

Delivering soft measures to support signs-only 20mph limits

Report on research findings

Sarah Toy
Research Fellow
Bristol Social Marketing Centre,
University of West of England
June 2012

Contents

Executive summary.....	7
1.0 Introduction.....	10
1.1 Background.....	10
1.2 Purpose of the study.....	10
1.2 Methodology.....	10
1.3 Report structure.....	11
2.0 Literature review.....	12
2.1 Research question and search terms.....	12
2.2 Benefits of 20mph.....	13
2.3 Policy context – limits or zones?.....	15
2.4 Making sense of driver behaviour.....	17
2.4.1 Attitudes to residential speed limits.....	17
2.4.2 Justifying speeding behaviour.....	17
2.4.3 Social norms.....	18
2.4.4 Perceived risk and control.....	22
2.4.5 Information and cues.....	23
2.4.6 Authority and enforcement.....	23
2.4.7 Who speeds and why?	24
2.4.8 Gap between attitudes and behaviour.....	25
2.5 Effective soft measures for influencing speed choice.....	27
2.5.1 Normative social influences and posted feedback.....	27
2.5.2 Organisational culture.....	28
2.5.3 Mass media and social advertising.....	28
2.5.4 Driver education.....	29
2.5.5 Community interventions.....	29
2.5.6 In-car technology.....	30

2.6	Social marketing to influence speed choice.....	32
2.6.1	What is social marketing?.....	32
2.6.2	Social marketing tools.....	33
3.0	Casestudies.....	36
3.1	Graz.....	36
3.1.1	Case study context and approach.....	36
3.1.2	Rationale and policy drivers.....	36
3.1.3	Implementation.....	36
3.1.4	Consultation, publicity and social marketing.....	38
3.1.5	Police enforcement.....	38
3.1.6	Monitoring and evaluation.....	39
3.1.7	Lessons and repeatable ideas.....	39
3.2	Portsmouth.....	40
3.2.1	Case study context and approach.....	40
3.2.2	Rationale and policy drivers.....	40
3.2.3	Implementation.....	40
3.2.4	Consultation, publicity and social marketing.....	40
3.2.5	Policeenforcement.....	41
3.2.6	Monitoring and evaluation.....	41
3.2.7	Lessons and repeatable ideas.....	42
3.3	Oxford.....	43
3.3.1	Case study context and approach.....	43
3.3.2	Rationale and policy drivers.....	43
3.3.3	Implementation.....	43
3.3.4	Consultation, publicity and social marketing.....	44
3.3.5	Police enforcement.....	44
3.3.6	Monitoring and evaluation.....	44
3.3.7	Lessons and repeatable ideas.....	45
3.4	Bristol.....	47

3.4.1	Case study context and approach.....	47
3.4.2	Rationale and policy drivers.....	47
3.4.3	Implementation.....	47
3.4.4	Consultation, publicity and social marketing.....	48
3.4.5	Police enforcement.....	48
3.4.6	Monitoring and evaluation.....	48
3.4.7	Community-based initiatives.....	49
3.4.8	Lessons and repeatable ideas.....	49
3.5	Lancashire.....	51
3.5.1	Case study context and approach.....	51
3.5.2	Rationale and policy drivers.....	51
3.5.3	Implementation.....	52
3.5.4	Consultation, publicity and social marketing.....	52
3.5.5	Police enforcement.....	52
3.5.6	Monitoring and evaluation.....	54
3.5.7	Lessons and repeatable ideas.....	55
3.6	Warrington Borough Council.....	56
3.6.1	Case study context and approach.....	56
3.6.2	Rationale and policy drivers.....	56
3.6.3	Implementation.....	56
3.6.4	Consultation, publicity and social marketing.....	57
3.6.5	Police enforcement.....	57
3.6.6	Monitoring and evaluation.....	57
3.6.7	Lessons and repeatable ideas.....	58
3.7	Learning from case studies.....	58
4	Qualitative research on 20mph in Bristol.....	62
4.1	Methodology.....	62
4.1.1	Direct observations.....	62
4.1.2	Focus groups and interviews.....	62

4.1.3	Backcasting workshop.....	64
4.2	Qualitative research findings.....	64
4.2.1	Direct observations.....	64
4.2.2	Thematic quotes and implications from focus groups and interviews.....	65
4.2.3	Shared learning from backcasting workshop.....	65
5.0	Conclusions – 20 steps towards making 20mph normal.....	72
	References.....	73
	Appendix A: Sample topic guide used in qualitative research.....	77
	Appendix B: Summary of backcasting workshop.....	82
B1	Invitee and attendance list.....	82
B2	Presentation.....	85
B3	Flip-chart summaries of priority actions.....	86
	Appendix C: Detailed analysis of focus groups and in-depth interviews.....	91
List of Tables		
	Table 1: Primary and secondary research terms used in literature review.....	12
	Table 2: Categorisation of reasons and justifications for speeding.....	18
	Table 3: UK towns and cities introducing signs-only 20mph limits.....	37
	Table 4: Results of pre and post implementation speed measurements in three pilot areas.....	54
	Table 5: Results of pre and post implementation residents survey in the Larches.....	55
	Table 6: Summary of case study success factors and implications for social marketing.....	59
	Table 7: Summary of focus groups undertaken.....	63
	Table 8: Summary of in-depth interview participants.....	63
	Table 9: Summary of themed qualitative research findings and implications for social marketing.....	66

List of Boxes

Box 1: Vision for 20mph streets in 2026.....	14
Box 2: Summary of evidence on benefits of 20mph.....	15
Box 3: Summary of 20mph policy.....	16
Box 4: Summary of evidence on attitudes and behaviour towards 20mph.....	26
Box 5: Summary of evidence on effective soft measures to influence speed choice.....	31
Box 6: Lessons and repeatable ideas from Graz 30kph initiative.....	39
Box 7: Lessons and repeatable ideas from Portsmouth 20 mph initiative.....	42
Box 8: Lessons and repeatable ideas from Oxford 20 mph initiative.....	45
Box 9: The Beechcroft Road DIY Street project – Let’s not talk about the weather.....	46
Box 10: Ashton Gate Primary School community-led street improvements.....	50
Box 11: Lessons and repeatable ideas from Bristol 20 mph initiative.....	49
Box 12: Lessons and repeatable ideas from Lancashire County Council 20 mph initiative.....	55
Box 13: Lessons and repeatable ideas from Warrington Borough Council 20 mph initiative.....	58
Box 14: Vision for 20mph streets in 2026.....	65

Executive summary

This report presents the detailed findings of an action-research study to explore the effectiveness of “soft” or social marketing interventions to support the implementation of signs-only 20mph limits. The study was commissioned by Bristol City Council and NHS and was undertaken by research staff from the Bristol Social Marketing Centre at the University of the West of England. The aim of this evidence-based approach is to inform the design and implementation of 20mph signs-only limits planned for the city of Bristol; it is also intended to help other local authorities in the process of developing similar schemes.

Signs-only 20mph – a gap in the literature

The study commenced in July 2011 with a review of published literature and “grey” unpublished material. The primary research question was “What evidence is there to demonstrate the effectiveness of social marketing approaches in influencing drivers’ choice of speed in urban areas?” The literature search focused on driver attitudes and behaviour in urban areas as well as best practice in influencing urban speed choice.

The review identifies a significant evidence gap relating to the effectiveness of signs-only 20mph. The majority of urban speed management schemes in mainland Europe and the UK have involved the physical implementation of Woonerf, Homezones or traffic calming measures. There are therefore many research studies and evaluations which contribute to a strong evidence base for the effectiveness of physical measures in reducing speeds and thus road casualties. In contrast the effectiveness of signs-only 20mph schemes, which were only introduced in England in 1999, has yet to be evaluated through academic research.

Public support for 20mph is not translated to action

The literature review provides valuable insights into driver attitudes to speed limits and social norms around speed choice in urban areas. Whilst it is clear that there is widespread stated public support for the introduction of 20mph in residential areas the research also highlights the contradiction that speeding is widely accepted as the social norm. The literature reveals that speeding is a complex social and psychological issue and that there is a gap between driver attitudes and behaviour. In other words a driver may say, and indeed believe, that he or she supports the idea of a 20mph limit but in practice find it impossible to drive at 20mph because of the powerful combination of habit, visual cues such as wide straight roads, pressure from other drivers, perceived social norms and lack of enforcement.

Soft measures need to be supported by enforcement and engineering

Soft measures have been widely deployed to try and influence driver behaviour; the literature offers evidence on the effectiveness of interventions such as posted feedback signs which tell the driver how fast they are driving, mass media and advertising campaigns such as DfT’s THINK! and the use of driver improvement courses in lieu of points on the licence. The evidence shows that these measures can have a short-term impact on speeds but that, for behaviour change to be sustained, they need to be supported by enforcement, physical measures and other reinforcing reminders.

Vehicle fleet managers are important stakeholders in 20mph compliance

One of the significant opportunities to influence driver behaviour is the use of organisational policy and vehicle tracking systems or “black box” telemetry to implement a zero tolerance approach to drivers found speeding in a work vehicle. The literature shows that organisational

culture has a strong influence on driver behaviour and many local authorities and private companies are introducing such schemes to their vehicle fleets as they bring fiscal as well as social and environmental benefits.

Communities can play a role in changing their streets

Whilst communities are often very concerned about speeding vehicles and have been encouraged to take action, for example through the Community Speed Watch initiative, there is little published research on the speed-reducing impact of such measures. However, the case study research found much evidence to support the idea that community engagement and empowerment – for example through Third Sector initiatives such as DIY Streets and Playing Out – can lead to radical and lasting improvements in the physical and social street or neighbourhood environment.

Case studies point to risk factors in signs-only initiatives

The study carried out a detailed analysis of data from six locations which have implemented signs-only 20mph schemes: Graz in Austria and Portsmouth City, Oxford City, Bristol City, Lancashire County and Warrington Borough. These case studies provide a good source of practical information and lesson learning on all aspects of implementation from policy drivers and consultation to monitoring and evaluation. Some common themes emerge from comparison of these case studies: firstly, that inadequate or in some cases negligible resources are allocated to the soft measures or “winning hearts and mind” element of scheme delivery and secondly that the police have often been reluctant to endorse, let alone enforce, a 20mph limit in residential areas. These two factors present major risks to the cost-effectiveness of 20mph signs-only initiatives.

Qualitative research reveals JIMBYism

Qualitative data collection with Bristol residents and drivers was an important part of this study and the analysis brings some fresh and revealing insights into attitudes and behaviours relating to 20mph limits. A total of 52 people living in or around Bristol were interviewed through nine focus groups and eight in-depth interviews. A wide range of people including high mileage commuters, professional truck drivers, new or learner drivers, parents of toddlers and retired residents was interviewed. One point which comes up time and again in the analysis is the hypocritical attitude of “JIMBYism” – Just In My Back Yard – in which interviewees freely admitted they want 20mph adhered to in their street but are not committed to driving at.

20mph in other people’s streets and neighbourhoods

Other common reasons for failure to comply with signs-only 20mph limits in the Bristol pilot areas identified are: feeling pressure from “other” drivers; force of habit; no fear of getting caught; lack of awareness of new limit despite presence of signs and roundels; and difficulty in staying at 20mph due to poor concentration or car gearing. However, a significant number of individuals are prepared to champion the cause for 20mph saying that they always adhere to the limit as they want to make streets safer and more pleasant for all.

Making 20mph normal

The detailed analysis of the qualitative data segmented interviewees and focus group participants into three broad categories relating to 20mph limits: supporters, pragmatists and sceptics. The report presents some illuminating and personal stories or soundbites from each of these groups on a range of 20mph themes. The soft measures or social marketing implications are then identified so that a programme of interventions can start to be defined. For example, one interviewee said “...I used to [drive at 20] and then I just noticed that no-

one else does, so I started going a little bit faster." This downward spiral of silence could be reversed through a carefully designed social norming campaign to help people feel that 20mph is normal, not weird.

From theory to practice

This research report provides a robust evidence base for soft measures – where such evidence exists – coupled with unique insights from drivers and residents already experiencing 20mph signs-only limits in Bristol. It forms a useful starting point for policy makers and practitioners as well as academics to develop a programme of social marketing-led soft interventions to support the implementation of signs-only 20mph schemes. The final section of this report provides a checklist of “20 things to make 20mph normal”.

The second part of this report - Part B - is available as a separate document. It is a short, practical toolkit which sets out a 12-step guide to developing a programme of soft measures to support the design and implementation of signs-only 20mph speed limits.

In conclusion, a 20mph sign is little more than a legal instrument; it has no more power to persuade or influence than a marriage certificate has to guarantee love. A signs-only 20mph scheme needs to be permanently surrounded by a sophisticated web of messages, incentives and sanctions in order to achieve real and lasting behaviour change.

1.0 Introduction

1.1 Background

In 2010 Bristol City Council introduced two signs-only 20 mph pilot areas as part of the Cycling City project in partnership with the NHS initiative Active Bristol.

The stated aims of the 20 mph pilot areas were to:

- Encourage more people to walk and cycle;
- Improve road safety (in line with the City Council's Casualty Reduction targets); and to
- Help create more pleasant and shared community space (Bristol City Council, 2011).

These pilots have been monitored and the encouraging results have supported the council's intention to roll out 20mph limits to all residential streets. The City Council stated, in the Joint Local Transport Plan 3, the intention to extend 20 mph speed limits across the City (West of England Partnership, 2011).

This study will contribute to the body of knowledge and evidence needed to successfully implement future phases of the initiative. It has been jointly funded by Bristol City Council's Road Safety Team and Bristol Primary Care Trust. The study was put out to competitive tender and was awarded to the Bristol Social Marketing Centre at the University of the West of England.

1.2 Purpose of the study

The purpose of this study is to research and develop a practical guide to the "soft" or social marketing measures that can influence the social acceptability of slower speed limits. This evidence-based approach will help to inform the future design and implementation of 20mph signs only limits in Bristol and is also intended to help other local authorities in developing similar schemes.

1.2 Methodology

This action-research project, which commenced in July 2011 with the appointment of a 0.5 full-time equivalent Research Fellow, has involved a number of parallel and overlapping workstreams. These are:

- A literature review to research driver attitudes and behaviour towards speed and best practice in influencing driving behaviour and speed choice;
- Research to learn from Bristol's 20mph pilots through analysis of monitoring data and in-depth interviews with stakeholders;
- Study visits to learn from other 20 mph initiatives through site visits and in-depth interviews with stakeholders;
- Active engagement with community groups in Bristol to identify and potentially support local initiatives promoting 20 mph compliance;
- Qualitative research with Bristol residents to gain insights into attitudes and stated behaviour with regard to 20 mph; and
- Observations on actual driving behaviour in the 20 mph pilot areas.

1.3 Report structure

This Part A report presents the research findings from the literature review in Section 2 followed by a series of case studies from different towns and cities to draw out common themes in Section 3. The methodology and findings of the qualitative research are presented in Section 4 with implications for developing a programme of social marketing for signs-only 20mph.

The report should be of interest to academics, policy makers, social marketing practitioners and other professionals with a cross-disciplinary remit for behaviour change in transport.

A separate Part B report has been prepared to translate the research findings into practical action and provide a toolkit for practitioners. This practical guide aims to assist Bristol City Council and other local authorities in developing a programme of “soft” measures to support the design and implementation of signs-only 20mph schemes. Part B will be of interest to transport planners, road safety professionals and marketing and communication specialists but should also be of interest to other primary stakeholders including the police force, businesses, local community groups and residents.

2.0 Literature review

2.1 Research question and search terms

The primary research question for the literature review was:

“What evidence is there to demonstrate the effectiveness of social marketing approaches in influencing drivers’ choice of speed in urban areas?”

And:

“In the absence of direct evidence, what are the key issues, theories, principles and insights that should be identified in building up models of best practice?”

Secondary questions addressed to provide a broader picture of attitudes and practices in relation to 20mph included:

- What are the real and perceived benefits of 20mph?
- What is the policy context in the UK to support 20mph?
- What factors influence drivers’ choice of speed?
- What role can the community play in influencing speed?

The following primary and secondary search terms were used to carry out the literature review:

Table 1: Primary and secondary research terms used in literature review

Primary terms	Secondary terms
Social marketing	Speed*
Social norms	Speed limit
Driver behaviour	Compliance
Behaviour change	Driv*
Speed*	Driver behaviour
Car use	Attitud*
Play*	Habit*
	Influenc*
	20 mph
	Social
	Social capital
	Traffic
	Community

An extensive range of databases were interrogated. In addition, relevant grey (unpublished) material was identified through internet searches and recommendations from colleagues. A total of 118 published academic papers as well as “grey” or unpublished material were reviewed for this research.

The results of the literature review are presented below under a series of headings. Each section presents a boxed summary of how the evidence can contribute to the design of robust social marketing interventions to encourage 20mph compliance.

2.2 Benefits of 20mph

This study is focused on researching ways in which social marketing can help improve compliance with 20mph signs-only limits. It is therefore outside of the scope of this work to present the case for lowering urban speeds to 20mph.

However, it is necessary to be able to articulate the benefits of 20mph in order to develop appropriate messages for a social marketing strategy.

The benefits, which are broadly the same whether physical traffic calming or signs only interventions are used to achieve slower speeds are outlined below.

Reduction in rates and severity of road casualties

The number of pedestrians killed when hit by a car reduces as vehicle speed is reduced. One study found that at 20mph there was a 2.5% chance of being fatally injured, compared to a 20% chance at 30mph (Ashton and Mackay, 1979). A study in Sweden concluded that the risk of fatal injury at 50kph is twice as high as at 40kph and five times as high as 30kph (Rosén and Sander, 2009).

In London, the introduction of 20mph zones has led to a 42% reduction in road casualties after correcting for underlying trend, with the greatest reduction in serious injuries and deaths of younger children (Grundy, 2009). In Portsmouth, the introduction of 20mph signs-only limits led to a 22% reduction in casualties, compared to a national reduction of 14% in comparable areas (Atkins, 2010).

Increased uptake of walking and cycling

Reducing traffic speeds has been clearly demonstrated to encourage people to walk and cycle more for local trips, with the associated benefits of tackling obesity through physical activity. A study of traffic calming scheme in deprived community on the outskirts of Glasgow found that 20% of residents said they walked more as a result of the scheme (Morrison, 2004). In Bristol, the results of the inner south pilot found that walking and cycling had increased by 12% within the 20mph limits (Bristol City Council, 2011).

Increased opportunities for street play

A study across 10 low socioeconomic districts in England explored parents' views in relation to their children and road safety (Christie, 2007). The commonly held view was that children want to play outside and walk and cycle but they are put at risk by speeding drivers. In a study from Australia, researchers found that children's perceptions of their neighbourhood, including fear of traffic, restrict their levels of physical activity (Timperio, 2004).

Improved social cohesion, civility and wellbeing

The British Crime Survey, a face-to-face interview with UK residents on issues relating to crime, revealed that speeding traffic was perceived as the greatest problem in local communities, regardless of whether respondents were male or female, young, middle aged, or old (Poulter, 2007).

Donald Appleyard's seminal study (Appleyard, 1981) found that people living on streets with low traffic speed and volume knew more of their neighbours and had stronger social networks compared to residents on streets with high traffic volumes and speeds. This study was replicated in three residential streets in Bristol (Hart and Parkhurst, 2011) with similar findings.

Reduction in traffic noise

Driving at 20mph has been found to reduce traffic noise; the benefit of a signs-only scheme is that drivers can adopt a smoother driving style than if they were driving through a calmed zone with humps. A study in Graz, Austria found that the introduction of 30kph (18mph) signs-only limits, led to a noise reduction up to - 2.5 dB (Wernsperger, 1995).

In Bristol results of the noise assessment in the inner south pilot show a small reduction in road traffic noise in the order of -0.5 dB maximum. This change is likely to be imperceptible by residents. However, the results of the evaluation survey found that 10% of respondents perceived that there has been less traffic noise since the introduction of the new 20 mph speed limit. The perception among residents that traffic noise had lessened was more pronounced in the before and after household survey with 50% in the after survey who thought that traffic noise was quiet/good, against only 30% in the before survey. The proportion of residents who perceived that traffic noise was noisy/bad declined from 37% to 29% (Bristol City Council, 2011).

Tackling climate change

The DfT acknowledge that 20mph should contribute to reduced emissions from smoother driving style (DfT, 2009). The evidence from 20mph studies is that the changes in emissions are complex. In Graz, carbon monoxide and hydrocarbonates were found to increase slightly (3.8% and 0.5% respectively), whilst nitrogen dioxide decreased by 24% (Wernsperger, 1995). The most significant benefits would arise if the introduction of 20mph can encourage more people to leave their cars at home for short trips.

A bigger vision and a shared agenda

Reducing urban car speeds to 20mph can contribute to a bigger vision for creating civilised, people-friendly urban environments which are not dependent on car transport. Whilst there are many grass roots initiatives aimed at taming the streets such as street parties or Playing Out in Bristol, there is a lack of linking this vision back to 20mph initiatives which are largely seen only within the narrow road safety agenda. The workshop held with Bristol City Council stakeholders articulated this vision by identifying some of the following potential attributes of 20mph streets:

Box 1: Vision for 20mph streets in 2026

- Children laughing
- Playing in the street like when it snows
- Greener streets
- On-street food growing
- More people chatting
- Front doors open
- More reliable public transport
- No formal crossings
- On-street bike parking for residents
- Local shops
- Less stress
- Smoother traffic flows
- Happy and healthy
- Sense of community
- Fewer cars
- More choice

Box 2: Summary of evidence on benefits of 20mph

- 20mph streets have 40% fewer road casualties with the greatest reduction in numbers of young children killed and injured;
- 20mph streets encourage more people to walk and cycle;
- 20mph neighbourhoods have higher levels of social interaction;
- 20mph streets allow children to play outside safely and be more physically active;
- 20mph streets have less traffic noise
- 20mph can encourage a smoother driving style to reduce some emissions and fuel consumption.

Sheller and Urry (2000), in their paper on the city and the car, explore from the social science perspective the tyranny of the motor car in dominating urban patterns of production, consumption, circulation, location and sociality. The street activist David Engwicht in his book "Mental Speed Bumps" (2005) also articulates the issue of traffic as a social and cultural problem which needs to be tackled directly by communities to reverse the "retreat from the street" that car culture has led to.

Public health professionals can play an important role in linking 20mph to the wider societal and health benefits. It is widely recognised that car-dominated environments which reduce the opportunity to walk or cycle are obesogenic and a safer, healthier road environment in residential areas can address obesity and climate change as well as road safety (Pilkington, 2009).

2.3 Policy context – limits or zones?

Before 1991, the Road Traffic Regulation Act 1984 did not permit local authorities to set speed limits below 20mph. Although legislation was amended in January 1991 specific consent from the Secretary of State was needed to implement a 20mph limit and it could only be introduced as part of a physically calmed "zone" or on short sections of road with a proven accident record. The first three 20 mph speed limits forming zones were implemented in Sheffield, Kingston upon Thames and Norwich in January 1991 (DfT, 1999).

Legislation was changed again in 1999 and new guidance (DfT, 1999) provided advice on implementing 20 mph zones or signs-only limits. The legislation gave local authorities the power to determine whether 20 mph speed limits or zones should be used. The guidance stated that, as well as taking into consideration road safety and environmental benefits that it was "equally important that the form of speed limit chosen does not require unreasonable levels of enforcement by the police."

The guidance also suggested that 20 mph speed limits by signs alone would be most appropriate where 85th percentile speeds are already low.

New guidance was issued in 2006 with the DfT Circular "Setting local speed limits" (DfT, 2006) and since then two further amendments have been issued (DfT, 2009 and 2011). The key points of interest in the current guidance are that the DfT:

- Want to encourage highway authorities, over time, to introduce 20 mph zones or limits into streets which are primarily residential in nature; and into town or city

streets where pedestrian and cyclist movements are high, such as around schools, shops, markets, playgrounds and other areas; where these are not part of any major through route.

- Permit councils to use signs painted on roads as an alternative to expensive upright signs, cutting street clutter and costs;
- Believe that, if average speeds are already around 24 mph on a road, introducing a 20 mph speed limit through signing alone, is likely to lead to general compliance with the new speed limit. Early research from the area-wide 20 mph limit in Portsmouth suggests that greater reductions can be achieved through signed only limits where previous average speeds were significantly above 20 mph;
- Suggest that to achieve compliance there should be no expectation on the police to provide additional enforcement beyond their routine activity, unless this has been explicitly agreed.

In addition, latest guidance issued in June 2012 reduces the need for councils to use speed humps in 20 mph zones and make it cheaper and easier for councils to put in place variable speed limits outside schools when local residents want these schemes.

The guidance does not stipulate any requirement to consult with service providers such as bus companies or the emergency services although these are often vocally opposed and have led to some local authorities such as Warrington facing formal objections from bus companies.

Cost-based evidence of zones compared to limits?

Portsmouth spent £1,100 per km for limits compared to £60,000 per km for physically calmed zones (20's plenty, 2010).

Box 3: Summary of 20mph policy

- 20 mph is recognised by the DfT as the appropriate default speed for residential areas;
- The DfT recognises that implementing 20mph limits on roads with average speeds above 24mph can achieve greater reductions;
- DfT guidance now allows more flexibility on signage leading to less street clutter and cheaper schemes;
- 20mph signs-only limits have been found to be six times more cost-effective when compared to a zone.

2.4 Making sense of driver behaviour

2.4.1 Attitudes to residential speed limits

There have been a number of in-depth studies in England and Scotland researching people's attitudes to speeding and speed limits (Quimby 1999, Webster 2000, Stradling 2003, Musselwhite 2010).

A summary of common attitudes to residential speed and speed limits emerge from this literature as follows:

- Speeding is widely seen as a major problem in residential areas and there is strong public support for tougher enforcement of speeds (Musselwhite 2010);
- In Scotland, support for limits of 20mph or less in residential areas rose from 22% of drivers in 1991 to 86% of drivers in 2002 (Stradling 2003);
- There is a high level of support for 20 mph across the UK (71% according to the British Social Attitudes Survey, 2010) but 48% of car drivers admit to breaking the speed limit in 30mph areas (DfT, 2010);
- There is a hierarchy of acceptability where speeding on the motorway is far more acceptable than speeding on residential roads (Musselwhite 2010) and the majority of drivers admit to speeding at some time (Quimby 1999);
- Knowledge on the safety implications of driving at 20mph is low: a Brake survey found that two thirds of respondents overestimated the likelihood of death if a pedestrian was hit at 20mph (Brake, 2010);
- Community support for lower speed limits tends to increase after implementation. For example support for a city-wide Bristol 20mph limit as identified in the household surveys increased from 70% to 89% following implementation. A similar conclusion was reached in Australia where community support for a reduction in the urban speed limit from 60kmph to 50kmph increased after implementation (Lahausse, 2010). This is an important finding which has implications for the design of messages for marketing of 20mph as it suggests that attitudes seem to follow behaviour rather than the other way round.

2.4.2 Justifying speeding behaviour

As outlined above, whilst there is strong support for 20mph most drivers find it acceptable to speed at one time or another and 48% of drivers admit to exceeding the speed limit in 30mph areas. The most recent DfT review of literature on public attitudes to road-user safety (Musselwhite, 2010) identified six common reasons or justifications that drivers give for speeding and these can be attributed to one of four influencing factors:

Table 2: Categorisation of reasons and justifications for speeding

Reason/justification for speeding	Influencing factor
Other drivers speed, so I speed	Social norms
I'm not a dangerous driver	Risk perception and control
The speed limit is too low	Risk perception and control
Speed is positive	Risk perception and control
I didn't know I was speeding	Lack of information/awareness
I won't get caught	Attitude to authority

These six factors and four categories can be regarded as significant barriers to people driving at 20mph. Each attitudinal category and associated behaviour would need to be addressed in any strategy to improve social acceptability of 20mph. The literature to support each of these categories is explored in more detail below.

2.4.3 Social norms

Social norms are very important in the 20mph debate. What we think of other people's attitudes and behaviours towards speeding has been shown to have a large impact on how we ourselves drive. We in turn affect others – creating either virtuous or vicious circles of copycat behaviours.

In the context of speeding the "social norm" can be defined as a normative, majority attitude and behaviour towards speeding (Stead et al 2005).

Two types of social norms exist: descriptive norms and injunctive norms. Descriptive norms focus on observed behaviour: they are a perception of which behaviours are typically performed. They normally refer to the perception of others' actual behaviour. These norms are based on observations of those around you (Cialdini, 2001).

"Both kinds of norms motivate human action; people tend to do what is socially approved as well as what is popular. (105) When put together, these norms have a counterproductive effect. For example a campaign that focuses individuals on the frequent occurrences of an offense against the environment has the potential to increase the occurrence of that offense."

Cialdani 2003

So, speeding is often a descriptive norm: people may see speeding as something that is 'socially normal' in that 'everybody does it'.

Changing Descriptive Norms

To change the descriptive norm may require a direct intervention to force a change to observed behaviour, for example, pace cars. The need for this direct action comes from the "Catch 22" of people always behaving according to the way other people behave, so nothing changes this closed system unless imposed from the outside.

Speeding may also be an injunctive norm. That is, people may personally think that speeding is not something they agree with, but they may believe that speeding is regarded by society generally as morally acceptable, and hence put aside their personal doubts and drive more quickly in residential streets than they otherwise would.

Changing Injunctive Norms

To change injunctive norms we need to communicate in such a way as to raise questions about the current attitudes of the norm, without falling into the trap described by Cialdini (don't say 'most people drive at 30 in a 20' as this will reinforce the behaviour).

Changing moral norms is also a function of the budgets typically available. Large budgets could facilitate a thorough 'education style' programme over an extended period, but in the absence of significant budgets, and given a (sometimes unpleasant) opposition who will have alternative agendas, "cognitive by-pass" tactics may be more realistic.

Tactics include 'rhetorical short-hands', that is, sound-bites that lodge easily in the memory, and are 'framed' in such a way as to be accepted by people. Pro-motoring groups 'frame' their stories as "ending the war on the motorist"; the 20mph framing could focus on roads as living spaces rather than ways to get from A to B, hence *20's plenty where people live*.

Other cognitive by pass routes would include tactics such as asking people to sign pledges; finally, social norm campaigns are themselves an example of such tactics.

The evidence suggests that this is so. Studies have revealed that almost all drivers believe that other drivers speed (Stradling 2003, Fylan 2006) and many perceive that they are driving more slowly than the average; in other words most drivers think that speeding is normal, acceptable behaviour because 'everybody does it'.

A Scandinavian study compared drivers' normal speed on a section of road with the speed at which they estimated other drivers were driving (Aberg, 1997). This revealed that 78% of the Danish drivers and 71% of the Swedish drivers believed that they normally drove more slowly than the average driver. Another Swedish study found that drivers observed to be in a high speed category had a higher level of "false consensus" (or belief that others break the speed limit) than observed drivers in medium and low speed categories (Haglund 2000).

In a qualitative Australian study, drivers reported the importance of keeping up with the flow of traffic on the road (Fleiter 2010) and all participants identified with the idea of a perceived pressure from other drivers to speed up. Fleiter also found that, irrespective of the posted speed limit, participants reported using the speed of surrounding traffic to gauge how fast to drive. This phenomenon was described as "contagion theory" (Arthur 2011) or conformity, where drivers adopt imitative behaviour to match their speed with speeding drivers around them.

Attitudes to acceptable norms may be heavily dependent on specific driving contexts. In a qualitative study from Sweden researching drivers' intentions to commit violations, the results indicated that drivers usually find speeding acceptable, but this was context specific, with speeding on a major road more acceptable than on a minor one (Forward 2006). In another Swedish study, testing normative beliefs relating to speeding (Wallen Warner 2008), it was found that drivers do not think that drivers behind them would mind if they exceed the speed limits and/or that those drivers' opinions are not very important to them.

In contrast, the beliefs that were seen as the most influential were from "People along the streets" and "People living along the roads". This suggested that drivers think that people along the streets and roads do not want them to exceed the speed limits and/or that they value these people's opinions. This normative belief about "people along the streets and living along the roads" was found to be what differed most between those drivers who intend to exceed the speed limits and those who do not; drivers who intended to exceed the speed

limit were found to think that people along the streets and roads accept higher speeds. In contrast drivers not intending to exceed the limit thought that people along the streets and roads did not accept higher speeds.

If this study translates to the UK, then it suggests that a programme that sent a message that 'local residents want you to drive at 20 along here' would be successful.

Aberg's study (1997) also had some interesting findings relating to attitudes to vulnerable road users (VRUs). Study respondents claimed that they cared more about vulnerable road-users than about other drivers in their choice of speed. However, most of the drivers believed that vulnerable people accepted their speed choice. Thus, the pressure from vulnerable road-users did not appear to be very strong, although the drivers claimed that they cared much for this group of people.

Aberg's evidence suggest that introducing a campaign that highlights how upset pedestrians and cyclists get with high speeds could be effective.

The fact that consideration for unprotected road-users, at best, has only a marginal effect on drivers' speed choice is in agreement with the results of an interesting paper on the relationship between objective risk, subjective risk and behaviour (Howarth 1988). Howarth constructed a hypothesis, based on literature relating to attitudes and behaviour, tacit and conscious knowledge, and subjective estimates of risk, that "*...drivers do not modify their behaviour in anticipation of any extra risk associated with children wishing to cross the road, at least until it is too late to do anything about it.*" Thus he concluded that it was the children who assumed the real responsibility to avoid accidents, not the drivers. In Aberg's study similar conclusions were reached as, although drivers claimed that they cared about vulnerable road-users, there was no commensurate consideration in their choice of speed.

There is also important evidence on normative influences from studies in other behavioural sectors. A research study into energy conservation and usage found that naive psychology-based beliefs about energy conservation were inaccurate predictors of actual energy conservation (Nolan 2010).

The results from this study revealed that, despite the fact that participants believed that behaviour of neighbours - the descriptive norm - had the least impact on their own energy conservation, the descriptive norm actually had the strongest effect on participants' energy conservation behaviours. In other words, although people may not have believed that the behaviour of others should motivate them to conserve energy, their behaviour was powerfully influenced by it.

Ignore calls for individual choice, ignore claims that people make personal decisions.

The evidence from these studies has some important practical implications for the norming of 20mph in residential areas. As Aberg concluded in his 1997 study, "If perceived behaviour of others is important for speed choice it would be important that drivers have a correct impression of others' speed." (..provided of course that those speeds were lower than perceived!).

The author proposed that informing drivers about the actual percentage of compliers to the speed limit might offer low cost alternative, or supplement, to police enforcement measures. Such an idea could build upon work by Berkowitz, whose work is discussed next.

Berkowitz' social norm intervention

The social norms approach is founded upon the belief that individuals incorrectly perceive that their attitudes put them in a minority, when in reality they are in the majority. This phenomenon is known as pluralistic ignorance. It is largely because individuals assume the most memorable and salient, often extreme, behaviour is representative of the behaviour of the majority. This may lead individuals to adjust their behaviour to that of the presumed majority by adhering to the pseudo-norms created by observing such memorable behaviour.

These exaggerated perceptions, or rather misperceptions, of peer behaviour continue to influence the habits of the majority, if they are unchallenged. This means that individuals may be more likely to enact problem behaviours and suppress healthier practices, making support for healthy behaviours much less visible at an aggregate level. This effect has been documented for alcohol, illegal drug use, smoking, other health behaviours, and attitudes such as prejudice.

A phenomenon known as false consensus is closely related to the idea of pluralistic ignorance, and refers to the incorrect belief that others hold your views when in reality they do not. For example, heavy drinkers will think that most others consume as much as they do, and will use this belief to justify their behaviour. Berkowitz (2004) describes false consensus and pluralistic ignorance as '*mutually reinforcing and self-perpetuating... the majority is silent because it thinks it is a minority, and the minority is vocal because it believes that it represents the majority*' (p. 194).

Applied to 20mph limits, this would mean that the majority – who support 20mph (at least in their own area) – think they are in the minority and so keep quiet. Meanwhile the minority who oppose 20mph limits believe – incorrectly – that most people agree with them, but are emboldened to make the loudest noise.

These phenomena both have the potential to be addressed by a social norms intervention. Berkowitz describes this possibility in relation to reducing alcohol use:

...social norms interventions have been found to be effective in changing the behavior of the moderate or occasional-drinking majority (pluralistic ignorance) as well as confronting and changing the behavior of the heavy drinking minority (false consensus) (p. 9)

There have been multiple studies which have indeed shown that social norms campaigns can have such positive effects on target populations. One study in particular, which utilized 18 different colleges over a three year period, found that social norms campaigns were associated with lower perceptions of student drinking and lower consumption levels.

Translated to 20mph, the Berkowitz approach would entail a campaign with the message '*over 80% of people support 20mph in your neighbourhood; join the movement for change*', or similar.

