Road Safety Research Report No. 71

Post-court Road Safety Interventions for Convicted Traffic Offenders: Recommendations of a Judgement and Decision-making Working Group

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January 2007

Department for Transport: London

Although this report was commissioned by the Department for Transport, the findings and recommendations are those of the authors and do not necessarily represent the views of the DfT.

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ISBN 1 904763 72 3
ISBN-13 978 1 904763 72 7

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Printed in Great Britain on paper containing at least 75% recycled fibre.

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EXECUTIVE SUMMARY

The Road Safety Bill, currently in Parliament, aims to make legal provisions for the development of road safety education programmes for drivers convicted of traffic offences deemed to be serious, such as driving at high speeds, ignoring traffic signs and driving in a careless manner.

In preparation for the legal possibility of such educational interventions, a research working group of four judgement and decision-making experts was convened to examine the literature on risky human behaviour, including driving, and to make recommendations on what format, structure and content is likely to have the biggest positive impact on road safety attitudes and behaviour in the specific group of convicted traffic offenders – for which legal provision is currently being made.

The recommendations, listed below, have been derived from the available scientific evidence related to conceptual theories and empirical work in the judgement and decision-making field, combined with evidence on educational interventions from the wider psychological and educational literature. The overall conceptualisation of the course design is that of an intervention targeted, in the main, at experienced male drivers who are caught speeding at high levels, but its content is also appropriate for the much smaller subgroups of course attendees, such as those who have been apprehended for ignoring traffic signage or driving carelessly. Those who are convicted of driving at high speed are likely to believe that they are above average at driving and feel that they were driving within their capabilities when they offended.

After examining the evidence, the working group recommend a classroom-based intervention (the 'course') with a specified modular structure, delivered by trained professionals over a number of (at least six) sessions lasting at least two hours each and requiring the offender to complete homework between the sessions. The format of delivery should, in the main, be a facilitated small group discussion into which input from each individual attendee should be ensured. Discussions should centre on vivid scenarios of driving situations that are likely to provoke speeding and other illegal driving behaviour in course attendees. Attendees should be required to prepare short presentations of the results of between-module homework on key issues and concepts. A real incentive to engage with the educational intervention should be included, and this should be based on the effort a course attendee demonstrates during the course.

The recommendations of the working group are below. Full scientific justification for each recommendation is given in the main body of the report.

Recommendations on the likely psychological frame of the course attendees and on how to orientate the course toward this framing

Recommendation 1

Given that most participants will be male, non-novice drivers who are caught speeding at a high level, the course should address issues of speeding, and (to a lesser extent) careless driving, in a manner that reflects the significant experience of the target group and their norms and values.

Recommendation 2

The course content should be attuned with the attendees' perceptions that other road users are likely to be less-skilled drivers than themselves. Through the course content and delivery, attendees should learn to appreciate how their own speeding behaviour can cause other (perceived less-able) drivers to make mistakes and so be involved in accidents.

Recommendation 3

It is important that the course should not simply be seen as punitive, but that some form of reward is also available and, furthermore, that there is some differentiation in rewards according to performance (with failure being a real option). Course participation/performance should be rewarded by certificates of performance. Those who evidence good course performance should be rewarded by a greater reduction in the disqualification period or a part-fee reimbursement compared with those attendees who do not perform so well. Performance should be judged by the individual participant's effort and not intelligence.

Recommendations on course content

Recommendation 4

The first course component should rehearse the logic and legitimacy of the driving laws. The topics should include discussions of why laws, in general, exist and why society engages the police to enforce such laws. Groups of course attendees should be facilitated to voice their own views and notions of societal values, and the societal need to have predictable norms in behaviour should be explicated.

Recommendation 5

The course components should identify and demonstrate specific cases of unacceptable driving behaviour, since serious offenders may perceive their behaviours to be more socially acceptable than is actually the case.

Recommendation 6

As the likelihood of being involved in an accident, and of being caught speeding or for some other offence, is relatively low, drivers are unlikely to have experienced the consequences of these events. The course needs to highlight the negative consequences for the driver and their family and friends, and for other road users. These do not only include the consequences of injury, but the financial and practical consequences of, for example, being disqualified from driving.

Recommendation 7

Information regarding the statistical association between accidents and speeding should be presented. For example, the poor survival rates for pedestrians who are hit by vehicles exceeding 30 mph should be included. Overall, relationships between excessive speed and accidents should be demonstrated and discussed – such that the social legitimacy of the traffic laws is recognised. Vivid, visual illustrations are likely to have more effect than, for example, presenting information about braking distances.

Recommendation 8

As there is some evidence of association between anger and driver offences, anger management may be an appropriate module to include in the course, perhaps as an extra component for select drivers.

Recommendation 9

The course modules should include an opportunity for attendees to state their future driving intentions. These intentions should be a part of the course assessment.

Recommendations on the course format and delivery mechanisms

Recommendation 10

The course cohort size should ideally be no more than 12 participants in order to ensure that effective group work can be accomplished and to enable full contributions from all attendees. The course should consist of three modules, each delivered in two, two-to-three hour sessions.

Recommendation 11

The course modules should include an interactive element where respondents are obliged to explicitly engage in active discussion and respond to questions and issues.

Assessment of the course should reflect participation in both this activity and in prior homework.

Recommendation 12

Since cognitive/judgemental skills learnt in an artificial classroom environment are unlikely to fully translate to the external world, and familiar driving patterns and habits are likely to return once the drivers return to their usual situations, the course components should involve attendees in the use of imagery/simulation/mental rehearsal of driving scenarios.

Recommendation 13

The Department for Transport should investigate, in detail, likely providers of facilitators for the course, with a view to sourcing trained facilitators, or training those who are likely to play facilitation roles in the course delivery.

Recommendation on the monitoring and adjustment of the course

Recommendation 14

Since empirical data specific to the target group and the intervention are extremely limited at present, collection of such data in parallel to the course's operation is highly recommended, not least as a means of verifying the assumptions made here about the target group characteristics. A substantial data collection exercise needs to be carried out, at least for the first year of the course operation (depending on sample size), and a further working group exercise should be conducted once the data are available, so that fine-tuning of the course can be achieved.

1 BACKGROUND

The potential road safety benefit of educational interventions – compared with simple punitive measures – for those who commit traffic offences is significant. In the UK and abroad, several schemes targeting groups of drivers who commit specific traffic offences are already in operation. The current UK provision of such interventions includes the following:

- The National Driver Improvement Scheme (NDIS) and the Speed Awareness Courses (SACs), which operate as pre-court measures. These are courses for those who are caught driving without due care and attention (NDIS) or speeding mildly above the legal limits (SAC). In both cases, an offer to attend a course is made by the police, and those who accept the offer and complete the course do not receive the three points on their driving licence, which is the most likely penalty for their offence.
- The Drink-Drive Rehabilitation (DDR) scheme, which operates as a post-court measure aimed at convicted drink-drivers. Offenders are offered, in court after sentencing, the option to attend this course, and those accepting and completing the course within a specified time are entitled to a reduction in their disqualification period of up to 25% at the judge's discretion.

The consistently reported positive results of the DDR scheme in reducing subsequent re-offending have demonstrated that such educational interventions can be beneficial to road safety, and therefore extending offender re-training to other traffic offenders must be considered.

1.1 Further offender re-training

At present, a Road Safety Bill going through the UK Parliament makes provision in law to allow for further post-court educational interventions (courses) for more serious traffic offenders.

Drivers who are convicted in a court of law for the following four offences may be offered the opportunity to attend such a course. The four Road Traffic Act offences are:

1. Section 3 – careless and inconsiderate driving;
2. Section 36 – failing to comply with traffic signs (such as running red lights, turning right in a non-right-turn zone, etc.);
3. Section 17(4) – use of special road contrary to scheme or regulation (speeding on motorway); and
4. Section 89(1) – exceeding the speed limit.

For each of these offences the courses will be offered to the following two subgroups of convicted drivers:

- **Subgroup 1** – people who attend court for the offences above and for which the court, having decided that an *x* number of points and a *y* amount of fine is imposed, puts the total endorsements on the driver's license at between 7 and 11 points. For this subgroup, the penalties are now as follows:
  - three to nine points and a fine up to £5,000;
  - three points and fine up to £1,000;
  - two to six points and fine up to £2,500; and
  - two to six points and fine up to £1,000.

  Those drivers in this group who accept an offer to attend a course and complete it within 12 months of the court decision will lose three penalty points.
- **Subgroup 2** – people who attend court for the offences above and for which the court decided that they will be disqualified from driving for at least one year. Those in this group who accept an offer to attend a course and complete it within 12 months of the court decision will receive up to 25% reduction in the disqualification period at the judge's discretion.

In expectation of these provisions becoming law during 2006, there was a need to research the scientific knowledge that may help in the development of such courses – hence the commissioning of this report.

2 PROCESS AND AIMS

A working group of four experts in the field of judgement and decision making was set up to provide a summary of the scientific basis to the provision of guidance for the development of post-court courses aimed at the specific groups for which legal provision are currently being made. The four judgement and decision-making experts worked between the beginning of April and the end of June 2006 to integrate their existing complementary expertise in order to produce the scientifically-based guidance, founded on an extensive survey of relevant scientific literature.

The aim of the group was to produce a review document summarising the scientific knowledge underpinning specific guidance on the following issues:

- **course content** – recommendations on the constructs that need to be addressed in the interventions; and
- **course delivery** – the ideal method of delivering interventions on these constructs to this target group.

