

10. Consultation questions

1. Infrastructure and traffic signs

Do you have any suggestions on the way in which the current approach to development and maintenance of road signs and infrastructure impacts the safety of cyclists and other vulnerable road users? How could it be improved?

Infrastructure has a crucial role to play in delivering a safe environment in which all road users are free to travel without fear. This is particularly the case for vulnerable road users, such as cyclists and pedestrians, who are at a much greater risk of injury and death, due to their lack of protection in the event of a crash.

Vehicle traffic has increased exponentially in the UK - up 17.2% in the past twenty years to more than 325 billion miles annually¹. Our roads infrastructure was not built for such capacity, particularly in urban areas where space is limited, and the inevitable reduction in space has led to a squeeze on vulnerable road users - cyclist and pedestrian safety is directly related to their proximity to motorised traffic, therefore the increase in traffic has also led to an increase in their vulnerability.

The role that infrastructure plays in both perceived and actual safety has been borne out by recent research: over half (64%) of UK respondents to the British Social Attitudes Survey agreed that it was 'too dangerous...to cycle on the road' due to driver behaviour and the quality of the road environment²; a survey by Brake indicated that as many as one in three non-cyclists would be persuaded to cycle if there were safe local cycling routes³; and a further report by Brake found that segregated cycle routes should be at the front of the Government's road investment priorities for the Strategic Road Network⁴. Furthermore, evidence from countries across Europe has demonstrated that a strategic approach to encouraging cycling does make a difference to both take-up and safety: the Netherlands, Denmark and Germany have far higher rates of cycling compared to the UK, across all sectors of society⁵, and evidence illustrates that countries with the lowest levels of cycle use have the poorest cyclist safety records⁶.

Brake advocates a safe systems approach to road safety management and this encompasses the development of infrastructure. Safe systems are designed with the human being at their centre, taking human fallibility and vulnerability into account, and accepting that even the most conscientious person will make a mistake at some point. The goal of this approach is to ensure that these mistakes do not lead to a crash; or, if a crash does occur, it is sufficiently controlled to not cause a death or a life-changing injury.

Under a safe systems approach, therefore, one of the key infrastructure interventions is the segregation of vulnerable road users - the safest routes being those in which cyclists are physically separated from motor traffic. A Canadian study has found that cyclists on these routes have one ninth the risk of injury compared to a busy road with parked cars⁷. Brake strongly advocates increased UK investment in segregated cycling facilities. Such an approach has the

¹Provisional road traffic estimates 2016-17, DfT

² British social attitudes survey 2014: public attitudes towards transport , Department for Transport, 2015

³ Report on Safe Driving: A Risky Business, Brake and Direct Line, 2011

⁴ Brake and Direct Line report "Our Strategic Road Network - PT. 1: Safe roads between places"

⁵ Making Cycling Irresistible: Lessons from The Netherlands, Denmark and Germany, Rutgers University, 2008

⁶ https://ecf.com/sites/ecf.com/files/ECF_FACTSHEET4_V3_cterree_SafetyNumb.pdf

⁷ Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study, University of British Columbia, 2012

dual benefit of increasing cycling safety and increasing cycling take-up. Enabling this virtuous circle is fundamental to improving the UK's cycling culture and road safety.

Other infrastructure interventions, such as on-road cycle lanes where there is no physical separation between cyclists and fast-moving traffic, can be of limited benefit, especially if used in isolation without other steps to reduce risks and hazards for cyclists, such as junction improvements (see paragraph below). Such on-road measures are often considered a quick and cheap option, yet in fact need to be designed as carefully as any piece of infrastructure. Transitioning from a cycle path and entering traffic can be dangerous, and any design must take this into account. However, the impact of a well-designed cycle route can be dramatic and benefit all road users: building a cycling route along Prospect Park West in New York City reduced crashes resulting in injury by 68%, plus far fewer cyclists rode on the pavement inconveniencing pedestrians, and travel times for drivers did not increase⁸. If properly designed, shared-use paths - those shared between pedestrians and cyclists and wide enough for both to use comfortably - can also be a safe option.⁹

As aforementioned, junctions pose a particular danger to cyclists, accounting for almost three-quarters of cyclist collisions¹⁰ and therefore any cycling infrastructure must be designed with junctions particularly in mind. Care and attention must be given by councils and traffic authorities for developing infrastructure that is properly designed and effective in preventing casualties. A potential solution is the amendment of junction priority to prioritise cyclists and pedestrians. Such an approach is advocated strongly by cycling and walking stakeholders and we recommend that the Government investigates the potential benefits further.