Diffusing a new culture through society

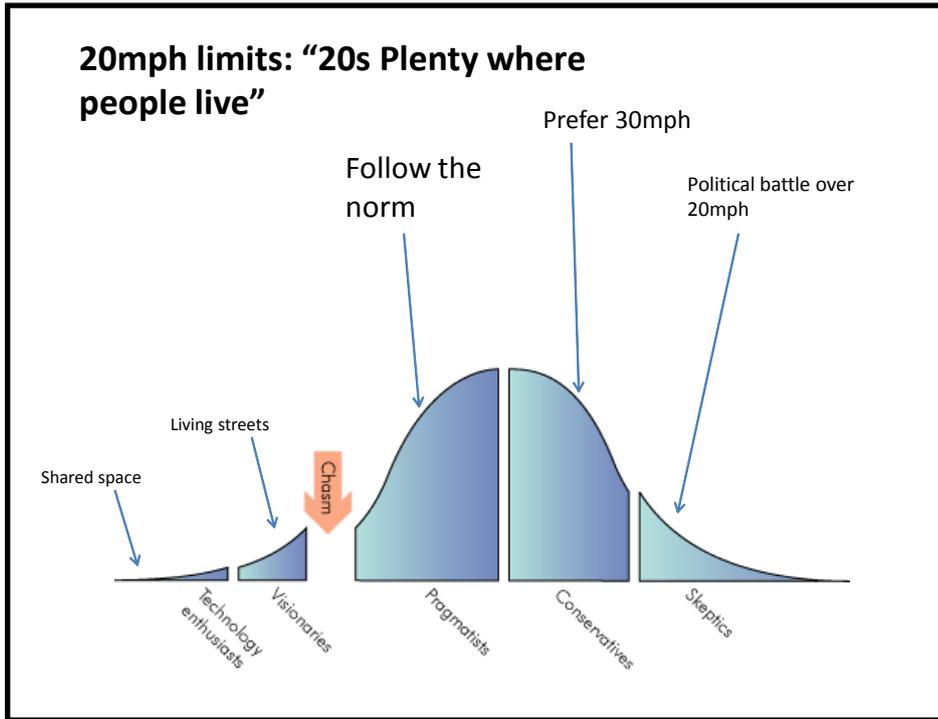
The diffusion of innovations model (Rogers 1959), applied to the 20 mph aspirations (figure 1) illustrates how a 'new' culture ("shared space", "living streets") could, in theory, spread from 'innovators' (people at the leading edge of change) through to 'laggards' (people who resist anything new).

Culture changes can be made deliberately by, say, activists or campaigners such as Shared Space campaigners, or the Living Streets movement transmitting their visions to others through word of mouth. Cultures can also change 'invisibly' through the subtle, everyday changes brought about through social copying of others around us.

However, some activity would typically be required to 'cross the chasm' (Figure 1) between Early Adopters and the 'Pragmatists' group. The latter group are capable of change, but need a convincing case before they do so. High visibility (personal observation, positive press etc) of successful 20mph schemes (evidence that 20 limits have made a positive difference) in their local area would be such a way of making progress with the Pragmatists.

Both these (word of mouth, and copycat) mechanisms have been discussed at length in commercial contexts (see Oxley and Nancarrow (2002) and Tinson et al (2005)).

Figure 1: The diffusion model of speed choice



2.4.4 Perceived risk and control

Attitudes such as “I’m not a dangerous driver” or “the speed limit is too low” or “speed is positive” arise as a result of different drivers’ perceptions of risk and self-assessment of skills and control. Silcock et al (1999) found that respondents to their surveys distinguished themselves as “ordinary, safe speeding drivers” as compared to other “dangerous speeding drivers”.

There are groups of drivers who adopt risky driving behaviour for a range of motivations and attitudes. Musslewhite (2008) identified four groups of risk takers: those that took risk unintentionally formed the largest group and three smaller groups who took deliberate risks were also found. These were: those taking a reactive risk when stressed or in a hurry, a calculated risk taking group who took risks when they felt it was safe to do so, such as late at night or on well-known roads and a continuous risk taking group who frequently took risks for their own sake.

The group of drivers who set their own speed choice regardless of the stated limit – “calculated risk takers” in Musslewhite’s categorisation - were studied in-depth by Quimby et al (1999). The results of this study found that the better a driver’s ability to choose speed “appropriate to the conditions” (as verified by an in-car assessor during the study) the higher the driver’s accident liability. In other words, drivers that assert their “right” to drive at a speed they deem to be appropriate are more likely to be involved in collisions. This makes sense as accidents are strongly correlated with speed (Taylor et al 2000) and, by definition, are unexpected, random and unpredictable rather than anticipated events.

Drivers that assert their “right” to drive at a speed they deem to be appropriate are more likely to be involved in collisions. An interesting finding that, if soberly communicated in a clear manner, may be another useful part of a 20 campaign.

The group of drivers who regard speed as positive and adopt dangerous, thrill-seeking styles of driving are explored more under Section 2.3.7 on “Who speeds?”

2.4.5 Information and cues

In general Quimby et al (1999) found that drivers have good knowledge of the 30 mph speed limit in urban areas. However, the most commonly cited reason for drivers breaking the speed limit in a 30 mph areas and caught by a speed camera was that they did not realise they were speeding (Corbett and Simon 1999).

The use of Variable Message Signs (VMS) has been found to be effective in increasing compliance with speed limits (Lee 1973, Kathmann 2000 and Winnett 2003) and is explored in more detail in Section 2.4.5.

The physical form of the road and the signage provide drivers with cues and information to help them set their speed. As discussed in Section 2.3.4 some drivers use visual road cues (for example wide carriageways or long straight sections with good visibility) in preference to the stated speed limits in order to choose what they deem to be an “appropriate” speed.

Many drivers call for physical traffic calming measures to help reinforce slower residential speeds: in a Scottish study (Stradling et al, 2003) 76% of respondents expressed support for road humps or ‘sleeping policemen’ to reduce speeds in residential areas.

Physical measure such as 20mph zones are certainly effective in achieving slower speeds (Grundy 2009) and indeed engineered solutions have been adopted across much of Europe for the past forty years or more to successfully reduce residential speeds to 30kph or less (Davis 2004, Kjemtrup 1992). More subtle psychological measures such as use of colour, texture, road markings or planting to change drivers’ perceived context, scale or proportion have been trialled in the UK and found to be effective in reducing speeds (Kennedy et al 2005). Other trials have also demonstrated the effectiveness of this approach for example in New Zealand (Charlton et al 2010).

Whilst it is important to recognise the importance of physical traffic calming this report is focused on the non-physical or “soft” interventions that can be applied to improve speed compliance. An interesting study by Maroney and Dewar in 1987 compared the effect on speeding drivers of a physical intervention (transverse lines painted on the roadway at progressively diminishing distances apart) with a social intervention (providing drivers with feedback using a traffic sign about the percentage of drivers who were not speeding on the previous day). The results showed that, while the effects of the physical intervention disappeared after three weeks, the use of posted feedback achieved 40% reductions in speed sustained over 3.5 months. The idea of using posted feedback is explored in more detail in section 2.4.4.

2.4.6 Authority and enforcement

The TRL report on personal characteristics of speeding drivers (Webster 2000) concluded that penalties, or the fear of penalties, can reduce speeding but the penalties need to be perceived as fair.

The results of the pilot 20mph limits in English towns have generally found that residents want to see enforcement of the lower limit by the police. In the Portsmouth scheme interim evaluation (Atkins, 2010) the qualitative survey found that many residents wanted to see some enforcement and 25% of the respondents who provided comments requested the speed limit to be enforced with greater police presence. As one resident put it: “Install cameras or enforce the policy, then the community will start to benefit”.

A similar attitude was found in the Bristol pilot schemes, with 76% of residents surveyed six months after the introduction of the pilot agreeing with the statement that “20 mph is a good idea, but the speeds in the pilot area should be controlled first before expanding it across the city.” Although the question is somewhat leading, it does point to residents’ concern about non-compliance with the new speed limit (Bristol City Council 2011).

The evidence from an early pilot of 30 kph in Graz is discussed in the case study in Section

3.1 but it is worth noting here that its success in reducing speeds was largely attributed to the intensive levels of police enforcement (or supervision as it is termed in Austria) in parallel with a social media campaign (Wernsperger and Sammer 1995).

The issue of community demand for enforcement is explored further under Section 3.7 on common themes emerging from the pilots.

2.4.7 Who speeds and why?

Webster's study (2000) provides a comprehensive assessment of the characteristics of speeders. His study concluded that, whilst the majority of people admit to speeding at one time or another, more speeders are younger males in non-manual occupations. This seems to contradict widely accepted anecdotal evidence that "white van men" are the worst offenders. No specific published literature was identified in this study to support the observation that this category of driver is a frequent offender.

Other characteristics associated with speeding in this study include drivers of company cars, drivers with high annual mileage and drivers under 40 years old. This study also found that passengers affect speed choice with most drivers, except young drivers carrying young male passengers, choosing slower speeds. This concurs with the findings of Fleiter et al (2010) who found that people known to the driver (passengers and parents) had a moderating influence on speed.

A number of studies have sought to link psychosocial variables and personality traits to speeding. Fernandes et al (2010) examined a range of relevant demographic, personality and attitudinal factors for young Australian drivers in the prediction of speeding, drink-driving, driving while fatigued, and not wearing seat belts. They found that the lists of significant predictors differed between risky driving behaviours. Speeding was found to be associated with driver anger and sensation seeking traits. They also found that female drivers reported intention to speed more frequently.

In another Australia study Griffin and Cass (2010) demonstrated empirical support for the theory that an aggregation of four personality traits (risk aversion, locus of control, consideration of future consequences and susceptibility to normative influences) provide an explanation for an individual's propensity to speed. This has implications for the messages in a social marketing campaign as these types of driver will think "that's not for me". In a study from the USA Classen et al (2011) investigated the relationship between psychological type and driving performance in older people and identified risk associated with certain personality types.

The role of three emotions – anger, anxiety and happiness – in driving behaviour were researched by Mesken et al (2007) in The Netherlands. This study found that anger, but not anxiety or happiness, was strongly associated with driving at higher speeds.

The Theory of Planned Behaviour is one of the psychological models most frequently applied to try and explain driver behaviour. However this model does not take into explicit account either the role of emotions and personality, as discussed above) or the effect of unconscious or habitual behaviour or "automaticity" as explored by Bargh et al (1996). This team of psychologists found that priming participants stimulated automatic behaviour. For example, participants for whom an elderly stereotype was primed using a scrambled-sentence task containing words related to the elderly stereotype, walked more slowly down the hallway when leaving the experiment than did control participants.

The experimenters concluded that social behaviour can be triggered automatically by features of the environment. This can be linked to the idea that drivers are primed to speed by other drivers around them as discussed in section 2.3.3 on social norms.

A study of the driving behaviour of people who drive for work purposes (Newnam et al 2004) found that drivers reported lower intention to speed in a work vehicle than in a

personal vehicle. The researchers found that different psychological processes influence people when driving a work vehicle in comparison to driving a personal vehicle. Anticipated regret for speeding and perceived subjective norms relevant to speeding were found to be the psychological processes potentially explaining the reported lower intention to speed in a work vehicle. The study concluded that integration of policies and procedures within an organisation's safety culture can significantly influence the psychological processes in intentions to speed.

2.4.8 Gap between attitudes and behaviour

As highlighted in sections 2.3.1 and 2.3.2, whilst there is strong support for 20mph most drivers find it acceptable to speed at one time or another. There appears then to be a gap between people's stated support for slower speed limits and drivers' reported and observed driving behaviour in residential areas.

One study, which focused on researching driver's belief based measures as suggested by the theory of planned behaviour, found that drivers' speeding behaviour is closely related to their life-style and society as a whole (Wallen 2008). This study found the control belief composite that is seen as most facilitating with regard to exceeding the speed limit in urban areas is "You being in a hurry".

A major study of Scottish drivers (Stradling 2003) concluded that, whilst there is strong support for urban traffic calming measures, excess speed in town remains unchanged. This study also surmised that "...many, though not all, Scottish drivers speed. In general they do so because they have the opportunity to, feel the obligation to, or cannot resist the inclination to." In other words, they have the motive, opportunity and perceived capability to exceed the limit.

So research points to the fact that speeding is a highly prevalent, perhaps irresistible, behaviour which is not always congruent with people's stated attitudes to speed and road safety. There seems to be a "Jekyll and Hyde" effect where people are aware of the dangers of speeding, are concerned about the safety of themselves and like the idea of cars moving more slowly in residential areas. However, when they are behind the wheel the social pressures or personal pressure of being in a hurry, or keeping up with the normed speed of other cars or managing a social impression of being a competent (fast) driver, or automatic/habitual behaviours, especially on familiar routes, all contribute to overriding their stated beliefs about speed.

A high cost but potentially high impact campaign could create a series of videos that expose all of these quite subtle issues, as promo-educational way of shifting behaviour.

In their paper "The city and the car" Sheller and Urry (2000) build on this idea that over-dependency on private motor vehicles degrades the public realm and people's quality of life. They argue that both social sciences and urban studies have failed to consider the overwhelming impact of the car in reconfiguring urban life. Of particular relevance to the debate about 20 mph is the point they raise that the "quasi-private" form of mobility that the car offers has subordinated walking, cycling and public transport and has "reorganised how people negotiate the opportunities for, and constraints upon, work, family life, leisure and pleasure." (Sheller and Urry 2000). In other words, the dominance of the motor car pervades every aspect of our lives, defines the temporal and spatial geographies of cities and excludes or disenfranchises those without a car or a licence to drive.

These are powerful arguments in framing an ideological debate for slower speeds and could be used to help develop a vision for 20mph that offers all city dwellers a better quality of life as already discussed in Section 2.2 on the need for shared agenda and big vision.

Box 4: Summary of evidence on attitudes and behaviour towards 20mph

- There is widespread public support for the introduction of 20mph in residential streets;
- Speeding is widely accepted as the social norm even in residential areas;
- Social norms and the perceived behaviour of others have a strong influence on speed choice with driver often speeding to keep up with others;
- Visual environmental cues such as wide straight roads contribute to speed choice;
- The fear of penalties or enforcement has a strong moderating influence on speed choice;
- Young drivers, high mileage and certain personality traits are all associated with speeding;
- Passengers and parents have a moderating influence on all drivers;
- The attitude-behaviour gap and the Jekyll and Hyde effect make speeding a complex social issue. The pressures of modern urban living and the dominance of the motor car at the expense of walking and cycling have led to driving practices which are at odds with people's desire to live in safe, calm and attractive places; there is a need to articulate a vision for 20mph which challenges some of these contradictions.

2.5 Effective soft measures for influencing speed choice

2.5.1 Normative social influences and posted feedback

As discussed in section 2.3.3 there is good evidence that social norms can influence choice of speed and that drivers set their speed to match the perceived speed of others (Arthur 2011, Fleiter 2010, Aberg 1996). The power of normative social influences can be tapped into by providing drivers with information to shift their perceptions about the speed and behaviour of other drivers.

A study from Iceland (Ragnarsson and Björgvinsson, 1991) found that when drivers entering a residential area were shown a posted feedback sign with a hypothetical daily percentage of drivers not speeding they significantly reduced their speed. The average reduction was from 69.0 km/hr (42.9 mph) during baseline to 63.4 km/hr (39.4 mph) over a consecutive 20 day period.

In another study using posted feedback to drivers (Maroney and Dewar, 1987) a traffic sign was used to inform drivers of the percentage of drivers who were not speeding on the previous day. Data were gathered on approximately 690,000 vehicles during 3.5 months experiment and the researchers found that excessive speeding could be reduced by 40 per cent. This speed reduction was maintained for weeks after the sign was removed.

In a more recent study (Kalla et al 2010) in Germany the intervention consisted of a speed-displaying device mounted next to the road and visible to both motorists and the public displaying real-time speeds of cars. A self-report questionnaire of 300 motorists found that the majority of motorists believed these devices influenced their own compliance with the speed limit. They also reported that their reaction was not influenced by whether they were driving in a community where they had friends or in a community where nobody knew them. The results were consistent across gender, age, levels of education, and professions.

Fleiter et al (2009) researched social influences on speeding from a qualitative perspective and identified two types of influential others on drivers: people known to the driver (such as passengers and parents), and unknown other drivers. Passengers were generally found to have a slowing influence on drivers with responsibility for the safety of people in the car and consideration for passenger comfort being key themes. In relation to other drivers, key themes included speeding to keep up with traffic flow and perceived pressure to drive faster. Their research concluded that these driver responses to others provide scope to use social sanctions for speeding and social praise for speed limit compliance to enhance speed management strategies.

Vehicle Activated Signs (VAS) are a proven technology in raising awareness of speed limits, particularly where a new one is introduced (Lee et al, 1973). One study found that, in the right location VAS can achieve up to 88% improvement in compliance with speed limits (Kathmann, 2000). However, the signs were found to be most successful during their early life; as drivers become used to the signs their effectiveness reduces. A Study for Transport for London (Walter and Knowles, 2008) found that the 'novelty' effect wears off after about three weeks. Bristol overcame this problem in their pilot 20mph areas by continually rotating a number of signs between different fixed locations across the city (Bristol City Council, 2011).

There is anecdotal evidence that positive "reward" messages such as smiley faces for drivers complying with the posted limit have also been found to be particularly popular and effective (see <http://www.moviecom.tv/Blogs/blog/default.aspx?id=5681&t=Smiley>). This finding was also backed up by the qualitative research that found that people like the idea of being told that they are being good.

2.5.2 Organisational culture

The widely-recognised cultural phenomenon of “white van man” is typically a self-employed male tradesman who drives his work vehicle aggressively and carelessly through residential areas to get to his next customer on time. This group of drivers is not commonly featured in research. In fact there is an interesting, perhaps unexpected, correlation between driving behaviour when driving a work vehicle as compared to a private vehicle.

In study of 204 drivers from four different types of institutional driving fleets the participants completed a questionnaire collecting a variety of information relating to their attitudes and behaviour in relation to both their work driving and personal driving. Contrary to prediction, the participants reported a lower intention to speed in a work vehicle than in their personal vehicle.

The two psychological mechanisms the researchers identified as discouraging speeding in the work setting were anticipated regret and subjective norms. It could be concluded based on this research that company driving policy is an important factor in achieving speed limit compliance in work vehicles. This finding is borne out by the qualitative research carried out in Bristol (see Section 4.2) where the focus group of professional drivers stated low intention to speed in their work vehicles and were also highly intolerant of other drivers who exceed the speed limit.

2.5.3 Mass media and social advertising

The UK has had a series of road safety awareness raising and advertising campaigns over the years. One of the more memorable catch-phrases is “Clunk click every trip” for the seat belt campaign that started in 1971. This campaign was ultimately successful in changing culture but it is worth noting that the advertising ran for 12 years before compulsory front seatbelt use came into force in 1983 and was also accompanied by continual police enforcement. It would seem reasonable to assume that changing attitudes towards 20mph could require an equally sustained effort.

In Scotland the social advertising campaign “Foolsspeed” ran for five years from 1999 to 2004 with the aim of reducing inappropriate and excessive speed on urban roads (Hastings, 2007). The strategy was the first UK attempt to develop a large-scale driving behaviour intervention based on the Theory of Planned Behaviour. It used a wide range of media channels including four high profile television adverts. The evaluation of “Foolsspeed” concluded that road Safety campaigns underpinned in a psychological model can be successful without using fear-arousing approaches (Stead et al, 2005).

The most recent UK road safety campaign is the DfT’s THINK! This ran from 2000 to 2010 at a cost of £14 million to £19 million per year with THINK! as a unifying brand for a number of campaigns, each with its own specific behaviour change objective (NMSC, 2011). The approach was underpinned by two psychological theories:

- **Social Norms Theory** in which people’s behaviour is strongly influenced by their perception of how other members of their social group behave; and
- **Health Belief Model** in which a person’s willingness to change their health behaviour is based on perceived susceptibility to risk, perceived severity of health risks, perceived benefits of taking protective action and perceived barriers that might frustrate this intention.

Over the campaign period THINK!, in combination with engineering and enforcement measures, contributed to meeting or exceeding DfT’s road safety targets, with a 40 per cent reduction in KSI and a 59 per cent reduction in child KSI. However, an evaluation in 2009

of one of the specific campaigns “Live with it” aimed at raising awareness of the serious consequence of speeding found that attitudes to speeding had not changed significantly pre and post campaign (DfT, 2009b). This would seem to indicate that a short-term campaign in isolation from other physical or enforcement initiatives will have little impact on driver attitudes to speeding.

2.5.4 Driver education

Driver education in the UK is generally focused on the two part theory and practical test for adults over 17 years old. It is interesting to note that, on introduction of the 20mph pilots in Bristol, the council received a number of phone calls from driving instructors asking for clarification on whether their students should be observing the 20mph limit! This indicates that more work could be done to ensure that student drivers are being taught to drive at 20mph where the limit applies.

The other main opportunity for driver education is the administration of a speed awareness or driver improvement course which is offered, in some but not all Police Authority areas, to speeding offenders as an alternative to three points on the licence. The course content is developed by a team of academics and experts and is based on information and education using materials that are credible and forceful (Fylan et al, 2010). One of the important aspects of the course is that it addresses common driving problems and how to solve them. It is most effective in changing behaviour and attitudes of moderate occasional drivers who are persuaded by information on why exceeding the speed limit by a few miles is not safe (Fylan et al, 2010).

In the qualitative research (see Section 4.2) it was found that a high proportion of participants had attended one of these courses for being caught speeding in 30mph limit. The feedback was universally positive with individuals reporting that the course had made them more aware of speed limits and more careful to stick to the limit. These courses are not currently applicable to speeding offences committed in a 20mph limit although there is an on-going national discussion between the Association of Chief Police Officers and the National Association of Driver Intervention Providers about whether to develop a new 20mph-related course.

2.5.5 Community interventions

Community Speed Watch is a UK-wide initiative enabling volunteers to work within their community to carry out speed checks on their local roads. This helps to raise awareness of speeding and to control speeds through their community. It is normally done in partnership with the local police at least in the first instance so that volunteers are trained to use a radar gun and are accompanied by an officer to lend authority to the initiative.

This study has not identified any published research or evaluations of Community Speed Watch initiatives so it is not possible to draw robust conclusions on the effectiveness of this type of scheme. However, it undoubtedly increases community cohesion around the issue of speeding and provides a visible reminder to drivers that speeding is illegal. It appears to be a relatively popular initiative in rural communities where there is a single through-road that can be targeted and most speeding offenders are perceived to be from outside the community. However, the approach has been less widely adopted in urban areas and there is evidence from the qualitative research carried out in Bristol that residents are wary of assuming a policing role in their own neighbourhoods for fear of aggression or reprisal (see Section 4.2 on qualitative data analysis).

There are other positive ways that communities can take action to change their street environment. One of the best documented is an initiative called DIY Streets which has been developed by the charity Sustrans. This approach empowers residents to get involved in re-designing their own streets to make them safer and more attractive through low cost measures such as painting the road or introducing planters into the highway. One such

scheme in Torbay led to average traffic speeds reducing from 25mph to 18mph (Sustrans, 2010). Street parties are also a good way to bring neighbours together and can be a way for communities to come together around issues of concern such as rat-running or speeding. In Bristol the charity Playing Out has developed a simple but effective approach for neighbours to close their streets on a regular basis to encourage children to play out of doors. This initiative is explored in more detail in Sections 3.4.7 and 4.2.

The idea of a community “pace” car pledge – where drivers sign up to drive at 20mph and display a car sticker to show their commitment - is one which has been trialled in Bedminster, Bristol as well as other locations across the UK and Australia although there is no published research on this type of initiative. However, although it seems to be a simple and engaging idea it has not grown in popularity. The qualitative research undertaken in Bristol revealed a strong resistance to publicly displaying a commitment to 20mph in your car. This may be because it brings to the surface people’s cognitive dissonance between their stated support for 20mph and their actual behaviour where they tend to drive faster than 20mph.

2.5.6 In-car technology

It could be anticipated that new technology could play an increasing role in controlling vehicle speeds in urban areas in the future. A study of in-vehicle control systems (Whitmire, 2011) found that audible and visible in-vehicle speed warnings were highly effective in influencing driver behaviour to control speed in work zones.

However, although some research has been carried out into how speed limiters can affect driver behaviour there is still a question over whether vehicle speed limiters or data recorders could ever become widely acceptable to drivers. A study from the USA (Comte et al, 2000) concluded that although drivers perceive speed limiters to be effective in reducing accidents there is a need to address concerns related to how speed limiters might change the nature of the driving task.

An increasing number of local authorities are introducing in-vehicle data recorders or Intelligent Speed Adaptation (ISA) units to track fleet vehicles to monitor fuel consumption, speeds and usage. This technology can offer significant cost-savings in fleet operation and can also offer PR opportunities to demonstrate councils are achieving best value for their residents. In relation to 20mph there is an opportunity for councils to track speed limits which would ensure in-house compliance with 20mph limits.

Box 5: Summary of evidence on effective soft measures to influence speed choice

- Normative social influences can strongly affect drivers' speed choice and posted feedback on road signs can help to normalise compliance with the speed limit. Vehicle Activated Signs (and in particular smiley faces) are also effective but the novelty effect does wear off;
- Organisational culture plays an important role in influencing driver speed choice in fleet vehicles; where there is a strong culture of safety or zero tolerance towards speeding offences drivers will be more likely to comply with speed limits in their work vehicles;
- Mass media/social advertising campaigns require high levels of resourcing and need to be sustained over a long period of time to achieve behaviour change. To be completely effective they also need to be coupled with engineering and enforcement measures. The use of psychological models to underpin messages can be more effective than using fear tactics.
- Opportunities for driver education are limited in the UK but the driver improvement or speed awareness courses are a useful engagement process for raising awareness about the risks of speeding and offering practical solutions. However, these courses are not currently available for speeding offences in a 20mph limit;
- Community interventions such as Community Speed Watch are reasonably well-established in rural areas but are less proven in urban areas where residents are concerned about potential confrontational situations with neighbours;
- In-vehicle speed control systems or telemetry is being introduced by some local authorities and could help with speed limit compliance but it has not yet been widely applied to private motor cars;
- Social marketing led multi-discipline interventions that include community development, auto-feedback IVDR, incentives to engage, marketing led re-designs of driver coaching, relationship management, face-face persuasion using co-active and co-created persuasion ... the kitchen sink of everything face-face/relationship. (Tapp, Baugh, Pressley, to be published)

2.6 Social marketing to influence speed choice

2.6.1 What is social marketing?

The term “social marketing” is commonly attributed to two marketing professionals, Kotler and Zaltman, who in 1971 posed the question as to whether commercial marketing concepts and techniques could be effectively applied to the promotion of social objectives such as safe driving or family planning. They concluded that business marketing concepts could be successfully applied to promoting social causes and offered the following definition:

“Social marketing is the design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication, distribution, and marketing research.” (Kotler and Zaltman, 1971).

The authors were careful to distinguish between social advertising – the communication of campaign messages – and the process of social marketing which involves market research and delivery of a “product” (the word is used very broadly to mean offering something tangible that could help someone to change behaviours) to target audiences. In their seminal paper they not only defined the concept of social marketing but also set out the planning process for such initiatives, using a defensive driving programme as an example.

Over the past 40 years social marketing has slowly gained currency and it has been used, most commonly in the USA, Canada and Australia, and more recently in the UK, to influence behaviour on a range of social issues. Most social marketing activity has focused on behaviour changes in health, environment and sustainability sectors (Alves, 2010).

However, the Kotler and Zaltman definition of social marketing did not capture the idea that social, cultural, commercial, environmental and political pressures also affect people’s behaviour, and that social marketing needs to act within the context set by these macro forces. These forces act “upstream”, and may be in opposition to a targeted social marketing campaign. For example, the commercial marketing efforts of tobacco, fast-food, alcohol and car manufacturers are all working in direct opposition to public health initiatives aiming to get people to stop smoking, eat healthily, drink less or reduce car trips. Similarly, “car-culture” programmes such as Top Gear in the UK are likely to create cultural norms that may act in opposition to the cultures we want to put in play in the 20mph field.

A more comprehensive definition of social marketing which reflects these wider tensions was coined by Lazer and Kelley:

“Social marketing is concerned with the application of marketing knowledge, concepts and techniques to enhance social as well as economic ends. It is also concerned with analysis of the social consequence of marketing policies, decisions and activities.”

- Lazer and Kelley, 1973 .ix in Hastings 2010 p.9.

In the UK the health sector has taken a particular interest in social marketing, for example in the fields of smoking cessation, alcohol abuse and physical activity. This has led to the formation, in 2006, of the National Social Marketing Centre which was originally a collaboration between the Department of Health and the National Consumer Council. It has a comprehensive website which provides a wealth of information on social marketing including a wide range of case studies <http://thensmc.com/resources/showcase/subject>. This is a useful resource for speed limit campaigners - significant programmes such as Change4Life can provide ideas for other

sectors. Within this work, the Think! Campaign funded by the DfT has been running for over ten years, and has been associated with a drop in accident rates from RTCs. Speeding has been one of the behaviours targeted by this campaign.

This report is concerned with how the principles of social marketing can be effectively used to persuade car drivers to comply with 20mph limits and also to think about using their cars less for short, local trips. Appendix B provides an overview of the theories and principles that underpin social marketing in order to analyse the research literature and apply the findings to influencing driver behaviour. The following sections focus on the evidence and best practice, as identified in the literature review, on the use of social marketing techniques to influence driver behaviour.

2.6.2 Social marketing tools

Principles for social marketing are drawn from commercial principles (Hastings, 2007). One such principle is the idea of a 'social marketing mix', easily remembered through the so called 4Ps:

- 1. Development of a Product**
- 2. The Promotion of the product**
- 3. The Place**
- 4. The Price**

This is a framework which situates people as "consumers" who will potentially "buy into" a certain idea or proposition, provided that the proposition is attractive enough for them. The proposition would be an alternative behaviour – the desired behaviour that the professional is 'selling', in this case 20mph limits. It is assumed that the "buying in" to that idea by individuals will result in behaviour change – provided the new behaviour is deemed to be superior in some way (easier to do, provides more satisfaction, less costly, makes people happier, etc) to the current behaviour.

In the case of 20mph limits, social marketers need to find the correct motives, and need to lower the barriers to adopting the new behaviours. A complicating factor is that a great deal of driving is highly automatic – not consciously thought about - in nature: hence, the use of behavioural economics in tandem with social marketing may be appropriate. An example could be the use of, say, a campaign focusing on values and beliefs to encourage societal shifts in these attributes, followed by specific 'nudge' style tactical campaigns to change ingrained, automatic habits.

Another strategic consideration for social marketing in 20mph centres is around an understanding of the interaction between the individual and society as a whole. Social and cultural norms currently act against 20mph limits, in that the UK is a car-dominant society, and travelling at 30 in cities is a default norm. Lifestyles – multi-tasking busy people juggling children, careers, and home – also mitigate against 20 limits. Frustratingly, there are also a complex bundle of attitudinal and behavioural myths (eg 20mph limits mean it will take longer to cross a city), misunderstandings (driving at 20mph uses more fuel) and misperceptions (not enough people support driving at 20mph – see earlier in-depth discussion) that mask what appears 'on-paper' a clear benefit for most citizens and one that involves little downside.

The temptation to use education – explain the facts and people will change – is strong. Over a lengthy period, educational approaches will presumably be valuable, in the way that health education over periods of decades, is often valuable. However, in the shorter term (say, the first year or two of the roll out) the gap between awareness of an argument, acceptance, countering other arguments, understanding of one's own motives, understanding of the difficulties of changing ingrained habits, overcoming auto-behaviours to change habits – all of these things together make an apparently simple act of driving more slowly much more problematic than is supposed.

On the plus side, the physical and mental effort involved in the behaviour change itself is relatively simple. Compare driving at 20mph rather than 30mph to, say, losing a stone in weight: it is clear we do not face the degree of behaviour change difficulty faced by workers in the obesity field.

The behaviour is also observationally contagious – copycatting of a new behavioural norm is likely to be quick and widespread. This suggests that we should focus on the behaviour itself, changing this for the innovative leading edge, and use this to reverse engineer attitudes and norms.

We argue that to do this would require:

- Strong initial enforcement,
- Nudging of the change once it is introduced,
- A strong PR (media, on-line, events) campaign, and / or communications (paid for advertising) campaign to lodge simple messages into any narrative that starts to take hold, and to counter attacks from ‘pro-motoring lobbies’
- Leading to large scale change through semi-automatic social copycatting,

These together would create a sudden dislocation of the current norms, crossing “the chasm” as previously shown in Figure 1.

So, in summary, social marketing strategy #1 would be:

- Ongoing education campaign that has an open ended time scale that would stretch beyond any one campaign or programme.
- Hot-house programme of PR/communications around the launch of 20mph
 - Creation of ‘sound-bites’ to back up the launch
 - A ‘Social norm’ campaign that explains to people that supporters of 20mph are in the majority, and that being pro-20 mph is ‘normal’
- Introduce creative behavioural economic style nudges to trigger cognitive awareness of personal driving
- We would also propose the use of social marketing to the police themselves: selling the concept and the reason for its use, and the reason why their support is so important in the early stages of its roll out. It may be that council/citizen pressures would be needed to encourage senior and middle ranking police buy in. It is recognised that there are significant resource pressure on all public services for the foreseeable future, and the police are not immune to such pressures.

We have noted that there is likely to be a backlash from so called driver/car lobbies, libertarians, and possibly business groups. The chances are some of these will use a variety of arguments based on differing levels of rhetoric (much of which is unlikely to have significant evidence or factual basis) to create emotional responses amongst their followers. Such narratives may well be picked up by a willing media, for whom the emotional clashes of differing visions for society will create good ‘news’ stories. The kind of messages peddled

by opponents of 20 mph limits would include loss of freedom, the concept of individual choice (don't tell me how to drive), no need for 20 limits (30mph is fine and works well), and then, if and when such arguments are being lost, moving to a second level of myth and rhetoric – loss of business, noise increases, no-one takes any notice anyway, limits-don't-work, and so on. Countering such attacks will be very important: development of short-hand communication devices of our own, counter-arguments, etc., could be important.

The creation of arguments and counter arguments to support 20mph is a work package for specialist PR, with message platforms and creative development of messages at its heart.

So, social marketing strategy #2:

- Engagement & relationships, face to face work to generate bedrock of community support
- Sense-respond PR to fight off attacks
- Ongoing nudge/enforcement

Finally, we would note the value of using the diffusion model (in the diagram above) to plan and monitor the roll out of behavioural and attitudinal changes through the different social groups.

3.0 Case studies

This section presents a series of case studies comparing learning from places that have piloted or implemented 20mph sign-only schemes.

Across Europe, 30kph (18.6mph) is the default speeds in many residential areas of towns and cities but these are typically accompanied by a high degree of physical measures to achieve compliance. The city of Graz in Austria has been included in these case studies as it introduced a city-wide signs only 30kph limit alongside an intensive programme of publicity and enforcement between September 1992 and August 1994 (Wernsperger and Sammer, 1995).

In England, Portsmouth City Council was the first local authority to introduce, between 2006 and 2008, a city-wide, signs-only residential limit of 20mph. Oxford followed close behind, with Oxfordshire County Council introducing a city-wide signs only 20mph limit in 2009.

As can be seen in Table 3 many towns and cities across the UK are now at various stages of piloting or implementing sign-only 20mph schemes. This study has reviewed in detail the schemes in Graz, Portsmouth, Oxford, Bristol, Lancashire and Warrington.

3.1 Graz

3.1.1 Case study context and approach

The city of Graz (population 240,000) in Austria first introduced 30kph zones with minor physical road changes in the 1980s. These proved so popular among residents that the City Council realised they would not have the budget to transform the city. Graz then became the first European city to trial a new two-tier approach to city speed limits: 30 kph in all residential areas roads and 50 km/h for all priority roads. The limits were implemented using signs combined with publicity and enforcement between September 1992 and August 1994. This proved successful and the two-tier limits have been permanently retained.

The Graz case is of particular interest to the UK experience because it is one of the only well-documented examples of a long-term approach to urban speed reduction using signs-only limits with public awareness raising and enforcement. The initiative was accompanied by a detailed academic study (Wernsperger and Sammer, 1995) and more recent developments have been documented on the European Mobility Portal <http://www.eltis.org/>. The 1995 report and the Eltis website are the sources of information for this case study.

3.1.2 Rationale and policy drivers

The primary goal of the Graz scheme was to increase road safety for people using non-motorised modes of transport. The strategy focused on the speed reduction of private cars, as they are the main risk for pedestrians and cyclists. A secondary stated objective of the initiative was to contribute to an improved standard of living in the city through improved air quality and reduced traffic noise impact.

