EXECUTIVE SUMMARY

A. Recently retired professional safety engineer, former RoSPA advanced driver, and passionate about road safety. Totally independent – not a member of any campaigning organisation, and with no vested interest, commercial or otherwise.

B. Concerned that road safety policy and strategy currently focus on the wrong aspects of road use, and promote interventions that are actually harmful to road safety.

C. Offering alternatives that will be more effective in reducing collisions and casualties.

D. Specific concerns/proposals:
   a. Drivers need to be informed of the hazards (e.g. “Road Narrows” or “Queues Likely”) not instructed how to drive (e.g. “Slow Down” or “Bend - 30mph”). Instruction does not help to develop good drivers and, when suggested speeds are very low, their effectiveness is reduced. As an example, the maximum speed on a bend on a motorway slip road is often stated (e.g. Bend – max 40mph) but, while that may be the appropriate maximum speed for a loaded car transporter, it is absurdly low for, say, a Ford Focus.
   b. The road safety community frequently cites the “Fatal 4” (drink-driving, speeding, mobile phones and seat-belts) but the basis for that view is somewhat flawed and diverts attention from the true causes of collisions (poor judgement, concentration or observation). Those “Fatal 4” are relatively easy to detect and prosecute, but the effect on casualties of their enforcement is not always a positive one. We should not equate legal to safe, or illegal to unsafe. Specifically deployment of speed cameras causes more collision than it could ever prevent – I explain below. Also, seat belts can save lives in the event of a collision, but not wearing one will not cause an accident.
   c. In recent years, road safety has become combined with active travel in many councils, and initiatives associated with the latter (e.g. more cycling) can lead to increased risk exposure and hence more collisions and casualties. There is thus a conflict of interests between traditional road safety (reducing casualties) and promoting “active travel”.
   d. The road safety industry receives funding from enforcement equipment manufacturers, who make substantial donations to organisations such as BRAKE, PACTS and Road Safety GB (and many others), and consequently those organisations endorse the enforcement products even though they are unable to provide any evidence of their beneficial effects. I have documented evidence that this income is sometimes necessary for the recipients to remain solvent. Road safety often makes use of slogans, such as “speed kills” and “cameras save lives”, and the strategy has been increased enforcement and roll-out of schemes such as “smart motorways”, which are recognised to increase risk (no hard shoulder, distraction and bunching). No organisation with a vested commercial interest in that business will admit to the failings of this approach. This is a national scandal, which is harmful to road safety.

E. Another “slogan” is the “three Es” – engineering, enforcement and education. Engineering, where it genuinely improves safety (e.g. by preventing a right turn through the central reservation of a dual carriageway) is to be encouraged, but “smart” motorways with all lane running, variable speed control (enforced) are a backward step in terms of road safety, and not one that can ever be fully mitigated by training or education of the public.

F. I am able and willing to provide extensive evidence to support every statement and claim I make, based on 12 years of correspondence and meetings with numerous UK county/city councils, government agencies, road safety organisations, police forces, road safety charities, equipment manufacturers, and academics, as well as the European Transport Safety Council.

G. I welcome the opportunity to discuss these matters with the Transport Select Committee, either in individual or group meetings, or in evidence sessions.

H. These points are developed in the direct responses to the Committee’s specific questions below.
How effective is the Government’s current approach to road safety?

1. This consultation has been triggered by a flattening of road fatalities since 2011, following several years of downward trend. This may be related to the health of the economy. There is a convincing argument that, in good economic times, drivers are preoccupied with their improving economic prospects and have more accidents because they are concentrating less on their driving. In a recession, concern about their welfare makes people more cautious generally, so drivers become more defensive and thus safer. But recent years have seen a significant increase in interventions such as 20mph zones, average speed cameras, and “smart” motorways, all of which can contribute to unintended negative consequences.

2. The British Road Safety Statement [i] sets out the strategy as a list of FIFTEEN “main priorities”. Third on that list is “Taking tough action against those who speed, exceed the drink-drive limit, take drugs or use their mobile phone while on the road”. Those four are relatively easy to measure and/or prosecute, but are not addressing the cause of many crashes (i.e. poor concentration, judgement or observation).