Brake would also like to draw attention to the recently announced Third Mobility Package from the European Commission which includes a proposal for legislation on infrastructure safety management¹¹. The proposed directive aims to better protect vulnerable road users like cyclists and motorcyclists and will introduce a new proactive approach to safety assessment and extend safety management principles to all primary roads. This is expected to save 3,200 lives and avoid an additional 20,700 serious injuries over 2020-2030. Brake urges the UK to support this proposal through the EU legislative process and to adopt such measures into UK law.

It is important to note that the development of dedicated cycling and walking infrastructure would not only protect vulnerable road users but also encourage the uptake of active travel, particularly for shorter journeys. This, in turn, supports public health policies aimed at reducing obesity. By providing individuals with the opportunity to cycle and walk, the government is also providing a means to obtain the recommended levels of daily exercise, and reducing the stress associated with a drawn-out car journey.

2. The laws and rules of the road

Set out any areas where you consider the laws or rules relating to road safety and their enforcement, with particular reference to cyclists and pedestrians, could be used to

⁸ [Prospect Park West Bicycle Path and Traffic Calming](#), New York City

⁹ [Guidance on shared-use paths](#), Gov.uk

¹⁰ [Reported road casualties Great Britain: annual report 2016](#), Department for Transport, 2017, table RAS20006

¹¹ [Third Mobility Package](#), European Commission

support the government's aim of improving cycling and walking safety whilst promoting more active travel.

The rules of the road, and the related law, are of fundamental importance to the safety of all road users. As a key deterrent to active travel is safety, these rules also have a significant impact on the take-up of cycling and walking; by improving road safety, you also encourage active travel options.

There are several areas where the laws and rules relating to road safety and their enforcement could be used and improved to support the Government's aim and promote road safety in general. These include: Speed, Driver Impairment, Enforcement and Sentencing – detailed in turn below.

Speed

From evidence mentioned in our response to question 1, it is clear that safety, or perception of safety, is the main deterrent to more people cycling and walking and speed is one of the primary determining factors in road safety. Changes to the existing law on speed limits could therefore be made to support the Government's aim of improving cycling and walking safety whilst promoting more active travel. The current default speed limits in urban areas and on rural roads are set too high to create a safe road environment and should be lowered to support the aim of improving cycling and walking safety.

In urban areas, the UK national default limit is 30mph, however, the World Health Organisation has emphasised the need for 20mph limits in areas where motorised traffic mixes with pedestrians, cyclists, and moped riders, due to the vulnerability of these road users¹². Brake therefore strongly advocates a reduction in the default limit in built up areas from 30mph to 20mph. This reduction in the default would also eliminate the key barrier to Council's introducing their own 20mph limits – the costs associated to the required signage where speed limits diverge from the national default.

Active travel, most obviously walking and cycling within and between communities, provides a key opportunity for physical exercise. Unfortunately, many people, especially those with children, are put off walking and cycling due to traffic speeds - a Brake survey¹³ found that 59% of UK parents had witnessed drivers speeding close to their child's school or nursery. However, research indicates that people are increasingly understanding of the value of 20mph limits - in a recent Department for Transport survey¹⁴, 69% were in favour of 20mph in residential areas and 50% in favour of enforcing this limit and slowing traffic through the installation of speed bumps on key local routes.