The 30kph limit formed part of Graz's comprehensive traffic plan which went under the slogan "Gentle Mobility" and had two overarching objectives:

- Maximum promotion of pedestrian, cycle and public transport; and
- Limitation of private motorised vehicles.

3.1.3 Implementation

The 30 km/h speed-limit was implemented on all residential roads and in front of schools and hospitals thus covering around 80% of the whole city. The priority street network, which was 230km long, consisted of all arterial roads and roads with main public transport routes.

Table 3: UK towns and cities introducing signs-only 20mph limits

(source: <http://www.20splentyforuk.org.uk/>)

Local authorities committed to 20 mph as the default speed limit for residential streets with populations	
Portsmouth	197,700
Oxford	151,000
Norwich#	132,200
Leicester	292,600
Newcastle-upon-Tyne	189,000
Islington (LB)	187,000
Hackney	209,700
Bristol*	416,000
Warrington	192,000
Wirral	309,500
Southwark (LB)	278,000
Edinburgh*	477,000
Cambridge*	130,000
Bodmin#	12,778
Limpley Stoke	900
Lancashire	1,451,700
Worthing#	102,100
Chichester#	23,751
Colchester#	104,390
Glasgow City	580,690
York	195,400
Liverpool	434,900
Brighton & Hove	256,600
Bishopbriggs	23,500
Sheffield	534,500
Middlesbrough	142,400
Bath & NE Somerset	179,000
Camden (LB)	235,400
Darlington	97,712
TOTAL	7,537,421
*piloting	
LB = London Borough	
#Agreed by city/town council and awaiting County Council approval	

For the 50 km/h priority roads a traffic-safety-monitoring group comprising city-experts, police, road safety specialists and consultants was established to identify dangerous spots and develop appropriate solutions. These included changes to traffic-light phasing and redesign and construction of some sections of road and junctions.

Large multi-lingual signs were placed at all the approaches to the city to indicate that all streets except the priority network are 30kph. The priority 50kph roads were clearly marked with "priority street" signs and so all others could be assumed to be 30kph by default. All side streets off the priority streets were signed with 30km/h reminders signs.

In recent years the city has introduced new speed control devices giving drivers posted feedback on their actual driving speed. A total 13 devices were bought in 2006 and were distributed all over the city at over 130 specially prepared fixed places in sensitive areas such as outside schools. The devices are moved around monthly between these selected locations. Evaluation has shown that this automatic feedback helps drivers to stay within the speed limit and can reduce average speeds on these roads by 10%.

3.1.4 Consultation, publicity and social marketing

The Graz initiative placed a great deal of emphasis on public awareness raising and information provision. Intensive public relations work was undertaken in the six months leading up to implementation and for months after introduction of the new limits. The aim of this public relations work was to increase road users' acceptance of the 30kph limit and to foster public approval.

Prior to implementation a vast public awareness campaign was carried out focusing on different levels: Level 1: Politicians and decision takers, level 2: multipliers (such as journalists, priests, hairdressers), level 3: the general public. Channels of communication included:

- Extensive information via the media, the city's official bulletin, etc.;
- Advertising boards, banners and posters within the main street network; and
- Various local interventions near junctions, such as moving banners.

There was a strong anti-campaign towards the 30 kph limit prior to its introduction and opponents called for a referendum. The former vice mayor of Graz, who was in favour of the speed limit, argued that it isn't easy for people to vote for or against such a measure before they have seen the effects. His solution was to propose a two years pilot phase. At the end of the two year pilot in 1994 a large majority of the population voted in favour of retaining the 30 kph speed limit.

3.1.5 Police enforcement

Police enforcement was an essential component of the original scheme and seems to have been well-resourced by equipping police with both mobile and static speed detection equipment. At the start of implementation speeding drivers were stopped and warned but after this initial period drivers were fined. As a more subtle social approach large display boards were erected in the city to make drivers aware of their speed.

Another innovative approach was developed for police working in cooperation with children. The children used radar guns provided by the police to measure speeds of cars and offered car drivers either an apple if they were within the speed limit or a lemon if they were above the speed limit.

There has been a clear recognition in Graz that if enforcement is reduced then speeds increase. However the police have been unable to resource on-going enforcement in the city. In February 2006 speed enforcement in the 30 kph areas was outsourced to a private company. This company supervised car drivers for 20 hours per week and offenders were reported to the police for fines to be issued. Under this system in 2006 the speed of 150,000 vehicles was measured in 30kph areas and 15,800 or 10% were found to be speeding.

In 2010 a legal ruling found that private companies could not be contracted for speed enforcement but the function is now carried out by council staff sub-contracted to the police.

This is of course not an option available to local authorities in the UK under current legislation.

3.1.6 Monitoring and evaluation

The two year trial achieved a 12% reduction in accidents with slight injury and a 24% reduction in serious injury accidents. The reductions were most significant at junctions and crossings. The study observed road user behaviour using video cameras at three junctions and concluded that drivers and pedestrians were more considerate to each other.

The speed measurements for pre-implementation and one year post implementation detected relatively small reductions in average speed (figure not stated in report). However, there was a strong measured reduction in high speeds; the proportion of those travelling at more than 50kph in the 30kph limits fell from 7% to 3%. A third set of measurements carried out 18 months after implementation found smaller speed reductions and this highlights the importance of on-going publicity and enforcement.

The study investigated the travel behaviour of 10,000 households to assess mode shift and route choice as a result of the changed speed limits. The survey found that no households had changed their mode and that only 1.5% of trips had been changed to take a different route.

Traffic noise was monitored at 11 sites around the city and found to have reduced by a measurable amount. This was attributed by the researchers to slower speeds and also smoother driving style. Exhaust emissions and fuel consumption were measured with 170 test drives around the city. It was concluded that the slower speed limits result in a slight rise in carbon monoxide emissions (3.8%) and hydrocarbonates (0.5%) but a 24% reduction in nitrogen oxide emissions. Fuel consumption was not affected.

The study finds some interesting fluctuations in public attitudes through a series of four opinion polls by telephone. These were conducted prior to, immediately after, six months after and 18 months after implementation. There was a lack of understanding and some misplaced fears prior to implementation. For example two thirds of the population thought the new limits would increase congestion but after two years only one third of respondents felt that congestion had increased. Before implementation, the majority of respondents were opposed to the new limits but 18 month after introduction 77% of respondents supported it.

3.1.7 Lessons and repeatable ideas

Box 6: Lessons and repeatable ideas from Graz 30kph initiative

- Public opinions are often based on lack of information and misplaced ideas; these can be countered by public relations and media campaigns to win support and increase understanding;
- Despite massive opposition the actual experience of slower speed limits was widely regarded as positive;
- Drivers respond well to posted feedback about actual speeds;
- Introducing a slower speed limit did not result in any mode shift and only changed route in 1.5% of trips;
- Enforcement is a critical component of achieving slower speeds and if enforcement is decreased then speeds will increase, even if limits have been in place and adhered to for some years;
- School children can be effectively engaged in policing speed limits and outsourcing to a private company is also effective (though not currently a legal option in the UK);
- Reducing speeds encourages a smoother driving style and in 170 test drives was not found to increase fuel consumption.

3.2 Portsmouth

3.2.1 Case study context and approach

Portsmouth City Council was the first local authority in England to implement an area-wide 20mph speed limit using signs alone. The scheme was implemented between April 2006 and March 2008.

The Portsmouth initiative is well-documented as the DfT commissioned an evaluation of the scheme so it was decided it was not necessary to visit the city to gather data for this study. The officer in charge of implementation Angela Gill has since retired and so information was collected from emails and phone conversations with her successor Adam Bunce. This case study has been prepared on the basis of these conversations, with additional data from council reports and presentations and the evaluation work (Atkins, 2010). The content has been reviewed and agreed by all the interviewees.

3.2.2 Rationale and policy drivers

The Portsmouth scheme was designed to address actual and perceived safety issues associated with busy residential areas and inappropriate vehicle speeds. It was intended to deliver the LTP2 objective to 'improve the levels of safety beyond the national 2010 targets for all road users especially children and other vulnerable groups'. The scheme was also intended to give a greater priority to pedestrians and cyclists, and encourage greater use of these modes. Therefore the vision for a 20mph Portsmouth was:

"To ensure that the city's residents enjoy a safer and healthier environment and that the streets outside their houses revert to community areas as opposed to 'hostile' traffic corridors."
(Atkins, 2010).

The scheme included 94% of the city's total road length (410kms out of a total of 438kms residential road length) most of which had existing average speeds equal to or less than 24 mph. Some residential roads with existing speeds of more than 24mph were also included to provide consistency in the signing and road user perception.

3.2.3 Implementation

The roll-out of the Portsmouth 20mph signs-only was undertaken by dividing the city into six sectors and implementing over two years between April 2006 and March 2008. The total scheme cost was £0.57 million which included signage and some junction treatments, consultation, publicity and pre and post-implementation qualitative and quantitative surveys. The scheme comprised post-mounted terminal and repeater signs as required by DfT specification. 20mph roundel road markings were also installed on the carriageway next to the terminal signs.

A small number of junctions where it was considered necessary to draw drivers' attention to the change in road character were treated with red surfacing, and/or hatching. This helps driver to make right-angled approaches to the junction and thus slow down before making a turn.

3.2.4 Consultation, publicity and social marketing

An extensive public consultation programme was undertaken by PCC including:

- Neighbourhood Forums & residents' associations consulted
- Statutory advertisements published in The News
- Additional articles carried in the body of The News
- Television and radio interviews recorded both locally and nationally
- Intranet and Internet news flashes

- FAQ website address appended to the TRO
- Plan & poster exhibited in all schools & public buildings
- Leaflet sent home with each school pupil as each sector in the area was advertised
- Plans & leaflets available at the Civic Offices.

A particular feature of the Portsmouth scheme was the close involvement of local primary and secondary schools, with each pupil being given detailed information on the scheme in their area and posters placed in school halls.

The scheme received considerable publicity in the local press and the local radio which interviewed members of the council. A dedicated answer line was set up in the council to answer queries on the scheme. No details are available on the level of expenditure on the consultation and publicity element of the scheme.

3.2.5 Police enforcement

Early consultation was undertaken with the Hampshire Police; they voiced initial concerns about lack of resources to enforce the new limits. However, once there was an understanding that the limits would be focused on potentially self-enforcing roads with existing average speeds of 24 mph the police withdrew their objections.

Once the scheme had been implemented the Hampshire Fire and Rescue team carried out some driver awareness training by pulling over speeding drivers (note that Fire and Rescue do not have legal powers to stop drivers!) on certain roads. Drivers were asked to visit the Fire Station on a voluntary basis to receive some basic speed awareness training and apparently the response was positive.

The Hampshire Police Constabulary has, according to a council officer, now set up a three-tier approach to 20mph enforcement. This consists of:

- 1) Targeted periodic enforcement on problem roads as identified by the council's speed monitoring or complaints from residents;
- 2) Community Speedwatch supported by the Road Policing Unit;
- 3) And Community Speedwatch run by local residents where they send number plates to the police database and drivers are sent a warning.

3.2.6 Monitoring and evaluation

Pre and post Implementation monitoring, in partnership with the DfT, included measurements of traffic speed and volume, accidents, modal shift and public satisfaction. The pre and 18 month post-implementation speed surveys at the 223 monitored sites indicated a reduction in the average speed from 19.8 mph to 18.5 mph after implementation of the scheme; a reduction of 1.3 mph.

One of the most significant findings from the Portsmouth monitoring is that the speed reductions were much more significant on the roads that had higher pre-implementation speeds. The monitoring found that there was an average reduction of 6.3 mph at sites with speeds greater than 24 mph.

Average speeds at 12 of the 32 monitored sites where average before speeds were greater than 24 mph reduced to below 20 mph after implementation.

Pre-implementation average speeds at 10 of the monitored sites exceeded 30 mph with an actual average of 33.8 mph. After the scheme was implemented, the average speed at 7 of these 10 sites had reduced to 22 mph; a speed reduction of 11.8 mph. (Atkins, 2010).

When the results are added together across all six sectors they demonstrated a statistically significant reduction in average speeds of 1.3 mph. For sites with speeds in excess of 20 mph, it averaged 4.6 mph; and for sites with speeds in excess of 24 mph, it averaged 6.3 mph.

The pre and post-implementation accident data roads safety showed the total crash reduction was 21% and the number of casualties fell by 22%. However, disappointingly KSI casualty numbers increased by 6% and KSI accidents increased by 8% in the 18 month post-implementation period. There were wide variations between the six sectors and short-term accidents rates such as these cannot be considered statistically significant. The consultant's detailed examination of the accident trends as well as the accident causation factors did not show any noteworthy change in patterns, in particular those related to inappropriate speeds and aggressive driving.

The qualitative survey data highlighted that residents would like to see the implemented Speed Limit being enforced. An interesting point to note is that respondents who currently walk and cycle stated the lowest levels of satisfaction with the scheme.

The officer at Portsmouth mentioned that there is an aspiration to carry out a further evaluative study on the limits in Portsmouth now that they have been in place for more than three years but no funding from DfT has been allocated for this task.

3.2.7 Lessons and repeatable ideas

Box 7: Lessons and repeatable ideas from Portsmouth 20 mph initiative

- The involvement of schools in the publicity and consultation process is a simple route to engage the local community and raise awareness;
- The involvement of the Fire and Rescue team in helping to enforce and educate about the new limits was well-received;
- The police have developed a low-cost, community based strategy to enforcement with occasional road policing intervention to send out a strong message to drivers;
- The speed reductions were most statistically significant for the roads with the highest pre-implementation average speeds. This challenges the DfT guidance that signs-only interventions should only be used on roads where average speeds are up to 24mph.
- Using a short time line for accident data can lead to misleading headline figures – longer trends need to be evaluated to determine the impact of 20mph on road safety.

3.3 Oxford

3.3.1 Case study context and approach

In September to October 2008 Oxfordshire County Council (OCC) carried out an informal consultation on the introduction of 20mph speed limits on the majority of residential roads in Oxford (and the adjacent area of North Hinksey/Botley) as well as on city centre roads, in suburban shopping areas and on sections of more major routes. This confirmed that almost two thirds of residents were supportive so the scheme went to formal consultation in February to March 2009 and was implemented in September 2009.

In order to gather information on the scheme the following meetings were held with council officers and local residents:

Wednesday 12th October 2011 from 1100-1230:

Geoff Barrell - Road Safety Engineering Team, OCC

Anthony Kirkwood - Road Safety Engineering Team, OCC

Wednesday 12th October 2011 from 1330-1430:

Ted Dewan - Resident and DIY Street promoter, Beechcroft Road, Oxford

This case study has been prepared on the basis of these meetings, with additional data from websites and council reports. The content has been reviewed and agreed by all the interviewees.

3.3.2 Rationale and policy drivers

The two drivers for introducing 20mph speed limits in residential areas, as set out in the report to the Cabinet Member for transport were:

- Improved road safety by reducing the number and severity of accidents; and
- Encouraging the use of walking and cycling with benefits including reduced congestion, lower carbon and other vehicle emissions as well as wider health benefits such as reducing obesity.

The rationale for selection of roads was to include all minor, residential roads and some limited sections of radial roads where the existing speed was already in the region of 20-24mph in line with DfT guidance. Some roads with average speeds above 24mph were chosen for inclusion in the 20mph limit because they were deemed to be important walking and cycling corridors, school routes or had an accident history. In these cases the council proposed to introduce the 20mph limit and monitor speeds. Supporting measures such as road narrowings were designed to be funded as required.

3.3.3 Implementation

The roll-out of 20mph signs only was completed in September 2009 at a total cost of £233k. Further expenditure was planned for 2010/11 to implement supporting measures on some roads but the budget was lost as a result of spending cuts.

The scheme comprised entry and exit signs and repeater signs as required by DfT specification. Additional roundels were planned for the road surface but were rejected as a result of the council's strong de-clutter policy.

Approximately 500 temporary signs were fixed to posts at the launch of the new limit reminding drivers "It's 20 for a reason!"

3.3.4 Consultation, publicity and social marketing

The Traffic Regulation Orders were obtained through formal consultation followed by notices in the newspapers but no site notices were issued (e.g. signs on lampposts). A total of 164 responses were received as a result of this process and 69% of these supported the proposals. The negative responses were mainly related to concerns about:

- Cost/cost effectiveness;
- Increased vehicle emissions;
- Increased sign clutter; and
- Adverse impact on bus journey times.

A formal objection was received from the Thames Valley Police voicing their concern that compliance would be low and that this could lead to increased demands for enforcement. The council conceded that the police would not play a role in enforcing the 20mph limits.

The bus companies First, Go Ahead and Stagecoach were supportive, particularly as 20mph helps with their own Health and Safety objectives. Buses in Oxford have on-board cameras and telemetric “black boxes” so speed compliance of bus drivers is excellent. OCC worked closely with the bus companies to foster a positive working relationship and the local bus operators are considered by the council officers to be very committed to improving safety and specifically the interaction between buses and cyclists. This is borne out by observations and informal questioning during the site visit. Buses travelling up St Aldate’s near the High Street were observed, near the Vehicle-Activated Sign to be adhering to the 20mph limits. On questioning, one bus driver showed full awareness of the extent of the 20mph limits and did not express any concerns or dissatisfaction.

A budget of £5k was set aside for a publicity campaign but only approximately half of this was actually spent on leaflets, banners and posters and four sessions in supermarket foyers. The limits received some favourable press coverage and were not regarded as highly controversial. However, more could perhaps have been done to communicate the benefits to the public. One officer interviewed commented that the “It’s 20 for a reason” signs were widely derided as the “reason” was never explained to the public!

3.3.5 Police enforcement

As referred to above, the Thames Valley Police Assistant Chief Constable lodged a formal objection to the 20mph limits on the basis that it should be self-enforcing and they would not be able to commit resources to policing the new limit. Whilst recognising this concern, OCC decided to proceed with implementation of the limits. Their position was that there did not appear to be significant demands from areas already subject to a 20mph limit and that the 20mph should not change the enforcement burden.

A Community Speedwatch initiative was set up in one street where a resident was concerned about speeds but the officers understood it had not been very successful.

In conclusion the police cannot be regarded as a supportive stakeholder in the 20mph initiative and there has never been public endorsement from the police. Although neighbourhood teams are apparently more proactive, one police officer, when questioned informally on the section of the Cowley Road which has had a 20mph limit in place since September 2009, confirmed the official position that Thames Valley Police do not enforce 20mph but she strongly felt that “somebody should be!”

3.3.6 Monitoring and evaluation

The project team carried out pre-implementation and one year post-implementation speed surveys at 130 sites and that there was a 0.9mph reduction in average speed from 22.0mph

to 21.1mph. A further round of monitoring is planned for 2012 and it will be interesting to see whether any speed reduction has been sustained over the three year period that the 20mph signs have been in.

No other qualitative or quantitative data collection was carried out so it is not possible to gauge shifts in residents' attitudes or impact on levels of walking and cycling. No detailed assessment of accident data has been carried out by OCC but one of the officers indicated that they had seen an increase in cyclist accident rates.

3.3.7 Lessons and repeatable ideas

Box 8: Lessons and repeatable ideas from Oxford 20 mph initiative

- The formal consultation process showed good support for 20mph at 69%;
- TROs were obtained cost-effectively by advertising in newspapers;
- Fostering a close relationship with the bus companies has led to excellent levels of compliance and improved awareness of cyclist safety;
- The resourcing limitations of the police to enforce 20mph have been recognised but the lack of public endorsement is unhelpful;
- Residents need to understand the reasons for 20mph; a sign saying "it's 20 for a reason" may raise awareness but does not increase buy-in;
- The community-led DIY Streets initiative (see Box 9) supported by both Sustrans and the council served to raise local awareness of speeds and change conditions dramatically for residents living in the street;
- There has not been on-going monitoring or evaluative work so it is difficult to measure either the perceived or actual impact of the 20mph limits;
- The lack of budget to follow up with supporting measures on roads where non-compliance is an issue means that some areas will probably still not be benefitting from slower speeds. This may undermine the overall measured success of the scheme.

Box 9: The Beechcroft Road DIY Street project – “Let’s not talk about the weather”



The residents of Beechcroft Road, a leafy suburban road of Edwardian houses in the north of Oxford, worked with the County Council and the charity Sustrans to re-design their street to make it safe and more attractive. The leading activist, Ted Dewan, explained that their primary objective was to reduce passing traffic speeds to 20mph, although at the time the default limit was still 30mph. Ted and his neighbours had been organising pranks for a number of years (see: <http://www.wormworks.com/roadwitch/>) because, in his words “It gave us something to else to talk about instead of the weather”.

The scheme, which was constructed with the help of residents, in 2010 cost approximately £10k to complete. The council officers as well as the residents gave their time for free and local children helped to paint the street.

Interestingly, the lead council road safety officer Anthony Kirkwood (whom the residents named an unsung hero) said that in the end it was the residents themselves who self-limited. For example, they had wanted to place a picnic bench in the street but decide that it would be potentially too dangerous.

He also concluded that a traditional engineering scheme – some speed bumps – would have achieved the same speed reduction at a lower cost. However, from visiting the street and talking to residents it is clear that the money also harnessed community cohesion and spirit to work together and improve their street which is something a speed bump cannot do.

3.4 Bristol

3.4.1 Case study context and approach

Bristol City Council introduced two 20mph signs-only pilot areas in inner South Bristol and inner East Bristol in May and October 2012 respectively. The two areas covered approximately 500 roads and 30,000 households.

The pilots included a comprehensive programme of pre and post-implementation monitoring which provides a wealth of information on the scheme. In addition a number of stakeholders involved in design and implementation were interviewed for this study. These were:

Name	Job title	Interviewed
Claire Lowman	Manager, Active Bristol	14 July 2011
Emma Pick	Road Safety Team	3 August 2011
Mark Sperduty	Road Safety Team	3 August 2011
Peter Holt	Head of Service, Communications	31 August 2011
Peter Mann	Head of Service, Transport	6 September 2011
Dave Sheppard	Policy Adviser, Avon and Somerset Police	7 March 2012

This case study has been prepared drawing on information from the monitoring report (Bristol City Council, 2011) and the discussions with officers.

3.4.2 Rationale and policy drivers

The stated aims of the Bristol scheme were to:

- Encourage more people to walk and cycle;
- Improve road safety (in line with BCC Casualty Reduction targets); and
- Help create more pleasant and shared community space.

The two pilot areas were selected on the basis of casualty data and also the types of streets, existing traffic volumes and speeds and presence of schools and community facilities. These factors helped to determine which areas would be likely to benefit most from the introduction of a 20mph limit.

3.4.3 Implementation

The Bristol pilots were implemented in two phases: the inner south pilot was completed in May 2010 and the inner east in October 2010. The overall cost of the two pilots was £430k, funded by the DfT's Cycling City programme. Approximately £100k of this funding was allocated to monitoring. An additional £15k of council money was used to install additional signage. A sum of £7k was contributed from the NHS Active Bristol programme to fund promotional activities.

The initial design of the pilots included only those roads with mean average speeds of 24mph or less in line with DfT guidance. However, the engagement process identified a strong desire to see inclusion of some of the faster roads in the pilots and so proposals were amended to include a number of these roads.

The scheme comprised post-mounted terminal signs (600mm diameter) and repeater signs (300mm diameter) as required by DfT specification. A series of 20mph roundel road markings were retro-fitted in January and February 2011 on several higher speed or major roads to increase awareness of the 20mph limits. 8 solar-powered Vehicle Activated Signs (VAS) were purchased for the scheme and they were rotated around the two pilot areas every three months.

3.4.4 Consultation, publicity and social marketing

A public engagement exercise was carried out for both pilot areas in September 2009. This took the form of distributing information leaflets to public places including council premises, schools (staff and governors but not pupils), leisure centres and local community organisations. The information was also published on the BCC website and a discussion thread was initiated on the Ask Bristol forum.

The informal engagement process found that many residents wanted to see inclusion of some faster main roads and so the statutory consultation and advertisement on lampposts included these roads. There was little formal opposition to the plans.

The council did not develop a public communication strategy to support the introduction of the pilots. However, Active Bristol identified the opportunity to promote 20mph limits and developed a publicity campaign in partnership with BCC. The campaign comprised an information pack including a leaflet (with a competition to win a bike), 20mph car stickers and key rings. A total of 3000 packs were distributed in Bristol at a cost of £7000.

Some other supporting initiatives undertaken by BCC officers included:

- Writing to internal council and NHS fleet services to encourage adherence to 20mph;
- Road safety week 20mph promotional activities;
- Promotion of the scheme in the Bristol City Football Club programme;
- A presentation to Bristol's Green Commuter Club;
- Work with local neighbourhood Partnerships and community groups.

3.4.5 Police enforcement

The issue of police enforcement, as in all the other schemes researched for this study, has been a challenging one in Bristol. The Avon and Somerset police initially opposed the introduction of 20mph limits on the busier roads with mean average speeds greater than 24mph on the basis that they would not be self-enforcing. They withdrew this objection when BCC introduced additional signage in the form of roundels but still do not agree to carry out any enforcing of 20mph limits.

It is understood through recent conversations with Avon and Somerset's road safety adviser Dave Sheppard that the constabulary is moving towards a more positive stance regarding 20mph and is considering ways in which to engage with the public without increasing the demand on limited policing resources.

3.4.6 Monitoring and evaluation

The comprehensive pre and post Implementation monitoring of the two pilot areas included measurements of traffic speed and volume, injury data, walking and cycling counts, noise and air quality assessments and also a before and after household survey to gauge residents' views on the schemes. This programme of monitoring cost approximately £100k and is more comprehensive than the monitoring carried out by any other 20mph sign-only initiative in England.

The results showed that there was a small but significant reduction in average daytime speeds in both areas; a 1.4mph reduction in inner south and 0.9mph reduction in inner south. Other headline findings include:

- 65% of roads saw a reduction in mean speeds;
- There was no measurable change in air quality or noise;
- Pedestrian casualties remained constant in both areas;
- Levels of walking and cycling increased in both areas;
- 89% of residents support 20mph on all residential roads.

3.4.7 Community-based initiatives

There are a number of community-based initiatives which are active in Bristol. These include street parties (there were more than 150 street parties with road closures in Bristol in 2011) which can increase social capital and can potentially be used as informal way for neighbours to get together to discuss concerns over speeding or traffic.

The Bristol-based charity Playing Out (www.playingout.net) helps groups of neighbours to close their street to through traffic on a regular basis so that children can play out in their street without fear of traffic. Bristol City Council has introduced a new type of Traffic Regulation Order that can be used by communities to close their street on a weekly basis for up to three hours over a one year period. The qualitative research component of this study explored attitudes to traffic speed with a group of regular Playing Out organisers and a second group who had not yet experienced Playing Out (see Section 4.2). Playing Out certainly contributes to raising awareness about the constraints that traffic can impose on local children and empowers people to take action to improve the quality of life in their street. The research was not able to identify any resulting impacts on traffic speeds in the street outside of the regular, weekly Playing Out closures.

Another community-based initiative which is gaining popularity in Bristol is the DIY Street (see Box 8). This is a project concept developed by the Bristol-based charity Sustrans. It works closely with communities to help them redesign their streets to make them safer and more attractive places to live. It's an affordable, community-led alternative to the expensive engineering-led Woonerf or Home Zone design concept. A review of the DIY Streets in 2010 found that most schemes had led to decreases in traffic speed, more social interaction and more children playing in the street (Sustrans, 2010). There is strong potential to use the community engagement of projects such as DIY Streets to raise awareness of the benefits and importance of 20mph limits to lead to increased social acceptability and norming of slower speeds.

3.4.8 Lessons and repeatable ideas

Box 11: Lessons and repeatable ideas from Bristol 20 mph initiative

- Average daytime speed reductions of 0.9mph and 1.4mph were achieved in inner east and south Bristol respectively;
- There was strong interest from residents, as well as the police and bus operators, in which roads were to be included and excluded from the 20mph limit. There needs to be clear leadership and transparency when making these decisions;
- The police position with regard to 20mph is complex and there is a need to achieve a positive dialogue between council and police so that the police do not feel threatened by requests to carry out enforcement that they cannot resource;
- Community Speedwatch has not had great take-up in Bristol; residents seem reluctant to "police" their own neighbours and the requirement to attend day-time group training in Portishead has no doubt deterred many due to work commitment;
- Community street activities such as Playing Out, street parties and DIY Streets are popular and there is potential to link these to norming of 20mph limits.

Box 10: Ashton Gate Primary School community-led street improvements



The road outside Ashton Gate Primary school in Bedminster, Bristol has been turned into a colourful checkerboard that aims to surprise drivers and slow them down as they pass by. The scheme was designed by the community and involved parents, children and teachers from the school. However, although the final scheme is popular, the process of joint working between the community and council officers was not a smooth journey.

The difficulty lay in the fact that the community came up with a DIY scheme in parallel with the council drawing up a more orthodox Safe Routes to School road safety scheme. As the officer explained "...the project didn't start as a DIY scheme and so there was no formal dialogue at the beginning". The officer also acknowledged that the council team lacked community engagement skills and experience and the result was that the two schemes stalled whilst compromises were sought. These were eventually achieved through a series of on-site meetings and on-going communication but it took nearly two years to achieve the final scheme.

Interestingly, as at Beechcroft Road, the council road safety officers believe that in the end the local community self-limited and could have got approval for a much more radical design. It seems that there is scope for learning on both sides and the more of these joint community-council schemes that are delivered, the better the process as well as the final designs will be.

3.5 Lancashire

3.5.1 Case study context and approach

In 2011 Lancashire County Council (LCC) piloted signs only 20mph limits in three areas. It subsequently announced its intention to implement a county-wide limit of 20mph in residential streets and outside schools by the end of 2013. This will cover a population of approximately 1.3 million people or 500,000 households. There are two unitaries in the county – Blackburn and Blackpool – and these are not included in the county-wide roll-out taking but are separately considering the introduction of 20 mph limits.

The scale and ambition of the LCC initiative make it an interesting case study for this report. In order to gather information the following meetings were held with council officers and the police:

Thursday 22nd September from 1100 - 1230:

Paul Binks -	Road and Safety Transport Manager, LCC
Amy Wright -	Communications Team for Environment Directorate, LCC
Saf Munshi -	Communications Team for Environment Directorate, LCC
Caroline Holden -	Sustainable Travel Team, Healthy Streets initiative, LCC

Thursday 22nd September from 1430 – 1530:

Andy Rhodes -	Assistant Chief Constable, Lancashire Constabulary.
---------------	---

This case study has been prepared on the basis of these meetings, with additional data from websites and council reports. The content has been reviewed and agreed by all the interviewees.

3.5.2 Rationale and policy drivers

The main driver for introducing 20mph speed limits in residential areas, as stated by the LCC project manager, was to address the problem of road traffic accidents, and in particular child casualties, in areas of high deprivation. The police also stated that their aim was to reduce road deaths and injuries.

In order to roll out the initiative county-wide a definition for “residential” streets has been developed to define which roads should be excluded from the 20 mph limits. As a result of this process, 120 schools are currently outside of the designated limits. The officers acknowledged the status of some roads will become controversial and a transparent process of engagement with county councillors and communities will be needed to assess individual cases and reassign limits as necessary.

LCC definition of a street for 20 mph limit

The County Council's residential road design guidance (Creating Civilised Streets) makes a distinction between streets and roads. A Street is defined as a public road in a city, town or village which has buildings that are usually close together along one or both sides. Streets are public places where people live, children can play, communities can interact and everyone can use the street to access local facilities by foot, bicycle, public transport or private vehicles. The 20 mph limit will be applied to all streets in the County.

In contrast roads, a roads' main function is to help the movement of vehicles within a network to access places. Roads are defined as a “long hard surface built for vehicles to travel along between places” and will not typically be included in the 20mph limit.

3.5.3 Implementation

The 20mph signs only limit was piloted in 2010 in three areas: South West Burnley, West End in Morecambe and the Larches estate in Preston and the results led to the decision to roll out the lower limit to all residential streets across the county.

The council has now set aside £9m from Local Transport Plan funding to be spent delivering a phased programme over four years. The project is being managed by the Road and Transport Safety Manager Paul Binks and technical implementation of signing is being progressed by three area offices across the county. The implementation is being supported by a social marketing and communication strategy led by the council's Communications team.

The initiative has good links to other relevant projects such as the Healthy Streets initiative and other work being led by the Sustainable Transport team. This may lead to opportunities for joint funding from other sources as the project progresses.

3.5.4 Consultation, publicity and social marketing

The Traffic Regulation Orders for the pilot phase were obtained with the bare minimum of consultation so no site notices were issued. However, leaflets were delivered to all postcodes affected by the changes by the Post Office. There was an unfortunate mix-up by the Post Office with some unaffected post codes receiving the leaflets. The approach has therefore been revised for future phases to show proposed phasing on the website together with the Frequently Asked Questions. An additional resource in Communications has been provided to progress this work which will ensure that the public are well-informed and deflect later queries/criticisms.

The Communications team set out their approach to working with media, members and the wider community in a detailed Communications Strategy and Action Plan. For example, this identified the need to get agreement from Police communications team to ensure consistency of messages being delivered.

The initiative received a substantial amount of positive press coverage (as identified via web searches) and was well promoted on both the LCC and the Lancashire Constabulary websites.

Running parallel to the implementation strategy, a social marketing campaign will be implemented to help shape attitudes and in turn influence positive behaviour change towards 20mph speed limit areas across the county. The aim of this campaign will be to gain community support for 20mph speed limit areas across the county and in turn reduce speed.

As part of the scoping exercise of the communications approach, the team have identified a need to undertake research to better understand what techniques and measures are needed to underpin successful implementation of 20mph speed limit areas. The research findings would then inform the communications strategy that will be critical in gaining support for successful implementation of speed limit areas.

There is no separate funding stream for this work but it will form a core part of the project as the council is committed to it. The team was interested in sharing ideas and message platforms with the Bristol team as this is an emerging area of work for local authorities.

3.5.5 Police enforcement

The police acknowledge that the rationale for introducing 20mph limits is to reduce road traffic collisions in particular child casualties, especially where there are links to deprivation. They recognise that Lancashire has one of the highest child casualty rates in the country and welcome the 20mph initiative as a new approach to tackling this issue.

The Assistant Chief Constable (ACC) Andy Rhodes has given very public support to the initiative by appearing in press photos alongside Councillor Tim Ashton. However, he admits that the process of dialogue and engagement with the council on this issue has been challenging due to cultural differences and a lack of common language – for example around the issue of enforcement.

Excerpt from Lancashire Constabulary website on 20mph

Lancashire County Council will be working alongside Lancashire Constabulary and local communities to address speeding as the 20mph limits are rolled-out.

County Councillor Tim Ashton, Cabinet member for highways and transport, said: "Our aim is for everyone in the county to understand the benefits that driving more slowly and safely in residential areas has for them, their family, and their neighbours - and, where necessary, to do their bit to influence others to reduce their speed."

"People are much more likely to survive and have fewer injuries if involved in an accident at 20mph than 30mph, and lowering speeds will make our neighbourhoods safer and better places to live for everyone."

Assistant Chief Constable Andy Rhodes said: "Figures released earlier in the year show that the number of people killed or seriously injured on our roads is at the lowest in 30 years but we are not complacent and this is part of our dedication to reducing this figure even further."

"We hope that through the Community Road Watch scheme and the targeting of the top offenders, we can help to make the county's roads even safer."

"This is not about targeting motorists in general but working together to address concerns raised by residents and, where other tactics such as the introduction of signage and neighbourhood policing activity don't tackle all of the issues, taking necessary enforcement action."

Whilst the ACC set out some clear ideas on how the police could help to lend authority to the lower speed limits - for example through Community Road Watch (CRW), public naming of anti-social behaviour (ASB) drivers or occasional "pathway" operations to apprehend drivers exceeding the 20mph limit - none of these actions are fully operational.

A paper prepared by Chief Inspector Howard to inform this research set out a number of concerns or constraints the police have in relation to supporting the enforcement of 20mph as follows:

- **Community Road Watch:** The CRW scheme has been introduced but there have been difficulties in selecting, recruiting and retaining volunteers. There are concerns that the scheme will not deliver in all areas as was initially expected. The CRW volunteers are supported by Police officers and Special Constables but not Police Community Support Officers as Unison objects to their members supervising volunteers;
- **Public naming of ASB drivers:** This is not currently occurring and DI Howard suggests that this should not occur due to issues with obtaining sufficient reliable graded intelligence. ASB drivers are selected via neighbourhood teams and officers observations which are not always backed up by recorded, graded intelligence;
- **Enforcement:** This is currently not occurring as there is concern over the blurring of CRW and enforcement and whether stopping drivers in 20mph limits is the best use of police resources.