The extensive group interactions were conducted mainly remotely, with four all-day joint meetings, during which:

- the identification of the concepts to be covered was made;
- the allocation of research review areas between the members was decided; and
- the interim findings and emerging recommendations were extensively discussed and questioned.

Each expert was responsible for surveying a large section of the relevant scientific literature with subsequent group-based integration of the developing knowledge-base. In addition, further information was sought about the demographics of the target group, the personal characteristics of likely course attendees, and the way in which the attendees are likely to approach a course, including pre-course attitudes and personal views on the situation that led to the conviction and subsequent course attendance. Several other experts were also consulted.

3 OUTCOMES

3.1 The target group

Although the target group has been defined in the proposed Road Safety Bill by means of offence categories and subgroups of convicted drivers who are the target, further information on the size of the group and their demographic and personal characteristics was found to be necessary in order to develop a tailored, educational programme that is likely to succeed.

3.1.1 Demographic and personal characteristics

Summaries of the number of convictions for the four offences in magistrates' courts in England and Wales in 2004 are available. Unfortunately, for the larger subgroup of the target population (the ones on which the court does not impose a disqualification period) data are collected as overall summary statistics and it is not possible to specify the number of people having attracted an endorsement of 7 to 11 points on their licences following court decisions for each of the types of offences.

Overall, the available statistics indicated that the large majority of people in the target group (i.e. the likely course attendees) are those who attended court for driving at a high level over the speed limit (five times more likely than careless driving and 10 times more likely than traffic sign non-compliance).

The available demographic information refers to gender and age group (under and over 21 years old), and points to the fact that the majority of the target group consists of experienced drivers who are male, with men appearing over four times more often than women, both overall and as speeding offenders.

Approximately 6% of UK drivers are under the age of 21 years, but these younger drivers account for less than 4% of speeding offences, about 6% of traffic sign convictions and around 17% of careless driving convictions. Thus, from the figures available, it appears that the younger drivers are less likely than older drivers to appear in court as high-level speeders.

It was not possible to obtain data on the prior history of the target group – in relation to other, earlier road traffic offences – although it is clear that, for the subgroup of drivers who would enter the course via the 7 to 11 points option, a previous offence punishable by points must have been committed in the earlier three years. For the much smaller group – those disqualified for 12 months or more – it seems likely, at least theoretically, that either the current offence was judged to be more serious as to warrant such a punishment or that a prior offending history must exist.

Thus, the analysis of the available data suggests that course attendees will consist, in the main, of (a) experienced male drivers caught speeding at a high level and, in small minority, of (b) those caught driving carelessly or ignoring traffic signs. For all groups there is at least a reasonable likelihood that prior offending may have occurred.

3.1.2 Characteristics of the offending behaviours

For two of the offences considered (those that involved driving at high speeds on motorway or non-motorway roads) the behaviour for which the target group has been convicted is clear. The same applies to the offence of non-compliance with traffic signage (such as ignoring traffic lights), but for the careless driving offence it is much less clear what behaviour, or behaviours, have been exhibited by offending drivers. Therefore, for this latter offence, anonymous descriptions of a sample of real traffic events that reached court as 'careless driving' were obtained. From the descriptions, careless driving was found, in the main, to involve a minor collision which, most likely, occurred at a road junction when right-of-way was not complied with by the offending driver – although a large range of (much more infrequent) causes of a collision were possible.

A fundamental difference between the context in which the speeding and non-speeding offences have occurred is that those in the speeding group have largely not been involved in an accident and have been apprehended mainly by using automated means (cameras), whereas catching careless drivers is not automated. Careless drivers had – in virtually all offences – been involved in a collision at the time of the offence.

It follows that experienced male drivers who speed are likely to be the main group attending the course, and they are there largely because of ease of detection.

3.1.3 Further target group considerations

The actual prevalence of other types of non-legal driver behaviour by speeders and non-speeders – and the ratio of occurrence of such behaviours to speeding behaviour – is, as yet, unknown. However, driving offences of different types (e.g. speeding, parking, etc.) have been found to be significantly inter-related in the offences of driving offenders (e.g. Kontogiannis *et al.*, 2002; Mesken *et al.*, 2002). Nevertheless, our conclusion is that experienced (male) drivers, who are caught speeding, will be the great majority of our target group

Note, however, that our conclusion that the target group is most likely to consist of relatively experienced male drivers is based on the 2004 statistics provided on court convictions in England and Wales. We caution that these statistics go against the results of a substantial number of studies of overall unsafe driving. For example, Ross and Antonowicz (2004) state that 'the driving literature is replete with

evidence that young drivers are disproportionately represented in statistics on risky driving, traffic violations, drink/driving, and collisions', and they list more than 10 studies supporting this claim. Moreover, the personal characteristics that they mention as being related to anti-social behaviour are also associated with the younger age groups (e.g. impulsivity, sensation-seeking, egocentricity, deliberate risk-taking and/or biased risk perception and/or overestimating the extent to which one has control over outcomes etc.). The inconsistency between the statistical data available to the working group and the data reported in studies from across the world should be explored further when access to the target group is available as they attend the course. At this point in time, a detailed characterisation can be made. To enable this, and hence to refine the basis on which the course is developed further in the future, a substantial data collection exercise needs to be carried out at least for the first year of the course, and a similar further working group exercise should be conducted once the data are available and the possibility of fine-tuning the course is possible.

Another important issue related to the target group refers to its homogeneity and the appropriateness or otherwise of delivering one intervention to the whole group versus the differential targeting of distinct pre-screened subgroups. That is, should the target group be further segmented for the purpose of optimising effectiveness of a (tailored) course intervention? The working group's view is that, on the basis of present knowledge, this cannot be done. Personality measures have sometimes been found to be related to both the propensity for driving offences/accidents and the effectiveness of driver improvement interventions – but the evidence is weak and is not systematic. In a large-scale study using careless driving offenders (albeit those committing milder rather than, in our case, serious careless driving offences) who were attending the NDIS, Conner and Lai (2005) found little evidence of such relationships with personality traits and person characteristics, although smaller-scale studies have found correlates of high speeding with sensation-seeking and aggressiveness (e.g. Sumer and Ozkan, 2002; Jonah, 1997).

However, statistically significant correlations between such personality measures and driver behaviour are often low in numerical strength. For example, a recent UK study of high speeders, similar in characteristics to our speeder subgroup, reported a significant correlation of just 0.25 between sensation-seeking and choice of a higher speed in a video simulation (McKenna, 2005a), indicating that only 6% of the variability in speed choice is predictable from high sensation-seeking scores. Additionally, when socially-desirable responding has been measured, in situ, with personality measurement and speeding/driving attitudes, the reliability of the social desirability measure has been found to be very low (Conner and Lai, 2005), indicating that apprehended speeders who participate in an official course setting may be less than truthful in their responses to road behaviour questionnaires. This may be especially so in situations where attendees are also asked to write their driver numbers on the questionnaires, as has occurred in some studies (see Conner and Lai, 2005).

In summary, it is the group's view that the evidence is not strong enough, at present, to allow segmentation of the target group – of experienced male drivers who are caught speeding – any further. However, one group of studies suggests that aggression is related to intention to commit driving violations, as well as actual violations (e.g. Hennessey and Wiesenthal, 2005; Sumer and Ozkan, 2002; Yagil, 1998). Since anger can be conceptualised as a transient emotion, rather than an enduring personality trait, this research indicates that an anger management course component could be beneficially included in the course, and we have therefore added a recommendation to this effect, see later.

3.2 The causes of speeding behaviour

The term 'speeding' is used to describe the behaviour of a driver who is operating a vehicle at a speed that is considered too fast for the prevailing conditions, or at a speed greater than that specified by the posted speed limits. In Western society, this type of driving behaviour is very common. In one survey, nearly 70% of drivers were found to be breaking the 30 mph speed limit (DETR, 2000, quoted in McKenna, 2005a). However, roughly 90% of those surveyed in another study believed a 30 mph speed limit, in town centres, to be either appropriate or too high (Silcock *et al.*, 1999).

It follows that the reasons for the high incidence of speed violation can be quite complex. As motorists build up a history of safe driving at higher speeds, their behaviour is reinforced because accidents are a rare event (as is offence detection) and any relationship between one's own speed and accident occurrence appears non-existent. From the perspective of the speeder, no-one is (to his or her knowledge) injured or affected by his or her speeding. As Cairney (1986) puts it: 'Since accidents and near-accidents are rare events, even the most expert drivers are likely to have limited experience of them, and certainly have not encountered enough of them in their own driving careers to have an accurate idea of the relative likelihood of different types of accident, or the types of driving behaviour which precipitate them' (p.20).

In short, traffic accidents are rare events for individual drivers – and near accidents seem to be rapidly forgotten (Chapman and Underwood, 2000). In one study, only those who had been hospitalised after a road accident showed differential comparative risk estimates to other drivers who had either been involved in minor accidents or no accidents. Indeed, drivers who experienced crashes of great severity (necessitating medical treatment for injuries) attributed greater responsibility to other drivers than to themselves or to weather/road conditions (McKenna and Albery, 2001). However, people who were in crashes of lesser severity attributed approximately the same amount of responsibility to themselves as they did to others (Stewart, 2005). Evans (2000) reports that an at-fault crash in the previous year actually increases the probability of at-fault crashes in the subsequent year by nearly

50%. We return to this issue of 'attribution' later, as it plays an important part in our course design.

