions.

Consideration also needs to be given to bus routes as any change to one-way could risk losing services which would likely be very unpopular. One-way systems can also have a negative impact on any side roads causing rat running through smaller streets.

### Site Requirements

- Ideally not on a bus route or where the road has a width or weight restriction.
- Is there a suitable, short diversion?
- A traffic survey will be required to show how many vehicles are travelling in each direction along the road(s) in question which will help demonstrate the best likely format/ direction of any new one-way system according to the existing driver behaviours. Where the directional split is 50/50, it may be difficult to determine a workable one-way scheme as rerouting traffic would impact the same/similar number of drivers. Additionally, where traffic count/volume in either direction is very high, rerouting all of the movements in one direction may have an impact on other junctions.
- Highway land should be available to install one-way signs.
- An informal consultation will need to be carried out by the scheme promoter prior to the formal Traffic Regulation Order (TRO) being advertised to ensure there is community support.
- A Traffic Regulation Order (TRO) for the one-way system will need to be advertised and if there are sufficient valid objections, a report to the Joint Transportation Board will be required and the recommendation may be not to implement the one-way system.

### Typical Costs

The cost of one-way system will vary and will depend on the number of signs required. Typical starting costs for the provision of a one-way system are:

- Traffic Regulation Order from £2,850.
- One-way signs (2x pairs of illuminated signs on new posts) from £650 each.

- No entry signs and new posts £650.
- Carriageway markings (arrows or no entry markings) may be required from approximately £30 each.

Please note that this can increase significantly if any of the following additional costs are incurred:

- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- Additional electrical costs if there is no nearby suitable supply.



Flashing school signs, also known as wig wags, are often used outside schools to emphasise the warning sign. They can also be used in conjunction with a part-time advisory 20mph speed limit near a school.

To retain their impact, wig wags should only be used at high-speed sites, where the 85th percentile (the speed at which 85% of vehicles are being driven at or below) is above 35mph or on a busy road.

Advisory 'School 20' signs should only be used on single carriageway 30mph roads.



### Site Requirements

- A speed survey will be required to determine the average and 85<sup>th</sup> percentile speeds.
- There would be a need to engage with the nearby school to ensure they are willing to take on responsibility for the programming, operation and maintenance going forward, so they would need to be in full agreement in taking on these responsibilities.
- If new signs are required, suitable highway land must be available to install them.
- A nearby suitable electrical supply, such as a streetlight, would be required.

### Typical Costs

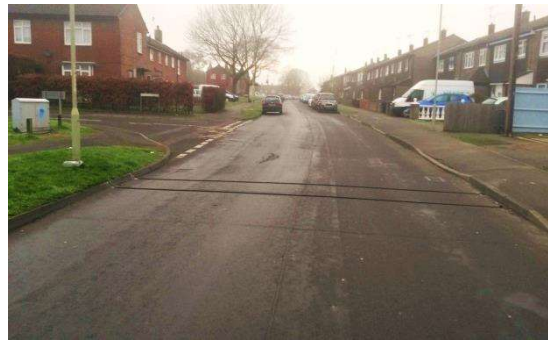
Costs for the installation of wig wags start from: £6000.

Please note that this can increase significantly if any of the following additional costs are incurred:

- Additional electrical costs if there is no nearby suitable supply.
- Depending on site conditions, traffic management will need to be considered to ensure that the works can be installed safely. A Temporary Traffic Regulation Order (TTRO) to close the road, along with associated diversion signs or temporary traffic lights, may be needed in order to install the physical measures. Restricted working hours charges and/ or Lane rental fees may also apply.
- **Future maintenance:** Asset suitability would need to be reviewed once it has reached the end of its serviceable life and there is no guarantee that it would be replaced. If it is to be replaced, a funding source will need to be found by the scheme promoter.

Traffic Surveys are necessary to provide data for designers to use when developing new works on the highway and when considering speed limit changes.

Traffic counts fall into two main categories, automatic or manual. Automatic counts involve equipment placed in or alongside the highway. The most common of these is the ATC tube survey which consists of a pair of tubes laid across the carriageway which are connected to a data logger that allows reports such as traffic volume, speed and vehicle classification to be generated. This type of count would generally be carried over a 7-day period.



Manual counts are carried out by people on the ground (enumerators), by video recording or Automatic Number Plate Recognition (ANPR) cameras and are typically carried out over a 12-hour period from 7am and 7pm. They are used for junction turning counts, origin and destination (OD) surveys, pedestrian and cycle surveys, parking and queue length surveys.

