Response from the Transport and Health Study Group

to the Road Safety Compliance Consultation

send comments on the proposals to:

Consultation on Compliance Road User Safety Division 3 Department for Transport 2/13 Great Minster House 76 Marsham Street London SW1P 4DR

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The final date for responses is 27 February 2009.

1. Introduction

The Transport and Health Study Group is the main public health organisation in the transport field. Established in 1998 and therefore in our 20th year as an organisation we bring together health professionals and transport professionals interested in the interface between transport and health. We produced "Health on the Move", the first comprehensive account of the impact of transport on health, and we are currently revising it. We have working contacts with a number of other public health and transport organisations and at the early drafting stage we worked closely with the Faculty of Public Health, but the two drafts have since diverged. To the extent that we say the thing as the Faculty it is because the two organisations have each retained the wording of the common early draft. .

We are predominantly a UK organisation but we do have contacts in four other EU countries who hope to establish either a branch or a sister organisation in their country.

In our response, we address the five issues, to varying extents, but also make some more general points about approaches to road safety that promote the public's health. We were disappointed to see that the word 'accident' crept into the consultation document in a few places (eg para 2.3): although the word 'accident' means 'unintentional', it is interpreted by many people as 'unavoidable', so the general consensus is to avoid the term where possible and use 'collision' or 'injuries', as appropriate (as you have done in most places in the document).

2. Speeding

2.1 Need for lower speeds

Existing speed limits need to be complied with and enforcement is an important mechanism for achieving that.

In addition to the risks and consequences of collisions higher traffic speed also restricts children's independent mobility[1] due to perceived danger, and for the same reason creates

community severance, removes the potential use of residential streets as play areas for children,[2] a topic of current concern,[Error! Bookmark not defined.] and reduces physically active transport. Hence traffic speeds not only cause deaths from road accidents but also contribute to the frightening rise in obesity.[3] A survey published in 2006 found that that 68% of participants worry about being killed on foot and 36% of people who never cycle on the roads do so for reasons which include a fear of traffic.[4]

2.2 Size of the problem

We disagree with paragraph 1.12 of the DfT Consultation document: "On this basis, our current legal framework is largely fit for purpose. For the most part it is complied with by consensus without the need for any intervention or enforcement. Most drivers refrain from bad driving voluntarily." Speeding is very common, but being caught for speeding is uncommon. More needs to be done not only on law enforcement but also to improve compliance, particularly by changing attitudes to speeding (see section 7 below).

2.3 Response to consultation questions

1. Do you agree that extreme speeders should receive a 6-point fixed penalty?

We welcome the proposed increase in penalty points, particularly for those who exceed the speed limit by a larger margin, but would point out that because it is so very much more common, there are probably more collisions and more injuries caused by slight speeding than by substantial speeding, particularly given that the consultation document makes it clear that 'speeding' includes driving within the speed limit but too fast for the conditions at the time.

2. Do you think that 20/30 mph limited roads should have a lower threshold for a 6-point penalty?

We are horrified that the Government is even considering having a threshold of 40mph for giving 6 penalty points for speeding in a 20mph area (Table 2.3). This is worse than using 140mph as the threshold in a 70 mph area, given the paucity of pedestrians on motorways and dual carriageways, compared with residential 20mph zones.

The whole point of the 20mph limit is that there are areas where cars should be expected to mix with pedestrians on terms that give freedom to pedestrians. 20mph is the limit for such areas because that is the speed at which a pedestrian is unlikely to be killed in an accident. Few places are more than a mile from the main road, so few journeys involve more than two miles on residential side roads. The difference between travelling two miles at 20mph and travelling it at 40mph is three minutes yet the risk of pedestrian death increases from 5% to 95%. Those who travel at 40mph in such zones

claim the right to kill our children for three minutes on their journey. This is not just excessive speeding, it is dangerous driving.

We would recommend the threshold for six points being 30mph in a 20mph zone. Even at this point somebody is claiming the right to kill 50% of pedestrians for the sake of a minute or so off their journey.

The whole attitude to driving in residential side streets needs to change. A 30mph threshold for the six point penalty would begin to get the message across quickly and simply (see section 7 below). In due course the threshold should be even lower.