Extract from comments regarding introduction of 20mph limits on www.road.cc Cycling Website of the year:

"I live in a village in North Lancashire which recently adopted a 20mph limit along residential roads. The first week was fantastic - we were able to stroll around the village without sprinting to avoid speeding 4x4s. Then it became apparent that, apart from the new signs, NOTHING would be done to enforce the 20mph limit. Now we are back to vehicles hammering through the village at 30-40mph with impunity."

(<http://road.cc/content/news/47506-sustrans-says-20mph-urban-speed-limit-would-save-hundreds-children-death-or>)

3.5.6 Monitoring and evaluation

The project team carried out pre-implementation attitudinal surveys and measured before and after speeds in the three pilot areas. The before and after speeds are shown in Table 4 below:

Table 4: Results of pre and post implementation speed measurements in three pilot areas

Location	Before Mean Speed (mph)	After Mean Speed (mph)	Change (mph)
Whinfield Lane, E of Whinfield PI	27.2	27.4	0.2
Larches Lane, E of Staining Ln	28.0	27.5	-0.5
Larches Lane at Overton Ln	25.7	25.7	0
Larches Avenue, S of Norcross PI	24.0	23.2	-0.8
Greaves Town Lane	26.6	25.1	-1.5

The results show that average speeds reduced very slightly in most locations but these reductions are unlikely to be noticeable to local residents.

Qualitative survey data was collected from residents of the Larches through self-completion questionnaires. These were distributed to all households in the Larches area before, approximately three months and approximately twelve months after the introduction of the 20mph speed limit. 1200 leaflets were distributed with 263 returns received a response rate of 22%. Table 5 below shows the results.

The results indicate that residents were concerned about speeding and supportive of the idea of a 20mph limit but became disappointed by the results over the following 12 month period as the majority did not perceive reductions in speed or improvements in safety. The lack of enforcement led to a return to auto-behaviour (driving at 30mph or more) and a lack of changed social norm.

Post-implementation monitoring for future phases of implementation will only be carried out reactively where speeding is raised as an on-going concern by residents.

Table 5: Results of pre and post implementation residents survey in the Larches

		Yes	No	Don't know
Is speeding an issue?	Before	78%	11%	11%
Is speeding an issue?	After 3 months	56%	33%	11%
Is speeding an issue?	After 12 months	79%	12%	8%
Would a 20mph speed limit make it safer?	Before	75%	17%	8%
Has the 20mph speed made it safer?	After 3 months	48%	45%	7%
Has the 20mph speed made it safer?	After 12 months	27%	60%	10%

3.5.7 Lessons and repeatable ideas

Box 12: Lessons and repeatable ideas from Lancashire County Council 20 mph initiative

- There is a need to have a robust and transparent process to include or exclude streets from the 20 mph limit;
- Public consultation needs to be carefully managed and provide adequate information in order to minimise later confusion or ungrounded opposition;
- Building an integrated team will help to maximise the benefits of 20mph and potentially lever additional funds for soft measures – e.g. through Healthy Streets in the case of Lancashire;
- It is recognised that the police are a significant partner but it takes high level support and time to build a shared agenda and the issue of enforcement is as yet unresolved;
- The pilot phase in Lancashire has not tested any social marketing interventions but there is an awareness as stated in the Communication Strategy and Action Plan that this will be central to achieving a county-wide culture change;
- The results from the monitoring of the pilot phase indicate that speed reductions were small and this led to residents feeling disappointed by the lack of impact that the new limit has had;
- A wide scale programme of pre and post implementation monitoring is not planned and so the opportunity to report on outcomes (other than accident reduction that is reported on by the police) may be missed.

3.6 Warrington Borough Council

3.6.1 Case study context and approach

Between February 2009 and August 2010 Warrington Borough Council (WBC) trialled 20mph signs-only on 140 roads within the three areas (Warrington Town Centre, Orford and Great Sankey). An additional 43 streets were included during the course of the trial to address community concerns regarding a potential increase in “rat running” to avoid affected streets. On completion of the trial all streets reverted to a 30mph limit pending a decision on the future of 20mph speed limits in the Borough.

In October 2011, as a result of the positive results trials, all trial roads except two were made permanently 20mph and it was also agreed by the Executive Board to progress the development of a road hierarchy and assessment criteria along with a prioritisation process for delivering a Borough wide 20mph provision.

This is an interesting case study because the approach to 20mph has been relatively cautious with concern expressed by important stakeholders such as the police and the bus operating companies.

In order to gather information a Scrutiny Committee meeting was attended to hear views from all interested stakeholders. Additional data were gathered from a Member’s briefing paper and an Executive Board report.

The scrutiny committee, held in Warrington on Wednesday 21st September from 1400 -1600, was well attended by councillors, technical officers, police, bus operators and Rod King from the campaign group 20’s Plenty.

3.6.2 Rationale and policy drivers

The main driver for introducing 20mph speed limits in residential areas, as stated in the WBC Executive Board report, was to reduce road traffic collisions. The report highlighted that use of 20mph speed limits will specifically assist vulnerable road user groups, including young and elderly pedestrians and pedal cyclists

At the time of the Scrutiny Committee the officers were proposing to undertake further work to develop road hierarchy and assessment criteria, a prioritisation process, refined cost estimates and definition of the outcomes in order to seek approval from the Executive Board.

The Member’s briefing paper for the scrutiny committee identified the following criteria for inclusion in the 20mph limit:

- Must be a residential road (in line with Speed Limit Review Criteria – 21 dwelling but additional consideration to schools, shops and other pedestrian attractions);
- Non Key Link Road (Distributor, Spinal or Key Connective Road);
- Non Primary Emergency Service Route (to be defined with the assistance of the Emergency Services);
- Non Primary Bus Route (to be defined with the assistance of the WBT).

3.6.3 Implementation

The officers identified three possible delivery options for 20mph to prioritise areas based on road safety benefits, population density or a geographical approach to raise awareness over coherent and adjacent “zones”. At the time of the scrutiny committee no decision had been taken on which approach to favour.

The availability of funding was the main driver for implementing the scheme over a number of years. The officers estimated that the total cost of the scheme would be in the region of £750k and due to a shortage of funding this could take up to 10 years to achieve.

3.6.4 Consultation, publicity and social marketing

As part of the pilots a formal public perception survey was undertaken at 100 random addresses in each of the study areas. Surveys were sent out to each address in three stages:

1. Immediately before the launch of the pilots in February 2009;
2. During the study in November 2009; and
3. In August 2010, at the end of the pilot.

The results suggested a positive shift in perception during the pilot study with an 86% increase in positive feedback between stages 1 and 2. Overall, support for 20mph speed limits continued throughout the 3 survey stages. However the final survey at the end of the pilot period indicated that perception had become significantly less positive as people believed that additional measures such as traffic calming and/or Police enforcement would be necessary for the speed limits to be effective.

In support of the proposed roll-out of 20mph consultation was undertaken with a wide range of organisations including all affected and neighbouring local councils, Cheshire Constabulary, community groups, local media, the Association of Directors of Public Health UK, the Institute of Advanced Motorists and Portsmouth City Council.

Warrington Borough Transport (the local bus operator) supported the ethos behind 20mph speed limits but voiced concern that a blanket introduction may have a detrimental impact on the operation of Bus Services. The company was concerned that the new limits would increase journey times, impacting on the cost and practicality of operating a viable bus service.

3.6.5 Police enforcement

An official view from Cheshire Constabulary was sought on the Borough-wide delivery of 20mph limits as part of the roll-out consultation. At the time of the Scrutiny Committee no formal statement had been received.

The police had no objection to the Town Centre Scheme becoming permanent due to the high volume of pedestrians in this area and accepted the 20mph of the majority of the roads in the other two pilot areas.

However the police raised specific concerns over a number of roads where the “nature and usage of these routes does not indicate a logical 20 mph limit to road users, which leads to confusion and driver frustration, with associated incidents of aggressive overtaking and tailgating”. The police stated that they could not justify enforcement of a 20mph limit on these roads.

3.6.6 Monitoring and evaluation

Monitoring and evaluation of the pilots was based on data captured at fixed times during the trial period at 25 fixed monitoring “stations”. Monitoring stations were also used as locations for engagement/enforcement activity during October and November 2009, so as to measure impact on road user behaviour.

There were 4 stages of data capture:

- **Stage 1** - Before to establish the baseline for measurement of change;
- **Stage 2** - Three months into the pilot to reflect a change in behaviour that may be due to the change in environment and significant level of publicity and also to provide an understanding at project end if any changes had been sustained;
- **Stage 3** - 9 to 10 months into the pilot to understand if any initial reductions had been sustained along with further changes as a result of an enforcement threat. This was

- undertaken in conjunction with increased police activity and engagement days run by WBC Road Safety Officers, Cheshire Fire and Rescue, and Cheshire Constabulary; and
- **Stage 4** - immediately prior to the pilot end in July 2010 to understand if any changes in road user behaviour were still evident after a significant period of limited supporting activity to the 20mph speed limits.

In summary, the results showed that traffic flow reduced by an average of 2678 vehicles per week per road throughout the three trial areas; average speeds reduced by 1.45 mph and; a reduction of injury collision occurrence of 25.5%. However the three trial areas saw increases in average speeds during the final monitoring stage.

3.6.7 Lessons and repeatable ideas

Box 13: Lessons and repeatable ideas from Warrington Borough Council 20 mph initiative

- It can be challenging to win over important stakeholders such as the police and bus operating companies;
- Public support which is initially high may be eroded if the effects of 20mph are not perceived and there is no visible enforcement;
- The impact of a signs-only scheme quickly decreases if there is no on-going enforcement or promotion;
- There is a reluctance to include roads which are seen to have significant transport function for commuters, buses or emergency services;
- Delivering a 20mph signs-only scheme can take many years where there is a lack of stakeholder consensus or funds are not prioritised.

3.7 Learning from case studies

There are a number of common themes and learning points emerging from the case studies that were prepared for this study. The main success factors and their implications for designing social marketing programmes for signs-only 20mph schemes are detailed in Table 6 below. They are themed under the five Es of **Education, Encouragement, Enforcement, Engagement** and **Enlightenment**.

One of the most significant, overarching findings from the selected case studies is that the UK pilots have all had minimal communications and marketing budgets (ranging from 0 - £7k) and there appears to have been little ambition to influence public opinion or knowledge on the reasons for, or wider benefits of, introducing a 20mph limit. If there is to be a culture shift towards 20mph as the normal limit in built-up areas then the introduction of legal limits need to be accompanied by a high profile and sustained programme of soft measures to win over people's hearts and minds.

Table 6: Summary of case study success factors and implications for social marketing

Key:

Education Encouragement Enforcement Engagement Enlightenment

Success factor for signs-only limit	Experience from pilots	Examples from?	Implications for social marketing
Public awareness of limits	Need to communicate limits clearly and make street inclusion as coherent and transparent as possible	Graz, Portsmouth, Oxford	<ul style="list-style-type: none"> Careful selection of roads to provide as much clarity and consistency as possible Mass media campaign to raise awareness
Public understanding of 20mph	People want to understand the reasons for introducing the 20mph limit	Graz, Lancashire	<ul style="list-style-type: none"> Need to clearly communicate reasons for/benefits of 20mph Norming campaign
Public knowledge and experience of 20mph in practice	Drivers are concerned about possible negatives e.g. increased journey times, congestion, increased fuel use	Graz, Lancashire	<ul style="list-style-type: none"> Need to myth-bust negative arguments
Norms and habits influenced by rewards and visual cues	It takes time to change habits and people will need constant reminders to keep to the new limit. Compliance decreases if efforts to promote 20mph are reduced.	Graz	<ul style="list-style-type: none"> Use effective on-street reminders such as VAS and posted feedback and smiley faces Reminders need to be permanent but moveable to sustain effectiveness
Norms and habits influenced by positive norming behaviour	There needs to be a strong message that 20mph is the new norm	Graz, Portsmouth, Lancashire	<ul style="list-style-type: none"> Role models from buses, taxis, council fleets, police Driving instructors Champions in the community Police endorsement

Success factor for signs-only limit	Experience from pilots	Examples from?	Implications for social marketing
Norms and habits influenced by sanctions and enforcement	Police lack resources to enforce but this is central to achieving compliance	Graz, Portsmouth, Lancashire	<ul style="list-style-type: none"> • Need to publicly communicate positive stance from police • Find creative ways to enforce e.g. through schools or communities • Intermittent and reactive police response
Increased demand for 20mph	Children are enthusiastic advocates of 20mph as their journey choices are often limited by traffic speeds. They also influence their parents.	Graz, Portsmouth, Bristol	<ul style="list-style-type: none"> • Work with children through schools • Creative and fun ideas can generate energy and passion about slower speeds
Increased street activity	Community initiatives such as Playing Out or street parties create cohesion around street issues. DIY streets can tackle actual traffic issues.	Oxford, Bristol	<ul style="list-style-type: none"> • Support community street-based initiatives to change perceptions of street function or actual use
Imperceptible reduction in average speeds	Typical average speed reduction for signs-only schemes 0.9 -1.3mph. This is not perceptible and can lead to disappointment and cynicism among residents.	All pilots	<ul style="list-style-type: none"> • Need to communicate successes and explain impact of reduction on casualties • Don't raise expectations with regard to reduced speeds – explain it is a long game
Busier/faster roads experience greater reductions	Speed reductions can be more significant on faster roads (as high as 6.3mph reduction on some roads) but these are more controversial and need to satisfy competing demands	Portsmouth	<ul style="list-style-type: none"> • Convey a wider vision for 20mph • Identify some faster roads where 20mph may be socially acceptable to trial e.g. near popular local facilities

Success factor for signs-only limit	Experience from pilots	Examples from?	Implications for social marketing
Road danger reduction rather than accident reductions	Accidents are random and it is not easy to demonstrate reductions in short monitoring timescale so need to focus on road danger reduction	Portsmouth, Bristol	<ul style="list-style-type: none"> • Use accident data with caution • Focus on improved perceptions of safety and danger reduction
Increased walking and cycling	Some pilots have shown good increases in walking and cycling, others not	Portsmouth, Bristol	<ul style="list-style-type: none"> • Link 20mph to increased support for walking and cycling, other initiatives
Improved air quality	Small changes but probably not discernible	Graz, Bristol	<ul style="list-style-type: none"> • Not an important message to convey, but have positive information to hand
Noise reduction	Small changes but probably not discernible	Graz, Bristol	<ul style="list-style-type: none"> • Not an important message to convey, but have positive information to hand
Fuel consumption	Some evidence that it is unaffected by 20mph	Graz	<ul style="list-style-type: none"> • Focus on importance of smooth driving style • Encourage leaving car at home for short journeys (better for car!)

4 Qualitative research on 20mph in Bristol

4.1 Methodology

The study aimed to gather qualitative data in order to assess the acceptability or otherwise of 20mph across other residential areas in the city and gain insights and clues into why residents say they like 20 mph but don't necessarily respect it when driving. The qualitative research was also used to test reactions to a range of soft interventions that might help to shift attitudes and behaviour. These data add to the body of evidence to feed into a model of best practice.

Three main approaches were used: direct observations of behaviour in the 20mph pilot areas, focus group discussions and one-to-one in-depth interviews with Bristol drivers and a backcasting or visioning workshop with a group of professional stakeholders to explore what might lead to a culture shift towards normalising 20mph. The methodology for each of the proposed approaches is detailed below.

4.1.1 Direct observations

In order to assess actual behaviour within the pilot areas some direct observations of driver behaviours and other road users were carried out a range of locations and times. These included:

- Day time driving on inner east 20mph road connecting M32 and St Pauls (Lower Ashley Road);
- Day time driving near VAS sign on Raleigh Road in Southville pilot;
- Day time driving on some of the roads originally excluded from the pilot initiatives including Ashley Hill and Pennywell Road in Inner East and North Street in Inner South; and
- Rush hour driving around inner east pilot area; and
- Rush hour driver/cyclist interaction at the major city centre intersection of Stokes Croft with St James Barton roundabout (outside of pilot area).

Some video footage was created watching traffic on Lower Ashley Road. A narrated drive was also undertaken with an IAM instructor in and around the inner east pilot area at the start of the school pick-up time (approx. 3pm).

4.1.2 Focus groups and interviews

Different groups or segments of Bristol society were recruited for the focus groups and interviews to provide clues and insights into different questions. Participants were recruited through:

- Neighbourhood partnership meetings and contacts;
- Existing community groups e.g. Sustainable Bishopston; and
- Professional and personal contacts and word of mouth.

The participants were offered a £20 cash incentive to take part in the study and most people gave from 1.5 to 2 hours of their time. Interviews and focus groups were held either in people's houses or in local community spaces at times to suit – mostly in the evenings.

The focus group discussions sought to explore the gap between people's stated beliefs/ attitudes and actual behaviour and understand why different groups do not presently feel willing or able to comply with 20 mph limits where they are in place. A series of topic guides were developed for the research (an example is included in Appendix A). These evolved and

changed as the research revealed new insights and were used to explore a range of questions building on the BCC household survey questions (number references shown in brackets):

- Why some people don't think 20 mph is a good idea (Q6, 13, 21, 26);
- Why some people only see limited locational value (Q16, 16a, Q29);
- Why some people find it difficult to drive at 20 mph (Q16, 16a, 22, 23, 27);
- What makes people who support 20mph exceed the limit;
- What social marketing measures could encourage compliance with 20 mph (Q25, 28);
- Fears and concerns about driving at 20 mph; and
- Perceived benefits or reasons for 20 mph.

A total of nine focus groups including a total of 43 participants (21 male and 22 female) were held with the following groups as shown in Table 7:

Table 7: Summary of focus groups undertaken

Group type	Nr in group	Gender	Resident in pilot area?	Date
Cyclists and sustainability champions	7	Mixed	Mixed	24-Nov-11
Professional drivers (van and lorry deliveries across region)	7	Male	No	11-Jan-12
Retired residents in Easton pilot area	5	Mixed	Yes	25-Jan-12
High mileage commuters into central Bristol	3	Male	No	08-Feb-12
Young drivers living in Lawrence Weston	3	Male	No	09-Feb-12
Middle age residents in Mangotsfield	6	Female	No	22-Feb-12
Young parents resident in Knowle	6	Mixed	No	22-Feb-12
Residents in Southville (Playing Out group)	2	Female	Yes	29-Feb-12
Residents in Southville (non-Playing Out Group)	4	Mixed	Yes	07-Mar-12

Two important groups that were sought but did not end up being represented in the research were taxi drivers and driving instructors.

In-depth, semi-structured interviews were conducted with a total of eight individuals using topic guides similar to the one shown in Appendix A. The purpose of these interviews was to probe more deeply into individual beliefs, attitudes and stated behaviour in relation to use of streets and roads and specifically in relation to 20mph speed limits.

Table 8 below summarises the in-depth interviews conducted:

Table 8: Summary of in-depth interview participants

Person type	Gender	Resident in pilot area?	Date
Regular driver opposed to 20mph	Male	Yes	18-Jan-12
Regular driver supportive of 20mph	Male	Yes	18-Jan-12
Community representative	Male	Yes	24-Jan-12
Parent of toddler	Female	Yes	01-Feb-12

Person type	Gender	Resident in pilot area?	Date
Parent of school-age child	Female	No	02-Feb-12
IAM driving instructor	Male	No	07-Feb-12
Young driving enthusiast	Male	No	09-Feb-12
Community youth worker	Male	No	09-Feb-12

4.1.3 Backcasting workshop

A visioning or backcasting workshop was organised to encourage professional Bristol stakeholders from a range of organisations and interest groups to develop a shared vision for 20mph in the city. This three hour event plus networking lunch, held on 13th March 2012, was well attended by approximately 30 people with representatives from, amongst others, BCC council officers and members, the Avon and Somerset Police, First Bus, Chamber of Commerce, NHS and community organisations. A full list of attendees and the slides from the presentation are included in Appendix B.

4.2 Qualitative research findings

4.2.1 Direct observations

At free-flowing times of the day the traffic in the pilot areas was generally observed to drive at around 30mph rather than 20mph except where narrow, parked residential roads demand slower speeds. On two occasions the researcher was overtaken dangerously whilst driving at 20mph (once on Ashley Hill and once on Sevier Street) by aggravated drivers.

A short film (available on request) made on Lower Ashley Road near the M32 junction facing towards Sussex Place showed free-flowing vehicles leaving the motorway and continuing to move relatively fast (at speeds estimated to be greater than 30mph) until a police vehicle joined the flow and caused a sudden tailback of cars behind it by adhering to the 20mph.

Some drivers were observed to visibly slow down at the VAS located on Raleigh Road. However many drivers, including one police vehicle and a number of trades vehicles, were observed triggering the sign by exceeding the 20mph limit.

During rush hour the traffic speeds were generally observed to be less than 20mph on most roads so that speed limit adherence is not an issue. However, where there is space, for example between signals on the 20mph limit on Whitehall Road, drivers were observed speeding up to more than 20mph for short distances.

Morning rush hour observations at the major city centre intersection of Stokes Croft with St James Barton roundabout (currently a 30mph limit) revealed that the high number of cyclists (approximately 10 to 12 commonly counted in the advance stop line during one red phase) are starting to control traffic speed through the junction so that car drivers cannot exceed speeds of 10 -15mph as they are led through the junction by the group of cyclists; in other words a critical mass is being achieved where the presence of cyclists is starting to moderate driver behaviour.

A narrated journey was undertaken by the researcher through Easton as a passenger with an IAM driver. This experience highlighted the smooth and intelligent driving behaviour adopted by advanced drivers in urban areas. The driver was constantly identifying and responding to potential hazards or unknown risks (e.g. a pedestrian talking on a mobile phone near a zebra crossing). The driving style also sought to minimise car wear and fuel consumption by anticipating traffic flow and signal changes so that the driver did not need to accelerate or brake unnecessarily. This led to the vehicle rarely moving at more than 25mph even in free-flowing conditions where the limit is 30mph.

4.2.2 Thematic quotes and implications from focus groups and interviews

As discussed in Section 2.3.3 and illustrated in Figure 1 driver attitudes towards 20mph limits can broadly be segmented into three categories along the normal distribution curve:

1. A small number of enthusiasts or visionaries that are keen to support 20mph;
2. A large number of pragmatists or conservatives that prefer to follow the norm and drive at 30mph;
3. A small number of sceptics or self-determinists that are resistant to observing speed limits on principle.

The focus groups and interviews captured a range of views on 20mph from each of these groups and each position can inform the practical application of social marketing approaches to 20mph compliance.

Table 9 overleaf summarises the range of views expressed on a number of key themes relating to 20mph. It also identifies social marketing implications or strategies to address these beliefs and reported behaviours. The detailed analysis of each of the focus groups and in-depth interviews is presented in a series of tables in Appendix C.

4.2.3 Shared learning from backcasting workshop

The 20mph visioning workshop held at Bristol City Council House helped to develop shared thinking about the way in which 20mph can benefit the city over the long term. It also identified priority actions under the themes Engagement, Enforcement, Enlightenment, Encouragement and Education for a wide range of stakeholders including council officers and members, police, health authorities and the business community. The details of these recommendations are presented in Appendix B.

The summary of the vision has already been presented earlier in this report under Section 2.2 discussing the benefits of 20mph. The workshop participants, after being taken through a fun but challenging “backcasting” exercise to imagine what Bristol might look like in 2026, came up with some powerful and exciting images as summarised in the box below.

Box 14: Vision for 20mph streets in 2026

- Children laughing
- Playing in the street like when it snows
- Greener streets
- On-street food growing
- More people chatting
- Front doors open
- More reliable public transport
- No formal crossings
- On-street bike parking for residents
- Local shops
- Less stress
- Smoother traffic flows
- Happy and healthy
- Sense of community
- Fewer cars
- More choice

Table 9: Summary of themed qualitative research findings and implications for social marketing

Theme	Typical example of supporter stance	Typical example of pragmatist stance	Typical example of sceptic stance	Implications for social marketing strategy
Awareness of 20mph limits	Aware of the limits and always tries to respect them	Not always aware of limits, or tends to drive at 30 through force of habit or not always prepared to drive at 20mph	Does not pay much attention to posted limits, chooses own speed	
Quotes	<p><i>"I like rules, so if it tells me to drive at 20, I will do 20. If it tells me to drive 30, I will do 30. I usually stick on the limit."</i></p> <p>Focus Group male participant, high mileage commuter.</p>	<p><i>"I have to say that I hadn't noticed that there's a 20mph limit in Whitehall and I've been up and down that road. So I've probably been doing more than 20."</i></p> <p>Focus group participant, female, Mangotsfield</p> <p><i>"...in a built up area, I try not to do too much more than 30, but as you go through Westbury-on-Trym, it goes down to 20 and again at quarter to seven in the morning, I'm unlikely to be doing 20mph."</i></p> <p>Focus Group male participant, high mileage commuter.</p>	<p><i>"I don't think the speed limit change alone would make me change."</i></p> <p>In-depth interview with female, Ashley</p>	<ul style="list-style-type: none"> • Constant visual reminders to overcome automaticity; • Media campaigns to raise awareness; • Combine with periodic enforcement
Appreciation of benefits of 20mph	20mph brings social and environmental benefits at little personal effort	20mph is mainly about keeping children safe	20mph doesn't bring any benefits over 30mph	

Theme	Typical example of supporter stance	Typical example of pragmatist stance	Typical example of sceptic stance	Implications for social marketing strategy
Quotes	<p><i>"I think generally 20 miles an hour, it doesn't make that much difference on journey times and it makes a massive difference in terms of people surviving accidents."</i></p> <p>In-depth interview with male, Easton</p>	<p><i>"Yes, obviously parents of younger kids would obviously like the speed limits to go slower. People like our age who are driving want to go faster, but they want us to go slower so we don't hit their kids."</i></p> <p>Focus group participant, young male, Lawrence Weston.</p>	<p><i>"I think 30 is fine on the road I live in. I don't have any [concerns]...it's quite a wide open road ..."</i></p> <p>Focus group participant, female, Knowle.</p>	<ul style="list-style-type: none"> Multi-channel communication of benefits to individuals and Bristol as a whole; Convey the sea-change across UK – most cities are doing it Detailed explanation of benefits (casualty reductions, better opportunities for walking and cycling etc)
Acceptance of 20mph limits in residential areas	<p>20mph is the right speed for urban areas and all drivers should slow down</p>	<p>20mph is the right speed for most residential roads but only at certain times of the day</p>	<p>20mph is too slow for some residential streets</p>	
Quotes	<p><i>"I like the idea of 20mph limits in residential areas. It slows everybody down, it's safer for people walking about on the streets, walking across roads. There are too many cars for roads that weren't built for that, for housing areas, particularly where the houses are straight onto the pavements."</i></p> <p>Focus Group participant, female, Mangotsfield.</p>	<p><i>"You could drive on a Sunday at 8 in the morning and there's nothing on the roads. The idea of having to drive around at 20 would be, for me, quite frustrating."</i></p> <p>Focus Group participant, male, Knowle</p>	<p><i>"...trying to stick to 20 on through routes when the conditions are very favourable it does seem like a waste of time, it's tortuous. It is simply too slow for the conditions and the road!"</i></p> <p>In-depth interview with male, St Werburghs</p>	<ul style="list-style-type: none"> Killer sound bites (e.g. 20 saves children's lives; 80% of your neighbours want 20) Story telling – this is why your neighbour supports 20mph

Delivering soft measures to support signs-only 20mph limits

Theme	Typical example of supporter stance	Typical example of pragmatist stance	Typical example of sceptic stance	Implications for social marketing strategy
Hypocrisy/ JIMBYism	Fully support 20mph and respect it in own and others' neighbourhoods	Support the idea of 20mph in their own street but not willing to make the effort in other people's streets	Not even convinced of the need for 20mph in their own street	
Quotes	<p><i>"...if you live in a residential area then you should drive in other residential areas like you drive in your own..."</i> In-depth interview with male, Easton</p>	<p><i>"I would drive at 20mph around this area, where I am living...Having said that, outside of my area, totally different! I'd be blasting down your road, unfortunately...It's quite hypocritical of me"</i> In-depth interview with male, Lawrence Weston.</p> <p><i>"I'm much more determined to get people to slow down in my road where I live and where my kids are running around the pavement than I am when I'm in my car [driving around] in Bristol."</i> Focus group female participant, Knowle</p>	<p><i>"Like King's Drive [where participant lives] I don't think should be 20 miles an hour because there's no reason"</i> Focus Group participant, male, Bishopston</p>	<ul style="list-style-type: none"> • Campaign to focus on reciprocity – I'll keep your road safe if you keep mine safe too
Incentives and barriers to driving at 20mph	It is perfectly possible to drive at 20mph as long as one makes a conscious choice	It is hard to drive at 20mph as habit, visual cues, car technology and other drivers all conspire against 20mph	20mph is not a practical speed to drive at	

Theme	Typical example of supporter stance	Typical example of pragmatist stance	Typical example of sceptic stance	Implications for social marketing strategy
Quotes	<p><i>"I do stick to the speed limits in built up areas and the only time I exceed the speed limit and I know I do is when I'm on the motorway or on A roads."</i> Focus Group male participant, high mileage commuters</p> <p><i>"I will [stick to the speed limit]. I've got a small car that doesn't go particularly fast and I don't like watching my petrol go down and it does make a difference."</i> Focus Group female participant, Mangotsfield</p> <p><i>"I will say I stick to the speed limits because I don't want to get caught. That would probably be my main thing."</i> Focus Group female participant, Mangotsfield</p>	<p><i>"Driving at an artificially low speed, I tried driving 20 on some of those [roads with no hazards], and it feels so uncomfortable because you are not doing what you should be doing – linking your speed to your vision. I'm trying to put into words exactly how it feels, because weird isn't really going to cover it. It feels perverse."</i> In-depth interview with male IAM Instructor.</p> <p><i>"...I find my mind wanders, you know, just thinking about other things. Then you can look and you're 5-8 miles above the speed limit, quite easily."</i> Focus Group participant, male high mileage commuter</p>	<p><i>"20 is very slow, for instance, I have to go down to 2nd in my car for 20 and that's got to be inefficient in terms of fuel, 30 I can stay in 3rd"</i> In-depth interview with male, St Werburghs</p>	<ul style="list-style-type: none"> • Advice on how to drive at 20mph • "Reward" signs with posted feedback smiley faces for doing 20mph • Local physical changes e.g. DIY Streets • Pace Car and community pledges
Social norms	<p>Willing to stick to 20mph despite pressure from other drivers</p>	<p>Affected by perceived or actual pressure and/or speed choice of other drivers</p>	<p>Speed choice and speeding are an important part of image and self-determination</p>	
Quotes	<p><i>"...I'm now the poster boy for the 20 mile an hour zone so people are forced to drive at 20 behind me and they flash their lights or they'll make some hurry up noise by blowing their horn and on occasion what I've done is I've slowed down opposite the speed limit and I've pointed at the speed limit sign..."</i> In-depth interview with male, Easton</p>	<p><i>"...I used to [drive at 20] and then I just noticed that no-one else does, so I started going a little bit faster."</i> Focus group participant, female, Knowle</p>	<p><i>"You're influenced by people you're with, like X was saying when he was out with his mates in his car and they all go faster because, I don't know, maybe you're trying to prove a point."</i> Focus group participant, young male, Lawrence Weston</p>	<ul style="list-style-type: none"> • Norming messages e.g. 80% of people are sticking to the speed limit; • Messages to make speeding less appealing or cool – fear tactics or message that only idiots speed e.g. Scottish Foolsspeed campaign

Delivering soft measures to support signs-only 20mph limits

Theme	Typical example of supporter stance	Typical example of pragmatist stance	Typical example of sceptic stance	Implications for social marketing strategy
Education and enforcement	Resources should be committed to educating and enforcing 20mph and communities can also help enforce	Light touch enforcement and driver education can help drivers to stick to 20	Police have got more important things to do and education is pointless as drivers will make their own decisions	
Quotes	<p><i>"it needs an overhaul of the points system rather than 3 points and £60 fine, it should be if you're caught speeding in a 20mph zone in a residential zone like that you get like a £100 fine, no one's going to speed then..."</i> Focus Group participant, male professional truck driver.</p> <p><i>"...everybody in the village is very much for speed limits, to the point where we got cameras and big high-vis vests and there are people that go out there pretending to be the police occasionally."</i> Focus Group participant, male high mileage commuter.</p>	<p><i>"I sometimes think, oh my God, haven't the police got anything better to do[than enforcing speed limits]? I've got to be honest with you. On the other hand, when you go on these courses and they knock it home to you, the difference it is when you get hit at 36mph compared to being hit at say 30. So perhaps you think there is a reason and perhaps it should be policed.""</i> Focus Group participant, female, Mangotsfield</p> <p><i>"I'd only do it [20mph] if it was enforced, because unless you're going to get...it's not serious, is it? Seriously, you've got done for speeding, if you're not going to get done for it, it's not serious, is it?"</i> Focus group participant, female, Knowle</p>	<p><i>"...if I know the area well enough and know there's not going to be cameras, I might exceed the speed limit...But that's reflected in me being caught a few times. I've actually got 6 points on my licence."</i> Focus Group participant, male high mileage commuter</p>	<ul style="list-style-type: none"> • Face to face work with community e.g. through PCSOs and in schools; • Driver improvement courses for 20mph; • Some periodic enforcement essential for drivers to take 20mph seriously
Acceptance of city-wide limit – vision of what Bristol could be like	If the advantages are clear then we should make a cultural shift to drive more slowly in urban areas	It's appropriate for some streets but not all	It won't make any difference in busy times but will make journeys too slow at quiet times - it's pointless	

Theme	Typical example of supporter stance	Typical example of pragmatist stance	Typical example of sceptic stance	Implications for social marketing strategy
Quotes	<p><i>"I think it's a cultural thing. If it's been trialled in other cities and...if the analysis shows that there are lots more advantages than disadvantages, then...it's going to be introduced in other cities and it is a cultural shift. You'd get used to it in the end."</i></p> <p>Focus Group participant, female, Mangotsfield.</p>	<p><i>"...the bigger, open, wider roads I think would support a slightly higher speed limit and I don't think people would then comply with it if you did 20 on those kind of roads."</i></p> <p>Focus Group participant, female, Knowle.</p>	<p><i>"I think that [a city-wide limit] would be a nightmare."</i></p> <p><i>"Yes, me too."</i></p> <p><i>"I don't think it would make much difference to speeds going in and out of Bristol in busy times, actually."</i></p> <p><i>"No, not in the rush hour. But again, if you're going down to Temple Meads to pick somebody up at 11 o'clock in the evening and it's 20mph all the way there..."</i></p> <p><i>"You'll have to go 10 minutes earlier."</i></p> <p>Extract from conversation, focus group, Mangotsfield.</p>	<ul style="list-style-type: none"> • Mass media communication to bust myths e.g. journey times; • Positive images e.g. street cafes, children playing, sitting and relaxing in public spaces – enlighten people with a vision for change

5.0 Conclusions: 20 steps towards making 20mph normal

1. Recognise that signs are **just a legal tool** and cannot work in isolation;
2. Get **technical and political support** to deliver soft measures;
3. Allocate an **adequate budget** (>10% physical implementation) to deliver supporting soft measures;
4. Appoint **project staff with soft skills** in communication, marketing and community engagement;
5. Be ambitious about the **big vision** for 20mph;
6. Identify and engage with potential stakeholder **champions and threats** early on in the project;
7. Assemble a **broad Steering Group** to achieve cross-disciplinary and city-wide perspectives and buy in;
8. Try to work closely with the **police at all levels** from beat officers to Assistant Chief Constable;
9. Work hard to **overcome language and cultural barriers** with all stakeholders but particularly the police;
10. Identify and **agree shared outcomes** for 20mph – is it reduced collisions? Or increased cycling? Or active kids?
11. Ask **questions and listen** to gain insights into how people/communities feel about traffic and speed;
12. Be **ready for the negative arguments** – look at pro-motoring media, websites, blogs etc;
13. **Don't alienate "drivers"** – almost everyone uses a car sometimes;
14. Find **stories to tell** – in every community there will be enthusiastic 20mph supporters;
15. Use the **voices of children** to communicate why 20mph offers a better future;
16. Culture change is a **long, slow process** so don't expect to win people over immediately;
17. Make the 20mph limit **as visible as possible** - drivers will need constant reminding;
18. **Support communities to be creative** and develop their own ways of responding to 20mph;
19. **Help people to dream** – remind them what it's like when it snows, on campsites, when there's a fuel crisis;
20. Keep on **communicating success** and reminding people of the bigger vision.