OD Surveys can also be carried out by a roadside survey however this requires the Police to be involved to stop the vehicles.

### Site Requirements

ATC tube surveys ideally need:

- to be situated on straight stretches of road, away from junctions, bends, on street parking or other factors that might affect data collection.
- a secure fixing point at the survey site in order to attach the counter, i.e. a lamp column or signpost is ideal.
- to avoid all school holidays, particularly Summer Holidays, as well as the winter months due to ice/snow on the road and the Christmas period.
- Manual surveys have no particular site requirements other than a suitable location for the enumerators or video equipment to observe from with an unobstructed view.

### Typical Costs

The cost for a single ATC tube survey is around £85 for a week of data collection. A simple manual count (12 hours) such as a pedestrian count for a new crossing is from £700.

Please note that this can increase if any of the following additional costs are incurred:

- Longer than standard survey durations.
- Surveys on dual carriageways.
- Prices for ATC surveys are for single locations. Additional ATC counts that are carried out at the same time and general area as the first will incur an additional

charge, but this will be less than for the single count.

- Counts on higher speed roads will require additional traffic management which will incur extra costs.
- Manual surveys that are more complex and require additional people or video equipment.

Fixed electronic warning signs are installed at locations throughout the county as a road safety education tool. The most common application is to remind drivers of the prescribed speed limit and activate when the Kent Police enforcement threshold is exceeded.

These signs are non-mandatory and non-statutory; therefore, they cannot be legally enforced and must be supported by other adjacent legal signage. Every location must have either a crash history or speed related problem that has not been addressed by the use of other engineering measures, such as gateways, build outs or white lining improvements. For speed related applications, comprehensive survey data will be required to evidence the issue, as electronic signs are a last resort option. Whilst the signs have a positive impact, the benefits are short-lived and decline over time.



A variety of sizes and prescribed legends can be used, including: 30mph, bend/junction warning, road narrows or school; each with an optional SLOW DOWN message. However, the use of smiley/sad faces or “Thank You” is not permitted within the regulations.

### Installation and maintenance

All VAS requests are managed by the Traffic Operations and Technology Team, who are responsible for the siting, installation, annual inspection and maintenance. All SID apparatus must be procured through this agreed process to ensure the safe delivery of an effective scheme using tested and approved suppliers. Many manufacturers offer similar equipment, but unauthorised installations on (or adjacent to) the highway will be removed.

A considerable number of the existing VAS have exceeded their predicted life of six years and are obsolete. A small stock of components has been salvaged from damaged/faulty signs in order to effect repairs and extend the life of the remaining assets, although this may not be possible. As these are not safety critical devices, a full assessment and speed survey of the ongoing issue will be needed, as a VAS may no longer be the best solution, even in situations where a VAS has been installed previously; SpeedWatch data are not a comparable substitute.

The signs can be either solar or mains powered, although the preferred option is to use a solar panel which affords more flexibility in locating the sign for remote situations. However, due to adjacent vegetation or structures these are not always viable, and a dedicated mains power supply will be required. All mains powered VAS require a dedicated UKPN connection, feeder pillar and a specific investigation but can significantly affect the cost and timescale.

Proposed sites will be assessed on an individual basis; there are no specific criteria, but each must be within the highway boundary, be supported by mandatory signage, not cause an obstruction nor other safety concerns. This equipment cannot be attached to existing signs or lamp columns and must not distract drivers or obscure hazards. Therefore, not all sites will be suitable for a VAS, although every effort will be made to accommodate the request.




This equipment will not be installed in 20mph zones as these should be self-enforcing.

Delivery time will be approximately three months from the order being placed and each sign comes with a six-year warranty from the manufacturer.

## Finance

There is no funding available for the routine replacement of faulty signs, as they are not safety critical assets. Elected County Councillors have often used their Member funding allocation to support the installation or replacement of VAS equipment, optionally with a contribution from the Parish Council.