For 30mph zones, we would recommend 40mph as the threshold for the 6-point penalty. If this is not an option we would support the 45mph proposal, but it should be noted that even the 40mph proposal is tolerating the use of a car as a lethal weapon in settings where it is in close proximity to pedestrians. Nowhere else would it be lawful to have people in such close proximity to unguarded dangerous machinery.

3. Do you think that 70 mph limited roads should have a higher threshold for a 6-point penalty?

We are happy with the proposals.

4. Do you agree that we should not graduate speeding fines?

Yes. Prosecution for dangerous driving can be considered when the fixed penalty fine and six points becomes inadequate.

5. Do you agree that we should not offer 2-point fixed penalties for marginal breaches of the speed limit?

We see little point in a two point penalty.

Driving above the threshold of the ACPO guidelines should always attract at least three points.

However we believe that speeding below the threshold of the ACPO guidelines should attract zero or one point (zero points for less than 5mph excess over a speed limit of 50mph or more, or less than a 2mph excess over a 30mph or 40mph limit, one point in 20mph zones or at speeds below the ACPO threshold but above the figures we have just suggested for zero points)

This is because

- a three point penalty below the ACPO guidelines would be unacceptable and it is wrong to have an unsatisfactory law and deal with the problem by not enforcing it
- the option of enforcement below the ACPO guidelines is effectively absent when the penalties are too harsh and we believe police forces should have an acceptable law which they can choose to enforce

- part of the reasoning behind the ACPO guidelines is the problem of measurement, the problem of speed variation and the problem of drivers focussing too much attention on a speedometer. As enforcement systems based on measuring average speed over significant distances come into use there is a case, where such devices have been used, for enforcing the speed limit fully.

2.4 Other important issues related to speed limits

In parallel with measures to improve compliance with speed limits, we strongly recommend a 20mph speed limit as the norm in residential areas; and much greater use of Home Zones.

A home zone is a street or group of streets where pedestrians, cyclists and vehicles share the space on equal terms, with cars travelling at little more than walking pace. Home zones subvert the traditional distinction between carriageway and footway.

Reducing travel speed from 30 mph to 20 mph reduces the risk of killing a pedestrian by about 90% (45 percentage points on a risk of 50%) [5] This is both because the lower speed allows more time to reduce speed still further to prevent a collision and because if a collision did occur, injury severity is reduced. One study found that 20 mph zones reduced collisions causing any injury by 60%, while collisions resulting in child deaths and serious injuries were reduced by 70%.[6] The Transport Research Laboratory found that 20 mph zones reduce all injuries by 42% and deaths and serious injuries by 53%.[7] 20 mph zones in Hull have reduced the number of people killed and seriously injured by 90%.[8] The greater benefit in Hull may be because such a high proportion of residential streets were included in the 20mph zones that driver behaviour changed across wider areas of Hull, so a nationwide limit of 20mph may have even greater benefits than the imposition of 20mph zones in local areas. The Department for Transport and the Office of the Deputy Prime Minister (now Department of Communities and Local Government) published the *Manual for Streets*,9 which, makes the case for 20mph limits for all streets where people should have priority over traffic. We believe this applies to all residential streets.

Most child pedestrian road deaths would be averted if people drove at 20mph in side streets. As few places are more than a mile from a main road, few journeys involve more than two miles on side roads (a mile at each end). The difference between driving two miles at 20mph and at 40mph is 3 minutes.

We are killing our children to save less than three minutes on our journeys.

In residential side roads 20 is plenty.

To enforce this policy we need

- a 20mph speed limit in residential side streets
- a recognition that motorists are solely responsible for the injuries that occur in accidents in residential side streets to the extent that they exceed those that

might have been expected at 20mph. The concept of contributory negligence by pedestrians should apply only to injuries that would have been likely to have occurred anyway at 20mph. Any excess over that should be the motorist's fault.
- Ideally we need to reshape streets so that they are used primarily for community use and the vehicle is a guest.

The Dutch concept of the "woonerf" (living street) (often called Home Zones in the UK, although the woonerf is more radical than many Home Zones) divides up the street for community use. Car parking spaces are provided, usually in nose to kerb car parking places so that the parked cars add to the obstacles to traffic. Space is allocated to gardens, trees, communal meeting space and play areas. The carriageway becomes simply the gap between obstacles and is usually arranged in chicanes to slow traffic down.