The situation on rural roads in the UK is similar – we have a national default limit which is set to high and which deters vulnerable road user activity. The national default limit on single carriageways, outside of "built-up areas", is 60mph for cars, yet due to the design and condition of many of these roads, 60mph (or anywhere near it) is rarely a safe speed to travel, particular with regards vulnerable road users who share the same space. More than half (51%) of fatal crashes in Britain occur on country roads and per mile travelled, country roads are the most

¹² http://www.who.int/violence_injury_prevention/road_safety_status/2015/en/

¹³ <http://www.brake.org.uk/news/841-bereaved-family-back-beep-beep-initiative-for-safer-roads-for-kids-as-survey-reveals-parents-fears-from-fast-traffic>

¹⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/640297/british-social-attitudes-survey-2016.pdf

dangerous roads for all kinds of road users¹⁵. Furthermore, the cause of crashes on such roads are often speed-related (for example in head-on, overtaking collisions, or when vehicles run off the road). Brake, therefore, urges a reduction in the national default speed limit on rural roads to create a safer road environment for cyclists and other vulnerable road users.

A recent Brake survey has backed up such calls, with more than 60% of respondents stating that 60mph speed limits are too fast to assure the safety of cyclists on single-carriageway A roads. Additionally, whilst 70% of drivers state that they currently never cycle on single-carriageway A roads, more than half state that they would be persuaded to if there was a demarcated space for cyclists¹⁶.

Brake urges the reduction of the national default limit on both urban and rural roads. Such a move would improve both real and perceived safety, supporting the Government's ambitions for active travel.

Driver Impairment

Driver impairment through drink, drugs and poor vision is a significant cause of crashes on UK roads, and therefore directly impacts vulnerable road users, such as cyclists or pedestrians - 7% of all cyclist "accidents"¹⁷ in 2016 were related to impairment or distraction¹⁸

It is vital that the law surrounding each of these issues is effective in acting as a deterrent to dangerous driving and simultaneously in ensuring the safety of all road users, thus encouraging the uptake of more active travel.

Drink driving

Drink driving is still a huge problem on our roads and impacts the safety of all road users. In 2015, 1370 people were killed or seriously injured in crashes involving a drink driver, which is the highest since 2012. Of those crashes, 90 of them involved a pedestrian being killed or seriously injured.¹⁹ Yet these deaths and injuries are preventable.

The legal blood-alcohol concentration (BAC) limit for driving in England and Wales is 80 milligrams of alcohol per 100 millilitres of blood (80mg/100ml). In many countries, the BAC limit is much lower. In most of Europe, including Scotland, it is 50mg/100ml. In some countries, such as Sweden, the legal limit is 20mg/100ml for all drivers – effectively zero tolerance.

There is no failsafe way to tell how much alcohol will put someone over the limit, or to convert the BAC limit into how many units one can have: the concentration of alcohol in blood depends on various factors.

Alcohol is a depressant and what is clear is that even very small amounts of alcohol affect your driving including your reaction times, judgement and co-ordination. Alcohol also makes users drowsy and affects vision and how speed and distance are judged. Drivers with BAC of

¹⁵ [Reported Road Casualties Great Britain 2016](#), Department for Transport, 2017, table RAS30006

¹⁶ http://www.brake.org.uk/assets/docs/dl_reports/DLreport_Safe-Roads-Between-Places_Our-Strategic-Road-Network_Part-1_March2018.pdf

¹⁷ Brake does not use the term "accidents", however this is the term used by the DfT..

¹⁸ RAS50005 <https://www.gov.uk/government/statistical-data-sets/ras50-contributory-factors>

¹⁹ [Reported road casualties in Great Britain: accidents involving illegal alcohol levels: 2015](#), DfT stats 2017.

10mg/100ml, far below the UK or European drink drive limits, are 46% more likely to be at fault in collisions than sober drivers²⁰, and when they crash, do more damage than sober drivers.²¹

Brake is therefore calling for an effective zero tolerance limit for England and Wales of 20mg alcohol per 100ml of blood, in line with the evidence discussed above that even one small drink affects driving. This change in the law would send a message to drivers that drinking any alcohol and driving is dangerous and thus help to protect all road users, including cyclists and pedestrians, from the menace of drink driving.

