Behave Yourself – Road Safety Policy in the 21st Century

Rebecca Gwilliam

Parliamentary Advisory Council for Transport Safety

Foreword

To achieve a significant, lasting and sought after behaviour change within any discipline is a frequently stated goal. Within road safety this is no different. As the government now looks forward to its next road safety strategy we must recognise that whilst the UK has made significant progress in improving safety on our roads, notably the historic achievement in Great Britain in 2007 of reducing road deaths to below 3000 for the first time [1], there is still considerable work to be done. Much hard work has gone into achieving this reduction by engineers, road safety officers, police forces, MPs and campaigners amongst many. The targets outlined in 'Tomorrow's Roads - Safer for Everyone' [2] have been impressively surpassed. Yet the UK is falling behind its counterparts Sweden and the Netherlands in terms of its road casualty record [3]. The question we must now ask is how to achieve further reductions?

This report argues that a greater understanding both of the behavioural change process itself and the role that attitudes, particularly those of the 'public', play will be key in future efforts to reduce road casualties. Road safety has emerged as the public's third most important transport issue for government to address [4], emphasising the apparent gravity that the UK population attaches to safer roads. Yet frequently a dichotomy exists between this expression of concern and its implementation in better road use behaviour in all categories; drivers, cyclists, pedestrians and motorcyclists. This presents a major challenge to road safety — how do we successfully influence individuals to take a desired action and what are the barriers we face? A better understanding of peoples' values and attitudes and how they impact upon their intentions and actual behaviours will help to shape road safety policy accordingly.

PETER BOTTOMLEY MP

LOUISE ELLMAN MP

[1] DfT (2007) Road Casualties Great Britain Headline Statistics, p.1, TSO: London
[2] DfT (2000) Tomorrow's Roads, Safer for Everyone, DETR, London
[3] ETSC (2007) Raising Compliance with Road Safety Law – 1st Road Safety PIN report ,p.11, Brussels
[4] DFT (2008)Public Attitudes to Transport – Knowledge Review of the Evidence p.9, TSO: London

Acknowledgements

Executive Summary

The premise of this project arose from consideration of areas in road safety where we have achieved success, and the issues on which we continue to struggle such as speeding. With the growing need to look beyond the traditional boundaries of road safety and engage with new stakeholders, it seemed pertinent to examine behavioural change within other fields of public policy to discover whether parallels exist and if lessons can be drawn. The aims of the project through the use of case studies have been three-fold:

● **to consider holistically approaches to and patterns of behaviour change**
● **to identify strategies used to influence 'public' and individual opinion**
● **to ground the case studies in behavioural theory and consider the role of models more widely.**

The selected case studies internal to road safety are as follows: **seat belts, drinking and driving** and **speeding**. Some recommendations which are specific to these issues are included, such as PACTS reiterating its support for a lowered drink drive limit and the need to disentangle conflict over speed cameras from the more general debate on speed and review available evidence. However, the case studies at a more over-arching level provide considerable insight into approaches and strategies towards behaviour change within road safety and the components that can facilitate or hinder success.

The issues considered which are external to road safety span the spectrum of enforcement and each case study offers interesting insights: **Smokefree** is a pertinent example of successful public influencing; **recycling** demonstrates the importance of a coherent and cohesive approach to behavioural change and the merits of recourse to theory; **modal shift initiatives** reflect the importance of personalised engagement as well as reiterating the difficulties faced in any attempt to change behaviour.

Analysis of the differing approaches to behaviour change, the use of theory and methods of public influencing has allowed a series of conclusions and recommendations to emerge. The overwhelming finding across all case studies was the need to be exhaustive in our efforts to understand the nature of the problem, the barriers to change and the specificity of attitudes, beliefs and values. On many issues we face very specific challenges and far-reaching research into the motivations and impediments to change, incorporating techniques such as segmentation, will continue to be required to shape interventions and particularly communication campaigns.

In line with other commentary and work on the subject of behaviour change, the research found that stand-alone approaches have not been effective. Success is premised on using a mixture of intervention methods at many different levels. Similarly incorporating ambitious targets helps to drive behavioural change efforts at a policy level stimulating action and innovation. Including subsidiary and intermediate targets should help to direct resources. Furthermore we should include the recipients of policy within the policy and target creation process as far as possible as it helps provide a greater sense of agency and ownership towards public policy goals. In light of this the consideration and understanding of public attitudes will be crucial particularly in allowing us to discover the readiness for change, appropriate framing for messages and if gaps exist between vocalised and actual attitudes and between attitudes and

behaviour. Several of the case studies, including drinking and driving, Smoke Free and seat belts demonstrate how important a supportive and informed public can be in achieving change.

In order to direct this change the report identifies some key influences and changes which need to be made within road safety. Overwhelmingly the review emphasises the importance of a clear, established and well understood evidence base. Additionally it is important to achieve coherence within the road safety community and present our evidence appropriately to the public, politicians and policy makers and business.

The Pro-Environmental movement, the seat belt campaign and examples of road safety initiatives in other countries relate the importance of political, social and cultural advocacy. PACTS believes that in the UK some road safety issues, such as speeding, lack this high-level advocacy and consequently recommends the identification of possible advocates in the business and political spheres. More concerted and vocal efforts will be required by organisations already involved in road safety, such as PACTS, to further the image and importance of road safety issues. Working with new stakeholders will create broader coalitions, and ensure that road safety remains important on the political agenda and that new opportunities for intervention are built upon. Most notably this will occur in links between the Department for Health and the Department for Transport and in sustainable travel initiatives.

The report also considers and draws upon models of behavioural theory. We conclude that theory and models can play an important role in guiding and informing intervention. Given that we are facing increasingly specific challenges in road safety and the focus is shifting towards education and communication, a greater understanding of peoples' attitudes, beliefs and behaviours will be fundamental to success. An appreciation of behavioural theory will play an important role in achieving this and hence PACTS suggests the creation of a new national training course. Interventions such as the Scottish Executive's 'Foolspeed' campaign also demonstrate the value of drawing upon theoretical models in the evaluation process. Evaluation of public information and education is difficult and greater recourse to theory would help to identify behavioural outcomes and offer structure to the evaluation process.

The recycling case study highlights the role of consistency of message and the provision of best practice in achieving cohesive and well structured communication campaigns. Road safety has many different stakeholders and providers of advertising and educational information to the public and a wealth of research on these topics. As a result the report recommends a series of steps; the DfT should set up an independent body to produce best practice guidance on road safety education and public information campaigns and should also produce regular and accessible, in style, tone and format, syntheses of research findings and their practical implications. Separately, a database of all road safety advertising, educational and publicity campaigns from both the public and private spheres in the UK should be set up.

The review also finds that increasingly in other policy spheres the level and form of engagement have been important. Personal engagement, feedback and community engagement all have been found to facilitate behaviour change. The challenge for road safety is to further incorporate these into our own interventions.

Alongside the more general findings, a series of recommendations specific to the road safety case studies are made which PACTS believe would help facilitate greater success. For seat belts this concerns the need to investigate links with ethnicity and deprivation as well as continuing our support for the introduction of seat belt reminders.

On drinking and driving giving the police the power to undertake targeted breath testing, type approving evidential breath testing devices, working with the Department for Health to investigate the effects of 24hr licensing and the need to reduce the BAC limit are the key recommendations.

Speeding is again found to be a most complex problem. The report recommends that a peer review of the evidence base on speed and speed-related issues is undertaken; that the speed camera argument is disentangled from the more general debate on speed; that the wider use of average speed cameras may help this; that the long term potential of Vehicle Activated Signs (VAS) and Speed Indication Devices (SIDS) to change attitudes is investigated and that the DfT conducts a new Speed Management Review.

General Recommendations

Road safety effort should continue to utilise an 'intervention mix' and to deliver this at a variety of scales.

Ambitious targets drive and stimulate progress. Adopting more specific road safety targets in the next Road Safety Strategy will help focus efforts on groups and issues where we continue to face challenges.

As we move further forward PACTS suggests the inclusion of intermediate and subsidiary targets in the next road safety strategy.

We should seek to place the recipients of policy at the heart of the policy creation process.

Consideration of the attitudes and opinions of the public is vital. In many instances it can be a powerful driver of change and demonstration of willingness for change, in other cases it can be a notable hindrance to success.

PACTS recommends the creation of an annual Road Safety Related Behaviours and Attitudes Survey to be conducted by the Department for Transport (DfT) to stand alone from surveys currently conducted by Think! and to cover a wider range of road safety issues.

Opportunities to work with new partners and stakeholders should be siezed at all levels. Road safety must position itself adequately to take advantage of the emergent focus on sustainable travel and public health. We must provide and present clear and coherent evidence. This will legitimise our efforts to the general public, politicians and policy makers.

We recommend that cross-policy efforts on all aspects of road safety continue to be made. Joint projects and exchange of data with health organisations such as the Department for Health, National Institute of Clinical Excellence (NICE) and the BMA should be encouraged.

To tackle political apathy we should identify road safety advocates in the political and business spheres. This can help to stimulate cultural change, encouraging a shift towards more considerate road use and helping to alter social norms and attitudes on issues such as speeding.

Road safety needs to improve awareness and understanding of behavioural theory and its relationship with road safety issues.

PACTS recommends the creation of a new national training course or centre aimed at providing a comprehensive grounding in behavioural theory and models, their relation to road safety and how they can be used to improve intervention methods.

General Recommendations

PACTS recommends that the DfT considers the production of new best practice guidance, with a focus on evaluation methods, for road safety education and public information campaigns. Although this should be funded by central government, it could be provided by an independent body along similar lines to the National Institute for Clinical Excellence (NICE) with respect to the Department for Health.

We must provide clear, consistent messages to the target population including having greater awareness of the work of others.

PACTS recommends that the DfT create a database of all advertising, educational and publicity campaigns. This will not only make it easy for individuals and organisations to track and learn from others' work, but also permit clearer identification of work streams that are being undertaken in parallel and associated research.

PACTS recommends the DfT produces regular syntheses of research, particularly for those relating to communications and research, in a similar vein to the Traffic Advisory Leaflets (TALs) that they currently provide.

Increased attention should be given to the importance of community engagement.

We need to look for new ways to engage with the public, recognising the importance of feedback and support.

Seat Belts

PACTS recommends that more research investigating the links between ethnicity and deprivation across the population is commissioned and targeted intervention programmes going beyond traditional mass media approaches are supported.

Resources must continue to be devoted to policing efforts on seatbelt compliance and to supporting the interrelation with publicity and education campaigns, as they are conjoined and reinforcing processes.

PACTS recommends that EuroNCAP continue to reward vehicles which include seat belt reminder systems beyond the minimum requirements.

Drinking and Driving

PACTS recommends passing legislation giving the Police the power to undertake targeted breath testing.

PACTS repeats its call for the early type approval of evidential roadside breath testing devices. This will improve the effectiveness of police efforts to secure convictions for drink driving.

PACTS supports the development of improved equipment for routine deterrent and post-accident breath testing to provide fresh information about the distribution of BACs of drivers on the UK's roads.

Although guidance from the DfT on the use of shame, emotion and fear in the context of road safety education and theatre in education does exist, further evaluation of the impacts of highly emotive campaigns should be undertaken.

The designated driver concept has validity and there is space for it to be utilised more widely with the UK. However, until more comprehensive research into the effectiveness of many of these schemes has been conducted, we should proceed with caution.

PACTS recommends that further research into the relationship between the introduction of 24hr licensing and drink drive accidents and their distribution is undertaken.

Tackling drinking and driving through cross-sector and departmental campaigns is crucial to our continued success. It is imperative that schemes and campaigns are set within the social and cultural context of a society where drinking is 'integral'. At a national level, this should involve joined-up working between the Department for Health and the Department for Transport.

PACTS reiterates its support for the lowering of the BAC limit from 80mg/100ml to 50mg/100ml of alcohol. This is a clear legislative change which can and should be made.

Lowering of the limit accompanied by powerful public information about the change would bring attention to the continuing issue of drinking and driving and stimulate greater consideration of the issue not solely amongst politicians but amongst the population as a whole.

Speed

PACTS recommends that a comprehensive peer review of the evidence base on speed and road safety is undertaken. Providing a clear summary of knowledge concerning speed will highlight areas where further investigation is required and provide an obvious reference point for those involved with road safety to draw upon when debate arises. We should then use this to present our justifications and evidence more effectively.

If we are to credibly challenge misconceptions and win the debate on speed we need strong road safety advocates in all spheres of influence supported by convincing justification for intervention. Trust in authority must exist for the perceived legitimacy of excess and inappropriate speed to be challenged.

Disentangling the speed camera arguments from the broader sphere of speed management would enable progression. An important part of doing this is to foster greater legitimacy in the tools through which we enforce. Greater use of average speed cameras at appropriate sites may aid this and PACTS supports extending the type approval for their use to speeds below 30mph.

Further work needs to be done to consider the long term ability of Vehicle Activated Signs (VAS) and Speed Indication Devices (SIDs) to alter attitudes and intentions towards speeding. There may also be potential to use them as a means of conveying positive messages to drivers, such as detailing the percentage of vehicles complying with the speed limit.

PACTS recommends that the DfT considers undertaking another Speed Management Review to present the road safety community with a clearer understanding of the situation and where efforts should be most concentrated.

Contents

Introduction

To achieve a significant, lasting and sought after behaviour change within any discipline is a frequently stated goal. Within road safety this is no different. As the government now looks forward to its next road safety strategy we must recognise that whilst the UK has made significant progress in improving safety on our roads, notably the historic achievement in 2007 of reducing road deaths to below 3000 for the first time [5], there is still considerable work to be done. Much hard work has gone into achieving this reduction by engineers, road safety officers, police forces, MPs and campaigners amongst many. The targets outlined in 'Tomorrow's Roads – Safer for Everyone' [6] have been impressively surpassed. Yet the UK is falling behind its counterparts Sweden and the Netherlands in terms of its road casualty record [7]. The question we must now ask is how to achieve further reductions?

This report argues that a greater understanding both of the behavioural change process itself and the role that attitudes, particularly those of the 'public', play will be key in future efforts to reduce road casualties. Road safety has emerged as the public's third most important transport issue for government to address [8], emphasising the apparent gravity that the UK population attaches to safer roads. Yet frequently a dichotomy exists between this expression of concern and its implementation in better road use behaviour in all categories; drivers, cyclists, pedestrians and motorcyclists. This presents a major challenge to road safety – how do we successfully influence individuals to take a desired action and what are the barriers we face? A better understanding of the values and attitudes people hold and how they impact upon their intentions and actual behaviours will help to shape road safety policy accordingly.

The premise of this project arose from consideration of areas in road safety where we have achieved success, and the issues on which we continue to struggle such as speeding. With the growing need to look beyond the traditional boundaries of road safety and engage with new stakeholders, it seemed pertinent to examine behavioural change within other fields of public policy to discover whether parallels exist and if lessons can be drawn. The aims of the project through the use of case studies have been three-fold:

- to consider holistically approaches to and patterns of behaviour change
- to identify strategies used to influence 'public' and individual opinion
- to ground the case studies in behavioural theory and consider the role of models more widely.

The selected case studies internal to road safety are : **seat belts**, **drinking and driving** and **speeding**. The three chosen issues are perhaps those which are most iconic and longstanding. However we should also acknowledge that these are far from the only challenges facing road safety. Moreover, we recognise that the three issues are predominantly concerned with vehicle users and principally car users. This is primarily due to resource constraints on the project and does not indicate a diminished recognition of the importance of pedestrians, cyclists and other vulnerable road users. The greatest threat to vulnerable road users comes principally from vehicles. Improvements in driver behaviour, better levels of compliance, and possibly the emergence of a social contract

[5] DfT (2007) Road Casualties Great Britain Headline Statistics, p.1, TSO: London
[6] DfT (2000) Tomorrow's Roads, Safer for Everyone, DETR, London
[7] ETSC(2007) Raising Compliance with Road Safety Law – 1st Road Safety PIN report ,p.11, Brussels
[8] DFT (2008)Public Attitudes to Transport – Knowledge Review of the Evidence p.9, TSO: London

style relationship on our roads will be intrinsically beneficial to those who currently experience the highest levels of risk. Considering how we have dealt with all three behaviours can provide insight not only into how to progress on the specific issues but also for other emerging areas of road safety.

The case studies external to road safety span the spectrum of enforcement: **the smoking ban in public places** (the Smokefree campaign) changed a widespread and accepted behaviour primarily through acceptance and where necessary enforcement of a legislative change; **recycling** has predominantly used carrots but has some enforcement tools to draw upon; **modal shift and sustainable travel initiatives** currently rely explicitly on persuasive tools with no enforcement threat. Each case study offers different insights. Smokefree is a pertinent example of successful public influencing. Recycling demonstrates the importance of a coherent and cohesive approach to behavioural change and the merits of recourse to theory. Modal shift initiatives reflect the importance of personalised engagement and emphasising of individual benefits as well as reiterating the difficulties faced in any attempt to change behaviour.

This report is intended to provide insight and recommendations for future approaches to behaviour change within road safety.

Methodology

The research project began with a comprehensive programme of reading including a literature review of behavioural change theory, and the road safety material. Following consultation this led to the identification of suitable case studies for analysis within road safety. Further to this, scoping was then carried out into other policy areas where behavioural change had occurred and offered potential for learning. Subsequently recycling, passive smoking and modal choice were identified. Thorough research into these areas, identifying the appropriate literature and consultation sources then occurred. In all areas and cases studies, literature reviews included government and Parliamentary reports, evaluations, non-governmental reviews and reports, detailed academic papers as well as press and professional briefings, articles and coverage of relevant issues.

To gain a more detailed understanding of the issues surrounding public attitudes within policy, data was collected from published surveys and statistical tables from both government and non-government sources. No direct surveying or questionnaires were carried out for the purposes of this report due to resource and time limitations.

In order to build a picture of the key problems facing road safety, what can be done to achieve behaviour change and how attitudinal shifts work in relation to this, consultation interviews were completed. These included discussions with individuals from a wide range of backgrounds including advertising, PR, local authority road safety officers, road safety professionals, researchers and Parliamentarians. The transcripts from these interviews were analysed and key themes identified which then helped to shape the project. They also provided support material for many of the case studies.

As the project progressed consultation with the PACTS' Policy and Research committee and members of the Advisory panel helped to shape the direction of the report. Clearly due to the time limitations of the research, it has been impossible to cover all areas in depth, yet we hope that the report is able to offer insight into the future directions and actions that road safety needs to take with regard to behavioural change.

Behavioural Change and Theory

Attempts to instigate behavioural change occur in all aspects of life and in many if not all facets of public policy. Whether it is persuading people to eat more healthily, encouraging better practice in terms of sexual health, or lowering alcohol consumption, a shift from one set of behaviours to another is desired. Each presents a unique set of problems. Understanding, deconstructing and analysing behaviour is the subject of a wealth of academic disciplines – psychology, sociology, economics and anthropology - and an array of models and theories exist attempting to account for and describe the behavioural change process.

Within policy making circles, there is growing recognition that understanding group and individual behaviour is central to effective policy formation and delivery. Predominantly when behavioural theory is mentioned, we are referring to social psychological models. Behaviour occurs and alters at many different levels; individual, group, community and societal to name but a few. In each instance various sets of influences and variables impact upon the actual behaviour. Therefore when presented with a need to alter a behaviour it is necessary to understand not only why the initial behaviour is carried out but how change can be facilitated.

Behavioural models help us to understand specific behaviours but also processes of change or how behaviour changes over time. Models of behaviour at the individual level have built upon the 'rational man' approach which assumes that people seek to maximise their gain from the behaviour, assessing choices in terms of costs and benefits. The classic tools of legal punishments and the requirement for provision of information stem from this approach. The role of information is fundamental in such models and indeed they are often referred to as information deficit models. However, rational economic theory has been found to be an inadequate basis from which to explain behaviour. Frequently people are not in full possession of information, human cognition and behaviour does not occur in such a linear fashion and other aspects, such as social influences, play a role in decisions. Information does often play a role in shaping attitudes but an information deficit approach does not adequately explain the difference that often arises between people's stated attitudes and their actions, a process known as the value-action gap.

Social-psychological models provide a more nuanced consideration of behaviour, looking at the origins of behavioural preferences incorporating a wider range of influencing factors. However, they still retain behaviour as the outcome of a deliberative process. Attitudes (the product of beliefs and values) are a core factor in most social-psychological models. As other influencing factors are accounted for, the importance of attitudes diminishes. Other common factors included in behavioural models include norms (a guide to how we expect others and ourselves to behave), agency (the belief that an individual can successfully carry out a behaviour), habit, emotion (such as anticipated regret) and contextual factors generally referring to external factors which are beyond an individual's control.

There exists a range of behavioural models. One of the most well-known, particularly within road safety circles, is Ajzen's Theory of Planned Behaviour (TPB) [9]. This model holds that 'behavioural intention' is the key determinant of behaviour. This is influenced by a person's attitude towards performing the behaviour, the subjective norm (or perceived social pressure to adopt the behaviour) and perceived behavioural control.

[9] Ajzen, I (1985) From intentions to actions: A Theory of Planned Behaviour. In J.Kuhl and J.Beckman (eds),
    Action Control: From Cognition to Behaviour(pp.11-39) Heidelberg: Springer

There is a considerable body of research which supports the power of the TPB to predict intentions and behaviour across a range of behaviours. One of the key advantages of the TPB as opposed to other social cognition models comes through its inclusion of normative influences through its 'subjective norm' variable. Within road-user behaviour the Theory of Planned Behaviour (TPB) has been popular in attempts to understand issues such as intentions to speed [10], seat-belt compliance and applications to drink driving [11]. Recent work has argued that other variables (such as habit and affect), in addition to attitudes, subjective norms and perceived behavioural control, should be taken into account [12].

Becker's Health Belief Model (HBM) (1974) [13] proposes that people will be motivated to carry out preventive health behaviours in response to a perceived threat to their health. Threat perceptions are a result of assessment of perceived susceptibility to the illness or adverse event and the perceived severity of its consequences. Health behaviours will then be evaluated in terms of their perceived benefits or efficacy and also by their perceived costs or barriers. Cues to action and demographic variables will also impact upon the evaluative process and behaviour selection.

The HBM has been used in many interventions including sexual behaviours, reducing smoking and promoting dietary health behaviours. However, its use in road safety has not been particularly widespread. A DfT report [14] noted that whilst evidence on the utility of HBM was available from a wide range of intervention studies, the empirical basis for the practicality of the HBM was less well established and thus should be treated with some caution when considering it as a basis for a road-safety intervention.

Triandis's Theory of Interpersonal Behaviour (TIB) [15] in contrast to the TPB, recognises habit as the primary determinant of behaviour. He places habit above intention and facilitating conditions in determining behaviour, arguing that with increasing experience of a behaviour, the influence of habit increases and that of intention declines. Unlike the TPB he also considers emotions or 'affect' as, alongside attitudes and social factors, a direct determinant of behavioural intention.

Self efficacy is widely used in social-psychological models to refer to the aforementioned agency. Theorists such as Bandura (1982) have advocated the role of self-efficacy in mediating the influence of motivations on behaviour and also the importance of achieving a sense of personal mastery. The advantages of greater self-efficacy include higher motivation when faced by obstacles and better chances of persisting with the change over time without formal supervision. Greater self-efficacy can be achieved through tactics such as setting incremental goals, behavioural contracting (establishing a 'contract' to undertake the desired behaviour), monitoring and reinforcement. Further work by Bandura in his Social Cognitive Theory [16] recognised the importance of enhancing a person's behavioural capability and self confidence. By doing this you increase the likelihood of their believing they will be able to reach the desired standard. Interventions in other areas, such as HIV prevention, demonstrate that where SCT principles such as provision of information, skill mastery, self-efficacy for skill implementation, social competence and social support, have formed the basis for the project, relative success has occurred.

Norms are considered a cornerstone of social-psychological behavioural models and further challenge rational economic theories. They are however used differently by different

[10] Conner et al (2007) Application of the theory of planned behaviour to the prediction of objectively assessed breaking of posted speed limits, The British Psychological Society, 98, 429-453
[11] Parker, D et al (1992) Intention to Commit Driving Violations: An Application of the Theory of Planned Behaviour, Journal of Applied Psychology, Vo.77, No.1, 94-101
[12] Ibid. 12
[13] Becker (1974) Health Belief Model and Personal Health Behaviour, Health Education Monographs, Vol 2. No. 4
[14] DfT (2006) Road Safety Research Report No.66 – Effective Interventions for Speeding Motorists, p.44, TSO, London.
[15] Triandis (1977) in Darnton. A (2008) GSR Behaviour Change Knowledge Review - A Practical Guide. Government Social Research.
[16] Bandura, A (1982) Self-efficacy mechanism in human agency, American Psychologist, 37, 22-147

theorists. Personal norms are distinguished from social norms through the sphere in which sanctions are felt: the latter are felt externally, the former internally. Norms are considered to be constantly present but only influential when they become salient. In terms of social norms, Cialdini's distinction between types of social norms is also important [17]. He differentiates between 'descriptive' norms, describing what is done and 'injunctive norms' which denote what should be done. Social norms are powerful aspects of behaviour, particularly when considering the behaviour of individuals in relation to groups. Social and personal norms are intricately related to our sense of self identity and cannot be ignored in any consideration of behavioural change. Cialdini also identified a variety of so called 'weapons' of influence which could be drawn upon to bring about behavioural change. These included the principles of reciprocity, commitment and consistency, authority, liking, scarcity and social proof (how people look to others for guidance on how to behave).

Other models have considered the role of external factors. Often the role of contextual factors is subsumed within the agency component but some consider influences shaping behaviour at a higher level, that of society. The most widely known are the Main Determinants of Health [18], which sets individual behaviour within a tiered framework of influencing factors and Gatersleben and Vlek's Needs Opportunities and Abilities [19] which also recognises the influence of societal factors on individuals' behaviour.

Whilst all the models outlined above focus on individual behaviour there is a school of theories which look at the process of behavioural change over time; the theories of change. Perhaps the most commonly referenced is Prochaska and Di Clemente's Transtheoretical Model (TTM), widely known as the 'Stages of Change'. This is the dominant 'stage' model used in health psychology. Stage theory advocates behaviour change occurring in steps or stages and in a cyclical pattern as opposed to the linearity of most other models. The cyclical nature involves a pattern of adoption, maintenance, relapse and readoption over time. The TTM is most commonly conceptualised into five distinct stages: pre-contemplation, contemplation, preparation, action, and maintenance. It is accepted that relapse from action or maintenance to an earlier stage may occur or that cycle through stages may occur several times before the achievement of long-term behaviour change.

Other models have conceptualised change as a process of diffusion (Rogers' Diffusion of Innovations Theory) or revealed learning as fundamental to the process of change, although this is often implied in other models of behaviour through the presence of the feedback mechanism. Social Capital Theory [20] has presented change through social networks. This approach recognises that quantity and quality of society's social interactions have value and can in the right instances be used to help encourage behavioural change. Conceptually quite different from other models of behavioural change is the systems approach. This approach, advocated by the World Health Organisation (WHO), offers recognition of the complexity of factors which impact upon behaviours. Systems thinking is particularly useful when attempting to address behaviours with multiple and complex underlying factors, such as speeding.

Certain models and aspects of behavioural theory will be drawn upon in all the case studies and examples of where theory has been used to structure intervention will be highlighted.

[17] Cialdini, R, Reno, R and Kallgren, C (1990) A focus theory of normative conduct: Recycling the concepts of norms to reduce littering in public places. In the Journal of Personality and Social Pyschology 58(6) 1015-1026.
[18] Dahlgren. G and Whitehead, M (2007) Policies and Strategies to Promote Social Equity in Health. Background document to WHO – Strategy paper for Europe. Working Paper 14. Institute for Future Studies. http://www.framtidsstudier.se/filebank/files/20080109$110739$fil$mZ8UVQv2wQFShMRF6cuT.pdf
[19] Gatersleben, B and Vlek, C (1998) referenced in OECD (2002) Towards Sustainable Household Consumption? Trends and Policies in OECD countries.
[20] Bourdieu (1986) The Forms of Capital in Baron, S, Field, J and Schuller T (eds) (2000) Social Capital – Critical Perspectives. Oxford University Press.

Public influencing

"Policy makers now better understand that changing individual and group behaviour is often central to the effective delivery of policy outcomes. There is also better appreciation of the importance of public preferences, attitudes, and norms in shaping behaviour." [21]

Broadly speaking there is a level of public acceptance of the need for governments to intervene when externalities, positive or negative, exist. In social policy spheres, these levels can fluctuate considerably. The relationship between public acceptability and efficacy of intervention may be relatively loose (noting that behaviour change can occur prior to or without a concurrent change in attitudes) yet the power of public influencing should not be underestimated or ignored. Indeed, as one consultation interviewee noted

"Positive public opinion is absolutely necessary – you have to believe the law not to take the risk" [22]

Public opinion and public influencing are different things. Public influencing can result in positive public opinion but is primarily concerned with strategies to alter the attitudes and behaviour of the component parts of the 'public', individuals. Public opinion is an outcome which can alter the approaches and success of interventions targeted with influencing behaviour.

It should also be acknowledged that the use of the word 'public' particularly in reference to opinion is problematic. It is rare, if ever, that there will be a singular view held by an entire population. Thus public opinion usually refers to a dominant or majority view on a topic where a range of other views exist. Public opinion can be measured through polls, surveys and through the media. However, public opinion or public preference should not be ignored. Supportive public opinion can legitimise change and enhance support in institutions of change. It can also be used at times as a barometer to indicate appropriate paths for interventions.

This report is more interested in public influencing, its role in behavioural change and strategies used to undertake this but also considers, within the case studies, how public opinion and utilisation or alteration of this has impacted upon examples of behavioural change in public policy. Effective public influencing and channelling supportive public opinion will be fundamental to directing and achieving success with road safety. It is important that we appreciate the role of public opinion in successful behaviour change. The report takes the view that the following factors help to facilitate supportive public attitudes: political and social leadership and advocates, a coherent evidence base, strong coalitions, and effective and credible communication of the justification for intervention and its mechanisms.

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[21] Darnton, A (2008) GSR Behaviour Change Practice Guide. p.9 GSR. London.
[22] Fiona Seymour, Consultation Interview.