This concept has other advantages as well as slowing traffic down. It increases community networking and social support (the Appleyard & LIntell study in San Francisco, recently replicated in the UK, has shown that people know more of their neighbours in lightly-trafficked streets). It improves environments. It creates usable greenspace. It increases the aesthetic attractiveness of the street so as to encourage walking.

3. Drink driving

3.1 Responses to consultation questions

6. Do you have any comments on the use of targeted checkpoint testing for drink drivers?

We support both random testing and targeted checkpoint testing to detect drink drivers.

7. Do you think we should withdraw the statutory right to a blood or urine test as an alternative to a breath test?

We would not wish unfairly to deny a defence to those suspected of a serious violation of the law.

8. Please comment on three options in respect of the proposal to take away cover for High Risk Offenders (HROs) to drive after submitting a reapplication for a licence, while medical procedures are being carried out:

⌘⌘ **we move now to implement the change provided for in the Road Safety Act 2006 on the basis that we are satisfied that existing procedures allow ample time for medical examinations before a disqualification expires; or**

⌘⌘ **we develop further powers either to require an HRO to submit a medical report with their re-application for a licence or to give them that option, to be implemented probably after we have removed the cover to drive; or**

⌘⌘ **we defer implementing the change provided for in the Road Safety Act until we also have powers either to require HROs to submit a medical report with their re-application for a licence or give them that option.**

We have no particular views and are happy to accept an evidence-based decision.

9. Do you agree that the costs of implementing and enforcing a judicial alcohol ignition interlock scheme would be disproportionate?

We don't see why it should be so expensive – it seems quite a straightforward device. However there would be problems of offenders driving cars other than their own or getting other people to blow into the device and this could make the scheme so ineffective that it became a laughing stock.

3.2 The legal alcohol limit for driving

10. What priority do you think should be given to a change in the prescribed alcohol limit for driving?

This should be given high priority. A driver with 79mg/100mls in his or her blood is driving a vehicle with the risk of an accident doubled. This is seriously socially irresponsible yet lawful. Lowering the legal limit to 50mg/ml will improve safety and will encourage many drivers to drink no alcohol, rather than a little (addressing the problem identified in para 3.15), but the current problems of individuals not knowing how their intake relates to subsequent blood concentrations will remain (para 3.10). Reducing the legal limit will make your plans in para 3.18 easier to achieve. Indeed, the DETR had plans in 1998 to reduce the limit to 50mg/100ml.[10] This reduction would bring the UK in line with the European Commission Recommendation adopted in January 2001

We believe that there is also a strong case for removing the idea that those just above the limit have been unlucky and emphasising that close to the limit is dangerous and those just below have escaped lightly. This could be done by applying graded penalties from a limit of 20mg/100ml up to the chosen point at which motorists face the current harsh consequences. The advantage of introducing a legal limit for blood alcohol of 20mg/ml is that no alcohol can be consumed to remain within the legal limit.

We would suggest a £60 fixed penalty fine at 20mg/100ml, a £60 fixed penalty fine and 3 penalty points at 35mg/100ml, and the full penalty at 50mg/100ml.

11. What evidence are you able to offer – and what further evidence do you consider should be obtained – to support a fully-considered decision whether or not to change the limit?

We are concerned that you have included Figure 3.2 in the consultation document without adding the critique of this work that has been published and is well known to the DfT. Professor Allsop of UCL (University College London) has addressed this in his detailed submission. In brief, the flaws in the figures in the Borkenstein report[11] on

which figure 3.2 is based was known to the Ministry of Transport in 1965 and a critique was published by Allsop in 1996.[12] Compton et al[13] corroborated Allsop's interpretation of the data. Allsop also demonstrated in 1966 that the lower relative risk among drivers with blood alcohol levels of 10-40mg/ml arose not from a beneficial effect of low alcohol levels but because those driving with those levels of alcohol were also those who were on average less likely to be involved in a collision, due to their age, experience, etc. However, when sub-group analyses were conducted, there was an increased risk of collision for every category of driver from a blood alcohol level of 10mg/ml upwards.[12] This was the basis, from the Grand Rapids study,[11] for the statement in para 3.18 of the consultation that 'every driver is safer not drinking at all'. This statement has been supported by a good deal of other evidence since then, including the fourth column of Table 1 in Compton et al[13] in terms of involvement in road traffic crashes.

Para 3.11 acknowledges this but the document fails to make the obvious recommendation, to reduce the legal limit.

