APPENDIX A

Cheshire East
Speed Management Strategy

First Draft

October 2021

Working for a brighter future together

Cheshire East Council

Cheshire East Council
Highways

Document history and status

Rev	Date	Description	By	Review	Approved
R0	01/10/21	DRAFT CEC SMS	*F Price*		

Cheshire East Council
Highways

Contents

1. Overview

1.1 Overview

This Speed Management Strategy covers Cheshire East and sets out the Council's ambition as Local Highway Authority to promote safer roads and speed compliance across the Borough.

This revised strategy builds on the previous version published in 2016 and takes account of changing national and local aspirations of providing a safer road environment and encouraging a more active travel attitude. The document promotes the collaborative working arrangements of key strategic partners, working closely with Cheshire Police and Cheshire Fire and Rescue Service.

Our vision for speed management in Cheshire East is to provide a safe highway environment where our communities and those using the network, feel the speed of travel is appropriate for the environment and that the Council listens to the concerns of residents and road users.

Managing speed throughout the Borough is a key responsibility of the authority and the use of this strategy will bring about a consistent approach when speed related issues are raised. The strategy will be used as a tool to determine the most appropriate way in dealing with such issues on the road network.

Changing speed limits is not the default reaction to perceived issues relating to concerns of speeding traffic and a suite of options and tools is available to the authority and its partners. In using the principles of the 3 E's Education, Enforcement and Engineering the Council can promote the most appropriate approach in tackling a speed management concern to ensure the right solution is delivered.

The Department for Transport, DfT,[1] guidance Setting Local Speed Limits outlines how local authorities should approach the process and strategies of selecting appropriate speed limits within its area of responsibility. 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 and acceptance that the road has the right speed limit set.

In accordance with the published guidance, this strategy supports the principles set out in the guidance but also promotes a more holistic approach to speed management.

[1] Department for Transport Circular 01/2013 – Setting Local Speed Limits

2. Introduction

2.1 Purpose of a Speed Management Strategy

Cheshire East's Speed Management Strategy sets out a consistent transparent approach that the Council will use to provide a safe highway network that promotes active travel as one of the Council's priorities as set out in the Local Transport Plan, LTP.

This strategy sets out a hierarchy of tools that the Council has available to manage speed and traffic flow to ensure the safety of all road users. These tools will be the basis on which the Council will respond to the many requests in relation to speed management and speed limit compliance that are received each year.

The Council will consider these through a 3E's approach supported by ongoing evaluation: Education, Enforcement, and Engineering.

The strategy excludes temporary speed limits for traffic management purposes as these are risk assessed for specific circumstances and situations to protect workforce operations and those travelling on the highway.

2.2 Roles and Responsibilities

Cheshire East Council (CEC) is the Highway Authority and the Traffic Authority for the Borough of Cheshire East pursuant to the Highways Act 1980 and the Traffic Management Act 2004 respectively and is responsible for the management of speed on all public roads in Cheshire East except the motorway and trunk roads which are operated by National Highways.

Cheshire Police are responsible for speed enforcement, referred to as the Police in this document.

The Cheshire Road Safety Group (CRSG) consists of representatives of Cheshire East, Cheshire West and Chester, Halton, and Warrington together with Cheshire Police, Cheshire Fire and Rescue Service and National Highways. The work of this group supports the aims of the strategy.

It is intended that the strategy will be read and used by Cheshire East Council officers and other interested stakeholder groups such as Cheshire Police, local Members, and the public.

The previous Speed Management Strategy was adopted in 2016. Since then, there have been a number of changes both locally and nationally that have been taken into account in the development of this strategy, including:

- Following the introduction of The Code of Practice, "Well Managed Highway Infrastructure" which provides guidance to councils regarding the management and maintenance of local roads, the Council has developed a road Network Hierarchy. This is used to inform the appropriate speed management measure.
- Revised Traffic Signs Regulations and General Directions in 2016 which allowed Highway Authorities further discretion relating to certain traffic signage placement.
- Promotion of Active Travel initiatives.

- Updated national technical guidance on air quality in April 2021 which places a greater emphasis on partnership working across Council services and other agencies to address air quality issues.

3. Policy Context

3.1 National Guidance

The Speed Management Strategy is underpinned by national guidance and regulations on speed limits as well as the required speed limit review procedures.

The responsibility for setting speed limits on roads lies between the Council (for local public roads in the Borough) and National Highways (for Motorways and Trunk Roads). The role of enforcement falls to the police, supported by both the Council, as Highway Authority, and Cheshire Road Safety Group.

3.2 Cheshire East Council Corporate Plan

The Council has developed a Corporate Plan which sets out three aims the Council wishes to achieve:

Figure 1 Corporate Plan aims

Open - We will provide strong community leadership and work transparently with our residents, businesses and partners to deliver our ambition in Cheshire East.

Fair - We aim to reduce inequalities, promote fairness and opportunity for all and support our most vulnerable residents.

Green - We will lead our communities to protect and enhance our environment, tackle the climate emergency and drive sustainable development.

Two of the key priorities in the Plan is to provide:

- A transport network that is safe and promotes active travel, and
- Safe and well-maintained roads.

This strategy is intended to contribute to the delivery of those priorities.

3.3 Local Transport Plan

The Local Transport Plan (LTP) was adopted by the Council in October 2019. It sets out a framework for how transport will support wider policies to improve our economy, protect our environment, make attractive places to live, work and play and the role transport will play in supporting the long-term goals of the Council.

The Speed Management Strategy helps deliver the priorities of the LTP by setting out the criteria for how the Council will help manage issues of speeding in the Borough and the accommodation of active travel when setting speed limits.

This Speed Management Strategy supports the LTP by the setting out the requirements for 20mph areas. This will, in turn, support greater levels of active travel. This is set out in Section 7.

The Strategy also recognises that to support economic growth, some roads should be prioritised for traffic movement. This is illustrated in Section 7.5.

4. 3 E's Approach to Speed Management

4.1 Introduction

Speed management involves using various tools and techniques to help motorists comply with a speed limit or travel at a speed that is suitable for the surrounding environment and prevailing conditions.

In response to community concerns the management of speeds will follow the 3 E's of:

1. Education,
2. Enforcement, and
3. Engineering.

The process of which involves ongoing evaluation and assessment.

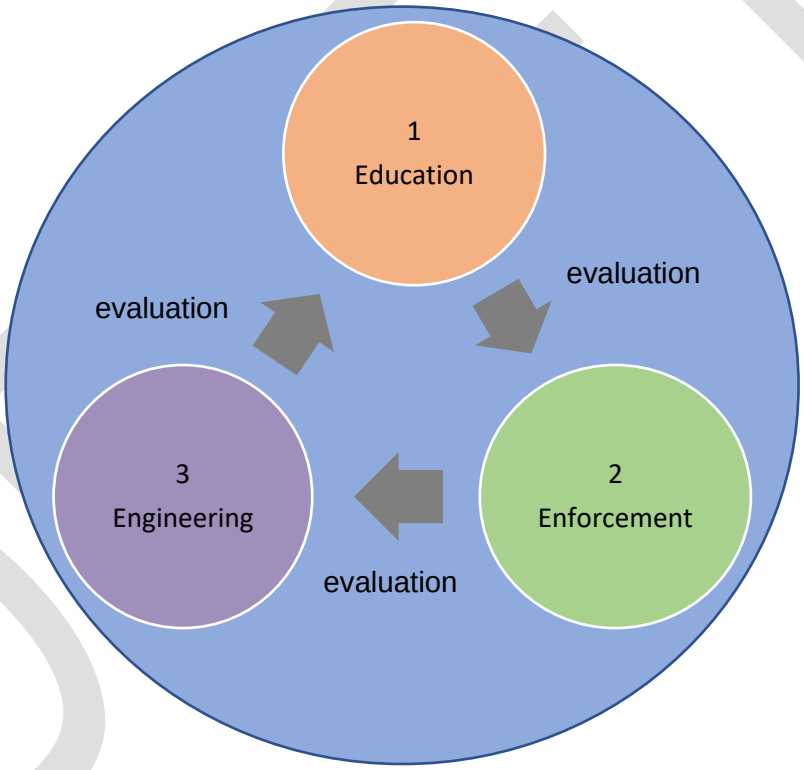


Figure 2 3 E's approach

These steps are gateways for entering into the next stage. This will ensure value for money measures are being explored at the outset rather than assuming more extensive and costly measures are warranted or necessary.