Seat belts

5.1 Key insights

- The importance of high level political will and commitment in driving change and success.
- Implementing legislation, where possible, once a body of support amongst the public exists.
- The need for a clear evidence base to build upon.
- Emergence of new challenges and new segments and developing strategies appropriate for these.
- Value of communications campaigns in encouraging habit formation.
- The continued need for enforcement to complement communications.

5.2 Introduction

Seat belt use in the UK is often held up in other spheres and disciplines as an example of successful behaviour change. This chapter suggests the determinants of success in achieving high levels of compliance build upon the relative roles of enforcement, legislation, education and communication efforts in gaining public support and changing seat belt behaviours. It should be noted that achievements in front seat belt wearing have been greater than for rear seat belt compliance and the two represent slightly different challenges.

Improvements in vehicle design, through the introduction of systems such as ABS, airbags, improved frontal and side impact crash protection and increasingly electronic stability control (ESC) have greatly contributed to the strides that have been made in reducing both risk and severity of crashes. Yet, the seatbelt, included in the 1967 Road Safety Act as a requirement to be fitted to all cars, is still a safety device of utmost importance in improving road safety and an example of successful behavioural alteration.

"...the decision to wear a seatbelt, if available, is the most important single action that can be taken by a vehicle occupant to minimise the risk of personal injury in a road accident...although technology has improved the performance of seat belts, the most significant contribution to occupant protection is to encourage drivers and passengers to wear their seat belts in the first place." [23]

Seat belts remain a vital tool in road casualty reduction. It is estimated that they save 2000 lives a year in the UK [24]. Seatbelt use is often given as an exemplar of good practice in other areas of public behaviour change due to its combination of legislation, enforcement and public information and education campaigns which have resulted in maintained high levels of compliance. The following sections seek to provide an overview of the seat belt case within the UK, assessing the various components that have contributed to our considerable achievements within this area and considering how behaviour change has been achieved and the make-up and role of public influencing within this. In spite of this success there is still considerable potential for further casualty savings as approximately 25% of car drivers and front seat passengers killed in recent years were not wearing their seat belts whilst for rear seat passenger fatalities this was nearly 70% [25].

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[23] OECD (1997) The Availability of Seatbelt Wearing Data in OECD member countries (1995) IRTAD Special Report. p.4
[24] www.thinkseatbelts.com
[25] Cuerden. R.W (2006) CCIS Topic Report 1: Seat Belt Effectiveness. www.ukccis.org

5.3 Public Support – transcending the intention behaviour gap

The use of seat belts commands high levels of public support and compliance. Road safety campaign evaluations conducted by **Think!** in 2007 found that 94% of all people agree that wearing a seatbelt is something they have to do, with 90% saying it made them feel safer. In the last ten years, overall wearing rates have risen slowly although total front-seat wearing rates have consistently remained above 90%. Data from October 2007 indicated front-seat passenger compliance sat at 97% with driver levels slightly lower at 94%[26]. This appears to imply the validity of successfully altering individual and public attitudes, beliefs and norms to support and institute a behavioural change; not only do the public feel it is something they have to do, through the creation of a norm, but they also recognise the safety benefits of the task thus exhibiting a more accurate outcome evaluation and risk perception.

Most interestingly, a study reviewing the effectiveness of the SARTRE (Social Attitudes to Road Traffic Risks in Europe) project, highlighted the strong correlation, with respect to restraint use, between reported behaviour and actual behaviour.

"Respondents were asked how often they wore their seat belts on each of the four road types...when these responses are averaged across all four road types for the UK respondents, the number who indicated that they 'always' wore their seatbelt was 92.8%, which compares favourably to the 91% figure quoted in the comparable Think! 2003 road statistics."[27]

Thus, seat belt use appears to have transcended the intention-behaviour gap. Arguably, here, the role of the 'public' attitude, so crucial in the early stages of a campaign for behavioural change, may have become less relevant. With the formation of habit, attitudes may be sidelined cognitively, although the element of social proof [28] - everyone else is undertaking the action, therefore so must I - demonstrates the maintained importance that the sense of complying with the majority has in achieving behavioural change.

How have we achieved these high levels of compliance, strong levels of support and a minimisation of the gap between intention and behaviour? For this we must look at the various mechanisms of influence which have contributed to success.

5.4 Legislation

Kingdon [29], in his garbage can model, conceptualised moments when the political, policy and problem streams combine as 'policy windows'. Legislation tends to be introduced in times or spaces where general opinion, political will and opportunity, and technological ability combine to create a responsive environment for introduction. A similar notion could be ascribed to the seatbelt issue.

With regard to seat belts, the key legislative changes have been as follows:
1967 - Mandatory fitment of front seat restraints in vehicles
1983 - Compulsory requirement to wear front seat restraints, with certain specified exceptions
1989 - Children (under the age of 14) required to use rear seat belts (where fitted)
1991 - Adults required to wear rear seat belts

[26] TRL (2008) LF2102: Restraint Use By Car Occupants, 2006-2007. TRL. Crowthorne.
[27] Gormley. M and Fuller.R (2006) 'A Critical Review of SARTRE' in Behavioural Research in Road Safety: Sixteenth Seminar Proceedings' http://www.dft.gov.uk/pgr/roadsafety/research/behavioural/sixteenthseminar/pdf
[28] Cialdini. R (1998) Influence: The Pyschology of Persuasion, Collins, London.
[29] Kingdon. J (1995) Agendas, alternatives and public policy 2nd edition, Longman. New York

The issue of seat belts has benefited from the existence of high level political will. Barbara Castle, Minister for Transport in 1967 when the Road Safety Act was passed, determined that seat belt introduction was an issue of great importance for the safety of the nation and introduced front seat mandatory fitment. As in the Smokefree case study, the existence of international pressure also facilitated change. The success of the Australian introduction of requirements for wearing front seat belts in the 1970s, and later countries such as Sweden, Norway and Canada [30] implementing mandatory rear seat belt use, placed the onus on the UK to follow suit.

The tangibility of public support can convince a government of the ease of legislation and both are undoubtedly affected by the clarity of the evidence base. On both front and rear seat belt issues, exemplification of the safety benefits was conclusive. Public information campaigns have consistently focused on the clear safety benefits of wearing a seatbelt both to an individual and to other occupants in a vehicle. This was demonstrated in the 1998 **Think!** campaign which used the slogan "Belt up in the back. For everyone's sake."

The public nature of the debate, in the early years, and the robustness of the evidence are lessons which can be highlighted, once again, as of the utmost importance in gaining public belief and credibility on an issue. The efficacy of the introduction was contested on a variety of grounds: intrusion of civil liberties, questioning of the estimated casualty savings of introduction, potential deterioration of the public-police relationship and the risk compensation argument advanced most prominently in this country by John Adams (1981)[31].

The ability of the road safety community to refute such claims, through the production of ripostes such as RoSPA's (1981) 'The Efficacy of Seat Belt Legislation'[31A], as well as cohesive campaigns by organisations such as PACTS, gave credence to the issue as well as reaffirming the evidence base. Introduction of seat belt legislation and the achievement of compliance levels were also aided by publicly available education material in documentaries such as 'The Greatest Epidemic of Our Time' screened in 1980. The eventual presence of a strong coalition, spanning a range of stakeholder groups and organisations including the Police, medical community, BMA, RoSPA and the Society of Motor Manufacturers and Traders helped forward the case. With respect to efforts to reduce the BAC limit, the element of public debate is one which we are perhaps missing.

A long period of voluntary compliance prepared the ground for behavioural change and subsequent legislation. Post compulsory fitment of seat belts to vehicles in 1967, the Department for Transport ran a series of campaigns utilising the phrase 'Clunk, Click, Every Trip'. The use of 'sleds' to demonstrate the impacts of a crash on an individual also sought to reiterate the safety benefits of using a restraint detailing the physics of a crash. The value of such simulators in communicating the evidence lies in their tangibility and lack of contestability. Simulators are still used today, some available in an interactive form such as on the THINK! road safety website.

Voluntary usage rates of 48% recorded by 1978 implied that individuals were acknowledging the safety benefits of wearing a restraint, altering their risk assessment accordingly and beginning, in large numbers, to buckle up voluntarily. However, the usage rate did not continue to rise substantially and it became clear that to achieve greater levels of usage, legislation was a required step. Successfully passing the bill through

[30] Ashton. S et al (1985) "The Effects of Mandatory Seatbelt Use in Great Britain"
    Paper presented at the Tenth International Conference on Experimental Safety Vehicles, Oxford.
[31] Adam J (1981) The efficacy of seat belt legislation: a comparative study of road accident fatality statistics from 18 countries, UCL, London
[31A] ROSPA (1981) 'The Efficacy of Seat Belt Legislation – A response.' ROSPA.

Parliament took over ten years following front seat mandatory fitment, but arguably, this period allowed information and understanding of the safety benefits of seat belts to disseminate through the population. To draw on Prochaska and Di Clemente's Stages of Change Model, individuals moved into the contemplative and preparation for action stages, whilst a significant cohort undertook action. Legislation was the tool required to hasten movement towards behaviour change and habit formation.

Pre legislation front seat usage rates rose to just under 50% but by the end of 1983[32] these had reached 93%, indicating the success of the legislation. The instantaneous effect of the legislation demonstrates that often law is needed to enforce a behavioural change, but there is also a requirement for it to be seen to have validity by the population. A cohort of people will alter their behaviour even if they do not believe in the law, but the sustained high levels of compliance can be seen to indicate the strength of this legislation. The following section considers in more detail the issue of habit formation and its drivers in relation to seat belt usage.

5.5 Public information and education

5.5.1 The successful creation of a habit

Triandis, in his **Theory of Interpersonal Behaviour (TIB)**[33], sees habit as the primary determinant of action, above intention and facilitating conditions. He argues that as experience of a specific behaviour is acquired, the influence of habit will increase as that of intention diminishes. For him, habits are situation-behaviour sequences which have become automatic and correspondingly 'unconscious' for the individual. Habit is contingent on upon past behaviour and acts as a short-cut in the decision making process of frequently executed behaviours.

"Regardless of whether a person intends or does not intend to drive in a safe manner, habitual processes, similar to thoughtlessly lighting a cigarette, supersede cognitive processing" [35]

The benefits of creating a habit and superseding cognitive processing lie in the ability for longevity. Once a 'good' habit is created then, as is commonly recognised, this is hard to break. Unsurprisingly, given this, dangers lie in the creation of 'bad habits'. As behaviour becomes more routinised it can become more detached from the original motivating factors, thus targeting factors such as attitude or intention which initially may have influenced the action, may no longer alter the habit. Hence, interventions to change a habit must involve the introduction of conscious behavioural cues; a concept well utilised within the framework for adopting recycling behaviour but also in relation to seat belt usage.

Mass media campaigns have limited efficacy in isolation and the existence of law, and the threat of enforcement are undoubtedly contributing factors to achieving the behavioural change. However, seat belt usage is acknowledged as highly self-enforcing. Much of this success has stemmed from the ability of the UK public information campaigns and primary education concerning seat belts, for a sustained period, to focus on the creation of habits and the alteration of risk perceptions in relation to seat belts.

[32] THINK (2007) Road User Statistics – GB Percentage Car and Van Seat Belt Wearing Rates downloadable
http://think.dft.gov.uk/pdf/332982/332986/0711seatbelt
[33] Triandis (1977) quoted in Jackson, T (2005) Motivating Sustainable Consumption: A Review of Evidence on Consumer Behaviour and Behavioural Change. A report to the Sustainable Development Research Network. SDRN. London.
[34] Yates (1993) quoted in Strecher et al (2006) Predictors of safe driving behaviour: towards an integrative model in Behavioural Research in Road Safety: Sixteenth Seminar Proceedings'
http://www.dft.gov.uk/pgr/roadsafety/research/behavioural/sixteenthseminar/pdf

"Task difficulty moderates the likelihood that behavioural intention will result in actual safe driving behaviour...When task difficulty is low, the intention-behaviour relationship will be strong"[35]

Immortalised by the Jimmy Saville adverts, the **'Clunk, Click, Every Trip'** campaigns, run during the 1970s and 1980s, provided an extremely memorable strapline, matched with functional efficacy. The adverts emphasised the ease of the task required and the safety benefits as well as providing behavioural cues (reminders), which facilitated habit formation and have stood the test of time. Prior to the introduction of compulsory seat belt legislation, a series of adverts instructing individuals to 'Develop the Seatbelt habit' were also developed to reiterate the ease of the action required. I

The 'Clunk, Click' phrase may now be less identifiable within the population but in creating a majority of compliers, the behaviour has been passed on as a norm and a requirement. As the habit becomes formalised in younger generations through peer to peer learning, supplementing contemporary advertising campaigns and primary school road safety education, the behaviour extends and is reproduced through each generation of the population.

Many campaigns now tend to focus on more specific segments and behaviours, such as child restraint use, and young males. However, local and regional level work often provided by police forces, local authorities and schools, continues to utilise instructive phrases such as Nottinghamshire's **'Do it Up'** campaign[36], to educate, inform and induce habit formation in individuals, performing an important function in supporting more targeted campaigns. Academic research has consistently identified habit as being the most important determinant of seatbelt behaviour. [37]

Such adverts have performed a crucial function in highlighting the relative simplicity of the task required, helping to improve self-efficacy; a key determinant of behaviour in many social psychological models. The **targeting of self-efficacy**, perhaps rather than necessarily utilisation of a habit formation approach, is one which has relevance regarding many road safety behaviours.

5.5.2 Using insight to inform intervention programmes & campaigns

Analysis of government campaigns and research demonstrates the high level of insight and an early acknowledgement of the importance of confronting attitudes, beliefs and norms as well as the value of emotions in communications. Use of insight and understanding the factors behind non-compliance has been present within communication efforts from inception such as the 1982 Rees Jeffreys Road Fund report which undertook a survey to discover the attitudes, beliefs and opinions of motorists towards seat belt usage [38].

The need for careful insight and research has been particularly stimulated by the introduction of rear seat belt legislation, where the resistance to usage has been more stubborn in comparison to front seat belt rates. Following the introduction of adult rear seat belt legislation in 1991 the government ran the 'Elephant' campaign. This TV advertisement showed that after a collision an unrestrained rear seat passenger would be thrown forward and hit the front seats with a force equivalent to the weight of an elephant. This aimed to

[32] Strecher, V.J et al (2006) Predictors of safe driving behaviour: towards an integrative model. In Behavioural Research in Road Safety: Sixteenth Seminar Proceedings' http://www.dft.gov.uk/pgr/roadsafety/research/behavioural/sixteenthseminar/pdf
[36] http://www.nottinghamshire.gov.uk/home/traffic_and_travel/roadsafety/roadsafety_drivers/roadsafety_seat belts/seatbelt campaign.htm
[37] Sutton, S and Hallet (1989) Understanding Seat-Belt Intentions and Behaviour – A decision making approach. In Journal of Applied Social Psychology, Vol.19. Issue 15, pp 1310-1325.
[38] Marsh. P and Collet. P (1982) 'Seat Belts in Britain' An Interim Report to the Rees Jeffreys Road Fund, Oxford.

inform people of the potential risks to others within the car of not wearing a rear restraint as well as the potential injury to themselves. As demonstrated in the two graphs below, the impacts of the campaigns were modest at most.

REAR SEAT BELT WEARING RATES FOR WOMEN

REAR SEAT BELT WEARING RATES FOR MEN
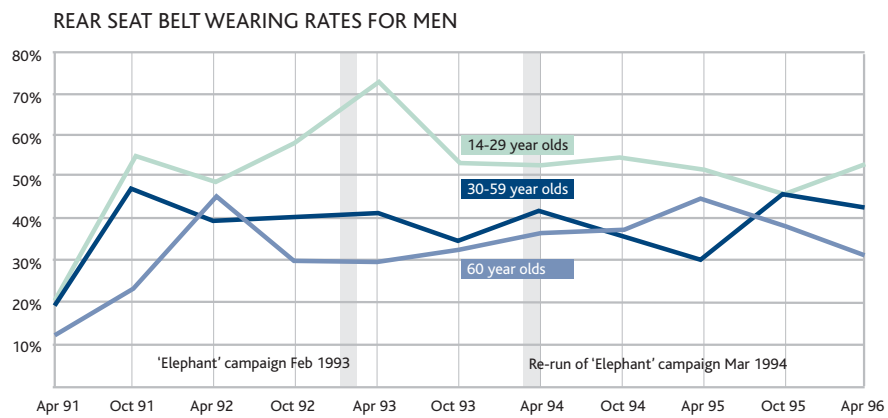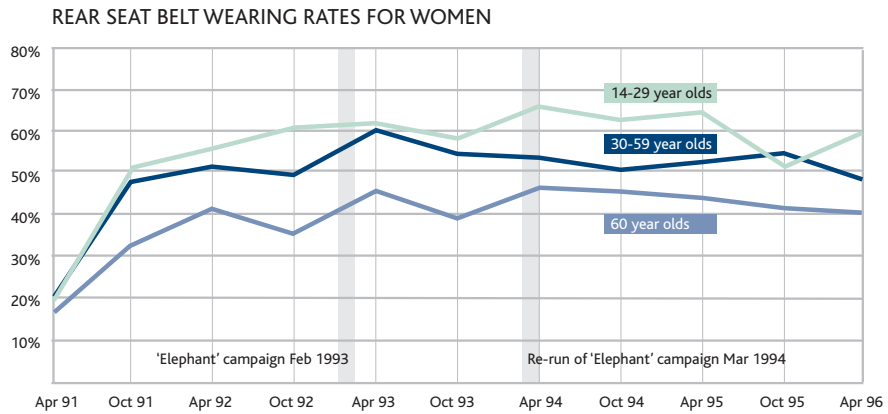
Source: Markey. K et al (1998)
The characteristics and attitudes of adult non-wearers of rear-restraints. p.3 TRL222. TRL. Crowthorne.

In the immediate phase after rear seatbelt legislation came into force there remained a significant majority of adults who continued not to use a seatbelt; attitudes and beliefs concerning rear seat belt use were more difficult to shift than for front seat legislation. Thus understanding the factors, reasons and beliefs inhibiting compliance is important.

Length of journey and journey type were quickly identified as determinants of seat belt use and adverts have been able to focus on altering these beliefs. The process of segmenting has also been used in relation to seat belts. In the report produced for the DETR[39], four types of non-wearer were identified:

● The Forgetful
● Occasional Lapsers
● The Resistant
● The Defiant

This identification of segments through qualitative and quantitative data recognised that the populace could not be subjected to a binary division; compliers and non-compliers. Particularly for front seat wearers this has proved to be true. A recent report **'Strapping Yarns'** identified that approximately 14% of the adult population can be considered 'inconsistent wearers'[40]. Within this cohort, sub-groups with distinct demographics were

[39] Markey. K.A et al (1998) TRL Report 222 The characteristics and attitudes of adult non-wearers of rear restraints. TRL. Crowthorne.
[40] Christmas, S, Young, D and Cuerden, R (2008) Road Safety Research Report 98. Strapping Yarns: Why People Do and Do Not Wear Seat Belts. DfT. London.

recognised and young males again identified as a key target group for intervention where considerable casualty savings can be made. This corroborates findings from an earlier TRL report, which compared wearing rates between 1998-2002 in ten different areas in the country with the baseline areas of Crowthorne and Nottingham, and concluded that:

"..seatbelt wearing rates are lowest among young men, especially in urban areas. Campaigns to encourage use of seat belts need to target this group in particular." [41]

Government campaigns, such as the 'Julie' rear seat belt adverts, where an unrestrained teenager in the back of the car kills his mother in a crash on the school run appear to strike a balance between graphic imagery and realism. The campaign not only targeted a key group, in young males, but also used a recommendation in the 1998 report to "..show, clearly, the safety consequences of rear seat passengers being unrestrained in an accident" [42].

Approaches to seat belt advertising have been varied. They have focused on the provision of reminders, emphasis of the emotional or physical consequences of a crash and providing testimonial from victims or victims' families. As outlined by the Strapping Yarns report, problem groups still remain such as young drivers and passengers and light van drivers. The work undertaken in the 'Strapping Yarns' study provides a more nuanced segmentation approach and outlines clearly the reasons and justifications for inconsistent wearing as well as reiterating the highly situational nature of seat belt wearing. Inconsistent wearers decisions to use their seat belt can vary due to a myriad of factors such as whether they consider the road to be dangerous, seating position, emotional state and traffic conditions to name but a few [43] and their relationship with other drivers and passengers in the vehicle.

"...in cars where the driver used a seat belt, 92.6% of passengers were properly restrained. This contrasts with the remaining cars where only 38% of passengers were properly restrained, a difference of almost 55%." [44]

An updated segmentation approach using psychographic and socio-demographic data has identified three types of inconsistent wearer, providing recommendations on how each group should be targeted through communications as well as offering a model of situational seat belt wearing. Such work is invaluable as it enables practitioners to better understand the nature of non-compliance whilst simultaneously providing actionable insight for communications campaigns.

Both academic work and work undertaken by road safety practitioners has also questioned whether we need further segmentation by ethnicity and deprivation. The Leeds Road Safety Promotion Unit responded to locally held data concerning child car passenger figures, where Asian children were overrepresented with a scheme to promote in-car safety within the Asian community. The scheme identified specific needs and barriers to in-car safety amongst the community such as greater dependency on few cars, reliance on taxis where child seats may be unavailable and a lack of access to child seats. The Unit was then able to produce information leaflets and identify future work, such as the provision of child seats on a loan basis to community centres. [45]

[41] Broughton, J (2003) Seat belt wearing rates in cars in England, 1998-2002. TRL. Crowthorne.
[42] Markey. K.A et al (1998) TRL Report 222 The characteristics and attitudes of adult non-wearers of rear restraints.
[43] Ibid. 40
[44] Burns, A et al (2003) Seat Belt Wearing in Scotland: A Second Study of Compliance, Scottish Government.
[45] Leeds Road Safety Promotion Unit (2001) Promoting In-Car Safety within the Asian Community

A recent study [46] has also argued for considering the seat belt issue in the context of deprivation and ethnicity. It argued that:

"..mass communication modalities...demonstrate high reach but limited efficacy. The inability of mass communication messages to tailor health education messages relevant to individuals varying in educational attainment, socio-economic status and racial/ethnic identification limits the efficacy of this approach."

Local authorities should be encouraged to continue to identify specific groups where road safety issues arise. More research needs to be done to understand the role that ethnicity and deprivation play, not simply in relation to seat belts, but more broadly across road safety. The question that then arises is whether at a national level we need to respond to these possibilities. There is a growing body of work linking social deprivation to road casualties. In the current road safety strategy the government committed to investigate and tackle social deprivation relating to child casualties.

PACTS recommends that more research investigating the links between ethnicity and deprivation across the population is commissioned and targeted intervention programmes going beyond traditional mass media approaches are supported.

Communication approaches and advertising campaigns have tended to treat front and rear seat belt wearing separately. Given the differing influences and effects on the decision to wear a seat belt depending on position and the levels of compliance this is a sensible approach. There should be knock-on effects from rear and front seat belt campaigns on both rates. However, given that non-compliance for rear-seat passengers is more widespread, different approaches to communication will be required here as compared to front seat belts as here the problem groups are smaller and better defined.

5.6 Enforcement

Seat belt compliance has relied partly on a high level of self-enforcement, largely achieved through education and communication of the safety benefits and the physical and emotional consequences of not wearing a belt, pre and post front and rear seat belt legislation. However, the threat and utilisation of enforcement and punishment should not be underestimated. A report by the Washington Traffic Safety Commission (2003) found that " ..the increase in belt use was immediate and simultaneous with an enforcement campaign."[47]

Targeted enforcement campaigns, running in conjunction with public communications efforts, create the most effective method of improving compliance levels. This remains true with restraint use. Data on fixed penalty notices in the preceding decade points to a rise between 1996 and 2006 of 70,000 to 224,000. Recognising that police resources are limited, visibility of enforcement improves compliance, and, utilising **Prochaska and Di Clemente's** stage model, helps to prevent 'slippage' back to earlier behavioural stages.

Although we have obtained good levels of behavioural compliance, evidence from targeted enforcement activity indicates there is still room for improvement. An April 2008 West Midlands police initiative found high levels of non-compliance, supporting the findings of recent Liverpool Victoria Survey which suggested that 2.3m drivers still do not wear a seatbelt [48]. The research also suggested that many individuals were

46 N Christie et al (in press) Ethnicity, deprivation and road traffic risk; a survey of risk and road safety and implications for injury prevention.
47 Insurance Institute for Highway Safety (2003): Status Report Vol.38. 11.01.03. USA
48 http://news.bbc.co.uk/1/hi/uk/7218914.stm

unaware of the fine which is incurred as a result of non-compliance and the potential to be taken to court where the fine could escalate up to £500.

Police authorities within the UK currently undertake targeted enforcement of seat belt compliance, often run in conjunction with local, national and European publicity initiatives such as TISPOL's yearly European Seat Belt Week. Imminence and celerity of enforcement help to maintain the compliant behaviour of the majority of the population, whilst encouraging inconsistent wearers into action and punishing the 'hard-core' of non-compliers.

Resources must continue to be devoted to policing efforts on seatbelt compliance and to supporting the interrelation with publicity and education campaigns, as they are conjoined and reinforcing processes.

5.7 Technology

The dominant focus for improving seat belt usage may lie with targeted enforcement and better understanding the behaviours of specific segments, but there exists technology available which could enable better compliance and reduce the demands on policing resources and reliance on achieving behavioural change through communication campaigns and education.

Interlock systems and **seatbelt reminders** are examples of a relatively simple and inexpensive technology which could have a substantial impact on improving compliance, particularly targeting the cohort of 'inconsistent wearers'. Reminders detect if a seatbelt is being worn, often using a sensor, which activates an audible or visual signal if belts are not in use, whilst interlock systems prevent start-up of the engine if the seat belt is not being worn [49]. The safety benefits of seatbelt reminders are provided through low-level annoyance, usually an aural warning, which may be sufficient to encourage inconsistent belt wearers to fasten their seat belts. Reminders encourage active consideration of using a seatbelt and remove the get-out clause of 'I forgot to put it on' which was the most popular response in a 1999 survey [50] into the reasons for non-compliance. Avoidance strategies do exist but reminders provide a behavioural cue with considerable potential to aid habit formation in occasional non-wearers, and potentially breaking the 'bad habits' of consistent non-wearers, where previously enforcement may have been the only option.

Fitment of these in the UK, unlike in the USA and Australia, is not mandatory. However, the current EuroNCAP rating system does score vehicles which include such devices more highly. As mandatory fitment in the UK would require an EU directive, the market does currently appear to be pushing through the solution more speedily than legislation would permit. Several manufacturers including Ford, Toyota and Volvo, already voluntarily include these systems beyond minimum requirements.

"ETSC experts estimate that audible seat belt reminders for front seats can raise seatbelt wearing among front seat occupants to 97%. The benefits of requiring audible seat belt reminders for the front seat of cars in the European Union exceed the costs by a ratio of 6 to 1." [51]

PACTS recommends that EuroNCAP continue to reward vehicles which include seat belt reminder systems beyond the minimum requirements.

[49] PACTS (2005) Policing Road Risk: Enforcement, Technologies and Road Safety, PACTS, London.
[50] TAC (2008) Seatbelt Case Study. Downloadable http://www.tacsafety.com.au/upload/Seatbelt_Case_Study.pdf
[51] ETSC (2003) Cost Effective EU Transport Safety Measures

5.8 Summary

"Whilst belts will undoubtedly reduce the number of serious injuries and deaths among drivers and front-seat passengers, it is essential that complacency about safety and lowered perceptions of risk should not be created." [52]

Seat belt restraint use, though a considerable success, also aptly demonstrates the length of time required to institute a behavioural change. The sequence in which legislation, enforcement and public information occurred has been a major contributory factor to the high levels of compliance we have achieved. Prior to the introduction of the initial legislation, there was a substantial period of time where public attitudes and beliefs could be worked upon, and a critical mass of support built up. Public influencing has occurred through a mixture of 'sticks' and 'carrots', building upon the early winning over of 'public' opinion, and aided by the solid foundations of the evidence and research base.

Elements of the process of change can be partially matched to several theories; change via social networks, change via learning and change in stages with none of these being mutually exclusive. The seatbelt exemplar, as a safety innovation, has elements of compatibility with theories such as **Rogers' Diffusion of Innovations** [53]. The theory, which describes the uptake of innovations and technologies within society, is perhaps most applicable when considering the early stages of seatbelt use, prior to legislation. Here elements of the theory such as the five step **'Innovation-Decision Process'**, where individuals decide whether to adopt an innovation, is apt. The process, which comprises knowledge of the idea, persuasion, decision, information and confirmation, has parallels in the nature of change regarding seat belts. The rate of adoption, according to the theory, is also determined by the nature of the network and the attributes of the innovation. The safety attributes of the innovation, clearly demonstrated through public information campaigns, helped to hasten uptake.

Although a stages of change approach is perhaps too mechanistic, it does have some value when considering seat belts in the UK. Pre front seat belt legislation, individuals were pushed into contemplation and preparation, action and for some maintenance through the creation of habit as a result of public information efforts. Legislation and the threat of enforcement then pushed a large section of the population into the action and maintenance stage. Rear seat belt legislation was able to build on this, although individuals' ability to transfer their front seat belt behaviour to the rear seat has been slightly more problematic and movement through the stages not as rapid. Now, as a result of education from a young age, individuals reach the action and indeed habit stage very quickly although it is important for contemplation and the safety justification for wearing a seatbelt to continue to be reinforced.

Flaws exist when considering non-compliers. They do not necessarily fit this model; they may have contemplated the action and decided not to take it, or they may sporadically undertake the action when they remember – both types of inconsistent wearers outlined in the 'Strapping Yarns' report. In the latter case, conceptually they are frequently moving between the stages and here the model is too rigid to accommodate for this. There are many processes of change and a variety of barriers and reasons for not always using a belt and the improved understanding we have concerning the situational nature of the behaviour should help our casualty reduction efforts.

[52] Marsh, P and Collet.P (1982) 'Seat Belts in Britain' An Interim Report to the Rees Jeffreys Road Fund, p.36. Oxford.
[53] Rogers, E (1995) in Darnton. A (2008) Reference Report: An overview of behaviour change models and their uses. GSR, London.