Drug driving

Drug driving is an increasingly widespread danger to the safety of road users in the UK. In the year following the introduction of a new law in March 2015, allowing police to test and arrest in England and Wales for certain illegal and legal drugs, there was an 800% increase in arrests despite limitations in testing equipment and levels of policing.²² In 2016 there were 92 fatal crashes and 453 crashes that caused serious injury, where the driver was under the influence of drugs.²³

However, despite the legislation that the Government put in place in 2015, the police have remained limited in their ability to detect drug-driving at the roadside. This is due to the absence of Home Office type-approved roadside drug-screening devices. The type approval procedure aims to ensure devices meet government standards.²⁴ Currently, there are only two devices that have type-approval, granted in 2015, and they are only capable of screening for cannabis (THC) and cocaine.²⁵

Experts have argued that the most important priority is for a drug testing device to be approved that identifies drivers using ecstasy (MDMA). Dr Rob Tunbridge, co-author of the 2001 TRL report showing prevalence of illegal drugs in dead drivers, says: "As a first step, roadside screening devices need approval for testing of MDMA. Along with cannabis and cocaine, all social survey and epidemiological evidence suggests that these three drugs represent the major problem for drug driving in GB."

The law could therefore be used to improve the safety of road users including the most vulnerable, by introducing type-approved roadside screening devices for all banned drugs, with priority given to a device that screens for MDMA (ecstasy) as a matter of urgency.

Driver vision

Good eyesight is a basic requirement for safe driving. Poor vision increases the risk of collisions due to a driver's inability to recognise and react in time to a hazard or the behaviour of other road users, and is a danger to vulnerable road users, such as pedestrians and cyclists. Regrettably, there have been numerous incidents over the years where drivers with defective eyesight have caused the death of people walking across the road or on pavements.

²⁰ [Official blame for drivers with very low blood alcohol content](#), British Medical Journal, 2014

²¹ [The relationship between serious injury and blood alcohol concentration](#), University of California San Diego, 2011

²² [www.gov.uk, Drug drive arrests on the rise](#), February 2016

²³ [Table RAS5007, Contributory factors for reported road accidents](#), DfT stats 2017.

²⁴ [Preliminary Drug Testing Devices A Guide to Type Approval Procedures for Preliminary Drug Testing Devices Used for Transport Law Enforcement in Great Britain](#), Home Office, 2012

²⁵ [Approved drug-testing devices](#), Home Office, 2015

Poor vision is believed to be massively underreported in government crash causation data due to the difficulty in determining if eyesight was to blame. Some casualties are likely to occur because drivers are unaware they have a vision problem and have neither corrected it nor reported it to the Driver and Vehicle Licensing Agency (DVLA). Untreated eye conditions can occur gradually over time. In extreme cases, someone can lose up to 40% of their vision without being aware they have a problem.²⁶

In the UK, the law requires drivers to be able to read a modern car number plate from 20 metres away [8]. Drivers must inform the DVLA if their vision (with glasses or contact lenses if needed) is below 6/12 (0.5) on the Snellen scale, or their visual field is less than 1200, or they suffer from certain medical conditions.²⁷

Determining eyesight through the 'number plate' test is one aspect of the practical driving test and may be conducted by the police at the roadside if they suspect an eyesight problem. This test is not required at any other time than these, so following the driving test, a driver may never be required to show any authority any evidence that their eyesight is acceptable for driving. Drivers older than 70 must declare that their eyesight meets minimum standards when renewing their licence, but do not need to provide any evidence to the DVLA to prove this is so.

Driver eyesight testing is also not automatically carried out by police at the scene of a fatal or serious crash. Furthermore, it is not possible to test driver eyesight if a driver is dead or being treated for serious injuries, making it difficult to determine whether poor vision is a contributory factor in many cases. Even if the number plate test is carried out, its capability for assessing driver vision is limited. It only tests an individual's vision over distance (visual acuity) and is not even a fully accurate and reliable evidence of that. The driving test does not assess visual field or sensitivity to contrast or glare, which can also have a significant impact on driver performance.²⁸

Brake is therefore calling for the law on driver vision to be strengthened, to require drivers to prove to the DVLA they have had a recent, professional vision test when they take their driving test and be required to have regular tests during their driving life thereafter. This would work to ensure the safety of all road users by ensuring that those using the roads are fully fit to do so.