References

- Aberg L, Larsen L, Glad A and Beilinson L (1997) Observed Vehicle Speed and Drivers' Perceived Speed of Others, *Applied Psychology: An International Review*, 46 (3). 287-302
- Arthur R M (2011) Examining Traffic Flow and Speed Data: Determining Imitative Behavior, "Traffic Injury Prevention, Volume 12, Issue 3, 2011
- Ashton S J and Mackay G M (1979) Some characteristics of the population who suffer trauma as pedestrians when hit by cars and some resulting implications, IRCOBI 4th International Conference, Gothenborg. 1979
- Atkins Transport Planning and Management (2010) Interim evaluation of the implementation of 20mph speed limits in Portsmouth. Atkins Global, London.
- Bargh J A, Chen M and Burrows L (1996) Automaticity of Social Behavior: Direct Effects of Trait Construct and Stereotype Activation on Action. *Journal of Personality and Social Psychology* 1996 Vol. 71, No. 2. 230-244
- Bristol City Council (2011) 20mph speed limit pilot areas. Monitoring Report. December 2011.
- Butcher, L. (2010) Roads: speed limits, House of Commons Library
- Brake (2010) Direct Line & Brake Reports on Direct Line on Safe Driving 2009-2012 Report Three: Speed http://www.brake.org.uk/assets/docs/dl_reports/dl3_speed.pdf [Accessed 30/11/2011]
- Charlton S G, Mackie H W, Baas P H, Hay K, Menezes M and Dixon C. (2010) Using endemic road features to create self-explaining roads and reduce vehicle speeds *Accident Analysis and Prevention* 42 (2010) 1989–1998
- Christie N, Ward H, Kimberlee R, Towner, E and Slaney J (2007) Understanding high traffic injury risks for children in low socioeconomic areas: a qualitative study of parents' views. *Injury Prevention*, 2007; 13:394–397
- Classen S, Nichols A L, McPeck R and Breiner, J F (2011) Personality as a predictor of driving performance: An exploratory study. *Transportation Research Part F: Traffic Psychology and Behaviour* 14 (2011) 381–389
- Comte S, Wardman M and Whelan G (2000) "Drivers' acceptance of automatic speed limiters: implications for policy and implementation, *Transport Policy* 7 (2000) 259-267
- Conner M, Lawton R, Parker D, Chorlton K, Manstead A S R and Stradling S. (2007) Application of the theory of planned behaviour to the prediction of objectively assessed breaking of posted speed limits. *British Journal of Psychology* (2007), 98, 429–453
- Davis A (2004) Three decades of European experience: a review of the evidence base and UK practice, Conference paper at 20mph is plenty: Is there enough evidence? Aston University 21st September 2004
- De Pelsmacker P and Janssens W (2007) The effect of norms, attitudes and habits on speeding behavior: Scale development and model building and estimation. *Accident Analysis and Prevention* 39 (2007) 6–15
- Department for Transport (1999) 20 mph speed limits and zones Traffic Advisory Leaflet 9/99
- Department for Transport (2006) Setting local speed limits DfT Circular 01/2006
- Department for Transport (2009a) Call for comments on revision of DfT's speed limit circular

Department for Transport (2009b) THINK! Road Safety Campaign Evaluation Post Stage: 'Live With It' speed campaign and Motorcycle campaign, BMRB Social Research, April 2009

Department for Transport (2011) Ministers cut traffic signs red tape for local councils DfT press release

Department for Transport Dr Fiona Fylan et al Effective interventions for speeding motorists

Department for Transport (2011) Strategic framework for road safety

Elliott M A, Armitage C J and Baughan C J (2005) Exploring the beliefs underpinning drivers' intentions to comply with speed limits. *Transportation Research Part F* 8 (2005) 459–479

Elliott M A and Thomson J A (2010) The social cognitive determinants of offending drivers' speeding behaviour. *Accident Analysis and Prevention* 42 (2010) 1595–1605

Engwicht, D (2005) Mental Speed Bumps. The smarter way to tame traffic.

Fernandes R, Hatfield J and RFS Job (2010) "A systematic investigation of the differential predictors for speeding, drink-driving, driving while fatigued, and not wearing a seat belt, among young drivers. *Transportation Research Part F* 13 (2010) 179–196

Fleiter J L, Lennon A and Watson B (2010) How do other people influence your driving speed? Exploring the 'who' and the 'how' of social influences on speeding from a qualitative perspective, *Transportation Research Part F* 13 (2010) 49–62

Forward S (2006) The intention to commit driving violations – A qualitative study, *Transportation Research Part F* 9 (2006) 412–426

Fylan F, Hempel S, Grunfeld B, Conner M and Lawton R. Effective interventions for speeding motorists. Department for Transport, Contract Number PPAD 9/031/133

Griffin, D and O'Cass, A (2010) An Exploration of Personality and Speed Limit Compliance, *Journal of Nonprofit & Public Sector Marketing*, 22:4,336–353, 2010

Grundy C, Steinbach R, Edwards P, Green J, Armstrong B & Wilkinson P (2009) Effect of 20 mph traffic speed zones on road injuries in London, 1986-2006: controlled interrupted time series analysis. *British Medical Journal*, 2009:339:b4469, doi:10.1136/bmj.b4469

Haglund M and Aberg L (2000) Speed choice in relation to speed limit and influences from other drivers, *Transportation Research Part F* 3 (2000) 39-51

Hart J and Parkhurst G (2011) Driven to excess: Impacts of motor vehicles on the quality of life of residents of three streets in Bristol, UK. *World Transport Policy & Practice*, 17 (2). pp. 12-30. ISSN 1352-7614"

Hatakka M, Keskinen E, Gregersen N P, Glad, A and Hernetkoski, K (2002) From control of the vehicle to personal self-control; broadening the perspectives to driver education, *Transportation Research Part F* 5 (2002) 201–215

Heslop, S, Harvey, J, Thorpe, N and Mulley, C (2010) Factors that comprise driver boredom and their relationships to preferred driving speed and demographic variables, *Transportation Planning and Technology*, Vol. 33, No. 1, February 2010, 75-89

Hillman, M., Adams, J., Whitlegg, J., 1991. One False Move: a Study of Children's Independent Mobility. *Policy Studies*

Howarth, C.I. (1988). The relationship between objective risk, subjective risk and behaviour. *Ergonomics*, 31,521-535

Kalla R (2010) Motivating drivers to slow down: Evaluation of a community-based intervention to

enhance road safety, *Journal Of Prevention & Intervention In The Community*, Oct 38 (4), 306-15
2010

Kathmann T (2000) The use of active speed warning signs, *Proceedings of the Institution of Civil Engineers, Transportation*, 141, May 2000 67-77

Kattan L, Tay R and Acharjee S (2011) Managing speed at school and playground zones, *Accident Analysis and Prevention* 43 (2011) 1887–1891

Kennedy J, Gorell R, Crinson L, Wheeler A and Elliott M (2005). "Psychological" traffic calming
TRL Report No. 641

Kjemtrup K and Herrstedt L (1992) Speed management and traffic calming in Urban areas in Europe: a historical view *Accident Analysis & Prevention*, Volume 24, Issue 1, February 1992, Pages 57-65

Lahousse J A, van Nes N, Fildes B N and Kealld M D (2010) Attitudes towards current and lowered speed limits in Australia. *Accident Analysis and Prevention* 42 (2010) 2108–2116

Lee C, Lee S, Choi B, and Oh Y (1973) Effectiveness of Speed-Monitoring Displays in Speed Reduction in School Zones, *Transportation Research Record: Journal of the Transportation Research Board*, No. 1973, Transportation Research Board of the National Academies, Washington D.C., 2006, pp. 27–35."

Letirand F and Delhomme P (2005) Speed behaviour as a choice between observing and exceeding the speed limit, *Transportation Research Part F* 8 (2005) 481–492

Lewis I, Watson B, White K M (2008) An examination of message-relevant affect in road safety messages: Should road safety advertisements aim to make us feel good or bad? *Transportation Research Part F* 11 (2008) 403–417

Litman T (2010) Community cohesion as a transport planning objective, *Victoria Transport Policy Institute*, Victoria, British Columbia

Maroney, S and Dewar, R (1987) Alternatives to enforcement in modifying the speeding behavior of drivers, *Transportation Research Record No. 1111, Traffic Accident Analysis, Visibility Factors, and Motorist Information Needs*. pp.121-126

Mesken J, Hagenzieker M P, Rothengatter T and de Waard D (2007) Frequency, determinants, and consequences of different drivers' emotions: An on-the-road study using self-reports, (observed) behaviour, and physiology. *Transportation Research Part F* 10 (2007) 458–475

Møller M (2004) An explorative study of the relationship between lifestyle and driving behaviour among young drivers, *Accident Analysis and Prevention* 36 (2004) 1081–1088

Morrison D S, Thomson H and Petticrew M (2004) Evaluation of the health effects of a neighbourhood traffic calming scheme. *Journal of Epidemiological Community Health* 2004;58:837–840

Musselwhite C, Avineri E, Fulcher E and Susilo, Y (2010) Understanding Public Attitudes to Road User Safety September 2010. Department for Transport: London Road Safety Research Report No. 112, Department for Transport

Newnam S, Watson B and Murray W (2004) Factors predicting intentions to speed in a work and personal vehicle, *Transportation Research Part F: Traffic Psychology and Behaviour*, 7(4-5) 287-300

Nolan, J., Schultz, W., Cialdini, R., Goldstein, N., Griskevicius, V (2008) Normative social influence is under-detected. *Personality and Social Psychology Bulletin*, 34: 913-924.

- Oxley M., Nancarrow, C., 2002, Managing the Diffusion of Innovation. ESOMAR, conference, 2002.
- Pharoah, T., Russell, J., 1989. Traffic Calming: Policy and Evaluations in Three European Countries. Occasional Paper 2/1989, Department of Planning, Housing and Development, South Bank Polytechnic, London. Institute, London
- Poulter D and McKenna F (2007) Is speeding a “real” antisocial behavior? A comparison with other antisocial behaviors. *Accident Analysis and Prevention*, 39 (2007) 384–389
- Quimby, Maycock G, Palmer C and Buttress S (1999) The factors that influence a driver's choice of speed — a questionnaire study Prepared for Road Safety Division, Department of the Environment, Transport and the Regions. TRL Report No. 325, Transport Research Laboratory
- Ragnarsson R S and Bjorgvinsson T (1991) Effects of public posting on driving speed in Icelandic traffic, *Journal of Applied Behavior Analysis* 1991, 23, 54-58
- Rogers, E., (1959), *Diffusion of Innovations*. Free Press, New York.
- Rosén E and Sander U (2009) Pedestrian fatality risk as a function of car impact speed. *Accident Analysis & Prevention*. Volume 41, Issue 3, May 2009, Pages 536-542
- Sheller M and Urry J (2000) The city and the car, *International Journal of Urban and Regional Research*, Vol 24.4 December 2000
- Stead M, Tagg S, MacKintosh A M and Eadie D (2005) Development and evaluation of a mass media Theory of Planned Behaviour intervention to reduce speeding, *Health Education Research* Vol.20 no.1
- Stradling S G, Campbell M, Allan A, Gorell R S J, Hill J P and Winter M G (2003) The Speeding driver. Who, how and why? *Scottish Executive Social Research* 2003
- Sustrans (2010) DIY Streets Project Review 2010 http://www.sustrans.org.uk/assets/files/liveable%20neighbourhoods/1008_DIY%20Streets_project%20review_2010.pdf [Accessed 04/05/2012]
- Tinson, J., Bristowe, L., and Nancarrow, C., 2005, How to target movers and shakers; *Admap*; Issue 461
- Toledo T, Musicant O and Lotan T (2008) In-vehicle data recorders for monitoring and feedback on drivers’ behavior, *Transportation Research Part C* 16 (2008) 320–331
- Wallen Warner H and A°berg L(2008) Drivers’ beliefs about exceeding the speed limit. *Transportation Research Part F* 11 (2008) 376–389
- Walter L K and Knowles J (2008) Effectiveness of Speed Indicator Devices on reducing vehicle speeds in London, *Transport Research Laboratory PPR* 314
- Webster DC and Wells, PA (2010) The characteristics of speeders, TRL Report 440. Transport Research Laboratory
- Wernsperger F and Sammer G (1995) Results of the scientific investigation accompanying the pilot trial of 30kph limit in side streets and 50kph limit in priority streets. 23rd European Transport Forum, PTRC, 1995, Proceedings Seminar G, Traffic Management and Road Safety
- Whitmire II J, Morgan J F, Oron-Gilad T and Hancock P A (2011) The effect of in-vehicle warning systems on speed compliance in work zones, *Transportation Research Part F* 14 (2011) 331–340

Appendix A: Sample topic guide used in qualitative research

Moderator's Guide – 20mph focus group

Research questions

- What are attitudes of drivers to volume and speed of traffic in residential areas?
- What are attitudes of residents (pilot and non-pilot areas) to volume and speed of traffic in residential areas?
- Do people feel and behave differently when they are driving as opposed to walking through a residential area?
- What are attitudes to 20mph limit in Bristol?
- What are the perceived (or experienced) pros and cons of 20mph?
- What is the perceived behaviour of other drivers in the 20mph limits?
- What is the actual experience of living in a 20mph area?
- What is the actual experience of walking and cycling in a 20mph area? And walking with small children?
- What is the actual experience of driving in a 20mph area? Does this differ from stated belief in relation to 20mph?
- What more could be done to encourage drivers to stick to 20mph?

Topic	Questions	Moderator's notes
Introduction		
Welcome and Introduction	<ul style="list-style-type: none"> • The research is on attitudes to traffic in residential areas • There are no right or wrong answers so please be honest we want to know what you really think • Anonymous and confidential • If it's ok with you I would like to use audio recording because I don't want to miss any of your comments but please be assured of complete confidentiality. • I am an independent researcher with no vested interests. It doesn't matter to me personally what you say in response to any of these questions. 	

Topic	Questions	Moderator's notes
Moving around in Bristol		
Mode choice	<ul style="list-style-type: none"> • How do you normally get about in Bristol for shopping, work, leisure? • What sort of things influence whether you drive, walk, catch the bus or cycle? • What's your favourite journey in Bristol? 	
Driving	<ul style="list-style-type: none"> • Do you own (one or more) cars? If so, what does it/they mean to you? • Do you commute by car? What sort of annual mileage? • What kind of situations do you normally drive in? • What sort of driver do you think you are? 	
Living on your street		
Your street	<p>Thinking about the street you live on:</p> <ul style="list-style-type: none"> • What do you like and dislike about your street? • Has it got a "neighbourly" feel? Do you get a sense of wellbeing from being out in your street? • Is there any regular street activity such as playing, sitting out or gardening? Would you like more or less of this? Can you imagine your children playing out? • What about traffic, is this a concern for you? • Do most neighbours drive? Are they considerate? • Width/environment for cars, cyclists pedestrians and other activities? • What do you dream of changing, what could be different? 	<p>Does traffic volume or speed come up as an issue? If not, probe – noise, volume, speed, anti-social driving.</p> <p>Reflect on what might be possible</p>
"Brand association" of 20mph		
	<p>Test images of 20mph streets</p> <ul style="list-style-type: none"> • What should the speed limit be on these roads? Why? • Ask for other words associated with the feelings generated by the image? 	<p>Views on what speed limit "should" be.</p>

Topic	Questions	Moderator's notes
Knowledge and attitudes towards 20mph		
Awareness of pilots	<p>Personal awareness of pilots</p> <ul style="list-style-type: none"> • Did you know that 20 mph limits were being introduced in Bristol? When did you first hear about it? And when did you notice the signs go up? • Do you know if you live in one of the pilot areas? If so, were you consulted on 20mph? 	<p>Gauge feelings on the process of introducing 20. Did they feel they had a chance to have their say? Would they have contributed?</p>
General attitudes	<p>The average driver and 20</p> <ul style="list-style-type: none"> • What do you think the average driver thinks about the 20mph limit? • And what about residents in the pilot areas? 	<p>Probe ambivalent or negative responses – why do you think that is?</p>
Pros and cons	<p>What do most drivers think is good and bad about 20mph</p> <ul style="list-style-type: none"> • What do you think people feel are the pros and cons of 20mph in residential areas? • Who will benefit most? And least? 	<p>Refer back to bubble drawings. Note if/how aware respondents are of the road safety implication i.e. less danger of death or injury at 20.</p>
Personal attitude	<ul style="list-style-type: none"> • What do you think about 20mph – as a resident? As a driver? Or cyclist or pedestrian? 	<p>Note if this is congruent with “general” attitudes above – probe differences</p>
Perceptions and behaviour towards 20mph		
Perceived behaviour of others	<ul style="list-style-type: none"> • Do other drivers stick to 20? • Have you noticed drivers in the 20 mph areas driving more slowly or considerately? Maybe at different times of day? • Are there some roads where it is more effective than others? 	<p>Identify if any noted differences seem to be location or time specific</p>

Topic	Questions	Moderator's notes
Perceived changes	<p>Living, walking and cycling in 20mph areas</p> <ul style="list-style-type: none"> • If you live in a 20mph area has it made any difference to how your street feels? Is there less noise for example? During the day? And at night? • Would you say you feel any safer now when you walk or cycle in the 20mph areas? • Has the slower speed limit made you feel different about the pavement/road space? 	<p>Probe if 20 validates choice to cycle/walk? Does it give you more of a "right" to be there, cross the road etc?</p>
Personal driving behaviour	<p>Driving at 20</p> <ul style="list-style-type: none"> • Have you tried to drive at 20? • What does it feel like? When does it feel ok, and when not? What affects your choice of speed? 	<p>Probe effect of: "other" drivers, personal circumstances, presence of passengers, judgement of road type</p>
Making 20 work – enforcement and soft measures		
Road selection	<p>City wide?</p> <ul style="list-style-type: none"> • Would you support a city-wide 20mph limit? • Which roads (if any) do you think should be excluded from this? • How would it change the city? 	
Enforcement	<p>Police attitudes and role</p> <ul style="list-style-type: none"> • What do you think the local police think about 20mph? • Do you think they should have a role in enforcing the new speed limit or is this unrealistic? • Is there anything individuals or the community can do to help enforce the limit? 	<p>Probe attitudes towards and expectations of the police? Is there a feeling of powerlessness?</p>

Topic	Questions	Moderator's notes
Social acceptability	<p>How can drivers be encouraged to comply?</p> <ul style="list-style-type: none"> • Do you think 20mph could become the norm in residential streets? • What sort of things might help to make driving more slowly socially acceptable (think of other countries you might have been to where car traffic in urban/residential areas drives more slowly) 	
Other initiatives		
Shared space, playing out - photo	<p>What are streets for?</p> <ul style="list-style-type: none"> • You may have come across places, maybe in this country or in Europe, where the roadspace is shared between cars, drivers and pedestrians. What do you think about this idea? Would you like to see it used more widely in Bristol? • Would you like to see children encouraged to play more in the street (there's an organisation in Bristol that helps residents to close their street to cars so that kids can play after school). 	<p>Probe fears, preconceptions as to why it would not work? Are they open or closed to such ideas? Is it beyond possible or just stupid?</p>
Summary and close	<ul style="list-style-type: none"> • Review purpose and ask if anything has been missed • Thanks and dismissal 	

Appendix B: Summary of backcasting workshop

B1 Invitee and attendance list

Name	Job Title	Organisation	Contact email	Attend
Tim Kent	Councillor - Transport	BCC	tim.kent@bristol.gov.uk	YES
Peter Mann	Service Director, Transport	BCC	peter.mann@bristol.gov.uk	YES
Andy Whitehead	City Transport - Principal Officer Policy & Programmes	BCC	andrew.whitehead@bristol.gov.uk	YES
Emma Pick	Highways	BCC	emma.pick@bristol.gov.uk	YES
Gari Garmston	Data monitoring officer	BCC	gari.garmston@bristol.gov.uk	YES
Andrew McGrath	Area co-ordinator	BCC	andrew.mcgrath@bristol.gov.uk	YES
Nick Christo	NP Greater Bedminster, Clifton & Cabot	BCC	nick.christo@bristol.gov.uk	YES
Penny Germon	NP Easton & Ashley		penny@eastonandlawrencehill.org.uk	YES
Claire Lowman	Manager	Active Bristol	claire.lowman@bristol.gov.uk	YES
Angela Raffle	Consultant in Public Health	NHS Bristol	angela.raffle@bristol.nhs.uk	YES
Lorna Heaysman	Neighbourhood Development Officer	BCC	Lorna.Heaysman@bristol.gov.uk	YES
Dave Shephard	20mph adviser	Avon & Somerset police	dave.sheppard@avonandsomerset.police.uk	YES
John Hext	Head of collision investigation	Avon & Somerset police	jonathan.hext@avonandsomerset.police.uk	YES
Pete Levy	Councillor	Police Authority rep	pete.levy@bristol.gov.uk	YES
Denice Burton	Assistant Director Health Improvement	BANES PCT	denice.burton@banes-pct.nhs.uk	YES
Charles Musselwhite	Senior Lecturer	UWE	charles.musselwhite@uwe.ac.uk	YES
Paul Pilkington	Senior Lecturer	UWE	Paul.Pilkington@uwe.ac.uk	YES
Simone Osborn	Co-convenor, Transport groups	Green Capital	simjosborn@gmail.com	YES

Name	Job Title	Organi- sation	Contact email	Attend
Alice Ferguson	Director	Playing Out	alice.ferguson@ hotmail.com	YES
Melissa Henry	Communications Director	Sustrans	melissa.henry@ sustrans.org.uk	YES
Ben Barker	Greater Bedminster Chair	Community	benbarker@ blueyonder.co.uk	YES
Nigel Hutchings	Chamber of Commerce Director	Business West	nigel.hutchings@ gwebusinesswest.co.uk	YES
Bev Knott	Councillor	BCC	bev.knott@bristol.gov. uk	YES
Matthew Parker	Punctuality & Reliability Manager	First Group	matthew.parker@ firstgroup.com	YES
Nicola Eynon	Punctuality data analyst	First Group	nicola.eynon@ firstgroup.com	YES
Axel Fisher	Service delivery manager	First Group	axel.fisher@firstgroup. com	YES
Matthew Barrett	Group Manager, City-wide initiatives	BCC	Matthew.Barrett@ bristol.gov.uk	YES
Martyn Price	Commissioning & Development Manager (Public Health)	NHS BANES	martyn.price@banes- pct.nhs.uk	YES
Alan Tapp		UWE		YES
Mike Baugh		BCC		YES
Adrian Davis		BCC/NHS		YES
Sarah Toy		BSMC		YES
Jon Rogers	Councillor - Health & welfare	BCC	jon.rogers@bristo.gov. uk	NO
Alastair Cox	Transport	BCC	alistair.cox@bristol.gov. uk	NO
Mark Sperduty	Transport	BCC	mark.sperduty@bristol. gov.uk	NO
Peter Anderson	Service Manager, Crime Reduction	BCC	peter.anderson@bristol. gov.uk	NO
Peter Holt	Head of Communications	BCC	peter.holt@bristol.gov. uk	NO
Tom Williams	Play Manager	Bristol CC	tom.williams@bristol. gov.uk	NO
Kate Hartas	Press	BCC	kate.hartas@bristol. gov.uk	NO
Di Robinson	Head of Communities	BCC	di.robinson@bristol. gov.uk	NO
Jenny Dean	Bishopston - Safer Bristol officer		jenny.dean@bristol. gov.uk	NO
Jason Thorn	Economic Advisor	BCC	jason.thorne@bristol. gov.uk	NO
Mohammed Elsharif	Manager	PCT	mohammed.elsharif@ bristolpct.nhs.uk	NO

Delivering soft measures to support signs-only 20mph limits

Name	Job Title	Organi- sation	Contact email	Attend
Hugh Annett	Director of Public Health	PCT	hugh.annett@bristol.gov.uk	NO
Gabriel Scally	Regional DPH		gabriel.scally@southwest.nhs.uk	NO
DCC Rob Beckley	Deputy Chief Constable	Avon & Somerset police	rob.beckley@avonandsomerset.police.uk	NO
Ian Smith	Head of Road Policing	Avon & Somerset police	ianm.smith@avonandsomerset.pnn.police.uk	NO
John Long	ACC	Avon & Somerset police	john.long@avonandsomerset.pnn.police.uk	NO
Doug Naysmith	Councillor	Police Authority rep	doug.naysmith@bristol.gov.uk	NO
Nick Jeanes		BANES	Nick_Jeanes@bathnes.gov.uk	NO
Ruth Kipping	Dept Social Medicine University of Bristol		ruth.kipping@bristol.ac.uk	NO
Darren Hall	Director	Green Capital	darren.hall@bristolgreencapital.org	NO
John Savage	Director, The Initiative	GWE Business West	john.savage@gwebusinesswest.co.uk	NO
John Hirst	Operations Director	Destination Bristol	john.hirst@destinationbristol.co.uk	NO
Ben Hamilton Baillie	Consultant	BHB Associates	ben@hamilton-baillie.co.uk	NO
Chris Gittings	Director	Streets Alive	chris@streetsalive.org.uk	NO
Jason Torrance	Policy Director	Sustrans	jason.torrance@sustrans.org.uk	NO
Tom Crompton	Policy manager	WWF	TCrompton@wwf.org.uk	NO
James Durie	Director, The Initiative	Business West	james.durie@gwebusinesswest.co.uk	NO
Russell Barrington-Crow	Regional Director for South-West	Wessex Red	russell.b.crow@rotala.co.uk	NO
Katie Collins	Lecturer	BSMC	Katie.collins@uwe.ac.uk	NO
Allen Parker	Director	First Group	allen.parker@firstgroup.com	NO
Steve Crozier	Co-organise			NO
Ash Pressley	IAM Instructor			NO
Ciaran Mundy	Transport Group	Green Capital	ciaran@oneworldwildlife.org	NO

B2 Presentation

Follow the link to see presentation:

<http://www1.uwe.ac.uk/bl/bbs/research/bsmc/researchprojects/20splenty.aspx>

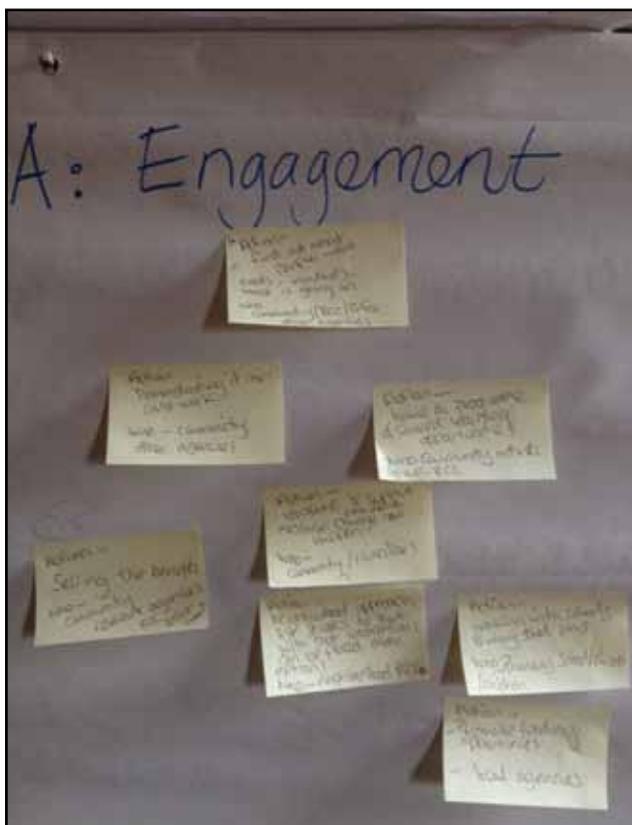


B3 Flip-chart summaries of priority actions

A. Engagement

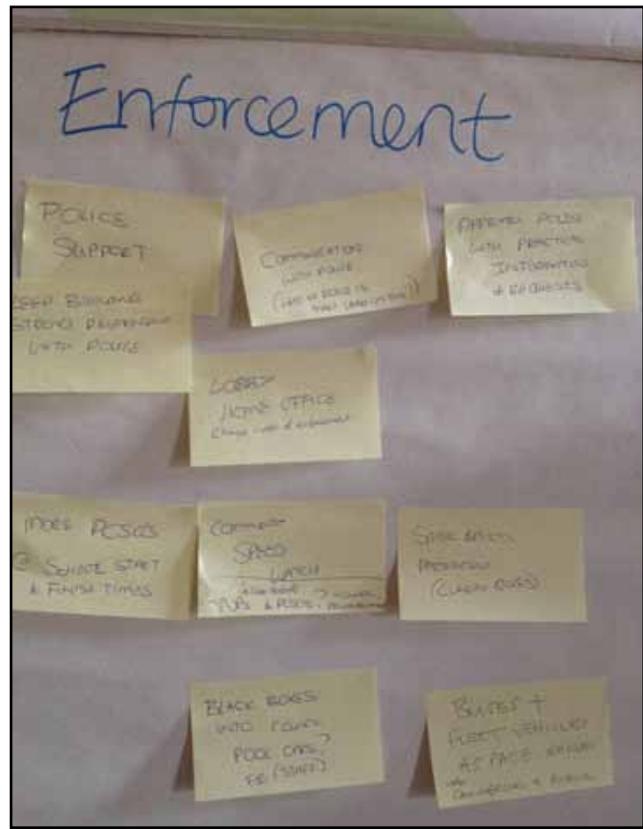
Actions:

- Find out what people want
 - Events – initiatives
 - What is going on
 - Who community (BCC/Police/ Other agencies)
- Demonstrating it could work
 - Who – community
 - Other agencies
- Have a programme of shared learning opportunities
 - Who are community activists (group – BCC)
- Reassure and Support
 - Confidence
 - Message: change can happen
 - Who – community/councillors
- (Pre) Selling the benefits
 - Who – community, relevant agencies, BCC, police
- (Now) Neighbourhood approach
 - List streets to start with that interventions can be placed.
 - Menu options
 - Who – Neighbourhood BCC
- (Now) Working with schools
 - Primary school focus
 - Who – Primary school, parents, children
- (Now) Provide funding opportunities
 - Local agencies



B. Enforcement

- Police support
- Communication with police
 - Who in police is main lead on this?
- Approach police with practical information & requests
- Keep building strong relationship with police
- Lobby Home Office
 - Change rules of enforcement
- More PCSO's @ school start and finish times
- Community Speed watch (& safer Bristol)
 - NP's & PCSO's?
 - Council to procure equipment
- Safer Bristol partnership (clarify roles)
- Black Boxes into council pool cars? (for staff)
- Buses and fleet vehicles as pace vehicles
 - Who – commercial & public



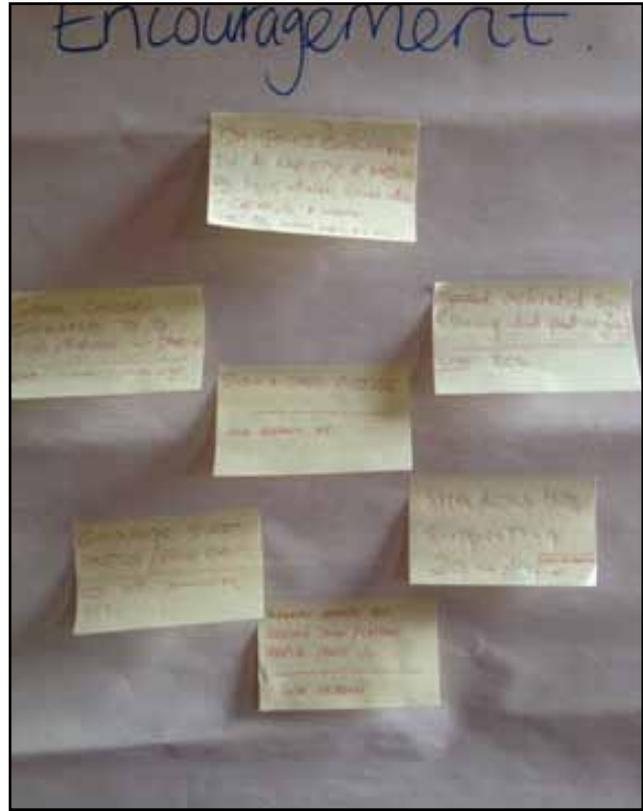
C. Enlightenment

- Employers – influence fleet travel
- Council – every department
 - Publicity spaces
 - Buses & taxis etc
 - Coordination across? Council
- (BCC) Pride & ownership in our city
 - to deliver the liveable city – Copenhagen
- Street parties/ BCC streets alive/ playing out
 - Playing out to help people vision the future
- A city fit for kids
- Police advertising 20mph
- Role of Mayor?
 - Vision!
- Linking with the identity of the city
 - Placemaking? director
- Messaging
 - Ownership among non- residents?
 - Respect
- CBI Inst Directors
 - Business West take lead
 - Sell to their employees/members
- Feel good factor, re open streets
- Slow down, connect, make friends
- GP's Primary care – messengers
- Localise the messages - neighbourhood partnerships
- Hot Air balloon
- Bin stickers



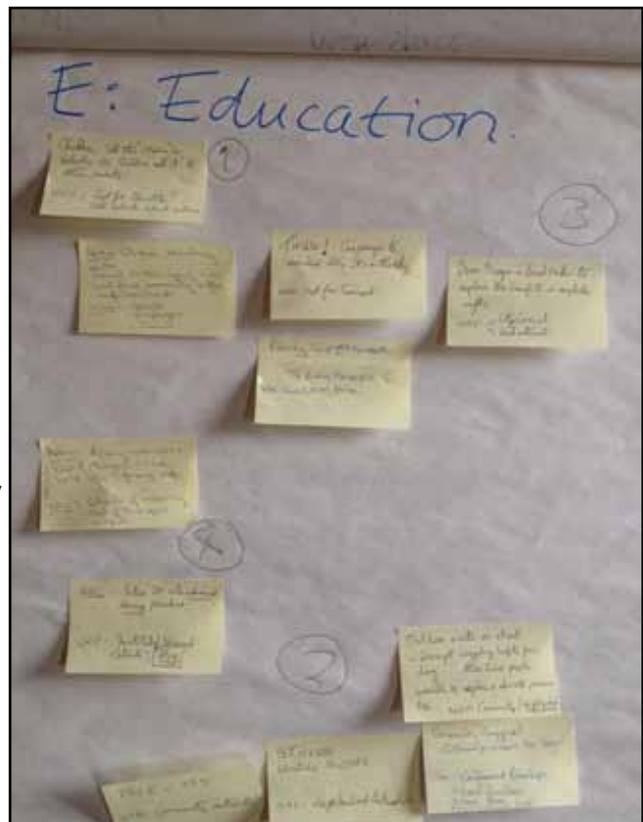
D. Encouragement

- On-going encouragement in a variety of media, e.g. signs, articles, school letters.
 - Creating a norm
 - Who – All – So Homes?, Media, BCC etc.
- School children encouraged to ID road problems inc. Speeding
 - Who – Schools, Youth orgs
- Sign a speed pledge
 - Local residents, NP
- Speed activated signs (showing what speed car going)
 - Who – BCC
- Encourage Street parties/other events
 - Who – NP, communities, BCC
- Window bills supporting 20mph
 - Local residents, NP
- Thanking drivers for slowing down/ letting people cross
 - Local residents



E. Education

- Children – Sell the 'vision' in schools – children 'sell it' to their parents
- Who- Dept for Education?
 - Pilot schools against a stance
- Outdoor events on street
 - Disrupt everyday habits for a day
 - People available to explain and educate passers by
 - Who – community, neighbourhood partnerships
- PACE cars
 - Who – community activists
- Stickers/Window posters



Delivering soft measures to support signs-only 20mph limits

- o Neighbourhood partnerships
- Community engagement – encourage and share ‘the norm’
 - o Who – community partnerships, Local Councillors, Local Police, Local community groups
- Action: Children educating adults
 - o School children going into workplaces, community centres, neighbourhoods
 - o Who – Schools, employers, council
- Think!’ campaign to normalise 20. “It’s on the telly”
 - o Who – Dept for Transport
- Door drops and local talks to explain the benefits and explode myths
 - o Who – City council, local activists
- Publicity campaign increased – tv, radio, newspapers
 - o Who – Council, NHS, police

4.1 Action: Driving instructors, DfT, DVLA. Build into Highway Code.
Who – Schools of motoring, DfT, DVLA

4.2 Action: Intro 20 into advance driving procedure
Who – Institute of advanced motorists, police

Appendix C: Detailed analysis of focus groups and in-depth interviews

List of Tables

Table C1: Focus Group – Cyclists and sustainability champions, Montpellier

Table C2: Focus Group – Professional lorry drivers, Avonmouth

Table C3: Focus Group - High mileage commuters, Central Bristol

Table C4: Focus Group - Young male drivers, Lawrence Weston

Table C5: Focus Group - Middle aged female residents, Mangotsfield

Table C6: Focus Group - Parents of young children, Knowle

Table C7: Focus Group - Retired residents, Easton

Table C8: Focus Group - non-Playing Out residents, Southville

Table C9: Focus Group - Playing Out residents, Southville

Table C10: In-depth interview - Childless middle aged male, St Werburghs

Table C11: In-depth interview - Middle aged male with children, Easton

Table C12: In-depth interview - Female with young child, Redfield

Table C13: In-depth interview - Female with young child, Ashley

Table C14: In-depth interview – Middle aged male IAM instructor, Whitehall

Table C15: In-depth interview - Young driver/motorcyclist, North Bristol

Table C16: In-depth interview – Youth worker, Lawrence Weston

Table C17: In-depth interview – Community leader, Bedminster

Type of interview: Focus Group - Cyclists and sustainability champions

Date and time: 1930 -2100 on 24/11/11

Location: Montpelier

Name (confidential): 7 participants from local area

Key points from interview	Theme	Quotes
Feeling of peace and safety on dead end roads compared to through roads.	Road type	"That's just like my street actually, I live on a dead end alleyway and it's great because the kids are up and down the street and every kind of form of transport up and down the street and it's lovely and it's just when drunk people come down and they get caught on a wall or something and we call the police. It's Picton Street is what I know and that's the street where you just see people bombing around there and ...So it's like I'm down this tranquil oasis and then and soon as you're out the corner Its like WAH!"
It's more acceptable to speed at night when no-one is around and roads are wide and empty.	Road type	"But when it's all hours of the clock along the main arteries into Bristol, say through from St Pauls to Stokes Croft, Ashley Road – if it's busy then you go slowly anyway and if there's no one around, and it's the middle of the night you think what the hell..."
Rely more on own judgement of road than signage or instructions telling drivers what to do or what speed to drive at.	Signage	"I completely ignore road signs and I watch the roads... it's the same as what I said about having been a cyclist – you know, actually you're not looking for what you're being told to do, you're looking for what you have to do otherwise you die."
Becoming aware of the impact that speeding can have on residents and focusing on the reason for 20mph helps to consciously slow down even when the road appears to be suitable for faster speeds.	Benefits of 20mph	"I was thinking when you were talking about the big wide roads that 20 in the town and it doesn't seem right and I used to drive along the A37 a lot for work, and don't anymore but now I go along the A37 I'm very conscious of the speed limit all the way along and it's been reduced a lot more than it ever used to be and at first it was a bit irksome – you know, I'm used to hurtling along here – what's going on and then sort of consciously started thinking actually people live here and there's a reason for this and really trying quite hard to abide by the limit day and night."