Future progress on seat belt compliance is likely to rely on a mixture of further technology, consistent enforcement and a better understanding of non-compliance. Cialdini [54] suggests that feedback is an important element in reinforcing a behavioural change. There are examples of this in road safety and other policy spheres. An advertising campaign in the US targeting binge drinking amongst college students used injunctive norms, informing students that others were not drinking as much as they perceived them to be, and recorded success. Similarly, Kent County Council in its Local Transport Plan 2006-2011 launched the **'478 lives saved'** campaign which uses a positive feedback idea, congratulating people on their efforts and reinforcing the social norm and benefits of compliance[55] . This is an approach which has value; particularly on issues where we have made great strides, it may be worthwhile to have some information campaigns which emphasise this.

Re-emphasising seat belt use as a majority behaviour and providing feedback showing the positive effects of compliance is a strategy which could be used more widely on both this and other road safety issues.

The seat belt case study offers insight into a successful road safety behavioural change strategy and highlights some of the key components of success. The only caveat is that we still have improvements to make on some issues such as rear seat belt wearing and amongst cohorts of inconsistent wearers. Habit formation approaches may not be applicable throughout road safety, but we should take heart from the recognition that with long-term commitment, an appropriate intervention mix and a good understanding of both the behaviour itself and its relation to individuals, change can be achieved.

5.9 Recommendations

PACTS recommends that more research investigating the links between ethnicity and deprivation across the population is commissioned and targeted intervention programmes going beyond traditional mass media approaches are supported.

Resources must continue to be devoted to policing efforts on seatbelt compliance and to supporting the interrelation with publicity and education campaigns supported, as they are conjoined and reinforcing processes.

PACTS recommends that EuroNCAP continue to reward vehicles which include seat belt reminder systems beyond the minimum requirements.

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[54] Cialdini. R (1998) Influence: The Pyschology of Persuasion, Collins, London.
[55] Kent County Council (2006) Local Transport Plan for Kent 2006-2011. Downloadable http://www.kent.gov.uk/publications/transport-and-streets/ltp-provisional-plan.htm

Drink Driving

6.1 Key insights

- Social stigmatisation can act as a powerful deterrent but usually only occurs when dealing with minority behaviours.
- The legitimacy of the law, in that the public perceive the punishment as fitting the crime, is integral to success.
- Support for technologies used to detect drinking and driving aids legitimacy amongst the public. Technology and visible enforcement must continue to work together in tackling the problem.
- Once again, the value of a solid and well understood evidence base is reiterated, particularly as it can be forcibly used in communication campaigns.
- The importance of providing resistance strategies.
- The need to capitalise on high levels of public support and advocate this in the appropriate arenas to bring about legislative change and raise awareness of road safety issues.

6.2 Introduction

Within modern British society, drink driving is a behaviour now accompanied with a high level of social stigmatisation. It is no longer common or acceptable to 'have one for the road' as surveys by bodies such as the RAC [56] and Think! [57] show. The public perceive impaired driving as a result of alcohol consumption as a severe legal and social violation. A combination of legislation, enforcement, education and advertising has created a stigmatisation around drinking and driving. Many other areas of road safety, for which it is appropriate, have struggled to achieve such levels of stigmatisation.

'Many very successful countries in terms of road safety, such as Sweden, still have serious drink drive problems' [58].

The UK, as a product of over forty years of effort, does not fall into this category. However, this does not mean the problem does not still exist. The 2007/2008 Think! Drink Drive Campaign report noted that '...there is still a minority drinking and driving, and the number of drink drive deaths have remained stubbornly level since 1993' [59] whilst the latest Road Casualties Great Britain report identified that approximately one in four drivers killed, excluding motorcyclists, were over the legal limit [60].

This emphasises that, although noteworthy attainment has been realised, there is still space for improvement. The following chapter aims to outline the current drink driving picture, how we have achieved this considerable behavioural success and whether we can apply any of these principles to other areas of road safety as well as highlighting future issues of concern.

6.3 The casualty picture

Reducing the incidence of accidents and casualties associated with drink driving has been an area where the UK has accomplished significantly. Concurrently we appear to

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[56] RAC (2008) Report on Motoring 2008: Report One – 20 Years of Motoring 1988/2008
[57] DfT (2008) Think! Drink Drive 2007/2008 Campaign Report, DfT, London.
[58] Consultation interview – Jean-Paul Repussard, DG Tren.
[59] Ibid. 57
[60] DfT (2008) Road Casualties Great Britain 2007. TSO. London.

to have achieved considerable attitudinal alteration as well as obtaining and subsequently maintaining low levels of drink drive related casualties: an apparent behavioural shift. In 2007 the number of people killed in drink drive accidents fell to 460, a 17.9% decrease on the previous year with an accompanying 10.6% decline in serious injuries[61]. Since 1983, when evidential breath testing was first introduced, we have achieved a 72% reduction in alcohol related road fatalities, a 74.1% reduction in serious injuries and a 43% reduction in slight injuries[62].

Whilst significant decreases were achieved during the 1980s and early 1990s, figures for the past decade show a more complex picture. Deaths have fluctuated since the early 90s peaking at 580 in 1996 and 2004. Concomitantly lows of 460 were also experienced in 1998 and 1999. Serious and slight injuries have also demonstrated periodic fluctuations; the former only recently showing a declining trend.

Although the casualty data depicts an undoubted improvement in the number of drink drive related deaths on the UK's roads in the past 40 years other indicators suggest a slightly more qualified success story of late. The number of driving licence disqualifications as a consequence of driving after consuming alcohol or taking drugs have shown little absolute decline since 1996, whilst the percentage of fatalities involving illegal alcohol levels has actually risen over the past five years. Data from the Ministry of Justice [63] points to the steady number of disqualifications as a result of driving after consuming alcohol or taking drugs: in 1996 disqualifications numbered 88,000, in 2006 these numbered 87,000. Two conclusions can be drawn from this: either this is simply the number of disqualifications, given sufficient enforcement, which will occur each year or that there is still work to be done in terms of altering behaviour.

DRIVING ETC. AFTER CONSUMING ALCOHOL OR TAKING DRUGS DISQUALIFICATIONS
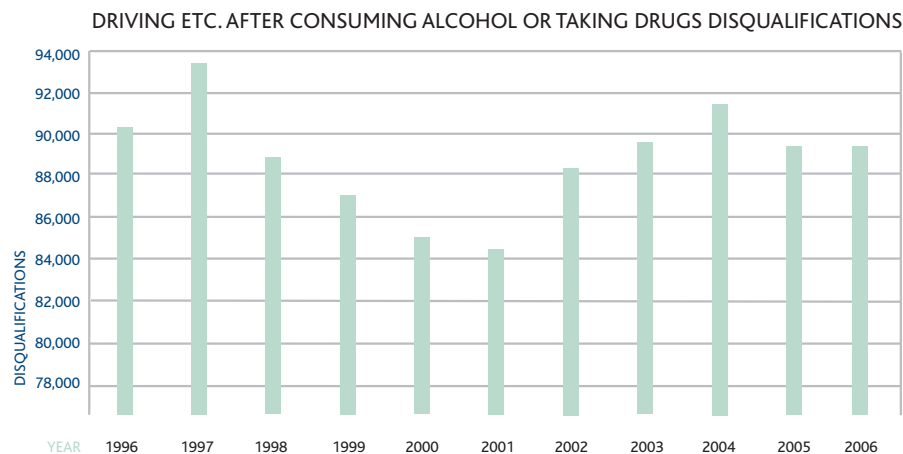
Source: Ministry of Justice 1996-2006

European comparisons in work undertaken as part of the ETSC PIN project, further support this notion of 'levelling' off. Great Britain currently lies in a group of countries where changes in drink drive deaths have not contributed their share to overall reductions in traffic deaths[64]. This should be treated with the caveat that our absolute position is better than many other European countries, such as Belgium and the Czech Republic, who have reported progress on drink driving contributing more than its share to overall reductions in deaths between 1997 and 2005. Additionally, comparisons

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[61] DfT (2008) Road Casualties Great Britain 2007. TSO. London.
[62] RCGB – Collated data 1983-2007 (provisional)
[63] Ministry of Justice (2006) Statistical Bulletin: Motoring Offences and Breath Test Statistics, England and Wales 2006, National Statistics, London, p.36
[64] ETSC 1st Road Safety Pin Report

between countries are problematic due to data recording and definitional differences although this does not remove the need for consideration. The data is subject to interpretation; we can simultaneously congratulate ourselves for maintaining a low level of violation of the law and casualties, but also ask why we have not progressed even further, particularly when the evidence points to supportive public opinion for tougher penalties, with 75% of those surveyed in a recent RAC report supporting a reduction of the legal limit to 50mg/100ml of blood.[65]

DRINK DRIVE ACCIDENTS AND CASUALTIES: GB 1999-2007

	1999	2000	2001	2002	2003	2004	2005	2006	2007
TOTAL KILLED	3423	3409	3450	3431	3508	3221	3201	3172	2946
TOTAL SERIOUS INJURIES	39122	38155	37110	35976	33707	31130	28954	28673	27774
DRINK DRIVE DEATHS	460	530	530	550	580	580	550	540	460
DRINK DRIVE SERIOUS INJURIES	2470	2540	2700	2790	2590	2340	2090	1970	1760
% OF DEATHS INVOLVING ILLEGAL ALCOHOL LEVELS	13.4%	15.6%	15.4%	16.0%	16.5%	18.0%	17.2%	17.0%	15.6%
% OF SERIOUS INJURIES INVOLVING ILLEGAL ALCOHOL LEVELS	6.3%	6.7%	7.5%	7.8%	7.7%	7.5%	7.2%	6.9%	6.3%

Source: DfT, Road Casualties Great Britain 1999-2007

Although the data may point to a possible plateau, undeniably since 1967 the UK has made notable and comprehensive progress in lowering the prevalence of drinking and driving. This is a result of several facets; the nature of the behaviour, legislation, enforcement and technology and public information campaigns.

6.4 Nature of the behaviour

The nature of drink driving behaviour is significantly different from that of speeding and many other road safety behaviours. Indeed, the visibility of both consumption and impairment may have significantly advantaged it, particularly in the creation of stigmatisation. Alcohol impairment persists for as long as there is appreciable alcohol in the bloodstream. The effects are immediately more tangible and evasion of enforcement is thus more difficult. It is also a behaviour which, although enforcement efforts must be concentrated at a local level, has lent itself to national level campaigns due to the widespread culture of alcohol use. Though a serious violation, it has and continues to be a minority behaviour.

6.5 Legislation

Legislation and enforcement and moreover threat of enforcement work in conjunction. Over 40 years ago the then transport minister Barbara Castle first introduced legislation concerning drinking and driving with the limit on blood alcohol concentration(BAC) and roadside breath testing laws being introduced during 1967. This introduction subsequently led to an initial 11% reduction in casualties[66]. However, a declining impact led to the publication of the **Blennerhasset** report, which drew attention to the issue. Subsequently, the Transport Act 1981 introduced tougher penalties and enforcement procedures for drinking and driving and evidential breath testing, reducing the need for blood samples. These changes came into force in May 1983. The Road Traffic Act of 1988 consolidated this by permitting police to test any driver involved in accident or, where no accident had occurred, following a moving traffic offence or when there was suspicion of alcohol use.

[65] RAC (2008) RAC Report on Motoring 2008 – Report One. RAC.Norwich.
[66] Sabey. B (1989) Drinking to your health. Social Affairs Unit publication. Ed. Digby Anderson.

The threat of being caught and the threat of punishment together determine the level of deterrence[68]. The UK has among the most severe punishments for driving above the legal limit. Loss of licence is mandatory with a fine of up to £5000 incurred and the potential for up to six months imprisonment. Individual's risk calculations differ. However, in the majority of instances, fear of punishment in conjunction with both moral and social reprehension, are vital deterrents to breaking the law[69]. To be most effective, the punishment must be equitable to the offence but also legitimate in the eyes of the public. On driving under the influence our current laws appear to be perceived as legitimate and could feasibly be extended further.

However, both Corbett et al [70] and recent research undertaken on behalf of the Scottish Executive [71] found that although fear of punishment was high, threat of detection was considered to be relatively low.

"Despite the general perception that drink driving is socially unacceptable, people who did drink-drive considered it to be a low risk activity in terms of the likelihood of being involved in an accident or of being caught."[72]

As Corbett[73] notes, deterrence research frequently highlights the greater influence of deterrence risk over likely punishment. Given limitations on police resources, the Scottish study suggested that levels of breath testing should be highlighted in communication material, reinforcing the risk of being caught. The recent **Think! Personal Consequences** approach in its preliminary research [74] also found that young males perceived the risk of being caught as low. The subsequent campaign focused on highlighting the personal consequences of getting caught, but implicitly emphasised the likelihood of being caught. **We must continue try to match the fear of detection with the fear of punishment to support and further achievements on drinking and driving incidence in the UK. PACTS recommends passing legislation giving the Police the power to undertake targeted breath testing.**

6.6 Enforcement and technology

The wider provision of breath testing devices, in conjunction with the allocation of police resources, has enabled certainty of detection to increase. The public, perhaps in contrast to their feelings towards speed cameras, appear to acknowledge that the technology serves a purpose and is likely to be accurate. However, this is perhaps one of the key areas within drinking and driving where clear legislative action could be taken and would reap benefit.

The UK is among one of the few countries yet to introduce evidential roadside breath testing due to failure to type approve the technology required to undertake it. Although made possible by the Serious Organised Crime and Police Act 2005 it is yet to be implemented. Evidential roadside breath testing would improve detection abilities and the efficacy of the enforcement process but also provide data on the percentage of individuals tested who register levels between 0.5 and 0.8 giving conclusive evidence on the casualty savings that lowering the limit would achieve. This would add weight to the debate over the BAC limit.

[68] Corbett (2003) Car Crime. Willan. Cullompton.
[69] Homel. R (1993 'Drivers who drink and rational choice: random breath testing and the process of deterrence' in Routine activity and rational choice. Advances in criminological theory. Vol. 5 59-84 (eds. R.V. Clarke and M. Felson) New Brunswick, NJ.: Transaction.
[70] Ibid 68
[71] Collins et al (2007) Drinking and Driving 2007: Prevalence, Decision Making and Attitudes. Transport Research Series. Scottish Government. http://www.scotland.gov.uk/Resource/Doc/214430/0057243.pdf
[72] Ibid. 71
[73] Ibid.68
[74] Davies Mckerr (2007) for Think!. Anti Drink-Drive Adcept Research Debrief. http://think.dft.gov.uk/pdf/332982/332986/200703b.ppt

PACTS repeats its call for the early type approval of evidential roadside breath testing devices. This will improve the effectiveness of police efforts to secure convictions for drink driving.

Technology that is already coming into the hands of the Police is equipment for use in routine deterrent and post-accident breath testing which records the BAC of each driver tested, and not just whether it is over 80, which has been the case until recently. These records are building up fresh information about the distribution of BACs in the driving population, and thus further evidence of the casualty saving that lowering the legal limit from 80 to 50mg/100ml could achieve. Whilst this is not a complete substitute for repeating the statistically designed roadside surveys of the 1908s and 1990s, **PACTS supports the development of improved equipment for routine deterrent and post-accident breath testing to provide fresh information about the distribution of the BACs of drivers on the UK's roads.**

Although technologies such as alcohol ignition interlock devices have been pioneered in other countries the UK has yet to make a decision on their value. The **1998 Consultation on Drinking and Driving** [75] considered their merits, noting their potential use in dealing with recidivist drink-drivers and their utilisation, instead of or following a period of licence revocation, has been supported by a number of studies [76] . There may well be a place for these schemes in relation to recidivist drivers and lowering re-offending rates and there is an opportunity for their use in fleet management. However, it is just as important to continue to tackle the issue at its root, through education, advertising, legislation and enforcement. Currently it may be far more cost-effective to continue to direct resources to these paths rather than necessarily seeking the introduction of new legislation regarding devices such as alcohol interlocks.

6.7 Public Education

Understanding the needs of the target population of a campaign is fundamental to its success. Strategic development of campaigns already involves considerable involvement of the target audience and key internal and external stakeholders through means such as 'ways in days', focus groups and surveys [77]. Attempts to understand who drinks and drives and why stem back many years: work during the 1980s outlined characteristics of drink drivers, a study by the Portman Group in the early 1990s [78] created a five-part segmentation of drink drivers whilst a 1997 review updated the demographics of drink drivers: male, often aged between 20-24, and those in lower occupational classes [79].

The rationale and preparation work for communication campaigns continue to utilise insightful work, identifying target groups and messages through a combination of attitudinal surveys, casualty data and focus groups. The most recent Think! Drink Drive campaign **'Personal Consequences'** mainly targeted 17-29 year old males. During the research phase it was found that previous adverts had failed to resonate with this group, largely because they felt messages were targeted at the 'drunk-drivers'. Tellingly, they did not perceive themselves in any way to be part of the problem. Following detailed identification of the attitudes, motivations and barriers surrounding drinking and driving within this group, the subsequent mass media campaign focused on the personal consequences of drinking and driving and emphasising the crucial decision to have a second pint.

"At issue is the second pint: this is the key transition moment in their view." [80]

[75] DETR (1998) Combating Drink Driving: Next Steps, London; TSO
[76] SWOV (2007b): Factsheet "Alcolock". Leidenscham, The Netherlands.
[77] Think! (2008) 2007/2008 Think! Drink Drive Campaign Report, DfT, London.
[78] Research Services Limited (1994) Drink Driving – a survey of male offenders. RSL for the Portman Group.
[79] Maycock (1997) Drinking and Driving in Great Britain – A review. TRL 232. Crowthorne.
[80] Davies Mckerr (2007) for Think!. Anti Drink-Drive Adcept Research Debrief. http://think.dft.gov.uk/pdf/332982/332986/200703b.ppt

Detailed understanding of target groups and the very specific issues surrounding them is vital and is something which drink-driving, though advantaged by the relatively small groups of individuals it deals with, has done well. Arguably this knowledge and placement of target groups at the centre of creative development for media campaigns must go further and manifest itself at the heart of policy formation.

The Department for Transport itself has made considerable strides in consulting more widely with those stakeholders within the industry on policy developments but this level must be maintained and look simultaneously deeper and wider. Research undertaken on behalf of the Government Social Research agency has highlighted the integral role that 'subjects' of policy must play in the process of creating policy itself [81]. They are not a blank canvas upon which strategy is projected but nuanced and diverse and thus for road safety policies to be more successful the population must be placed at the centre of policy creation. PACTS recommends that this process continues to be widened for all advertising and educational campaigns within the road safety arena, irrespective of the spatial or organisational level at which they occur and moreover placed at the very centre of policy itself.

6.7.1 Shame, embarrassment and how to change norms

"Threats of shame and embarrassment, like the threat of legal sanctions, comprise definitions unfavourable to violating the law"[82]

Shame is functionalized internally; it is the process of displeasure with oneself for having violated personal norms. Embarrassment is more public, dealing instead with social norms. The process is however recursive; personal norms are strongly related to social norms, thus reflections on the self are affected by subjective norms and are often a moderated and internalised form of broader societal norms. Successfully creating an atmosphere of shame and embarrassment surrounding drinking and driving has helped to facilitate the decline in related road deaths as reluctance to experience these emotions may have acted as 'social' or 'value' deterrents. In the conceptual schema, attitudes and norms traditionally feature at the top of the spectrum [83], specific to behaviour, whereas beliefs and values are broader conceptualisations. In relation to drink driving there is an element of 'moral' value associated with compliance. Not only would, 'to violate', be against the social norm, but it would perhaps represent a deeper conflict of a duty to do what is morally 'right'.

The RAC Report 2007, a study of car drivers' attitudes, showed that harder policies on drink driving would be widely accepted: over 2/3 of motorists surveyed supported the introduction of random breath testing, lowering the blood alcohol limit, naming and shaming convicted drink-drivers and placing alcolocks in vehicles [84]. Recent media articles emphasise the tone of condemnation associated with the drinking and driving:
'Drink-drive shame of smothering case mother' (Daily Mail 15.03.07)
'Drink shame of car smash driver' (The Advertiser 29.08.08)
'Teary eyed Bianca Gascoigne tells the court 'I was stupid', as she gets drink driving ban' (Daily Mail 14.11.07)

These snapshots highlight the social stigmatisation associated with drink driving, and the fact that this is predominantly reiterated throughout the mass media, something notably often lacking in relation to speeding convictions.
"Over eight in ten respondents believed it was unacceptable to drive after drinking two

[81] Darnton,J (2008) Reference Report: An overview of behaviour change models and their uses, GSR; London
[82] Grasmick, HG, Bursik, RJ and Arneklev, BJ (1993) 'Reduction in Drunk Driving as a response to increased threats of shame, embarrassment and legal sanctions' in Criminology, Vol.31, No.1p.41-67.
[83] Darnton,J (2008) Reference Report: An overview of behaviour change models and their uses, GSR; London
[84] RAC (2007) RAC Report on Motoring 2007: Driving Safely?, RAC, Norwich
[85] THINK! (2008) Post evaluation of the 'Personal Consequences' Drink Drive Campaign Report, DfT, London.

pints, with two thirds considering it extremely unacceptable (67% in July 2008 compared with 63% at the July 2007 pre stage)." [85]

This evaluation of the Think! **'Personal Consequences'** campaign reinforces the assertion that drinking and driving is a socially unacceptable behaviour, reiterating the potential of public information campaigns to substantiate social norms. Whilst information alone is insufficient to lead to action , provision of information is a pre-requisite for many behaviour changes and delivery of information can perform a considerable persuasive function. By creating a supportive social environment for punishment of those who fail to adhere to the law and the requisite social norm each campaign reinforces work already undertaken; a self-reinforcing process.

A review of national level drink drive material, dating back to 1980, demonstrates several key themes used in the process of utilising public information campaigns to alter attitudes. Material has generally centred on the provision of information regarding the potential consequences of drinking and driving, for many years using the tag-line, **'Drinking and Driving Wrecks Lives'** [87], and now utilising a more instructive slogan 'Don't drink and drive'. Material has simultaneously targeted individual's emotions and agency. The focus on emotions, commonly referred to in behavioural theory literature as 'affect', at times has proved controversial. Indeed there is increasing suggestion at academic and national policy level road safety divisions (Scotland, Australia, and England) that if the emotional impact through the extreme use of shock or high fear in an advert is too great, the efficacy of the advert declines.

"We suggest that traditional approaches to changing perceived threat through high-fear messages should not be employed." [88]

Work undertaken to assess the effectiveness of road safety advertising messages in Australia and New Zealand, suggested that the levels of fear arousal and emotive response, could be lowered in many adverts without particular effect on message acceptance rates [89]. Consultation with Road Safety Scotland, and their advertising team, also supported the assertion that it was not always appropriate to use extremely emotive public information campaigns. One respondent commented in relation to the National Society for the Prevention of Cruelty to Children (NSPCC) campaigns they had been involved with that, "Often our most 'hard-hitting' campaigns were in many ways the least successful. If we pushed the audience too hard, they just switched the tv off. You have to be careful about reaching that tipping point." [90]

Here, the switching off is both literal and metaphorical. Road safety adverts tread similar ground, attempting to ensure that the message is heard and connects rationally and emotionally, without reaching the 'tipping point'. This is particularly apt within the drink drive spectrum. Current trends continue to move away from the more graphic stream of advertising, notably the most recent **'Moment of Doubt'** TV advert which focuses on the personal consequences arising from a drink driving conviction. The elements of shame and embarrassment are still resonant, although here they are picked up more specifically in relation to one's family and friends; utilising the Theory of Planned Behaviours's [91] conceptualisation of subjective attitudes and norms. Several interviews revealed that people still felt many road safety adverts were too emotive or graphic and caused viewers to switch off or 'opt out'.

[85] THINK! (2008) Post evaluation of the 'Personal Consequences' Drink Drive Campaign Report, DfT, London.
[86] Darnton. A (2008) Reference Report: An overview of behaviour change models and their uses, GSR; London
[87] DETR/DfT/Think! (1980-2008) Drink Driving Campaign Material
[88] Strecher, V.J et al (2007) Road Safety Research Report No.70 – Intervention Modalities to Address Relevant Psychosocial Predictors of Driving Behaviour Among Adolescents: Primary Report, DfT. London
[89] Tay, R and Watson, B (2002) 'Changing Drivers' Intentions and Behaviours using Fear-Based Driver Fatigue Advertisements' in Health Marketing Quarterly Vol. 19 Issue 4 55-68
[90] Road Safety Scotland Consultation Interview
[91] Ajzen, I (1985) From intentions to actions: A Theory of Planned Behaviour. In J.Kuhl and J.Beckman (eds), Action Control: From Cognition to Behaviour(pp.11-39) Heidelberg: Springer

To maximize the potential of advertising and educational campaigns, formation of these needs to draw more strongly on behavioural literature concerning fear, emotion and shame to discover the boundaries to which an audience can effectively be pushed. **Although guidance from the DfT on the use of shame, emotion and fear in the context of road safety education and theatre in education does exist, further evaluation into the impacts of highly emotive campaigns should be undertaken.**

6.7.2 Successfully altering perceptions of risk

Evidence pointing to driving impairment as a result of alcohol consumption is well established and the grey area surrounding the number of units an individual can drink and remain under the limit has often been perceived as a success in the UK. Public information has focused on avoidance of drinking and driving altogether rather than giving guidance on exactly how many units can be consumed before being over the limit. Comparisons of 2003 SARTRE data showed that adults in Italy (at the time also a 0.8g/l blood alcohol limit) believed that they could consume over a unit more than UK respondents did and remain within the limit [92]. Data from a 2007 survey supports the view that not only do UK drivers think they can drink less but that they strongly relate this to safety. Over half of those questioned disagreed with the statement 'It is safe to drive after one drink'.[93] The 2008 Post-drink drive campaign also demonstrated similar trends with 90% of respondents agreeing that 'driving after two drinks would make me more likely to have an accident' [94] .

This difference in perception is interesting. The latest **Think!** campaign has also adopted a 'one pint' approach. Interestingly, its creative development brief once again highlighted the confusion surrounding the limit. Here the logic of the limit was misunderstood; respondents believed that the current BAC limit represented a 'safe' limit [95], whereas it was chosen in 1967 on the basis of the Grand Rapids study [96] as a level above which the risk for the great majority of drivers was so greatly increased that all could justifiably be forbidden to drive. As a 1990 follow-up to Grand Rapids [96A] suggests, accident risk increases with consumption of even one alcoholic drink. Thus there is a logical gap between what the evidence base tells us and what the law suggests to people. If we are telling people that one drink should be the limit of alcohol consumption before driving, then it would be more consistent for the BAC limit to reflect this.

Although the 'grey area' approach in the UK has yielded some success, the **Victorian Transport Accident Commission (TAC)** has adopted a very different approach. Campaigns have focused on identifying standard drinks measures and how this relates to the limit. The recent **'Levels'** campaign [97] uses a bar-room conversation between two young men to consider factors which may also affect your BAC limit such as food consumption and physical size. The overwhelming message is 'If you think you are over the limit then you probably are'. This is a good message where it is true but would be counter-productive where many people who are actually well below the limit, think that they are near or above it.

There is no one-size fits all approach to a mass media campaign. Different elements can be picked up on and different strategies used. Cultural specificity of any communications approach does largely preclude inter-country campaigns yet in this instance lessons may be learnt from looking beyond the UK. If, as has previously been suggested, confusion

[92] Gormley, M and Fuller, R (2006) A Critical Review of SARTRE,
[93] Think! (2007) Road Safety Tracking September 2007: Post Drink Drive. p.21 DfT. London.
[94] Think! (2008) Post evaluation of the 'Personal Consequences' Drink Drive Campaign Report, DfT. London
[95] Davies Mckerr (2007) for Think!. Anti Drink-Drive Adcept Research Debrief.
    http://think.dft.gov.uk/pdf/332982/332986/200703b.ppt
[96] Borkenstein, R.F et al (1964) The role of the drinking driver in traffic accidents. Bloomington. Indiana University.
[96A] Compton RP et al (2002) Crash Risk of Alcohol Impaired Driving, ICADTS, Montreal
[97] http://www.tacsafety.com.au/jsp/content/NavigationController.do?areaID=13&tierID=2&navID=
    2A36BD797F00000100181F5BA273AB6A&navLink=null&pageID=452

exists over exactly how much can be consumed before driving and indeed there is strong public support for the limit to be lowered in line with perception, then it would appear logical for the UK government to do so.

A huge diversity of the work is needed to introduce, reiterate and reinforce what are essentially the same messages reproduced through time. Within the UK we have focused on the aforementioned concepts of shame and embarrassment alongside the provision of information on the certainty and severity of the punishment, the multitude of consequences and the risks involved with drinking and driving. Theoretically it could be suggested that drinking and driving campaigns have successfully achieved, what is conceptualised within the **Elaboration Likelihood Model (ELM)** [98] as 'central processing' of a message involving an effortful deliberation. By processing a message via this central route and not the peripheral, less conscious route, an emotional response (affect) is generated. This in turn leads to attitude formation, which when undertaken via the central route creates stronger and more durable attitudes [99]. Care must be taken here: if the message is inappropriate, inaccurate or does not resonate correctly with a target audience, a counter-productive attitude may present. Data available from surveys of public attitudes would suggest that people deliberate over the messages of communications but have also successfully converted this into action.

Drinking and driving educational and publicity material has retained a considerable consistency of message. This is perhaps both the strength and the weakness of the road safety message as a whole. People may 'know' the message and be able to identify with the campaigns, but wear-out can occur easily even with the most successful campaigns, such as the **'Crash'** campaign run by Think! between 2004 and 2006. Whilst the presentation of the campaign and the medium of delivery can alter, the basic message does not. There is no obvious answer to this problem and it may not, in the case of drink drive, necessarily represent a problem. Yet we need to maintain 'effortful deliberation'. In relation to drink driving, whilst it may be preferable for people not driving after drinking to become a habitual behaviour, we actually need to maintain the cognitive processes of consideration of the potential impacts of drinking and driving. 85% of people now agree that driving after one or two drinks would increase their accident risk, there is still 10% who disagree and of these, 4% who strongly disagree [100].

A lowering of the limit accompanied by powerful public information about the change would bring attention to the continuing issue of drinking and driving and stimulate greater consideration of the issue not solely amongst politicians but amongst the population as a whole.