Enforcement

Enforcement is vital to creating a safe environment for all road users. Traffic enforcement tackles many causes of road casualties relating to the behaviour of people and the safety of their vehicles. It includes specialist enforcement requiring expert staff and equipment, particularly checking lorries and coaches regarding their standards of maintenance and checking hours their drivers have worked. It also includes electronic and other advanced enforcement, notably through cameras, drug testing kits, etc.

The TRL study for Highways England found that bad driving behaviour and speeding contributes significantly to fatal crashes. Enforcement through highways patrols and cameras can tackle this, alongside tackling the other "big" offences by drivers, including alcohol and drug use, use of mobile phones, and lack of seat belt wearing.

²⁶ [Assessment of fitness to drive: a guide for medical professionals](#), DVLA, 2016

²⁷ [Driving eyesight rules](#), DVLA, 2016

²⁸ [Fit to Drive](#), PACTS, 2016

There must therefore be increased investment in roads policing by the Government to provide the police with the resources they need to get more traffic officers on the roads to act as a true deterrent to dangerous driving and protect all road users.

Sentencing

Effective sentencing is important in ensuring the safety of all road users as strict sentences both act as a deterrent to dangerous driving behaviour and get dangerous drivers off the road.

Drivers who kill, harm and endanger are often let off with grossly inadequate penalties, in some cases for inappropriately-termed charges. In cases of death and serious injury on our roads, this often causes terrible insult and upset to bereaved and injured victims, leaving many feeling betrayed by our justice system. What's more, low penalties for driving offences at all levels sends a message that these are minor infringements, rather than serious crimes that result in needless suffering and loss of life.

When a driver causes a death, they might be prosecuted with 'causing death by dangerous driving' or 'causing death by careless driving'. When a driver causes a serious injury, they might be prosecuted with 'causing serious injury by dangerous driving' (a charge introduced in 2012) or simply 'careless driving'.

The difference between 'careless' and 'dangerous' driving in the eyes of the law is slight and subjective: it's the difference between someone's driving falling below or well below what is expected of a careful and competent driver. But the difference in penalties between these charges is huge. The maximum sentence for causing death by careless driving is only five years, compared to 14 for causing death by dangerous driving. The maximum sentence for causing serious injury by dangerous driving is five years (if heard in a Crown Court), compared to a maximum penalty of a fine only for careless driving. Very often, prosecutors go for the lesser careless driving charges because they are easier to prove.

Brake believes charges and penalties for causing death or serious injury should be overhauled. We need to get rid of the split between 'dangerous' and 'careless' so prosecutors aren't tempted to go for an easier won charge that carries inappropriately low penalties and deems driving that has killed or caused serious harm as merely 'careless', terminology that undermines the gravitas of the offence.

Ideally we should have one charge that can be brought against anyone whose driving causes death or serious injury. Judges could still use their discretion to sentence according to the level of risk taken, across the range of penalties up to the maximum of 14 years. At the very least, prosecuting guidelines should be improved so it is clear that if you were taking an illegal risk when you killed or seriously injured someone, such as speeding or using a phone, your driving is automatically deemed 'dangerous' in the eyes of the law.

Brake also welcomed the announcement of tougher sentences last October for drivers who cause death by dangerous driving, and for careless drivers who kill while under the influence of drink or drugs, however the new sentences are yet to be introduced and dangerous drivers are still receiving lenient sentences. The Government should therefore seek to implement the new sentences as a matter of priority to provide a true deterrent to dangerous driving and improve the safety of the roads for all, including cyclists and pedestrians.

3. Training - Do you have any suggestions for improving the way road users are trained, with specific consideration to protecting cyclists and pedestrians?

The training of road users is vitally important in ensuring that all those who use the roads are competent enough to use the roads safely and aware of the hazards they may face. Ensuring a level of competence and awareness on the roads has a key role to play in keeping all road users safe, including cyclists and pedestrians.