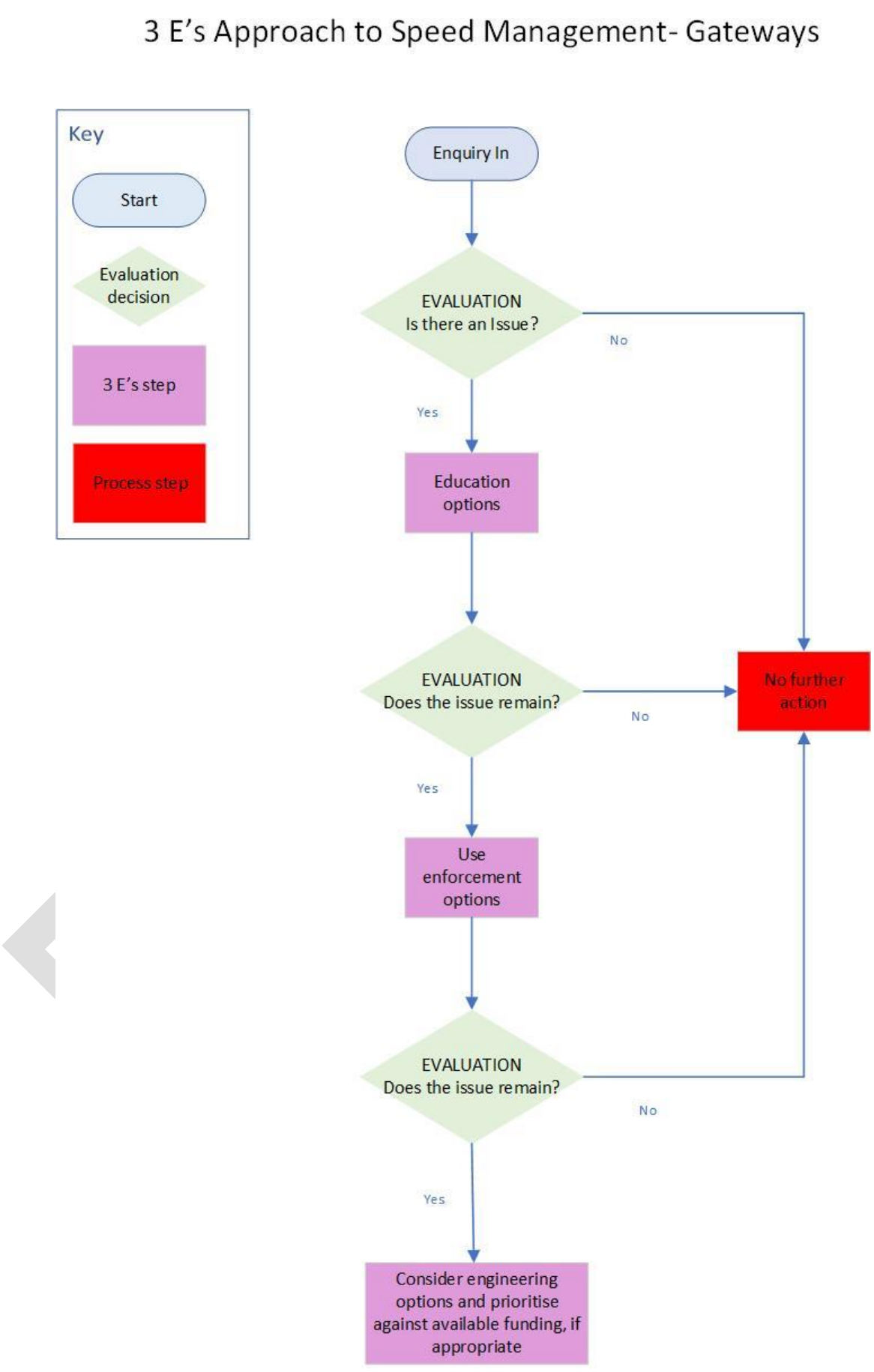


Figure 3 3 E's Approach - Gateways

4.2 Evaluation

Where each stage has not brought about desired compliance with the posted speed limit the Speed Management Group (SMG) will evaluate the information gathered to inform the next step in the 3 E's process.

The SMG is a policy-led officer group which meets regularly. The group do not propose or authorise engineering measures and has no budget allocation or resourcing. Officers attend the group as a function of their regular duties. Primarily, the SMG ensure that the Strategy has been applied correctly and consistently.

The membership of the SMG is set out in Table 1 below:

Cheshire East Highways Road Safety Team
Cheshire East Council Strategic Infrastructure Team
Cheshire East Council Development Management Team
Cheshire East Council Network Management
Cheshire Police Road Policing Unit (Operations)
Cheshire Police Road Policing Unit (Strategy)
Cheshire Fire and Rescue Service

Table 1 SMG Membership

Other departments or organisations may join the group should a need be identified. Membership of the group will be reviewed frequently to ensure appropriate officers, departments and organisations are present.

The Council will:

- Collate all such location instances and requests for speed limit changes or management measures and prioritise them annually.
- Review any data available from the deployment of Speed Indicator Devices (SIDs), to help quantify the scale and prevalence of speeding.
- Establish the location of latest 5-year injury collision history and contributory factors.
- Consider whether the speed limit meets the criteria set out in the Speed Limit Framework detailed in Section 7.8.
- Establish the movement category for the location as set out in Section 7.5.
- Consult the police and consider the outcomes of any speed enforcement activity they have undertaken.

5. Education

5.1 Introduction

Education covers local and national road safety campaigns which help raise road safety awareness in the wider population and the targeted education of drivers by various means of encouraging compliance with speed limits.

The Council's road safety objectives are to help:

- Reduce the number of people killed and seriously injured in road traffic collisions, and
- To reduce the number of collisions involving road users of all types.

The Council work in partnership with Cheshire Fire and Rescue Service in delivering road safety education to all primary and secondary schools each year. This helps to build road safety skills at an early stage which stays with individuals as they move into adulthood.

The Council supports and promotes national campaigns on speed awareness and safe driving behaviours using the following forums:

- Press releases
- Social media
- Webpages, and
- Staff and partner organisation activities and events.

We will encourage Town and Parish Councils to raise local concerns regarding speeding in their areas via their own communications channels such as newsletters, notices or websites.

We will support local and national campaigns directed at improving driver behaviour for all forms of vehicles using our roads.

5.2 Driver Education

We will support local communities to encourage motorists to comply with speed limits. These can include:

- Use of Community Speed Watch
- Use of Speed Indicator Devices (SIDs), and
- Support of the local Police Community Support Officer (PCSO).

Parish and Town Councils play an important role in supporting local communities in wanting to address concerns of speeding. Many have access to a portable temporary SIDs and deploy them to help address concerns of speeding. They also regularly liaise with local policing units and are supportive of community-led initiatives such as Community Speed Watch.

Further information on electronic devices which can be used in the highway, such as SIDs, are outlined in Appendix B.

Establishing community support and participation is key in delivering the 3 E's approach.

5.3 Community Speed Watch Campaigns

Community Speed Watch campaigns are a police-led initiative. Such campaigns depend on a number of local residents being willing to run the scheme and use roadside speed monitoring tools.

Community Speed Watch works as a deterrent and helps to get the message across that speeding drivers will not be tolerated in the community. They also remind motorists that speed limits are there for a reason and must be adhered to.

Cheshire local policing units will be able to provide further information on community speed watch https://www.cheshire.police.uk/a/your-area/.

The Council can facilitate the provision of equipment for Community Speed Watch initiatives.

5.4 Use of Speed Indicator Devices

Speed Indicator Devices (SIDs) are a tool to remind drivers of their travelling speed and can be useful when there is a disparity between the posted limit and observed speeds. They are informational temporary signs only, and do not provide any enforcement function. It is recognised nationally that the effectiveness of SIDs reduces substantially after about two weeks and SIDs should be moved to maintain their effectiveness.

The Council do not install portable temporary SIDs. However, we recognise the value that local communities can place on them as a tool to encourage motorists to comply with the posted speed limit. Where communities and the police have access to this equipment the council will work with them to agree how they should be used and where they may be placed to comply with the council's requirements.

These requirements are now set out in the following sections.

5.5 Provision of Portable Speed Indicator Devices

The Council can facilitate the provision of portable SIDs as a service for Town and Parish Councils. The management and maintenance of SIDs will be the responsibility of the Town or Parish Council.

The form, character and presentation of these devices will be:

- Portable.
- Free standing.
- Battery powered.
- Will use only white or yellow LED or fibre optic lighting in the display.

- Displaying only the approaching vehicle speed and possibly the accompanying wording words, “SLOW DOWN”. No other wording or imagery will be permitted on the front face of the device such as “YOUR SPEED” or display of a happy or sad face.

Should a Town or Parish Council wish to source their own SID, the form, character and presentation of the device will need to meet equal requirements as those supplied by the Council.

The Council will consent to the use of portable SIDs on the highway subject to:

- A yearly deployment programme for the SID has been shared with the Council.
- The locations having been approved by the Council.
- The cost for this approval will be borne by the Town or Parish Council. This will be the authorisation to retain those items on the network for the following 12-month period.
- The posted speed limit where the unit is to be deployed must be 40mph or below.
- The site must be inside the speed limit and the SID unit must not be placed on the entry sign to the speed limit.
- There must be adequate forward visibility of the unit.
- In a 20mph speed limit this is a minimum of 60m.
- in a 30mph speed limit this is a minimum of 90m.
- in a 40mph speed limit this is a minimum of 120m.
- The SID unit must not obscure visibility of another traffic sign.
- The SID unit must not obscure visibility from any access or junction.
- The SID must not be an obstruction or distraction at a critical point i.e. at a pedestrian crossing or junction/bend where it may take the drivers attention off the road ahead.
- The location for the SID must be safely accessible and in a good condition.
- The SID unit must not obstruct a footway, cycle track or verge on which pedestrians walk.
- The SID unit must not be located on central traffic island or on central reservations.
- The SID unit, including its face, must have at least 450mm clearance from the edge of the carriageway.
- SID units can only be secured to the base of traffic signposts or lamp columns. Such fixing locations must not bear the weight of the SID. Cast iron or ornate lamp columns, power supply or telephone poles, and private posts must not be used.
- Portable devices are left in situ facing one direction no longer than three weeks.

5.6 Existing Equipment

Any device deployed on the highway which does not meet the following requirements or has not been approved to remain on the highway may be removed and the costs for removal and storage charged to the Town or Parish Council responsible for the device.