6.7.3 Provision of coping strategies and improving self-efficacy

'Given its consistently strong predictive power, the enhancement of self-efficacy through skills-based intervention is a focus in nearly every health-promotion programme.'[101]

The ability, perceived or real, to carry out a behaviour is an important determinant of actual behaviour. This is commonly referred to as agency or self-efficacy and in its practical implementations in relation to drinking and driving can take the form of a 'coping strategy'. Provision of such strategies, which work in conjunction with alterations in attitudes and subjective norms resulting from the aforementioned combination of legislation and advertising, can help alleviate the incidence of impaired driving, particularly in relation to high risk groups such as young drivers. Not only are they frequently exposed to peer

[98] Bagozzi et al (2002) The Social Psychology of Consumer Behaviour, Buckingham: Open University Press
[99] Darnton, A (2008) Reference Report: An overview of behavioural change models and their uses. GSR. London
[100] Think! (2007) Think! Road Safety Tracking September 2007: Post Drink Drive
[101] Strecher, V.J et al (2007) Road Safety Research Report No.70 – Intervention Modalities to Address Relevant Psychosocial Predictors of Driving Behaviour Among Adolescents: Primary Report, DfT. London

pressure but they are the group for which subjective norms and elements of self-identity are of great importance in determining their behaviour.

European initiatives have focused strongly on the idea of the designated driver, specifically the Belgian lead initiative known as 'BOB'. Designated driver campaigns improve the agency and/or self-efficacy of individuals in relation to a problem. This strategy has proved particularly popular in Europe because the campaigns are viewed as, '..simple, pro-social, voluntary, inexpensive, widely applicable, requiring a modest behavioural change and as translating easily into mass media campaigns to change social norms' [102].

The UK has embraced the idea of designated drivers to some extent; the idea has been used in some poster campaigns. However the concept of **'BOB'** has been implemented extensively in mainland Europe and beyond. The Western Australian **'Pick a Skipper'** campaign reported a 13% increase in respondents always selecting a designated driver but no change in self-reported alcohol-impaired driving or travelling with an alcohol-impaired driver [103]. The study concluded that 'an extensive media campaign, providing positive images and utility knowledge on designating a non-drinking driver, can have significant impact on a drinking and driving behaviour within a community' [104].

However, the problem, as with many road safety strategies, has been the ability to evaluate effectiveness and link to improved casualty statistics. An ETSC report [105] identified the current lack of conclusive evidence about the effectiveness of designated driver campaigns. Whilst provision of coping strategies to improve both perceived behavioural control and agency over behaviour can be vital, they are context specific. Within the UK, much advertising and education on drinking and driving has tended to focus on not drinking or driving at all or using alternative methods, such as taxis, if you are over the limit.

The designated driver concept has validity and there is space for it to be utilised more widely with the UK. However, until more comprehensive research into the effectiveness of many of these schemes has been conducted, we should proceed with caution.

6.8 Where next?

6.8.1 New Target Groups

The consumption of alcohol is an integral part of British culture, yet we are increasingly being warned of the dangers of its misuse and the 'binge-drinking culture'. This trend is particularly noteworthy for road safety stakeholders. In 2006, 42% of British men and 39% of British women aged 16-24 exceeded recommended daily guidelines on at least one day in the previous week.[106]

Given that it is this age-group who are most likely to be killed or seriously injured in an accident on our roads this issue cannot be sidelined. As it seems the culture of binge-drinking is unlikely to dissipate in the near future, despite the government crackdown, there is further need for cross-departmental working if we are not to see a rise in alcohol-related accidents on our roads.

Drink driving may be a minority behaviour, and drunk driving is now highly stigmatised, but driving after drinking at lower levels continues to require attention.

[102] ETSC (2008) Drink Driving: Young Drivers and Recidivist Offenders. p.16 ETSC, Brussels.
[103] Boots, K and Midford, R (1999) "Pick-a-skipper": an evaluation of a designated driver program to prevent alcohol-related injury in a regional Australian City. Health Promotion International. 14: 337-45
[104] Ibid. 103
[105] Ibid. 102
[106] Office for National Statistics (2008), General Household Survey 2006, TSO, London

'Drink driving is extremely stigmatised yet the worrying thing is that there is still approximately 5-6% of the British population who think it's ok to drink and drive. That's not an inconsiderable number.' [107]

Similarly road safety tracking material released by Think! in September 2007 reveals that those surveyed did strongly connect having one or two drinks with increased chances of an accident (85%)[108] . Yet there was still 4% of those surveyed who disagreed with this statement strongly indicating that there are cores of individuals upon whom the message has not impacted upon. Public education and advertising may not be able to reach this group and vigorous enforcement may be the required strategy.

Currently, 'morning-after' impaired driving does not carry the same social reprehension or risk perception as driving immediately after the consumption of alcohol. Data from the RCGB 2007 concerning the time of day of drink drive accidents (below) shows a higher proportion of drink drive accidents in 2006 than in 1996 throughout the night from 1am and the morning up to about midday. [109]

DRINK DRIVE ACCIDENTS, BY TIME OF DAY: GB 1996 AND 2006
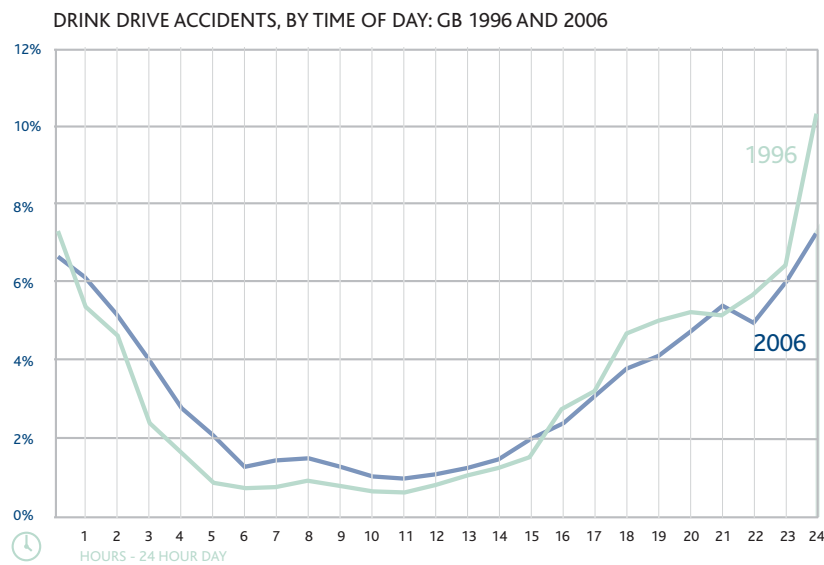
Source: DfT (2008) Road Casualties Great Britain 2007. p34. DfT, London.

Given that the current government is showing such concern about binge drinking, **PACTS recommends that further research into the relationship between the introduction of 24hr licensing and drink drive accidents and their distribution is undertaken.**

Tackling drinking and driving through cross-sector and departmental campaigns is crucial to our continued success. It is imperative that schemes and campaigns are set within the social and cultural context of a society where drinking is 'integral'. At a national level, this should involve joined-up working between the Department for Health and the Department for Transport.

Segmentation models can feasibly be further applied to the problem to identify the targets for intervention efforts. We recognise that although predominantly it is male car drivers who are involved in personal injury road crashes and subsequently fail a breath test (3% compared to 1.2% of women in 2006) the rise in women with drink-driving convictions increasing from 7750 in 1996 to 11295 in 2006 , implies that this may be another group worthy of focus. Work undertaken by Brake and Green Flag supports this assertion.

[107] Interview Transcripts (2008)
[108] Think! (2007) Think! Road Safety Tracking September 2007: Post Drink Drive. DfT; London.
[109] DfT (2008) Road Casualties Great Britain 2007. DfT. London.
[110] DfT (2007) Road Casualties Great Britain 2006, London; TSO.
[111] Ministry of Justice (1996-2006) Motoring Offences and Breath Test Statistics Bulletins – Collated, National Statistics, London.

"While women are less likely to run the risk of breaking the drink drive limit, there are rising numbers of female drivers being convicted of drink driving" [112]

Traditionally, communication campaigns on drinking and driving have targeted young males, using diverse methods such as Think!'s relationship with Premiership football. A social learning approach holds that people change their behaviour to that of their role models. This intervention has tapped into this recognition intending to create 'road safety advocates' through publicity at grounds and on match days. Although this presents an excellent opportunity to contact a target group, consideration must also be given to the impacts of high profile incidents of football players being apprehended for drinking and driving. With new target groups emerging other innovative methods of communicating messages will need to be developed.

"Alcohol consumption represents an integral part of modern culture in the UK.." [113]

In a society where the drinking culture is heavily embedded, amongst both men and women, it may well no longer be adequate to focus the majority of campaigns on young men. Publicity and advertising campaigns must continue, using many of the tools and strategies already in place but careful analysis of the data and use of theories such as the segmentation model must continue to discover the precise groups we must target.

6.8.2 Lowering the BAC Limit

As already noted previously in this chapter, PACTS supports the lowering of the BAC limit in the UK from 80mg/100ml to 50mg/100ml. In relation to the rest of Europe, the UK's BAC limit of 80mg/100ml is high. Countries such as the Czech Republic and Croatia have pioneered zero limits. However, the level at which this is enforced is unclear. More comparably the Netherlands, France and Germany amongst others have a 40mg/100ml limit and Sweden, which has a relatively severe drink-drive problem considering its impressive road safety record, utilises a 20mg/100ml limit. Thus, the UK is currently out of line with the majority of Europe on this matter. The setting of lower BAC limits is supported by research which has found that there is marked deterioration in driving performance between a BAC of 50mg/100ml and 80mg/ml. The risk of an injury accident is multiplied by 3 at 50mg and between 5 and 6 at 80mg compared with driving without alcohol.[114]. It is estimated that lowering the BAC limit could be expected to lead to about 65 fewer deaths and 230 fewer serious injuries on the basis of annual numbers between 1994 and 2006.[115] The corresponding estimates for 2007 would have been 55 and 210.

In conjunction with the public support for tougher drinking and driving laws identified by RAC and Think! campaign surveys, there is a convincing case for the lowering of the BAC limit. The law would have credibility in the eyes of the public and, in conjunction with the type approval of evidential roadside breath testing devices, would lead to more effective enforcement as well as projected casualty reductions.

As noted in the Smokefree case study, presentation of evidence, high level political support and cohesive campaigning are vital. The campaign to reduce the drink drive limit has a wide support base. However, perhaps we must now recognise that whilst those already within the circle are well practised in and convinced of the evidence basis, it is those at political and policy making level towards whom we should turn our focus.

[112] Brake/Green Flag (2008) Drink-drive press release
[113] BMA Board of Science (2008) Alcohol misuse: tackling the UK epidemic, BMA, London.
[114] Maycock G (1997) Drinking and Driving in Great Britain – A Review, TRL, Crowthorne.
[115] Allsop, R (2005) PACTS Research Briefing: Reducing the BAC Limit to 50mg – what can we expect to gain?, London; PACTS

'We know the evidence but not everyone else does' - there is a role then for organisations such as PACTS and other interested parties to present the evidence, particularly concerning public support, to demonstrate the viability and logic behind a lowering of the limit. It is a pre-emptive strike which would be readily accepted by the general public and, in conjunction with continued public information efforts, would enable further progress to be made on reducing the incidence of drinking and driving in the UK.

PACTS supports the lowering of the BAC limit from 80mg/100ml to 50mg/100ml of alcohol. This is a clear legislative change which can and should be made.

6.9 Summary

Public influencing on the issue of drinking and driving has been hugely successful; over a substantial period of time legislation, targeted enforcement, and public education leading to the creation of new social norms, have interwoven to help create an environment where it is not considered, by the majority, acceptable to drink and drive. Yet as shown, there is still work to be done. 'Drunk' driving is totally unacceptable but it is the moderate 'drink' drivers upon whom attention must also be focused.

The case study again exemplifies the need for a **coherent evidence base** and **trust** in sources and nature of information and good **knowledge of the problem** faced. As with seat belts, we can also restate the incremental and temporal nature of behavioural change. We have now reached the point where the increasingly small gains we are now seeking to make, demonstrate the need for highly detailed understanding of target groups.

Each behaviour is unique; drink driving perhaps offers more parallels for other minority behaviours, such as drug driving, than it does for say speeding. However, as outlined underlying principles can be drawn from reflection. There is no magic bullet through which road safety can achieve success but reflecting on our own achievements can provide food for thought for our future approaches.

6.10 Recommendations

PACTS recommends passing legislation giving the Police the power to undertake targeted breath testing.

PACTS repeats its call for the early type approval of evidential roadside breath testing devices. This will improve the effectiveness of police efforts to secure convictions for drink driving.

PACTS supports the development of improved equipment for routine deterrent and post-accident breath testing to provide fresh information about the distribution of BACs of drivers on the UK's roads.

Although guidance from the DfT on the use of shame, emotion and fear in the context of road safety education and theatre in education does exist, further evaluation of the impacts of highly emotive campaigns should be undertaken.

The designated driver concept has validity and there is space for it to be utilised more widely with the UK. However, until more comprehensive research into the effectiveness of many of these schemes has been conducted, we should proceed with caution.

PACTS recommends that further research into the relationship between the introduction of 24hr licensing and drink drive accidents and their distribution is undertaken.

Tackling drinking and driving through cross-sector and departmental campaigns is crucial to our continued success. It is imperative that schemes and campaigns are set within the social and cultural context of a society where drinking is 'integral'. At a national level, this should involve joined-up working between the Department for Health and the Department for Transport.

PACTS reiterates its support for the lowering of the BAC limit from 80mg/100ml to 50mg/100ml of alcohol. This is a clear legislative change which can and should be made.

Lowering of the limit accompanied by powerful public information about the change would bring attention to the continuing issue of drinking and driving and stimulate greater consideration of the issue not solely amongst politicians but amongst the population as a whole.

Speed

7.1 Key insights

- Public opinion is malleable and can be very influential in determining the perceived seriousness of an issue and levels of compliance.
- A contested evidence base has allowed people to 'opt out' of responsibility for excess or inappropriate speeding and question the legitimacy of both the law and the means of enforcement.
- Creating clear lines of argument and enhancing public understanding will help to reduce the perceived legitimacy of speeding.
- Research has identified many of the barriers and motivations affecting speed choice. This needs to be translated more readily into action and appropriate models and aspects used to shape interventions, particularly communications strategies.
- Advocates in the business and political communities have the potential to influence change and give strong leadership on road safety issues.
- There is an absence of positive messages. People desire feedback and we must find ways to address this.
- Opportunities for driver training post-test are few as is wider road safety education. Speed awareness courses offer a unique chance to provide education and feedback whilst challenging the hegemony of speed.

7.2 Introduction

Breaking of the posted speed limit is one of the most common motoring offences; in 2006 over 1.7million fixed penalty notices were issued for speeding with prosecutions numbering around 180,000 [116] ; a significant increase compared to 1988 when speed limit offences accounted for only one in five motoring offences[117]. Worryingly a recent survey also found that only 37% of people thought driving significantly above the limit in a built up area was a very serious offence, compared to 77% in response to driving over the legal alcohol limit [118].

"There was a common perception among our sample that 'almost everyone speeds in this country' and indeed the majority admitted to liking to put their foot down on the open roads and motorways. Many felt that they know the best speed for the road and drive accordingly – considering themselves to be always in control, even at high speed." [119]

This excerpt from a report into driver attitudes in the Midlands neatly encapsulates the problems we face over speeding in the UK. There is a common and unfortunately largely accurate belief that speeding is widespread with a tangible lack of credibility for the road laws governing speed. Driving is a fundamentally social behaviour [120] and traffic speed has been identified as a major social dilemma [121]. Speeding poses obvious safety and social risks but continues to be a frequently performed behaviour that the general public shows little support or willingness to curtail. Speeding is perceived as not being a 'real' crime and commonplace, indicated by the number of people with points on their licence.

The costs of speeding may be understood most effectively at the aggregate level; excess speed and driving at speed inappropriate for the conditions accounts for just under a third

[116] Ministry of Justice (2006) Statistical Bulletin: Motoring Offences and Breath Test Statistics, England and Wales 2006, National Statistics, London.
[117] Taylor et al (2000) The effects of drivers' speed on the frequency of road accidents. TRL Report 421. TRL. Crowthorne.
[118] RAC (2007) Report on Motoring – Driving Safely?. RAC.
[119] Midlands Partnership Group (2006) Drivers' Attitude Study – Final report 2006. MCSP.
[120] Parker et al (1992) Intention to Commit Driving Violations: An application of the Theory of Planned Behaviour. In Journal of Applied Psychology. Vol77. No.1 94-101.
[121] Corbett. C (2003) Car Crime. Willan Publishing. Cullompton

of all road deaths in 2007. The difficulty with speed lies in individuals being able to relatively easily identify examples where high speeds have not necessarily led to a perceived increase in risk or accident involvement. This helps to justify other speeding occasions. Within the confines of their car, people appear to 'disconnect' from the highly social element of driving, seemingly not always taking into account the responsibility to others that driving a motor vehicle includes. It is this lack of personal responsibility and accountability for one's own actions in exceeding the speed limit or driving at inappropriate speeds that appears to plague the issue.

However, there is evidence that we have made considerable progress. In 2007, the average free flow speed of cars on built-up roads was 30mph on roads with a 30mph limit (down from 33mph in 1997) and the percentage of cars exceeding the speed limit on these roads was less than a half, down from 70% in 1997[122]. 2006 figures from the Ministry of Justice revealed the first drop in the number of prosecutions and fixed penalty notices since 2002. We appear to be taking steps in the right direction. This chapter attempts to offer a holistic view of the problem, looking at the reasons for speeding, how the problem has been tackled and the barriers to success.

7.3 The evidence base

The issue of speed is far from straightforward. Speeding itself is not neatly defined. It is used to mean travelling in excess of the posted speed limit and also travelling inappropriately fast for the conditions. Tackling the former, given the clear legal requirement, is more straightforward than targeting inappropriate speed, often most relevant on rural roads where we seek to encourage drivers to make an appropriate speed judgement beneath the legal limit.

Although it is established that speed is a contributory factor each year in about one third of fatal road traffic crashes [123] the complexity of the relationship between speed and crash risk has been exploited by opponents of speed limits and cameras[124]. Research shows a positive relationship between speed and crashes but the relationship is dependent on a range of factors including road types and variability of drivers' speeds [125]. The finding that variability of speed contributes to accident risk has also been subject to debate.

"The exact relation between crashes and speed depends on a large number of factors. In general however, the relation is very clear and has been shown in a large number of studies: the faster the speed, the greater the probability of a crash....The faster people drive, the greater the probability of severer crashes, for both the one that caused the crash and the collision opponent." [126]

The relationship between speed and safety centres on two aspects; the relationship between collision speed and the severity of a crash and the relation between speed and crash rate. Although there have been significant advances in vehicle design, collision speed is still of great importance to crash outcome. In terms of pedestrian safety this is also vividly true; a pedestrian hit at 30mph has an 80% chance of survival whilst at 35mph it is only 50%. On the relationship between absolute speed and crash rate a host of studies exist, although the most common conclusion is that they are related by a power function whereby crash rate increases faster than the speed increases and decreases faster than speed decreases. [127] .

[122] DfT (2008) Transport Statistics Bulletin – Road Stats 2007: Traffic Speeds and Congestion.
[123] Taylor et al (2000) The Effects of Drivers' Speed on the Frequency of Road Accidents. TRL 421. TRL. Crowthorne.
[124] Ibid. 121
[125] Finch, DJ, Kompfner, P, Lockwood, CR and Maycock, G (1994) Speed, speed limits and accidents. TRL PR58. TRL. Crowthorne.
[126] SWOV (2007) SWOV Fact Sheet – The relation between speed and crashes.
   http://www.swov.nl/rapport/Factsheets/UK/FS_Speed.pdf
[127] Nilsson, G (2004) Traffic safety dimensions and the power model to describe the effect of speed on safety.
   Lund Bulletin 221. Lund Institute of Technology. Lund.

The finding that a 1mph reduction in average speed leads to a 5% reduction in injury accidents is generally considered to be robust[128]. However, issues surrounding contributory factor data are often used to undermine the legitimacy of interventions. This fails to adjust to the difficulties of data reporting arising from the STATS 19 procedure. At the site of an accident it is very difficult for a police officer to determine immediately whether inappropriate or excessive speed played a contributing role in the accident. Discrepancy arises in other areas of perception too; those within the road safety community tend to be referring to the statistical relationship between speed and accident involvement[129] whilst the public relate their speed choice to their lack of experienced negative consequences.

Unlike with drinking and driving which has the seminal Grand Rapids Study[130] to draw upon, the road safety community on speed often struggles to win media and public debates. This is partly due to the supposed existence of conflicting evidence as outlined above: findings that raising or lowering a speed limit may not necessarily change the crash rate associated with it, debate over measures used to set speed limits (eg using the 85th percentile speed)[131] and conflict over the ability of speed cameras to reduce accident risk. Having a clear, accessible and convincing evidence base to draw upon in the face of contestation and presenting this appropriately and convincingly will be crucial in winning the debate on speed. Allegedly contested evidence permits 'opt-out': individuals can question the justification behind intervention and the tools of intervention and dismiss speeding as a genuine problem, when the reality is far removed from this.

PACTS recommends that a comprehensive peer review of the evidence base on speed and road safety is undertaken. Providing a clear summary of knowledge concerning speed will highlight areas where further investigation is required and provide an obvious reference point for those involved with road safety to draw upon when debate arises. We should then use this to present our justifications and evidence more effectively.

7.4 Understanding speeding behaviour

There is considerable research into speeding behaviour and trying to understand why people speed given the connection between speed choice and accident involvement[132]. The strongest predictors of speeding behaviour, identified in a DfT review, were intention, attitude, perceived behavioural control and self-efficacy[133]. The perceived norm of speeding is one of the most challenging barriers we face. A study into the importance of others on influencing speeding behaviour found that young men perceived more social pressure to speed and normative pressure was more likely to determine intention to speed for young men than young women[134]. Similarly an investigation into the speeding driver undertaken on behalf of the Scottish Executive found that young men were not only the group most likely to speed but also those most likely to speed if travelling with their peers[135]. Earlier work considering how speed varied as a function of others' speeding behaviour via variable message signs concluded that posted information about the percentage of people complying with the speed limit can be effective but only if other traffic appears to be complying with the posted information[136]. As speeding has been described as 'endemic' in the UK and the dominant perception is that 'everyone speeds', the importance of shifting social norms cannot be underestimated.

[128] Taylor et al (2000) The Effects of Drivers' Speed on the Frequency of Road Accidents. TRL 421. TRL. Crowthorne.
[129] McKenna. F (2004) Speed rehabilitation: should we deliver points or education? Perception and Performance. http://www.perceptionandperformance.com/pdf/dft_rdsafety_pdf_024720.pdf
[130] Borkenstein. R et al (1964) The role of the drinking driver in traffic accidents. Bloomington. Indiana University.
[131] Association of British Drivers (2004) Speed limits: their correct use, setting and enforcement. http://www.abd.org.uk/speed_limits_85th.htm
[132] Mckenna. F (2005) Why do drivers break the speed limit? http://www.perceptionandperformance.com/pdf/behav05paperweb.pdf
[133] Fylan, F et al (2006) Road Safety Research Report No.66. Effective Interventions for Speeding Motorists.
[134] Conner et al (2003) Examining normative pressure in the theory of planned behaviour; impact of gender and passengers on intention to break the speed limit. In Current Psychology, 22, 252-263.
[135] Stradling, SG and Campbell. M (2003) The Speeding Driver: Who, How and When. Scottish Executive Social Research. Edinburgh.
[136] Groeger. J.A and Chapman.P.R (1997) Normative influences on decisions to offend. Applied Psychology: An International Review.

Challenging the norm of speeding is imperative to success; not only must we try and provide resistance strategies to speeding but through education and interventions such as speed awareness courses we can seek to alter perceived acceptability and commonality of speeding. Until we convince the majority of drivers that compliance with the speed limit is the correct behaviour, punishing an ever increasing number of drivers will only reinforce speeding's acceptability. Therefore pursuing alternative interventions is an important part of our strategy to reduce the incidence of excess and inappropriate speed.

Attitudes and appraisals are a good predictor of speeding behaviour and can be used to distinguish between drivers who intend to speed generally and those who do so only occasionally[137]. There is evidence that many drivers evaluate speeding positively; Gabany et al [138] argued for five factors involved in why drivers break the law including thrill and ego gratification. However, McKenna in a study of drivers who had broken the speed limit found little evidence of enjoyment from their speed [139]. Likewise, although time pressure and the threat of being late are often considered to be an influence on speeding behaviour, the same study also found that most of the drivers were not in a hurry when apprehended.

Drivers appear to underestimate the risk of crashing, overestimating their own skills and ability to deal with increased speed [140] and generally underestimating the chances of being caught. It is also possible that drivers may select speed based on self-identity; because of disputes over the validity of speed cameras and the lack of perceived seriousness associated with moderate speeding (in public opinion conducted by Lancashire in 2007, 57% of those questioned thought that someone had to break the 30mph speed limit by 5mph before they are speeding [141]) those who exceed the limit are able to maintain their identity as safe drivers. Tackling this perception is important.

In terms of research, the **Theory of Planned Behaviour** has been used quite widely to consider speeding and the intention to speed. This has consistently identified that feelings of control are important in predicting intentions and self-reported speeding behaviour. Irrespective of whether drivers use perceived lack of control as an excuse for speeding or if perceived lack of control causes them to drive fast, this is an important variable to target. Improving people's perceived control over a behaviour, perhaps by overcoming perceived barriers to driving at the correct speed, such as tailgating and beliefs about the limits of the modern car should be considered, as well as emphasising the benefits of compliance. Individual responsibility for speed choice should also be emphasised.

The reasons for speeding are diverse and complex and there is no single factor which can be identified as the overwhelming determinant; similarly intentions to speed can change according to road type and road conditions. Segmentation techniques have been applied to the problem and have highlighted the need for different types of interventions depending on the characteristics, psychographic and socio-demographic, of the speeding driver. Fylan et al[142] outlined four different speeding drivers; the unintentional speeders, moderate occasional speeders, frequent high speeders and socially deviant drivers whilst the Midlands Safety Camera Partnership identified psychographic clusters within age groups.

[137] Fylan, F et al (2006) Road Safety Research Report No.66. Effective Interventions for Speeding Motorists
[138] Gabany. S.G, Plummer. P and Grigg. P (1997) Why drivers speed: The speeding perception inventory.
[139] Mckenna. F (2005) Why do drivers break the speed limit?
http://www.perceptionandperformance.com/pdf/behav05paperweb.pdf
[140] Horswill, MS and McKenna.FP (1999) The effect of perceived control on risk taking.
Journal of Applied Social Psychology, 29, 377-391.
[141] Lancashire Partnership for Road Safety (2007) Public opinion survey. August 2007.
[142] Fylan, F et al (2006) Road Safety Research Report No.66. Effective Interventions for Speeding Motorists.

It is overwhelmingly clear that the task of influencing the public on speeding is one which cannot be addressed by a single approach and advertising and enforcement messages will only resonate strongly with certain segments of the population. As demonstrated in the other case studies, tailored approaches are most likely to prove effective as well as providing appropriate forums for elaboration on issues.

"Persuasive messages are most commonly employed but they need to be paired with strategies that promote elaboration (eg. group discussion) in order to be effective." [143]

Group discussion can facilitate changes in attitude and provide a mechanism through which perceived norms, such as that speeding is 'cool' can be challenged.

'..the qualitative research showed that the driving behaviour of some participants in the groups had subsequently been affected by the views and opinions expressed by other speeding participants in the groups. Some had clearly had their eyes opened by the speedsters' attitudes..." [144]

There is a host of elements for interventions to target such as attitudes towards speeding, beliefs about the acceptability and ubiquity of speeding, and perceptions of ability to drive at the appropriate speed to name but a few. The variability in relevance of these elements for differing segments of the population further complicates the issue.

For the worst offenders enforcement rather than education and information may be the only answer. However, a large section of the population falls into the group of moderate or unintentional speeders who are highly susceptible to targeting through education and communication campaigns as well as traffic calming measures. The breadth of elements influencing speed choice presents a huge challenge to road safety and the nature of the intervention mix must tackle three overlapping pillars – person, vehicle and infrastructure. We do have a considerable base of understanding as to why people speed but transferring this to help produce effective interventions is crucial to tackling the problem. We need to continue to make this knowledge actionable, using it to drive and inform efforts to change behaviour.

7.5 Legislative, political and social context

The first speed law introduced to limit vehicle speeds within the UK came with the 1865 Red Flag Act. By 1903 the Motor Car Act raised the limit to 20mph although this was subsequently abolished for cars and cycles by the Road Traffic Act 1930 demonstrating that speed has long been valued and fought over. 1934 saw the introduction of a limit of 30mph in built-up areas, with the introduction of 40mph limits on some roads in 1960, and a national limit of 70mph on motorways and rural roads established by the Road Safety Act 1967. After some variations during difficulties with fuel supplies, the national limit for rural single-carriageways was set at 60mph in 1978. By 1990, 20mph zones were permitted provided that suitable traffic calming measures had been installed to ensure speeds were reduced to under 20mph[145]. Current limits vary depending on vehicle type and location, with central government setting the limit for the national urban and rural roads with local authorities having the jurisdiction to apply a speed limit to local roads as they deem appropriate - subject to national guidance.

For the vast majority of detected speeding offences, speed cameras provide the evidence as they do not require corroboration. Dependent on the speed at which a driver is recorded, a summons to court may follow but in most cases following the notice of intended prosecution, an offer of a penalty of three points and a £60 fine is accepted. Unlike with drinking and driving, loss of licence is discretionary, with examples of individuals retaining

[143] Ibid. 142
[144] Midlands Partnership Group (2006) Drivers' Attitude Study – Final Report. Midlands Safety Camera Partnership.
[145] DfT (2007) Local Transport Note 01/07 Traffic Calming. DfT. London.

their licence even when sufficient points are 'totted up'. Speeding is widely perceived to be a crime of low seriousness and the punishment regime appears to reflect this.