The evidence for a beneficial effect on road traffic injuries and fatalities was summarised in 2005.[14] The current legal limit of 80mg/ml was set in 1967, on the basis of the research evidence available at the time, principally the Grand Rapids study,[11] which provided evidence of increased risk of involvement in road traffic collisions after drinking alcohol that was unprecedented and incontrovertible in terms of sample size and experimental design, in a way that has since been replicated only in the study by Compton et al.[13] The Grand Rapids study indicated that average collision risk was at least doubled – and therefore, by implication, so was the risk of injury or death – at this level, with this risk being statistically significantly raised above the risk for no alcohol.

Over the intervening 40 years, further scientific evidence strongly supports a reduction in the legal limit to prevent drink driving. Alcohol intake that produces breath alcohol levels of half the current legal limits for driving result in substantial impairment of judgement when driving, when combined with only a moderate reduction in sleep.[15] A large study in the USA in the 1990s found that accident risk doubled above a blood alcohol level of 70mg/100ml.[13] Considering only road traffic collisions which result in personal injury, the relative risk of involvement in an injury accident is estimated from British data to be 2.9 at a BAC of 50mg/100ml and 5.6 at a BAC of 80mg/100ml compared with the risk with zero BAC; the similarly estimated relative risks of being killed in a collision are 5.0 and 12.4 respectively.[16] Allsop has pointed out that drivers' risk of involvement in or death from injury accidents at a BAC of 80mg/100ml are respectively nearly three and more than six times the doubling that informed the setting of the limit at 80mg/100ml in 1967.[14] Indeed, it is now known that the risks at the lower BAC of 50mg/100ml are 1.5 and 2.5 times as high as the risk was estimated to be at 80mg/100ml in 1967. Re-analysis of the Grand Rapids dataset informed by subsequent studies demonstrating harm not benefit from alcohol in the blood has shown a statistically significant doubling of the risk of collision at 60mg/100ml.[14]

In 1998, the DETR estimated that about 50 deaths and 250 serious injuries annually would be prevented by reducing the legal limit to 50mg/100ml.[10] Allsop has calculated the consequences of plausible assumptions about the effect on driver behaviour of reducing the limit to 50mg/100ml, by category of current BAC.[14] He estimated a short-term reduction of 40 deaths pa among those with current BAC 80-110mg/100ml and 23 deaths pa among those with current BAC 50-80mg/100ml. In addition, there would probably be fewer KSI collisions among those who are already below BAC of 50mg/100ml if they reduced their alcohol intake further in response to the new lower limit, given that any alcohol is now known to impair driving, plus a longer-term cohort effect whereby older drivers who grew up believing drink-driving was acceptable are replaced by younger drivers who do not.

We support the Transport Select Committee's proposal of a 20 mg/100 ml limit for new drivers (para 3.65). This could be introduced for the first five years after gaining a driving licence or until the age of 25, whichever is later. We see that there is a risk that 'allowing more drinking once they cease to be 'novices' would convey the wrong message at the wrong time' but this would be lessened by reducing the legal limit to 50mg/ml. The alternative is to reduce the legal limit for all drivers to 20mg/ml, on the grounds that there is evidence of impairment above that level.

3.3 Other points

It is important that when an individual is convicted of a drink-driving offence, that s/he is assessed by a specialist regarding alcohol use, to identify those with problem drinking and to offer treatment. Acceptance of treatment by specialist alcohol services where appropriate could be considered a prerequisite for resuming driving at the end of the disqualification.

4. Drug driving

12. Do you agree that a new offence of driving with an illegal drug in the body is required to make the regulation of drug driving more effective?

Yes

13. Do you think that such a new offence should apply to illegal drugs only, and not those that have been legally prescribed or obtained?

No. The relevant factor is whether or not there is impairment, not whether the drug is illegal or not, nor whether it is being used as directed or not. This principle should apply whether a new offence is introduced or whether To do otherwise would imply punitive action against drugs merely because of their legal status, rather because of their effects.

The only reason for distinguishing illegal from prescribed drugs is if there is good evidence that all illegal drugs impair driving, as does almost all levels of alcohol, and therefore any evidence of driving when having used an illegal drug should be an

offence. However, the logical sequela of this approach would be that a blood alcohol level of 20mg/100ml should be introduced for all drivers.

14. How do you think we should identify the drugs that would be the subject of the proposed offence? How should we incorporate new drugs under the proposed offence?