5.7 Fixed Installation SIDs

The Council have, in the past, installed SIDs as permanent fixtures. The original intention had been to move the SIDs on a regular basis within the Borough but reduced resources and funding has seen these units remain in a limited number of locations. We no longer install these on the network, nor allow others to do so, as they are not authorised for use on the highway by the DfT.

There is a possibility that the DfT request that such signs are removed from the highway in the future.

The devices owned and managed by the Council may be retained while in an operational condition and removed, and not replaced, once they are life expired. The posts on which the signs have been erected may be reused if, or removed when, a suitable opportunity arises.

Existing equipment that is the responsibility of a Town or Parish Council requires written consent from the Council to retain such equipment within the highway. Any devices and posts owned and managed by third parties could be removed from the network where this is not obtained. This will be at the expense of the Town or Parish Council who requested their installation.

Where authorisation has been given such devices and posts will only be removed where the Town or Parish Council cannot provide adequate evidence that:

- The device meets the requirements of form, character and presentation set out in this strategy.
- The device remains effective at managing speeds within the posted speed limit in the locality.
- The device and post is licenced by the Council as Highway Authority.
- The device and post were installed to suitable design standards for sign height clearance and post foundations.
- There is no liability insurance in place for the equipment which indemnifies the Council or of a suitable level.

Regardless of the mechanism of original introduction the Council will not replace, or authorise replacement of, posts for fixed installation SIDs, nor will they approve the installation of new posts for such devices.

5.8 Site Approval

To submit a request for site approval the following information is required for each location:

- Location plan.

- Image of the location (up to date street-view image or a photograph).
- Site address, including road name and a description of the site.
- The proposed method of mounting the SID unit, and the direction it is proposed to face.
- Parish Council contact details.
- Appropriate current liability insurance which indemnifies Cheshire East Council at a level that is acceptable to the Council.

A deployment at a site constitutes a maximum of three-week presence facing in one direction. Turning the unit to face the opposite direction is considered a separate deployment. Any device not moved within four weeks may be removed from the network by the Council and the associated costs passed to the Town or Parish Council responsible for the device.

Further information on SIDs is outlined in Appendix B.

6. Enforcement

6.1 Introduction

The enforcement authority is Cheshire Police and they are responsible for all speed enforcement.

The Council, as highway authority, and by extension Cheshire Road Safety Group, have functions and roles that support the police enforcement of speed and red light infringements.

The Council serves as both the Highway and Traffic Authority and is responsible for the introduction of speed management measures and setting of speed limits on all public roads not under the control of National Highways.

6.2 Role of the Police

The police will use their own speed management guide 'Cheshire Police Speed Management Process (see flowchart in Appendix C).

The police have a high demand for officer time countywide, and adherence to the process above will ensure that priorities are balanced accordingly. Each time a road traffic personal injury collision is reported to the police, comprehensive details about the circumstances involved are recorded on the Police incident database. Anonymised data is shared with the Council who use it to identify locations where educational or engineering activity may be used to address a particular problem.

For speed enforcement purposes the Police use this data to identify the locations that most frequently experience speed related collisions so they can be considered for enforcement.

Cheshire Police operate the static safety cameras throughout the Borough for enforcement purposes and they may also use mobile camera technology as a means of enforcement.

The following camera technology is currently used in Cheshire East:

- Rearward facing static cameras.
- Red light / speed on green static cameras.
- Average speed cameras.
- Mobile vans equipped with enforcement technology.
- Temporary Average speed safety cameras for road works enforcement.

Details of current Safety Camera locations can be found on the CRSG website, which is hosted by Warrington Borough Council, at: https://www.warrington.gov.uk/roadsafety.

7. Engineering

7.1 Introduction

The Council follow national guidance on speed management measures.

A report[1] from the Transport Research Laboratory found that static signs alone had a small impact on measured speeds, with around a 2mph reduction on average. Subsequent research[2] has confirmed these findings and shown that speed limit signs alone are insufficient to significantly alter drive behaviour.

Where measured speeds are above the thresholds for the desired limit (as set out in Table 2), additional measures may need to be considered to encourage compliance and adherence by drivers.

Engineering measures may be proposed in isolation, as part of a wider scheme, or in response to development sites. It is important, given the wide variety of possible sources, for there to be a uniform approach to speed management.

7.2 Implementing Engineering Measures

The first step is to consider whether the speed limit is suitable and appropriate for the environment prior to considering engineering measures. This may include a review of the extent of the existing limit to better match surroundings.

If, after consideration, there remains the need to implement measures those listed below have been identified as having the potential to influence vehicle speeds to varying degrees.

7.3 Engineering Measures

Typical engineering measures that can be considered for existing roads are:

- Roundels, dragons' teeth, SLOW road markings and all other road markings within the TSRGD.
- Warning signs, yellow or grey backed signs, flashing amber warning lights.
- Regulatory signs (One Way, No Entry etc).
- Information signs (e.g. Unsuitable for Heavy Goods Vehicles).
- Use of coloured road surfacing.

[1] (Transport Research Laboratory, 1998) https://trl.co.uk/uploads/trl/documents/TRL363.pdf

[2] (Atkins, Aecom,and Professor Mike Maher (UCL), 2018) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/757302/2 0mph-technical-report.pdf

- Vertical measures (e.g. Tables, rumble strips).
- Horizontal measures (e.g. Priority narrowing's, village gateways and chicanes)
- Road or point closures.
- Mini roundabout(s).
- Road width (including formalised parking).
- Change of speed limit.
- Vehicle Activated Signs.
- Hard standing areas for Police Enforcement.
- Static camera technology.

Typical Engineering measures that can be considered for new roads are:

- Alteration of road width (including formalised parking).
- Enforcement/Technological Measures.
- Alignment.
- New junctions.
- Roundabouts.
- Traffic signals.

Suitability of measures at individual locations will need to be considered and it is outside the scope of this strategy to provide technical design guidance. This may be found through nationally published Local Transport Notes including LTN 1/07 (Traffic Calming).

7.4 Principles of Setting Speed Limits

The Council's approach to the application of speed limits should be consistent across the Borough if it is to be understood and complied with by road users. This should also be the case across the country. It is recognised that where speed limits are inappropriate, they are often ignored and make drivers less willing to comply with the legal limit.

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.

The overriding principles for applying speed limits is, as outlined in DfT Circular 01/2013 Setting Local Speed Limits, that they should encourage self-compliance. To achieve this, speed limits must:

- Be appropriate for the physical environment.
- Reflect the level of use by both motor vehicles and vulnerable road users.

- Take account of the speed vehicles are currently travelling at.
- Account for any speed related injury collision history.
- Reflect the function of the highway corridor and the surrounding environment.

The aim is to ensure the speed limit for any road is appropriate and in keeping with its environment this will mean that, after assessment, we take the following core actions:

- **In some cases, where appropriate, we may lower speed limits.**
- **In some cases, where appropriate, we may raise speed limits.**
- **In some cases, where appropriate, we may not change anything.**
- **In some cases, where appropriate, we may need to change the design of a road to change behaviour.**
- **We will not install speed limit signs alone and expect a significant behaviour change.**
- **We may consider speed limit changes that support active travel (walking and cycling).**

When setting speed limits, appropriate considerations include:

- Road function.
- Existing traffic speeds.
- The personal injury collision history.
- The level of use by vulnerable users such as pedestrians and cyclists.
- The surrounding environment, for example the presence of schools; shops; and places people want to visit.
- The local road environment, including width, visibility, and parking.

The appropriate management of speed limits can assist with managing congestion, increasing journey efficiency across the local and wider network. This complies with statutory duties placed on the traffic authority under the Traffic Management Act (2004). A reduced speed limit may also benefit air quality in Air Quality Management Areas.

The Council's speed limit framework serves to condense these guiding principles into a reference alongside features of the desired speed limit.

This framework is provided in Section 7.8 and is to be used as a starting point for identifying speed limits.

7.5 Road Function

The local environment and likely users of the road are important considerations when implementing changes, such as alterations to the speed limit. For example – urban residential area, and town centre shopping areas are likely to have a higher number of pedestrians and cyclists, making lower speeds more suitable, whereas sparsely populated roads between destination points, such as, strategic and main distributor routes, with limited non-motorised travel are more suited to higher speeds.

In general, locations or destinations on roads that people want to visit, such as our link or local access roads, have a high person movement value and roads which facilitate traffic are high vehicular movement value. The relationship between these two factors will contribute towards identifying where lower limits may be appropriate and whether changes to the environment need to be considered.