The current social and political context presents a challenge to tackling public perceptions of speed and its seriousness. Levels of trust in government appear to be low; in 2007, 69% of people did not trust the government to tell the truth[146], a view reflected in the lack of belief in the performance of the current administration.[147]

'Mistrust is now directed not just at…crooks and wide boys. It has spread across all areas of life, and supposedly with good reason. Citizens, it is said, no longer trust governments, or politicians, or ministers, or the police, or the courts, or the prison service…'[148]

For speeding this mistrust has important implications. The source of a message impacts considerably on its credibility[149] which explains why both England and Scotland have used alternative branding for their national road safety messages. Mistrust in the motives of government aids the perceived legitimacy of speeding. Although the problem of a lack of trust in government cannot be tackled by road safety, it cannot be ignored. To combat this we must make our motives, justifications and evidence explicit. Decisions surrounding speed have become excessively political and conflict, particularly concerning speed cameras, has often been manipulated for political ends. Creating a clear evidence base would prevent such manipulation and acknowledge road safety and specifically speed choice as an issue of public health and safety issue, and of preventing unacceptable deaths on the nation's roads.

Enhancing the legitimacy of intervention and trying to encourage the public to take ownership of the issue is a challenge we must consider. Encouraging ownership of an issue and drawing upon a sense of pride has been shown to work in other areas; a campaign in Texas to tackle littering found success using the slogan 'Don't mess with Texas'. This was found to resonate strongly with young males who had not responded well to previous campaigns[150].

Can we draw upon a sense of national pride to combat the legitimacy of speed? It will be difficult, particularly in the light of a low sense of trust in government and an apparent decline in respect across society. In spite of this, the notion of reciprocity, emphasised heavily in personal travel planning approaches, potentially can be used to encourage better road use. Transport for London (TfL) is running a campaign, 'Together for London'[151] to encourage more considerate use of public transport; **a campaign for more considerate road use may be worth investigating.**

Politically, speed management is highly sensitive and given the tendency for most policies to be labelled as a 'war on the motorist', changes to penalties and enforcement are always difficult, highlighted by the long-standing debate over graduated speeding penalties. As demonstrated in relation to road safety in France, at times we require strong political and social leadership. On speeding this has not always been the case although some Ministers have stood up well to the criticism of speed cameras in some parts of the media. The process of discouraging manufacturers from marketing cars on their ability to reach illegal speeds has been arduous and governments often reluctant to regulate the industry.

[146] Ipsos MORI (2007) Government Delivery Index. Trust and Influence.
http://www.ipsos-mori.com/content/turnout/government-delivery-index18.ashx
[147] You Gov (2008) YouGov/Daily Telegraph Political Trends
http://www.yougov.com/uk/archives/pdf/Political%20trends%20post%202005.pdf
[148] O'Neill. O (1992) Reith Lectures, quoted in Demos/Green Alliance (2003) Carrots, sticks and sermons: influencing public behaviour for environmental goals, Defra, London.
[149] Road Safety Scotland - Consultation interview.
[150] Fenton Communications (2001) Now Hear This; The Nine Laws of Successful Advocacy Communications. Washington DC.
[151] http://togetherforlondon.org/

Individuals may respond better to messages received through their employer with the costs of non-compliance, such as loss of work, reinforced more tangibly in this environment. Legislative changes such as the **Corporate Manslaughter Act 2007** and initiatives such as **Driving for Better Business** reinforce the importance of road safety within the workplace. Business leaders have considerable social influence; making road safety and appropriate use of speed a priority in the workplace will help to legitimise it as an issue of concern. Some companies have already engaged considerably, BT, 3M and Skania amongst others. **We need further advocates within the business community to help drive success on road safety issues.**

Alongside political and business influences, the mass media contribute to opinion formation on issues of speed. Coverage of the speeding issue often highlights supposed inconsistencies in data or questions the validity of interventions. Headlines such as **"Ban speed cameras say road safety campaigners"** [152] and **"Only 5% of drivers who crash were breaking the speed limit"** [153] in conjunction with the hegemony of the war on the motorist theme, understandably influence and confuse drivers on speed issues.

High profile figures give voice to views which may not represent that of the majority but help to undermine the law. Advocating speed calming measures such as the introduction of 20mph zones in residential areas [154], draws considerable attention and can be portrayed in a challenging light such as a restriction on personal freedom. Frequently local residents are in fact in favour of such zones. People are concerned about excess and inappropriate speed in their immediate neighbourhood but seemingly resistant to extrapolating this to a wider acceptance of the need for speed management.

When considering public debate over intervention and enforcement methods, being quickly able to know which elements of the evidence to draw upon would be useful. Whilst we recognise that the mass media can be influential we currently appear to know relatively little about how long-term exposure to persistent media content affects behaviour[155]. In addition to tracking surveys on how widely road safety adverts are recalled and how well the message has been communicated, **research should consider the impact of alternative messages sources, predominantly the mass media, on attitudes and beliefs towards road safety topics.**

"Add to all this the fact of life of more emancipated citizens and the fact that they view road crashes as a large problem, this means a growing 'market' for the societal centre ground. If we combine this conclusion with the notion that citizens' support becomes increasingly important, then it is clear that the 'road safety lobby' has to play an important role in the future. Improving road safety and realising sustainable safety will benefit from strong road safety advocacy." [156]

Given the problems outlined previously over messages being given to the public, **if we are to credibly challenge misconceptions and win the debate on speed we need strong road safety advocates in all spheres of influence supported by convincing justification for intervention. Trust in authority must exist for the perceived legitimacy of excess and inappropriate speed to be challenged.**

[152] Daily Express 09.08.08 http://www.express.co.uk/posts/view/56091/Ban-speed-cameras-say-road-safety-campaigners
[153] http://www.timesonline.co.uk/tol/news/article654412.ece
[154] PACTS (2007) Beyond 2010: a holistic approach to road safety in Great Britain. PACTS. London.
[155] Yanovitzky. I and Bennett. C (1999) Media Attention, Institutional Response, and Health Behaviour Change –
    The Case of Drunk Driving, 1978-1996.
[156] SWOV (2006) Advancing Sustainable Safety – National Road Safety Outlook for 2005-2020. Leidschendam. Netherlands.
    http://www.swov.nl/rapport/DMDV/Advancing_Sustainable_Safety.pdf

7.6 Road engineering measures

Road engineering measures have provided the traditional hard engineering solutions to road safety problems. A huge range of treatments have been adopted; chicanes, roundabouts, narrowings and 20mph zones to name but a few [157]. In the past few years schemes such as Urban Mixed Priority Routes and guidance issued through the Manual for Streets [158] have considered the community and social elements of urban and residential streets, integrating this with road safety problems and introducing non-traditional approaches. Whole route approaches, particularly on rural roads, are now also being more widely adopted in order to consider the most effective intervention methods.

Road engineering measures have contributed considerably to reduction in average speeds and the reduction in accidents through a variety of speed management and traffic calming interventions. Though shown to be effective at reducing speeds and accidents[159], their introduction has sometimes met with resistance from the public, and interventions such as the road hump along with speed cameras have come to symbolise the issue of speeding in their ability to divide professional and public opinion.

Traffic calming measures are an indispensable speed management tool, yet we must do better in explaining the justification behind them to the public to increase acceptability surrounding their implementation.

7.7 Enforcement methods

The main objective of enforcement is to deter drivers from committing offences. The deterrent effect is only created however if road users believe that they are likely to be apprehended, prosecuted and convicted for committing illegal acts, and that the eventual penalty will be severe and swiftly administered [166]. In relation to speeding offences, enforcement is administered by traffic police and by the ubiquitous **speed camera.**

First introduced in 1992, the speed camera is the most symbolic technological speed enforcement device. There is convincing evidence that speed cameras are an effective speed management device [161]. A 2004 report found that devices encouraged drivers to reduce their speed by an average of 2.4mph and averted 870 deaths or serious injuries annually. Yet the controversy surrounding speed cameras has almost subsumed the issue of speed entirely.

Cameras were introduced to target accident hotspots, free up police resources and highlight that exceeding the speed limit would not be tolerated. As the use of speed cameras became more widespread attitudes towards them appear to have become less favourable, exacerbated by 'cash cow' accusations. In 2001 the government, through the Vehicle (Crimes) Act, introduced the system of 'netting off' allowing safety camera partnerships to recover the costs of operating speed and red-light cameras from fines resulting from enforcement. This system, known as hypothecation, was successful in the acceleration of the introduction of cameras at carefully identified locations to reduce death and injury but generated and continues to stimulate substantial public debate over cameras. Even though the arrangement altered in 2007 reverting to a road safety grant format, the image of speed cameras as a money making device continues to linger and may have affected public support for the use of cameras [162].

[157] DfT (2000b) New Directions in Speed Management. DfT. London
[158] DfT/CLG (2007) Manual for Streets. Thomas Telford Publishing. London.
[159] Webster. D and Mackie. AM (1996) Review of traffic calming schemes in 20mph zones. TRL Report 215. TRL. Crowthorne.
[160] Elliott, M and Broughton, J (2005) How methods and levels of policing affect road casualty rates. TRL637. TRL. Crowthorne.
[161] PA Consulting Group/UCL (2004) The national safety camera programme. Three year evaluation report. PA Consulting Group. London
[162] British Social Attitudes Survey 2005/2006.

Other countries with high numbers of speed cameras have had quite different experiences. France introduced fully automated speed enforcement in late 2003 and recorded a 31% decline in road deaths between 2001 and 2005 [163] with the French Road Safety Observatory estimating that 75% of this reduction could be attributed to improved speed management based on new automated camera system. High levels of public support for speed cameras have been recorded; 77% of the French public support automatic enforcement as a good tool to improve road safety . In contrast to the UK which has a 14 day period in which the notice of intended prosecution can be sent the French system issues and sends fines immediately arguably better connecting crime and punishment.

How can the UK increase the acceptability and legitimacy of speed cameras to similar levels?

One option may be to increase the use of time over distance cameras. Currently within the UK the most frequently used camera is of the GATSO variety which reads the speed of a car at a set point in the road. Critics have suggested that such cameras have limited effectiveness in preventing accidents, encouraging drivers merely to slow down when near the camera, something which 56% of drivers admitted to doing in a recent survey .

Average speed cameras, by creating an enforcement zone, would circumnavigate this problem. Trials in the UK have found high levels of compliance and evidence of casualty reductions at sites where such cameras have been used.

A 2006 report from the House of Commons Transport Select Committee found that; "Time distance cameras have been very effective where they have been used and their widespread deployment could have an important impact in further enhancing the effectiveness of camera enforcement and deterrence to speeding." [167]

Disentangling the speed camera arguments from the broader sphere of speed management would enable progression. An important part of doing this is to foster greater legitimacy in the tools through which we enforce. Greater use of average speed cameras at appropriate sites may aid this and PACTS supports extending the type approval for their use to speeds below 30mph.

Although speed camera devices are effective speed management tools [168] the importance of traffic policing has not diminished. The effects of speed cameras tend to be limited to the speed camera site whereas physical policing has a 'halo' effect five times that of a speed camera [169]. Physical policing can play an important role in influencing the public, as identified by the Roads Policing Strategy 2005:

"But technology cannot wholly replace the police: an adequate police presence on the roads is also vital. For example safety camera technology is successfully reducing speeding, collisions, deaths and casualties at the 5000 or so fixed and mobile camera sites in Great Britain….But physical police presence is needed to deal with speeding elsewhere on the road network, including the motorways.." [170]

Speed deterrence continues to require visible policing in combination with technology such as speed cameras. This increases the perceived risk of deterrence, identified as central to encouraging compliance.

[163] ETSC (2007a) Traffic Law Enforcement Time for a Directive. ETSC. Brussels.
[164] ETSC (2008) Speed Management – Towards Safe and Sustainable Road Transport. ETSC. Brussels.
[165] http://www.swiftcover.com/about/press/speed_cameras_costs/
[166] Speedcheck services (2008) PACTS presentation. – include PACTS web address.
[167] HoC Transport Committee (2006) Roads Policing and Technology: Getting the right balance
[168] Elliott, M and Broughton, J (2005) How methods and levels of policing affect road casualty rates. TRL637. TRL. Crowthorne.
[169] Ibid. 168
[170] DfT/ACPO/Home Office (2005) Roads Policing Strategy. http://www.dft.gov.uk/pgr/roadsafety/drs/roadpolicingcommitment

"The perceived risk of being stopped is very low. What we need to do is to raise the perceived risk of being stopped, not necessarily the real risk of being stopped. People need to think that they are going to be stopped by the police a lot more than they actually are. The higher we can raise the level that you think you are going to be stopped, the more effective the enforcement becomes." [171]

7.7.1 Advisory technology

Advisory technologies exist which may, in conjunction with enforcement efforts, be able to alter speed choice and behaviour. Such treatments utilise a feedback mechanism, providing personalised normative feedback connecting behaviour with outcome. The most common forms of these are **Vehicle Activated Signs (VAS)** and **Speed Indicator Devices (SIDs)**. The former are permanent post-mounted signs which display either the speed limit or warning of the hazard [172]. A study into their effectiveness found that speed roundel signs reduced speed by an average of 4mph where no speed limit change had occurred and bend warning signs reduced mean speeds by up to 7mph. Interestingly, public opinion surveys conducted as part of the study found overwhelming support for the installations [173]. SIDs, temporary vehicle activated signs which detect and display real-time vehicle speeds, were also found to reduce average speed at sites in London although there was some evidence of a novelty effect [174].

"Vehicle activated signs appear to be very effective in reducing speeds; in particular, they are capable of reducing the number of drivers who exceed the speed limit and who contribute disproportionately to the accident risk, without the need for enforcement such as safety cameras." [175]

Further work needs to be done to consider the long term ability of VAS and SIDs to alter attitudes and intentions towards speeding. There may also be potential to use them as a means of conveying positive messages to drivers, such as detailing the percentage of vehicles complying with the speed limit.

7.8 Vehicle and Infrastructural Interventions

The pace of change in vehicle and infrastructure technology is rapid and has significance for the issue of speed. A wealth of in-vehicle information systems (IVIS) and advanced driver assistance systems (ADAS) are available and communication between driver, vehicle and road will continue to increase. In terms of speed management, technologies exist with the ability to provide intelligent enforcement.

Intelligent Speed Adaptation (ISA), in its mandatory format, potentially provides a technological solution to the problem of excess speeding. This lies in its ability to limit the vehicle according to the speed limit, although such a situation is a long way off. In its voluntary format, UK trials have shown that ISA can deliver substantial reductions in excessive speed. It also appeared to reduce intention to speed and tackle beliefs such as 'exceeding the speed limit will get me to my destination quicker' [176]. The importance of attitudes was acknowledged by the report stating:

"Successful implementation of ISA would ultimately rely upon the attitude of the general public. The current analysis found promising support for the finding that long-term experience with an ISA system increases acceptability." [177]

[171] HOC Transport Committee (2008) Ending the Scandal of Complacency: Road Safety Beyond 2010. Ev.10 Heather Ward.
[172] http://www.buckscc.gov.uk/bcc/content/index.jsp?contentid=290532430
[173] Winnett, MA and Wheeler, AH (2002) Vehicle Activated Signs – a large scale evaluation. TRL528. TRL. Crowthorne.
[174] Walter, LK and Knowles, J (2008) Effectiveness of Speed Indicator Devices on Reducing Vehicle Speeds in London. PPR314. TRL.
[175] Winnett, MA and Wheeler, AH (2002) Vehicle Activated Signs – a large scale evaluation. TRL528. TRL. Crowthorne.
[176] Carsten, O et al (2008) ISA-UK Intelligent Speed Adaptation – Executive Summary of Results.
[177] Ibid.. 176

The potential for technology to limit speed is great. However, widespread implementation of such systems is unlikely to be rapid and is largely dependent on uptake by the motor manufacturing industry. Thus, the need for an intervention 'mix' and the success of technology being underpinned by supportive attitudes means understanding and continuing to tackle the reasons for speed choice are imperative.

7.9 Public information and education approaches

Information campaigns targeting road users, alongside vehicle and infrastructural interventions, play a central role in attempting to effect a change in speed behaviour amongst the population. National communication campaigns to tackle speeding have a shorter history than both drink driving and seat belts, with the first advert being introduced in October 1991 using the slogan **'Kill Your Speed Not Your Child'** . Campaigns have tended to focus on rational elements such as stopping distance variation with speed and risk to others of speeding. This approach has primarily centred on identifying the risks to others of the speeding behaviour and has incorporated emotive campaigns such as the 1997 TV adverts using poetry readings concerning grief and loss and radio adverts in which families of victims talked of their losses.

Campaigns have also focused heavily on residential roads and the difference that travelling at 30mph and travelling at 35 to 40mph has in accidents. The last Think! TV advert, 'Lucky', used a young girl being brought back to life with her voiceover explaining the markedly increased chance of survival for a pedestrian hit at 30mph as opposed to being hit at 40mph with the accompanying tag line **'It's 30 for a reason.'** National campaigns have predominantly targeted attitudes and beliefs towards driving seeking to alter perceived risks.

The research process for such campaigns is thorough and can draw upon the wide literature base we have concerning speed choice. Examples of interventions based upon behavioural models are few and far between. Notably, however, Road Safety Scotland undertook a five year mass media campaign, **'Foolspeed'**, targeted at the general driving population in Scotland and underpinned by the **Theory of Planned Behaviour**[179]. The TPB shaped a series of television adverts, each designed to address a key psychological determinant of behavioural intention as designated by the TPB. Over the five year period adverts specifically tackled attitudes, subjective norms and perceived behavioural control and lastly affective beliefs, referring to the beliefs about emotions that one might experience when performing the behaviour.

The initial four year evaluation highlighted the need for differing engagement with advertising of frequent speeders as compared to moderate or infrequent speeders. Although the anti-speeding campaigns were only moderately effective in changing some of the psychological determinants of speeding, the merit of the campaign lies in its ability to evaluate this. The report concluded that:

"The study demonstrates that it is possible to design behaviour change advertising which is both underpinned by rigorous theory and which works in communication terms. Too many health mass media campaigns lack a sound theoretical basis guiding their formulation of objectives and messages…The Foolspeed evaluation demonstrates that it is possible to design advertising which is explicitly underpinned by proven theoretical constructs." [180]

[178] RoSPA (2003) A History of Road Safety Campaigns. www.rospa.com/roadsafety/info/campaigns.pdf
[179] Stead. M and Eadie. D (2007) Evaluation of Foolspeed Campaign Final Phase. Scottish Executive Social Research.
[180] Stead et al (2004) Development of a mass media Theory of Planned Behaviour intervention to reduce speeding. In Health -Education Research 20 p36-50 (2005).p.38

This is an extremely pertinent conclusion. With the complexity we face when confronting the speeding issue, having a sound basis and rigorous evaluation procedure is extremely important. Evaluation of education and communication measures is inherently difficult. Drawing on behavioural theories and models not only provides a framework for formulation but also a structure for evaluation. Rigorous research is being conducted in many cases as an integral part of any sort of communication campaign. Identifying and using behavioural models to inform this process can potentially ensure greater efficacy of communication and allow much more informative reflection. In the case of speeding the Theory of Planned Behaviour has been shown to account for considerable variance in intention [181] [182] and is applicable to intervention efforts.

Better understanding and wider use of behavioural theory in road safety interventions, particularly communication campaigns, is required. The DfT should consider producing a guide to behavioural theory, highlighting models with the most potential for application in road safety. The Government Social Research Behaviour Change Knowledge Review should provide a good starting point.

"The formative research suggested that key elements of the campaign would be credibility – ie. the depiction of realistic, non-extreme driving events – and empathy with the daily pressures experienced by drivers, such as congestion and hassle." [183]

The credibility of a campaign is fundamental to its success. In the prior discussion, the problems of a lack of trust in government and undermining cultural influences have been noted. Ensuring that any campaign on speeding retains legitimacy is of the utmost importance, hence the need to regularly update campaigns. Differing approaches have been adopted; Australia's infamous **'Pinky'** commercial used a social stigmatisation approach, Think! have adopted quite graphic advertising whilst the Foolspeed adverts moved away from shock tactics, instead tackling issues of tailgating and the perceived benefits of speeding. **There is no single clear communications approach that should be followed, instead each campaign must be carefully researched, drawing on available knowledge and matched to the target population. However, better provision of research resources to inform campaigns accompanying those run at a national level may be beneficial.**

7.9.1 Speed Awareness Courses

Speed awareness courses have been developed as an alternative option to licence points for drivers who have broken the limit and it has been argued that they are an effective mechanism in tackling the disparity between the crime and the punishment. Predominantly these courses cater for those caught only moderately exceeding the posted limit. They aim to change drivers' speeding intentions and the perceived legitimacy of enforcement and to provide a greater understanding of the speeding behaviour.

"..by increasing the perceived legitimacy of enforcement there should be an increased acceptance of the importance of speeding which should underpin support for measures such as traffic calming as well as understanding the role of speed limits."

Attendees on some courses also complete a **Driver Risk Profile** providing a rare opportunity for personalised feedback to the driver. The courses offer practical tips for identifying speed limits and coping with pressure from other road users as well as challenging hegemonic and

[181] Parker et al (1992) Intention to commit driving violations: an application of the Theory of Planned Behaviour. In Journal of Applied Pyschology, 77, 94-101.
[182] Parker et al (1996) Modifying beliefs and attitudes to exceeding the speed limit: an intervention study based on the Theory of Planned Behaviour. In Journal of Applied Pyschology
[183] Ibid.180

often incorrect views on the risks associated with speeding. Such an approach reduces drivers ability to 'opt-out' or retain a self-identity as a safe driver despite being caught exceeding the limit. If they have been formally made aware of the risks posed to both themselves and others of excessive and inappropriate speed, this should tackle many of the reasons for speeding such as time pressures and perceived risk.

The public acceptability of these courses is high and they have successfully circumnavigated apportioning blame, instead focusing on the virtues of education. This acceptability lies in contrast to vocal attitudes towards the majority of our other speed management intervention tools.

Feedback from the speed awareness courses shows a desire amongst people to learn and be educated further on the driving task. Although speed awareness courses occur post-violation they may present the best opportunity we currently have to challenge the status quo on speeding. They reduce the number of people punished for exceeding the speed limit and provide a vital chance for education and training, rarely received by drivers after they have passed their test. With the difficulties of reaching drivers post formal education, the major route for training will be through employers. Therefore once again the need for **partnership** with business is imperative.

Speed awareness courses have a key role to play in confronting the perceived legitimacy of speed and providing a wealth of material from which we can better understand the speeding driver. In conjunction with other intervention efforts, they may provide the key to achieving a 'critical mass' of compliant drivers, tipping the balance towards viewing excess and inappropriate speeding as socially unacceptable.

7.10 Summary

Tackling excessive and inappropriate speeding is possibly the biggest challenge currently facing road safety as it occurs throughout the driving population. The task is complex.. The reasons for speeding and the situations in which it occurs are diverse as are the range of interventions tools required to tackle it. Speed choice has to be tackled in the arenas of the vehicle, the individual and the infrastructure all seeking to influence and alter behaviour. It would be difficult and perhaps inaccurate to attempt to attribute an explicit model of behavioural change to the issue. The most befitting theory may be that of the **systems approach**, one currently being advocated by the WHO, to understand road safety problems.

'There are solutions to the road safety problem. A wide range of effective interventions exist and experiences in countries with long histories of motorised travel, has shown that scientific, 'systems approach' to road safety is essential in tackling the problem. This approach addresses the traffic system as a whole and looks at the interactions between vehicles, road users and the road infrastructure to identify solutions. There is no single blueprint for road safety. Interventions and strategies that work in one setting may need to be adapted elsewhere.'[184]

It should also be remembered that concerted efforts to alter speed choice have occurred over a shorter period of time than for other road safety issues such as seat belt and drinking and driving. As the average speed statistics demonstrate, we are making head way. Unfortunately, we have not managed to gain comprehensive public support on the issue or if we have a disparity exists between actual and vocalised views. This may be for a number of reasons: we have not established a clearly defined and accessible body of

[184] http://www.who.int/features/2004/road_safety/en/index.html (Accessed 16 July 2008)

evidence on the full range of issues surrounding speeding from which we can draw; we have not presented adequately the convincing evidence that we do have; as a result we have often justified our methods of intervention insufficiently to the public even though we do have the data to prove their validity; lastly we do not have demonstrable leadership and advocates to direct change politically, culturally and socially .

Does a lack of public support matter? Yes. With widespread use of ISA and speed limiters currently still a distant prospect, and limits and resistance to speed cameras and enforcement efforts, we must consider altering the social acceptability of speeding. Stigma does now exist in a few very specific circumstances, such as driving too fast outside schools, suggesting that attitudes are slowly beginning to change. The process of implementing this more widely may be tricky and slow but the potential is there for success. In order to better understand the task we face, **PACTS recommends that DfT considers undertaking another Speed Management Review to present the road safety community with a clearer understanding of the situation and where efforts should be most concentrated.**

7.11 Recommendations

PACTS recommends a comprehensive peer review of the evidence base on speed and road safety is undertaken. Providing a clear summary of knowledge concerning speed will highlight areas where further investigation is required and provide an obvious reference point for those involved with road safety to draw upon when debate arises. We should then use this to present our justifications and evidence more effectively.

If we are to credibly challenge misconceptions and win the debate on speed we need strong road safety advocates in all spheres of influence supported by convincing justification for intervention. Trust in authority must exist for the perceived legitimacy of excess and inappropriate speed to be challenged.

Disentangling the speed camera arguments from the broader sphere of speed management would enable progression. An important part of doing this is to foster greater legitimacy in the tools through which we enforce. Greater use of average speed cameras at appropriate sites may aid this and PACTS supports extending the type approval for their use to speeds below 30mph.

Further work needs to be done to consider the long term ability of VAS and SIDs to alter attitudes and intentions towards speeding. There may also be potential to use them as a means of conveying positive messages to drivers, such as detailing the percentage of vehicles complying with the speed limit.

PACTS recommends that the DfT considers undertaking another Speed Management Review to present the road safety community with a clearer understanding of the situation and where efforts should be most concentrated.

Case studies

The following case studies external to road safety, in varying degrees, consider the three strands outlined previously:

- **to consider holistically approaches to and patterns of behaviour change**
- **to identify the role of and strategies used to influence 'public' and individual opinion**
- **to ground the case studies in behavioural theory and consider the role of models more widely.**

The conclusions drawn from the following chapters have been collated alongside the more general implications arising from the road safety case studies in **Chapter 11**, which deals with the wider structural recommendations for road safety.

Smokefree

8.1 Key insights

- Providing the 'tools for change' to the relevant stakeholders and targeted population.
- The value of forming new allegiances and working outside of traditional boundaries.
- The merit in building up and building upon the body of evidence.
- Effective advocacy – presenting the issues in the most appropriate framework to the public.
- Carefully tracking shifts in public attitudes so as to be fully aware of any alterations.

8.2 Introduction

The first selected case study considers the implementation of the smoking ban in public places in 2007. Considerable parallels exist with some road safety behaviours; smoking, particularly in pubs and clubs, had been widely considered acceptable, health risks existed to users and non-users and it was a politically sensitive issue with the potential to be framed within the 'Big Brother' discourse. The case study offers insight into the various approaches and elements which contributed to the success of the ban and highlights the most important lessons to be taken. It focuses primarily on the Smokefree campaign and its nature as a compliance effort.

Although smoking, unlike any road safety violation except some cases of drink driving, is an addictive behaviour, the introduction of law on July 1st 2007, making virtually all enclosed public spaces and workplaces in England smokefree, was a campaign with interesting parallels for road safety. As an exercise in behavioural change but also in shaping public opinion in order to facilitate this change, it is one which highlights points of key importance such as the appropriate framing of messages, utilisation of a comprehensive evidence base, and the power of public opinion.

Evidence of the health impact of passive smoking built up over the past three decades and continues to be produced. Research demonstrating adverse effects on children was first established in the UK in the 1970s [185] yet it was not until thirty years later that a comprehensive ban on smoking in public spaces and workplaces was introduced. Once the legislation had been passed, things moved swiftly. Yet it took many years of campaigning, lobbying and dissemination of research evidence into public and political channels to bring about the legislative alteration.

8.3 Legislative process and implementation

Fears about the effects of smoking on health were first raised in 1848 in The Lancet but it was not until almost a century later that the British Medical Journal published an article citing evidence of a link between lung cancer and smoking. By 1965, cigarette advertising had been banned on television in the UK. This was followed six years later by a voluntary agreement between tobacco companies leading to health warnings being printed on packets in the UK. In comparison with the USA this was a relatively soft line; six years previously the Federal Cigarette Labelling and Advertising Act had required the US General Surgeon's health warning to be printed on all packs.

The legislation surrounding the smoking ban is clear and has been well supported through the publication of documents such as a government produced guide to implementation and

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[185] Smokefree London (2004) Submission to the Greater London Assembly's Smoking in Public Places Investigative Committee

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signage and the production of a dedicated website (www.smokefreeengland.co.uk). This national website was supplemented by a variety of regional and local 'Smokefree' websites and strategies. Such breadth of coverage and availability of material and best practice aimed at both employers and individuals concerning the introduction of the smoking ban in public places undoubtedly aided its success.

Although this was a high level public information campaign with extremely high reach, it was vital that it worked in conjunction with the provision of tools for intervention – information packs, compliance guidelines, podcasts from the Chief Medical Officer on the health risks of passive smoking [186], and the aforementioned websites. This comprehensive and cohesive campaign focused heavily on targeting self-efficacy as well as a subset of tackling individuals' attitudes through further emphasis of the convincing evidence base and the provision of information concerning compliance with and impacts of the legislation. As previous research has outlined, Perceived Behavioural Control (PBC) as it is conceptualised in the Theory of Planned Behaviour[187], or the similar concept of self-efficacy, is an important determinant of intention to undertake a behaviour and actual behaviour. This approach, which improved peoples' 'skills' and subsequently their self-efficacy, unequivocally aided the success of the implementation and strengthened the perceived legitimacy of the law.

Previously media campaigns aimed at smoking prevention had demonstrated minimal or no long-term impacts [188]. This well co-ordinated information and education provision prior to the legislation coming into force appears to have been far more successful. Clearly, the presence of a behavioural incentive, ie law and hence the threat of punishment, increased its success. However, there have also been associated consequences of the ban such as a reported rise in the number of people giving up smoking.