Intuitively, speeding behaviour may be intrinsically rewarding to drivers, that is, it may save time, feel exciting or give the individual the opportunity to demonstrate skill or courage. However, McKenna, in a series of studies (e.g. McKenna, 2004) has found that drivers apprehended for high-speed driving do not claim the cause to be either enjoyment of speed, tiredness, lack of concentration or time pressure – except in the latter case for a subgroup of working drivers. Thus, speeding behaviour might be a reflection of societal lifestyle values. In Western society, the notion of speed is often portrayed as a positive quality, associated with an active, powerful, dynamic and fast lifestyle. In contrast, attributes such as slowness, passivity and staticity are considered to be negative aspects of Western culture. Such societal lifestyle values may be deeply embedded, so difficult to modify.

The credibility of speed limits plays an important role in the process of encouraging safe driving speeds and if motorists believe that speed limits are not appropriate then the likely result will be an increase in the level of speeding behaviour. Drivers know that their behaviour in exceeding the speed limit is commonplace and may feel that being caught is unlucky. Furthermore, for many drivers, the prosecution experience results in distress, anger and anti-camera sentiments – predominantly because offenders believe that they are more skilled than other drivers (Blincoe *et al.*, 2006). For example, Blais and Dupont (2005) demonstrated that speeding fines based on camera surveillance are seen as less legitimate than fines received from an individual police officer.

A series of studies give insights into the attributions and self-perceptions of those who are likely to be apprehended for speeding offences and who, therefore, are likely to be attendees at the course:

- Drivers believe that most other drivers speed (e.g. Campbell and Stradling, 2003) and seem to be accurate in this perception (Ahberg *et al.*, 1997).
- Drivers also believe that they drive more slowly than average (but still faster than the posted speed limit) and are, therefore, safer than average (Walton and Bathhurst, 1998).
- In a study of young drivers, males tended to be more optimistic when judging their driving skill (Dejoy, 1992).
- In a sample of those caught for speeding, about 50% self-reported anger at being caught (Campbell and Stradling, 2003).
- Offenders, relative to non-offenders, overestimate the number of other drivers who speed, drive too close, etc. (Manstead *et al.*, 1992).
- Offenders consider themselves better drivers than other drivers (Reason *et al.*, 1990).

- Offenders rate the potential adverse consequences of their actions (e.g. having an accident, being stopped by the police) as less likely, and as less bad than do other drivers (Parker *et al.*, 1992a, b).
- Offenders believe that their significant others (spouses, etc.) are unlikely to disapprove of their offences (Parker *et al.*, 1992).
- Offenders think that other drivers are not be upset by their behaviour (Stradling *et al.*, 1992).
- Hostile attributional bias (other drivers being seen as hostile/malicious) is associated with higher levels of roadway aggression (Antonowicz, 2002).
- Frequent offenders tend to have feelings of invulnerability and an illusion of control (Parker *et al.* 1992a, 1992b, 1995).

Only in drink-driving does there appear to be a social stigma for the behaviour/offence. In recent years, there has been an increase in the percentage of respondents willing to label a drink-driver who is involved in an accident, or is stopped by the police, as 'irresponsible, a criminal, or a potential murderer' (Homel, 1990). Thus, societal attitude towards drinking and driving may be different, and more severe, to that for speeding and other traffic offences.

3.3 Recommendations and scientific basis

The Judgement and Decision-making Working Group produced recommendations pertinent to:

- the likely psychological frame of reference of the course attendees and how to orientate the course content toward this frame;
- the course content;
- the course format and delivery; and
- course monitoring and adjustment.

3.3.1 Understanding the likely psychological frame of reference of the course attendees and how to orientate the course content toward this frame

In general, driver skill and knowledge (re-)training has been found to have a mixed effect on subsequent accident rates or convictions either for young (pre-licence) drivers or experienced drivers. Some researchers found no effects (Lynn, 1982), and in most other studies the effects were relatively short-lived and disappeared after a number of months (Mayhew and Simpson, 1997; Raub *et al.*, 2002). Large differences between the various courses, and even in the delivery of courses (as a function of the specific trainers involved), make it more or less impossible to reach firm conclusions about the effectiveness of training programmes.

Bad or anti-social drivers are not necessarily incompetent drivers; many are highly skilled and see themselves as such. Courses that focus on driving skills can enhance these beliefs about driving competence even further and might increase the likelihood of getting involved in accidents. This is exactly what has happened after some courses focusing on skills (see, for example, Glad, 1988; Jones, 1992). For example, Gregersen (1996) has demonstrated that practice on a short skid-training course produced no discernible improvement in actual skill, although it did produce a significant increase in confidence. If the increase in confidence is translated into faster speeds or driving in more dangerous situations, then increased accident involvement could follow. Horswill *et al*. (2004) found that the more skilful drivers believed themselves to be, the faster they intended to drive. Findings obtained by Siegrist and Ramsier (1992) also confirm the effects of skills-oriented courses on increasing perceived competence and increasing risk-taking behaviour.

The literature calls for interventions that change the motivations of drivers but descriptions of such courses appear virtually non-existent. Below are:

- our conceptualisation of why previous attempts to re-train drivers have failed; and
- our view of the components that future re-training courses should contain, in order to result in both greater driver compliance with the law and less involvement in accidents.

Our overall conceptualisation of the course is that of an intervention that is targeted at experienced (male) drivers who are caught speeding. Such offenders are likely to believe that they are above average at driving and were driving within their capabilities when they offended. Importantly, it may be that the driving skills of these people *per se* are fairly good (if irresponsibly applied) and therefore focusing upon improving technical skills may be both unnecessary and likely to lead to even greater confidence and self-efficacy of already (over) confident drivers. Since such drivers perceive, rightly, that the majority of drivers speed, then they are also likely to feel unlucky to have been caught. Such drivers are also likely to not be stigmatised by family and friends for their law-breaking behaviour.

Recommendation 1:
Given that most participants will be male, non-novice drivers who are caught speeding at a high level, the course should address issues of speeding, and (to a lesser extent) careless driving, in a manner that reflects the significant experience of the target group and their norms and values.

3.3.1.1 Role-playing the perspective of other road users

Ross and Antonowicz (2004) present a list of defining characteristics of anti-social drivers on the basis of the existing literature. Anti-social drivers:

- often fail to recognise that a road traffic problem exists or is about to occur;
- do not consider alternative solutions to such problems but continue to drive in ways that are ineffective or inappropriate;
- have either failed to determine – or have not even thought about – the driving responses they can and should take to cope with problems they encounter when driving;
- fail or are unable to appreciate the consequences of their driving behaviour on other people; and
- do not understand, or they fail to think about, the cause and effect relationship between their driving behaviour and other drivers' reactions to them (Ross and Antonowicz, 2004, p. 160)

In order to cope well with the road traffic problems that course attendees are likely to encounter when driving, they need to rehearse difficult driving situations and alternative behavioural responses to them. Such information may be gained through driving training, but is more likely to be acquired through driving experience. Since this is impossible in the context of an economically-viable educational intervention, the road safety course for serious offenders needs to rely on role-playing and facilitated imagination. In such a way, course attendees can be sensitised to both the identification of, and choice of response to, difficult driving situations. In the Prosocial Driver Training Program of Ross and Antonowicz (2004), problem-solving training is not limited to teaching specific solutions to specific driving situations. It aims, instead, to teach cognitive and behavioural skills in order to enable the individual to develop a **general** and **principled** approach to problem-driving situations.

Such training is conducted quite extensively in the Ross and Antonowicz (2004) course; participants are taught to continually observe their environment in order to foresee hazardous situations and are taught to recognise the potential consequences of such situations. They are also taught to reflect upon problems they have encountered on the road and to consider their cause and the various alternative solutions they might have chosen. They are also taught to think of all of the possible consequences of such options, and then to carefully decide the best action they might have taken to avoid or solve the problems – whilst taking their perceptions of other road users into account. In short, participants are forced (in small group discussions) to deliberate about their own behaviour and that of others. We believe that this element of Ross and Antonowicz's course should be included in the design of the road safety course for serious offenders. Discussing real cases presented by the participants is likely to increase their involvement. The overall aim is to induce

participants to think more elaborately about their own and other people's driving styles.

One recurring element in Ross and Antonowicz's programme concerns empathy. For instance, the value of trying to understand how other road traffic users feel and how those feelings might lead them to react to one's own driving behaviour.

Recommendation 2:
Course content should be attuned with the attendees' perceptions that other road users are often less-skilled drivers than themselves. Through the course content and delivery, attendees should learn to appreciate how their own speeding behaviour can cause other (perceived less-able) drivers to make mistakes and so be involved in accidents.

3.3.1.2 Combining deterrence with reward as a guiding principle

Deterrence can, to a degree, improve driving behaviour. Recently, Redelmeier *et al*. (2003) published the results of their study of the driving history of more than 10 million Canadian drivers for more than a decade. The results showed significant reductions of the risk of a fatal car crash in the month following a conviction. Apart from this large-scale study, results of research on the effects of sanctions tend to be mixed. For example, findings obtained by Elliott *et al*. (2000) showed an **increase** of offences after a conviction, probably because offenders underestimated the chance of being caught again ('lightning doesn't strike twice'). This so-called 'positive punishment effect' has also been found by Pogarsky (2002) and Pogarsky and Piquero (2003).Whilst a number of studies have shown that sanctions can have a deterrent effect (Nagin, 1998; Salzberg and Moffat, 2004; Watson, 1986), others have indicated that these effects are small (see MacCoun, 1993; Varma and Doob, 1998). There seems consensus that the effects of deterrence tend to be short lived and are unlikely to generalise (Ross and Antonowicz, 2004).