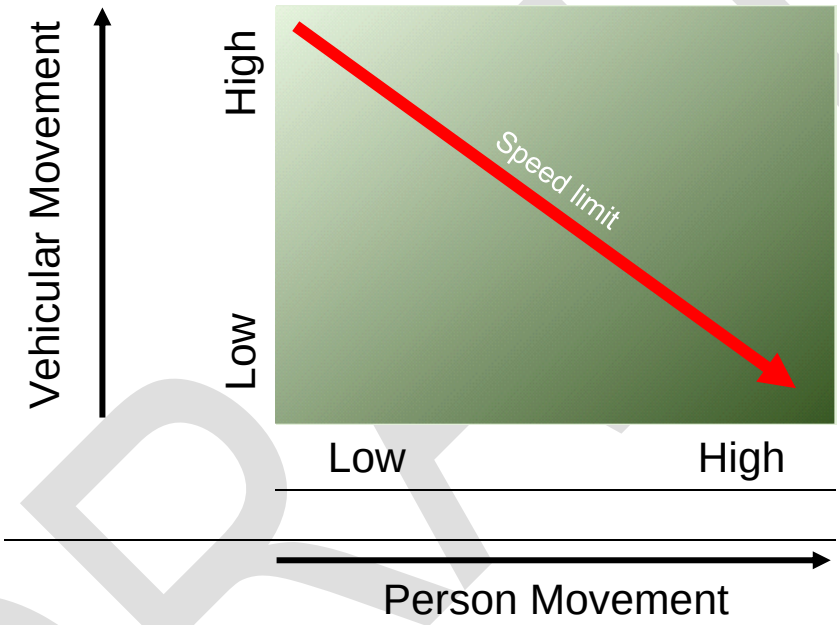


Figure 4 Movement framework

7.6 Existing Speeds

The current guidance DfT Circular 01/13 for setting local speed limits states that traffic authorities should continue to collect and assess both mean and 85th percentile speeds, but that mean speeds should be used as the basis for determining local speed limits.

Mean speeds are the sum of all vehicle's speeds measured over a period of time divided by the total number of vehicles over the same time period. Mean speeds are used for determining local speed limits.

85th percentile speeds are the speeds at or below which 85% of all vehicles are observed to travel under free-flowing conditions. This is a nationally recognised method of assessing traffic speeds.

Where there is not a consistent relationship between the 85th percentile and the mean speed, it will usually indicate that motorists have difficulty in deciding the appropriate speed for the road.

This suggests that a better match between the road design and the speed limit is required. In such situations it may be necessary to consider the appropriateness of the limit or whether there is a need for additional design or enforcement measures.

Table 2 below shows the range of measured speeds that are used when assessing existing speed limits as detailed in the National Police Chiefs Council guidelines, to determine whether compliance of existing speed limits is being adhered to.

On roads where surveys indicate that the measured mean speed and/or 85th percentile speed are beyond these thresholds, the appropriateness of the speed limit without accompanying measures (either existing or proposed) should be reviewed.

Speed Limit	Mean Speeds	85th percentile speeds
20 mph	24mph	28mph
30 mph	30mph	35 mph
40 mph	40mph	46 mph
50mph	50mph	57mph
60 mph	60mph	68mph

Table 2 Speed Limit ranges

If the current measured speeds are higher than these limits, then there are three potential outcomes based on the core principles of the strategy:

- Keep the speed limit as it is.
- Review the rationale for the existing limit – in some cases the environment may mean that a higher speed limit may be more appropriate for the section or part of it to help encourage the correct behaviour in the relevant environment.
- Introduce measures to manage mean speeds within the Posted Speed Limit.

Further technical detail on the collection and application of speed data is included in Appendix D.

It may be necessary to collect speed data from multiple points on a road, route, or area depending on the extent of the scheme and differences in the local environment.

7.7 Safety and Speed Cameras

Fixed camera technology systems are an engineering option that facilitates enforcement by the police. These can be designed and installed in the Borough as a measure of last resort in locations and on routes that have a history of collisions resulting in serious injury or death.

Average speed camera technology works best on roads with large distances between junctions, which enables monitoring over a reasonable distance. In urban areas more junctions require more camera locations to cover a zone and these systems do not allow for instances where, for example, a puffin crossing will stop traffic. This reduces their effectiveness as the approach and exit speeds can be high but, due to the delays during the journey, the average speed technology would not recognise an offence having been committed.

The criteria for assessing whether speed cameras should be considered are set out by the CRSG to provide a consistent Cheshire wide approach. The use of cameras should always be proportionate, targeted, consistent and transparent in line with current National Police Chiefs Council guidance.

For the Council to consider putting forward locations to be considered for camera technology prioritisation by CRSG they will have determined that:

- The collision analysis indicates that safety camera enforcement would address the collision history at the location.
- There is no other cost-effective engineering solution that is more appropriate to resolve the collision types identified as part of the collision analysis.
- Safety camera enforcement provides a solution.
- The Traffic Regulation Order (where applicable) and road signs and road markings are lawful and correct.
- Where new signage is required, this can be installed safely and in compliance with relevant guidance documents.

The funding for camera technology on the highway can come from a range of sources including Government grants such as the DfT Safer Road Fund Scheme but is subject to available budgets and prioritisation.

CRSG will continue to monitor technology developments for speed management. This includes:

- Safety camera devices linked to Automatic Number Plate Recognition systems.
- Digital and radar sensor technologies.
- In vehicle technology such as intelligent speed assistance systems.

The Council will consider potential opportunities for piloting or trialling new types of system in conjunction with CRSG.

7.8 Speed Limit Framework

The speed limit framework serves as a guide for the identification and selection of speed limits in both urban and rural settings by documenting the traits and features of a suitable environment.

The framework is designed to operate in tandem with the Network Hierarchy. The framework is split into possible speed limits, and is laid out as below:

Type of limit	
Urban	**Rural**
Well Managed Highway Infrastructure Network hierarchy classification	
Key or expected features	Key or expected features
Guidance	Guidance

The framework is based on guidance from the Department for Transport in Circular 1/2013 Setting Local Speed Limits.

Note that not all features will be present in all cases, nor is there an expectation for all to be present. They are intended to be indicative of environment only.

20mph Speed Areas (Zones and Limits)

Rural and Urban environments

Well Managed Highway Infrastructure Network Hierarchy classification may be considered on Local Access Roads or link roads

20mph speed limits and zones can be considered in built up areas where there are high concentrations of vulnerable road users where vehicle movement is not the primary function such as in streets that are primarily residential and in other town or city streets where pedestrian and cyclist movements are high, such as around schools, shops, markets, playgrounds and other areas, where motor vehicle movement is not the primary function.

Mandatory 20mph speed limits and zones will only be considered in those locations that are generally self-compliant due to the nature of the road layout.

20mph limits can be introduced over an area where mean speeds at or below 24mph are already achieved over a number of roads.

20mph zones without physical measures will only be considered:

- Where at least 90% of roads in the proposed zone have existing mean speeds of 24mph or below.
- Where 0-10% of roads in the proposed zone have existing mean speeds above 24mph, but below 28mph.

If existing speeds do not meet these criteria physical measures will be required.

When considering to implement a mandatory 20mph speed limit or zone, Cheshire East will consider the full range of options and their benefits, including road safety, wider community, environmental benefits and costs.

Where a 20mph speed limit is desirable outside a school this may be either advisory or mandatory as a variable speed limit.

30mph Speed Limits	
Urban	**Rural**
Well Managed Highway Infrastructure Network Hierarchy classification may be considered for all hierarchy classifications	
The national speed limit on street lit roads is 30 mph. The standard speed limit in urban areas is 30 mph. In other built-up areas (where motor vehicle movement is deemed more important), with development on both sides of the road.	The standard speed limit in our village areas is 30mph. Settlement has a clearly defined core with shopping area, town\village green, etc. • facilities generating pedestrian/cycle activity - schools, shops, public house, play areas, etc. • Almost continuous frontage development exceeding 600m in length on both sides of the road • Significant development in depth • Significant pedestrian activity throughout the day with provision of footways and or crossings
Village definition • Over 600 metres in length • Have 50 or more houses (on one or both sides of the road) • Have significant depth of development • Will also have a few services, such as a local school, church, public house and small shop/post office.	

40mph Speed Limits	
Urban	**Rural**
Well Managed Highway Infrastructure Network Hierarchy classification may be considered for main distributor, strategic and resilient network	
On higher quality suburban roads or those on the outskirts of urban areas where there is little development, with few cyclists, pedestrians or equestrians. On roads with good width and layout, parking and waiting restrictions in operation, and buildings set back from the road. On roads that, wherever possible, cater for the needs of non-motorised users through segregation of road space, and have adequate footways and crossing places. Where there are no direct frontages.	Settlement has shop(s), school(s), public house, petrol station etc. • Significant development on both sides of road, but not necessarily continuous, with some development in depth, overall frontage exceeds 400m in length • Some pedestrian/cycle activity throughout the day with possible peaks associated with schools etc. • Some provision for pedestrians/cyclists or acknowledged need and possible warning signs

50mph Speed Limits	
Urban	**Rural**
Well Managed Highway Infrastructure Network Hierarchy classification may be considered for main distributor and strategic network	
On dual carriageway ring or radial routes or bypasses that have become partially built up, with little or no roadside development	Should be considered for lower quality A and B roads that may have a relatively high number of bends, junctions or accesses. Can also be considered where mean speeds are below 50 mph, so lower limit does not interfere with traffic flow. For C and Unclassified roads with important access and recreational function the speed limit of 50 mph is only appropriate for the lower quality C unclassified roads with a mixed (i.e. partial traffic flow) function with high number of bends, junctions or accesses.

National Speed Limits
Urban and Rural roads
Well Managed Highway Infrastructure Network hierarchy classification may be considered for all hierarchy classifications
The national speed limit on the rural road network is 60 mph on a single carriageway and 70 mph on dual carriageways. Recommended for most high-quality strategic A and B roads with few bends, junctions or accesses. The default position is the national speed limit applies in areas without street lighting. The rural unclassified road speed limit is 60mph.

7.9 20mph Areas

The introduction of 20mph areas has been shown to encourage the uptake of active travel within an area[3]. Mandatory 20mph speed limits and zones will only be considered in those locations that are generally self-compliant due to the nature of the road layout or the presence of traffic calming features.