3. Taking speed as an example, there is a fundamental problem with tackling “speeding” (exceeding the prevailing limit). Driving involves positioning a vehicle relative to the road layout and other road users, proceeding at an appropriate speed, in a suitable gear, and monitoring and adjusting those using the steering wheel, pedals and other controls, in response to hazards. It also involves observing, and signalling intent to other road users. Good drivers develop the ability to do all of these instinctively, and even poor drivers manage to do most of them fairly well most of the time. “Speed choice” is an output from the driving process - a mostly intuitive response based on the driver’s experience, maturity, concentration, observation and judgement of the prevailing conditions (the inputs). It is likely to be a weakness in those driver attributes that is the root cause of any incident. Speed management, and speed cameras in particular, focus a disproportionate amount of attention of all drivers on that one instinctive aspect of driving – speed – reducing the time and attention available for the others. The consequence is that the driver's assessment of conditions is distorted. When most collisions involve misjudgement, poor observation or a lack of concentration, it is inevitable that interventions such as speed cameras will have a detrimental effect on drivers' judgement and attention, increase risk to all road users, and contribute to more accidents than they could ever prevent. Further, if you force drivers to go at an artificially slow speed they are more likely to undertake other activities (change CD, use their mobile, eat, adjust satnav, etc) eroding any safety margin [possibly] created by the reduced speed. The outcome could make collisions more likely and I have further evidence and argument to support that.

4. In March 2008, the Highways Agency generated a report entitled “Safety Camera Technology at Roadworks – Final Report” [ii], 11 April 2008, Draft 2 Final Version for Customer. It compared the use of Time Over Distance (TOD) speed cameras and fixed speed cameras to enforce speed limits through motorway roadworks. The main thrust of the report is that TODs are better than fixed cameras because they do not cause as much sudden braking or distraction – but they still cause hazardous driving behaviour such as sudden braking, distraction/glances at speedometer, reduced headway (time between vehicles) and lane changing. The report acknowledged that “no reliable, detailed, or above all statistically significant evidence has so far been found regarding the impacts of TODs, be it on roads with or without roadworks”. There is nothing in the report to claim that TODs improve road safety and the above quote confirms that the study team had been unable to find such evidence. The participants in the trials were employees of the Highways Agency or their consultancy and, from most of the comments, are pre-disposed to the idea that speed cameras will bring benefits, if only drivers knew how to respond to them. A key recommendation is that drivers need to be educated to mitigate the hazards introduced by speed cameras. This goes against safety engineering principles – do not introduce a hazard(s) to the public and expect them to learn how to mitigate their effects, as that can never be as effective as safe as not introducing the hazard in the first place. It is inconceivable that interventions which cause hazards of the type and scale given here could simultaneously prevent more collisions than they contribute to.

5. In support of that, I assert that any driver can drive safely (for all road users), indefinitely, with a broken speedometer. They may be above the speed limit from time to time, but drivers are generally capable of progressing safely, according to the conditions, without being told how fast they should travel. This demonstrates a weak link between exceeding the speed limit (at least by a small margin) and becoming unsafe.

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1 The header on each page is “Speed Camera Technology at Roadworks - R&D Task 193(387)
6. It is not valid to equate legal with safe, or illegal with unsafe. In thick fog, driving at the speed limit would be legal but unsafe; and the example in paragraph 5 above explains how exceeding the limit is not necessarily unsafe. These arguments were presented at Gloucester Police HQ (then the seat of the Traffic Policing Lead) in 2013, but their response was that their job is to enforce the law, even if it is harmful to safety.

7. It is often convenient for authorities to associate introduction of an intervention (say speed cameras or 20mph limit) with casualty reductions better than local or national trend but those reductions have invariably been brought about by engineering changes (eg. road layout), changes in traffic volume, regression to the mean, etc. Indeed those reductions could well have been greater had the speed intervention not been implemented. There have been various reports claiming benefits from speed cameras, and many individuals and organisations support their use, but they invariably involve some form of vested commercial interest. There is no independent report proving the introduction of a speed management intervention has a net positive effect on road safety (i.e. reduced collisions and casualties).