Below are examples of typical VAS used in Kent:

	<p><b>Speed repeater sign, 300mm diameter</b> This option includes:</p> <ul style="list-style-type: none"> <li>• Site visit, land ownership check and utility surveys</li> <li>• Post installation and labour</li> <li>• Solar/mains powered 30mph roundel</li> <li>• Ongoing maintenance and electrical testing</li> </ul>
	<p><b>Speed repeater sign, 450mm + flashers</b> This option includes:</p> <ul style="list-style-type: none"> <li>• Site visit, land ownership check and utility surveys</li> <li>• Post installation and labour</li> <li>• Solar/mains powered 40mph roundel with flashers</li> <li>• Ongoing maintenance and electrical testing</li> </ul>
	<p><b>Speed repeater sign, 450mm + flashers + SLOW DOWN</b> This option includes:</p> <ul style="list-style-type: none"> <li>• Site visit, land ownership check and utility surveys</li> <li>• Post installation and labour</li> <li>• Solar/mains powered 30mph roundel with flashers and SLOW DOWN</li> <li>• Ongoing maintenance and electrical testing</li> </ul>
	<p><b>Hazard warning sign, 600mm + SLOW DOWN</b> This option includes:</p> <ul style="list-style-type: none"> <li>• Site visit, land ownership check and utility surveys</li> <li>• Wide base post installation and labour</li> <li>• Solar powered bend warning triangle with SLOW DOWN</li> <li>• Ongoing maintenance and electrical testing</li> </ul>

**An alternative scheme is available using a portable speed indicator device (SID) which is managed locally by parish volunteers. This gives more flexibility than a VAS, does not require a speed survey and is a community-based asset – a separate leaflet on this is available.**

Parish Councils are often concerned with speed related issues in their local area. To assist we have created a scheme using a portable Speed Indicator Device (SID) as an alternative to the fixed electronic sign.

This comprises a single SID unit used in rotation across multiple fixed poles within existing 30mph zones as a driver education tool. It cannot be used for enforcement purposes and not suited to use in 20mph areas due to the sensitivity of the radar unit and reduced effectiveness.



Please be aware this scheme is not affiliated to SpeedWatch, as each have specific requirements and serve different purposes. Active SpeedWatch sites are not necessarily suitable for the SID; each proposed location will be assessed on an individual basis but must be within the highway boundary.

All SID apparatus must be procured through this agreed process to ensure the safe delivery of an effective scheme using tested and approved suppliers. Many manufacturers offer similar equipment, but unauthorised installations on (or adjacent to) the highway will be removed.

### Sign equipment

Each SID is battery powered and can be moved by a single person and supplied with a charger and spare battery to allow it to be swapped when necessary. Delivery time is approximately three months from the order date, which will be after a suitable scheme has been agreed.

Two versions are available (Mini or Advanced), but both have the same size electronic panel to show actual speed. The use of smiley/sad faces or "Thank You" is not permitted within the regulations. For vehicles above 25mph the speed is displayed, which flashes for those above the 30mph limit and then blanks at 40mph to discourage "high scores". The Advanced sign includes a 'SLOW DOWN' legend but is notably heavier. The SID is easily moved between locations with the correct training and requires no tools to be used on site.

Battery life is dependent on traffic volume but estimated at up to four weeks for the Mini SID and one week for the Advanced version. There is no option for a solar powered system as this creates additional risks when moving the sign, and mains power prohibits portability.

The SID can be supplied with data collection to allow downloading to a spreadsheet via Bluetooth. However, these data are indicative and not a substitute for a formal traffic survey.

### Poles and brackets

Proposed sites will be assessed on an individual basis; there are no specific criteria, but each must be within the highway boundary, at least 150m inside 30mph speed limits, not cause an obstruction and away from junctions or bus stops. The SID cannot be attached to existing signs or lamp columns and must not distract drivers or obscure hazards. No locations will be agreed where traffic management is required to access and relocate the SID.

A minimum of three posts are required per SID, with a bracket for each, to a maximum of five sites per sign in order to retain overall effectiveness. For maximum benefit, these locations should be well distributed and not on a single corridor. All agreed locations will require a 4m high post to be installed which will remain empty when not in use.

A local consultation exercise must be undertaken by the Parish Council prior to agreement of the SID to ensure that residents have an opportunity to comment on the proposal. Evidence of this will be required, as any objections will need to be considered and may affect the plans.

### Relocation and site safety

To comply with national regulations, the SID must not remain in one location for more than eight weeks so need regular relocation. Local volunteers will need to be responsible for the regular SID movement between the agreed sites, battery charging and data retrieval.

Training will be given on the SID setup and mounting/removal, but it is a very simple process. The use of hi-visibility vests and PPE by the volunteers is essential during the SID relocation and the Parish Council must carry out a risk assessment for the movement of the signs including parking/access for each location.

A Memorandum of Understanding to define the roles and responsibilities of each party will need to be signed, although the SID will be the property of the Parish Council.

### Maintenance

The sign has a 12-month warranty from the manufacturer who will liaise directly with the parish council on any technical issues. Replacement batteries, new brackets or extra poles are available but must be discussed with the KCC Traffic Operations and Technology Team to ensure compatibility.