Currently the driving, practical and hazard perception tests do not require drivers to learn about cycle awareness or undergo testing on cycle safety. This is one area of road user training that could be improved to specifically protect cyclists. Brake supports Cycling UK's calls for cycle awareness to be integrated into the general driver training and testing process, with a specified amount of instruction time devoted to it.²⁹ The theory test should include more questions about driving around cyclists and examine candidates on both their understanding of the rules of the road and why they need to respect them. The hazard perception test needs to examine candidates thoroughly on their awareness of how their driving can affect the safety and comfort of cyclists.

Furthermore, Brake is calling for the introduction of Graduated Driver Licensing across the UK as a matter of urgency. Such a system would improve the way that road users are trained in the UK, making new drivers more aware of the dangers of the road including other vulnerable road users such as cyclists and pedestrians.

In 2016 almost 15% of road crashes were caused by drivers aged between 17-24 years old³⁰, with research showing that the combination of youth and inexperience makes younger drivers a high road safety risk. In Britain, it is estimated that GDL could prevent more than 400 deaths and serious injuries every year and save the economy £200m annually through crash prevention³¹.

Brake recommends that a GDL system in the UK should include a 12-month learner period, an initial test, and then a two-year novice period when novice drivers can drive independently but with restrictions – such as a late-night driving curfew (See Appendix 1 for more details).

These measures would tackle the risks that young drivers commonly face and reduce the risk of new drivers being involved in a road crash. Ensuring that all new road users are fully equipped to drive safely and independently on our roads. This would in turn improve overall safety on our roads for all users including the most vulnerable road users such as cyclists and pedestrians. A Brake survey³² also found that there was widespread support for the various measures contained within a GDL system. The majority (84%) of drivers surveyed said that there should be a minimum learning period before learner drivers can take their test.

The training of professional drivers/fleet operatives also has a key role in protecting vulnerable road users given the number of miles undertaken by professional drivers - in 2016, 30% of all road deaths involved a driver/ rider driving for work³³. Brake offers comprehensive guidance for professional drivers through its Brake Professional content for fleet services³⁴. It offers guidance on actions companies can take to ensure their drivers are aware of the dangers faced by vulnerable road users - the four key points that Brake Professional recommends to companies are: raising awareness among all employees, especially surrounding the dangers of speeding; training and monitoring of fleet drivers on a regular basis; implementing safe route planning and

²⁹ <https://www.cyclinguk.org/campaigning/views-and-briefings/driver-training-testing-licensing>

³⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/665225/ras30025.ods

³¹ <https://trl.co.uk/sites/default/files/PPR673.pdf>

³² http://www.brake.org.uk/assets/docs/dl_reports/DL_Are_you_ready_to_drive_2013.pdf

³³ RAS30007 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/668504/reported-road-casualties-great-britain-2016-complete-report.pdf

³⁴ <http://www.brakepro.org/>

scheduling; and choosing safer fleet vehicles. Adopting this level of training on a national level has the potential to improve the way road users are trained and protect vulnerable road users such as cyclists and pedestrians.

Appendix 1

Brake recommends that a Graduated Driver Licensing system would have the following measures:

For learner drivers:

- Minimum learning period of one year before learner drivers can take their practical driving test, theory test and hazard awareness test.
- The learner's licence should not be fully valid until the learner driver has received a minimum of 10 hours' professional tuition in a car with dual controls.
- Learner drivers, as at present, must be supervised while driving, and the minimum age of accompanying drivers should be raised to 25.
- Accompanying drivers should be registered as 'approved accompanying drivers' by completing a questionnaire to prove their suitability.
- Learner drivers should have the same restrictions placed upon them as novice drivers (see below).

For novice drivers:

- Drivers should hold a novice licence for two years after passing a practical driving test.
- Novice drivers should be allowed to drive unsupervised, but with certain restrictions on their driving, including:
 - Novice drivers should not carry passengers who are younger than 25 unless supervised. Novice drivers who are parents or carers and need to carry children should be exempt from this restriction.
 - Novice drivers should not drive between 11pm and 6am, unless supervised or travelling directly from home to work or school.
 - Novice drivers should have a zero-tolerance drink drive limit of 20mg of alcohol per 100ml blood (Brake recommends this for all drivers).
 - Novice drivers should not drive on motorways.
- Novice drivers should be restricted in the size of engine they can drive.
- Any driving offences, or failure to comply with the restrictions during this period, should result in automatic disqualification.
- Novice drivers should be required to take a further 10 hours of professional tuition, during which they must drive on motorways and at night.
- Novice drivers should be required to pass a second driving test at the end of the two-year period to help ensure safe driving on all types of roads

4. Educating road users - Do you have any suggestions on how we can improve road user education to help support more and safer walking and cycling?