Provision of clear tools for implementation such as the SmokefreeEngland website helped the high levels of compliance achieved, increasing the levels of perceived self-efficacy for individuals and businesses. In road safety, we should seek to focus some of our interventions on the provision of social resistance skills. For young drivers this 'tools and tactics' based approach has already begun to be implemented in public information campaigns. However, such an approach should be rolled out more widely throughout road safety including pedestrian behaviour and other vulnerable road users as well as simply targeting drivers.

8.4 The Strength of a Coalition and the Framing of Evidence

By the early 1990s evidence demonstrating the link between passive smoking and negative health effects was overwhelmingly strong. However, although this body of convincing evidence seemed incontrovertible, the tobacco and hospitality industry, wielding considerable political power, countered efforts to bring in anti-smoking legislation. They repeatedly counteracted the evidence base, arguing that cordiality and better ventilation would be enough to tackle the problems associated with passive smoking.

The anti-smoking lobby responded to this threat by forming a strong coalition, Smokefree, which included large bodies such as the British Medical Association (BMA), CancerResearch UK and Action on Smoking and Health (ASH). As well as its diverse and active membership, the coalition was strengthened by its clever framing of the message. Recognising the problems they faced with regard to lack of political will, public resistance and opposition from two powerful industries;

[186] Available online www.smokefreeengland.co.uk

[187] Ajzen, I (1985) From intentions to actions: A Theory of Planned Behaviour. In J.Kuhl and J.Beckman (eds), Action Control: From Cognition to Behaviour(pp.11-39) Heidelberg: Springer

[188] Sowden, A.J and Arblaster, L (1998) Mass media interventions for preventing smoking in young people, The Cochrane Database of Systematic Reviews, Issue 4

hospitality and tobacco, the coalition decided that a new framing of the message was vital. This led to the characterisation of the passive smoking problem as an issue of **workplace health and safety**. This made viable its portrayal as an anti-social issue rather than a compliance and enforcement problem [189].

Such framing enabled easier portrayal of evidence both to the public and politicians. Furthermore it counteracted common accusations of descent into a 'Big Brother state', something to which those involved with road safety can easily relate. Similarly, conceptualisation as a workplace health and safety issue made the idea of a ban on smoking in public places palatable to politicians and the public. Effectively this helped split the two powerful anti-ban lobbies[190]. National level legislation would have been preferable for the hospitality industry whereas the tobacco lobby far preferred the option of locally variable legislation. By splitting this powerful coalition and gaining the support of the hospitality industry behind their own lobbying for a national level ban, the appropriate conditions were created for the passing of the legislation in Parliament and its subsequent implementation.

The importance of the coalition in simply making passive smoking an issue should not be forgotten. Prior to their campaigning, whilst the evidence base concerning the health impacts of second-hand smoke was already strong, many politicians and indeed members of the public were unaware of the voracity of the problem at hand. As demonstrated by data from the Department of Health's Smoking-related Attitudes and Behaviours survey, awareness amongst the public of the health effects of second-hand smoke has remained strong since 2000. Whilst public recognition of the increased risk of lung cancer, bronchitis and asthma as a result of second-hand smoke has consistently been recorded at 80% or over since the mid-1990s, acknowledgement of the increased risk of heart disease has steadily increased from 69% in 2002 to just under 75% in 2007[191]. Compounding this was presentation of evidence to politicians, those with the power to make legislative change. For those already interested in the issue, it was of the utmost importance, but for sufficient support to be gained it was equally vital to create interest in the issue through effective lobbying and presentation of the evidence, particularly to Parliamentarians.

Road safety can heed such lessons. For those already immersed within the road safety community issues such as lowering the BAC limit and successfully securing type approval for average speed cameras for twenty miles per hour are paramount. Yet some may be unaware of the casualty reducing potential that introduction of such legislation would facilitate. Hence, we in road safety must make greater efforts to work outside our traditional boundaries and present our arguments, particularly within business, government and parliament to new audiences. Our evidence base predominantly is strong and we must utilise this in order to facilitate political behavioural change.

8.5 Public attitudes and opinions

The potency of presenting the need for a smoking ban in public places as a question of health and safety was reiterated in achieving public support. As ASH members pointed out, public opinion is malleable and can be heavily influenced by how an argument is presented to them. Thus, if asked whether they would support a ban on smoking in all pubs and clubs, positive responses tended to be lower than if they were questioned as to whether they believed that all employees should have the right to a smokefree working environment.

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[189] Interview Transcript (2008) Ian Willmore
[190] Interview – Sue Marks (2008)
[191] Office for National Statistics (2002, 2007) Smoking Related Behaviour and Attitudes, HMSO,London.

IAs acknowledged in other case studies advertising campaigns rely on the **credibility** of both their format and their presentation of a message but this issue of credibility runs deep through all veins of public policy. The creation of 'Smokefree' as with the idea behind the 'Think!' brand, permitted some conceptual detachment from government authority, increasing receptivity to ideas. In relation to the Smokefree campaign the separation of the issue from the general topic of the government's anti-smoking campaigns helped build public support behind it and permitted emphasis of the evidence related to second-hand smoke. Research by the Scientific Committee on Tobacco and Health found that second-hand smoke increased the risk of lung cancer by 24% and of heart disease by 25%. The campaign consistently promoted such evidence linking second-hand smoke negative health effects. This increased the public's knowledge on the issue and played a key part in facilitating changes in attitudes.

Alteration in public attitudes towards smoking, culminating in the rapid behavioural success that the ban achieved, took many years to attain. Most behavioural change is beholden to public portrayal and perceptions in some way. Perhaps in contrast to Malcolm Gladwell's 'Tipping Point' theory [192] it rarely occurs overnight, even when grave threat to the health of a population is identified. Dispute occurs over the nature of the evidence, doubt is cast upon the sources suggesting the problem and frequently people disassociate themselves from the issue. The smokefree campaign and the road safety sector have faced and continue to face all these challenges.

The Smokefree campaign faced considerable opposition from those concerned about the decline of the hospitality industry yet survey evidence from both the Department for Health's annual Smoking Related Attitudes and Behaviours Survey, and that completed by individual organisations such as BMA, was able to show that there existed a **'strong bedrock of public support'**[193] for the legislation both at organisational and individual level. This research was able to display evidence that attitudes towards smoking in public places were altering and resistance to the ban declining (table x). By frequently conducting surveys and tracking the shifts in attitudes, campaigners were able to demonstrate to the legislators and concerned industries, such as hospitality, that support and readiness for the proposals existed. Although in contrast to road safety, violation of the law, once introduced, was easily identifiable, the majority of people also appear to support the law. By September 2007, less than 3 months after its introduction, compliance levels were recorded at 98.7% [194] seemingly offering comprehensive justification for the assertion that the public were ready for the legislation.

LEVEL OF SUPPORT FOR RESTRICTIONS ON SMOKING IN PUBLIC PLACES

Year	Work	Restaurants	Pubs	Other
1998	84%	85%	51%	82%
2000	86%	88%	53%	86%
2001	86%	87%	50%	87%
2002	86%	88%	54%	87%
2003	86%	87%	56%	86%
2004	88%	91%	65%	88.75%
2005	86%	91%	65%	88.75%
2006	85%	90%	66%	88.25%
2007	86%	94%	75%	92%

Source: 2007 Smoking Statistical Bulletins and Smoking-related Behaviour and Attitudes

[192] Gladwell, M (2000) The Tipping Point – How little things can make a big difference, Abacus, London
[193] Interview Transcript (2008) Ian Willmore
[194] Smokefree (2007) Awareness, attitudes and compliance three months after the commencement of smokefree legislation
  - A Summary Report, NHS, London

Road safety uses a variety of surveys to track public attitudes to road safety issues; the Think! tracking surveys, snapshot surveys such as the RAC Annual Report on Motoring, local authority conducted opinion polls and questions asked in the National Travel and British Social Attitudes Survey. However, **a dedicated yearly survey focusing on attitudes towards all aspects of road safety, conducted by a central body, would improve our knowledge of the playing field with which we are faced. Currently we rely on attitudinal data from a variety of sources making it problematic to accurately assess the often disparate problems we are facing in terms of perceptions and attitudinal beliefs. Introduction of an annual survey would serve to improve the knowledge base from which we all work and assist creation of effective and targeted policies.**

8.6 Political presentation and international pressure

Consultation with members of the coalition highlighted the considerable impact that international pressure had on facilitating the introduction of the ban. In addition to the clever framing of the message and successful breaking of the anti-ban lobby, the role of international political pressure should not be underestimated.

The then Health Secretary, John Reid, a lifelong smoker, was resistant to the need for a smoking ban in public places. Whilst persistent lobbying activity, overwhelming evidence, and assertion of public and industry readiness for the legislation, political will at the highest level still remained an obstacle. The introduction by Ireland in March 2004 of comprehensive smokefree legislation in all workplaces, including restaurants and pubs, with no allowance for designated smoking rooms and few exemptions put considerable pressure on the UK to follow suit [195]. If other countries were taking heed of the evidence base and considering it robust enough to implement legislation, then why was the UK government being so reticent?

The successful implementation of the ban in Ireland, a country with a strong tradition of social drinking and smoking, set a benchmark. Once this occurred it became almost imperative for the UK to follow and, with the accompanying evidence exemplifying public acceptance of legislation, this set a strong framework for the lobbying processes of the coalition.

Road safety, particularly in terms on the BAC limit, is presented with a similar situation. International pressure exists: the UK is one of the few countries in Europe to have a 0.8 limit, the evidence base clearly outlines the greater level of impairment at 0.8 as opposed to the more common 0.5, and the public attitudes and opinion appear to have reached a point where alteration of the law would be supported and in many quarters welcomed, giving it the validity and credibility it requires to succeed.

Simultaneously, the framing of the issue as one of **social inequality**, as undertaken by the coalition, is another for which parallels exist within road safety. In this instance, the coalition argued that anything but a complete national ban would lead to serious health inequalities. It was also emphasised in political quarters that the ban would be publicly acceptable, particularly if health inequalities would result otherwise. Highlighting the equality aspect of the problem produced two-fold behavioural and attitudinal results. It not only acted as a valid argument to support policy introducing a behavioural change in terms of public smoking habits, but also brought about an attitudinal change amongst policy makers, politicians and the public.

[195] Fong, G et al (2006) Reductions in tobacco smoke pollution and increases in support for smokefree public places following the implementation of comprehensive smokefree workplace legislation in the Republic of Ireland: findings from the ITC Ireland/UK Survey, in Tobacco Control 15 (Suppl III): iii51-iii58

Discussion with several consultees, frequently led to conversations concerning the image of road safety. The anti-smoking lobby suffered similar issues for many years. However, through persistent exemplification of the evidence surrounding health issues such as passive smoking, and through lateral thinking concerning how to target those that opposed smokefree legislation, perceptions were changed. This offers hope for road safety. Unfortunately, as one interviewee pointed out, **"Sadly we can't change our name and get rid of the 'safety' in road safety"**. We can though find new ways of presenting ourselves. We must continue to use the overwhelmingly supportive evidence on topics such as speed, mobile phones, impaired driving and seat belts, yet find new ways to frame this. The French successfully rebranded the issue as 'Road violence'[196] emphasising the criminality of road use violations. Conceptualising the issue as such does run the risk of making an already emotive issue excessively so. Conversely, it enables the topic of road safety to transcend the restriction of liberty arguments. **Those within road safety must allocate considerable thought to its holistic presentation. Individual campaigns are invaluable in educating and altering behaviour on the wealth of specific issues with which road safety is concerned. There may also be a need for the DfT to consider a campaign focusing more generally on considerate road user behaviour.**

8.7 Summary

Whilst provision of strategies and information regarding the implementation of the legislation was comprehensive and aided success in the immediate period preceding the introduction and subsequently, this achievement was built on a strong level of public acceptance. Indeed the mantra outlined by one consultee that **'you have to believe in the law not to take the risk'** [197] rings true. It took many years for the message that 'Smoking kills' to disseminate into public consciousness. This was achieved through almost continual lobbying and campaigning highlighting research findings and supporting this through the introduction of legislation on issues such as tobacco advertising and government run public information campaigns. The nature of the behaviour tackled may be remote from many of the problematic behaviours that road safety faces but there are overarching themes that can be transferred and principles which can be applied.

[196] Interview – Graziella Jost, ETSC
[197] Interview – Fiona Seymour (2008)

Household Waste Recycling

9.1 Key insights

- Ambitious targets can act as important drivers for change at the policy and political level.
- Understanding the starting position for the problem, the behavioural outcomes sought and the barriers impeding change will be fundamental to success.
- Using theoretical frameworks and segmentation approaches (psychographic and socio-demographic) to guide intervention can be very effective.
- Streamlined and consistent communications messages improve the chances of behaviour change.
- Ability to provide easily accessible resources and guidance to local authorities, particularly concerning communications interventions, is crucial.
- The community is an important and potentially powerful lever and mechanism through which to intervene.
- The provision of feedback has been an important determinant of success.
- Regularly updating and revisiting methods of intervention and models used to determine communications approaches is required.

9.2 Introduction

The growth and success of recycling initiatives in the UK led to its selection as the second external case study in this project. Again, although the behavioural change appeared to have occurred relatively rapidly, further investigation revealed the arduous process of behavioural change. Whilst the introduction of the ban on smoking in public places predominantly drew upon legislative tools, the approach to recycling whilst initially being largely dependent on persuasive powers is now piloting greater use of behavioural 'sticks' through waste incentivisation schemes.

Household waste recycling in England provides an interesting example of behavioural change as a result of a highly targeted and structured intervention programme. Until recently this success has been solely achieved without enforcement or monetary reward, instead based purely on persuasive measures or 'carrots'[198]. Within road safety, for many of the behaviours which we seek to target, such as fatigue, safe driving on rural roads and reducing aggressive driving, we have predominantly 'soft' tools available to us. Thus, it is of value to consider examples with similar approaches to public influencing and behavioural change.

Levels of household waste recycling have increased rapidly in the last five years now standing at 31% [199] in England, more than double the level of 2004.
The table below exemplifies the considerable progress which has been made.

HOUSEHOLD WASTE RECYCLING RATE
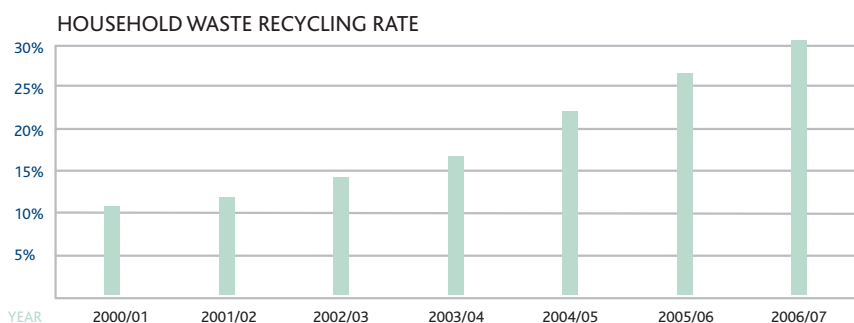
Source: Municipal Waste Survey 2007

[198] Demos/Green Alliance (2003) Carrots, sticks and sermons: influencing public behaviour for environmental goals, Defra, London.
[199] WRAP (2008) Summary Report: Barriers to Recycling at home.

At the same time, household waste recycling, though making dramatic strides in the last few years, is not a new issue; since the 1970s and the introduction of the first 'bring sites' with the bottle bank [200], the public has become conditioned to the issue of recycling. What is new is the emergence of the pro-environmental paradigm which has placed environmental and specifically sustainability concerns within the mainstream of political and policy considerations. This has occurred even more notably in recent years with the production of the Stern Review [201] and the Eddington transport study [202]. Recycling, for a long while associated with the extreme green movement, has benefited from the movement of environmental consideration to a central position in politics and society. Unlike other pro-environmental behaviours, such as modal shift, or lowering energy consumption, recycling is an area where relatively rapid gains could be made through incremental changes to people's lifestyles.

This belief was predicated on the existence of already considerable awareness of the benefits of recycling and the possibilities for integrating it into a daily routine and following a strategy of habit formation. Intriguingly, data from surveys undertaken on behalf of the Waste and Resources Action Programme (WRAP) revealed that over 70% of people already perceived themselves as recyclers, although investigation of household waste did not corroborate this [203]. Thus, the task of increasing household waste recycling was premised on converting this perception into reality; overcoming the so called value-action gap [204].

The table on the previous page indicates that the current intervention strategy is reaping rewards and recycling levels in England continue to rise. How has this behavioural change been achieved in such as short space of time?

9.3 Legislation, regulation and the contextual climate

In the 1990s, waste reduction in the UK appeared to have stalled, lagging behind the rest of Europe. The 1999 EU Landfill Directive, requiring the UK to reduce the amount of biodegradable waste going to landfill to 75% of 1995 levels [205] by 2010, 50% by 2015 and 35% by 2020 [206] provided a key statutory driver for change. The Directive arose in conjunction with the increasing concerns over sustainability, the current government's commitment in their 1997 manifesto to taking a lead on environmental issues [207], a lack of physically suitable sites for landfill and stiff public resistance to landfilling [208]. Thus combination of these factors ensured that tackling the waste problem became imperative.

Household waste became an obvious target for reduction. Although it only accounts for approximately 9% of total UK waste, a high proportion is landfilled and as demonstrated in the table opposite, recycling rates at the turn of the century were low. Hence there existed considerable room for improvement in a behaviour which in comparison to other pro-environmental behaviours appeared to have the potential for relatively quick gains to be made providing an effective strategy was undertaken.

[200] Open University (2007) Open University Household Waste Study – Factsheet 6. OU.
[201] Stern (2006) Stern Review: The Economics of Climate Change.
[202] Eddington, R (2006) The Eddington Transport Study, HMSO, London.
[203] Drummond. J and Gammage. N (2008) Increasing Home Recycling in England – An Illustration of seven key principles of social marketing. Proceedings of the World Social Marketing Conference 2008. http://www.tcp-events.co.uk/wsmc/downloads/breakouts/Tuesday/1200/Environment/J%20Drummand.pdf
[204] DfT (2006) A review of public attitudes towards climate change and transport: Summary Report. DfT. London
[205] Parliamentary Office of Science and Technology (2005) Postnote no, 252 – Recycling and Household Waste, HMSO, London.
[206] EU Landfill Directive 1999 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31999L0031:EN:NOT
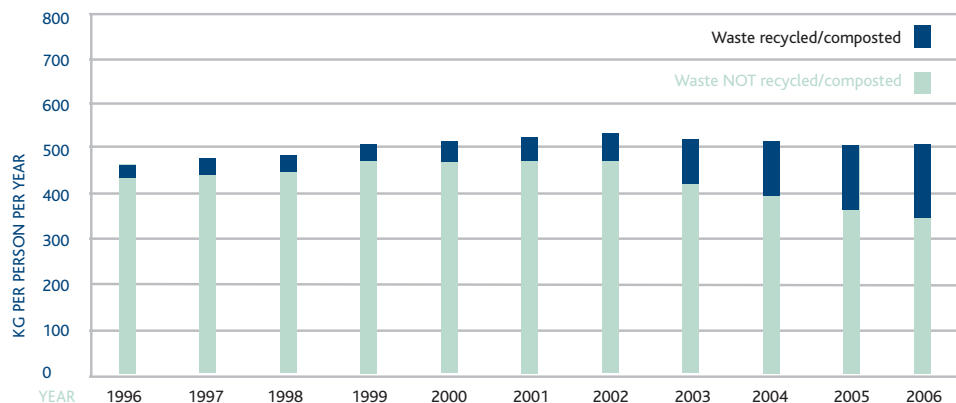[207] Jacobs, M (1999) 'Environmental Modernisation; The New Labour Agenda' Fabian Pamphlet 159, The Fabian Society.
[208] Barr et al (2003) Attitudes towards Recycling Household Waste in Exeter, Devon: quantitative and qualitative approaches. In Local Environment, Vol.8, No.4, 407-421, p.414

HOUSEHOLD WASTE AND RECYCLING, ENGLAND 1996 to 2006

■ Waste recycled/composted

■ Waste NOT recycled/composted

KG PER PERSON PER YEAR

800
700
600
500
400
300
200
100
0

YEAR   1996   1997   1998   1999   2000   2001   2002   2003   2004   2005   2006

Source: Municipal Waste Survey 2007

Subsequently, the DETR Waste Strategy 2000 [209] set out a target for increasing recycling of municipal waste to 30% in England and Wales by 2010. In the subsequent update of this, the Waste Strategy for England 2007 [210], Defra has extended these targets. They now state a desire to:

- Recycle or compost 40% of household waste by 2010
- Recycle or compost at least 50% of household waste by 2020

To enable these targets to be met, following publication of the 'Waste Strategy 2000' the government set up the Waste and Resources Action Programme (WRAP). This acknowledged that in order for progress to be made, there was a requisite need for a bigger market for recycled materials to be created, changes in infrastructure and also significant undertaking and dissemination of guidance required before more explicit public influencing, through communications campaigns, could begin.

The introduction in 2003 of the Household Waste Recycling Act [211], requiring all English local authorities to provide kerbside recycling collections for a minimum of two recyclable materials for householders by 2010, has been a fundamental stimulant of change. Research into recycling behaviour [212], which continues to evolve, has consistently highlighted the existence of kerbside collections as a key facilitator for changes in behaviour. Here the introduction of legislation has clearly paved the way for success, demonstrating the gains that can be made by matching knowledge concerning behaviour into tangible action through legislation.

"As might have been expected, 'access to kerbside recycling', greatly enhanced recycling behaviour, but so too did 'local waste knowledge', an index of individual knowledge of local recycling services. This implies that the effect of a convenient and well-understood kerbside recycling scheme can have significant behavioural effect." [213]

[209] DETR (2000) Waste Strategy 2000. DETR. London.
[210] Defra (2007) Waste Strategy for England 2007. TSO. London.
[211] UK Household Waste Recycling Act http://www.opsi.gov.uk/Acts/acts2003/ukpga_20030029_en_1
[212] Barr et al (2003) Attitudes towards Recycling Household Waste in Exeter, Devon: quantitative and qualitative approaches. In Local Environment, Vol.8, No.4, 407-421.
[213] Barr et al (2003) Attitudes towards Recycling Household Waste in Exeter, Devon: quantitative and qualitative approaches. In Local Environment, Vol.8, No.4, 407-421. p.414

In addition to a finding by the House of Commons Environmental Audit Committee that **"the need for action is accepted by all levels of Government, by the waste producers, the waste management industry and by sections of the public as well."** [214] tangible momentum for change existed, at all levels. Momentum exists within road safety on issues such as drink driving and young driver safety and we should build on this appropriately; in other areas we may be required to try and stimulate this momentum. As demonstrated in recycling, this often requires matching research and academic knowledge with practitioners and highlighting the spaces in which change can occur.

When considering public behaviours it is important to situate these within broader level models of behavioural change; recycling has been advantaged as a result of this, allowing the identification of the key role external influences have played in motivating change. Allied with political interest and public interest in environmental issues, this has facilitated success.

Unlike environmental issues, road safety currently does not appear to benefit from a groundswell of public interest, or popularity amongst politicians. To borrow from Downs's 'issue-attention' cycle [215], we may be experiencing a 'gradual decline of public interest', possibly due to our own success but also the myriad of competing issues vying for both public and political time. The success of recycling has been built on the pillars of political, public and legislative requirements for action, incorporating moral and ethical debates about our relationship with the environment. However, it has also benefited from an approach which has sought to fully elucidate the barriers, motivations and factors which affect recycling behaviour.

9.4 Understanding the barriers to change

Literature concerning environmental behaviour is voluminous. Recycling behaviour itself is the subject of a growing body of this, much of which has informed the current intervention strategy. Of particular value has been the body of work which has provided insight into the internal and external barriers and motivations to change and acknowledgement that for different segments of the public these varied. This was recently highlighted in a report to Defra in 2006:

"It is suggested that interventions first address external factors (most notably infrastructure and pricing) and then internal factors (eg. psychological or attitudinal factors). As well as working on multiple factors, interventions need to work on multiple levels – ultimately addressing society as a whole in order to achieve sustained change." [216]

Work prior to the introduction of the 2004 Recycle Now campaign identified that despite high levels of self-report recycling [217], relatively little was known about what to recycle or how, with considerable situational barriers hindering change. Those most likely to be 'high' recyclers (affluent, female, higher social grade) and those who were likely to be low recyclers (younger, male, lower social grades, renters) were also identified [218]. Hence, a clear picture of the recycling issue, and how best to tackle it, was drawn up.

[214] HoC Environmental Audit Committee (2003) Fifth Report of Session: Waste – An Audit. p.11
    http://www.publications.parliament.uk/pa/cm200203/cmselect/cmenvaud/99/99.pdf
[215] Downs, Anthony (1972). Up and Down with Ecology: The 'Issue Attention Cycle' The Public Interest, 28 (Summer), pp. 38-50.
[216] Darnton, A et al (2006) Promoting Pro-Environmental Behaviour: Existing Evidence to Inform Better Policy Making.
    Report for Defra CAD.
[217] NOP Research Group Limited (1999) What people think about waste. Available at
    http://www.wasteonline.org.uk/resources/WasteWatch/1999WhatPeopleThinkAboutWaste.htm
[218] Drummond. J and Gammage. N (2008) Increasing Home Recycling in England –
    An Illustration of seven key principles of social marketing. Proceedings of the World Social Marketing Conference 2008.
    http://www.tcp- events.co.uk/wsmc/downloads/breakouts/Tuesday/1200/Environment/J%20Drummand.pdf

The recycling community has further embraced the need for a segmented approach to intervention. Barr's Path Diagrams for Recycling Behaviour [219] provides a comprehensive, data rich framework to inform intervention. **Although much road safety literature exists concerning the relationship between attitudes, intentions and actions, particularly on speeding, relating this in a workable format for practitioners, on a variety of issues, is perhaps the key challenge.**

Since the creation of a WRAP and central to the Recycle Now approach, is the recognition that segments exist within the public. As previously outlined, work prior to the launch of the Recycle Now campaign identified the target segments whilst Barr's work [220] on behalf of Defra identified four different segments each with quite different motivations, barriers, attitudes and beliefs regarding recycling. The path diagrams recorded the complex relationships between barriers, motivations, attitudes, beliefs, intentions and indeed behavioural change. Both sets of work identified consistently cited barriers, which have subsequently influenced the approach to change [221].

- **cost**
- **convenience**
- **laziness**
- **lack of facilities/infrastructure**
- **lack of information and**
- **lack of trust in national and institutional authorities.**

The importance of the provision of facilities and the perceived provision of facilities has continually been cited as a predictor and facilitator of recycling behaviour, for many groups over and above environmental concern [222] [223]. This falls into line with theories such as Triandis's Theory of Interpersonal Behaviour which note the importance of 'facilitating conditions' in constraining behavioural choice [224]. Research undertaken in 2001/02 but recently published reiterated this;

"The findings suggest that householders are very willing to participate in recycling, as shown by the almost 80% claiming to recycle paper, but that local recycling services are too inconvenient to allow them to do so comprehensively." [225]

Perceived ability to successfully undertake an action (self-efficacy) was being lowered and intention to behave weakened by the provision of inadequate services and facilities. The introduction of kerbside collection requirements for local authorities in 2003, and expectations that the minimum number of materials collected in this manner will rise in the future, are making valuable contributions to improved recycling rates. In conjunction with the efforts of WRAP, helping to create a market for recyclables and working with local authorities to implement the legislative changes, the provision of better services at an infrastructural level have been crucial in targeting the situational barriers to change and improving household recycling rates. This is exemplified by current data. In 2008, 9 out of 10 households were served by a kerbside collection and recycling rates had risen to 33% demonstrating the merits of focusing on the more structural elements of behaviour. [226]

[219] Barr et al (2005) Promoting Sustainable Lifestyles: A Social Marketing Approach – Technical Paper. Stewart Barr et al at the University of Exeter for Defra CAD.
[220] Ibid. 219
[221] Ibid. 219
[222] Barr et al (2003) Attitudes towards Recycling Household Waste in Exeter, Devon: quantitative and qualitative approaches. In Local Environment, Vol.8, No.4, 407-421
[223] Knussen et al (2004) An analysis of intentions to recycle household waste: The roles of past behaviour, perceived habit, and perceived lack of facilities, in Journal of Environmental Psychology 24 (2004) 237-246
[224] Triandis, H (1977) Interpersonal Behaviour, Brooks/Cole, Monterey, CA>
[225] Martin. M, Williams, I.D and Clark. M (2006) Social, cultural and structural influences on household waste recycling: A case study. In Resources, Conservation and Recycling. Vol 48 (4) p357-395
[226] WRAP (2008) Summary Report: Barriers to Recycling at Home,

Perhaps the principles road safety can draw from this example are twofold; we must provide the information and the tools for change and tailor them to specific groups. We are very good at providing swathes of information but we should also consider how best to stimulate individuals to act upon this.

9.5 Putting knowledge into practice: structuring a cohesive communication campaign

Intervention approaches do not work in isolation: the communication of the change in service to the public is perhaps as important as the introduction of the service itself. Thus, effective public information and education campaigns have been vital in the rapid success of recycling. Preparatory work identified different levels of recycler and their differing motivations but also common barriers and motivators. Campaigns have built upon these and have sought to tackle both information deficit, dominant normative perceptions, such as that of the 'greeny' recycler, perceptions of difficulty and the value and impact of action. The main communication effort concerning recycling has taken the form of the WRAP sponsored Recycle Now brand. Launched in 2004, the Recycle Now campaign sought to:

"..provide consumers with the rational and emotional reasons to recycle more materials and encourage them to change their behaviour at a high level."

The provision of kerbside collections, in addressing the external conditions , solved one element of the problem; making recycling easier and more convenient, but from a communications standpoint, it was important to explain and inform the public of this service. This involved outlining the process of recycling, how easily it could be incorporated into daily routine and above all, the precise actions to be taken .

The initial phase of the Recycle Now campaign was targeted predominantly at those already recycling. The importance of the community and indeed the impacts of social norms help to determine recycling behaviour . By providing kerbside recycling facilities not only were the lack of facilities and ease of action barriers heavily targeted, but elements of social proof built upon. A study at the University of Surrey   identified that two of the factors most likely to determine whether an individual recycled were neighbours visibly recycling and feeling a social pressure to recycle (from their neighbours).