A finding that is especially relevant in the present context is that deterrence in combination with training and rewarding newly-formed behaviour seems the most efficient and successful combination (Masten and Peck, 2004; Blaise and Dupont, 2005). In other words, it is essential that the course is seen as rewarding and offers concrete tangible rewards. These rewards can vary – the literature suggests that using a diversity of rewards is likely to be most successful. The rewards should underpin the acquisition of new cognitive and behavioural skills that are associated with pro-social driving.

For example, Hagenzieker *et al.*, (1997) carried out a meta-analysis of interventions aiming to improve the frequency of seat-belt usage. Their results showed that immediate, or relatively swiftly received, rewards were most efficient and increased

seat-belt usage by about 10%. Other approaches combining deterrence with education were successful for drink-driving (Streff and Eby, 1994) and the use of seat belts (Eby and Christoff, 1996; Piquero and Paternoster, 1998; Williams *et al.*, 1986). Several programmes showed that incentives for collision-free driving did yield reductions in California (Harano and Hubert, 1974) and Norway (Vaaje, 1995).

The importance of giving rewards is evident from research in a number of fields. In socio-biology and evolutionary psychology, the concept of 'reciprocal altruism' or 'reciprocity' has been highlighted as important in human survival and evolution. In brief, these disciplines indicate how the giving, and reciprocated receiving, of favours may aid an individual's survivability in social environments, leading to the evolution of related psychological traits or mechanisms within populations over time (e.g. Crook, 1985; Dawkins, 1976). Indeed, some authors have suggested that many human psychological characteristics – such as feelings of guilt and shame – may have emerged evolutionarily in order to ensure that humans reciprocate favours appropriately (e.g. Trivers, 1971), and it is notable that severe psycho-pathologies are often associated with an inability to feel empathy, guilt etc. (e.g. Mealey, 1995).

The power of the need to reciprocate favours has also been highlighted by work on 'influence'. Cialdini's research (e.g. 1993, 2001) indicated six main ways to encourage compliance with a request, the most important of which is 'the rule of reciprocity'. Cialdini found that salesmen in various arenas typically use techniques related to this concept in order to get people to 'say yes'. For example, the 'door-in-the-face' technique concerns making an initial request of a person for a large favour, which is invariably denied (the door is 'slammed in the face'), followed by a request for a much smaller favour that is often then given. In this case, the common interpretation of this much-demonstrated and effective method is that the initial denial induces guilt in the target, who feels a need to reciprocate the subsequent concession made by the requester. Importantly, reciprocal spite may be a very powerful mechanism too (related to catching people 'cheating', i.e. not reciprocating), and may lead to many negative human emotions and cognitions. If we attempt to relate this to the driving offender situation, it is quite likely that if those caught feel themselves the victim of injustice ('everyone speeds', 'I was just unlucky', 'the fine is ludicrous – I was only exceeding the speed limit by walking pace') then they might feel no particular need to engage with a training course (which may simply be seen as adding insult to injury). Indeed, reciprocal spite might lead to highly negative emotions towards the system and course. Providing a tangible reward with the course (as opposed to providing a simply punitive experience) is likely to induce a need by the offender to reciprocate in some way.

It is, however, also important to ensure that rewards are not disproportionate. 'Cognitive dissonance' (e.g. Festinger, 1957; Festinger and Carlsmith, 1959) refers to psychological discomfort caused by inconsistencies amongst a person's beliefs, attitudes and actions, which induce a 'drive state' that causes the person to change in

some manner so as to reduce the dissonance. (This may be done by changing attitudes, adding new attitudes, or by re-interpreting the experience itself.) If a reward is large, then a counter-attitudinal judgement or behaviour (here complying with the dictates of the driver offender course) is unlikely to cause dissonance, as the reward itself is justification for, and explanation of, the person's behaviour. However, if there is minimal justification (a small reward), then the counter-attitudinal action (engaging with a course that is seen as unnecessary and unjust) may appear to be freely chosen by the person and might thereby be expected to lead to dissonance, potentially followed by attitude change. We might hypothesise that the high-reward scenario would likely be associated with only shallow learning by participants of what they need in order to pass the course (with resistance to lessons that they believe to be inappropriate to them), while the latter (especially as also associated with a need to reciprocate rewards) might lead to concessions, reciprocation, attitude change and deeper learning ('the course is teaching an important message that I must believe in, or else there is little (good) reason for me to be doing it').

The proposed emphasis in the course – on rewards and the learning of new skills as opposed to the frequently observed emphasis on deterrence – can also be found in recent, non-traffic offender initiatives in the UK. From 1998, various programmes have been developed for frequent offenders. These programmes focused on adolescents displaying anti-social behaviour and/or committing offences on a frequent basis. Initially, the emphasis was on deterrence – for instance, by the end of 2005 a total of 6,500 young offenders had received a so-called Anti-Social Behaviour Order (ASBO), a public warning that can also be published on the website of the police. After this warning, additional offences can lead to fines or custody. However, more recently these programmes have started to offer Individual Support Orders (ISO) to the adolescents that aim to help reduce anti-social behaviour without a sole reliance on deterrence. Thus there is now an emphasis on facilitative tools to help change behaviour (see http://news.bbc.co.uk/1/hi/uk/4596046.stm).

Recommendation 3:
It is important that the course should not simply be seen as punitive, but that some form of reward is also available and, furthermore, that there is some differentiation in rewards according to performance (with failure being a real option). Course participation/performance should be rewarded by certificates of performance. Those who evidence good course performance should be rewarded by a greater reduction in the disqualification period than those attendees who do not perform so well. Performance should be judged by effort and value learning, not intelligence.

One additional option (discussed by McKenna, 2005a) is to offer a course with suspended points. If a participant who attended the course did not commit a subsequent driving offence in a specified period, say a year hence, then the points for the original offence would not be added to the driver's licence. However, if the driver did commit a subsequent offence in the specified period then not only would they receive the points for that offence but they would also receive their previously suspended points. The overall idea is that the course will provide the knowledge of what to do and why in difficult driving situations, and the suspended points will provide a lingering motivation to keep the driver driving within the law.

3.3.2 Course content

It is envisaged that the first module should focus on attendees' value development by enhancing the perceived legitimacy of the driving laws. The second module should focus on a demonstration of social norms in driving behaviour, whilst the third module should be concerned with demonstrating and explaining cognitive misconceptions of driving risks and how to deal with emotional responses to difficult driving situations. The course should end with each attendee making a commitment to future, law-abiding, driving intentions.

3.3.2.1 A focus on value development by enhancing the perceived legitimacy of the driving laws (module 1)

Perceived justice has been found to be a predictor of tax offences – people are less likely to show fraudulent behaviour if they find the system fair and legitimate (Alm *et al.*, 1993; Cowell, 1992; Falkinger, 1995; Kinsey *et al.*, 1991; Murphy, 2004). The perceived fairness and legitimacy of the course should be addressed in the first module. Stressing its legitimacy and fairness should help to convince participants that attendance is important.

In other contexts, involving the re-education of criminals, educational interventions that target moral development and evaluate the social consequences of offending behaviour have been shown to work better than other forms of educational interventions in reducing long-term recidivism for all types of criminal behaviour (Gendreau *et al.*, 1996; Hill, 2003). Thus, we propose that the course should be focused on the group discussion of moral issues/responsibility for the consequences of speeding and other inappropriate driving behaviour.

An important, and probably essential, element of the driver training programme developed by Ross and Antonowicz (2004) is the view that there is little sense in teaching driving skills, cognitive skills, social skills, or any other kind of skill, to anti-social drivers unless one also teaches values. The assumption is that failing to teach these values may only produce more skilled, but still anti-social, drivers. In their programme, the teaching focus is on the identification and discussion of the one value that is universally endorsed: concern for other people – in other words

empathy. In our view, the initial and continuing theme of the road safety course for serious traffic offenders should be to enhance empathic abilities, and one way to do that is to relate participants' empathy to societal values.

Ross and Antonowicz (2004) argue that all moral perspectives would endorse the position that consideration of the needs of others is a basic requirement for safe and courteous driving. In driving, as in any other social activity, one should be concerned with, and behave in such a way as to accommodate, the legitimate rights and needs of other people. The problem (according to Ross and Antonowicz) is that many might not grasp the value of such values because they lack basic social perspective-taking skills or empathy.

Gabany *et al.* (1997) studied why drivers thought that other drivers broke the speed limit and found that five factors could account for the responses:

- thrill;
- time pressure;
- inattention;
- ego gratification; and
- disdain for driving.

Although there may be a limited ability to account for speeding in these terms (the research suggests that we should avoid simple assumptions that speeding is due to thrill seeking or time pressure), this does not mean that speeding behaviour could not be addressed and remedied by a course that attempted to reorient drivers to consider overarching moral arguments for driving within the speed limits. For example, all five of the behavioural factors identified by Gabany *et al.* (1997) are controllable by any individual (save the dysfunctional) who accepted that it should be imperative to keep to the limits rather than express their personality or reflect their situation through driving fast. In other words, speeding is a behaviour that is controllable by anyone that recognises the importance of keeping to the rules.