Nationally there are two definitions for roads with 20mph speeds, these are:

- 20mph speed limits (indicated by road signage only), and
- 20mph zones (self-enforcing areas with engineering measures and some road signage).

20mph limits can be introduced over an area where mean speeds at or below 24mph are already achieved over a number of roads. However, 20mph zones without physical measures will only be considered:

- Where at least 90% of roads in the proposed zone have existing mean speeds of 24mph or below.
- Where 0-10% of roads in the proposed zone have existing mean speeds above 24mph, but below 28mph.

When collecting speed data for 20mph areas, the following will apply:

- The lead engineer will visit all roads in a proposed area.
- Mean speeds will be collected in all roads where there is a concern that vehicle speeds are high.
- The data collection locations will be agreed with the police traffic management officer.

[3] (Atkins, Aecom,and Professor Mike Maher (UCL), 2018) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/757302/2 0mph-technical-report.pdf

It is recognised that the distinction between the two can create confusion, and they are often used interchangeably. To alleviate this, we will now use the collective term of 20mph areas. Engineers are required to follow national legislation for zones and limits with respect to the signage and measures that can be used.

Further guidance is provided in Appendix F.

The road function, considered through the movement framework, can be used to identify those areas which may be appropriate for lower speeds due to higher pedestrian and cycle movements (due to local land use) and relatively low vehicle movement. Such areas may benefit most from 20mph areas. As a starting point, 20mph areas are potentially appropriate on residential streets and town centres. Some high streets may also be suitable, depending on their character and location.

As noted previously the movement framework is not the sole criteria for determining speed limits, and the specific environment will be considered in all cases. Other roads with a higher movement value frequently connect areas with a high person movement value.

Whilst some locations may be appropriate for 20mph areas, they are also likely to require additional supporting measures to ensure compliance. Whilst the person movement value can provide an indication of suitability for 20mph, other criteria will need to be taken into account as detailed in Section 7.8.

Speed measurements must be undertaken in any area where a 20mph area is proposed in order to support the design of the scheme. As noted in Section 7.9 roads with speeds of 24mph or lower are considered compliant.

Where existing speeds are over 24mph, but below 28 mph, the implementation of a 20mph area will likely require traffic calming and/or technological measures to reduce and control speed to the appropriate levels and ensure self-compliance.

Advisory 20mph speed limits can be introduced outside schools. These advisory provisions are not legally enforceable but are a tool to encourage behaviour change. Any advisory 20mph speed will operate during school start and finish times.

These advisory limits do not preclude formal 20mph areas. Schools contribute to place value and are likely to benefit from 20mph areas should the environment be suitable or adaptable. The default position for the Council is that a 20mph area may be implemented – if the environment allows – when new schools are proposed, or where significant changes are made to existing school facilities.

Where a new housing development has been designed to be 20mph we would not introduce a 20mph speed limit.

7.10 Existing 20mph Areas

It is recognised that there are variances in how 20mph speed limits and zones have been implemented historically across the borough. These schemes were correct at the time of installation, though do not necessarily comply with this revised strategy. All schemes designed and delivered following the adoption of this document shall comply with the new strategy and older schemes do not set precedents nor allow for exemptions.

7.11 Rural 40mph zones

A process has been developed for the application of zonal 40mph speed limits in rural areas. The criteria applying to this are subject to all the following being met:

- Existing speeds are no greater than 40 mph on roads in the planned zone.
- Mean speeds will be collected in all roads where there is a concern that vehicle speeds are high.
- Mean speeds will be collected in a random sample of other roads within the proposed area.
- The locations of the above will be agreed with the relevant police traffic management officer.
- With the correct judgement and experience this should avoid the need to count every road within a proposed 40mph Area.
- The zone would be self-enforcing. Mean speeds on all roads within the zone will be 40mph or less once implemented.
- The zone will be within a defined geographical area, e.g. bounded by A & B roads or in an Area of Outstanding Natural Beauty, AONB.
- The zone would only be permitted on C and unclassified roads.
- The zone would have a predominantly local, access or recreational function and/or form part of a recommended network of routes for vulnerable road users.
- A recognised or known collision history for the planned zone.
- A tourist attraction is the generator for pedestrian movements being higher.

7.12 Exceptions to setting speed limits

Exceptions to the strict application of the speed limit framework will be limited to the following situations and conditions:

- Addressing Air Quality Management Areas (AQMAs).
- On roads that cross between different Highway Authority boundaries where policies and practices may differ.
- Where a buffer or shoulder zone speed limit between 2 different speed limits is necessary or desirable.
- Accommodation of planned developments.

7.13 Air Quality Management Areas (AQMAs)

Motor vehicle engines work most efficiently at around 50mph; vehicles driving below 50mph and above 55mph produce more emissions from their exhausts. While traffic is often slower than 50mph at peak times, having a consistently lower speed limit helps to improve journey time reliability by smoothing the traffic flow, because it reduces the number of times vehicles have to stop and start again. This in turn reduces the time traffic is stationary or moving slowly in queues and has an air quality benefit as vehicles' engines emit the most Nitrogen Dioxide emissions when they are switched on but not moving or moving slowly.

Where it is assessed as part of an action plan to address air quality within an AQMA and this is expected to be an appropriate tool we may change a speed limit in an area to a level that does not necessarily satisfy the criteria set out in the speed limit framework outlined in Section 7.8.

7.14 Cross Border Roads

It is important that neighboring traffic authorities work closely together, especially where roads cross boundaries, to ensure speed limits remain consistent.

Where a road crosses our authority boundary we will discuss any proposed speed limit changes with the neighbouring Highway Authority to establish the reasoning for the speed limit change and safety benefits.

Before making any decision on the actions we take we will also consult with, and consider the views of:

- Cheshire Police,
- CEC local Member and,
- Speed Management Group.

.
This may mean we introduce a speed limit that does not satisfy the criteria set out in the speed limit framework outlined in Section 7.8.

7.15 Buffer or Shoulder Zones

Where there are outlying houses beyond a village boundary or there are high approach speeds to a village an intermediate speed limit may be appropriate.

The use of such limits will be restricted to sections where immediate speed reduction causes the driver difficulty or would have minimal effect well into the extent of the lower limit.

In the case of high approach speeds, other speed management within the village limit, such as the use of signing or lining to create a visual impact or other physical measures to change the appearance of the roads, may be more appropriate to encourage compliance with the village.

7.16 Planned Developments

Where land has been approved for housing development in the Council's Local Plan we will consider a speed limit change to accommodate the future development of the site. The speed

limit chosen will be informed by proposals brought forward by a developer and will be aligned to the Speed Limit framework criteria set out in Section 7.8.

The speed limit will only be implemented once 50% of the development frontage has been occupied.

The physical design of new residential roads should encourage motorists to drive at 20mph or less as set out in national guidance, (e.g DfT Manual for Streets). The default speed limit for new residential roads is 30mph.

Cheshire East Council
Highways

Glossary of Terms

20mph Area	A collective term used exclusively in the SPEED MANAGEMENT STRATEGY to discuss matters that affect 20mph Limits or 20mph zones.
20mph Limit	A road or series of roads where the speed limit is 20mph but there are no physical measures to reduce vehicle speeds in the area.
20mph Zone	A series of roads which use traffic calming measures to reduce the adverse impact of motor vehicles on built up areas.
85th Percentile Speed	The speeds at or below which 85% of all vehicles are observed to travel under free-flowing conditions. This is a nationally recognised method of assessing traffic speeds.
Advisory 20mph Limit	A part time 20mph speed limit which does not have a legal order (Traffic Regulation Order). It is therefore not enforceable. To be used outside schools only.
Advertisement	The process where a Speed Limit order is legally advertised. At this point the scheme can only be reduced or withdrawn.
Air Quality Management Area (AQMA)	These are discrete locations across the Cheshire East Borough, where air pollution is either very close to or exceeds a set of health-based objectives for a number of specific air pollutants predominately associated with road traffic emissions. Further details can be found on our website: https://www.cheshireeast.gov.uk/pdf/environment/air-quality/cheshire-east-aqs-2018-review-final-signed-version-2.1amended.pdf.
CIL	The Community Infrastructure Levy is a charge on the internal floor area of new housing and retail developments in certain areas of the Borough.
Consultation	The legal process where opinion is sort and used to influence the scheme outcome. A scheme can be changed at this point.
Free Flowing Traffic	The average speed that a motorist can travel if there was no congestion or other adverse conditions such as bad weather.
Features	Repeater signs and repeater roundels and traffic calming measures.
Cheshire Road Safety Group (CRSG)	The Cheshire Road Safety Group aims to reduce the number of people killed or injured on Cheshire roads by encouraging greater compliance of speed limits through the operation and maintenance of safety cameras.
Local Transport Plan	Statutory document which sets out the overall objectives and targets for improving transport in the County. The current version is Local Transport Plan 4.
Mean Speed	The average speed at which all vehicles travel.
Police and Crime Commissioner (PCC)	Works closely with the Chief Constable to reduce crime, keep communities safe and ensure the criminal justice system works well. The elected PCC has the responsibility to hold the police and the chief constable to account on behalf of the public.
Roundel	In context, a roundel is the circular disc or marking that displays the speed limit applicable to a road. Roundels are placed at appropriate intervals as road markings, normally larger and more conspicuous at the start or change of a limit.
Rural	An area which falls outside of settlements with more than 10,000 resident population. i.e everywhere outside the urban area.