As the majority of the public already believed they were recyclers , the communications strategy aimed to get them to recycle more, and to get close to the levels at which they perceived themselves to be recycling, but also to re-inforce the social norm of recycling. Evidence supports the suggestion that Cialdini's injunctive and descriptive norms both function clearly within recycling: less committed residents who see neighbours recycling, through the placing out of the green box, often begin to recycle too. As with smoking, seat belt wearing and drinking and driving, the visibility of behaviour can contribute considerably to success when attempting to achieve a change.

[227] http://www.recyclenowpartners.org.uk/background.html
[228] Jackson. T (2005) Motivating Sustainable Consumption: A Review of Evidence on Consumer Behaviour and Behavioural Change.
[229] World Social Marketing Conference (2008) Presentation by John Drummond and Nick Gammage.
[230] Shaw. P.J (2007) Nearest neighbour effects in kerbside household waste recycling.
In Resources, Conservation and Recycling (2008) 52 775-784.
[231] Nigbur, D, Lyons, E, Uzzell, D and Muckle, R (2005) Increasing recycling through community action.
Guildford. Dept of Pyschology, University of Surrey.
[232] Environment Agency, 2002. Household waste survey.
Available at: http://www.environment-agency.gov.uk/commondata/acrobat/waste_1.pdf

9.6 Provision of information

As we know, provision of information alone does not necessarily lead to a change in behaviour nor does a change in attitude have to precede behaviour change. However, it is generally a required element. The Recycle Now approach has, through the provision of leaflets, websites, events, advertising and help-lines provided a wealth of material to the public. Interestingly, since 2004 the tone of communication has also changed noticeably. The idea of 'value', personal benefit and repeated exemplification of the ease of action have been central to the communications approach, in line with the barriers and motivations identified in previous research. At a consumer level Recycle Now and the subsidiary local authority approaches have used television, national print advertising, dedicated websites and events to increase awareness and interest in recycling issues.

Specification of the types of material to be recycled and how to do this has been provided on local authority and the Recycle Now website, doorstepping and information packs,. Having collections on a specific days and informing residents of this has enabled the integration of routine and subsequently habit into lifestyles. As seen in the seatbelt review, habit formation, for 'good' behaviours is very beneficial as it becomes a repeated action people undertake with little cognitive process. By making recycling 'easy', in conjunction with social proof and the behavioural cue of seeing others in a community put their green box out, individuals perceived ability to undertake an action has increased and recycling rates seem to have risen accordingly.

Change has predominantly been incremental progressing eventually towards a multiplicity of collection materials. Success has also been qualified by the base level and context into which the interventions have been inserted; they did not face widespread hostility and many people were already conditioned to the idea of recycling so that inherent advantage existed. The notion of incremental change is one from which road safety can take heed – we are faced with a difficult contextual environment and must accept that change, and introduction of change, may occur slowly.

In relation to environmental issues, people often feel they are able to identify a vast array of problems but relatively few solutions and therefore do not act, akin perhaps to Beck's 'Industrial Fatalism'.[233]

"We need to get out of the mentality that I'm not going to do anything because nobody else does"

Current recycling communications appear to be carefully avoiding this pitfall. Recycling, in communication approaches, is now treated as a distinct behaviour although set at a strategic level within the broader pro-environmental framework set out by Defra[234]. This makes both the problems (lack of available landfill sites, rising energy consumption, resource depletion and environmental destruction and the solution (recycling more by using the services provided by the local authority) more quantifiable and accessible. People can perceive the benefits and value the impacts of their actions more easily, hopefully increasing perceived levels of control over their behaviour. National level posters included slogans such as **"Exclusive. Recycled newspapers are used to make racetrack surfaces"** and **"In sixth months a bottle of house wine could be insulating your house"** [235]. Such material clearly identifies the value and impacts of recycling.

[233] Demos/Green Alliance (2003) Carrots, sticks and sermons: influencing public behaviour for environmental goals.
[234] Report for Defra. Defra (2008) A Framework for pro-environmental behaviours. Defra. London.
[235] Drummond. J and Gammage. N (2008) Increasing Home Recycling in England –
    An Illustration of seven key principles of social marketing. Proceedings of the World Social Marketing Conference 2008.

Making the links between behaviour and action is where road safety has simultaneously struggled (appropriate driving on rural roads, speeding) and succeeded (drink driving, seat belts). Similarly the mentality outlined above is one which is particularly dangerous on the road and we must make every effort to prevent a sense of futility pervading. People must believe that their actions will make a difference; in the phase of data suggesting that the public believe speeding and aggressive driving to be pervasive [236], this is something which we cannot ignore.

9.7 Consistency of message

One of the most interesting elements of the intervention programme has been the relationship between WRAP/Recycle Now and local authorities; the service provider. Work into effective communications strategies in 2001/02 found that:

"...an implementation gap exists because of a distinct lack of expertise in many WDAs and WCA[237]s in the multi-disciplinary skills required to plan and implement an effective marketing and communications campaign." [238]

In order to reduce the number of 'voices' offering communication messages on recycling, and to ensure that the identified principles formed the basis of campaigns, local authorities have been strongly encouraged to use the Recycle Now iconography and materials. With 90% of local authorities now using the Recycle Now branding [239] and the iconography now used widely in retailing, consumers are receiving a single consistent message on recycling, reducing confusion which had characterised previous information efforts.

A suite of tools, materials, guidance, training and support is provided by a dedicated website (recyclenowpartners.org.uk) and available through WRAP to ensure that effective local campaigns are being undertaken. This includes guidelines for planning of communications campaigns, practical implementation and use of the iconography and materials whilst guides cover a full range of communications activity with use of iconography and material free of charge. Further funding can also be applied for via WRAP, provided the Local Authority is using the Recycle Now framework. By using familiar symbols, colour schemes, graphic styles and layout, a strong brand identity has been created with an increasing recognition rate (over 60%) [240]. Providing recycling information via fewer, more comprehensive sources, confusion has been reduced and consistency achieved.

This structure has not removed the possibility for creativity or ignored the vital importance of a locally tailored approach, something with considerable parallels to road safety. There is a generic nature to the type of information provided via websites and leaflets such as how and why to recycle, process information and feedback data. Much of this material, however, is context specific. This supports findings on the role of community and near-neighbour effects on recycling behaviour. Provision of recycling communication material and indeed at a broader level much public information, needs to be highly context specific [241]. Luton Borough Council identified that participation in recycling amongst the town's Indian sub-continent communities tended to be lower than others. As a result they tailored a campaign specifically to suit the cultural and social background. A Bollywood theme was

[236] RAC (2008) RAC Report on Motoring 2008 Report One – 20 Years of Motoring 1988/2008, p.4, RAC. Norwich.
[237] WDA (Waste Delivery Authority) WCA (Waste Collection Authority)
[238] Mee, N et al (2004) Effective Implementation of a Marketing Communications strategy for kerbside recycling: a case study from Rushcliffe, UK' in Resource, Conservation and Recycling. Vol. 42 (1) p1-26.
[239] WRAP (2008) Summary Report: Barriers to Recycling in the Home. Downloadable http://www.wrap.org.uk/search_clicks.rm?id=5734&destinationtype=2&instanceid=638097
[240] Ibid 239.
[241] Mee, N, Clewes, D, Phillips, P and Read, A (2004) Effective implementation of a marketing communications strategy for kerbside recycling: a case study from Rushcliffe, UK. Resource Conservation and Recycling 42(1): 1-26

used on all material and at events, and written messages produced in both Gujarati and English[242], demonstrating the flexibility of the campaigns.

Road safety was the forerunner of a similar brand approach since the creation in 2000 of **THINK!** This approach has been hugely successful and a similar tension exists between the need for national level and locally tailored intervention.

Within road safety we already have unified branding through Think! Recycle Now, also using a unified branding approach, has benefited from a reduction in the number of communication messages and from the consistency of those produced. It is a model from which we can potentially learn; very clear specification for communication efforts is provided with a wealth of material available from one, identifiable source. Although the material concerning lessons plans and information on current and projected campaigns is available on the THINK! website, **PACTS believes that road safety could benefit from a deeper, more comprehensive resource providing wholesale guidance on conducting public information efforts.**

9.8 Group Learning and the Feedback Mechanism

Provision of better services and information provide an excellent basis for recycling success to be built on. Maintaining commitment to recycling and generating a long-term commitment to it may require a different set of approaches. Recycling is a social behaviour, as evidenced by it strong normative component, and one with a tangible level of group/community learning and interaction. Thus the possibilities for group learning, at all levels of recycling, are being considered.

Several strands of recycling research have emphasised these possibilities. The Global Action Plan (GAP) Ecoteams study, funded by Defra, brought together small groups of households from the same community and engaged them in discussion about the environmental impacts of everyday living. Participants were also required to weigh their rubbish and recycling and monitor energy use over the course of the programme. The report found that group or team based approaches had potential for all segments of recycler.

"For the greener segments (positive greens, waste watchers and concerned consumers) our findings suggest that team-based approaches are of demonstrable value for encouraging a shift towards greener lifestyles. Significantly more can be achieved within these groups…..
The localised deliberation and peer comparison inherent in a team-based programme such as EcoTeams could be very effective in encouraging cautious participants', to fit pro-environmental changes within their lifestyles." [243]

The EcoTeams work found that across all households recycling levels increased by 4.7% whilst 94% of people reported that they were doing more to reduce their environmental impact before and a similar percentage intended to continue with this. [244]

The potential benefits of group learning are numerous; making a public commitment to a course of action [245] or particular ideal ties an individual more strongly to a course of action , social pressure to conform, maintenance of a group norm/identity towards a behaviour and

[242] WRAP (2008) Local Authority Communications Case Study: Luton.
   Downloadable at http://www.wrap.org.uk/downloads/BCLF_Luton_9.9.08.8d69c209.5872.pdf
[243] Nye, M and Burgess, J (2008)
   'Promoting Durable Change in Household Waste and Energy Use Behaviour – Technical Report' Defra.
[244] Global Action Plan (2008) EcoTeams Evaluation Report. Global Action Plan.
   Downloadable at http://www.globalactionplan.org.uk/ecoteamsevaluation.aspx
[245] Oskamp, S, Harrington, M, Edwards, T, Sherwood, D, Okuda, S, Swanson, D (1991)
   'Factors Influencing Household Recycling Behaviour' in Environment and Behaviour, 23 494-519.

the potential to institute long term durable behavioural change. The level of facilitation is important – EcoTeams have been criticised for 'preaching to the converted' – but semi-facilitated groups offer a chance to include less committed members of the public, providing an opportunity for them to obtain locally specific information concerning pro-environmental behaviour whilst also exerting a form of social pressure.

Group learning offers considerable possibility for pro-environmental behaviour but can these principles be transferred to road safety?

Here the ground is unsure. For young driver training this may prove a fertile ground, but it may be harder to roll out to other areas for logistical reasons and due to the lack of a formal structure through which it could be arranged. **Perhaps what we can actually draw from this is the notion of a public commitment, the importance of community level intervention and the process of learning.** Evidence, particularly from Speed Awareness courses, suggests that people want and require better information about the driving task and that the foundations may already exist for group-based intervention. Furthermore, it is often at a very local level that individuals engage with road safety issues; note the actions of individuals for speed abatement or road engineering measures when considerable risk to both themselves and the rest of the community is perceived. If we can situate such feelings within the larger picture - the need for improved road use behaviour - there may exist foundations upon which we can build and potential for a localised intervention.

PACTS recommends that those working within road safety should investigate further the possibilities for group-learning approaches at a community level.

9.8.1 The feedback mechanism

As commented upon within the seat belt example, Cialdini [246], amongst other behavioural theorists, emphasises the importance of the feedback mechanism to behavioural change. Recycling, both in much related literature and its approach has embraced this concept.

Identified as the key to recycling success by numerous sources (Timlett and Williams 2008, Nigbur et al 2005, Nye and Burgess, 2008), feedback has and continues to be successfully incorporated into the WRAP/Recycle Now approach. Nigbur et al's work [247] found that communities responded well to feedback on their own recycling performance, particularly those who were identified as performing less well than others. Feedback approaches, through provision of data in leaflets, on websites, or collecting consumer responses through surveys and cards, is a cost effective and workable strategy. [248]

An Online Recycling Information Service (ORIS) is available on the WRAP website providing data on collection services for individuals, businesses and schools, and allows comparison of recycling rates with other local authorities. Similarly, local authority websites, most guided by Recycle Now stipulations, include sections updating consumers on their progress towards targets. By providing information on the amount recycled, recycling rate and resident participation and framing it within a target approach, it taps in to a series of behavioural motivations; competition, feedback and social norms.

At a more devolved level, the group approaches outlined above and door-stepping initiatives also offer mechanisms through which feedback can be given. Furthermore, the WRAP

[246] Cialdini. R (1998) Influence: The Pyschology of Persuasion, Collins, London.
[247] Nigbur D et al (2005) Increasing recycling through community action. Guildford: Dept of Psychology, University of Surrey.
[248] Timlett, R and Williams, I.D (2008) Public participation and recycling performance in England: A comparison of tools for behaviour change. In Rescources, Conservation and Recycling 52 622-634.

produced communications guide includes, as an essential component to any communication method the need to **'Acknowledge the efforts involved with recycling. Say 'Thank you for recycling.'** [249]

Some road signage already adopts this approach, thanking drivers for driving carefully through their area. **The feedback principle, recognising that people want to know how they are doing, and be acknowledged if they are doing well has experienced success within recycling. Further investigation into the merits of using this and group learning principles, should be undertaken within road safety, not just in relation to work with young drivers.**

9.9 Updating the evidence base and responding to change

Having placed segmentation approaches at the heart of the WRAP and recycling approach, there is an obvious requirement to keep this up to date and reflective of the real world. The ideal is to have all the population recycling at a committed level, with 64% of people in England now consider themselves to be committed recyclers[250], a self-report measure indicates success. A functional delineation of committed/non-committed recyclers is a far too simplistic measure with which to approach the problem. In order to keep abreast of the changing nature of the recycling issue and to identify the emergence of different segments facing different challengers, WRAP commissioned work to produce a new taxonomy of the population.

This has focused on a 'competence framework' approach as people move from being unconsciously incompetent through to consciously competent; a sort of stages of change model. Seven levels of recycler have subsequently been identified, providing a more nuanced classification from which subsequent intervention strategies can be built on.

The seven levels of recycler:

1. Recycling unaware
2. Aware but inactive
3. Contemplated but not engaged
4. Unreliable
5. Trying their best
6. Broadly competent
7. The complete recycler

Such work provides a very detailed insight into the barriers and factors that affect recycling behaviour for each group as well as providing socio-demographic detail. It has also underlined the importance of external influences at all levels – even the super committed recyclers felt that an extended or better service would improve their recycling abilities.

The framework, though effectively a stages of change model, recognises that the processes by which each segment moves through stages may well be very different. It also presents the difficulties of using a segmentation approach – the segments need to be updated very regularly to keep abreast of the situation and ensure communications are working effectively. Furthermore it must also be assumed that people will be able to 'jump' stages, and moreover that they will not all follow the same path to the end goal, or goals.

[249] WRAP (2008) Communications Guide.
   Downloadable at http://www.wrap.org.uk/search_clicks.rm?id=1973&destinationtype=2&instanceid=639125
[250] WRAP (2008) WRAP Business Plan 2006-08 Impact Review: Creating a World of Difference.
   Downloadable at http://www.wrap.org.uk/document.rm?id=5919

In conjunction with the detailed work on paths to recycling behaviour [251], it would appear that those within the recycling community have a good understanding of the tasks they and the individuals they seek to influence face. Road safety has adopted several forms of segmentation (typologies of seat belt wearers, speeders and drink drivers) – yet there is scope for this to be applied further but with the caveat that it involves a considerable commitment to updating the knowledge base at multiple intervention scales.

9.10 A need for sticks?

Levels of recycling have progressed rapidly in a very short space of time. In spite of this success, driven by EU directives and UK Government targets but achieved through acts of public influencing, provision of better services, information and encouragement, financial incentives are being considered to permit further progress. This is not only to increase levels of recycling but also to tackle the problem of waste minimisation where reduction efforts, despite the recently launched Love Food Hate Waste campaigns and a Courtauld Commitment with retailers to reduce packaging, have not been as fruitful [252].

The UK is currently the only member of the EU 15 countries which does not permit the use of waste incentivisation schemes [253]. In a 2007 Defra consultation on the issue, 80.5% of respondents agreed that local authorities should have the power to introduce revenue-neutral waste incentivisation schemes [254]. Evidence from other European schemes found that the best performing schemes could increase recycling to around 55% and reduce residual waste by 39%. [255]

Recycling has recognised that it requires more 'sticks' and acted upon a public and professional support base for these measures, with five pilot schemes expected to be rolled out in spring 2009. Alongside struggles to achieve modal shift, this highlights the importance of ensuring the 'sticks' which we do use are legitimate and effective as this plays an integral role in any success we do achieve.

9.11 Summary

With the creation of WRAP in 2001, wholesale change in the waste and recycling sector occurred. The subsequent success that England has achieved in raising recycling levels has been a product of numerous strands of work: excellent understanding of inhibitors and facilitators of behavioural change; a segmented approach; dissemination of best practice and guidance and continual reflection on successes and failures; responding creatively to problems; intervening at the communal and individual level and understanding the interaction between external and internal elements. This is not to say it is a perfect model – it suits the context in which it exists and there is still work to do in achieving consistency of service provision between different authorities and developing detailed and thorough research work in the academic and policy spheres.

It has, though, benefited from situating recycling behaviour within **a broader framework, acknowledging interactions at community and societal level, and prioritizing the role of external influences**. This exemplifies the role of societal behavioural theory models such as Gatersben and Vlek's Needs Opportunities and Abilities (NOA) [256] which elucidate the

[251] Barr et al (2005) Promoting Sustainable Lifestyles:
A Social Marketing Approach – Technical Paper. Stewart Barr et al at the University of Exeter for Defra CAD.
[252] WRAP (2008) WRAP (2008) WRAP Business Plan 2006-08 Impact Review:
Creating a World of Difference. Downloadable at http://www.wrap.org.uk/document.rm?id=5919
[253] Defra (2008) Waste Incentives Scheme: Draft Recycling Service Guidance
[254] Defra (2007) Summary of responses to the consultation on Incentives for Recycling by Households. Defra. London.
[255] Ibid. 254
[256] Gatersleben and Vlek (1997) in Darnton. A (2008) GSR Behaviour Change Knowledge Review – Reference Report:
An overview of behaviour change models and their uses.

complex interaction of the individual and society. Intervention thus must occur at multiple levels. Recycling appears to have done this well – a cultural and political shift towards pro-environmental behaviour, introduction of recycling facilities at work/school and in the home, creating markets for recyclable goods, targeting communities as drivers for change and tackling individual factors by making the desired action easy to understand and possible to incorporate into a daily routine.

Much of this success has stemmed from the presence of a publicly funded central body, in the form of WRAP. Within recycling there is a clear network for action. Local needs are not ignored and the value of partnerships and consistency of message ring true throughout.

"A core part of WRAP's work has been to research the plethora of schemes, to identify the most successful and cost effective and share this research with local authorities to help them design the best schemes for their local areas. WRAP has backed this work up with practical support on the technical design of collection schemes and effective communications to householders."

...Ultimately collection schemes are designed and run by local authorities who are accountable to their voters. It is not for WRAP to tell councils how to run their schemes. However as public confidence in collection schemes is such an important factor in their success, providing practical advice on the design of systems backed by solid evidence will continue to be a part of WRAP's work." [257]

Road safety may be unable or unwilling to introduce a similar structure or indeed may deem it inappropriate. However, the merits of a consistent message, a clear chain of command, and provision of wholesale guidance on all elements of the intervention process can clearly be seen in recycling. Road safety, with its myriad of stakeholders and sources of information, would benefit from efforts to streamline the process. In some instances this has already begun to be carried out, such as with Lincolnshire's fully integrated Local Road Safety Partnership and at regional level the Midlands Safety Camera Partnership. The need for easily accessible practical support for local or regional campaigns exists, particularly with regard to best practice.

[256] Ibid 252

Modal Shift

10.1 Key insights

- Full awareness of the needs, barriers and motivations of the target population for behaviour change.
- Use this information to tailor initiatives appropriately, targeting specific attitudes & groups.
- A multi-levelled and levered intervention 'mix' is required for behaviour change.
- Engagement with community and individuals are very powerful components of the behavioural change mix.
- Particularly where no enforcement tools exist, persuasiveness of message alone will not be enough. Continued support is required to deliver behavioural change.
- Seeking cultural change is ambitious but necessary. Political and social advocacy will help deliver theses changes.

10.2 Introduction

Whilst the previous two case studies have focused on apparent behavioural change success stories, modal shift and the Sustainable Travel Town projects present a different set of lessons for road safety. Modal shift efforts have a relatively short history and are reliant almost entirely on persuasive measures, convincing people to move away from car dependence. Initiatives utilised by the Sustainable Travel Towns exemplify the importance of community level intervention, support and engagement which are all of pertinence to road safety. Moreover there is significant overlap with road safety and vehicles through which road safety messages could be disseminated. In terms of behavioural theory being used to directly influence interventions, modal shift has tended to draw upon applied approaches such as segmentation with examples of interventions based explicitly on psychographic segments. Personal travel planning approaches have also recognised the validity of Cialdini's 'weapons of influence' and factored these insights into programme approaches. Stage models have also been used widely to map changes over time and determine initial population segments.

Transport and travel behaviours are some of the most challenging behaviours to tackle, with drivers and barriers to change extremely complex [258]. The need to alter travel behaviour, seeking a modal shift away from the car, has arisen and predominantly been framed within environmental and health contexts. However, the importance of adding personal benefit and value, as with recycling, is readily acknowledged.

"People were concerned about the environment...but when it came to it personal benefits were most important." [259]

The challenge to draw people out of their cars and onto alternative modes of transport is stiff; travel behaviour has a strong habitual component [260] and whilst attitudes towards the car are changing, the perceived necessity of the car and perceptions of viable alternatives remain significant barriers. A 2006 report found that

"Transport policies can set out to change attitudes directly as a route to behaviour change, or they can be indirect in that they aim to change behaviour **first** without necessarily changing attitudes." [261]

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[258] Anable (2006) Public Attitudes to Climate Change and Transport – Summary Report. DfT. London.
[259] Cat Ainsworth, Worcestershire County Council. Consultation Interview.
[260] Verplanken, B, Aarts,H and van Knippenberg, A (1994) Attitude versus general habit: Antecedents of travel mode choice. In Journal of Applied Social Psychology, 24. 285-300
[261] Anable et al (2006) Review of public attitudes to climate change and transport: Summary report

Here parallels with road safety behaviours such as seat belts exist. Breaking habits can occur through providing alternative behavioural cues, or through legislation and advertising and allowing the attitudes to alter subsequently.

Looking at the issue of modal shift, specifically the Department for Transport's Sustainable Travel Town initiatives and the concept of personal travel planning, is of interest to road safety for a number of reasons. Travel behavioural change faces a complexity of different attitudes and beliefs and relies heavily on the role of persuasion, due to its lack of 'sticks.' Akin to road safety, message conveyance is key – people are far keener to be pulled from their cars than pushed [262] with an emphasis on the personal benefits important. Furthermore, the personal and community level at which the majority of interventions have been targeted, as with recycling, circumnavigates the oft reported problem of futility in the face of a vast problem as in the case of climate change.

Modal shift is intrinsically bound to issues of the environment and health; climate change, resource depletion, an increasingly congested road network and rising levels of obesity and inactivity. Multiple government departments and stakeholders need to be involved in tackling the problem. The scale and scope of the problem requires cross-departmental working and there is a requisite need to situate the work within a safety context. If we are struggling to position ourselves adequately in the conceptual 'space' of both consumers and politicians, working alongside and integrally with travel change initiatives may well be a viable option. Whilst we may have to tread carefully to avoid 'war on the motorist' allegations if combining modal shift and road safety messages, there is real possibility and scope for involvement and investigation of the relationship between safety and sustainability. With the recent announcement of the UK's first cycle city, Bristol, and the addition of further Cycling Demonstration Towns clear overlap exists between the spheres of health, transport and the environment.

"Given the strengthening links between the transport and health sectors, particularly through the promotion of walking and cycling under the 'smarter choices' programme, the future closer involvement of health professionals within PTP projects is considered an important consideration. The health sector has extensive experience of social and dialogue marketing techniques from within their own fields – lessons from which could be applied to future PTP programmes to maximise effectiveness based upon experience in both fields."[263]

Road safety must factor itself into this equation. The focus is now firmly on sustainable travel. For transport to be truly sustainable it must be safe. Road safety resolutely straddles the transport/health boundary. We must ensure that road safety positions itself in the most adequate way possible to benefit from the groundswell supporting personal travel planning projects and modal shift initiatives and reiterate the importance of road safety in achieving sustainability.

10.3 Understanding the barriers to change

Traditionally, it has been argued that the only way to induce travel behaviour change is through tackling external barriers such as cost, quality and level of provision. Common barriers to successful travel change programmes have been identified as:

[262] Stradling, D.G, Meadows, M.L and Beatty, S (2000) Helping drivers out of their cars – integrating transport policy and social psychology for sustainable change. In Transport Policy 7 (2000) 207-215.
[263] DfT (2007) Making Personal Travel Planning Work. DfT. London.

- **External barriers** – economic constraints, low quality of alternative public transport, long commuting distances
- **Internal barriers** – perceptions of alternatives to the car, negative attitudes towards public transport, unaware of benefits resulting from sustainable behaviour
- **Habitual nature** of the decision-making process underlying travel behaviour patterns.

Moving away from traditional approaches the 'Smarter Choices' agenda [264] in the UK has been fundamentally concerned with looking at the importance of attitudes and behaviours and how travel behaviour change can be altered using 'soft' measures.

Efforts to alter travel behaviour have faced a difficult set and range of public opinions. Within travel behaviour, the value-action gap is strong. As the most recent RAC report found 65% of people felt that 'our dependency on the car is sustainable', but equally 66% of people also agreed with the statement that 'the increasing number of cars on the road is unsustainable. Anable (2005) [265] found that even motorists disillusioned with car use and aware of its environmental impacts believe that too many obstacles existed to change their transport habits. A recent RAC Foundation report [266] identified a rise in the proportion of people driving a car between 1993 and 2005, although strong support for developing public transport exists [267]. Furthermore, considerable barriers to public transport use also exist. Work looking at barriers to bus use identified eight different factors ranging from problems of cost, convenience and service provision to self-image and safety or personal security concerns [268].

Baseline behavioural research undertaken in the Sustainable Travel Towns reiterates the so called attitude-behaviour gap; in all three towns (Darlington, Peterborough and Worcester) there was unanimous support for policies which supported walking, cycling and public transport even if they disadvantaged the car. Similarly, very recent surveys have also highlighted this shift in mood on travel behaviour issues. The RAC survey reported that 62% of people would use their car less if public transport was better, compared with 30% twenty years ago, whilst the number of motorists who said they would struggle if they did not have their car fell from 87% in 2006 to 73% in 2008.

The importance of recognising attitudes and behaviours as segment specific has recently received considerable attention. The value of a segmented approach is beginning to be well understood. A recent report to the DfT commented that:

"..the evidence suggests behaviourally-based interventions can be significantly more cost-effective than traditional service delivery, and targeting resources can enhance this efficiency….The greatest potential for behaviour change is often at the margins, and this is not always recognised in the design of transport policy. Segmentation allows easy wins to be targeted, identifies various starting points for policy and provides a rich assessment of resource requirements, thus adding value to existing programmes."

"segmentation is a cornerstone of any travel behaviour change programme, regardless of whether that programme is attempting to change behaviour by changing attitudes first or not. [269]"

Previously the majority of travel change initiatives have segmented using an a priori approach. However, recent work has offered a psychographic segmentation approach to

[264] DfT (2004) Smarter Choice – Changing the way we travel. DfT. London.
[265] Anable. J (2005) Complacent Car Addicts or Aspiring Environmentalists?
Identifying Travel Behaviour Segments Using Attitude Theory. In Transport Policy Vol 12 (1) 65-78.
[266] Liebling. D (2007) Trends in Modal Shift: An analysis of the British Social Attitudes Survey. RAC Foundation.
[267] Anable and Gatersleben (2004) All work and no play? The role of instrumental and affective factors in work and leisure journeys by different travel modes. In Transportation Research Part A 39 (2005) 163-181.
[268] Stradling. S, Noble, A, Carreno, M, Jeffrey, G, Marshall, I (2004) Eight reasons people don't like buses. Transport Research Institute. Napier University.
[269] Anable et al (2006) Review of public attitudes to climate change and transport: Summary report.

travel behaviour [270]. Using data from a Scottish travel survey, Anable identified seven distinct psychographic groups, with varying degrees of mode shift potential.

- Die hard Drivers (20%)
- Car Complacents (20%)
- Malcontented Motorists (18%)
- Car Aspirers (9%)
- Car Sceptics (9%)
- Aspiring Environmentalists (16%)
- Reluctant Riders (7%)

The work identified that at least 40% of the population had a high propensity to switch modes, albeit for different reasons with the implicit assumption that the problem could not be tackled with a 'one size' fits all approach. For the most effective targeting, attitudinal data would have to be combined with geographical and demographic data. Practical implementations of psychographic segments do exist. A Personal Travel Planning (PTP) project in Liverpool seeking to change travel perceptions surveyed project participants' attitudes through a questionnaire and subsequently segmented them into six groups based upon the above classification. Different marketing approaches were then used for each group.

However, most PTP approaches within the UK currently tend to use other forms of segmentation in their approaches. In the Sustainable Travel Demonstration Towns, Peterborough and Worcester have used the TravelSmart/Indimark scheme which segments in a four part strata according to interest levels. In all stages so far, approximately 50% of respondents have registered themselves as interested [271]. Even those registered as not interested in the programme are often sent out 'eco-driving' packs, ensuring at least some appropriate information is disseminated. Darlington, using the Steer Davies Gleave model, did not conduct explicit segmentation but through the personal engagement with a personal travel advisor detailed understanding of an individuals transport needs, requirements and the existence of barriers are obtained.