In the course, participants should be required to seriously question and examine their ideas about the laws of driving and the **morality** of their own and others' driving styles. More importantly, course attendees should be facilitated in considering the legal and moral perspectives of other drivers and of society at large. We believe that it is both possible and essential to enable attendees to think beyond their relatively egocentric world view and develop a broader social perspective of their driving behaviour and their driving responsibilities. The course trainers should be required to ensure that, in exercises and activities throughout the course, participants:

- are made aware of the value issue;
- are helped to consider carefully how their values influence both their thoughts and their actions; and
- are sensitised to the value implications of their driving style (*cf*. Ross and Antonowicz, 2004, p. 172).

Such a conceptualization leads us to the following recommendation:

Recommendation 4:
The first course component should rehearse the logic and legitimacy of the driving laws. The topics should include discussions of why laws, in general, exist and why society engages the police to enforce such laws. Groups of course attendees should be facilitated to voice their own views and notions of societal values, and the societal need to have predictable norms of behaviour should be explicated.

McKenna (2005b) assessed the attitudes of speeders attending a speed awareness course. He tested a random half of the attendees before they had completed the course and half afterwards. The course included a 'driving risk profile' that evaluated the riskiness of their driving choices for such things as closeness of following, speed choice and hazard perception (measured on an interactive computer program), and a discussion session with a trainer. The perceived legitimacy of the enforcement (the police action in prosecuting the offender – e.g. should the police be out catching 'real' criminals?) changed markedly: while 39% queried the legitimacy of the police action before the course, this was reduced to 10% afterwards. This change in reporting suggests that attitudes to speeding were genuinely altered by the course and participants were not just offering socially desirable responses.

3.3.2.2 Demonstration of social norms (module 2)

The importance of social norms in directing what people perceive to be acceptable behaviour cannot be overemphasised and, indeed, the concept is important in various theories concerning behaviour and attitude change, such as the Theory of Planned Behaviour (and for relevance to driving behaviour see, for example, Parker *et al.*, 1992b). As discussed in section 2.2, most drivers believe that speeding is commonplace and socially acceptable (e.g. Campbell and Stradling, 2003; Parker *et al.*, 1992b). If this perception is unrealistic, then it is important to counter these misconceptions; if not, it may at least be possible to selectively emphasise societal norms that are against specific offending behaviours (like disobeying 30 mph limits in towns, e.g. Silcock *et al.*, 1999). An example of the potential influence of norms comes from Groeger and Chapman (1997), who reported that drivers encountering

Variable Message Signs that had information on the percentage of drivers who were **not** speeding or tailgating, **did** reduce speeding and tailgating violations but **only** where the majority of other drivers present were complying with the traffic law specified on the sign. Some component of the course therefore needs to contend with dominant (perceived) social norms.

Overestimating the prevalence of specific offences also tends to be associated with an increased likelihood of committing that offence. Wenzel (2005) showed this in the context of tax evasion. Others have shown that informing people about the fact that offences are committed by a minority of the people tends to increase compliant behaviour. Research assessing the effectiveness of 'posted feedback' or 'public posting' revealed significant increases in compliant behaviour in a variety of domains, such as littering (Sibley and Liu, 2003), recycling (Katzev and Mishima, 1992) and speeding (van Houten *et al.*, 1980; van Houten and Nau, 1981; Ragnarsson and Björgvinsson, 1991). In the latter study, 'posted feedback' had more impact than increased police surveillance. Groeger and Chapman (1997), in the study previously mentioned, investigated the effects of 'posted feedback' in driving simulators and found further support for its effects. The assumption is that providing information about the (low) prevalence of violations increases the awareness about descriptive and/or prescriptive norms, and that this awareness affects behaviour.

Given all these findings, it is not surprising that several researchers explicitly incorporate social and moral factors in their analysis of compliant behaviour within society. A clear example is Tyler's compliance theory described in *Why people obey the law?* (1990) Other approaches favour a regulatory mix combining elements of deterrence and compliance (e.g. see Ayres and Braithwaite, 1992; Braithwaite and Makkai, 1994; Sinclair, 1997; Sparrow, 2000).

Social approval and disapproval are important determinants of behaviour. The research literature distinguishes between personal norms and social norms. The former refers to internalised norms and values; the latter to what other people think you ought to do (prescriptive norms) or tend to do (descriptive norms). Referring to these norms can help to change people's behaviour. Personal norms have been shown to predict tax behaviour, as shown in an Australian study by Wenzel (2004). Grasmick and Bursik (1990) showed the effects of personal norms on tax evasion, petty theft and drunken driving. Interestingly, in their study the effect of personal norms was stronger than the effects of the likelihood of being caught and the magnitude of the punishment for the first and third offence. Findings obtained by Varma and Doob (1998) also confirm the role of personal norms in the context of tax evasion, while Paternoster and Simpson (1996) showed the impact of personal norms in the context of corporate crime. Parker *et al.* (1995) found support for the role of personal and prescriptive norms in traffic behaviour. Kallgren *et al.* (2000) showed that descriptive norms and especially prescriptive norms have a significant impact on littering behaviour. The impact of these norms is more pronounced if norm consistent behaviour is shown by others that matter (i.e. similar others in terms

of background, education, gender, etc.). The behaviour of these others provides social proof for the desirability of specific behaviours (Cialdini, 2001).

Within the context of road safety interventions, the showing of videos of dangerous driving might be useful **if** such videos are likely to evoke majority disapproval in the course attendees. So, for example, a video of a young driver showing off to his peer group might receive implicit social approval from a young driver course attendee, but he/she will hear the voicing of disapproval from older course attendees who see the danger inherent in the behaviour demonstrated in the video. Thus, the young driver might come to appreciate another social norm. It would be important for such videos to be piloted to ensure the appropriate reactions from such groups of course attendees.

Recommendation 5:
The course components should identify and demonstrate specific social norms of unacceptable driving behaviour, since serious offenders may perceive their behaviours to be more socially acceptable than is actually the case.

3.3.2.3 Cognitive misconceptions (module 3)

Although road accidents are a major cause of death, the low accident rate for individual drivers means that many drivers will have never experienced an accident involving injury – thus drivers will tend to perceive relatively large benefits from driving fast but perceive few costs. Research into the psychology of risky choice anticipates such an effect: thus, while people contemplating risks will typically **over**weight low probability risks that have been communicated to them (Kahneman and Tversky, 1979), the situation is quite different for risky events that are learned about through experience. Here, low probability events have been found to be consistently **under**weighted in the decisions and actions that people take in the face of risk (Hertwig *et al.*, 2004).

This underweighting of risk may be related to the finding of an optimistic bias in most drivers. For example, Svenson (1981) found that the vast majority of drivers consider themselves better than average drivers. Dejoy (1992) asked drivers to judge their relative driving safety, skill and accident likelihood, and found substantial optimism in both sexes – though males tended to be more optimistic, particularly when judging their driving skill. Comparisons were made using both peers and the average motorist as referent groups. Waylen *et al.* (2004) found optimistic bias in highly experienced drivers, notably expert police drivers. Here, the police drivers rated themselves as superior to equally qualified police drivers. So, experience does not undermine the illusion: despite their extensive additional training and experience, experts still appear to be as susceptible to illusions of superiority as

everyone else. The consequence of such self-serving biases are twofold: while they may be reassuring to those who are affected by them (i.e. the vast majority of people) they can lead to increased exposure to hazards. For example, Kruegar and Dickson (1994) found that perceived self-efficacy was related to greater risk-taking behaviour.

A lack of familiarity with the consequences of driving with excessive speed (as an example) not only means that most of the offenders on the course are unlikely to be aware of the statistical likelihood of these events, but will also be unaware of their nature and magnitude. It is important that the course emphasises these consequences as **vividly** and **powerfully** as possible, since it is known that aspects such as high salience and high visual impact are associated with both the ease of recall of events and their increased perceived likelihood of occurrence (see Tversky and Kahneman, 1974). It is likely that the course attendees will not have fully thought through the chain of consequences that could arise from their having an accident or being caught offending – a chain of events that includes injury and death to either themselves or to others, and also the consequences to friends and families (e.g. widowed spouses and orphaned children). Furthermore, there are often severe practical and financial consequences to losing one's car – through accident or from licence disqualification – that course attendees may not have considered. Such consequences may include the loss of one's job, a lack of opportunity for leisure activities (for self and family) and so on. The use of powerful videos showing the effects of accidents, or personal or video testimonials from victims suffering from the consequences of offending (including past offenders as well as other parties who have been affected), are likely to emphasise these consequences and may help rectify misconceptions – at least concerning the severity of consequences, though likely also of their estimated probabilities of occurring. Hence the following recommendation:

Recommendation 6:
As the likelihood of being involved in an accident, and of being caught speeding or for some other offence, is relatively low, drivers are unlikely to have experienced the consequences of these events. The course needs to highlight the negative consequences for the driver and their family and friends, and for other road users. These do not only include the consequences of injury, but the financial and practical consequences of, for example, being disqualified from driving.

While individuals may deny that their speeding presents any particularly increased risk, at the aggregate level, where statistics regarding the involvement of speed in road accidents are concerned, it is easier to see an association between speed and risk of death. Moreover, presented in that fashion, it is harder to deny personal responsibility for conforming to the required appropriate behaviour – particularly if

moral responsibility and an appreciation of the legitimacy of policing of traffic laws (*cf*. module 1) has been established. Such statistical facts should be communicated to attendees in clear, vivid and straightforward ways.

When considering a risk-taking behaviour, such as speed choice, it is possible that the behaviour is not only a function of deliberate risk-taking but may also reflect the failure to appreciate the level of danger at hand. In their survey of drivers prosecuted for speeding, Blincoe *et al.* (2006) found that many respondents displayed a lack of awareness of the link between speed and collisions.

