



Speed management: a need for greater consistency

The recommendations in this brief are those of PACTS and CIHT and do not necessarily align with the exact policy positions of the other participants who provided input in this work.

Key messages

- The Government needs to demonstrate leadership in road safety and should produce clearer evidence-based guidance in line with the safe system guidance on what 'right speed limits in the right places' means in terms of speed limit setting for local authorities that is informed by evidence
- Speed limits should be set locally to reflect:
 - the type of infrastructure, mixed modes of transport used on roads, and traffic volumes;
 - the function of a road to align the efficient movement of goods and people with the benefits and quality of places;
 - the ability of drivers to intuitively adapt their driving according to varying weather and traffic volumes and respect the limits set.
- Speed limits should be consistent to help build credibility, meaning they should allow drivers to intuitively understand and promote compliance of them. This may have to be supported by infrastructure changes and education.
- A national speed management strategy would help everyone with a role to play and ensure local authorities collaborate to ensure consistent speed limits across geographical areas. A review of the current national speed limits in line with safe systems is required, taking account of the Stockholm Declaration on road safety.
- All public sector bodies should be required to have intelligent speed assistance included in any new vehicles they purchase and a programme to retrofit the existing fleet. Then have a programme to make this a requirement of all their contractors where possible.
- The government via DfT should set up and lead a Task and Finish group on the provision of speed related data for all the local roads so local authorities have easy access to data. This will help them prioritise schemes to ensure the right speed limits are in the right places.
- To improve the current situation and in readiness for Autonomous Vehicles the government should set up and lead a Task and Finish group on the provision of a portal where members of the public can:
 - report incorrect speed limits shown by their vehicle satellite navigation systems, so that they can be amended;
 - report areas where signage relating to speed is either not detected or incorrectly detected, so that it can be passed to the relevant local authority to review.
- To support drivers the [government should introduce General Safety Regulations \(GSR\)](#) for new vehicles as this includes technology that will help drivers know what the speed limit is and help them comply. There are also technologies that will help prevent and mitigate the impact of a collision making it safer for all road users.
- The government should introduce a mandatory online test to accompany driving licence renewal so that drivers are kept up to date with changes to the Highway Code.
- The government should set road safety targets and ensure local authorities have the funds to ensure that best practice is shared and implemented nationally and locally.
- Government should update its transport appraisal guidance to include the safety, social and other benefits of appropriate speeds and give safety a higher weighting than it currently does.

1. Introduction

The Safe System is the most effective way of considering and responding to fatal and serious casualty crash risks on a network and speed management is key to the delivery of this.

Speed management is internationally defined as a set of measures that limit the negative effects of inappropriate or excessive speeds in the transport system¹. It includes techniques such as speed limit setting, road design, drivers' education and police enforcement.

Inappropriate speed is recognised as one of the fatal four causes of death and serious injuries in crashes².

According to DfT's 2022 vehicle speed compliance statistics, 50% of car drivers exceeded the speed limit on 30mph roads, 45% on motorways and 11% on national speed limit single carriageway roads. Moreover, 51% of commercial vehicles do not comply with speed limits on 30 mph roads and 48% on motorways.³

Moreover, two-thirds of all collisions in which people are killed or seriously injured happen on roads with speed limits that are 30mph or below.

There is currently no UK guidance on how to ensure speed limit compliance and how speed management is delivered at the local or national level and this lack of leadership has seen a stagnation in the the Department for Transport (DfT) compliance figures.

In November 2023 the Chartered Institution of Highways and Transportation (CIHT) and the Parliamentary Advisory Council for Transport Safety (PACTS) held a roundtable with experts on road safety from across the UK to discuss:

- the main issues related to speed management
- how speed limits should be set considering the safe, functional, and intuitive speed of a road
- what speed management strategies should be consistent with a Safe System.

The discussion has informed this briefing, leading to some recommendations for central government, local authorities, and other transport professionals. The recommendations in this paper are those of CIHT and PACTS and not necessarily align with the exact policy positions of the other participants in the workshop.