All controlled drugs and selected other drugs where serious warnings about driving (not just risk-averse statements to cover the manufacturer) are given with the drug.

15. Do you have any other comments about the proposed new offence?

16. Do you have any other comments about our drug driving proposals?

No

5. Careless driving

5.1 Proposal to make 'careless driving' a fixed penalty offence

17. Do you agree that we should make careless driving a fixed penalty offence?

In theory, we agree with the proposal in para 6.19 to make 'careless driving that is not dangerous driving and did not result in death' a fixed penalty offence, if it significantly increases the likelihood of someone driving carelessly being stopped and given points on their licence, rather than this happening only after s/he has been involved in a collision.

However, it would need to be made very clear to the general public as well as to the police:

- what behaviours are covered by this (eg if it covers eating, smoking, or drinking while driving as well as poor driving itself); and
- what standard of driving would lead to a court case rather than a fixed penalty.

18. Do you agree that the fixed penalty for careless driving should be £60 and 3 penalty points?

Yes

19. Do you have any further comments about our careless driving proposals?

See section 5.2 and 5.3 below .

5.2 Attention to Driving

The driver of a moving vehicle should

- devote 90% of their intellectual energy to driving
- be able to increase that instantaneously to 100%

- keep their eyes on the road except for occasional brief glances comparable to glancing at an instrument on the dashboard (and even them keep at least the corner of their eye on the road)
- keep both hands on the steering wheel except for occasional brief exceptions, comparable to changing gear.

If prosecution for careless driving is to be applied to matters like smoking or eating whilst driving the above should be the guide. Almost all smoking and most eating would be affected (although being fed by a passenger placing food in the line of sight, or arranging unpacked and pre-portioned food on the dashboard shelf in the line of sight might be acceptable). Intellectual activities such as educational tapes or serious conversation would be unacceptable although light entertainment and light conversation would be OK (this would not of course be easy to enforce). The car should always be stopped to read maps or guides (except sat nav maps in the line of sight)

It should be noted that driving alone with small children can be difficult if the above guidelines are complied with and this must be sounded as a word of caution.

5.2 Use of mobile telephones while driving

Currently, legislation prohibits the use of hand-held mobile telephones but permits hands-free devices. This is a step in the right direction but is insufficient. The evidence shows that driver distraction is indeed greatest where hand-held mobile devices are used, but the bulk of the distraction occurs from engaging in a telephone conversation, regardless of whether the device is hand-held or hands-free. This distraction is greater than that experienced by listening to the radio or conversing with passengers, although these activities can also distract, because it is harder to break off the conversation or stop listening when the road requires additional concentration when on a mobile phone compared with in-car conversations or radio. We recommend that use of any mobile telephone while driving a moving vehicle is prohibited. This could be implemented at the same time as the careless driving fixed penalty notice is implemented.

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- We recommend that use of any mobile telephone while driving a moving vehicle attracts a fixed penalty notice except where a more serious offence has been committed, for example if it contributes to ‘dangerous driving’ or ‘causing death by … driving

6. Driver retraining and re-assessment

20. Do you think we should specify a retraining course for cases where a vocational licence has been revoked on the advice of the Traffic Commissioners?

Yes.

21. Do you think that disqualified drivers who are subject to a re-test should be required to take remedial training first?

Yes.

22. Do you agree that we should develop a course for people who incur penalties while subject to the New Drivers Act, linked to a new assessment for the recovery of a revoked licence?

Yes.

23. Please comment on the three options for the proposal in question 22:

- **it could be a mandatory step to recovering a revoked licence;**
- **It could be offered as an alternative to revocation – a driver accepting remedial training would be allowed not to incur points for the offence which would otherwise trigger a revocation (this option would require primary legislation);**
- **it could be available to other new drivers incurring points that were not of sufficient number to trigger revocation.**

We support the introduction of remedial training for those affected by the New Drivers Act. Whether this should be as well as disqualification or whether it should be allowed to mitigate the number of penalty points depends on the evidence. Specifically, would the latter option reduce the number of disqualified drivers who drive uninsured (and without a licence) merely by re-categorising them or would it actually improve individual and population level driving standards, given that some who are currently disqualified presumably do not drive and do pass a subsequent re-test? If there is no evidence, then two or three options could be piloted in different areas, with a final decision resting on a formal evaluation of the pilot projects.