Key points from interview	Theme	Quotes
Can't imagine how to make road feel less busy as it's a main road	Vision of changing street	"I hate it [the road I live on] but it is a main road so I can't actually see what on earth could be done to it. I can't see how you fix what is basically just an atrocious bit of road."
Fear/stress when cycling leads to aggressive behaviour	Behaviour - cycling compared to driving	"I don't think I become a different person when I drive at all but I become a completely different person when I cycle. Now...when I fear for my life on my bike. Swear words I would never normally use fly out my mouth and I used to have to sort of check myself and think well you know, people I know might actually be coming down the street and hearing that."
Cyclists tend to be more careful and aware when they are driving than people who drive all the time.	Behaviour - cycling compared to driving	"I just drive a car with a cyclist's eyes."
Different parts of the city feel very different to drive in so 20mph would be more acceptable in some areas than others.	Social norms	""And yet I know there's the kind of association with St Pauls because it's got a large immigrant community and it's a more deprived area but it's madness around there. It's like people just come out...they just park in the middle of the road and have a chat with the person in the car opposite." Male: ""That's not madness. That's community spirit.""
Different parts of the city feel very different to drive in so 20mph would be more acceptable in some areas than others.	Social norms	" [cycling in Stockwood] it wasn't very nice and it's all very wide sort of fifties/sixties roads so it's designed for cars and it's just the number of people that hooted me like "Get out my bloody way you..."
Sticking to speed limit when under pressure from drivers behind makes some drivers more stubborn and determined to obey the limit.	Social norms	"Well I just, if you're driving up my ass I'm gonna stick to the speed limit and am going to act really calm and you can jump up and down as much as you like but I'm doing the right thing so sod you and I know we talk about our limit and sometimes I do that. If someone's zooming up I think 20 mile an hour then!"

Key points from interview	Theme	Quotes
	Social norms	<p>"...I've been trialling [driving at 20mph] since I knew I was coming to this which is en route to Joel's school – it's a 20 mile an hour school zone and it's on one of those roads that you easily do 40 and nobody would blame you. And before I knew I was coming to this, I always struggled to get anywhere near 20 because it's such a wide open road, there's hardly any traffic on that particular stretch and we go past these signs doing sort of 28 and feeling guilty and think you should drop the speed a bit. Can't see any kids – I don't know...but when I knew I was coming to this I consciously dropped the speed every time to 20 and it's just been really interesting to see the behaviour of the people behind me. I've been so amazed."</p>
<p>If enough people start to respect the 20mph limit then it can shift the social norm and make it feel right to drive at 20mph.</p>	Social norms	<p>"You know, if lots of people like you drive at 20, everyone behind you will drive at 20 and you can get a feeling that that's what you do."</p>
<p>Living in the pilot area was aware of the consultation phase (was part of the household survey) but was not happy about the way the scheme was introduced.</p>	Consultation	<p>"Somebody came to my door. They did a lot...I've had people to my door at least twice about 20 mile an hour. The first time was asking whether we thought they should introduce it and I was like yes, and the next time was have we introduced it in the right way? And I'm like NO! "</p>
<p>Visible enforcement will heighten people's awareness of the new limits.</p>	Enforcement	<p>"I think having a bright green thing standing under a big 20 mile an hour thing with some sort of, van driver...just doing that, once a week for 6 weeks to get people that are on regular journeys, during the rush hour, I think would be a really good thing because it's just gonna heighten peoples awareness. And it might not mean they drive at any less than 30 but it might mean they don't drive more than 30."</p>

Type of interview: Focus Group - Professional lorry drivers

Date and time: 11/01/2012

Location:

Name (confidential): 7 participants

Key points from interview	Theme	Quotes
Dangerous areas	20mph limit	"There's a big housing estate in Weston which is a 20mph speeding limit, which is dangerous because it's a real rough area and you wouldn't want to go through there at 20mph."
20mph 24/7	20mph limit	"The thing is if you put the 20mph speed limit, that's 20mph at 3 o'clock in the morning when there's nothing about...circumstances change depending on the time of the day."
20mph limit around schools generally respected.	20mph limit	"Occasionally by a school..." "Yeah usually its certain times of the day, what's normally a 30; lights will flash and will drop down to 20 for certain times of the day." "So yeah you can come across them yeah, you respect it." "There's so few of them and you know they're all by schools and things, so you know there's a reason for it."
Residential roads	20mph limit	"That's an average day with all those cars parked there, then you wouldn't want to go through there at 30 because there's too many risks of something shooting out between the cars."

<p>Car wins over bus for convenience and public transport is not an option for commuting as the required routes don't exist</p>	<p>Alternative modes/ public transport</p>	<p>""No I would just frustrated with stop, starting all the time and people cut buses up...Waiting round and stuff, I'm not a public transport sort of person."" ""If there was a better bus service, I live in Weston and work in Avonmouth, depending on what time of day I start it can take me 20 minutes to get there instead of 40-45...to drive. If there was a bus service that was leaving at the right time and the right price from Weston to Avonmouth, I'd use it...If there was a service, they'd make a killing because traffic getting out of Weston is horrendous. They all work up in Bristol somewhere, and if they had a better service, they'd make a fortune out of it.""</p> <p>""To get the bus to Avonmouth I'd have to catch one bus into the centre of town, change and go out to Avonmouth and the only buses going to Avonmouth, either got you there at 5 o'clock in the morning or the next one couldn't get you there till after nine.""</p> <p>""...and you never know what time we're going to finish on a night.""</p> <p>""If I got a train to work, I'd have to get two trains, I'd get a train from Weston into Temple Meads and then a train from Temple Meads then out to Avonmouth and trying to time that right for the time I need to be at work, the logistics would be a nightmare, I'd be way too early or late or spend an hour and a half waiting on the platform for a train.""</p>
<p>Public transport</p>	<p>Alternative modes/ public transport</p>	<p>"That's the biggest thing; they could ease so many other roads if they sorted public transport." "How long have they talked about a light railway to run through Bristol?"</p>
<p>Parking in Bristol seen as an issue</p>	<p>Alternative modes/ public transport</p>	<p>"Actual parking in Bristol, getting into Bristol and say at peak time in the morning, I find I can drive to a park and ride which is fairly local to myself and jump on a bus...and then when I get to the other end I've got no worries about where I'm going to park the car and its cheaper to leave the car at Avonmouth, where the park and ride is than it is to try and park in peak time parking space in Bristol."</p>

Not aware of 20mph areas	Education/awareness raising	<p>""I've driven through that and not even noticed it."" ""...I didn't know there were so many except the ones in front of schools.""</p> <p>""...my son and my daughter both go to school in that area and I'm in and out of there through the weekends...I've been doing that for four years and I've not noticed.""</p> <p>""Look at how many people are here now and none of us were aware of that... it does need big media, on the news, it needs to be everywhere.""</p>
Punishment for non-compliance	Enforcement	<p>""Normally its not enforced enough is it? I mean you look at how many 30 zones there are, how many people speed, how many people get caught... the chances of getting caught, a chance of getting away with it.""</p> <p>""It needs to do it immediately ...it's now a 20mph limit...so that everybody knows and that's going to be a big thing, everybody knows that it's actually enforced by the police, cameras and everything else and you're caught.""</p> <p>""You'd have to actually put no real life bobbies on the beat, that's not going to happen is it?""</p> <p>""PCSOs with the powers that they can put tickets on you.""</p> <p>""it needs an overhaul of the points system rather than 3 points and £60 fine, it should be if you're caught speeding in a 20mph zone in a residential zone like that you get like a £100 fine, no one's going to speed then, forget the points whack a fine on them.""</p> <p>""Fines should be means tested because if you give someone a £60 fine, if he's a director of a company, £60, here you go that's that done. You fine me £60 and when I can pay it by, you know...If you were in a 20 and they catch you doing a 40 or something, you want the book thrown at you and you want a decent fine for it.""</p>

<p>Community action</p>	<p>Enforcement</p>	<p>""In today's society it's a brave move to challenge anybody because you don't know what they're going to do, what they're going to pull out of the car or their pocket.""</p> <p>""But you imagine if someone drove down my road and you come down my road a little bit quick and my neighbour came out and said: look could you not drive down my road not so fast, its like a red rag to a bull to you, you're going to rare up straight away.""</p> <p>""Depends what frame of mind you're in, you might say: yeah alright sorry but I mean if you've had a crappy day or whatever, it's a red rag to a bull, anyone would - Oh what's it got to do with you, you ain't a copper.""</p> <p>""It's happened, it has happened mate and I've been coming home from work and I've been having a stink of a day and I've been driving down through St George and I must be doing 50-60 mile an hour down the back roads and I was pulled over by you know one of the residents."" "</p>
<p>Congestion charge</p>	<p>Enforcement</p>	<p>"They brought that up on the news and they said that they wanted to bring into Bristol a congestion charge like they have in London, but they won't do it until they get public transport sorted out and I went, well we're never going to get a congestion charge...Its never going to happen is it?"</p>
<p>Speed limits should make sense</p>	<p>Existing speed limits</p>	<p>"...doing about 36 and I was just going with the flow of the traffic." Do you think he probably got everyone on that?</p> <p>"Probably did, he probably got everybody."</p> <p>"It's a money making scam...they put them in certain places just to raise [money]"</p> <p>"It wasn't a safety issue, you know the speed limit is just too low there."</p>

Speed limiters on trucks	Existing speed limits	"One of the worst roads is the Barnstaple road from the M5 right across to Barnstaple. It's a nice long decent road, the A361, it's a lovely road but you're allowed 40mph...you are going to cause such a traffic jam, its dangerous because you're forcing people behind...But we're only allowed to do 40, so you get all these cars behind you, somewhere back there, you're going to get somebody who is impatient and they can't look beyond their front bumper so they've got to overtake the car in front of them and then they're stuck behind someone else. There's a leap frogging several cars until they finally get past you."
'Pace car'	Physical measures	"The only thing that would slow them down would be the vehicle in front. As long as you get a (?) in front doing 18mph because it's a 20 limit, that's the only thing that will slow the people down behind because the business ain't got time to slow down to 20mph, he'd be off."
Current road layout and behaviour	Road type	"If there's going to need to be safety in it, it's not necessarily dropping the speed, it's looking for people walking out in between cars. There were certain places that used to have railings across kerbs and stuff like that, they're gone. They've taken all of those away because people kept running into them with their cars and everything. But if they (?) better so people could basically see them more clearly, you'd probably have a better safety record than you would by slowing people down because you're going to end up with the idiots going: oh God I've got to try and get round the bollard, and its going to cause aggravation, it's going to cause a problems... I'm not necessarily saying all of those cases it would be that fact, but you still going to, you're going to get people who are going to get angry."
Arterial routes	Road type	"Residential roads you can understand it, but arterial routes, when you're going between... especially like between coming off the M32 stuff like that, you're cutting across going onto Gloucester Road and places like that, end of Stokes Croft and that. All those little cut through, people us them constantly because they need to get through and get to places."

	Shared space/road function	<p>"They tested it, it was British people basically, this is something that can't possibly work, but they spot the car coming back and the roads about sort of a 50mph area...because they knew that area was pedestrianised so they said if you step out in the road, you've got to let them go, it's the way that it is because we've never really had sort of like an area like this, its going to take you ages for it..."</p> <p>"You'd never educate people would you."</p> <p>"Common sense would slow your speed down."</p>
	Shared space/road function	<p>"A lot of road is wasted around that area, well pavements, so in some places the pavements are almost as wide as the road...if you took the pavement away and had a communal area, it might even work better."</p> <p>"Ban the cars from the area."</p>
Flashing signs	Signage	<p>"I think a warning sign flashing 30 or 20 or even 40 that lights up, a digital sign that lights up and tells you to slow down, that works better I think than seeing a yellow camera on the side and think I'll slow down for that."</p>
The Great British Car Driver	Social norms	<p>"I don't think this can ever happen, the country isn't like that, the whole country is constantly in a rush, we all just want to get home after work, we don't want an hour push bike riding opposed to when you're in a car driving. I can't just ever see that happening in this country."</p> <p>"We're too lazy"</p> <p>"Its easier to walk out of your door and get in the car and turn the key and go as opposed to getting the bike out of the shed and put your lycra on or whatever and cycle 25 minutes to get to work when you could have done in 10 minutes in a car."</p>

JIMBY!	Social norms & hypocrisy	<p>Would any of you support the idea of it being reduced to 20, I mean on your road?</p> <p>"Yeah."</p> <p>"Yeah I would, yeah."</p> <p>"I think I would too."</p> <p>"Definitely."</p> <p>"Don't think it would make any difference, because everybody does sort of about 20."</p> <p>"But then that makes us all total hypocrites because its not needed there but you could put it outside my house."</p> <p>"I will do my way, nowhere else."</p>
Is Bristol ready for the Copenhagen Utopia?	Vision of changing street	<p>""That just complicates.""</p> <p>""That's just going to contradict the 20 mile an hour speed limit, they're slowing you down to avoid...""</p> <p>""Is that, two of them are sitting there looking at the car thinking, its going to run us over.""</p> <p>""It's crazy, you would still get people trying to nip in and out and you get bikes that try and do it.""</p> <p>""This is all making me not want to drive any more.""</p>

Type of interview: Focus Group - High mileage commuters

Date and time: 1800 -1930 on 08/02/12

Location: Arup

Name (confidential): 3 participants from Arup who drive >10k/yr

Key points from interview	Theme	Quotes
Would try to avoid 20mph limits during morning commute into Bristol to avoid getting slowed down.	20mph city-wide limit	"...I think there are certain locations where 20mph limit would feel to me to be too slow. I probably would try and find a different way of coming in, on a different route..."
Concerned that a blanket 20mph would add 10-20 minutes onto commute out of Bristol in the mornings.	20mph city-wide limit	"Going out from Bristol [in the morning] is very quick and actually a blanket 20mph would probably increase the times getting out of Bristol, maybe add 10-20 minutes a day."
Would change route to try and find a quicker way to avoid 20mph limits.	20mph city-wide limit	"Yes, I think I would change route to whatever route's quicker. If I was going to do 20, I'd look for the quickest route..."
20mph feels too slow and is difficult to adapt to after driving on the motorway.	20mph limits	"I find the hardest bit is when you come off an hour driving on the motorway doing 70/80 and go down to 20. It's really difficult. It just feels as if it's almost too slow for the car."
Driving at 7 am he does not stick to 20mph through Westbury village.	20mph limits	"...in a built up area, I try not to do too much more than 30, but as you go through Westbury-on-Trym, it goes down to 20 and again at quarter to seven in the morning, I'm unlikely to be doing 20mph."
A 20 limit is more acceptable during the day when there are lots of people around but it could be higher when shops are closed.	20mph limits	"It's also dependent on the time of the day as well. If that's a Saturday afternoon and you've got people shopping and there's cars parked up on both sides of the road, then 20 is a reasonable speed limit. But then if you're driving...I know that bars and pubs are still open, but a lot of the shops are closed and you're driving through at seven o'clock for example on a Thursday night, then actually 30 might be acceptable."

A 20mph limit doesn't seem appropriate at 2am when most people are asleep.	20mph limits	"If it's within any side of school hours, then it would seem that 20mph is appropriate. If it's two o'clock in the morning when all the school children are in bed and there's no-one else around, then it would seem that 30 would be."
Happy to stick to the limit whatever it is as trusts the law.	Behaviour	"I like rules, so if it tells me to drive at 20, I will do 20. If it tells me to drive 30, I will do 30. I usually stick on the limit."
Losing concentration can make speed drift up.	Behaviour	"...I find my mind wanders, you know, just thinking about other things. Then you can look and you're 5-8 miles above the speed limit, quite easily."
Cars are quieter and easier to drive these days which is why people drive faster than they used to.	Behaviour	"I think it's more to do with cars and how they've changed over the last 20-30 years. They are so easy to drive now, but yes, they're quieter and you don't realise that you're driving slightly faster...Because cars are just that much easier to drive. I think that's why people drive faster than they used to."
Speed limits are not observed on open roads.	Behaviour	"...if I'm on the open road, then I will exceed the speed limit."
Exceeding the speed limit is ok on A roads and motorways	Behaviour	"I do stick to the speed limits in the built up areas and it's the only time I exceed the speed limit and I know I do is when I'm on the motorway or on A roads."
Driving early in the morning means they don't observe speed limits.	Behaviour	"I know what the speed limits are, but my commute generally, to beat the traffic, starts really early and don't necessarily take all that much notice of them."
Might exceed the speed limit early in the morning as there aren't many pedestrians around.	Behaviour	"...if I know the area well enough and know there's not going to be cameras, I might exceed the speed limit slightly early on in the morning because the road is freer and there aren't many pedestrians around. But that's reflected in me being caught a few times. I've actually got 6 points on my licence...maybe it's my age, but my concentration wanes a little bit, you know. Yes, I'm not dead on 30 all the time, I might be veering up to 35."

<p>Not aware of speed limit on morning commute through residential streets in South Bristol.</p>	<p>Behaviour</p>	<p>"But I go through quite a few residential areas through South Bristol [on morning commute into Bristol]. We'll get onto this, I'm sure, but I could not tell you what the speed limit was for any of it...It changes so much. I probably do it intuitively, but my feeling is that they change so much that I wouldn't know on any given stretch which bit was a 30, or..."</p>
<p>Suggests possible mechanism for delivering innovative pilot shared space schemes through the neighbourhood planning process.</p>	<p>Community engagement</p>	<p>"There are lots of mechanisms now with the localism act and the fact that neighbourhood planning is becoming a much more stronger thing that local communities could, through preparing their neighbourhood plans, look at re-designing some of that space in conjunction with the local authority... Could it [the Council] do a pilot shared surface scheme as part of the neighbourhood planning process through one of its pilot areas, which I think there's one in Lockleaze and there's one in Bedminster..."</p>
<p>Giving people reasons for 20mph will help them to change their driving behaviour.</p>	<p>Education/awareness raising</p>	<p>"I think there is scope for potentially educating people, getting people to change the way they think in urban areas as to why it is 20. If you can give good reasons why it's 20, and most people will probably know them anyway, which is why you think – not in my street."</p>
	<p>Enforcement</p>	<p>"Oh yes. I'd really like to see it [20mph in his street]. But just putting a sign up definitely wouldn't work because you would never have a...there's no room for a police van to sit down there. I don't know how you would police it, if you do, again it would be traffic calming measures."</p>
<p>Roads should be self-enforcing rather than needing police enforcement.</p>	<p>Enforcement</p>	<p>"...I don't think the police enforcement issue is a way of controlling it. Yes it is back down to the design or the parking as a natural way to slow vehicles down. People will drive at 20 because if they drive at 30, then they would potentially ding their cars, or in a home zone where there are bollards in the way, so I just think when people talk about enforcement, they do automatically think about police and control, but actually, I think it's got to do with design."</p>

As village has an arterial road running through it all the residents are concerned about speed and have set up a community speedwatch group.	Enforcement	"...everybody in the village is very much for speed limits, to the point where we got cameras and big high-vis vests and there are people that go out there pretending to be the police occasionally."
Tracking of a road indicates whether it should be 20mph or not	Road type	"Well for me, I'd just look at... the tracking of the road means it's a faster road. So if they are going to impose a 20mph limit in this area, just doing things like this I don't think will slow people down [Looking at photo of Pennywell Rd]."
Road design affects driver behaviour.	Road type	"Particularly I think the design of the road and what I see in front of me, intuitively my mind says that I can drive at a faster pace because it's not...I know what the risks are and they're not there. But if it was designed in a different way, then you would drive differently."
Deciding the speed limit on arterial roads that also have facilities such as schools is a difficult question. Available funding should be prioritized to implement physical measures on these type of roads.	Road type	"It's how you deal with those roads on the edges of those communities where your linking that community maybe to some of its facilities, like the school or the retail area where we tend to be wanting to go fast because they are arterial routes...If you had a pot of money, this is where you want a larger amount of investment for physical measures."
Interesting point that shared space (e.g. home-zones) can uplift house values so this could be one way to market it to residents.	Shared space	"One way of marketing slower speeds and the design of shared spaces in residential areas, I always think if you can demonstrate value in the pocket to the local person, then that's a good way of marketing something. So for example, I know Kate did a lot of research around the uplift in value around houses next to parks or water. Are there any researches been done around values, have house values in shared space...?"
Would like to see more radical solutions in Bristol to encourage cycling by closing roads, creating shared space etc.	Shared space	[Looking at picture of Copenhagen] "I think people in Bristol would be ready for that and would love to see that. I'd like to see a different approach where you just close some roads to cars and say that's the route into the city. Because at the moment, and let's face it, the roads are horrendous on a bike, as someone who's just started cycling. The cycle ways don't really work if you go down Gloucester Road and take that route into the city. If they just closed Gloucester Road to ..."

<p>Reaction time is a key message to get across so that people understand they need to be able to respond to unexpected hazards.</p>	<p>Social marketing - messages</p>	<p>"It's the reaction time is probably the key one. So if you're not on an open road, you do just need that one instance where you've got a toddler walking out on the street that you might have driven that route for 5-6 years and then all of a sudden there's that one instance of however many times you've driven it. So reaction time I would say."</p>
<p>Drives at 20mph through his own estate as had 2 cats run over and wants to deter others from speeding [this is the person who said he did not adhere to 20mph anywhere else in the city!]</p>	<p>Social norms</p>	<p>"Yes, I do [20] through my estate, I drive at 20 and it's fine. I'm thinking about my two cats run over in the last couple of years. Yes, people don't like it very much, but..." "How does that make you feel?" "I don't really mind. Especially if it's the area where I live. If that annoys them and they decide to go another way tomorrow, then that's probably a good thing."</p>
<p>If 20mph becomes a national issue then it will raise awareness and it will become the norm for people.</p>	<p>Social norms</p>	<p>"I think it's also on whether it's a local initiative or a national initiative, because most people assume that it's 30mph in built up areas, so actually what you want to try and do is change it and say, no the norm becomes 20mph in urban areas."</p>
<p>Drivers behind him often get irate when he drives at 20 through the village.</p>	<p>Social norms</p>	<p>"We've got 20mph through our village and I keep to it through the village and I very regularly have people right up the back of the car, obviously being very irate because I'm doing 20mph. So it's quite regular to have that sort of person behind me. So I would say quite a number of people would not want to drive at 20mph if they could possibly help it."</p>
<p>More than 50% of the population drive over the speed limit.</p>	<p>Social norms</p>	<p>"I think if you had to make an assumption, I think the majority of people drive faster than they're meant to. I think over 50% of the population do drive over the speed limits..."</p>
<p>Reflects that people want 20 in their street but don't want to drive at 20 in others' streets.</p>	<p>Social norms</p>	<p>"...I suspect a lot of people would like 20mph where they live, just don't like driving through other people's residential areas at 20mph."</p>

Type of interview: Focus Group - Young male drivers from Lawrence Weston

Date and time: 1600-1700 on 09/02/12

Location: UWE

Name (confidential): 3 participants from LW community

Key points from interview	Theme	Quotes
Feel that 20mph would change the city for the worse and would make car driving pointless.	20mph city-wide limit	<p>""So how would you feel if I said to you they're going to make the whole of Bristol 20mph?""</p> <p>""Move out of it.""</p> <p>""I don't know, I think it would be pointless getting a car, to be honest, you may as well get the bus.""</p>
Would cause more traffic but reduce accidents.	20mph city-wide limit	"But it would cause more traffic but also stop crashes as well because obviously a slower speed."
You would have to allow more time for travelling around the city.	20mph city-wide limit	"...you'd just have to make more time to get to work or shopping or wherever you want to go."
Perception that 20mph is so slow you might as well walk.	20mph limits	<p>""What does driving at 20 feel like?""</p> <p>""Boring.""</p> <p>""Like you get a car to get places faster and if you're going 20, it's just like...""</p> <p>""You might as well walk.""</p>

<p>20mph is too slow apart from near schools. 20mph is fine but only at start and end times.</p>	<p>20mph limits and schools</p>	<p>""Yes. 30 is all right, 30 and 40, but I reckon 20, apart from around schools, is too slow. Like around schools I reckon that's fine... Obviously whatever time the school finishes, it should be 20.""</p> <p>""I reckon it should be only 20 during school times, obviously 8-9 o'clock in the morning when they're getting dropped off and then 3 and 4 when they get picked up, it should be 20 and any other time, it should be like a 30 or 40.""</p>
<p>Not always looking out for signs when driving and sometimes realises he is driving too fast when he sees a sign that reminds him.</p>	<p>Behaviour</p>	<p>"I don't know about you guys, but when you actually drive, I don't tend to... well you've got to try and look out for signs, but when you drive you kind of concentrate to see what's happening about, other cars and that, rather than looking out for signs and concentrating on driving, if you know what I mean. Sometimes I'll see like a speed limit and I think I'm going a bit too fast – bloody hell, I'd better slow down now."</p>
<p>You have to concentrate harder than you think to stick to the speed limit.</p>	<p>Behaviour</p>	<p>"I try and stick to it, but I've got to keep an eye on it because I don't realise sometimes I'll be driving and then I'll just accidentally go faster than I meant to and then I look down and go like oh, I never meant to do that. You've got to concentrate on how fast you are going more than you think."</p>
<p>Chooses to speed up when there's no-one around and thinks he won't do any harm.</p>	<p>Behaviour</p>	<p>"Yes, if you see that there's no-one around, no cars around or anything and you're not going to cause any harm, then just speed up a bit. "</p>
<p>Not fearful for own safety, only for scooter which he has recently bought.</p>	<p>Behaviour</p>	<p>"I'm not really worried about myself, I'm just worried about writing me bike off!"</p>
<p>Aware of the hazards of driving in residential areas and would suggest speed limit of 15mph on narrow residential road.</p>	<p>Benefits of 20mph/ slower speeds</p>	<p>[Looking at photo of Bealey Rd] "People would probably generally go slower in that area because you can see that is like dangerous and there could be kids or a cat or a dog in between the cars and run out. So you would generally go about 15mph, if that. I don't know."</p>

Easier to stop at an unexpected hazard when driving more slowly.	Benefits of 20mph/ slower speeds	"Obviously when I'm learning, they said if you're in a built up area, you should actually go 30mph. Obviously it's easier to stop if someone does run out or a car door opens."
Aware of need to drive more slowly near schools where children might run out.	Benefits of 20mph/ slower speeds	"Schools are mainly 20 because obviously kids running out."
Doesn't think that people pay much attention to speed limits.	Education/awareness raising	"...like I was saying with the speed limits and stuff like that where it changes, I don't think people pay much attention to it to be fair."
Police should be role models by sticking to the speed limit but not sure what else they can do.	Enforcement	"I reckon apart from like setting an example themselves, like not going over a speed limit unless obviously they've got to go somewhere with their lights on, I don't think there's anything else they can do really. Because they do stand there with the little things, don't they?"
Concerned about getting caught by a speed camera.	Enforcement	"And you've got to worry because speed cameras, you've got to keep an eye out of them as well. It takes your focus away from other things as well."
Slows down if he sees a police car to make sure he doesn't give them any reason to pull him over.	Enforcement	"Yes, if you do see a police car, like I seen one when I was coming, well a couple of them actually coming here today. I don't think I was going that fast, but you kind of tend to think, oh bugger, I'll slow down a bit, just in case, so you don't give them a reason to pull you over."
	Enforcement	<p>""Say they made Long Cross Road 20mph?""</p> <p>""Yes. That would be quite stupid.""</p> <p>""Because?""</p> <p>""They'd make a lot of money out of it, though, wouldn't they?""</p>

<p>Attitudes to speed limits quite negative and a feeling that they are too low.</p>	<p>Existing speed limits</p>	<p>""Speeding is just fun.""</p> <p>""Some of the speed limits are a bit stupid.""</p> <p>""Some of them are too low.""</p>
<p>Found it hard sticking to limit on Portway because not always thinking about it and there are no pedestrians there.</p>	<p>Existing speed limits</p>	<p>"When I was learning I was trying to stick to it [speed limit on the Portway] but it was hard because you just don't think...you just go. There's not really any pedestrians walking along there either really..."</p>
<p>Most people speed but residents may get annoyed with the noise.</p>	<p>Social norms</p>	<p>"I think there is quite a lot of people that do go over the speed limit. Well it's a straight road, isn't it? You have the people that do that and go fast. But obviously the people that live round the area may get annoyed with it, cars being loud and stuff"</p>
<p>Parents with kids want slower speeds but youths want to drive faster.</p>	<p>Social norms</p>	<p>"Yes, obviously parents of younger kids would obviously like the speed limits to go slower. People like our age who are driving wants to go faster, but they want us to go slower so we don't hit their kids."</p>
<p>Feels strongly that the minority that drive fast in his street (a cul-de-sac) are idiots.</p>	<p>Social norms and hypocrisy</p>	<p>[about people speeding where he lives in a cul-de-sac] "There are some idiots that live about. Like down a road like that, you shouldn't go as fast as they go. They come down in a really fast car and just go flat out and there are kids that live about, but they are idiots. But apart from the one or two like every now and again, that's it really. Everyone else drives all right."</p>
<p>Influenced by peer pressure to drive faster when out with mates.</p>	<p>Social norms and peer pressure</p>	<p>"You're influenced by people you're with, like X was saying when he was out with his mates in his car and they all go faster because, I don't know, maybe you're trying to prove a point."</p>

<p>Mother and sisters would think you're an idiot if you speed so they stick to the limit when driving with them.</p>	<p>Social norms and peer pressure</p>	<p>"Obviously if you had your mum or sisters in the car or whatever, you'd just drive to the speed limits because you're not really proving anything because they'll think you're an idiot...I would be careful because you've obviously got to think about the people that if you were going fast, you would be putting other people's lives at risk."</p>
<p>Observes that police and ambulance often seem to speed around the neighbourhood even when they do not seem to be on call. Police are poor role models in the area.</p>	<p>Social norms/enforcement</p>	<p>""...police people and ambulance people, even if they haven't got their sirens on, they are still breaking the speed limits. If they've got their blue flashing lights they're allowed to go faster, but when they haven't got them on, they are still going faster than the speed limits."" ""Where have you seen them breaking the speed limit?""</p> <p>""Portway. They are always breaking the speed limits down there.""</p> <p>""Going up Shire Way, up Shire Hill."" ""So it sounds like you think the police are not really setting a good example?""</p> <p>""No, because they know they can get away with it, I reckon.""</p> <p>""Yes, because they take advantage of the matter that they have the power to do that.""</p>
<p>Concerned that shared space as shown in Copenhagen is not safe.</p>	<p>Street function/ shared space</p>	<p>"[Looking at Copenhagen picture] It's not a sensible idea, really, is it? It doesn't even look like there's any road markings there."</p> <p>""That's not even safe either. I don't know.""</p> <p>""That's mental"".</p> <p>""No, that's not safe.""</p> <p>""You could be thinking there's not really anyone in front of me now, start driving and then someone just walk out.""</p>

<p>Wondering why you would waste petrol sitting in a big car when you can't drive past people. It would be quicker to walk.</p>	<p>Street function/ shared space</p>	<p>[Looking at picture of Copenhagen]"That person driving, literally, would get there quicker walking, I reckon.</p> <p>"You're probably using load of petrol in that kind of car as well just to sit there waiting for people to get out of the way."</p>
<p>Worried about lack of road markings...</p>	<p>Street function/ shared space</p>	<p>[Looking at picture of Copenhagen]"It would feel like that anyway because it's quite a crowded area and there's loads of people there, there's going to be hardly any cars. Yes, if you were driving fast down there and people would think they had priority over you because it's not really a marked out road, is it, to be fair? It just looks like a patio."</p>
<p>Coming round to the idea...</p>	<p>Street function/ shared space</p>	<p>"[Looking at picture of Copenhagen] ""Yes, it does look nice, but..." ""I'd hate to be in that car.""</p> <p>""But I think that people would be...I don't know, it just don't seem sensible because it's not really marked out as a road.""</p>
<p>Perhaps could get used to it over time...</p>	<p>Street function/ shared space - social norming</p>	<p>"[Looking at picture of Copenhagen] ""If you was actually living like that, I suppose you'd think differently. Like if we actually had to live like that for a year or something, we might change our minds. But because we're not used to stuff like that, that much..."</p>

Type of interview: Focus Group - Middle-aged female residents, Mangotsfield

Date and time: 1800 -1915 on 22/02/12

Location: Private house

Name (confidential): 5 participants, all female from Book Club living in cul-de-sacs in Mangotsfield

Key points from interview	Theme	Quotes
City-wide 20mph limit would require a culture shift but we would get used to it in the end.	20mph city-wide limit	<p>""I think it's a cultural thing. If it's been trialled in other cities and there must be some analysis... and I don't know how long it's been in place, but if the analysis shows that there are lots more advantages than disadvantages, then I don't see why ...it's going to be introduced in other cities and it is a cultural shift. ""</p> <p>""You'd get used to it in the end.""</p> <p>""Yes, exactly. In the same way that, for example the cycling business. That has taken off and that's become a sort of a cultural thing as well.""</p>
Different speed limits are confusing, it's getting to the stage where there should be a decision whether or not to go for 20mph everywhere.	20mph city-wide limit	<p>"There are so many pockets of roads and areas having the 20mph limit, it becomes really confusing for drivers. It will get to the stage, surely, where the balance of 20-30, you have to make the decision – do we go one or the other – almost."</p>

<p>Negative reactions to idea of city-wide 20mph limit - mainly concerned about increased journey times.</p>	<p>20mph city-wide limit</p>	<p>""I think that would be a nightmare.""</p> <p>""Yes, me too.""</p> <p>""I don't think it would make much difference to speeds going in and out of Bristol in busy times, actually.</p> <p>No, not in the rush hour. But again, if you're going down to Temple Meads to pick somebody up at 11 o'clock in the evening and it's 20mph all the way there...""</p> <p>""You'll have to go 10 minutes earlier.""</p> <p>""I don't suppose taxi drivers will be very pleased. Especially at night!""</p>
<p>Unaware of the 20mph limit on a road that she uses quite often.</p>	<p>20mph limit</p>	<p>"I have to say that I hadn't noticed that there's a 20mph limit in Whitehall and I've been up and down that road. So I've probably been doing more than 20."</p>
<p>20mph fine for school drop-off and pick-up times but not 24 hours a day.</p>	<p>20mph limit</p>	<p>"I think I know the school, you can have that at 20 at 9 or between 3-4, but I don't think it needs to be 24 hours a day."</p>
<p>20mph is too slow when roads are clear.</p>	<p>20mph limit</p>	<p>""At the end of the day, it's a bit ironic I think, because in the rush hour you are struggling to drive more than 20mph along there because it's one of the main roads and at 10 o'clock at night...""</p> <p>""Is it 20mph 24 hours a day?""</p> <p>""It's really, really slow and there's no traffic around at all and 20mph is really slow.""</p>

Points out the benefits of cycling to work.	Alternative modes	"I commute to work because it's really good I find, because you can do your exercise, you know, your exercise fits into your commute. It's free as well, that's another plus, once you've bought your bike, there is no outlay at all...I think it's better for your head, isn't it? You're not stuck in a car, stuck in traffic. I'd much rather be on a bike...yes and often it doesn't take that much longer."
Not happy about cycling locally as she feels in the way of drivers and people are so impatient.	Alternative modes	"I mean I will ride up to Mangotsfield to get onto the cycle track, but I wouldn't be overly happy about it. I will do it, it's just that I think you get in people's way and people are so impatient these days. "
Discussion about how subsidised buses might improve the city.	Alternative modes	<p>""...bus passes in Bristol are absolutely ...""</p> <p>""They're awful, aren't they?""</p> <p>""How they think they can encourage people onto buses and out of their cars.""</p> <p>""One of the reasons it's expensive, because it's not subsidised at all. They're a private company and they have to make a profit and it's not subsidised. Whereas in London, where it is cheap, it's hugely subsidised. Do you want to pay more council tax to have cheaper buses, because that's what it comes down to?""</p> <p>""Well it might improve our cities.""</p>
Conforms to speed limits since getting caught.	Behaviour	"Well it's no different to when you're anywhere really and the speed limit changes. You change to whatever that speed limit is. I've been on the speed course and I never got caught from speed cameras, I got caught by a mobile person, a policeman on the side with a gun. I just think, can I really be bothered to look around and see whether there's anyone. There's that to it, you just think, well just conform. That 50 limit, just do it. It's there for a reason."