1.1 Setting the scene: responsibilities and legislation

National speed limits set the maximum allowance for driving on public roads, depending on vehicle and road type. The current existing guidance on speed limits setting (DfT circular 01/2013⁴) provides a general framework for highways authorities to follow and review when setting local speed limits, where national ones are not appropriate. Internationally, the Stockholm Declaration, agreed by some 1,700 delegates from around 140 countries, reflects the intrinsic value of managing speed and should be considered when setting limits as the UK Government signed up to this. This specifically calls for a 20mph or 30km/h default limit where roads are shared with vulnerable road users:

¹ [Speed Management | RNO/ITS - PIARC \(World Road Association\)](#)

² Fatal 4 causes of death on roads: speeding, driving under the influence, using phones and not wearing a seatbelt. [Roads policing | Brake](#)

³ [Vehicle speed compliance statistics for Great Britain: 2022 - GOV.UK \(www.gov.uk\)](#) Note – this is based on free flow speeds, we would expect the level of speeding across the whole road network to be lower.

⁴ [Setting local speed limits - GOV.UK \(www.gov.uk\)](#)

"Focus on speed management, including the strengthening of law enforcement to prevent speeding and mandate a maximum road travel speed of 30 km/h in areas where vulnerable road users and vehicles mix in a frequent and planned manner, except where strong evidence exists that higher speeds are safe, noting that efforts to reduce speed in general will have a beneficial impact on air quality and climate change as well as being vital to reduce road traffic deaths and injuries; "

In October 2023, DfT published their "Plan for drivers"⁵, recommending local authorities to implement the "right speed limits in the right places" and announcing an update on the 20mph zone guidance for England. However, there is no clear definition or guidance for local authorities on how to identify appropriate speeds; resulting in local authorities developing their own speed management strategies, leading to inconsistencies on how speed limits are defined, set, and enforced locally. The lack of a national strategy and review will also have a significant financial cost as new speed limits are reviewed, revised; and may have to change again when and if any national guidance is produced.

This policy briefing aims to open the dialog on what "right speed limits in right places" means and to support local authorities with guidance for their implementation.

1.2 The key issues with speed management

The current issues with speed management relate to the lack of guidance for their development, implementation, and enforcement. Table 1 below provides a summary.

Table 1: Current issues with speed management

Guidance	Implementation	Enforcement
Lack of clear guidance for Local Authorities from central government	Lack of a national strategy	Lack of coordination with police forces
Lack of collaboration between Local Authorities	Lack of sufficient budget for Local Authorities	Need for better education and additional behavioural change measures
Lack of evidence- based decision making on speed limits setting	Lack of consistent speed limits across different areas	
	Skills/knowledge gaps	
	Local Authorities have different technological maturities	

A wider issue relates to the way speed is currently valued in the highways sector, with time saving reductions often being key to scheme appraisal. As such, the industry primarily bases its justification for speed limits on economic advantages, not safety, as speed is primarily associated with reduced travel times.

Moreover, the current DfT's Transport Analysis Guidance bases the evaluation of safety on the costs to society (human costs, loss of output due to injury and ambulance cost) of

⁵ [The plan for drivers \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

incidents and casualties⁶. The guidance currently lacks consideration of changes in speed limits to reduce the number of incidents and injuries. Including this could support other government and local agendas such as reducing carbon emission, air quality and encouraging active travel.

The UK Government should update its transport appraisal guidance to include the safety benefits of lower speeds and give safety a higher weighting than it currently does.

The lack of clear national leadership in defining appropriate speed limits has been identified by the CIHT roundtable attendees as the main cause of guidance, implementation and enforcement issues.

2. Speed limit setting

Due to the lack of consistent speed limits across different areas and clear signage of speed limit changes, drivers face many difficulties in intuitively reading the road environment and understanding what the local limits are. This is especially prevalent in areas where the jurisdiction changes between local authorities.

There are currently two main needs that should be addressed:

- Evidence-led decision making for defining and setting speed limits
- Setting speed limits with purpose

Consistency would be improved ensuring delivery of the Stockholm Declaration on Speed management at the national and local level.

2.1 Evidence-led decision making

Speed limits, both at national and local level, should be set through a data-led approach that acknowledges the vulnerability of humans, the function of a road, and the ability of drivers to adopt a safe speed dependant on the specific road's condition⁷. The government should ensure that local authorities have free and easy access to speed related data for all the local roads on which they have authority on. This will allow speed limits to be set with a consideration of the actual speeds made on roads. Below is some key evidence that should inform decision making.