It is strongly advised that the SID is covered by Parish Council insurance, as in the event of theft or third-party damage we are unable to provide a replacement.

### Finance

It is not possible to provide a price as each scheme will be based on the specific requirements but will include:

- Site visit, land ownership check and utility surveys
- One SID with optional data collection facility, two batteries and a charger
- Galvanised poles with mounting brackets at each agreed site, including post installation and minor traffic management
- Delivery, handover on site, training and padlocks with keys

#### Mini SID



(recommended)

8kg SID + 4kg battery

#### Advanced SID



12kg SID + 12kg battery

Parish Councils are often keen to address speed related issues in their local area.

The key to implementing any successful engineering scheme is for it to be delivered in collaboration with education, training, publicity and enforcement for all road users.



This toolkit supports Parish and local Councils with the tools, assets and information needed to conduct successful communication and to encourage compliance of a 20mph scheme once implemented.

The toolkit will be supplied to you initially, although there may be a charge if you require further copies) and consists of:

- Advisory Information
- Road User Tips for Travelling in 20mph Limits
- Social media messages
- Digital Adverts
- A4 Posters
- A1 A-Frame Posters
- Car stickers
- Bin stickers
- Roadside banners
- A4 letterhead template
- Images

There is more information available on:

[20MPH Toolkit - KCC Road Safety \(kentroadsafety.info\)](http://kentroadsafety.info)



Parish Councils are often keen to address speed related issues in their local area.

The key to compliance to any engineering scheme is that it be underpinned by collaboration with education, training, publicity and enforcement for all road users.



This toolkit supports Parish and local Councils to encourage compliance of 30mph speed limits; it provides the tools, assets and information needed to successfully communicate this message.

The toolkit will be supplied to you initially, although there may be a charge if you require further copies) and consists of:

- Advisory Information
- Road User Tips for Travelling in 30mph Limits
- Social media messages
- Digital Adverts
- A4 Posters
- A2 posters
- A1 A-Frame Posters
- Car stickers
- Bin stickers
- Road banners
- A4 letterhead template
- Images

There is more information available on:

[Speed - KCC Road Safety \(kentroadsafety.info\)](http://kentroadsafety.info)

The objectives of Quiet Lanes are to preserve the character of country lanes, to reduce traffic dominance and vehicle speeds, to encourage drivers to look out for and be more mindful of non-motorised road users and, thereby, to encourage more journeys on foot, by bike or by horse.



Occasionally a Parish/Town Council may be considering the introduction of a Quiet Lane with the intention of helping to preserve the character and tranquillity of their rural area and encourage an increase in non-motorised users, whilst maintaining vehicular access.

The idea is to make motorists more aware of non-motorised users and, over time, to reduce the number and speed of motor vehicles by changing attitudes ('hearts and minds') of local residents and other road users) rather than lowering the speed limit or using physical measures for enforcement.

Ideally Quiet Lanes link homes with shops, bus routes, schools, workplaces, village halls, pubs and other local amenities, allowing people to use non-motorised modes of transport in preference to cars for short journeys.

Generally, a Quiet Lane in urban areas will have a speed limit of 20mph and daily traffic flows less than 2,500 traffic flows and in rural areas a speed limit of 40mph and daily traffic flows of less than 1,000. They will have good visibility for all users and include traffic signs and road markings. Drivers of vehicles should be expecting to see walkers, cyclists and horse riders.

A community-based approach to Quiet Lanes is required to develop a consensus and to encourage a change in road user behaviour of local people in a rural context as local buy-in for the idea is essential as is a robust and continued road safety campaign to highlight to all traffic the purpose of the Quiet Lane. Before developing a proposal, a comprehensive public consultation, including at least one local public meeting is required along with publishing the intention in a local newspaper and allowing at least 21 days for formal replies.

However, it is important to bear in mind that Quiet Lanes can be resource intensive to develop and deliver and an ongoing programme of engagement and publicity with local people and interest groups is needed to maintain the benefits in the long term. Any scheme should be seen as a long-term project which needs continued attitude changes brought about by regular road safety messaging and continued local community input.

The cost of implementing Quiet Lanes can also vary depending on the measures required to aid compliance as they can range from just simple entry/exit signs on wooden posts to vertical and horizontal treatments, surface treatments and road markings. Quite often on rural lanes, this can detract from the rural nature of the road and so needs careful and sympathetic designs. The advertising and road safety campaigns can add a significant amount to the costs.