Recommendation 7:
Information regarding the statistical association between accidents and speeding should be presented. For example, the poor survival rates for pedestrians who are hit by vehicles exceeding 30 mph should be included. Overall, relationships between excessive speed and accidents should be demonstrated and discussed – such that the social legitimacy of the traffic laws is recognised. Vivid, visual illustrations are likely to have more effect than, for example, presenting information about braking distances.

3.3.2.4 Emotional responses (module 3, continued)

Successful programmes for modifying anti-social behaviour tend to be intensive and multi-faceted. The difficult driving situations that people encounter on the road can engender heightened emotional and physiological arousal. Strong feelings and very high levels of arousal may interfere with both cognitive processing and the execution of skilled driving behaviour. The ability of drivers to successfully cope with the problems, conflicts and stresses involved in difficult driving situations will depend, in large measure, on the driver's ability to:

- respond in a manner that prevents him or her from becoming emotionally aroused; and
- reduces his or her level of arousal to a moderate level.

Training should include education about the impact of aggressive driving and anger in general, self-identification as an angry driver, relaxation training, the development of alternative coping skills and cognitive restructuring (see Galovsky *et al.*, 2006).

The course attendees should be required to practise the application of cognitive and behavioural driving skills under conditions that correspond as closely as practical to the emotionally-charged situations that they are likely to encounter in driving. One emotion that deserves special attention for a subgroup of frequent offenders is anger.

In our view, the course should focus on drivers' attitudes and address social, cognitive and behavioural skills that help to form new, more pro-social, driving behaviour. Impulse control and emotion management techniques can also play an important role in the course. Our recommendations are in line with recently developed courses that address anti-social driving and road rage (e.g. see Ross and Antonowicz, 2004; Galovsky *et al.*, 2006)

The successful management of anger requires the driver to:

- recognise the cues which signal that anger is about to be experienced so that he or she can take action to avoid (or to be prepared to effectively deal with) such situations;
- take action to reduce the likelihood that such difficult situations will engender anger;
- recognise the physiological and psychological signs of arousal; and
- use well-tried techniques to lower their arousal.

Recommendation 8:
As there is some evidence of associations between anger and driver offences, anger management may be an appropriate module to include in the course, perhaps as an extra component for select drivers.

Participants on McKenna's (McKenna, 2005) course also expressed the intention to drive more slowly in the future. Since intentions are an important determinant of subsequent behaviour, it was encouraging that this crucial element was present. But it is not known, from McKenna's study, whether drivers acted on their stated intention. Nevertheless, there is a strong body of research (Cialdini, 1993) that demonstrates that requiring individuals to make an explicit, reasoned, commitment to a particular action increases the likelihood that action will result.

Recommendation 9:
The courses modules should include an opportunity for attendees to state their future driving intentions. These intentions should be a part of the course assessment.

3.3.3 Course format and delivery mechanisms

Ideally, the three modules that comprise the course are envisaged to be delivered to cohorts of 12 participants, with each module consisting of two, two-to-three hour sessions. Homework should be given between sessions and attendees should be

required to make verbal presentations of their thoughts and conceptualisations, and to engage in classroom discussions.

It is important to consider whether the serious offenders on the course will be motivated to learn. What will they be motivated to learn? Will they be focused on the passing of a test (most learning in education is motivated at the first stage by this)? If yes, will the mode of assessment allow them to get away with surface learning (cramming, shallow memorising, description), as in the case of, say, responses to multiple-choice questions, or will it require deep-level learning? In the latter case, the attendee must engage with speeding behaviour and its consequences through multiple sources of information and at multiple levels in order to link ideas together, or develop new ideas and thoughts from the course content.

Across a programme of study it is also likely that participants will engage in strategic learning (that is to say adopting surface level whenever possible and profitable, saving the real effort for the necessary and interesting). Whatever the approach encouraged and used, understanding the motivation of the individual attendee is key to successful learning. What are the individual outcomes (rewards/punishments) that are meaningful to attendees? The teacher/trainer needs to identify with the attendees, and illustrate how the educational task they have for them offers the chance to meet those aims (e.g. personal achievement, shortening of the disqualification period, lower insurance, etc.). Of course, it is not possible across large intake programmes to speak to every individual about their motivations and then tailor an individual programme for each attendee. Rather, we must attempt to identify the possible range of desired outcomes (motivators) and tell the learner how the teaching programme offers the chance to achieve each. The giving of certificates and rewards (in terms of the differential reduction of the disqualification period for 'successful' and 'less successful' attendees) will thus, likely, encourage attendee involvement with the course content.

3.3.3.1 Cohort size

Given the requirement that the course should be intensive and deal with drivers' personal beliefs and values, it is obvious that a course conducted in a classroom setting with 20–30 participants is not likely to be effective. The ideal group size for this type of training varies with the personality characteristics of the members of each particular group, but, ideally, the materials and delivery methods that we recommend for the road safety course for serious offenders imply that the cohort size should be eight to twelve participants. Groups of fewer than eight limit the number of subgroup techniques the trainer can utilise and also limit the variety of different perspectives to which individual participants will be exposed in discussion sessions. Groups composed of more than 12 limit the opportunities for individual members to express their views. Additionally, larger groups may be difficult to control, given the intensity of the desired discussion. If groups are larger than 12, then they may need to be broken up into two smaller groups, though this would

require an additional moderator. The use of small group-based teaching/training will make delivery of the course expensive, but adoption of a larger cohort size will create conditions in which the participants can succeed with shallow learning, ritual attendance and limited commitment. Such shallow learning will not provoke improvements in subsequent driver behaviour.

Research suggests that groups, by and large, lead to better performance than individuals in a wide variety of tasks (e.g. Hill, 1982; Rowe, 1992), arguably because the collective information and problem-solving capacity that they have available to solve a task is greater than that possessed by any of the group's individuals. Importantly for this course, group discussions also serve a number of social purposes, such as revealing group norms. Research does not definitively answer the question as to what is the optimal size of a group (which may, in any case, vary depending upon the type of task being performed). Clearly, the larger the group, the greater the knowledge and decision-making potential that is available (e.g. Rowe, 1992). However, larger groups also bring with them structural and organisational difficulties. For example, a large group will require more time than a smaller one to allow the perspectives of all the different members to be debated. Furthermore, various 'process loss' characteristics typify large group activities, such as 'social loafing' and 'free riding', in which individuals within a group withdraw from the process and do less work (e.g. Comer, 1995; Karau and Williams, 1993). Among other factors, this has been associated with a lack of identifiability or anonymity (e.g. Swain, 1996), which is liable to increase along with increasing group size (Wagner, 1995). Clearly, a non-contributing member serves no function – save for giving a false idea of the extent of support for the most popular decision or option within the group. In practice, many mechanisms that bring people together in order to discuss issues or solve problems settle for a dozen or so members (e.g. the standard jury size) – give or take four or five members (e.g. see Rowe and Frewer (2005), who note size similarities in a large number of group-based procedures used to enact 'public engagement'). It is evident that procedures that use a larger number of participants (e.g. 20 or more) typically split the group into smaller 'breakout groups' for most functional exercises. Our recommendation about group size is thus based on pragmatics and findings about large group-inefficiency, as much as upon clear evidence for an optimal group size – it should be treated as a guideline rather than a strict target.

Recommendation 10:
The course cohort size should ideally be no more than 12 participants in order to ensure that effective group work can be accomplished and to enable full contributions from all attendees.

3.3.3.2 Modular format of the course design

We believe that the course should consist of three modules, as detailed in section 3.3.2. Each module should consist of two, two-to-three hour sessions. Each session should be held on a weekly basis. Such a distribution of course modules will invoke commitment from attendees – since the completion of 'homework' will be required between sessions. Each session will be delivered in a 'discussion' format, such that participation from each member of the small group of attendees is assured. The nature of the 'homework' will be such that it will require each participant to prepare a short presentation on their own, individual, reaction to a topic. Thus, the individual's development and presentation of his or her views on a topic will, necessarily, engender personal effort and commitment. Although it is not possible to present a complete course design at this stage, given time limitations, we do present – in Appendix 1 – some outlines for a number of **possible** exercises that might be used in such a course. It is important that a standard course is developed, trialled and validated to ensure that the individual components achieve what they are intended to achieve.

One of the major problems of driver retraining courses is poor attendance. Too often people fail to enroll or drop out prematurely, even when they have been assigned by court order. Previous research on drink-drive rehabilitation courses in the UK showed that attendees were almost three times less likely to re-offend as compared with those not attending (DETR, 2000). Research on cognitive skills programmes for young offenders also shows poorer results for those who dropped out (Cann *et al.*, 2005). To increase both the commitment of the participants as well as the perceived fairness of the course, it might be advisable to discuss the rules and regulations of the course programme with participants at the outset. If participants have discussed issues, and possibly even had some influence on them, they are more likely to behave in accordance with the course rules and regulations (e.g. see Alm *et al.*, 1993; Tyler *et al.*, 1985). In their meta-analysis, Blais and Dupont (2005) also showed that compliance is more likely if people consider the penalty legitimate and have been treated fairly (see also Sherman, 1993; 2002).