24. Do you think we should change the rules relating to designated countries in the New Drivers Act? If so, how?

No opinion

25. Do you have any further comments on our proposals on driver retraining and re-assessment?

We support the recommendation to require re-testing of all drivers who have been disqualified for at least two years (paras 3.43 & 7.19:). Ideally, one would also desire evidence of changes in attitude and behaviour towards the cause of the disqualification (eg drink driving) – if this is what para 7.24 is advocating, we support that recommendation as well.

Para 7.32 (Re-testing to lift disqualification for drivers previously licensed to drive more then one category of vehicle): It seems logical to us that any re-test should cover at least the type of vehicle in which the offense occurred or the type of vehicle with the most stringent testing, if not both, rather than any category of vehicle.

7. Compliance and enforcement

7.1 Enforcement

Our areas of expertise lie in the assessment of evidence, particularly in relation to health, so we are not responding directly to some of the various suggestions regarding how compliance should be encouraged, enforced, and monitored. However, two crucial elements for compliance and enforcement for all these areas (but perhaps particularly for speeding) are:

- denormalisation, where it is no longer perceived as acceptable or as the social norm to ignore such laws; and
- criminalistion of such law-breaking. By this we mean that the general public, the police, the judiciary, and policy-makers believe that breaking these laws is criminal behaviour not just 'naughty'.

These two elements are mutually reinforcing. This has to a large extent happened with drink-driving: anecodatal evidence suggests that, except in individuals with problems of excessive alcohol use, many individuals who drive while over the legal limit do so through confusion over the amount they can drink before that limit is reached. This is an additional reason to lower the legal limit, so that the simple message of 'if you're driving, don't drink' can replace the current perception of 'if you're driving, don't drink very much'.

Speeding, however, is regarded by large sections of the general public as normal behaviour. Unfortunately, it is not true to describe those who speed as a 'reckless few' (your document section 1.14). Indeed, the consultation document refers to 70% of drivers admitting to speeding (para 2.1). Otherwise intelligent people believe that to speed is sensible, as it reduces journey time, and is safe, as they personally have never caused injury or death by their excellent driving. is perhaps best addressed by sophisticated social marketing techniques, as are being developed by the Department of Health. All education materials and modes (eg leaflets, broadcasts, posters) need to be tested with the target population, not just with those commissioning the materials, to ensure the correct messages are being received.

To this end, we disagree with paragraph 1.22: *"progressive decriminalisation (through the Traffic Management Act) of traffic offences that cause inconvenience or congestion (eg parking in bus lanes) but do not threaten life and limb."* We believe that one of the problems is that traffic offences are NOT perceived by the general public or by policy-makers and the judicial system as criminal offenses and are therefore considered unimportant and are readily flouted.

7.2 Promoting compliance

The other reasons to reduce driving speeds (discussed above) may also be useful in public education campaigns to aid compliance, as the fairness argument is harder to rationalise away, compared with the 'I don't cause collisions because I'm a safe driver' argument.

8. Road safety and public health

8.1 Impact on inequalities

The advantages of private transport accrue principally to the better-off; the disadvantages impact primarily on more deprived people. Inequitable negative effects include community severance and social exclusion (due to dependence on public modes of transport), as well as important inequality effects in all the other categories of impact.

There are important inequality issues with respect to road accidents. One effect is by different types of road users - pedestrians and cyclists have higher levels of fatal and serious casualties from collisions with other road users. Children from social class V have five times the mortality rate from road traffic collisions as children from social class I.[17] There are also links between modal choice and social class and also with vulnerable groups, particularly children. Some of these inequalities themselves lead to additional secondary effects – fear of accidents is one of the reasons children are driven to school. In areas with much traffic children do not play on the streets. Both encourage sedentary lifestyles.

8.2 Promoting physically-active transport and independent mobility for children and older people

We welcome the Government's approach to road safety in this document that focuses on reducing the threat to vulnerable road users from drivers who cannot exercise sufficient judgement or take sufficient care, complementing other documents that focus on road engineering and other measures. It is important that vulnerable road users are protected by legislation, education of drivers, and enforcement where necessary, as well as by providing pleasant, safe, traffic-free routes for walking and cycling.