2.1.1 Speed and fatality risk

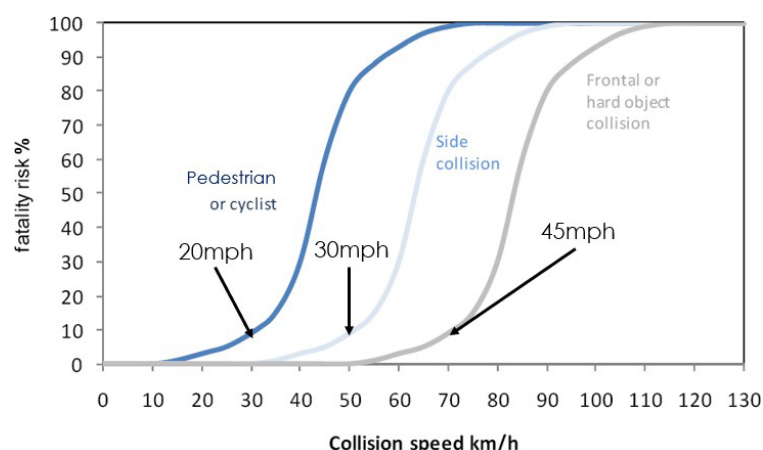
It is universally recognised that the number of incidents resulting in death or serious injuries decreases as speed decreases. Wramborg (2005)⁸ specifically highlights the threshold speed after which the risk of being fatally injured increases sharply. Figure 1 below shows us the relationship between fatality risk and collision speed for three crash types.

⁶ [TAG Unit A4.1 - Social-impact-appraisal Nov 2022 Accessible v1.0 \(publishing.service.gov.uk\)](#)

⁷ With specific condition we intend different road design, infrastructure's wear, traffic, road users present and weather. All impacting permanently or temporarily the correct speed that drivers should adopt at a given time.

⁸ Wramborg, 2005, A new approach to a safe and sustainable road structure and street design for urban areas

Figure 1: Risk of fatality as a function of speed



2.1.2 Speed and the type of infrastructure and traffic

Speed limits should take into account:

- the standard and condition of roads and streets;
- the function that they perform;
- the traffic volumes; and
- the environment.

According to the Movement and Place approach⁹, roads serve a dual function as corridors to move people and goods and public places where life unfolds, with different modes being used in different locations. Table 2 below is extracted from research¹⁰ which shows possible maximum travel speeds depending on the layout of roads and the traffic mix:

Table 2: Possible long term maximum travel speeds related to the infrastructure, given best practice in vehicle design and 100% restraint use.

Type of infrastructure and traffic	Possible travel speed	
	Kmh	Mph
Locations with possible conflicts between pedestrians and cars	30	18.6
Intersections with possible side impacts between cars	50	31
Roads with no possible frontal impacts between cars	70	43.5
Roads with no possibility of a side impact or frontal impact (only impact with the infrastructure)	100+	62+

More appropriate safer speeds should be considered for roads that provide amenity and value to communities and have low vehicle movement, like suburban neighbourhoods or urban streets where shops and businesses are located. Speed limits should be higher on

⁹ Speed management through the Movement and Place approach | National Road Safety Strategy

¹⁰ Adapted from Tingvall and Haworth, 1999, Vision Zero - An ethical approach to safety and mobility

roads that serve as transport corridors for the reliable movement of goods and people between regions, strategic centres and national strategic highways.

2.1.3 Speed and driver's behaviour

According to DfT's 2022 statistics on vehicle speed compliance, 42% of people surveyed drive following other drivers' speed, causing them to exceed speed limits without realising it. Behavioural science teaches us that we adapt our individual behaviour to the normative behaviours of the people surrounding us, so more drivers respecting speed limits will lead to other drivers following the same behaviour. This insight into a type of herd behaviour could be used to the advantage of wider improvements in road safety. For example, all public sector bodies should be required to have intelligent speed assistance included in all new vehicles they purchase and should make this a requirement of all their contractors where possible.

Based on what we know from the DfT statistics on compliance with speed limits it's evident that some drivers don't currently find current speed limits credible, especially the ones below 30mph and so work is needed to change this mind set. However, according to research¹¹ the figure for compliance is generally encouraging. Vehicle speeds within the enforcement threshold (24mph) for 20mph, was 70% in residential areas and 86% in city centres. It is very important that non-compliance (i.e. being as little as 1mph above the limit) is not over-valued as a measure of speed limit acceptance.