Section 106 Agreement	Funding obtained from developers when building new housing and other buildings to mitigate the impact that the development has on the transport network.
Section 278 Agreement	An agreement to permit a third party to introduce permanent changes to the highway network, usually used to facilitate or connect to new development sites.
Settlement	Locations where people live.
Speed Management Group (SMG)	A group of CEC and police officers who provide advice to other CEC officers, developers and other bodies on the implementation of the Speed Management Strategy and consider changes to Speed Limits and confirm whether proposed changes are in compliance with the Speed Management Strategy.
STATS 19 Form	The department for transport compiles data on personal injury collisions, resulting casualties, and the vehicles involved. The police fill in this form for each collision occurring on the public highway, and which become known to them within 30 days.
Traffic Calming Measure	Humps in accordance with the Highways (Road Hump) regulations 1999, traffic calming works in accordance with the Highways (traffic calming) regulations 1999, a pedestrian refuge designed to slow traffic, variation in widths of the carriageway for the purpose of slowing traffic constructed after 1999 and a horizontal bend as defined in TRSGD 2016. For avoidance of doubt a traffic calming measures will alter a vehicles speed significantly if designed correctly. The spacing in TSRGD 2016 are the minimum to suffice the legal signing requirements for setting out a zone. It does not guarantee that vehicle that vehicle speeds will reduce. Traffic calming measures should be designed in accordance with LTN 1/07 and at a spacing intended to achieve the required speed reduction for the type of traffic calming measures chosen.
Traffic Regulation Order	A Traffic Regulation Order (TRO) is a legal order, which allows us the regulation of speed, movement, and parking of vehicles. They are enforced by the police, with parking restrictions enforced by the Council.
Urban	The built, up area with populations of over 10,000.
Variable 20mph Limit	A 20mph speed limit that is only operational at certain times of the day. Similar to that used on Smart Motorways (with varying limits).

Abbreviations and Acronyms

AQMA	Air Quality Management Areas
AONB	Area of Outstanding Natural Beauty
CIL	Community Infrastructure Levy
DfT	Department for Transport
KSI	Killed or Seriously Injured
LTP	Local Transport Plan
NPCC	National Police Chiefs Council
OPCC	Office of Police and Crime Commissioner
PCC	Police and Crime Commissioner
PCSO	Police Community Support Officer
S106 Funding	Negotiated from developers to mitigate the impact of a development
SID	Speed Indicator Device
SMG	Speed Management Group
TAL	Traffic Advisory Leaflet
TM	Traffic Management
TRO	Traffic Regulation Order
TSRGD	Traffic Signs Regulations and General Directions 2016
VAS	Vehicle Activated Sign
VMS	Variable Message Sign

Cheshire East Council
Highways

Appendix A – Prioritisation Matrix

Consideration of engineering measures prioritisation

Please create a COPY of this sheet for each location

Assessment by:			**Ref No:**					
Date of assessment								
Location		Road Classification:	Primary	Traffic Sensitive:	No	Environment:	Urban	

A - CASUALTY REDUCTION

		Fatal	Serious	Slight	Fatal	Serious	Slight	Score
1	Recorded injury collision occurrence (latest 5 yrs) (Fatal = 50, Serious = 30, Slight = 10)	0	0	0	0	0	0	0
2	Are there speed related injury collisions (latest 5yrs)? (Yes = 70, No = 0)	No	if no collision history insert 0 score for Q2					0
3	Are there injury collisions that misjudge speed and distance as a key factor (latest 5yrs)? (Yes = 20, No = 0)	No	if no collision history insert 0 score for Q3					0
4	Do any of the collisions involve vulnerable road users? (Yes = 50, No = 0)	No	if no collision history insert 0 score for Q4					0
5	Have the police identified enforcement as an issue at this location ? (Yes = 50, No = 0)	No						0

B – CONGESTION

6	Route is traffic sensitive (Yes = 20, No= 0)	No	Taken from header information	0
7	On a bus route? (Yes = 20 , No = 0)	No	No insert 0 score for Q8	0
8	Bus Frequency? (Houly or more frequent = 5, Less than hourly = 2)	Frequency is less than hourly		0

C - ACCESSIBILTY AND CAPACITY

9	Is the length of concern greater than 1000m? (Yes =10, No = 0)	No		0
10	Are there terraced housing or houses close to the highway? (Yes = 20, No = 0)	No		0
11	Are there amenities that local residents need to walk to? (Yes = 20, No = 0)	No		0
12	Is there a footpath available? (Yes = 0, No = 20)	Yes		0
13	Is the road narrow (less than 7m)? (Yes = 20, No = 0)	No		0
14	Is the location in a rural setting? (Yes = 10, No = 0)	No	Taken from header information	0

D - AMENITY

	D - AMENITY		Enter information / responses only in the grey boxes. All other cells are protected	
	Function of Road			
15	Vehicle Movement (High = 0, Medium = 15, Low = 30)	High		0
16	Person Movement (High = 30, Medium = 15, Low = 0)	Low		0
17	Is there a 'visitor generator' (*e.g beauty spot , tourist attraction*) in the local area? (Yes = 20, No = 0)	No		0
18	Conservation area? (Yes = 10, No = 0)	No		0
19	AQMA site? (Yes = 20, No = 0)	No		0
	E – NEIGHBOURHOOD ENGAGEMENT			
20	MP Support (Yes = 20, No = 0)	No		0
21	Councillor (local member support) (Yes = 20, No = 0)	No		0
22	Councillor (other members) (Yes = 20, No = 0)	No		0
23	Parish Council support (Yes = 20, No = 0)	No		0
24	Police support (Yes = 20, No = 0)	No		0
25	Other organisations (e.g. resident association) (Yes = 20, No = 0)	No		0
	F - LOCAL CONCERN			
26	High degree of resident and/or stakeholder concern for vulnerable road user safety? (Yes = 20, No = 0)	No		0
27	Is there a high level of concern of traffic speeds causing social issues (severance)? (Yes = 20, No = 0)	No		0
28	Is there a high concern for property damage through speeding collisions (directly or indirectly)? (Yes = 20, No = 0)	No		0

Ref no	Location	Assessed by	Date of assessment	Total Score
0	0	0	00/01/1900	220

*Copy and paste the above line as **VALUES** into the Summary sheet*

Appendix B - SID's

National regulations and guidance

Signs installed on the public highway need to accord with a number of Department for Transport (DfT) published regulations and advisory leaflets.

The current relevant standards (*in September 2021*) are:

- The Road Traffic Regulation Act (RTRA) 1984
- Traffic Signs Regulations and General Directions (TSRGD), 2016
- Traffic Advisory Leaflet, TAL, 1/03 Vehicle Activated Signs, VAS, issued in March 2003
- Traffic Advisory Leaflet, TAL, 1/15 Variable Message Signs, VMS, issued in January 2015

The content of these being:

- The Road Traffic Regulation Act (RTRA) 1984 provides the legislative framework for traffic signs. To be legally placed on the public highway, a traffic sign ('an object or device for conveying, to traffic on roads or any specified class of traffic, warnings, information, requirements, restrictions or prohibitions of any description') must be either (i) specified by Regulations (the TSRGD) or (ii) specially authorised by the Secretary of State.

- The TSRGD is highly prescriptive and specifies the full details of each type of permitted sign on the highway (i.e. sign face type, shape, size, configuration, etc).

- TAL 1/15 states:

  "Regulation 58 of TSRGD permits a VMS to display most of the fixed signs prescribed in TSRGD as well as legends prescribed in Schedule 15. Special provisions apply to vehicle activated VMS and these are explained in detail in Traffic Advisory Leaflet 1/03, "Vehicle Activated Signs".

- TAL 1/03 states:

  "Signs must not contain non-standard pictograms or messages (i.e. those not prescribed in the Traffic Signs Regulations), to avoid causing ambiguity and confusion to drivers".

  "Diagram 670 when displaying 20, 30, 40 or 50 may also be used with a "SLOW DOWN" plate. The purpose in this case is to remind the driver of the speed limit in force and the VAS should therefore be set to activate as close as possible to the speed limit".

  "Signs other than the above may not be used without special authorisation from the Department for Transport or equivalent devolved administration".

Difference between a SID, VAS and VMS

Speed Indicator Devices (SIDs) are a temporary portable device which can be securely fixed to a non-moveable structure. They consist of a battery powered display screen on which the indicative speed of a vehicle is displayed. When movement is detected in the field of view, the device triggers and returns a value (speed in mph) that is then displayed on the screen to oncoming vehicles. They can also record the number and speed of vehicles detected which can be downloaded and interrogated to understand their impact on speeds over time.
Relocating SIDs regularly has been demonstrated to have greater influence on traffic speeds, as SIDs become less effective if retained in the same location for longer than 3 weeks.
There is no government legislation or advice covering the use of these devices on the Highway.

Vehicle activated signs (VAS) are permanent LED or fibre optic signs that can be used to complement existing signage in warning motorists of an approaching hazard where speed could be a contributory factor to a serious incident occurring. They are usually blank until triggered by an approaching vehicle travelling at a speed above a pre-set speed. The vehicle then activates the device which displays a speed limit or hazard warning sign e.g. bend in the road. Certain signs may be accompanied by a 'SLOW DOWN' message or flashing lights in the corners of the sign (known as 'wig-wags').

The images displayed on VAS are compliant with national regulations i.e Traffic Signs Regulation and General Directions, TSRGD 2016.