Road user education is important in supporting more and safer walking and cycling however there is also a body of evidence that suggests road user education in isolation is not as effective as previously thought. A report produced by Brake in 2017³⁵ suggests methods for developing a more pragmatic approach to road safety and sustainable transport education interventions.

Nearly all crashes involve some element of road user error; therefore, it is understandable that there has been a historical focus on funding and delivering extensive road safety education and communication aimed at achieving behavioural change, particularly among drivers, but also notably children and young people. However, as explained further in the report, and stated by numerous academics over many decades "...the predominance of 'human errors' ... does not imply that the practical way to eliminate most crashes is to fix the driver. On the contrary, of the three major traffic components – the driver, the vehicle and the road – the driver is the most difficult to change or improve."

Consequently, the approach favoured is one that implements "safe systems", meaning measures are put in place that mitigate the potential for death and injury when, inevitably, people take risks or make mistakes. These measures are often a) engineering solutions, notably vehicle safety systems and improvements to the road environment (for example segregated cycle paths); b) rules and enforcement of rules, at government and organisational levels (for example, driver testing prior to licensing and safer speed limits); and c) risk reduction (for example, modal shift from cars to public transport). This represents a new trend in considering the road safety 'system' or 'culture' rather than interventions as stand-alone programmes.

Education and communication is deemed far less effective. The report explains some of the powerful psychological "influencers" on people that can cause them to make poor choices, often despite their attitudes.

However, this does not mean that road safety and sustainable transport education should be abandoned. Brake argues that education and communication have a role to play in raising awareness and spreading knowledge, to achieve a raft of legitimate and pragmatic outcome goals that are not primarily about behavioural change, but more about inspiring, informing and engaging people in the causes. In companies with employees who drive for work, for example, education can help drivers to understand and accept requirements put upon them to follow certain policies and procedures as part of their employers' risk management systems.

Brake believes that community engagement has a key role to play in improving road user education, where appropriate – e.g. schools, nurseries, colleges and community groups. Brake's community engagement work involves running several events for school children including [Beep Beep Days](#) for preschool children and [Kids Walks](#) for primary school children to help them understand about road safety, as well as the Government supported national Road Safety Week. Brake would recommend that the Government improves its engagement with schools to educate young children about road safety through adopting events such as those run by Brake, as well as ensuring that Bikeability training is available to all school children. By ensuring that the next generation are engaged with road safety from a young age and learn the skills necessary to be competent cyclists, this will hopefully encourage them to not feel the need to learn to drive as

³⁵ [Inspire, Inform, Engage](#). Brake Report, 2017

soon as they legally can and seek alternative modes of transport such as walking or cycling.

5. Vehicles and equipment - Do you have any suggestions on how government policy on vehicles and equipment could improve safety of cyclists and pedestrians, whilst continuing to promote more walking and cycling?

Safe vehicles play an important part in improving safety for all road users, including cyclists and pedestrians, and are a key component to a safe systems approach. Developments in vehicle technology, in particular, can advance the safety of the road environment for both drivers and other vulnerable road users.

Brake has long advocated the mandating of lifesaving vehicle technologies, such as Autonomous Emergency Braking (AEB), Intelligent Speed Assistance (ISA) and Lane Keep Assistance (LKA). Such active safety measures, which are proven to work, seek to prevent crashes from taking place and are vital to improve road user safety. Passive safety measures, which reduce the risk of injury in the event of a crash, are also crucial, and can ensure that car design not only protects the occupants but external road users too – such as cyclists and pedestrians. The development of the Euro NCAP rating has supported the penetration of such technologies through the car parc but such measures require legislation to ensure that vehicles sold on the market are the safest they can be.