Offenders' reactions to speed awareness courses in the UK have been studied by McKenna in a series of papers and reports. For example, McKenna (2003, 2004, 2005) surveyed attendees to a two-hour evening course that offending drivers took in lieu of any fine or licence-applied points. Overall, and anonymously, the participants rated the various sections of the course (a questionnaire, digital-video testing, a discussion of speed choice and an eyesight test) as useful or not. The trainer-facilitated discussion was rated the most useful. This discussion was explicitly designed to enhance interaction and the exchange of ideas between participants and with the trainer. This approach can be justified according to dual-mode processing theories of attitude change (e.g. the heuristic/systematic model of Chaiken *et al.* (1996) and the elaboration likelihood model of Petty and Wegener, 1998), which demonstrate that when individuals are involved in more cognitively

demanding processing, then they are more likely to process the content of communications in greater detail.

Millar and Millar (2000) have also studied the influence of message framing and issue involvement specifically in relation to driving behaviour. They examined the influence of issue involvement on the intentions of participants to perform safe driving behaviours. Participants classified as either being high or low in involvement were required to read either a gain or a loss message promoting a particular safe-driving behaviour. After reading the message, the participants' agreement with the message, cognitive and affective responses to the message, and intentions to perform the behaviour were recorded. The researchers found that when participants were involved with the issue, gain messages increased intentions to perform safe driving behaviours more than loss messages.

This study indicates that framing attendees' discussion in terms of gains rather than losses may be beneficial, but also underscores the benefits of respondents being cognitively involved with the issues that they are considering, and we thus advocate between-session homework and individual attendee presentations to ensure commitment and deep-level learning. In short, we think it is essential that course attendees expend effort in processing the information provided in the course. In accordance with existing theories on human memory, information processing that is low in elaboration and processing depth results in a weak memory trace for this information. Moreover, more superficial information processing is also less likely to lead to attitude change and is generally associated with a weaker relation between attitudes and behaviour. These processes have been described in detail in so-called dual process models of human information processing, such as the Elaboration Likelihood Model (Petty and Cacioppo, 1981, 1986) and the Heuristic-Systematic Model (Chaiken, 1980). A more recent overview of these models and their use in explaining persuasion and attitude change is provided by Chaiken and Trope (1999).

Recommendation 11:
The course modules should include an interactive element where respondents are obliged to explicitly engage in active discussion in response to questions and issues. Assessment of the course should reflect participation in both this activity and in prior homework.

3.3.3.3 Issues in classroom-based teaching

One problem that can affect training courses – of many types – is that cognitive and behavioural activities and responses learned in a classroom will fail to translate or generalise to 'the real world'. This is particularly the case in criminal and clinical settings: a criminal may learn to be a good citizen at a course in prison, but when he or she is released into the environment from which he or she came (e.g.

characterised by poverty and crime) then old patterns of behaviour will start reasserting themselves. Likewise, a person undergoing therapy may relapse into old routines once they are back in the familiar home or work environment. This issue is one of the reasons why techniques such as 'family therapy' have been developed – the idea being that the family environment may be the root of a particular individual's problems and hence in need of treatment as much as the individual himself (e.g. Asen and Schuff, 2006; Pilling *et al.*, 2002; Velleman, 2006). For this reason, a course for driver offenders ideally ought to take place in an environment as close as possible to that in which the offending behaviour occurred. This, however, is practically and financially infeasible. Fortunately, there are, however, various techniques that are useful in a classroom-based course – notably those of imagery, simulation and mental rehearsal. Such techniques are often used in sports psychology to train sportsmen in situations in which they cannot actively perform their sport (for example, while injured, when the correct equipment is not available and when rapid practice is needed). These techniques have been found to be effective in many different sports in helping the sportsman or woman cope with anxiety and skill performance (e.g. Driedigger *et al.* 2006; Martin *et al.*, 1999). In the course, such techniques could, for example, involve having participants, first, imagine themselves in the situations in which they committed their offences and, second, imagine how they might perform and behave differently. Participants would then be coached in mentally practising these new behaviours. Clearly there are specialist skills involved in teaching such methods, which course teachers/trainers would need to possess, but such imagery-based approaches are straightforward to apply and learn.

McKenna *et al.* (2006) examined the influence of a skill-based training programme (hazard perception) on the risk-taking behaviour of car drivers (using video-based driving simulations) and demonstrated a decrease in risk taking for novice and advanced drivers.

Recommendation 12:
Since cognitive/judgemental skills learnt in an artificial classroom environment are unlikely to fully translate to the external world, and familiar driving patterns and habits are likely to return once the drivers return to their usual situations, the course components should involve attendees in the use of imagery/simulation/mental rehearsal of driving scenarios.

3.3.3.4 Course facilitation

Course facilitators do not need to have a strong knowledge of driving law and enforcement policies. The key to success as a facilitator of the small group sessions is that attendees are helped to explore and resolve ambivalence in their driving

attitudes. For example, an attendee might accept the legitimacy of a posted speed limit but feel that he needs to speed to arrive on time. A successful facilitator knows that the motivation to change behaviour must be elicited from the individual and not be imposed from outside. Direct persuasion is not an effective method for resolving ambivalent attitudes. Seeking to understand the individual attendee's frame of reference by reflective listening is particularly effective and has been used with problem drinkers and those wishing to diet or give up smoking (see Bundy (2004) for a review). However, it is essential that the Department for Transport does not need to access highly specialised mental health professionals to do the job of facilitation. Given the numbers we expect to attend the course, it will be impossible to get an adequate number of social workers, psychologists or other professionals as facilitators. The implication is that a detailed facilitator manual should be developed for a pilot trial of the course and that this initial manual should be further developed after feedback from its use in the pilot programme. It would obviously be very worthwhile to employ, as course facilitators, people who have given similar courses before (e.g. in the programme provided for criminal offenders in the UK). Several university and training providers appear to provide courses in the skills needed to deliver the course satisfactorily and these providers should be investigated in a thorough manner

In short, the course should not be lecture-based but should be delivered in a manner that is very interactive. The teacher should operate more like a 'process facilitator', and the group atmosphere should be informal and provide an atmosphere in which attendees can discuss the social norms of driving behaviour, cognitive misconceptions, risk taking, emotional responses to difficult driving situations, and future driving intentions. The main challenge is that course attendees should be facilitated in their discussions as opposed to being lectured on correct driving behaviours. In this way, attendees will be motivated to strive to develop new driving behaviours.

Recommendation 13:
The Department for Transport should investigate, in detail, likely providers of facilitators for the course, with a view to sourcing trained facilitators or training those who are likely to play facilitation roles in the course delivery.

3.3.4 Recommendation for the monitoring and adjustment of the course

As discussed in section 3.1.3, the personal characteristics of road traffic offenders have been explored in the research literature but, as yet, no firm conclusions – that would enable the segmentation of likely course attendees into subgroups for targeted course delivery – are possible. For this reason, we recommend that the Department for Transport collects data on individual differences between course attendees as

soon as the course begins to be implemented. We recommend that a working group with skills similar to the present one is constituted to advise the Department for Transport on data collection. The working group should be involved with the design of the data collection and match the data collected to the emergent demographics of the course attendees.

The literature distinguishes a variety of personality variables and individual differences that could be relevant. Personality variables, such as sensation seeking and neuroticism, have been related to anti-social driving. Moreover, researchers have also distinguished several categories of aggressive drivers (based on a questionnaire used by Larson and Rodriguez (1999) and also used by Galovsky *et al.* (2006)). Examples are the speeder (who is racing against the clock), the competitor (who creates contests out of driving situations and attempts to 'beat' other drivers), the passive-aggressor (who thwarts other drivers' attempts to pass by driving faster, etc.) and the vigilante (a self-appointed enforcer, judge and jury of fellow drivers). Other typologies and individual difference measures have been proposed and utilised in the literature to both typify and identify problem drivers. From these and other sources, we recommend that a battery of psychometric tests be developed and administered to all who attend the course. The measurement of individual differences should be related to the subsequent outcomes of the course and its effectiveness – in terms of an individual driver's record of future offences and accidents.

Recommendation 14:
Since empirical data specific to the target group and the intervention are extremely limited at present, collection of such data in parallel to the course's operation is highly recommended, not least as a means of verifying the assumptions made here about the target group characteristics. A substantial data collection exercise needs to be carried out, at least for the first year of the course operation (depending on sample size), and a further working group exercise should be conducted once the data are available, so that fine-tuning of the course can be achieved.

4 SUMMARY

The working group has formulated a set of recommendations derived from the available scientific evidence related to conceptual theories and empirical work in the judgement and decision-making field, combined with evidence on educational interventions from the wider psychological and educational literature.

In summary, based on the available data on convictions for the target offences, the overall conceptualisation of the course design is that of an intervention targeted, in the main, at experienced male drivers who are caught speeding at high levels, but the course content is relevant to the much smaller target subgroups, i.e. those who do not comply with traffic signage or drive carelessly.

After examining the evidence, the working group recommend a classroom-based intervention (the course) with a specified modular structure, delivered by trained professionals over a number of (at least six) sessions lasting at least two hours each and requiring the offender to complete homework between the sessions. The format of delivery should be, in the main, by facilitated small group discussion into which input from each individual attendee should be ensured. Discussions should centre on personal and societal views and on vivid scenarios of driving situations that are likely to provoke speeding and other illegal driving behaviours in course attendees. The attendees should be required to prepare short presentations of the results of between-module homework on key issues and concepts. A real incentive to engage with the educational intervention should be included, and this should be based on the effort that a course attendee demonstrates during the course.