The use of VAS is set out in DfT Traffic Advisory Leaflet 1/03, "Vehicle Activated Signs" and are an engineering tool.

Variable Message Signs (VMS) the Council use VMS to advise motorists of upcoming road hazards. They display either fixed or scrolling text and can be used as a temporary sign in advance of roadworks or as a permanent installation to highlight particular hazards ahead. Special provisions apply to vehicle activated VMS and these are explained in detail in Traffic Advisory Leaflet 1/03, "Vehicle Activated Signs".

Duty of Care

Town and Parish Councils should satisfy themselves that the responsible person or contractor installing or removing the SID at each location:

- Has a safe working environment for them to do so.
- Is competent to undertake the task required.
- A risk assessment for the location has been carried out prior to any site-based work.
- Safe systems of working are followed.
- Suitable Personal Protective Equipment is worn.
- Has considered the site dependent on time of year as vegetation can change visibility during summer and winter periods.
- Has sufficient batteries available for the devices for them to be deployed in line with the agreed installation plan.

SID Effectiveness

Research undertaken by the Transport Research Laboratory[4] found that SIDs are most effective when moved regularly. It showed that the longer the SID stays in one place, the less drivers slow down when they see it. After about two weeks, the speed of traffic returns to what it was before the sign was erected, therefore, keeping signs up longer has no effect and may bring them into disrepute.

The same research found that, in ideal conditions, SIDs would provide a reduction in mean speeds of around 2mph.

Data Collection and Use

SIDs can store up to 200,000 unique events in their internal memory – this includes information as to the date, time, and speed of traffic recorded. This data can be downloaded by Town or Parish Council operative and subsequently cleared from the device via a mobile application. SIDs collect data as part of routine operation but this is not the primary function of the device. As such, they are not calibrated to serve as traffic counters or speed monitors and there remains concerns over the accuracy and validity of data accessed from SIDs.

However, the data can be used to illustrate the effectiveness of the measure. Any locations which do not achieve a reduction in the mean speeds of vehicles during the period of operation should be reviewed as part of the annual location review. The Town or Parish Council should share such data with the Council, when requested, to inform the annual review of SID locations.

Maintenance

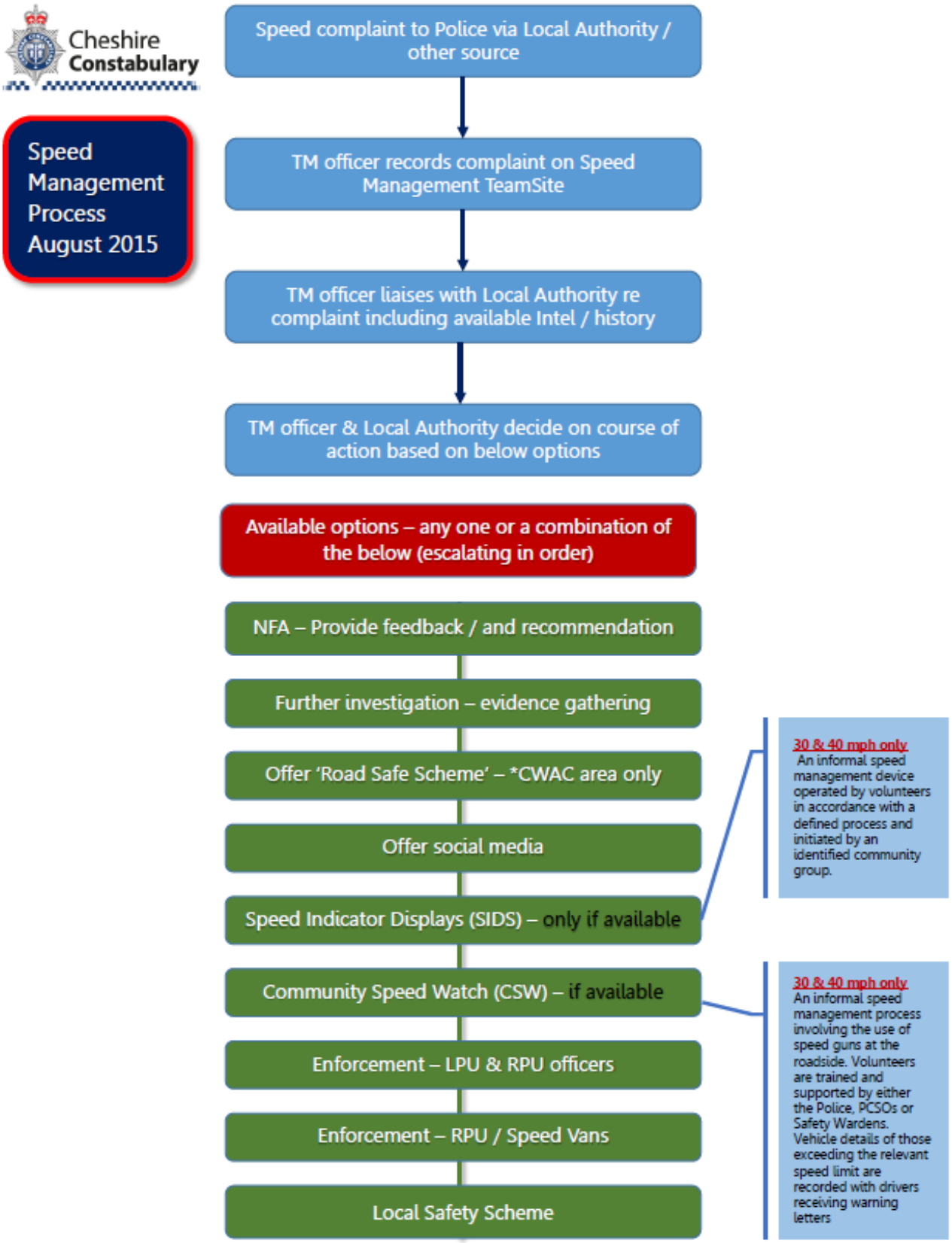
The Council is able to offer a service and maintenance regime to be funded by Town and Parish Councils for SIDs. This regime will include:

- Deployment of the SID on the network in line with the agreed Annual deployment plan and deployment criteria.
- Battery checks prior to installation.
- Removal of the SID within 3 weeks after installation in any one location.

[4] (Transport Research Laboratory, 2008) https://trl.co.uk/uploads/trl/documents/PPR314.pdf

Cheshire East Council
Highways

Appendix C - Cheshire Police Speed Management Process



Cheshire East Council
Highways

Appendix D - Technical Guidance on Collection and Interpretation of Speed Data

When analysing traffic speed data, it is important to look at the speeds that occur under free flow conditions, and therefore the 12 hour or 24 hour average mean and 85th percentile speeds may not be appropriate. It may be necessary to exclude peak hour data as congestion may have a significant effect on the results.

The following steps are taken to identify the roads that require a speed survey within a proposed 20mph area:

- The lead engineer visits all the 30mph roads in the proposed areas.
- Following discussions with the Traffic Management Officer and Cheshire Police roads and locations are identified where there is a concern that the vehicle speeds are high.
- Speed surveys are undertaken on these roads.
- Speed surveys are also undertaken in a random 25% sample of the remaining roads in the proposed area. For example, if there were 30 roads in an area and 13 were identified as being of concern an extra 5 roads would be surveyed (25% of the 17 roads where speed wasn't a problem) and a total of 18 surveys would be required.

The use of local knowledge is important when examining the speed data particularly if events have had an effect on the data.

When assessing speed limit, free- flow conditions during a typical weekday will be used as a baseline. Free-flow conditions are when vehicles are unlikely to be accelerating or braking. Measurements should not be taken near isolated sharp bends, gradients and road narrowing's.

A minimum of one week automated data should be collected. The full week data should be reviewed to establish whether there is consistency or large differences in speeds that may affect the use of mean speeds.

Queueing traffic can be identified by a large spread of speeds across all measured speeds – from 5mph up to the mean speed if it occurs at isolated times of day (i.e. at morning or evening peaks). Free flow traffic would have a smaller range.

Cheshire East Council
Highways

Appendix E - Criteria for Safety Camera Core Site Selection and Implementation

Average Speed camera Assessment Sheet

Location

for Cheshire Road Safety Group

Total Score = #DIV/0! **(score of above 350 here is required to consider provision of Average Speed Cameras at this location unless 'Yes' is noted in questions 13, 14,15,16 and 17)**

	Individual Score
1 MAST Collision Density Index (Pure Index identified for the whole route)	

Data

		Length (km)	Actual Collisions			Rate per km			Score per km)		
			Fatal	Serious	Slight	Fatal	Serious	Slight	Fatal	Serious	Slight
2 Recorded rate of injury collision occurrence Per km (Score Fatal x50, Serious x30, Slight x10)	#DIV/0!					#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

3 Does injury collision data support concern of speeding? (No = 0, Yes = 30)	
4 Is there recorded 85th Percentile speeds consistently above ACPO enforcement? (No = 0, Yes = 50)	
5 Are there speed related injury collisions (latest 5yrs)? (No = 0, Yes = 70)	
6 Are there injury collisions that misjudge speed and distance was a key factor (latest 5yrs)? (No = 0, Yes = 20)	

Only input details in the grey boxes

Topographical

7 Is the length of concern greater than 1000m? (No = 0, Yes = 20)	
8 Are there terraced housing or houses close to the highway? (No = 0, Yes = 20)	
9 Are there amenities that local residents need to walk to? (No = 0, Yes = 20)	
10 Are the footpaths narrow (less than 1.5m)? (No = 0, Yes = 20)	
11 Is the road narrow (less than 7m)? (No = 0, Yes = 20)	
12 Is the location in a rural setting? (No = 20, Yes = 0)	
13 Are there sufficient alternative routes to allow rat running or average speed camera bypass to occur on parallel roads? (No = 20, Yes = 0)	**If yes consider not introducing Average Speed as pressure will be moved on to surrounding networn**

Considered Measures

14 Would a static camera deal with the route sufficiently to manage speed? (No = 20, Yes = 0)	
15 Can mobile enforcement take place safely along the route? (No = 20, Yes = 0)	
16 Can traffic calming be used safely? (No = 20, Yes = 0)	**If yes to any in this section this provision to be introduced before resorting to Average Speed Cameras**
17 Can any other engineering measure be practically introduced to manage speed? (No = 20, yes = 0)	

Concern

18 High degree of resident and/or stakeholder concern for vulnerable road user safety? (No = 0, Yes = 20)	
19 Is there a high level of concern of traffic speeds causing social issues (severance)? (No = 0, Yes = 20)	
20 Is there a high concern for property damage through speeding collisions (directly or indirectly)? (No = 0, Yes = 20)	

Appendix F – 20mph Additional Guidance

Cheshire East Council is bound by legislative requirements for 20mph Limits and Zones and as such all 20mph Areas will be laid out in accordance with these requirements.