ROAD SAFETY versus ACTIVE TRAVEL

8. In recent years, there has been a trend to widen the definition of road safety to embrace a healthier public, who cycle and walk more. Active travel exposes its exponents to risk (hence the number of cyclists killed by lorries in London). When active travel (and sustainability) is in the same council/government department as road safety, there can be a tendency to “trade-off” overall health with KSI from collisions. This can mask the issues causing increased KSI, which I have outlined above.

Are there any areas where the Government’s current approach to road safety could be improved?

9. For reasons outlined above, there should be an embargo on rolling out interventions which have negative effects on road safety, such as 20mph, smart motorways, average speed cameras, and other speed management systems.

10. Instead, ensure drivers are presented with accurate, reliable and necessary information about what hazards to expect – road layout, hidden features, poor surface, etc. so that they can deal with them safely. And offer road users the opportunity to improve their hazard awareness.

COSTS and VALUES

11. Working Together to Build a Safer Road System propagates the view that “road traffic collisions cost the UK economy in excess of £16.3 billion per year”, based on the assumption that a fatality costs around £2m, but that figure results from mixing “costs” and “value of prevention”.

12. It is often claimed that the value of a life is nearly £2 million and hence that is the cost if someone is killed on the road. It is then further claimed that prevention of a death leads to a saving of £2m. This is a specious argument. £2m is not the cost of a death on the road; most of it is the value that a loved one might, hypothetically, be willing to pay to bring them back to life - it is therefore never spent. There are costs associated with the aftermath of a death on the road, but they amount to thousands, not millions. Actually, a serious injury needing lengthy hospital treatment can often cost more than a death.

13. A saving is a reduction in expected expenditure. By someone not being killed or injured, savings are likely to be in thousands of pounds. Note that this is not to ignore or seek to diminish the anguish and trauma that undoubtedly arises as the result of the sudden loss, or serious injury to, a loved one, but to recognise that they are never actual costs, nor can they be considered as savings. It is misleading, and perhaps even inconsiderate, to try to assign arbitrary monetary values to such events.

14. This distinction between values and costs, and the need to avoid treating them as the same, was confirmed by the National Audit Office, during my correspondence with them in 2009-10.

CASE STUDY

15. Tackle the corrupting effects of vested commercial interests, which are undermining road safety.

16. In 2017, Road Safety GB (RSGB) reported on their “productive” meeting with a delegation of “traffic enforcement equipment” officers from South Korea http://roadsafetygb.org.uk/news/rsgb-in-productive-meeting-with-south-korean-delegation-5642. Given that RSGB receives significant annual donations from enforcement equipment manufacturers (for example, Jenoptik Traffic Solutions UK is a
corporate member, sponsors the RSGB Twitter feed, and is a sponsor of their annual Conference). I asked about the involvement of those manufacturers in the engagement with South Korea. RSGB refused to provide any such information. When I later asked RSGB for evidence of the effectiveness of a speed camera deployment, the example provided (in Norfolk) had actually resulted in a significant upward trend in collisions and casualties following its going live, so much so that the camera partnership had asked the council to relax their KSI target (the council rightly refused). When a road safety organisation promotes interventions that are harmful to road safety, while receiving funding from the suppliers, it is time for the Government to take action.

**What interventions would be most effective at reducing the number and severity of road traffic accidents?**

17. As stated in 10 above, what drivers need is accurate and reliable information about what hazards to expect – particularly road layout, and the possibility of unusual occurrences (such as wild animals).

18. Drivers need to be trained how to look out for, and respond to, hazards, which can be physical features such as junctions, roundabouts, bends, or hill crests; other road users (either their position or movement); or the conditions (road surface, weather conditions, visibility, time of day).

19. **Hazard awareness** courses would be far more effective than, say, **speed awareness** courses, because they tackle the root cause of incidents, rather than just one symptom.