Segmentation should be, and in various forms already is, the cornerstone of any road safety programme. Both to deal retrospectively with long standing road safety issues and to shape how we tackle emerging problems, segmentation approaches are useful. Utilising a combination of psychographic and socio-demographic and casualty data, they can help us to continually identify target groups but also their specific needs and issues. Using such approaches is potentially resource heavy and requires a considerable depth of research with concerns also raised in the travel behaviour change field about the benefits of such specifically targeted approaches to the wider population [272]. However, in road safety we are far further along the path towards behavioural change and for some issues, such as impaired driving, the problem is confined to a relatively small group of the population requiring highly tailored interventions.

10.4 Community and individual level intervention

Interventions tackling travel behaviour within the UK have predominantly occurred at an individual and a local level. The Sustainable Travel Demonstration Towns have been a high profile effort, funded by the DfT, to showcase 'soft measures' to promote walking, cycling and public transport reducing car use. This arose from the 2004 Smarter Choices document and which led to the selection of three towns - Peterborough, Worcester and Darlington. Subsequently the selected Demonstration Towns have used a suite of tools and approaches

[271] DfT (2007) Making Travel Planning Work. DfT. London.
[272] Ibid. 271

in a five year programme to change travel behaviour.

Such a strategy has focused upon the crucial importance of addressing local needs and context in a travel change programme, identifying unique barriers and motivations to change. All three projects conducted baseline behavioural research outlining the potential for change and identifying the behavioural and attitudinal starting points of the project. This found that, although infrastructural impediments to modal shift did exist, approximately 40% of current car trips were local and could theoretically be undertaken by alternative means through the provision of information and motivation.

Perhaps one of the most interesting tools used in travel behaviour change approaches is that of **Personal Travel Planning (PTP)** briefly referred to earlier on in this chapter. PTP is an approach to delivering targeted information directly to travellers to help them make sustainable travel choices. This method, seeking to overcome habitual use of the car, can and has been introduced in a number of contexts; school, workplace and the home. It allows identification, at an individual level, of travel behaviour and related attitudes subsequently influencing not only the tailored individual programme for change but also more broadly, community and city-wide interventions.

All three demonstration towns have adopted some form of this scheme. Although a relatively new approach within the UK, personal travel planning is an accepted and highly developed policy tool for intervention in Australia, where it is perceived as a stand alone intervention not necessarily dependent on infrastructure and service improvements [273]. The ability for PTP to exist as a stand alone effort supports the theory that around half of changes in behaviour relate to personal values and beliefs rather than external factors.

Different approaches to PTP have been utilised in each of the three towns. Darlington adopted a scheme which in phases targeted the entire population of the town whereas Worcester chose to focus on areas of the city with high car use. Similarly, the precise form of the personalised travel planning can vary; Darlington's Local Motion campaign used Team Local Motion Staff to contact at the doorstep all 40,000 households in the town, providing resources, information and support to stimulate behavioural change. Peterborough and Worcester sent out information packs and used predominantly phone contact to target smaller areas of the population. During conversations with travel advisers in Darlington, the most appropriate tools for changing travel behaviour were identified, for instance offering individuals the chance to loan a bike, join a car sharing club or use a journey planner to map walking routes [274].

Through such work, individualised travel marketing (ITM) as PTP approaches are sometimes also known, targets self-efficacy and attitudes, breaking down many of the subjective barriers to travel change. Recognising the importance of emphasising personal benefits such as cost reduction and health improvements of changing travel behaviour has been vital. Drawing on a leaflet produced by Worcestershire's **Choose How You Move** team to encourage cycling in the city, the literature focused on rebutting dominant attitudes and beliefs identified as common barriers to change.

"**Why Cycle?** Cycling saves money, saves time and will help you work towards a healthy lifestyle. Cycling is often quicker than using a car during peak journey times and there is never a problem finding a parking machine. Cycling will kick start your day and get you to work feeling energised and ready for the challenges ahead." [275]

[273] Seethaler. R and Rose. G (2006) Using the six principles of persuasion to promote travel behaviour behaviour change: Findings of a TravelSmart Pilot Test. 28th Australasian Transport Research Forum.
[274] SDG (2008) Delivering a town-wide ITM programme. Presentation to the Darlington Local Motion Conference.
[275] Worcestershire County Council Worcestershire Cycle Loan Scheme Leaflet.

Offering a free bike loan scheme tackled issues of cost, availability and perceived ability. Public information challenged the myths surrounding cycling and sought to give people the encouragement and motivation to undertake a change.

Focusing on small, incremental changes people can make to their travel behaviour and providing support, motivation and information on how to do this, has proved to be very successful. Currently all the travel towns have experienced reductions in car driver trips. Worcester after the first two stages of the **'Choose How You Move'** ITM programme recorded average car-use reduction of 12%, whilst Darlington's year three area found reductions of 8% amongst drivers and significant increases in walking, cycling and public transport use [276].

City-wide initiatives and events have been developed to complement the targeted individualised travel marketing. Worcester held free cycling events in local parks and produced walking maps for the city. Peterborough have created a Strategic Prioritised Walking Network, providing data for a variety of 'networks' such as health, education and transport, facilitating planning and ensuring that all stakeholders are 'singing from the same hymnsheet' [277]. Both cities' walking maps to support sustainable transport have been included as best practice in recent DfT/Walk England guidance on the topic [278] and demonstrate the need for multi-level approaches.

Individual level interventions can have effects beyond the target population, potentially refuting criticisms about the limited sphere of benefit accrued from such approaches (see above). Although Peterborough did not target its entire population, word-of mouth communication concerning its **My TravelChoice** PTP programme [279], in association with marketing campaigns, led to a whole town effect [280].

Potentially this can be viewed as an exemplification of the power of a 'nudge'. A nudge, as defined by Thaler and Sunstein, is 'any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives' [281]. Although travel behaviour change may not strictly qualify on the predictability of the change, by seeking to alter the 'default' option for travel behaviour through provision of information, support and incentives a strong nudge to individuals is being applied without restricting their ability to use their car if they so wish. The nudge effect can then hopefully be passed on relying on the principles that people's actions and thoughts convey information to others and people are subject to peer pressure and a desire to comply with social norms. With the 'whole town' effect demonstrated by Peterborough there may be signs that the nudging may be working.

The interventions being piloted by the travel towns, and recourse to the possibilities of nudge theory, only serves to reaffirm the role of the community in channelling knowledge and behavioural change as well as the merits of creating momentum behind an issue.

"...any travel behaviour change strategy will be more effective if it targets change at the community level. Community Based Social Marketing offers a strategic framework to transform markets and behaviours." [282]

[276] SDG (2008) Delivering a town-wide ITM programme. Presentation to the Darlington Local Motion Conference.
[277] DfT (2007) Walking Maps. DfT. London.
[278] Ibid. 277
[279] Sustrans/Social Data (2006) Peterborough: Sustainable Travel Demonstration Town – Interim Evaluation of ITM Programme (Stage 1). Sustrans.
[280] DfT (2007) Making Travel Planning Work. DfT. London.
[281] Thaler.RH and Sunstein.CR (2008) 'Nudge – Improving Decisions About Health, Wealth and Happiness.' p.6 Yale University Press. London'
[282] DfT (2006) Review of public attitudes to climate change and transport: Summary report. p.3 DfT. London.

10.5 Incentivisation, Commitment and Reciprocity

Travel behaviour change interventions have drawn heavily on **incentivisation**, **commitment** and **reciprocity** – all persuasion tools identified by Cialdini [283]. Commitment is tied in with desire to be consistent. Once an individual has made a commitment to do something, it is likely that commitment will guide further action, particularly if they recognise that the commitment is consistent with their own values. Furthermore, a relatively small initial commitment can result in bigger, often not directly related requests being accepted later in order to maintain the consistency requirement [284].

In terms of the STT's initiatives, asking people to make initial small changes to their daily lifestyles, such as altering one trip a week, can be built upon to lead to much more comprehensive changes later on. Accepting information distributed as part of the PTP programmes, or speaking to a door step travel advisors, such as Darlington's local motion teams, may lead to a feeling of commitment to further involvement in the programme.

The Darlington scheme approached people initially through a hand-delivered introductory letter followed by a house call by a personal travel adviser. Usually at the end of each conversation, the adviser would state that they were going to send certain material to the individual/household, and that the individual would then look and see if they could try out certain changes. This exchange built on the notion of reciprocity.

In relation to road safety and road use, the notion of reciprocity is an interesting one. A DfT report considering the issue of respect on the road found that **"..disrespect was thought to be much more common and widespread on the road than off it."** [285]

The report also argued that the security and isolation of car use obstructed the 'community' effects of their actions. The isolating experience of a vehicle seemingly challenges the principle of reciprocity and instead focuses explicitly on the needs of the individual. Road user behaviour is fundamentally social but many are perhaps ignorant, willing or not, of this element. Challenging the isolation of vehicle use and trying to build upon the idea of reciprocity is a very difficult task, particularly as many of the behaviours which constitute disrespectful driving are perceived as being widespread and the safety rationale of them poorly understood, such as breaking the speed limit by a small margin. **Further investigation needs to occur to look at the possibility of undertaking communications which challenge these perceptions, with the level at which this may be most appropriate being that of the local community or the region.**

There may also be potential to build upon the **commitment-consistency** mechanism within travel behaviour change programmes, integrating other pro-environmental or indeed road safety requests. Peterborough has encouraged households to sign up to the 'good going' pledge in an attempt to secure long-term commitment, whilst Darlington encourages all residents to join the Local Motion Club [286]. Both build upon commitments already made but also provide an extremely useful method, external to formal education and the workplace, through which individuals can be contacted.

Incentivisation is also an important component of any travel behaviour component. All three towns have used gifts both during the pre-intervention stage and to reward successful

[283] Cialdini. R (2001) Harnessing the science of persuasion. Harvard Business Review, 7915, 71-80 referenced in Seethaler.R and Rose. G (2006) Using the six principles of persuasion to promote travel behaviour change:
Findings of a Travel Smart pilot test. 28th Australasian Transport Research Forum.

[284] Seethaler. R and Rose. G (2006) Using the six principles of persuasion to promote travel behaviour change:
Findings of a TravelSmart pilot test. 28th Australasian Transport Research Forum.

[285] DfT (2006) Respect on the road. DfT. London.

[286] Darlington (2007) Local Motion Update.

change individuals and households such as Darlington's Medal Motion awards and distribution of free bags at community events. The initial offer of a gift or material aims to induce deliberation in the target group and may encourage the trial of positive behaviour. Schemes such as 'Medal Motion' try to reinforce this positive behaviour and increase the likelihood of this being continued.

Although the Sustainable Travel Demonstration towns appear to have been very successful through provision of information and using a suite of engagement tools, in particular, the success of Worcester is intricately bound to the provision of a better public transport infrastructure. Working alongside the sustainable travel initiatives, the city has introduced a new simplified bus service, identified by colour coded routes with considerable advertising and vastly improved timetable information available alongside journey planning facilities on the bus providers website. Thus, it is difficult to separate out the impacts of the infrastructural changes and the specific Choose How You Move initiatives. **Perhaps what can be inferred is that in any behavioural change programme, pioneering a package of measures, addressing external, internal and structural factors affecting travel behaviour, is imperative.**

10.6 Cultural change

The ability to secure long term success in travel behaviour change poses an extremely difficult challenge. The Sustainable Travel Demonstration Towns, cycling city and travel planning initiatives will only be considered successes if the interventions they have pioneered can be shown to effect real change and subsequently be applied as best practice elsewhere.

A good start appears to have been made, although the barriers are plenty. The Sustainable Travel Demonstration Towns appear to have demonstrated the potential for cultural change and the validity of cultural capital.

Within the pro-environmental sphere cultural capital has the potential to induce change. Cultural capital is developed by our interaction with the immediate environment around us and the wider society influences acting upon us [287]. Modal shift initiatives are well positioned to benefit from both. Active engagement and community interventions, identified as being key to building cultural capital, are integral to almost all interventions, particularly so in the designated travel towns whilst political support and demonstrable role models for sustainable travel are easily identifiable. The introduction of workplace travel plans and securing the support of local employers and trusted organisations can often help to build cultural capital. In Worcester, major local employers such as NPower, Worcester Bosch and the University have expressed interest in and support for sustainable travel, further adding validity to projects and providing another source of social reference for individuals [288].

A Cabinet Office report on the topic of cultural capital noted the following: "Similarly there is an important role for political leaders to lead by example as exemplars of the social norm. [289]"

Sustainable travel and modal shift approaches have benefited from political exemplification but also active engagement and community level intervention with the individuals behaviour who they seek to change. Road safety faces a different task in relation to building cultural capital although the principles hold true: we need stronger political exemplification of the social norms and we must extend ourselves and place citizen engagement at the heart of intervention programmes and policy creation.

[287] Cabinet Office (2008) Achieving Cultural Change – A Policy Framework. Cabinet Office. London.
[288] Consultation Interview – Cat Ainsworth.
[289] Ibid. 287

10.7 Summary

Recycling and modal shift approaches have repeatedly demonstrated the need to explicitly understand barriers to change and the complex mix between internal and external factors. Road safety interventions and marketing campaigns already undertake similar work. However, in order to offer greater clarity on the various situations with which we are faced, at a local level road user behaviour questions could be integrated into travel planning interventions in order to obtain more comprehensive data on beliefs and attitudes concerning road safety. This could subsequently be used in conjunction with available casualty data to identify key targets groups and barriers to change.

Conclusions

The aim of this project was to investigate the approaches taken towards behaviour change both within road safety and in other public policy spheres. As part of this it has sought to identify the mechanisms through which the public are influenced, the relevance of public attitudes and the potential for behavioural models and theory to be used in interventions.

The case studies have attempted to detail the relevant aspects of behavioural theory that have matched the behaviour change, and identified examples where models have been drawn upon.

This section, in line with initial aims, attempts to draw out the key factors and lessons that road safety efforts can heed with regard to successfully achieving behavioural change. These recommendations are, for the most part, aimed at all those within road safety, as they are applicable to most streams of work and organisations. We are all involved in efforts to make our roads safer and the following recommendations are aimed at a general level seeking to improve our processes and abilities.

11.1 Road safety effort should continue to utilise an 'intervention mix' and to deliver this at a variety of scales.

As shown in all the case studies, change and success cannot be attributed to nor achieved through stand-alone measures. Road safety issues in particular require multiple interventions and coherence between a variety of different stakeholders for success to be achieved. Interventions incorporate vehicle technology, education, public information, legislation, enforcement regimes and engineering and infrastructural methods. Recognising the cultural and social context of these interventions is integral to success as they influence the attitudes, beliefs and values which impact upon behaviour. The relative mix used will alter with scale, target group, issue and desired behaviour. The outstanding need for a mixture of interventions will, however, remain.

11.2 Ambitious targets drive and stimulate progress. Adopting more specific road safety targets in the next Road Safety Strategy will help focus efforts on groups and issues where we continue to face challenges.

As can be seen with recycling and the ambitious EU Directive on waste, and in road safety with the 2010 casualty reduction aims, targets have the ability to drive forward change.

"Targets that are based on a comprehensive road safety vision communicate the importance of road safety, motivate stakeholders to act and help hold managers of the road system accountable for achieving defined results. Targets indicate that the government is committed to reducing the road toll and is likely to support proposed policy and legislative changes and allocate sufficient resources to safety programmes. Target setting is recommended as useful for all countries attempting to reduce the road toll."[290]

Targets form an important part of any policy strategy and give direction and focus for efforts as well. They communicate effectively to the public and those charged with delivering the strategy the desired outcome.

[290] OECD/ITF (2008) Towards Zero – Ambitious Road Safety Targets and the Safe System Approach. p.14 OECD/ITF

11.2.1 As we move further forward PACTS suggests the inclusion of intermediate and subsidiary targets in the next road safety strategy.

Norway has already pursued this path. They have included targets on aspects such as the share of traffic complying with speed limits, seat belt wearing within and outside of built up areas and the share of vehicle kilometres performed by drivers impaired by alcohol or drugs[291]. On many issues we are targeting increasingly specific groups – assigning an appropriate target helps break down the top-line casualty reduction goals, allowing resources to be focused in the most important areas. For example, as those in the 17-25 year old age band are widely acknowledged as a high risk and difficult group to reach, a specific target for this group may lend greater focus on efforts to tackle this.

11.3 We should seek to place the recipients of policy at the heart of the policy creation process.

This recommendation ties in with the notion of improved engagement. As we have commented, a population should not be seen as blank canvas upon which policy is projected [292]. For effective policy making, citizens must be placed at the centre of the process, so they are able to influence and understand the outcomes. Fully involving citizens can help policy makers better understand the challenges they face and validate solutions and interventions. It can also create a greater sense of commitment and involvement with the policy approach and its goals. As we have seen in the modal shift and recycling case studies, this sense of personal engagement and responsibility can substantially aid the behavioural change process.

"In Western Australia we used the development of a new road safety strategy as the agenda for a 12 month dialogue to engage the community, opinion leaders and political leaders on the nature of the road safety problem, the safe system approach, a possible long-term vision and the range of effective counter-measures available. As a result the community not only understands but supports our 'Towards Zero' policy shifting the whole level of ambition for road safety." [293]

We are beginning to move towards such an approach. It is imperative that we continue along this path, however difficult. It will ensure road safety is better understood by the population and the product of wholesale consultation.

11.4 Consideration of the attitudes and opinions of the public is vital. In many instances it can be a powerful driver of change and demonstration of willingness for change, in other cases it can be a notable hindrance to success.

As the Smokefree example aptly demonstrated, comprehensive understanding of 'public' attitudes is important and can be used to convince those in government that the mood is ripe for change. Having a tracking mechanism such as the Smoking Related Behaviours and Attitudes Surveys provided an excellent insight into the variety of opinions held on the subject and the most appropriate methods in which to frame messages.

11.4.1 In light of this, PACTS recommends the creation of an annual Road Safety Related Behaviours and Attitudes Survey to be conducted by the DfT to stand alone from surveys currently conducted by Think! and to cover a wider range of road safety issues.

[291] Ibid. 290
[292] Darnton, A (2008) Reference Report: An overview of behaviour change models and their uses. GSR. London
[293] OECD Press Release (2008) Eliminating Deaths and Serious Injuries in Transport.

This will help us to better understand if differences exist between vocalised opinions and the attitudes and beliefs held by the population.

11.5 We must provide and present clear and coherent evidence. This will legitimise our efforts to the general public, politicians and policy makers.

The value of a convincing and well publicised evidence base came through emphatically throughout the study. Coherent evidence is a fundamental component for successful behaviour change and effective public influencing. In relation to speeding this is especially true and has been outlined specifically in the relevant chapter. This principle should be applied throughout road safety. The body of research on most road safety issues exists and where it is emerging we should only present that which has been peer-reviewed and is transparently soundly based. The problem appears to lie in how we present our evidence and how widely, especially on complex issues such as speeding, individuals understand and are aware of the evidence.

Solid, clear evidence gives demonstrable legitimacy to road safety issues and our methods of implementation and can play an important part in encouraging compliance. It will also enable use to justify interventions and refute accusations more adeptly. This should lead to greater trust in authority, which should help in the bid to improve the safety of our roads.

11.6 Opportunities to work with new partners and stakeholders should be siezed at all levels. Road safety must position itself adequately to take advantage of the emergent focus on sustainable travel and public health.

Many of the issues road safety will face in pursuit of these goals will be of our time – issues which will challenge all of society but have serious impacts upon road safety too; obesity, an ageing population, rising oil prices and changes in the nature of transport use.

We should consider the behavioural shifts we desire within road safety and acknowledge how they are affected by developments in other areas. Greater integration and more involved working with other key areas, such as public health, will be required. There is evidence that this is already happening. The National Institute for Health and Clinical Excellence (NICE) have made two recent incursions into road safety demonstrating the substantial linkages. In 2008 NICE released public health guidance on creating environments to encourage physical activity[294], and announced their intention to develop intervention and programme guidance on the prevention of unintentional injury in children under 15. Similarly, reports by the Chief Medical Officer, Liam Donaldson, have also included reference to alcohol and young drivers whilst the Children's Plan, released in December 2007 by the Department for Children, Schools and Families included a recommendation to **"encourage local authorities to create 20mph zones, where appropriate, because they can reduce child pedestrian deaths by 70 per cent"** [295]

Undeniably road safety needs to integrate itself with other public policy spheres and indeed other elements of transport. As seen with personal travel planning approaches considerable opportunities exist for integration. Working with new stakeholders will also help to ensure that road safety is high on the policy agenda. Joined-up thinking and an inclusive approach are vital for the future of road safety.

[294] NICE (2008) Promoting and creating built or natural environments that encourage and support physical activity, NICE, London, p7
[295] DCSF (2007) The Children's Plan – Building brighter futures, DCSF, London, p7

11.6.1 We recommend that cross-policy efforts on all aspects of road safety continue to be made. Joint projects and exchange of data with health organisations such as the Department for Health, NICE and the BMA should be encouraged.

11.7 To tackle political apathy we should identify road safety advocates in the political and business spheres. This can help to stimulate cultural change, encouraging a shift towards more considerate road use and helping to alter social norms and attitudes on issues such as speeding.

"Improving road safety requires strong political will on the part of government." [296]

Environmental problems have increasingly been blessed with strong social advocacy with leaders in the business, political and cultural spheres demonstrating a strong will to change the status quo. The Smokefree campaign benefited from determined and influential advocacy through sure footed intervention by supportive members of both houses, and in the end political leadership. Seat belt wearing was enshrined in legislation initially on the part of Barbara Castle. Drink driving for the most part has also been characterised by considerable political will. Campaigns against speeding have benefited less from this advocacy and indeed the anti-speed camera lobby have often been much more vocal in their opposition. The success achieved by France provides a counterpoint to this and exemplifies the importance of high-level political commitment and its ability to mobilise society.

Similarly, advocates in employment and business will also be important in achieving cultural change and support for evidence-based road safety interventions.

11.8 Road safety needs to improve awareness and understanding of behavioural theory and its relationship with road safety issues.

Behavioural theory should not be considered as a magic bullet, use of which will prove the answer to all problems. Models and theory act as a guide, attempting to explain the nature of the behaviour. Most theories do not outline exactly how changes can be achieved, instead identifying influencing factors, the behavioural process or how behaviour may alter over time. In spite of these limitations they can provide a useful framework for intervention, as seen with Road Safety Scotland's use of the Theory of Planned Behaviour in their Foolspeed campaign, particularly with potential they provide for an evaluation structure. In this vein, this report does not advocate the use of a single model or theory. However, it recognises the importance of identifying potential future applications in road safety of the different models and elements of theory that have been outlined.

The type and level of knowledge, skills and competencies required by those providing road-safety related interventions will differ. In spite of this, PACTS believes that some aspects are central to activity such as the knowledge of the full range of different approaches to behaviour change and an ability to use evidence from research and practice.

For road safety professionals there are currently relatively few training options; a road safety NVQ and a Three-Phase development programme provided by the National Staff Training Group. Relatively speaking there are fewer legislative changes to be made in road safety. Technology and enforcement can only take us so far, thus understanding people's behaviour and their attitudes, beliefs and values, and implementing this knowledge throughout our

[296] Kofi Annan (2003) in SWOV (2006) Advancing Sustainable Safety: National Road Safety Outlook

intervention approaches is pressing. In other public policy arenas, this approach has already been significantly developed; Defra have produced a comprehensive framework for understanding Pro-Environmental behaviour and this will underpin their current and future policy strategy. Some organisations and institutions within road safety have already placed considerable emphasis on understanding behaviour and how this affects intervention.

11.8.1 However, in order to hasten this work and roll it out more widely and systematically PACTS recommends the creation of a new national training course or centre aimed at providing a comprehensive grounding in behavioural theory and models, their relation to road safety and how they can be used to improve intervention methods.

11.9 Effective evaluation is vitally important. This element particularly would be enhanced by the use of theoretical models to act as a framework to identify outcomes and aid the evaluation procedure especially in relation to education and communication programmes.

Evaluation guidance and best practice regarding public information campaigns at a national level is somewhat sparse. That which does exist tends to be at an EU level and supports the need for a theoretical basis for intervention. The SUPREME [297] and ROSEBUD [298](Road Safety and Environmental Benefit-Cost Effective Analysis for Use in Decision-making) projects and the Global Road Safety Partnerships have produced guidance on evaluation of campaigns and all include a recommendation for the use of theory.

This is apt when recognising the diversity of communications material on road safety topics and the influx of theatre in education programmes, such as the DSA's 'Arrive Alive'[299] and the various 'Safe Drive, Stay Alive' programmes [300]. Innovative approaches to road safety education are welcome. However, when using such highly emotive subject matter and approach, drawing on research and theory will supplement effective evaluation of the impacts of such programmes, adverts and educational material. Tracking groups beyond their engagement with theatre in education programmes, looking at accident rates or alterations in attitudes is important in understanding their impact and effectiveness.

11.9.1 PACTS recommends that the DfT considers the production of new best practice guidance, with a focus on evaluation methods, for road safety education and public information campaigns. Although this should be funded by central government, it could be provided by an independent body along similar lines to the National Institute for Clinical Excellence (NICE) with respect to the Department for Health.

11.10 Providing clear, consistent messages to the target population including having greater awareness of the work of others.

Advertising and information campaigns are undertaken at many different levels and research processes similarly occur in many arenas. Comprehensive research is being used much more widely to inform campaigns; 'Best-Mate', the recent collaboration between LARSOA and BSM

[297] European Commission (2007) SUPREME - Summary and publication of best practices in Road Safety in the EU member states, EC, Brussels.
[298] http://partnet.vtt.fi/rosebud/
[299] http://www.arrivealive.info/
[300] http://www.safedrive.org.uk/

was based upon research investigating young people's perceptions of safety and driving [301]. A series of adcepts were also tested to identify those with the most potential to use in publicity campaigns.

It is clear that innovation and will are both strong within road safety and much detailed and considered work is going on. We do, however, have many different organisations and stakeholders involved in road safety education and advertising. At times, it can feel as if we are struggling to keep track of the work that has been and is going on, particularly in relation to advertising, publicity and education campaigns.

The work of WRAP and Recycle Now demonstrated the merits of creating a central pool of resources and extensive campaign guidelines and best practice. In road safety we do have innovations such as the 'TimeBank' scheme, a legacy project of the Beacon councils, but due to the broad range of organisations involved in road safety education and public information, we need a wider resource than this.

11.10.1 PACTS recommends that the DfT create a database of all advertising, educational and publicity campaigns. This will not only make it easy for individuals and organisations to track and learn from others' work but also permit clearer identification of work streams that are being undertaken in parallel and associated research.

This will ensure that we establish consistent, accurate and clear messages using approaches identified as competent and will be better aware of other road safety communications work going on at national, regional and local level and in the public and the private sector.

11.10.2 PACTS recommends the DfT produces regular syntheses of research, particularly for those relating to communications and research, in a similar vein to the Traffic Advisory Leaflets (TALs) that they currently provide.

The communications sphere particularly would benefit from better dissemination and awareness of relevant research. Practitioners consulted suggested that the range and nature of material available can often prove inhibitive. Although some road safety research reports may be unsuitable for dissemination to local authorities and other agencies there are a great many that are. Research needs to be presented in an accessible format with greater emphasis on practical applications.

11.11 Increased attention should be given to the importance of community.

Road safety should give greater focus to the potential of community level approaches. In both recycling and Sustainable Travel Towns the value of community level intervention has been reiterated. Such approaches can be tailored to local needs but also improve the likelihood of a change in behaviour. This can arise through an increased sense of commitment to an outcome, greater belief that changes can make a difference to a large problem, the potential for social learning, provision of a forum for discussion and a sense of engagement and support which is often otherwise lacking in road safety.

The value of community interventions within road safety has also been reiterated by the Neighbourhood Road Safety Initiative final report which identified the success of road safety

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[301] LARSOA/BSM (2008) Connecting with Young Drivers.
http://www.larsoa.org.uk/larsoa/news/features/assets/YOUNG_DVR_RPT_1.10.07.pdf

committees and champions in Liverpool and Sandwell respectively[302]. The NRSI approach focused on disadvantaged areas and child road safety but the conclusions of the project can be more widely applied throughout the sector. The final report from the central team argued that:

"Effective working in such neighbourhoods involves engaging with the community, often through the medium of established groups and organisations, to find out at first hand the real issues affecting the area, how these can be tackled, and what messages would be appropriate...

The NRSI initiative has left a legacy in that road safety has both a higher strategic profile and also a greater neighbourhood and community focus."[303]

Thus evidence both internal and external to road safety highlights the role that the community should play in future efforts to bring about behaviour change in road safety. Those within road safety must also identify at what level they are defining 'community'. Communities can occur at a range of spatial scales or be formed along lines of gender. age, road user type or workplace. In order to intervene effectively we need to identify which communities we are engaging with, and why.

11.12 We need to look for new ways to engage with the public, recognising the importance of feedback and support.

Recycling and modal shift initiatives have particularly highlighted the importance of the provision of feedback and support in changing behaviours. Enforcement, though an important part of road safety, can only extend so far.

Currently Speed Awareness Courses provide a rare opportunity for feedback on the driving task and personalised engagement on road safety issues. However, these occur post-violation and only in relation to speed issues. The greatest opportunity for further driver training and road safety education for adults lies in the workplace. This can be incorporated through fleet training or in personal travel planning initiatives. Further resources should be directed to providing education and driver training through employment or in locally run schemes.

11.13 Achieving behavioural change is an intrinsically difficult process which occurs over a long period of time. We are moving in the right direction but there clearly remains far more to be done to maintain our current progress in cutting casualties and improve upon it. This report has sought to provide an indication of the directions that we need to take to achieve this.

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[302] DfT (2008) Road Safety Web Publication No.6. Neighbourhood Road Safety Initiative, Project Management Consultancy Services: Final Report. http://www.dft.gov.uk/pgr/roadsafety/dpp/neighbourhoodroadsafety/nrsiprojectmanagement.pdf
[303] DfT (2008) Road Safety Web Publication No.7. Neighbourhood Road Safety Initiative Central Team: Final Report. http://www.dft.gov.uk/pgr/roadsafety/dpp/neighbourhoodroadsafety/nrsifinalreport.pdf p.41

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