To promote our active travel principles, we will sign both 20mph Areas (consisting of Limits and Zones) consistently so that all are aware they are within them. This additional guidance is to be applied by those considering 20 mph areas.

Just because a particular area may have one or more of these elements it doesn't automatically mean that its suitable for a 20mph area. The whole situation should be reviewed including the guidance of experienced practitioners as appropriate.

20mph Area General Guidelines

Potential for active travel
Research undertaken by the Transport Research Laboratory for the Department for Transport shows a strong correlation between speed of travel and risk of fatality, RoSPA has summarised this in its *Relationship between Speed and Risk of Fatal Injury: Pedestrians and Car Occupants*[5]*.* Therefore, the implementation of 20mph areas is a mechanism for encouraging safe active travel. In line with LTP4 principles we will support 20mph areas where there is potential for active travel. Evidence has shown that persons are more likely to consider active travel with speed limits are low and as such Cheshire East Council will consider funding areas where there are greater chances of active travel. E.g. residential areas surrounding town centres with a high person movement value in the movement framework.

Pedestrians
Where there is evidence of high pedestrian footfall consideration should be given to a lower speed limit to reduce conflict between pedestrians and motor vehicles. This is particularly relevant where pedestrians are close to the road particularly where a footway is very narrow. For example, in historic areas which were not designed for motor traffic.

Buildings
Where buildings are close to the carriageway it creates an effect of visual narrowness which can slow vehicle speeds. The opposite effect occurs where buildings are set back such as when gardens are provided at the front. This phenomenon is discussed in Manual for Streets. The density of buildings also has an effect as high-density housing can generate higher footfall. This can also be thought about in respect to towns versus rural. But on these occasions the road function should be used as an indicator over whether the road is considered residential or not. There are certain buildings by their nature that require special consideration, and these are described in the paragraphs below.

Schools
Schools by their nature and the vulnerability of their users require traffic to be travelling at slower speeds and as such a specific requirement is contained within the strategy for lower speed limits.

[5] DC Richards (2010) Relationship between Speed and Risk of Fatal Injury: Pedestrians and Car Occupants. Transport Research Laboratory. https://nacto.org/docs/usdg/relationship_between_speed_risk_fatal_injury_pedestrians_and_car_occupants_richards.pdf

Community facilities
The presence of facilities such as community centres, churches or shopping parades. These can be areas which generate higher footfall.

Active Frontage
When buildings and footfall are combined the term active frontage is used. This means that motor traffic can be potentially slowed by interactions with adjacent uses. For example, a parade of shops where vehicles and pedestrians will be calling at could be considered an active frontage.

Environment
The environment or setting of a road can be enough to warrant a 20mph area but to evaluate this the road will need to be examined by any experienced practitioner. For the environment to contribute to slower speeds there is a combination of factors that need to be considered such as width of carriageway, vegetation, available forward visibility and the presence of on street parking.

Motor Vehicle Speed
In Section 7.9 the range of speeds that are required in a 20mph area are set out. The resultant speed is a prime criteria in the consideration of a 20mph area. And while most things are possible in terms of engineering a solution there comes a point where cost outweighs the overall benefit therefore the following is a broad guide to the speeds and the type of 20mph area that will be needed.

If mean speed is 24mph or less than the existing environment is already suitable for a 20mph area and therefore only speed limit signs are required.

If mean speeds are 28 mph or less than the existing environment is likely to be suitable for a 20mph area with traffic calming.

Where 85th percentile speeds exceed 28 mph the existing environment is unlikely to be suitable for a 20mph area.

20mph area additional considerations
The following are additional considerations for 20mph areas but they are not considered criteria as they are factors or symptoms of other problems that could be tackled with different solutions.

Traffic volume
Traffic volume has a significant impact on the speed of traffic if it builds to a point when congestion is created and, in some situations, this can lead to requests for lower speed limits due to the severance issues created by high traffic volumes. Severance is caused by the inability for pedestrians to cross a road for example. Officers receiving requests for lower speed limits should check that traffic volume is not playing a part in local community concerns as lowering the speed limit is unlikely to address those concerns. Providing crossing facilities may be a more appropriate solution depending on the situation experienced.

If traffic volume is the only factor lowering vehicle speeds then outside of times when volume is high then the 20mph area is unlikely to be effective.

Injury Collisions
The presence of injury collisions is not a reason alone to reduce speed limit. Injury collisions within a proposed area should be reviewed as these may indicate where the design of the road needs to be changed.

20mph Areas specific technical criteria

20mph Zones

The beginning and end of a zone must be indicated by terminal signing. The zone can be implemented with features and/or traffic calming measures. Traffic Regulation Order (TRO) required to be legally enforceable.

In Cheshire East we sign 20mph zone and limits consistently. The minimum signing requirement for a 20mph zone is to have repeaters every 200m.

TRSGD 2016 requires features at smaller interval than this. Therefore, if the proposed zone is made largely of traffic calming measures then additional signs will be required at no less than 200m.

If the proposed zone is largely based on signing due to the environment being largely self-enforcing then designers should either reconsider the design approach and make use of a 20mph limit which would ultimately require less signs than a 20mph zone.

20mph Limits

Signed with terminal signing at entry and exits and repeater signs at intervals only. Traffic Regulation Order (TRO) required to be legally enforceable.

Advisory Part Time 20mph Limits Outside Schools

An advisory 20mph limit sign can be mounted with the school warning lights and school ahead warning sign. The advisory limit will be active when the lights are flashing during school operating hours. In general, this will be school drop off and pick up times.

Mean speeds must be 30mph or less before implementation. As the limit is advisory it is not required to be self-enforcing whereas other 20mph limit and zones are.

An advisory limit is not enforceable by the police and does not require a traffic regulation order.

Variable 20mph Limits

Traffic authorities have powers to introduce speed limits that apply only at certain times of the day. These are similar in concept to Smart Motorways where variable speed limits apply and are indicated by variable message signing.

Specific signage would need to be authorised by DfT prior to a scheme being implemented. TRO required to be legally enforceable.

20mph Speed Limit	20mph Zone	
Signed by signs only Terminal Signs S10-2-1 (diag 670) (600mm dia plus) at start/end of limit. Repeater signs S10-2-1 (diag 670) (300mm) dia (every 200m) Repeater signs can be substituted for roundels S10-2-9 (diag 1065) Sign illumination within limits are relaxed (TSRGD 2016) Terminal signs must be lit when with 50m of a Principal Road (A classification Road)	Signed by S10-12-5 (diag 674) on entry and S10-2-6 (diag 675A) on exit. Must have one physical traffic calming measure within the zone. Repeater signs are NOT a physical traffic calming measure. No one part of the zone must be more than 50m from measure as defined by TSRGD 2016. Unless cul de sac 80m or less. Entry signs are not classed as a traffic calming measure so first measure must be at 50m unless entry roundels are used. In practice this allows spacing every 100m. Sign illumination requirements with the zone are relaxed (TSRGD 2016). Road hump lighting requirements are relaxed in 20mph zones at the discretion of CEC Street Lighting. Sign requirements for traffic calming measures, humps, chicanes etc are relaxed and warning signs can be omitted.	National Guidance/Legislation requirements [and interpretations]
In either a limit or a zone the minimum requirement for a repeater signage shall be no less than 200m spacing.	In either a limit or a zone the minimum requirement for a repeater signage shall be no less than 200m spacing.	CEC Policy

Table 3 20mph Areas (Differences between Zones and Limits)

20mph Area Public Consultation requirements

All consultation documents will state that a 20mph limit or zone will generally be self-enforcing with little or no police enforcement. A clear process will be agreed with local Members and stakeholders prior to consultation being undertaken setting out the response rate required and the level of mandated support that needs to be demonstrated for a scheme to progress. This would be clearly set out in any consultation material in order to ensure that people are fully informed and that schemes are appropriate and supported locally.

20mph Area monitoring - before and after studies

A before and after study may be completed within one year of the limit or zone being implemented. This will include comparison of vehicle mean speeds. If maximum mean speed “After” limits do not meet the criteria set out in the Speed Limit Framework, a review of the scheme will be required.