20. Review the potential conflict between road safety and the trends to encourage “active travel”, as explained in 8 above.

**What evidence is there on the effectiveness of these interventions?**

21. Firstly, let’s consider the negative effects of the interventions that are harming road safety.

22. Evidence is available that speed enforcement has a net negative effect on road safety. Paragraph 4 above refers to the Highways Agency report [ii], which reveals that there is no perceived benefit from average speed cameras and, in fact, they cause four hazards – distraction, unexpected braking, bunching and sudden lane changing. They are not a safety intervention.

23. “Ultra-low” speed limits such as 20mph also have a negative effect on road safety, by encouraging pedestrians to feel safe, and thus taking less care (when traffic is typically moving at much the same speed (nominally 24mph) as it was when the limit was 30mph). Such behaviour can be witnessed in any 20mph area, and was presumably a factor when Manchester stopped their rollout having found that casualties were reducing faster in roads that has been left as 30mph, than they were in new 20mph areas. The much vaunted Portsmouth 20mph scheme also had poor results: in 2009, much was made of a 22% reduction in all injuries in the city, attributable to introducing 20mph, even though that was actually worse than national trend when adjusted for traffic volume; and nothing was said about their increase in serious injuries by 57% (89 to 143) in 2011.

24. The recently published Atkins AECOM/Maher 20mph research study [iii] is equivocal on the road safety effects of 20mph limits; while being broadly supportive of the concept, evidence gathered and analysed to date provides little evidence of casualty reductions greater than (and in some cases actually inferior to) those achieved on average nationally on roads retaining the current default 30mph limit. Also, poor compliance is very likely where the appropriate supporting road engineering is absent.

25. “... Based on the evidence available to date, this study has found no significant change in collisions and casualties, in the short term, in the majority of the case study areas (including the aggregated set of residential case studies). While some individual case study areas show a reduction in collisions/casualties, when background trends are accounted for, these results are based on very small sample sizes and it is not possible to attach any confidence to their significance.” (taken from page 64: under “Early Safety Outcomes” in the Highlight Report [iii]).

26. The proposed Hazard Awareness courses should be based on the contents of **Roadcraft - The Police Drivers Handbook** [iv], as used by RoSPA during my advanced driver training in the 1990s. The effectiveness should be self-evident: “the Roadcraft system of car control provides you with a systematic decision-making tool that enables you to deal with hazards and respond to new ones safely and efficiently”. It is used by all police drivers.
How can interventions to reduce the number and severity of road traffic accidents best be implemented?

27. A simple test of whether any intervention is proposed in response to a death or serious collision is to ask if there is a credible argument that such an intervention could have prevented any of the deaths or collisions that have prompted it. If not, then there is no reason to believe it could prevent any future incident.

28. Replace “Speed Awareness” courses with “Hazard Awareness” courses, and make them freely available to all drivers, not just those who have broken a law, or similar.

29. Remove interventions where there is no independent evidence of benefit, or there is evidence of harm.

SUMMARY RECOMMENDATIONS

1. Tackle the root cause of crashes, not just some of the symptoms.
2. Rethink simplistic and misleading slogans such as “Fatal 4”.
3. Use only interventions that have a net positive effect on road safety, and phase out those that do not.
4. Ensure road users are clearly informed of hazards (rather than how fast to go) and offer hazard awareness courses based on Roadcraft, rather than speed awareness courses (or similar).
5. Recognise that legal does not equate to safe, and illegal does not equate to unsafe.
6. Ensure that costs and values are not intermingled – they are different and need to be kept separate.
7. Check vested interests and tackle organisations who are promoting interventions that are harmful to road safety, while receiving generous donations from the manufacturers/suppliers.
8. Ensure that road safety is managed separately from the promotion of active travel.

Please contact me to request any supporting correspondence or associated reports, or to give oral evidence.

April 2019

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1 Working Together to Build a Safer Road System, British Road Safety Statement, Moving Britain Ahead, Department for Transport, December 2015
3 20mph Research Study Highlight & Full Reports to DfT, Atkins, AECOM & Maher, UCL, November 2018