Speed limits should be consistent to help build credibility, meaning they should allow drivers to intuitively understand and promote compliance of them. Consistency within speed limit setting will help train people to drive at the right speed for that road for all road users; this may have to be supported by infrastructure changes and education. This would include establishing the drivers expectation that, where vulnerable road users and vehicles frequently mix, the maximum speed is 20mph.

The inconsistencies in speed limits across areas have created a confusing system for drivers to interpret, especially when they are driving on unfamiliar roads. The lack of consistency affects how drivers react to their environment as, in the absence of any other information, drivers will drive at a speed which "feels right". Consistency within speed limit setting will help train people to drive at the right speed for that road for all road users.

Speed limit setting and enforcement, however, are not the only tools that can influence drivers' behaviour. Infrastructure design should be considered to nudge drivers to lower their speed.

A key principle that should be followed in road design is the "self-explaining road", which means building an environment that encourages safe behaviour simply by its design. This principle uses simplicity and consistency so road users can easily comprehend the type of road and what is expected by their driving, reducing driver stress and errors. Examples of good design that allows intentional behavioural change include traffic calming treatments, such as narrowed driving lanes, and the use of different road colour and/or texture to indicate a change in the driving environment.

Technology also plays an important role in helping drivers correctly identify the speed limits of an area, especially the use of satellite navigation. To this point, the roundtable discussion

¹¹ <https://assets.publishing.service.gov.uk/media/5bf2bab940f0b6078acc6f4d/20mph-headline-report.pdf>

has highlighted the need for keeping navigation tools up to date with the latest speed limits to support drivers where signage is lacking. This is also important for vehicles which are fitted with intelligent speed assistance or speed limiters.

The government via DfT should set up and lead a Task and Finish group on the provision of speed related data for all the local roads so local authorities have easy access to data. To support this the government should set up a portal where members of the public can:

- report incorrect speeds shown by their satellite navigation systems, so that they can be amended
- report areas where signage relating to speed is insufficient, so that it can be passed to the relevant local authority to review.

To support drivers highways authorities should introduce GSR as this includes technology that will help drivers know what the speed limit is and help them comply. This would incorporate Intelligent Speed assistance which would make a significant increase in speed limit compliance¹². There is also technology that will help prevent and mitigate the impact of a collision making it safer for all road users.

The need to keep drivers' knowledge updated has also been identified, especially for those drivers that have had their licence for more than 10 years to refresh rules and correct driving behaviour. The government should introduce a mandatory online test to accompany driving licence renewal so that drivers are kept up to date with changes to the Highway Code.

2.2 Setting speed limits with purpose

Speed limits should also be set to reflect the wider values in society that underpin decision making, such as ensuring all road users can benefit from a safe road environment, supporting economic activity and decarbonising the transport network.

The UK national speed limit is 60 mph on single carriageway roads. However, this is not a safe speed for the current design of single carriageway roads. In many places, due to the nature of the road, average speeds are much lower and drivers are not provided with an indication of what a safe speed might be. This means that these are the highest risk roads, and this would not be tolerated on other transport systems.

In time, we could set speed limits on the basis of how fast an automated vehicle would travel along a section of road assuming a suitably low level of risk had been programmed in but until that time highway authorities need to set speed limits which reflect:

- type of infrastructure, mix modes of transport used on roads, and traffic volumes
- the function of a road to align the efficient movement of goods and people with the benefits and quality of places
- the ability of drivers to intuitively adapt their driving according to varying weather and traffic volumes and respect the limits set.
- The level of risk and harm that is currently accepted by the government for all main forms of transport.

3. Safe speed in a safe system

¹² See <https://www.pacts.org.uk/still-unvaccinated-gsr-one-year-on/>

To successfully set, deliver and enforce speed limits, speed management should be considered within a Safe System to road safety. The Safe System aims at achieving Vision Zero, a reduction towards zero fatalities and serious injuries, that systematically tackles speed, road design, vehicles technology, road users' behaviour and post-crash response¹³.

Adopting a Safe System would ensure an appropriate speed and support compliance with speed limits from the outset.