<p>People with children or who cycle are more likely to pay attention to speed limits.</p>	<p>Behaviour</p>	<p>"If you've had children or you've got children or you're a cyclist yourself, or you've got children who cycle, or family, then that definitely makes a difference."</p>
<p>Consciously sticks to the speed limit to conserve fuel.</p>	<p>Behaviour</p>	<p>"I will [stick to the speed limit] I've got a small car that doesn't go particularly fast and I don't like watching my petrol go down and it does make a difference."</p>
<p>Sticks to the limit because doesn't want to get caught speeding.</p>	<p>Behaviour</p>	<p>"I will say I stick to the speed limits because I don't want to get caught. That would probably be my main thing."</p>
<p>Speeding is just a habit.</p>	<p>Behaviour</p>	<p>"I think for whatever reason you keep to the speed limit, whether it's because you think it's safe to do so or whether you think it's because you don't want to get caught. The reasons you do it, they go out of the window in a way really because it just becomes a habit."</p>
<p>It's hard to drive at 20mph.</p>	<p>Behaviour</p>	<p>"[thinking about driving at 20mph] ""Second gear would be quite difficult I think.""</p> <p>""The car would be screaming at you then. That's what happens, the car screams at you.""</p> <p>""It's difficult to do 20 if the road is clear, it is difficult.""</p>
<p>People lead busy lives and are time is so important it makes people drive fast.</p>	<p>Behaviour</p>	<p>"One of the problems is we all lead such busy lives and there are busier periods in your life than other periods and I think I can recall going through a phase when my children were younger and I would just drive really quite fast because time was so important. Like going to work, trying to pick up children, dropping them off and getting to work on time and I know that I used to drive a lot faster and I used to be very impatient. But now, I'm at a stage where I am not like that because I have got more time and I am much more patient and I don't know whether being a cyclist as well I am much more aware..."</p>

Tries to conform to 20mph during the day but not at night.	Behaviour in 20mph limits	"I have to say, if I was going home and the road was clear, I probably would conform. It's at 10 o'clock at night and then I don't conform to driving at 20mph on Whitehall Road, because there's nothing around at all. Nothing. It's really, really slow. You can't even get into fourth gear."
20mph could slow everyone down and make streets safer for pedestrians.	Benefits of 20mph	"It slows everybody down. It's safer for people walking about on the streets, walking across roads. There are too many cars for roads that weren't built for that, for housing areas, particularly where the houses are straight onto the pavements."
Council is perceived as anti-car and not all drivers are able to start using the bus or cycling.	Benefits of 20mph	"Yes, but you can't be anti-car, can you, which is what the council are...you know, if they're not careful, will come across as doing. With the best will in the world, you know, we've all got cars and it's not very viable to always get the bus...and the same with the cycling. "
Querying what the main objective of 20mph is.	Benefits of 20mph	"Why have they done it? Is it because these areas are high accident places? Is it because people are being knocked down at 30mph or are they being knocked down at higher speeds?"
Learned on speed awareness course to stay in 3rd gear for 30mph.	Education/awareness raising	<p>""I did do this thing which was suggested when we did the speed awareness, which is down in third gear in a 30mph limit.""</p> <p>""Yes, that's what I do.""</p> <p>""That's really helpful.""</p>

<p>Think that young drivers could be taught more about speed and that all drivers should do the speed awareness course like a refresher course.</p>	<p>Education/awareness raising</p>	<p>""I think there's more that could be done when young people are being taught to drive as well. Like we talked about the speed course, like everyone ought to go on something like that.""</p> <p>""I did think to myself perhaps all drivers could go on it...""</p> <p>""Refresher course.""</p>
<p>Learned on speed awareness course to stay in 3rd gear for 30mph.</p>	<p>Education/awareness raising</p>	<p>"I do sometimes. I did do this thing which was suggested when we did the speed awareness, which is down in third gear in a 30mph limit."</p>
<p>6 out of 7 participants in this group had been on the speed awareness course! All had found it a positive experience that changed their awareness and behaviour.</p>	<p>Education/awareness raising</p>	<p>"I think it's quite amazing that 6 out of 7 of us have been on it! "I think it helped me put things in perspective."... I think everybody should do them."</p>
<p>Speed awareness course in 6th form done by police was effective in highlighting dangers.</p>	<p>Education/awareness raising</p>	<p>"...my oldest son, when he was in 6th form, and he was driving at this stage... they had the police come in and showed them a film of speeds and crashes... my son looked up and said – actually I don't think anyone should be able to drive until they're 21, because it's the most lethal thing that you can have..."</p>
<p>The message that 30 kills but 20 doesn't from the speed awareness course has made her consciously slow down.</p>	<p>Education/awareness raising</p>	<p>""Having gone on that speed awareness course, they told you how much damage it caused a person if you speed.""</p> <p>""Yes, at 20 you hit them...at 30 you don't live, do you?""</p> <p>""It made me slow down consciously thinking about that.""</p> <p>""...I went on a speeding course and you should allow more time for your journey, shouldn't you?""</p>

Sceptical about reason for lowering speed limits but thinks that if it is about saving lives then perhaps it should be enforced.	Enforcement	"It's a difficult one this. I got done on the main road, Badminton Road, now that road is, in my opinion, it's a long clear road, but when they have there, they've had a couple of fatalities. Nothing to do with speed, some kids drove into a fence and were drugged up and then they had a motorbike who managed to get himself killed as well. Of course what happens is Central Government look at these and where there's been fatalities, they put these speed limits in. Now I appreciate that they can't look at each individual place. I sometimes think, oh my God, haven't the police got anything better to do? I've got to be honest with you. On the other hand, when you go on these courses and they knock it home to you, the difference it is when you get hit at 36mph compared to being hit at say 30. So perhaps you think there is a reason and perhaps it should be policed."
Police will view 20mph as a income-generating opportunity.	Enforcement	"Do you think the police should be involved in policing 20mph?" "I'm thinking they will think it's lovely because then they can hover at night and catch people and make lots of money."
Aware that speed limit is a maximum, not the speed you should drive at.	Existing speed limits	"When they say it's 30, that's only if it's safe to do so. It isn't compulsory, you don't have to drive at 30."
20mph is too slow for main roads even if they are residential.	Road type	"I think there's one difference having it 20 in roads like we live in maybe and 20 in Whitehall Road in Bristol, which they've made 20mph. I think there's a big difference. I know again it's residential, but it's one of the main drags into Bristol and I think 20 is too slow."

<p>Talking about what it feels like to cycle through Champion Square near Cabot Circus at rush hour - generally a very positive experience.</p>	<p>Shared space/road function</p>	<p>""There is a place near Old Market which has got that. You've got roads, pedestrians and it's by a small housing... The only traffic that goes there is traffic that is going really...It does work, but it's not through traffic and there's a difference. I think it works because there are so many pedestrians as well. I've only used it as a commute when I've cycled to work and so it's usually quite a busy time, but predominantly it's people, pedestrians and cyclists...it certainly doesn't feel dangerous or unsafe in any way. I don't know what the pedestrians would feel like.""</p>
<p>Like the idea of shared space (as in Copenhagen picture) but not sure how viable it would be in Bristol. Pointing out that drivers are at the bottom of the hierarchy in this type of roadspace.</p>	<p>Shared space/road function</p>	<p>"[Looking at Copenhagen picture] ""I think it's a lovely idea, but I'm not quite sure how viable it would be.""</p> <p>""I think it would be a deterrent to drivers to go along because of all the hazards. No-one's got a particular right of way, have they, so everyone's having to give to everyone else. The driver's going to be, in the pecking order, is going to be at the bottom.""</p>
<p>Driving is about independence for all ages.</p>	<p>Social marketing messages</p>	<p>"The whole thing about driving, it's that key to your independence, isn't it? You're never going to be able to take that away from anybody, no matter how old you are because it is a big thing for your independence, isn't it."</p>
<p>It's the norm for people to drive above the posted speed limit.</p>	<p>Social norms</p>	<p>"The trouble is, even if it's 30mph, people tend to go over 30, don't they. If it was 20 they'd probably go over 20."</p>

Type of interview: Focus Group - Parents of young children, resident in Knowle

Date and time: 2000-2130 on 22/02/12

Location: Participant's house

Name (confidential): 6 participants, all parents of small children living in various streets in Knowle

Key points from interview	Theme	Quotes
20mph would not be appropriate on wider roads and might undermine the effectiveness of 20mph due to lack of compliance.	20mph city-wide limit	"It doesn't seem to take into account the conditions of the road. If you do a blanket 20 everywhere and all residential areas, some of the residential areas are small little winding roads in Totterdown, I totally agree with that, but the bigger open wider roads, I think would support a slightly higher speed limit and I don't think people would then comply with it if you did 20 on those kind of roads."
Needs to be enforced to give it credibility.	20mph city-wide limit	"I'd only do it if was enforced, because unless you're going to get...it's not serious, is it? Seriously, you've got done for speeding, if you're not going to get done for it, it's not serious, is it?"
Frustration at the idea of having to drive at 20mph on quiet, empty roads.	20mph city-wide limit	"""You could drive on a Sunday at 8 in the morning and there's nothing on the roads. The idea of having to drive around at 20 would be, for me, quite frustrating.""
Pointing out to another participant that driving at 20mph doesn't add significantly to your journey time.	20mph city-wide limit	"But how much does it knock off your journey? Probably not very much. Maybe 2 minutes, if that."
Public transport is expensive compared to driving.	Alternative modes	"...public transport is far too expensive as an alternative so that's why most of us drive. If I cost it out it's cheaper for me to drive my car than it is for me to get a bus."
Bus is expensive.	Alternative modes	"I try and avoid the bus because it's too expensive."

<p>Pedestrians not always well catered for on desired routes e.g. St Phillip's Causeway</p>	<p>Alternative modes</p>	<p>"...quite often there are no pedestrian alternatives to roads. For instance, St Phillip's Causeway, quite a few people do walk along there, I think it's illegal to walk along there, but people do because they want to go that way...There's no alternative for pedestrians, so quite often they're forced into really dangerous situations."</p>
<p>Bristol is not pedestrian-friendly as traffic lights seem to be set to favour cars.</p>	<p>Alternative modes</p>	<p>""My experience, coming from London about 7 years ago and moved to Bristol, of Bristol is that it's not very pedestrian centred. You just feel like you can't really walk places very quickly because you're waiting for the traffic all the time.""</p> <p>""Yes, traffic lights are really slow.""</p> <p>""Yes.""</p> <p>""And they're set to cars.""</p>
<p>Lack of consideration on school run.</p>	<p>Behaviour</p>	<p>"My biggest bugbear is mums that are late for school in the morning, come haring down the street really fast and then just dumping their car anywhere while they take their kids into school."</p>
<p>Tries to find back ways to avoid sitting in traffic.</p>	<p>Behaviour</p>	<p>"I hate sitting in traffic queues, I find that...if I can nip around, I don't try and cut people up, but if I can find a way to not be in a traffic jam I would look for an alternative way, or turn round and go somewhere, I don't know."</p>
<p>Would not stick to 20mph on wider roads even if there was a school there.</p>	<p>Behaviour in 20mph limit</p>	<p>"It depends on the road. If it's a small, narrow road like in Totterdown, then I probably would. If it was Broadwalk by the school, then I'm sure I wouldn't keep to 20, because it's a faster road, you can see all the way down there. I know there's a school there, but it might even be school time, I'd probably go at 30."</p>
<p>Difficult to drive at 20mph.</p>	<p>Behaviour in 20mph limit</p>	<p>"I think I would probably try. It's quite hard to stay at 20mph, that's why I said I'd try."</p>

Would drive at 20mph but as Bristol is slow you need to feel you are making progress on some faster roads.	Education/awareness raising	"I would [stick to 20mph] , but I think Bristol's very slow anyway and I just think when you can go a bit faster, you're relieved..."
Speed awareness course raised awareness of road danger.	Education/awareness raising	"I got a speeding fine, I've been on a speed awareness course and it has really made me think about how, particularly in residential areas because there was a lot of statistics about if you hit a child at this speed these are the likelihoods they're going to survive. "
Happy with 30mph on her residential street.	Existing speed limits	"I think 30 is fine on the road I live in. I don't have any...it's quite a wide open road and ..."
People need to understand the reason for speed limits - like on the Portway.	Existing speed limits	""""They've reduced the speed on the Portway...on the far out bit of the Portway down to 40 from 50. There doesn't seem to be any reason for that particularly that I can see. Keep the 40 and most people are ignoring it.""
New cycle lane squeezed on St Phillip's Causeway.	Physical measures	"On St Phillip's Causeway there's a 50mph limit, I think, and they changed the road recently and they've put a cycle lane in and it all seems very squeezed. It's very narrow, the lanes are very narrow for a 50mph limit, I think."
Flashing speed signs are effective reminders.	Signage	""""I think a flashing sign is really effective. When it flashes, I'm like – ooh, they've seen me."" ""Especially if people aren't really aware of their speed. I always get flashed to slow down along Coronation Road. I obviously always drive along there much too fast.""

<p>Reactions to the idea of putting a 20s plenty sticker in car window. Mostly a bit negative.</p>	<p>Social marketing messages - 20s plenty car sticker</p>	<p>""I don't think I would, but I'd feel a bit embarrassed about saying that.""</p> <p>""I probably would, yes.""</p> <p>""I'm not sure that I would.""</p> <p>""Yes, it's a bit evangelical.""</p> <p>""I'd rather put something in my car than in my window.""</p> <p>""I wouldn't.""</p> <p>""I'm much more determined to get people to slow down in my road where I live and where my kids are running around the pavement than I am when I'm in my car in Bristol. I think it's one of those things where I feel it's..."</p>
<p>Would not want to participate in community speedwatch for fear of people getting angry with her.</p>	<p>Social marketing messages - Community speedwatch</p>	<p>"I think I'd rather someone else enforced it. It's that thing, isn't it, where I'd be all in favour of people getting tickets, but I don't want anyone to get angry at me."</p>
<p>Negative reaction to PACE sticker</p>	<p>Social marketing messages - PACE sticker</p>	<p>"I'd look at it in the same way as I look at cars who've got "Princess on Board", and I just think – oh you sad git!"</p>
<p>Drives considerately and at same speed as general traffic, doesn't check own speed.</p>	<p>Social norms</p>	<p>"I drive carefully and sensibly, I don't overtake cars, so I'm going the same speed as the general traffic, but I don't look at my speedometer."</p>
<p>Having children in the car has changed driving behaviour (to be less aggressive)</p>	<p>Social norms</p>	<p>"Just the fact...I think having the children in the car changed my behaviour, which has stuck, I think."</p>

Feels pressure from drivers behind, more noticeable on country roads than in town.	Social norms	"I don't like it when people are going quite fast and I used to find, when I did my driving lessons, we would go out in the country quite often and people drive quite fast in the country and they hate it if you go slow. I used to find that really intimidating. I would much rather drive in the town than the country."
Gave up driving at 20mph because other drivers weren't sticking to it.	Social norms	"...I used to [drive at 20] and then I just noticed that no-one else does, so I started going a little bit faster."
Playing out can't be safe at any speed limit - the road has to be shut.	Street function - Playing Out	"...I don't think you could play out there even if you've got a 20mph limit really, it's got to be shut before you could do that."
Closing the road could inspire people to see what roads are like without cars and get them to moderate car use.	Street function - Playing Out	"I think with things like that, if you show people what it's like when cars aren't driving up and down, then it makes you go – oh, it's really nice, it's really quiet – not just for kids, because I think people take it for granted that the car is king kind of thing. They might be more inclined to moderate their car use maybe."
Concern that if kids play in street they may not be aware of road danger.	Street function - Playing Out	"I guess the downside could be that the kids actually see it as their territory and are not aware that actually it is a road and just charge out and you might get more deaths because of..."

Type of interview: Focus Group - Retired residents, Easton

Date and time: 25/01/2012

Location: Easton

Name (confidential): 4 participants

Key points from interview	Theme	Quotes
How would you feel about a city-wide limit?	20mph city-wide limit	<p>""Eventually they will be the same as parts of Europe, apparently it would be walking speed in residential areas.""</p> <p>""In fact, I'd smack a 20mph in the whole area.""</p>
Problems with variable limits or inconsistency	20mph limit	<p>""I would say 20, but only because you see if you start having 15 or 20 or blah blah, you cause confusion, whereas everywhere is an...I mean it could be 15, but everywhere would have to be 15.""</p> <p>""If you come down Croydon Street that's 20 and then you've got about 30 yards of 30mph and then you're back into the 20.""</p> <p>""Just as you're trying to rev up.""</p> <p>""What happens is, it's ignored.""</p> <p>""Yeah.""</p> <p>""Completely ignored.""</p> <p>""Nobody is taking any notice.""</p> <p>""You have to exercise a lot of consciousness about it and you can't expect that from somebody every day when they come along, it allows 40 and then into another road which seems quite clear but it's actually 20 and they whizz down it.""</p> <p>""You need consistency really.""</p>
20mph 24/7	20mph limit	<p>"20mph in the day is quite legitimate, but late at night, it's never...it should never be at any time."</p>

Residential roads	20mph limit	“...I think everything off the motorway in an urban area should be 30 regardless...that should be the absolute maximum and then going down to 20 in residential areas.”
Considering giving up their cars, but alternatives such as City Car scheme seen as too expensive	Alternative modes/ public transport	"I did look at the City Car scheme at one time...but to be honest it wasn't much use to me because I might use a car to visit my mother and you're paying £2 an hour or something...It wouldn't be ours, its sitting outside her house before you drive it back which makes it an exceedingly expensive trip."
Trams	Alternative modes/ public transport	<p>""The solution is that we have proper trams system around the city so that we can all get on the tram and we don't have to have cars except for policemen and doctors. Bordeaux has done it and we could do it.""</p> <p>""now the challenge is...for instance, let's say Bristol, almost like they've missed the opportunity to make it the only course of action. Now they've got to fight all the other causes along with theirs. You see once upon a time when people didn't have all these vehicle possibilities, places where they had trams and a good transport set up...""</p> <p>""Well we had trams in Bristol when I was a child and then they were all ripped out.""</p> <p>""Do you see what I mean, had the forethought of that time really held out and not given in.""</p>

<p>Harassment from other drivers</p>	<p>Behaviour in 20mph limit</p>	<p>""I don't find it a problem, where I do find a problem is other drivers, impatient sitting on my tail trying to nudge me to drive faster, and it's very often white van man.""</p> <p>""I think it's people that are working and are timed by time and are impatient and I think though 20 is the limit and I'll do 20.""</p> <p>""...shook his fist and shouted as he went past me and he overtook in a dangerous place because I was still doing 20, well I could have been doing 30, but I mean...""</p>
<p>Difficult to stick to 20mph?</p>	<p>Behaviour in 20mph limit</p>	<p>"I think there is this thing about you can go fast on some roads and then you turn into another and you've got to radically reduce your speed and when 20 first came round here I found myself finding it quite difficult to keep to 20 because I'm used to driving at 30."</p>
	<p>Community participation</p>	<p>"It's so many different categories of people for whom the 20 thing has not actually made any difference to their behaviour, they will always drive as fast as they can get away with on that piece of road."</p>

<p>Some were cynical about the effectiveness of the Neighbourhood Partnership meetings and the general apathy of the community towards consultation opportunities.</p>	<p>Consultation</p>	<p>""I think there's two things that happen in this area which I think are wrong, whoever bans these schemes is not in consult with the local people who are living here and the other thing is, I think that they are quite cowardly for not taking the situation really for what it really is and what it really needs to do. For instance, that road, if it was made a one way, doesn't matter which way, it would solve the problem.""</p> <p>""Well in fact there's a meeting of the neighbourhood partnerships, a forum where the traffic people come and police and all the other agencies that are involved in that and ask people for their opinions, but they won't go to the meetings.""</p> <p>""...I don't think people really believe that those people really...they do it as a matter of fact, but do they really take notice of what you say?""</p> <p>""Yes, if you look at the 'you said and we did' which is on the website... there's a list of what was requested by people and what was done as a result.""</p> <p>""Well I don't think people are that concerned in a funny sort of way, they want to sit around and moan about it.""</p> <p>""And nobody goes to these things because many years ago we were in the neighbourhood watch thing and we would call meetings and nobody turned up and we would turn up and then you'd have this real policeman.""</p>
--	---------------------	--

<p>Disparate cultural groups</p>	<p>Consultation</p>	<p>""...I don't think you see that there's a very big wide selection of people who come out to these various different meetings about streets or whatever, there's no big cross section of people coming to them.""</p> <p>""Funny thing is they do have their own sort of get together, they've got their own organisations but I don't think that they operate in separate units but the whole thing never comes together.""</p> <p>""But if you go to the forums, you find that they are completely mixed, yeah, that's because it's led by white middle class people but on the other hand, they work very hard to make it inclusive and on the board there are people from other ethnicities as well because that's what we need...I also think we should respect that other people's cultures are different and that in Easton,you know, I don't share a religion with most of the ethnic minorities, I don't share an experience of a language or anything.""</p>
<p>Council shies away from the prospect of major disruption</p>	<p>Council policy</p>	<p>""...a study of what happened in Bordeaux is that it was driven through by the mayor, which was an elected mayor...But also that it was 10 years of total disruption of the city where roads were shut...the congestion was unbelievable where no-one could get anywhere and there was dust and God knows what...But I mean bits of the city at a time, the net result is that it's not the pain that you've got, the operations done and everyone's done and everyone's healing and now life begins. So Bristol would have to agree in a sense, although we've got the basis for the metro on the Severn Beach line and the Portishead line and all that and the Weston-super-Mare line, we still have a lot of pain and will the city bear it?""</p>

Political set up of council	Council policy	<p>""There's no impetus for the political parties to make long term decisions, it's all short term, the first thing is to change the electing and also the city gets fed up with election, change the elections, get an elected mayor and then we'll have a transport authority for Bristol...""</p> <p>""...so that we can have cohesive guidance for what is the best way forward instead of a little piecemeal.""</p> <p>""Oh, shall we have a bit of 20 here and we won't anger Clifton so we'll put it... in all the poor bits first.""</p>
	Enforcement	<p>"The roads are a copy of everything else, there are signs saying do not litter, but we litter...you have signs, exactly, you see you can have signs right up to your door saying it's only 20mph but it will get broken because it's almost like...I don't know."</p> <p>"Well who's going to stop somebody coming up here at 25-30mph?"</p>
Speed appropriate to road conditions	Existing speed limits	<p>"When it comes down to whether there's 15mph or 20mph, really it's the wrong question, because maybe the situation is not right for you to do 20mph though there may be a big sign saying 20mph."</p> <p>"But that's the limit, not the requirements."</p>
Speed humps	Physical measures	<p>"...we had that hump, you know a piece put in the road when they did this road changing, and the dustcarts couldn't get up the road, even the fire brigade or the ambulance couldn't get up the road, couldn't reverse up the road so they had to remove it."</p>

M32	Road type	<p>"My bone of contention is that ...and I know that the motorway as far as St Paul's roundabout ...is under the motorway system regulations and not the city regulations, but when you come up the exit off the motorway, the slip road, and it's 60 and they come up there like a dose of salts ...because they've just been whizzing along the motorway."</p> <p>"But I would like the motorway to stop before the Tesco roundabout...and becomes part of the town and they make a big issue about you entering the city, slow down, you know and change the mood."</p>
Current road layout and behaviour	Road type	<p>"...There are bits where you can clearly go very fast along Easton Way that make you feel - oh, I can go quite fast here - and then you go onto a small road and you're still going at the same speed."</p>
	Shared space/road function	<p>"I'm really keen on the (?) mixed surface areas where because there are no signs now and because there's no pavement and road distinction, every user of the road has to be aware of the other users, so you don't say it's 20, 30 or 40mph limit, you simply say, you know, you whiz through here and you'll kill somebody by implications."</p>
20mph signs too small	Signage	<p>"...for instance, we've got a 20mph sign down the road which is no bigger than a (?) and it's way over someone's garden wall and basically, I mean, there are people in the street don't even know it exists there, because it's not doing the job."</p>
Street clutter	Signage	<p>"...we have far too much signage on our roads anyway." "And you become blind to it. It just becomes a blur of instructions. There's that picture you just showed us, absurd markings on the road, stripes, great big stripes...what's that about, you know?"</p> <p>"Graffiti on the streets, legalised graffiti."</p>

Gateway to City	Signage	<p>"...I think we should, rather like villages have now adopted calming methods... gateway signals that you are entering our village sort of thing, maybe a pillar, it maybe a pretend gateway or something and a sign. I think we should have a bit more of that in the city."</p> <p>"So you have actual emotional gateways to an area."</p> <p>"To alert people."</p> <p>"Well not just for traffic purposes, for identify purposes, for geographical recognition purposes, all that sort of thing, rather like we now have a pathway signs up the cycle path."</p>
Fear appeal	Social marketing messages	<p>"Do you know an interesting thing they do in France on the roads. On a corner say and there's been a couple of accidents, anybody killed, they make a black silhouette, human size silhouette of a man, a woman or a child and they stand them on that corner, so every time you go past, you see not a bunch of flowers, not a cross, nothing like that, you see a silhouette...and it's a brilliant thing to slow people down...It's totally brilliant because you go - shit, slow down, be careful."</p>
Comparison with smoking	Social norms	<p>"20 years ago everybody smoked and they would come in here, you'd light up and you'd hand cigarettes round, it was a perfectly acceptable habit... now the whole culture's changed and it's completely unacceptable to go to someone's house and light up... That is the scale of the cultural change that will have to happen with traffic, both in terms of car use and behaviour once you're in the car and it can't be done by sledgehammers. It's a gradual culture change which I think the groundswell of opinion is accepting in Bristol and I think it will grow and that those who blatantly disregard it, which I did the smoking ban of course because I still like a cigarette, will always do that but they will become less."</p>

	Social norms	"A long time ago, vehicles were very much advertised upon a family vehicle in which you would go on holiday, you would do your shopping. It wasn't advertised as a top speed round the corner, you know, but now it is. It's gone away from more or less...OK you get a bit of family stuff, but the onus is on speed. Well that has to change and advertisers and car manufacturers are responsible for making that change happen.
	Social norms	"After all you see the approach to all this stuff actually, it's not all rules and regulations and speed limits and this and that and this and that. It comes down to each individual person's consciousness and awareness. Now it doesn't matter how many signs you've got up, if a human being does not have that sense of responsibility and awareness, nothing will work and what you see today, as I said, it's sheep syndrome. Everyone is going over the cliff. Everyone is driving over the cliff, right, and everyone's going - no turn left, turn right, turn left, do this, do this and do that and this going over the cliff."
Is Bristol ready for the Copenhagen Utopia?	Vision of changing street	"They are already doing that here aren't they? ...all the road signs and nobody has overall right of the road, and the funny thing is, people are much more... responsible because the responsibility of the road has been put back onto them...whereas here, councils or governments or whatever, have tried to take the responsibility of the roads away from the general public and taken it up themselves."

Type of interview: Focus Group - Non-Playing Out residents, Southville

Date and time: 29/02/2012

Location: Upton Road, non-Playing out street

Name (confidential): 4 participants

Key points from interview	Theme	Quotes
What do you think of the 20mph limit now?	20mph limit	"I think very few people adhere to it. I'm really aware with those signs that light up that say 'slow down' and I know there's one on Coronation Road and I'm always doing 30mph when I pass that and I'm always really pleased with myself (?) I was surprised if that was a 20mph...actually that is very slow. So I can understand that people don't adhere to it, but I do think it's really important and I do try and drive really slowly round residential areas."
Any difference since introduction of 20mph?	Behaviour in 20mph limit	<p>""""They're fast. It's as simple as that. It's rare you see a slow driver.""</p> <p>""I have noticed it's slower with crossing the road it's always the big thing. Usually the cars, you just wait and now I'm finding I'm waiting and waiting and we could get across four times because people are adhering to it, which is great. But then the other side of the coin is, I saw it completely backfire the other day when a white van overtook on Raleigh Road because it was impatient the car in front was sticking to the 20 and was so cross and just went...I don't know what speed he was doing. It was like - right, you've overtaken now on a road you really can't.""</p> <p>""I would say the majority out the front, they're fast. Rarely see a slow car on our front. I don't know whether they want to get up the hill...""</p>
Harassment from other drivers	Behaviour in 20mph limit	"I've never felt pressured. I think because of the amount of driving I do, it's all pretty local anyway and I think most people, if they're behind you, they're not going to be ramming you in a residential area."

<p>How does it feel to drive at 20mph?</p>	<p>Behaviour in 20mph limit</p>	<p>""It feels slow, yes, but it's also there's something I feel quite proud about doing it. I quite like it actually.""</p> <p>""I must say, I do increase up to 25 I think.""</p>
<p>What would make you get involved?</p>	<p>Community participation</p>	<p>"Someone else setting it up! ...and to have a bit more knowledge than I feel I've got..." An expert</p> <p>"Yes, I know the people to phone and talk to and I know how we can get this to happen. If I'm honest I know perfectly well who I can to for that...but yes, like I say, it's great to have these ideas and everything, but what's really good is to actually see some tangible results. Nothing's happened in Greville Road... I think in principle it's great, I would love this street to have street trees, different kind of parking, driving more slowly. I think we'd all feel better being out in it but it's actually getting from...because they seem actually, all of those things seem pretty small beer really. Plant a few trees, change the way cars are parked. It can't be that big a deal. But they're not doing it on Greville Road they've got a street full of activists there. There's nothing happening."</p>
	<p>Consultation</p>	<p>"I think we got something through the front door from the council talking about road speeds."</p> <p>"Yes and whether it was in The Observer or something like that."</p>

20's Plenty stickers	Education/awareness raising	<p>""I've only been involved since it's been up with the follow-on campaign, putting stickers in the cars and things, which [partner] wouldn't put in the car. We're very pro, but he said - what if we go on the motorway and I've got 20's Plenty! Obviously we completely support it, but it's not going in the car!""</p> <p>""I'm happy to put one in my front window, just for whatever, people who are parking to see it and be a bit more aware.""</p> <p>""I'm not sure how effective it would be in house windows particularly.""</p> <p>""Because of the speed they are doing anyway."" "</p>
Playing Out/drivers and speed awareness courses	Education/awareness raising	<p>""I think the drivers that are speeding aren't even aware. It's not part of their life that children might be playing out.""</p> <p>""I don't think they give it a second thought.""</p> <p>""I don't think Playing Out would change peoples' behaviour. I think Playing Out has got its own thing to do...speed awareness courses are the thing to change the way people...I've been on one and I loved it, I want everybody to do one every year! It changed my life, it was brilliant. The best £60 I've spent!""</p>

Community Speed Watch	Education/awareness raising	<p>""It's really interesting because loads of adults don't want to. I would not stand there saying I'm going to check your speed.""</p> <p>""I'd be afraid I'd become a victim...of road rage.""</p> <p>""Well nasty young boys, you know, they have a look at you and they could be spiteful to you.""</p> <p>""I'd be really happy to do that if I could do that in association with the school. I think it's about education and I think actually me doing it on my own, it's not...I guess I'm gathering data for the police, but to do it in association with the school I think would be really valuable and could open up a whole load of discussion with the school.""</p> <p>""And the next generation of drivers have got speed awareness in their heads before they've even changed gear. That would be brilliant, that's where it's got to start really. So I'd sign up for that, yes.""</p>
Pace car	Enforcement	<p>"We signed up to be the pace car and we're happy to do that, so lead by example, but I'm not too fussed about the sticker."</p>
Road layout	Physical measures	<p>"One of the things I remember us talking about years ago on this road was, if it had something that made people actually move in a meandering way, rather than a straight route, it would really slow people down. So if we had like trees planted in zig-zags, so the road changed shape, that would really alter the speed, I think."</p>
Sustrans examples	Physical measures	<p>"[Sustrans] had lots of really interesting ideas that don't immediately occur to you, like they didn't use speed bumps and stuff like that, just decorating the road surface and putting tree planters out and changing the traffic...the thing with all of those things, like trees and introducing chicanes, is that they are going to reduce parking, aren't they?"</p>

Patterning on road/danger	Physical measures	<p>""At Ashton Gate primary school they've got this patterning in the road which is about slowing down the traffic. I've been artist in residence at that school for 3.5 years and I'm doing a project with the children at the moment, which the children have initiated, which is about the fact that since that's gone down, the kids in the school think that that's a pedestrian area, so they don't look when they cross the road and they think it's really dangerous because they think it's totally misleading. So what we're doing now is they're creating signs to go all around the fencing on that corner which are about making the children and their parents and carers aware of the fact that it is still used by cars and also including some kind of drivers 20's Plenty kind of stuff. But I think that's really interesting, that the kids themselves, they are saying it, it's just not working.""</p> <p>""I think that's interesting because I think that is debatable because I think actually that has changed the culture in that little bit there and I think generally people spill out onto the road a lot more and I think as a result car drivers drive very differently.""</p>
Narrow roads	Road type	<p>"I think there are other roads like Leighton Road where it's not so wide, so people do slow down because they are just actually anxious about knocking their own or other peoples' wing mirrors."</p>

<p>cul-de-sac</p>	<p>Road type</p>	<p>""If you think about the end of Stackpool Road where the cul-de-sac is, I always think that would be a perfect place to live because when you've got children, they absolutely open the doors those houses and the kids are in and out of each other's places all the time. They don't need Playing Out because they actually do that.""</p> <p>""But that's because they have no cars going in there. They do, they have the residents who need to come and park at the end of the day, but all those residents are completely aware that it's a kids play space. But that's unique that bit of street I think. There's nowhere else.""</p> <p>""And that's often the way when you have those roads that are dead-end, that's where you get the real community activity.""</p> <p>""Where I used to live in St Paul's...it used to be a through road and it used to be a very fast through road there. Anyway, they cut it off and it just completely changed the nature of the road. It's fantastic... it's only a very small road anyway and everyone used to stand around outside, chat, it was a really nice atmosphere on that road. That felt really weird moving here onto this big wide road where nobody...it took ages to get to know people.""</p>
<p>Playing Out, logistics</p>	<p>Shared space/road function</p>	<p>""I had quite a long conversation with neighbours about doing it on this road and about logistically how could we manage that because of the roads going off it. It would cause a huge amount of disruption for people coming back from work. You could actually only probably cut off a section of it. In the end we just all decided that there was nobody who was really that motivated to make it happen.""</p> <p>""I think it would be better to put energy into trying to make this a safer road to start with, rather than trying to make it an occasional Playing Out space...I think it would just irritate people...""</p> <p>""I think there is that danger, yes, that you actually alienate the people you want to change. You just piss them off.""</p>

Playing Out, safety	Shared space/road function	"It's nice to see the children playing out but I do feel...do the little ones realise when you can't do that. That worries me...They can go out the front and go through the cars. Obviously at a certain age they will understand, but tinies, they may not be able to differentiate when they can do it."
Playing Out, sociability	Shared space/road function	<p>"I think as an adult that's the thing I think is really enjoyable about Playing Out."</p> <p>"Yes, you get to know your neighbours."</p> <p>"You could have a sitting out event, get your armchairs in the street."</p> <p>"That's what lots of people do, on one event they did just exactly that."</p> <p>"Put the chairs out."</p> <p>"Yes, even people without kids, just partly for the spectacle of it."</p>
Playing Out, character	Shared space/road function	<p>""They can be quite different depending on the street, they can really vary. The Leighton Road one has it's own very specific character... Because it's on such a steep road, you could see the whole street and people did, they brought tables and chairs out, some people brought a big sofa out and the kids did lots of games running up and down the hill and there was lots of water fights at the bottom. So there were kind of sections.""</p> <p>""There's another one over in Windmill Hill...which was a really different character again, because it was a very small street and a very quiet street and it was a fantastically sunny afternoon and they had paddling pools out. It was really well attended, it was a massive party and it was really lovely and a great event. I was filming all those events, so I saw them and I can remember I was on my bike that day and I cycled back with my camera on the back from there to here and I didn't see another child all the way back. It was a lovely sunny afternoon and it was just silence. It felt really strange.""</p>

<p>20mph signs too small</p>	<p>Signage</p>	<p>""I mentioned it to [partner] when the 20mph signs went up that to me they seem almost apologetic these signs, they seem small - sorry to have to point this out: 20mph - it just feels almost as though whosever decision it was, they were almost ashamed to ask people to drive at 20."</p> <p>""You don't notice them, I don't think.""</p>
<p>20mph painted road signs</p>	<p>Signage</p>	<p>""I'd just have a light up sign on this road.""</p> <p>""I don't think most people are even aware that it's 20.""</p> <p>""When that sign's in the road, I don't think they can even see it, you know, those flat on the surface..."" the one on the actual road "</p> <p>"Yes, I don't think they even look at that at all...they're not looking down, are they...and they are quite near the beginning of the road and I think when you turn into the road, you're probably not looking down there, you are actually looking up ahead to the middle of the road.""</p>
<p>Pace car</p>	<p>Social marketing messages</p>	<p>"I never quite understood what that meant. I think everyone knows what 20's Plenty means."</p>
<p>Pledge</p>	<p>Social marketing messages</p>	<p>"I'm up for that." "I wouldn't mind, although I'm not a driver. I deliberately walk very slowly across the road if there's someone coming fast." "I would in principle, but I'm thinking it was about 2 years ago that I went to that meeting in Greville Road and nothing's happened."</p>
<p>Playing Out as a stepping stone to changing the way we use streets</p>	<p>Social norms</p>	<p>"I would love to think it's the former, that it is a matter of changing culture, but I do think it's slightly whistling in the wind really. I think it's going to take a lot more, certainly with a street like this...even if we could have a Playing Out event every 3 months or something, it just wouldn't change the overriding culture. There are bigger issues to deal with."</p>

	Social norms & hypocrisy	<p>"It suits a residential area, doesn't it."</p> <p>"Yes it does."</p> <p>"Out on Coronation Road I'd say you'd go a bit faster, wouldn't you, because of the volume of traffic for a start."</p> <p>"Yes."</p> <p>"But these side streets, 20 I would say is plenty."</p>
Have you driven in St Paul's (also 20mph)	Social norms & hypocrisy	"I don't remember driving in a 20mph limit in St Paul's... So I probably wasn't then doing 20 because I wasn't aware it was a 20."
Could children reclaim the streets?	Vision of changing street	<p>""I can't see they would be safe all the time. Not ever."" I think it's one of those things that still needs adults to make it happen.""</p> <p>""I made another film...which was with a group of young people about their attitudes to playing outdoors. The only examples they could cite of when you play on the street were street parties and Playing Out events. They were saying - yes, they're great, but they only happen once every few years if you're lucky - But none of them even contemplated the idea that maybe they could do that and it was all dependent on - I wouldn't play out unless my friends were playing out. I think with the best will in the world, you'd still need adults to organise those things and make them happen.""</p>

Type of interview: Focus Group - Playing Out residents, Southville

Date and time: 29/02/2012

Location: Birch Road, Playing Out

Name (confidential): 2 participants

Key points from interview	Theme	Quotes
How would you feel about a city-wide limit?	20mph city-wide limit	"I think residential roads should be 20mph anyway, personally." "Yes they probably should. I think it works around here so I don't see why it shouldn't work in other residential areas."
Slower traffic speeds encourage cycling?	20mph city-wide limit	"Yes, it would make me more comfortable with my daughter going out on her bike on the roads."
20mph in residential areas/around schools	20mph limit	""I was just trying to think why anyone would argue in favour of having a 30 limit rather than a 20 in a residential street..."" ""If you've got schools or if you've got hospitals or any institution where people are going in and out then you'd want it to be 20 and people understand that. I think people are quite aware of the difference that there's been in all the campaigns about, the difference that it makes for somebody to be hit at 30 or 20.""