Whilst there are some advantages to the implementation of Quiet Lanes, in practice it has been found that they have little perceived benefit. A report produced by TRL Ltd for the Countryside Agency back in 2003 following the implementation of The Greensand Ridge Quiet Lane scheme, concluded that, whilst there was a small, declared increase in non-motorised use and decrease in motorised use, as well as a declared increase in careful driving, it also found:

- No change in measured traffic on Quiet Lanes, despite large increases on adjacent roads
- No significant change in measured vehicle speeds on Quiet Lanes
- Observed increase in pedestrians but numbers remain low
- Sustained strong support for the scheme but about half say it is not working in practice
- There remain some concerns over safety
- There remain perceived problems with quiet lanes

Parish Councils are often keen to address speed related issues in their local area.

Operating at carefully selected sites on roads in 20mph, 30mph and 40mph speed limits, a group typically of three CSW practitioners monitors the speed of passing vehicles using a portable speed indication device.



Details of vehicles travelling at or above nationally-specified thresholds (25+, 35+ and 46+mph) are recorded and reported. The registered keepers of vehicles observed repeatedly or 'high-end' speeding anywhere in Kent in the previous 12 months are then sent advisory letters by Kent Police.

In order to access this scheme, communities will need to identify a number of volunteers to carry out Speedwatch. You will need to gain access to Speedwatch equipment which includes an approved speed measuring device. Speedwatch equipment typically costs in the region of £2,000 however it is common for groups adjacent to other active Speedwatch groups to share equipment, there may be opportunity to borrow equipment also.

KCC may also be able to assist with the funding of this equipment and this should be discussed with the Community Engagement Team.

You need to contact Kent Police to discuss where you would like to operate Speedwatch in your community; they will be able to run through the site risk assessment process and training for operators.

There is more information available on:

[www.kent.police.uk/speedwatch](http://www.kent.police.uk/speedwatch)

The issue of lorries using unsuitable routes is a difficult problem to deal with. On a strategic level the council has adopted a Freight Action Plan that has a specific objective to try and tackle the routing of HGV's. The intention is to encourage the use of strategic roads for the transportation of goods across the county to minimise the impact on communities. However, it must be recognised that the economy needs be supported, which means that local companies will sometimes use smaller roads to continue their businesses.



There is a scheme we can help set up called Lorry Watch. This scheme aims to empower local residents to record the details of HGVs that are inappropriately using a road. This data is passed to the Freight Officer at KCC who liaise with the Police when a restriction has been broken as they alone have enforcement powers. In this instance, there would be no law broken but the benefit of collecting this data would be to build a picture of the numbers of lorries using the road and which companies are using it.

The Freight Team collect the data and provide this to the Police if it is requested. They will attempt to contact the companies that are caught using a restricted road but do not always get a response unfortunately. Where we can, we will discuss with the business and discuss alternative and more appropriate routes.

The Lorry Watch Scheme is run via the parish councils and a MSRA with public liability insurance will be required prior to commencing with the scheme.

Lorry Watch has proven very successful in a number of locations around Kent. We are told that the temporary Lorry Watch signing alone has shown significant decreases in HGV traffic in some areas. Further information can be found at <https://www.kent.gov.uk/roads-and-travel/travelling-around-kent/lorries-and-hgv/lorry-watch>.

Please contact the Freight Team at [freight@kent.gov.uk](mailto:freight@kent.gov.uk) if you require further information.

### Have your say – *Installation of Double Yellow Lines, \*location*

Following concerns raised by residents, \*\*\* *Parish/ Town Council* and KCC's Highway Improvements Team have been reviewing on-street parking provision in \*\*\* and we have ascertained a number of roads where additional parking restrictions are required to facilitate access and turning.

This is an **informal consultation** to canvas local opinion. If there is no clear consensus, or a strong view that parking restrictions should not be implemented, then these proposals will be abandoned. Either way, the outcome of the informal consultation will be discussed in detail by \*\*\* *Parish/ Town Council*.

We are proposing to install double yellow lines on sections of the following roads. Please use in conjunction with the detailed map(s) enclosed:

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Please answer the questions below and email your responses to: \* *Parish/ Town Council email address* or post them to \* *Parish/ Town Council postal address*. **The deadline to receive responses is \*\*\*.**

1. Do you agree with the proposals to decrease on street parking as shown on the attached plan(s)? Yes/No
  - 1a. If "No" please provide comments.
2. Is there a particular road where you feel that parking should be decreased? Yes/No
  - 2a. If "Yes" please specify which road, and why.
3. Where do you currently live (please provide road name and postcode)?
4. Any other comments?