Empirical data specific to the target group and the interventions are extremely limited at present, and the collection of such data in parallel to the course's operation is highly recommended, not least as a means of verifying the assumptions made here about the target group characteristics. Such issues should be explored further and form part of, at least, the initial phase of the course, when access to the target group is available and a detailed characterisation can be made. To enable this, and hence to refine the basis on which the course is developed further in the future, a substantial data collection exercise should to be carried out at least for the first year of the course's operation (depending on sample size), and a similar further working group exercise should be conducted once the data are available, so that fine-tuning of the course can be achieved.

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APPENDIX 1
Example exercises for use in the course

Values component exercise

The focus of this component is on issue to do with the law, why laws exist, why it is important for everyone to follow them even if they are imperfect, and what would happen if everyone disobeyed the law.

Questions to be considered in this component include:

- Why do laws in general exist?
- What would happen if there were no laws?
- Why do traffic laws exist?
- What would happen if these did not exist?

Group debate should consider whether anyone has a right to disobey laws and, if so, who. The following issue should be raised – why should you be allowed to break the law, and not other people? It is possible the offenders will respond 'because I am a better driver', raising the issue 'but how are the police to know'?

Homework could be set on this component. For example, the attendees could be given a list of commonly flouted traffic laws and be asked to write about why these are important/necessary, and the consequences of breaking them. These would be discussed at the start of the second session on the values component, discussed in the group, and marked according to effort (not intelligence).

Social norms component exercise

People's thinking and behaviour are influenced to a strong degree by social norms, that is, how our peers think and behave (and importantly, how people perceive normative thought/behaviour). We take our cues for acceptable practice from those around us, particularly those with whom we identify and those whom we admire (peer groups/role models). It is likely that those who speed excessively either believe that their behaviour is socially acceptable and perhaps even admired (by peers, etc.), or have no idea as to whether their behaviour is approved of or not – the absence of evidence of social disapproval undermining the potential force of norms to deter offending behaviour (such as excessive speeding). For this component, the exercise/module must address these two possibilities, by dispelling the misperception of social approval and by raising awareness of relevant norms. The module needs to be carefully trialled, since it is likely that – in contemporary Western society – some of the course offenders' behaviour may indeed be approved of to some degree (e.g. most people think that speeding is ok to some degree).

This exercise might begin with the presentation of a selection of videos, possibly taken from police cameras (e.g. from patrol cars), showing a variety of offending behaviours – focusing on speeding, careless driving and so on (perhaps of drivers dangerously speeding through red lights or across pedestrian crossings, and cases of cars at high speed losing control or causing danger to other drivers).

Following these carefully selected videos, the group should be asked – preferably after each video clip, or perhaps after every second or third – what they think of the drivers and their behaviour. As long as the clips are apt, the group is likely to reveal condemnation, which is likely to be reinforced as each participant expresses concern, and as each successive clip is shown. Even if participants are personally giving socially desirable responses (they do not believe the cases are that bad), the cumulative power of the voiced condemnations is likely to have an effect (particularly if, as seems likely, the participants largely occupy a similar peer group, e.g. middle-aged, otherwise-respectable males).

The drivers should be asked to discuss questions such as:

- do you think the people shown in these videos are actually aware of how their driving **looks to others**?
- how do you think these drivers' friends and families would consider their driving behaviour?
- if that was you, how do you think **your** friends and family would view this behaviour?
- do you think these people would change their behaviour if they were aware what others really thought about their behaviour?

It is important that the course does not attempt to humiliate and vilify the participants. By emphasising that the poor behaviour might be due to a 'lack of awareness', this might create a tolerable justification for participants ('I'm not a dangerous idiot – I just didn't know – and now that I know I can behave better').

There are also some limited statistics on people's perceptions of driving – such as a general agreement that exceeding 30 mph speed limits is wrong. It would be useful to reveal this information to participants as part of the discussion (e.g. on a flipchart). However, only select statistics should be used – **not** statistics revealing a general approval of speeding!

Homework could involve asking the participants to describe cases they had encountered of people driving excessively fast and carelessly/dangerously, and describing how it made them feel. Participants could, for example, be asked to describe three such incidences, and perhaps another three describing their own past behaviour and how that did or might have made others feel about their driving (particularly friends and family). This could be presented for group discussion at a subsequent session.

Cognitive misperception component exercise

Research often suggests that drivers in general hold a number of perceptions about their driving behaviour, and the behaviour of others, which are logically inconsistent and need to be addressed. This component might begin with asking drivers to answer the question:

Compared with other drivers of your age and experience, do you consider your driving to be:

(a) much better than average?

(b) a little better than average?

(c) average?

(d) a little worse than average?

(e) much worse than average?

Research suggests that most people perceive themselves to be somewhat better than average (optimistic bias) – a logical impossibility. It is likely that the offenders will do too. The moderator can write the results of individually completed questions on a board (note, the question in isolation might arouse suspicion and socially desirable responding – it might be better to have the question appear in a general information-gathering questionnaire in order to counter this). A discussion can follow the results, which hopefully will reveal that these drivers also collectively hold this untenable view of their driving behaviour. Rather than challenging the offenders' ratings, however, the moderator should simply note the curious inconsistency and leave drivers to reflect upon it. The moderator should then note that this is consistent with drivers in general. The debate that follows should focus on whether this is possible, what the offenders think of others' driving behaviour (likely to be low – the moderator should ask for examples that the offenders have seen to make the situation more vivid and salient), and then get them to think about how they feel knowing that the roads are populated by overconfident drivers! The key issue is, even if the offenders were better drivers, and their driving were safe, the unpredictable and overconfident driving of others could lead **them** into difficulties.

Other cognitive inconsistencies could also be considered in this session, such as the issue of 'attributions'. For example, offenders might be asked:

- Why do you think you are here on this course?
  (a) I was driving irresponsibly and deserved to be caught.
  (b) I was driving a bit irresponsibly, but I was also a bit unlucky to be caught.
  (c) I was just unlucky to be caught.

There are likely to be better, standard questions on external/internal attribution (e.g. see Stewart, 2005), and the exact form needs to be trialled. It is likely that most offenders will consider themselves unlucky to have been caught (shown, for

example, by self-ratings on a five-point scale from '1' meaning unlucky to be caught to '5' meaning deserved to be caught). Thus discussion could revolve around the fact that most will consider themselves unlucky and, hence, the inconsistency in everyone being just unlucky. Figures on the number of prosecutions and convictions could be cited by the moderator to suggest that being caught is more of a likelihood than the drivers might think (gross magnitude figures will be necessary, rather than figures on probabilities, since the latter would reveal that, yes, during any one trip being caught is extremely unlikely).

Consequences component exercise

Drivers should be set homework on 'consequences'. They should be asked to answer the following:

- What would be the consequences of:
  (a) having an accident (either caused by your behaviour directly, or by other, perhaps less-skilled drivers, who drove as you have been found guilty of driving)?
  (b) losing the ability to drive your car (because it has been wrecked in an accident or because you have been disqualified from driving)?
- List all the people who would be affected by each case.
- List all the problems that would be caused by these cases.
- Think of as many negative events as possible. For example:
  (a) how would these events affect your job?
  (b) how would they affect your pastimes?
  (c) how would they affect your relationships with other people?
  Give specific examples, for example describe how you might have to go to work or how your children might be affected (e.g. unable to go to football practice).

Potentially, offenders might also be asked to describe how they might cope with the problems, but this issue might need to be trialled. It would be undesirable for offenders to consider these problems and discover easy behaviours to overcome them, but asking such a question might help reinforce the point that overcoming these problems is not easy.

At the start of the next session, the group would discuss what they had discovered, perhaps writing the issues on a flipchart (reinforcement from revisiting what they have discovered), or perhaps this could be performed in summary by the course moderator (one list of all problems rather than several).

After a group discussion, video testimonials could be shown of the victims of accidents and those disqualified – such as 'a day in the life of a disqualified driver' – with talking heads from the driver, his wife and their children, emphasising the problems. This reinforces further the negative consequences of the behaviour.

The homework should be collected and assessed for effort.

New skills component exercise

It is important that the participants be equipped with new skills to allow them to implement what they have learned throughout the course, particularly to:

- identify situations in which they are likely to offend; and
- provide them with coping strategies and cognitive skills to enact their new behaviour and resist their old behaviour.

The use of imagery is one method to use. First, participants might be asked to:

- list situations in which they typically might perform offending behaviours (e.g. on a motorway, at night, when in a hurry);
- list the main consequences of being caught or having an accident (reinforcing the consequences learnt in a previous module);
- think of ways to counter perform these behaviours; and
- imagine the positive consequences of performing these behaviours (friends smiling, being acknowledged by other drivers, saving money on petrol consumption and so allowing a holiday instead, etc.)

These components could be discussed in a group session, with emphasis very much on the positives that can emerge from learning these new skills (it is important for participants to leave the course as a whole with a positive impression). The course leader (essentially now acting as a therapist), might then take them through exercises of mental rehearsal, having the participants close their eyes and imagine themselves in the particular situations that cause them problems, and then getting them to mentally rehearse the desired behaviours, see the positive consequences, and so on. It may be that other therapeutic coping mechanisms may be of help here, such as deep breathing exercises (to contend with possible anger at the driving behaviours of others) or maybe the use of associations/cues (a word, a personal action) to induce the proper mindset.

Practice is important, so participants should be urged to try these new coping mechanisms, while driving, in the period before the next session. At the next session they can simply be asked:

- Did they try it?
- Did it help?
- What were the problems?
- What did they find difficult?

In a second session the skills should be rehearsed again.