However, it is important to remember that one effective way of having no pedestrian fatalities is to have no pedestrians! The health benefits of walking and cycling greatly outweigh the risk from traffic injuries. For example, it has been calculated that for every year of life lost from cycling injuries, 20 years of life are gained, on average,[18] and that the injury rates fall as the number of pedestrians and cyclists increase.[19] 20 Any injury-reduction targets should therefore be accompanied by targets to increase the number of people who walk (especially children and older people) and cycle (especially children

and women), to encourage health-promoting and environmentally-sustainable transport and ensure it is increased not decreased by road safety measures.

The aim must be to make walking and cycling safe, not to avoid casualties by reducing these modes.

8.3 Broader issues

As outlined in section 2.1 above, speeding traffic causes substantial impacts apart from the road traffic deaths and injuries quantified in the Government's consultation document. By discouraging physically active transport,[21] it contributes to obesity, heart disease, stroke, diabetes, depression, osteoporosis, and some forms of cancer.[22] Limiting independent mobility among children, older people and those without access to private transport and with limited access to public transport reduces mental well-being and self-esteem.[23]

Cycling at 10mph uses 29kJ/min on average, adequate for health benefits.[24] Walking a mile in 20 minutes (slower than the 3.5 – 4.5mph most often recommended for health benefits to accrue to the middle-aged[25]) expends the same amount of energy as cycling at 9.4mph for 16 minutes, running a mile in 10 minutes, swimming breast stroke for 10 minutes, medium-intensity aerobic dancing for 16 minutes, or playing football for 12 minutes.[26]

Regular "brisk" or "fast" walking can improve cardiovascular fitness.[27] Walking at ≥6.4km/h for >3.5hrs/wk halved the risk of first coronary event or fatal IHD in 9½ years follow-up ($p<0.001$).[27] Brisk/fast walking by the average man could use sufficient energy to be classed as vigorous in this study.[2834] The age-standardised death rate from IHD was also inversely related to speed of usual walking pace. Those who strolled had a high rate of co-morbidity, were otherwise sedentary, and were more often smokers. IHD deaths and hospital admissions were reduced in older people who walked >4h/wk compared with <1h/wk (RR 0.74), even when adjusted for other, more vigorous activities.[27]

Exercise tolerance and quality of life in people with congestive heart failure can be increased and fatigue and shortness of breath reduced by a progressive walking programme, increasing from 10km/wk at 13min/km to 21km/wk at 11.5min/km.[27] Relatively low intensity walking appears to suffice to improve the symptom of intermittent claudication.[27]

Walking also enhances insulin sensitivity and glucose uptake into muscle.[27] Effective activity in preventing diabetes included "very brisk walking" (≥8.0km/hr) or "brisk walking on soft surfaces such as sand or grass".[27] Brisk walking in middle-aged or slower walking in older people would be sufficient activity (50-60% of VO_{2max}) to maintain stable blood glucose levels.[27]

Bone density is higher in the legs and trunk of postmenopausal women who habitually walked >12km/wk compared with those who walked <1.6km/wk.[27] Aerobic activity,

including walking, jogging or cycling, can improve stamina.[27] In healthy sedentary adults, walking led to reductions in mood disturbance in women and increased positive affect in men. Different intensities of walking all improved quality of well-being in people with chronic pulmonary disease in proportion to improvement in exercise tolerance in comparison with controls. Walking improved pain in people with osteoarthritis and reduced anxiety and depression.[29] Other benefits to well-being occur from companionship and pleasant physical surroundings.[30]

Walking uses 4kJ/kg bodyweight, almost independent of pace, so walking more slowly than needed to increase fitness still aids weight control. For example, one mile on the level requires 272kJ for a 75kg man and more in heavier individuals.[27]

Incorporating activity into routine daily living can facilitate better compliance with the recommendations for physical activity by the general population than requiring attendance at sports facilities.[31] It is cheaper, less demanding of additional time, and more readily accessible, important considerations since costs, lack of time, and lack of facilities are the main reasons given for inactivity.[24]

These effects are much harder to quantify but probably exceed the road traffic injuries and fatalities by an order of magnitude.

Finally, we recommend that NICE, the National Institute for Health and Clinical Excellence, should include DfT amongst those organisations to whom its public health programme guidance recommendations are directed. For example, 2008 guidance on physical activity and the environment mentions the NHS and local authorities in relation to recommendations to reduce and enforce speed limits but omits the DfT.[32]

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