The Safe System is underpinned by three key principles:

- i. humans have limitations and make mistakes, accounting for the majority of crashes causes;
- ii. humans are vulnerable to death and serious injuries if involved in a crash;
- iii. responsibilities must be shared among all parts of the system.

The roundtable discussion has, however, identified a lack of knowledge and understanding of the elements of the Safe System as the main barrier to its delivery across the country. Particularly, local authorities, currently responsible for setting local speed limits, lack the funds and human resources to focus their attention on innovative practices. Within a Safe Systems context the current national speed limit on single carriageways was not considered to be at a safe speed and reduced limits should be considered on proportions of the network. The government should set road safety targets and establish a ring-fenced fund for local authorities to spend on road safety staff and a network of road safety officers to ensure that best practice is shared and implemented.

Government leadership is needed to set out the strategy to take us from approximately 1,700 road deaths a year to approaching zero by a defined timeframe.

¹³ [Vision Zero for London - Transport for London \(tfl.gov.uk\)](https://www.tfl.gov.uk)

Speed management strategies to be delivered within a Safe System should consider:

- **Evidence and data related to speed and fatality risk, and type of infrastructure, traffic and function (both current and planned) of a road**
- **Speed limit setting that is safe, functional and intuitive**
- **Road design and specific road treatments to support compliance of speed limits**
- **Behavioural change measures and educational campaigns to influence drivers' behaviours to actively choose a lower speed when appropriate, regardless of the limits**
- **Consistency of speed limits across different areas**
- **Community and public involvement when setting or changing speed limits to build consensus and explain why the new limits are set and what the benefits are**
- **Correct enforcement of speed limits through monitoring and detecting, supported by educating on the dangers of speeding and strengthening community support for speed enforcement.**
- **Alignment of objectives of those involved in delivering them**
- **Key stakeholders such as companies taking corporate responsibility for reducing the harm they cause on the roads.**

4. Recommendations

To deliver a nationally consistent approach to speed management and support local authorities in developing their own strategies for speed management, multiple actors need to be involved.

Recommendations to deliver speed management policies for greater consistency

Central Government should:

- **Demonstrate leadership in road safety in line with the safe systems by producing clear evidence based guidance**
- **Support targeted infrastructure safety investments, especially for local authorities**
- **Develop a national speed management strategy based on safe system speed limits in line with Stockholm Declaration to help local authorities and others collaborate to ensure consistent speed limits across geographical areas.**
- **Produce clearer evidence-based guidance in line with the safe system guidance on what “right speed limits in the right places” means in terms of speed limit setting for local authorities that is informed by evidence**
- **Set road safety targets and establish a ring-fenced fund for local authorities to spend on road safety staff and a network of road safety officers to ensure that best practice is shared and implemented.**
- **Ensure that local authorities have easy access to speed related data for all the local roads on which they have authority on. This will help them prioritise schemes to ensure the right speed limits are in the right places.**
- **Set up a portal where members of the public can:**
 - **report incorrect speeds shown by their satellite navigation systems, so that they can be amended**
 - **report areas where signage relating to speed is insufficient, so that it can be passed to the relevant local authority to review.**
- **Adoption of GSR for all new vehicles.**
- **Update its transport appraisal guidance to include the safety benefits of lower speeds and give safety a higher weighting than it currently does.**
- **Ensure drivers are kept up to date with changes to the Highway Code.**

Local Authorities should:

- Collaborate to ensure consistent speed limits across geographical areas
- Ensure adequate guidance of the speed limit is provided to drivers and the signs are maintained
- Involve local communities when setting or changing speed limits and be transparent in their decision making process
- Develop speed management strategies considering the interplay of the different elements of the Safe System
- Ensure speed limits are consistent, to help build credibility, meaning they should allow drivers to intuitively understand and promote compliance of them. This may have to be supported by infrastructure changes and education.
- Have intelligent speed assistance included in any new vehicles they purchase and should make this a requirement of all their contractors where possible

CIHT & PACTS should:

- Promote education and develop knowledge of the Safe System
- Support local authorities take informed decision about speed limits, by sharing research and evidence on speed limit setting
- Engage with DfT officials to support the development of new guidance and to ensure the delivery of “the right speed in the right places” so we have a safe and efficient road network fit for the future.

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