In this regard, Brake warmly welcomed the recent announcement of the Third Mobility Package from the European Commission³⁶. This is a significant milestone for European road safety which seeks to mandate a number of vehicle safety technologies that will improve vulnerable road user safety. These proposals have the potential to deliver significant and lasting benefits and we urge the Government to support them through the European legislative process and to adopt them into UK law as soon as possible, regardless of our future status within the European Union.

Technologies proposed to be mandated in the proposals are:

- Advanced emergency braking (cars)
- Alcohol interlock installation facilitation (cars, vans, trucks, buses)
- Drowsiness and attention detection (cars, vans, trucks, buses)
- Distraction recognition / prevention (cars, vans, trucks, buses)
- Event (accident) data recorder (cars and vans)
- Emergency stop signal (cars, vans, trucks, buses)
- Full-width frontal occupant protection crash test - improved seatbelts (cars and vans)
- Head impact zone enlargement for pedestrians and cyclists -safety glass in case of crash (cars and vans)

³⁶ http://europa.eu/rapid/press-release_IP-18-3708_en.htm

- Intelligent speed assistance (cars, vans, trucks, buses)
- Lane keeping assist (cars, vans)
- Pole side impact occupant protection (cars, vans)
- Reversing camera or detection system (cars, vans, trucks, buses)
- Tyre pressure monitoring system (vans, trucks, buses)
- Vulnerable road user detection and warning on front and side of vehicle (trucks and buses)
- Vulnerable road user improved direct vision from driver's position (trucks and buses)

London has been leading the way on the issue of driver vision, referenced above, which is of particular importance for vulnerable road user safety - in 2016, 23% of pedestrian and 50% of cyclist deaths in London involved an HGV, despite HGVs making up only 4% of road miles in London³⁷. Through the creation of the Driver Vision Standard, HGVs are provided a star rating for their direct vision. Whilst this is a positive move in the right direction, this standard needs to be implemented and enforced through legislation to ensure that HGVs, particularly in urban areas, are mandated to have sufficient driver vision.

Further government interventions regarding vehicle policy and equipment relate to government procurement and roadworthiness testing.

The government is able to set procurement policies with regards the purchasing and use of cars within its fleet. This policy should be used to set an example through only procuring vehicles with the highest Euro NCAP ratings. Not only would this set a strong safety precedent to consumers, but, through the sheer size of the government fleet itself, such a policy would improve the safety of the vehicles on our roads and therefore of vulnerable road users.

Roadworthiness testing policy also has an important role to play in ensuring the vehicles which are permitted to drive on our roads are safe to do so. Policies such as the historic vehicles exemption send a negative message to consumers regarding vehicle safety and allow cars with minimal safety protections on our roads. Brake welcomed the government's recent announcement that it would not proceed with its intentions to extend the frequency of MOT testing, however, the mere suggestion of this as possible policy, indicates a worrying lack of focus on road safety at the heart of government policy making.

6. Attitudes and public awareness - What can government do to support better understanding and awareness of different types of road user in relation to cycle use in particular?

³⁷ <https://tfl.gov.uk/info-for/deliveries-in-london/delivering-safely/direct-vision-in-heavy-goods-vehicles>

Understanding and awareness of different types of road user is vital to ensuring a safe road environment for all road users, particularly the most vulnerable such as cyclists. There is a multitude of options the Government could consider to support better understanding and awareness of different types of road user.

Nationwide awareness campaigns, such as the already existing Think! Campaign and Brake's Road Safety Week, are important in ensuring understanding and awareness of different types of road user. This year Road Safety Week will focus on 'Bike Smart' highlighting the importance of protecting cyclists and motor cyclists. The Government's continued support of these campaigns delivered by Brake and other road safety organisations is vital.

However, no amount of awareness and understanding of different types of road user will lead to complete safety and protection for cyclists – a safe systems approach is required to deliver this and that is why Brake advocates safer speed limits, mandating new vehicle technology, a zero-tolerance drink-drive limit and increased investment in segregated routes for cyclists and pedestrians.