	Alternative modes/ public transport	<p>""I tend to think...well if it's raining it will be in the car because I've got a baby and it's too much of a nightmare with a pram. But if the weather's dry then I do really think now about whether I need to use my car, partly because of keeping fit and partly because of the cost of it now. But also because it's kind of good not to use the car a lot and often when you're in a city like Bristol, it only takes 5 minutes longer to walk somewhere than drive there.""</p> <p>""Parking is an issue around Bristol, but actually that encourages you not to use the car so much because you think - well if I drive there then I've got to work out where to park, or I've got to pay to park.""</p> <p>""Or you think by the time I come home I will have lost any parking space and if it's a match day...""</p>
20mph in own street	Behaviour in 20mph limit	<p>"...it is easier for us closing the street as a 20mph as opposed to if we were like 40, because it does feel...people can still come through but they have to come through at a walking pace, so it doesn't feel like such a big contrast to what they would normally do."</p>

<p>Harassment from other drivers</p>	<p>Behaviour in 20mph limit</p>	<p>""I've been beeped before.""</p> <p>""Yes, I think occasionally people don't realise that what you're doing is not slowing to a crawl but that you're slowing down to be at the appropriate speed because Coronation Road is that much faster a road...me and my husband have both been beeped by a car behind thinking we were playing silly buggers.""</p> <p>""Just a bit annoying really. There's me trying to be sensible, I mean I know it's annoying when somebody really slows down but there are so many turnings off Coronation Road...there's always stuff going on and I think people should be a bit more respectful!""</p> <p>""They should be more patient.""</p> <p>""Yes, it's only like 2 seconds difference isn't it, to wait for somebody to turn off the road, so yes, it's just a bit annoying, but then people get impatient around Bristol a lot, so you kind of get used to it.""</p>
<p>Do you stick to 20mph?</p>	<p>Behaviour in 20mph limit</p>	<p>""I don't think I went over 20 anyway around here.""</p> <p>""I think the only point where I am a little bit conscious is coming off Coronation Road going down. ...well obviously you don't come round the corner at 35, but I am very conscious that I need to be at 20 by the time that I'm in the road rather than slowing down a little bit and then slowing down some more, I try and come into the road at a more sensible speed.""</p>

	Community participation	<p>""It could be tricky, you don't want to piss off your neighbours!""</p> <p>""But then I'd also imagine that if you were a resident then you wouldn't be speeding down...the chances are that the problem will be people outside of the roads.""</p> <p>""If you could do it where you had some kind of sign at the beginning and the end of the street... residential speed checks are being carried out, something along those lines so it wasn't just a case of somebody driving up the street and all of a sudden, like there is your gun, you sit forward looking like a busybody... or it could have the police badge on the top or something official to convey to people that you're not just a bunch of nosey neighbours and you've decided to club together and buy a gun! Yes, but I wouldn't want to sit there and do it on my own. I wouldn't want some massive confrontation with somebody. It would have to be something that's pretty serious to make me want to do it.""</p>
When did you first know 20mph was happening?	Consultation	<p>""I didn't.""</p> <p>""I don't remember seeing anything at all. In fact I didn't even notice it on the street, I noticed it on Raleigh Road. I just saw a sign and I thought - oh, this is new. Then I got back home and I said to my boyfriend about it and he went - yes, and this street - completely oblivious!"</p>
Speed awareness course	Education/awareness raising	<p>"A friend of mine gave me a good tip...she got done for speeding and did the course and their tip is, if you drive in a 30 zone, don't get out of 3rd gear... actually it really does work because I've tried it down Avonmouth!"</p>

<p>Police role</p>	<p>Enforcement</p>	<p>""I think it depends on if somebody's driving dangerously, then yes, I think they should get involved. But general traffic calming in a town or a city centre, it just seems a bit...it just seems a never ending job and I don't know whether it's a priority unless it kind of starts to veer into that dangerous driving territory.""</p> <p>""It depends what you mean by the police getting involved, because that's everything isn't it? From community police meeting with other people in the community and trying to come up with innovative ways of slowing the traffic down, or are you talking about a policeman with a speed gun on the High Street?""</p>
<p>North Street (main route)</p>	<p>Existing speed limits</p>	<p>""I don't think I've got above 10mph on North Street, seriously!""</p> <p>""There's always vans dropping stuff off at various shops and people pulling out.""</p> <p>""I very rarely actually drive along North Street.""</p> <p>""No, I don't really.""</p>
<p>Side roads</p>	<p>Existing speed limits</p>	<p>"It's the roads that are more on the edge...people can go quite quickly along there and I don't know what the limit is, but you know along the bottom where they can peel off up North Street or they can go out onto Coronation Road, those cars seem to go quite speedily."</p>
<p>Speed limits should make sense.</p>	<p>Existing speed limits</p>	<p>"I think you've got to kind of be a bit...give drivers a little bit of leeway and not try to push it down constantly where there's no need. Residential areas and the main shopping streets are probably the places to do it".</p> <p>"Yes if drivers don't understand why a limit is what it is, then they often won't respect it."</p> <p>"Yes, they're thinking - oh for God's sake, why are you making me do this?"</p>

	Physical measures	"If it was a really quiet street and we had things that broke, so that people couldn't come straight down, if they had to kind of wiggle a bit so they were always thinking about where they were going next and therefore looking out for what was ahead a bit more. Then maybe if you had a group of lads playing football, 10-11 year olds maybe, but they you are getting into the Home Zone sort of territory. If there was something really distinctive about the street so that when they came in they were really aware that that's the set up and that cars are kind of second class citizens..."
Other drivers	Road type	"...you do really notice it when somebody drives fast because it doesn't happen that often and it quite often is young lads in noisy cars with noisy engines."
Current road layout and behaviour	Road type	"..you often find that people on match day will drive, because they are looking for a space, they only drive...also because you've got cars on either side of the road, even if you drive at 30 up the street you feel like you are going really fast. It just feels wrong. Most people will just crawl along, won't they, looking for a space. So I've never really thought about the speed limit of the street. Just thought a small minority who don't live here and have been idiotic in the past, it doesn't matter what number is on the street, they'll just ignore it and then everyone else just seems to drive sensibly anyway."
cul-de-sac	Road type	"I grew up in a tiny cul-de-sac where there were only 13 houses so we were always playing in the street. When a car came in it was really crawling along and we'd be at the top of the street anyway, so we could easily move out of the way when the car came down. This is just completely different."

<p>Playing Out</p>	<p>Shared space/road function</p>	<p>"The thing we started talking about, because we were thinking about Playing Out and street parties and we were saying - couldn't we be a Home Zone, like those other areas and have it so it's only residents that come in and you haven't got pavement, you've got...then you've got planters to break up the street. We started to talk about all of that sort of stuff and then somebody says - but then you'd lose quite a lot of parking space and obviously that's an issue."</p>
<p>Playing Out</p>	<p>Shared space/road function</p>	<p>""Playing Out, because it's straight after school as well, so actually a lot of the older kids aren't back at that time...But it is the younger kids, definitely, sort of up to 8 maybe, who love it because they can have a bit of a game of football and they can go up and down the street.""</p> <p>""What has been, I suppose, the hard thing that we're going to have to keep going is getting the stewards to slow down the traffic because that's not easy...there's not that many people around at 3:30 on a weekday.""</p> <p>""Just seeing the street without any cars in. It was bizarre, but nice.""</p> <p>""It was wonderful and my little boy, we had to go out nine o'clock the following morning because he was so excited that there'd been all this freedom and all this stuff going on and it was still really quiet the next morning and I had to explain that that's not...a normal set up and when you normally come into the street you do have to be aware of cars. The nice thing about a street party is because the cars aren't there, they can see that it's a really different thing, whereas with Playing Out, they can kind of be...don't go beyond the barrier. But yes, the street did look...it looked much bigger, didn't it, it looked quite wide.""</p>

Playing Out - adult participation	Shared space/road function	<p>""It's more about the children, but I think it has meant that people recognise each other.""</p> <p>""...the fact that it is Playing Out, it is about the kids, so I suppose if you haven't got kids you would be less involved...""</p> <p>""I think the spirit of Playing Out is that everybody should be involved and it's about reclaiming the streets and trying to get older people out...""</p>
No speed safe enough for children	Shared space/road function	<p>""...can you think of a speed limit at which you might let your children go out without it being closed?""</p> <p>""What and actually playing in the road? No I wouldn't. I think I'd just feel too nervous. Car versus child...""</p> <p>""Yes it's too risky. If we were like a very small street like one of the Home Zone streets where everyone in that street is very aware...then maybe it would be a different story, but I think the fact that you can drive all the way through, it's not a dead-end road, you can drive through, because there are cars, it's easy for somebody to jump out between the gap and you wouldn't see them.""</p> <p>""To me, even a small risk is too big a risk when you're dealing with your own child. You'd never forgive yourself if anything happened.""</p>
	Signage	<p>""I think the really noticeable sign is that one when you're coming up towards the Tobacco Factory...it was a really big shiny sign somehow. Did it flash at you or something? That was the one that even now like walking around or whatever, you notice that...I think otherwise you wouldn't really register that it was applying to these roads. You kind of enter the zone in a way, don't you?""</p> <p>""I think quite often the signs outside schools, you get a lot of the ones that are drawn by kids. I think that makes people really conscious.""</p>

Type of interview: Face-to-Face individual interview, SC male

Date and time: 18/01/2012

Location: St Werburghs

Name (confidential): SC, male

Key points from interview	Theme	Quotes
	20mph city-wide limit	"...perhaps making a prejudicial stroke the last people in south of St Werburghs where these pilot schemes are, are perhaps more sympathetic to sort of alternative living etc, more green minded alternatives etc I can't see the broad mass of Bristol accepting 20 on every road and I don't think the police want to enforce it and people just won't do it in normal areas of Bristol on normal roads people will just say this is rubbish, I think so, I would be really surprised if most people in all parts of Bristol will accept 20 on through routes."

Drive according to the conditions	20mph city-wide limit	<p>"St Paul's is a difficult it's a through route and a bus route along City Road and Ashley Road and the roads are quite wide and they are obviously residential areas as well. I mean, I don't know, in practical terms it's quite easy to go at 30 along Ashley Road and City Road and Lower Ashley Road which is, depending on the conditions and time of day, it's pretty tortuous crawling along at 20 through St Paul's in the evening when there is nothing there."</p> <p>"It's difficult to make a hard and fast rule, I don't know if you've got pictures, but the consultation originally said 20 miles per hour in the area except for the main routes which I think generally I supported at the time and I still do. There are certain routes that along this like the bus route through Easton on Bellview Road which is not perhaps cool to make it 30 it should perhaps stay at 20 even though it's a bus route it's a short bus, Bellview Road and Robertson Road, but I think Stapleton Road should be 30 most of the time you can't do 30 because there is too much traffic because of delivery lorries but at night again if it's a clear road it seems senseless to make people go at 20."</p> <p>- Because it's a through road?</p> <p>"Yeah, and likewise Fishponds Road, from Robertson Road junction up to Eastville Park, that's a massively wide road, I don't know, Sussex Place is a bit more difficult, I'd like to think that people are sensible enough to go 30 when conditions are quiet and stick to 20, or lower, when they're not."</p>
Difficult to stick to 20mph	20mph limit	<p>"...my experiences of trying to stick to 20 on through routes when the conditions are very favourable it does seem like a waste of time, it's tortuous. It is simply too slow for the conditions and the road."</p>

<p>Increased journey time</p>	<p>20mph limit</p>	<p>"Increases in journey times certainly increases the frustration I mean 20 really is quite slow, I can go faster than that on my bike. Well this is it, it is perhaps not a major issue but I can't see every cyclist sticking to 20 you could argue that it doesn't have a major impact, 20 is very slow, for instance, I have to go down to 2nd in my car for 20 and that's got to be inefficient in terms of fuel, 30 I can stay in 3rd...In my car because it's a diesel, obviously different cars will be different, some cars you could be in 3rd at 20, but my car, at 25 I can just get into 30 but the difference between 25 and 30 is a bit minimal but 20 just feels too slow you know if the road is clear and spacious, a normal road as opposed to a tight residential street. I wouldn't want to go 30 round these roads or Easton the back streets."</p>
	<p>20mph limit</p>	<p>"I support the 20 mile an hour scheme in small residential streets in Bristol but not on through routes or routes that are obviously the main through routes and some others major routes or even not quite so major routes which are used for through traffic I think it is nice to have pedestrianised areas in towns I haven't travelled that much for quite a long time I don't remember the last place I went to was Belgium Brussels but I don't remember some bits were pedestrianised but there did seem to be a lot of normal roads."</p>

Public transport in Bristol	Alternative modes	<p>"...it's difficult when public transport is not actually public you know the service is not quite convenient enough or cheap enough and frankly it's never going to be unless public transport is in public ownership I'm not in favour of everything being in public industry and such like, but I think infrastructure and transport needs to be in public ownership, you can't have competing bus etc you end up with one main bus service which is a monopoly but it's a private company and the council have limited leverage over how they run their business, they run their business primarily to make a profit and not to support the rest of the city going about its business you know infrastructure is there to support private business and industry and it's not really there to make a profit itself that's always been my view so until government has better public transport preferably in public ownership the car drivers are caught in the middle between increasing density in urban areas, lack of good public transport but people still, you know having a car is very expensive, if people didn't need to use their cars they probably wouldn't. I enjoy driving if the conditions are good. I always enjoy driving it is more convenient leaving exactly when you want to you are certainly independent you can carry, I have to carry equipment anyway, on public transport it is impractical for my work but that kind of translates into that you sometimes forget that are alternatives but on the other hand bikes do take longer and the hills in Bristol are harder work and you've got to carry bits and pieces that you can't leave on the bike like lights and stuff and it can be fiddly."</p>
	Behaviour	<p>"Sometimes because the person in front of me is driving slower, I estimate I'm not sure I think a lot of people aren't sticking to 20 I suppose it's a recognition that speed limits have a role and some perhaps it's because I think on this road 30 is the applicable speed limit therefore I'll enable enact that as it were maybe also because it's not massively over the 20 limit perhaps it's slight rebelling saying you didn't consult properly on this it should have been a 30mph road therefore 30 is what I'll do if the conditions allow."</p>

	Behaviour	"in practice there is a lot of traffic on the road you are doing well under 30 because you can't physically go faster because there is a car in front of you or there is a queue, it's more at night when the road is clear or in the quiet part of the middle of the day and not at lunch time or rush hour or school collection time I suppose there is more enforcement it would have an effect."
	Behaviour in 20mph limits	"If you have got a lot of junctions close together maybe you should have a slower speed limit it's on the long when you've got quarter of a mile plus stretches on Muller Road between junctions yeah some of it with residential stock on only one side or I don't know, it's difficult, there will always be anomalous or difficult situations and you have to have some flexibility have varying solutions I suppose."
	Benefits of 20mph	"The main argument being used is accidents, if you do hit someone, they are much less likely to die at 20 than 30 which I'm sure statistically hopefully they have got the figures right and is correct...There are trade-offs to be made in society from a similar trade off with people living on through routes yes they could benefit from a slower mile per hour thing but what about the city as a whole? In politics and elsewhere you've got to make trade off decisions. You know looking at the bigger picture I just think, it would be interesting to see statistics about journey times and congestion it doesn't seem to make sense when the road is clear and it's a fairly reasonable road to crawl along at 20."
	Enforcement	"...my feeling is that you have to police and rule by consent anyway in all areas if you over regulate I don't think it's treating people like adults...I think the worry is micro managing stuff and also a hidden agenda of frankly of getting people out of their cars, now there are arguments for getting people out of their cars but if there are they should be put transparently."

Police role	Enforcement	"If it is a major problem it would be nice if the police had a covert car in Easton to catch some of these people who are seriously speeding not just going 35 I'm talking about really mad speeds down really narrow streets so perhaps if there is a particular problem I think generally, I don't know, I think police do have a role officially..."
Hidden agenda of 20's Plenty	Council policy	"I think it's part of a general agenda to get people out of their cars, you know I've seen it over the years, cutting off rat runs obviously individually it's difficult, individually, individual streets will have a problem with people using their street so it gets cut off and funnels the traffic off somewhere else which then has a problem and that gets cut off and gradually it funnels all the traffic into a very few connecting routes and because of Bristol's geography, it's not laid out on a grid and we've got hills and a river and stuff, it's actually quite easy to funnel and condense the traffic in Bristol in certain bottle necks and then suddenly everyone says there's a massive congestion, and you think of course there is, you've caused it in part. Obviously there are more cars than there were 20 or 30 years ago and it has also been caused in part by actions of the authorities so, and then they are actually going to make the few through routes that they've got 20 it's making life more and more difficult it feels like car drivers are being squeezed are being badly treated..."
Anti-car policy	Council policy	"I think we've been put to the bottom of the pile and almost the kind of ? we want people to visit the shops, we want people to get around the city but we don't want you to drive, ok but what alternatives can you offer? We pay a massive amount of money in mostly in fuel duty but in car tax and it feels like we are at the bottom of the pile and relentlessly squeezed both as a cash cow and a punch bag and you know we get pissed off. Treat us like adults and be open and the moment some of the resentment comes in is from the consultation on this..."

	Consultation	<p>"Unlike many people I read the local press I work, or used to work in the local press, so I saw it immediately it came up in the paper and then I saw, I got a letter I think, the scheme was 20 miles per hour in the residential streets which made sense to me living in a street where some people were doing what looked like 50 plus, really absolutely crazy, mind you they are not going to take any notice of speed limits, they are probably uninsured, unregistered drivers but that's another issue, but keeping 30 on the main roads, and I thought I'm happy with that I don't object to that. Lo and behold somebody wrote to the council or Councillor Rogers and said, why don't you make it all 20, and rather than re-consult he went, yes, but there was no re-consultation so the goal posts had been moved. I actually did approach him at a social event not long after and he just blanked, he didn't answer the thing but he had to in the formal meeting I raised it at the end of last year but he wasn't apologetic. He consulted but basically change the rules and that is totally wrong."</p>
Children playing in the street	Shared space/road function	<p>"I don't think it's realistic that streets can be playgrounds not like they were before the war or even in the 50s. I know that some people would like to see that return I think it would be difficult."</p>
	Shared space/road function	<p>"it depends on the circumstances there are times when I thought it would be good to allow cars in the UK to have access to certain places that have been closed off to them but if it's a through route it doesn't seem very satisfactory the idea would be to have a separate through route by passing this square and only allow vehicles access if they really, most people wouldn't bother because they wouldn't want to...if there are alternative through routes then that's fine but that is a square in the centre of a city which is a totally different situation from either residential well it's not totally different from a residential street but it is different to a through route which allows people to travel from one part of the city to another."</p>

	Can you envisage the Copenhagen Utopia in Bristol?	"I could imagine that I think it would be awful it depends on the area in Broadmead you are not supposed to drive round the Horse Fair at certain times of the day unless you are disabled so if you really need vehicle access you can at least get onto the outer ring the middle of it is totally free of cars it Broad Quay is difficult because you need a through route and they tried to originally of course it was an oval roundabout within the time I've been in Bristol they've changed it so that you now have to go round and I try to an extent I try to avoid going through that bit if I'm going to west Bristol I go up past the BRI maybe not great for the patients for that's more of a through route."
	Social norms	"I think the rumoured rule of thumb is that if you are doing less than 10mph over the speed limit they are not going to anything anyway and I see less police cars on the motorway to what I used to and yet the Government's thinking of adjusting the law to match people's behaviour, but here it's the opposite they are trying to, I suppose I could say candidly that one effect of the 20mph speed limit in the city is that I now no longer go over 30 it has brought my speed down somewhat and it depends on the conditions of it as well but I came along with a friend about it I demonstrated just how slow 20 is with a clear road in front of you it just feels stupid."
	Social norms	"you could cynically say that perhaps that was part of the aim all along to get people to close to 30 by undershooting and knowing that people break speed limits regularly I suppose I for not increasing the 70 mile per hour limit on motorways because if it becomes 80 people will go at 90."

Type of interview: Face-to-Face individual interview, SB male

Date and time: 18/01/2012

Location: Easton

Name (confidential): SB, male

Key points from interview	Theme	Quotes
	20mph city-wide limit	"I think generally 20 miles an hour it doesn't make that much difference on journey times and it makes a massive difference in terms of people surviving accidents I don't I think the problem is I'm lucky in a sense that most of the time I'm driving now I'm managing my own time if I see 20 patients or 50 patients a week I get paid the same. My brother's a sales rep who covers a huge area of the north east of England the more miles he goes the more people he sees the more he gets paid potentially and so there is a completely different motive for him and a lot of people driving time is money and I always think I've got the luxury of driving at what I think is a safe speed I would be happy with 20 miles an hour as blanket speed limit anyway."
	20mph limit	"I'm quite happy with 20 throughout the town it doesn't frustrate me I think some people find it a bit the way they behave it's almost an imposition too far that they'll tolerate 30 as if they've got some kind of arbitrary choice whether they obey the speed limit or not and 20's just taking the mick now it's just too slow. "
JIMBY	Behaviour	"The problem is wherever you, if you live in a residential area then you should drive in other residential areas like you drive in your own but people drive slowly because they know kids are about but it doesn't make it safe to it because it's not your area so I think it's most people I know who drive up and down here are reasonably responsible and we do get people a lot of people cutting through in the rush hour certainly and they do drive too fast and they are clearly breaking the even when it's 30 breaking the speed limit. "

	Behaviour	<p>"I'm trying to drive within the rules and you know I remember having this argument once with someone at work they were banging on about speed cameras and they were just revenue raising things for the Government and everything else and I said what are you going to do about it you can't speed in protest you know it doesn't work just don't speed and it's a maddeningly simple argument and I find it very I do find when I get my hand on the wheel of a car some days my meetings yesterday were quite stressful and I find driving relaxing generally I don't have a problem with driving I like driving I don't mind driving at night or in bad weather it doesn't bother me at all the problems start when you think actually other people are finding you're in the way when what you're really trying to do is get home."</p>
	Behaviour	<p>"It sounds like you could be part of some pressure group, not pressure group but a group and the other thing that I find happens is that people they don't realise what the speed limit is so they are wondering why you are driving at that speed you can find yourself in a position where you don't want to speed up and on one occasion last year and I really didn't think this was a good idea at all but I was looking at the guy behind me and I was approaching the zebra crossing and there was somebody on the zebra crossing and I failed to stop at the zebra crossing and I felt dreadful because I was too busy getting wound up by the guy behind me and I came home and said to Vick look there are some days I actually cause when I learnt to drive a bus you don't have a rear view mirror you learn to drive on your wing mirrors so there are days when I come home I actually move I readjust the rear view mirror so I can't see anything though it so I'm quite perfectly competent driving just with wing mirrors because I want to focus on the road in front. "</p>

	Behaviour	<p>"I get angry it plays into this thing I'm playing by the rules and you're not and you're not happy with I don't give a monkey's really it's a distraction when I was learning to drive the bus they said look you know the golden rule with safety the bigger the hazard the slower the speed so when you're driving along and there are all different road marking then you drive slowly if someone's driving up your backside it's not bloody mindedness to slow down they are actually causing a hazard because if you had to stop in a hurry they're going to be on your back soon so and a lot of people again I don't know what driving experience they've had it's not really my problem but they think you're slowing down ."</p>
Speed bumps	Physical measures	<p>"When we first moved here there was some of the residents were talking about asking the council to put speed bumps in and there was a lot of opposition from some people who live on the street I'm not sure why I think it was part of the general I don't know what it is the attitude that we're all safe drivers individually we don't need any more control so it didn't really go anywhere one thing I would like to change I don't know how they would do it some corners they've really built up the pavements to stop people parking on the corners and the bottom of Gilbert Road that is something I would agree with and certainly traffic calming measures like speed bumps because it's just too fast people driving on narrow roads at that sort of speed with poor visibility and we've seen accidents it's not like it's something we worry about it's actually happened. "</p>
	Education/awareness raising	<p>"In the school both of my daughters went ... they were doing things on '20's plenty' giving car stickers out it was just when the zones were being implemented because they did quite a lot of parking near the school 'show you care park elsewhere' was the it wasn't just at that school so they were talking about trying to support it as well because particularly where that school is on the corner of a very steep on the corner of busy road and on the top of a very steep hill so it's just a nightmare the crossing and everything else so that's when I first became aware of it it's about 18 months ago something like that."</p>

	Education/awareness raising	"I'll be coming home down Whitehall Road there is nobody in front of me because everybody buggered off doing 30 miles an hour so I'm there doing 20 thinking I'm now the poster boy for the 20 mile an hour zone so people are forced to drive at 20 behind me and they flash their lights or they'll make some hurry up noise by blowing their horn and on occasion what I've done is I've slowed down opposite the speed limit and I've pointed at the speed limit sign and then driven away now what effect that has had I have no idea for their future driving they can't get past me anyway some people do overtake and there is nothing you can do about that but apart from doing that or I've driven by and pointed at the number on the road."
	Education/awareness raising	- Have you got a '20's plenty' sticker in your car? "I want an illuminating one to draw their attention to it. "

	<p>Enforcement</p>	<p>"I just remember them putting the signs up and thinking it's funny again it's a bit like my attitude to speed cameras that's the speed camera once its been made I mean the police did tell me when I first started making enquiries what do I do what about all these people that keep not doing it and they said they couldn't enforce it in the first 6 months anyway when there is change in speed limit apparently so they told me because it needs time for people and I thought well what do you do about people just driving through the signs are up it's on every other lamp post it's on entrances and exits to the zone it's written on the road how much do people need to know. That's what they said I don't know if it's true or not but that's what they said so I thought well if not and I know a lot of traffic measures that aren't about enforcement they are about I've got some history with this with the bypass out towards south Gloucestershire out towards Yate the ring road it's not badly designed as such but it's 2 lanes in either direction and one of the roundabouts which I use there's a slip road that lets you avoid the roundabout and the speed on the dual carriage way I thought was 60 and the speed on the slip road was 30 so you go from 60 to 30 and I always used to go down to 30 and people would just come piling up behind me from 60 miles an hour so I made various enquires and the police said that they weren't consulted when the council built the road and set the speed limit I had such abuse on occasion from other road users that I was talking to the police about it and they said they can't actually enforce any speed limits because there is nowhere to pull people over there is no verge nothing and they also told me the speed limit's actually 70 on this bypass and eventually the council I don't know who else was complaining the council increased the speed limit on the slip road to 50 which made it slightly more tolerable coming down because most people drive at 60 so talking to the police about these things they will say not yet they could put a camera or a unit some days and it would catch some people and then most people would get the message they would see the police car they would see people being pulled over or whatever and then they would all drop their speed and over 3 or 4 months it would start to build and build and build and build so I'm aware that the way to try and do this is through education you can't let out a police man they've got better things.."</p>
--	--------------------	---

	Enforcement	<p>"The difficulty with using with not using enforcements when people can't see a police car some people not everybody but some people tend to drive how they want and I've had some really ridiculously dangerous incidences coming down Whitehall Road at 20 cause there is a zebra crossing by the laundrette where people have overtaken me on that when they've seen you know they're doing that because nobody is looking and when you have a visible presence everybody behaves it's a bit like the old joke the Queen thinks the world smells of paint because everywhere she goes it's decorated I'm not saying what police officers think but they must sit there in a very visible car and think well everyone seems to be behaving themselves but they are there and they are a visible presence and when that happens I just wish there was an unmarked car to pull somebody over and I know that's not practical and I really think some people it doesn't matter what speed limit they are going to drive how they want they are not giving a thought of the consequences and that's just going to and some day they are going to have an accident and hopefully just involving themselves and nobody else I honestly think it's either that in which case you have to try and slow people down or people genuinely don't see it's a 20 mile an hour zone for some reason they haven't seen it and a lot of frustrations I come across are because people wonder why I'm not driving at the speed limit well I am but they think the speed limit is 30. "</p>
--	-------------	--

<p>Too busy for kids to play</p>	<p>Road type</p>	<p>"there are no speed bumps or anything like that it's part of the 20 mile an hour zone now but, so in terms of street activities our kids don't tend to play on the street there's a park at the end of the road they wander down there and there's St Georges park a bit further up they'll go there...So there is not a lot of activity with kids and stuff animals and pets have been killed on the road cats and wildlife have been killed on the road...it's not the volume so much it's the speed that seems to be the problem we have had road works blocking any other routes it was last year in the rush hour you couldn't pull out into the road it was solid traffic because people were trying to cut though from the road works at the bottom of Whitehall Road most days it's not too bad but it's the speed people drive down here at it's quite because there's parked cars both sides there's blind corners everyone parks everywhere cause it's first come first served with the parking so that's a problem and that's I'm more worried when the kids walk home from school I'm far more worried about the traffic situation than anything else I might worry about."</p>
<p>Neighbouring Roads</p>	<p>Road type</p>	<p>"There is a family on the next road along that has organised a street party in the summer and they get permission to close both end of the road so they are probably doing that again for the Jubilee I would have thought."</p>
	<p>Social norms</p>	<p>"I think the difference is I know my faults as a driver I think I do people probably point out some more if you asked them but the problem with leaving it to people to decide at the time we should all be driving to the conditions and not everybody gets that right I don't get that right all the time but I think once you start letting people have them choose what should I people would tend to drive at the limit and I tend to keep reminding myself if I'm doing 30 through one of the villages I work in I'm going as fast as I'm legally allowed to it's the fastest I can travel legally it's not like I'm choosing to drive at an arbitrary speed I think once it starts becoming 20 then 30 then back to 20 again depending on the effectiveness of how it's displayed on the road that's when people I think the problems I having at the moment I generally don't think people realise it's a 20 mile an hour zone so they just wonder why I'm crawling along at 20."</p>

Type of interview: Face-to-Face individual interview, LWS female

Date and time: 1000-1100 on 01/02/12

Location: Redfield (in 20mph pilot)

Name (confidential): LWS, female

Key points from interview	Theme	Quotes
Drives more now she has a child	Alternative modes	"I didn't used to like using the car so much, but sometimes with a three year old it's a bit easier."
Other drivers not complying with 20mph	Behaviour	"...a lot of people do know it's 20 and perhaps ignore it anyway."
Not sure if she would support a city-wide 20mph limit	City-wide 20mph limit	"I think I would, but I don't know."
Only info was the notices on lamp posts which were not easy to understand - poor local consultation	Consultation	"...and I noticed a laminated sign on one of the lampposts down Avonvale Road which was to do with either the pilot scheme or something to do with various different things around this area. I read it and I thought - I can't understand that really... it was using strange language that I thought - I am sure there's a lot of people...not being funny, but probably a lot of people who wouldn't even bother reading it, let alone understand it. "
Council needs to be bolder in communicating decisions.	Council communications	"Then I know they do just do these things [20mph] and then they are shouted down for it. But it's all how it's put across really. "
Got caught speeding last year (in a 30mph area) and the speed awareness course improved knowledge of limits	Education/awareness raising	"...it [the speed workshop] was very good. I think it's easier for me now since I did the workshop, because it was explained a bit more, you know, how to spot, even if there isn't a sign, what the limit should be."
Awareness raising should be done with bus and taxi drivers. Adverts about 20mph could be put on the back of buses	Education/awareness raising	"Well I think talking to bus drivers and taxi drivers is a big step because there's so many of them. I was also thinking, are there any posters that go on buses as well? "

Police should have a role in enforcing 20mph	Enforcement	- What do you think about the enforcement of 20? Do you think the police should have a role in Bristol? "I think you were saying, if it says 20mph, then that is the legal limit, so yes. Of course."
Community enforcement - might get involved as a one-off but the police are paid to do it.	Enforcement	"Yes, I'd be happy to do it [community speedwatch] a couple of times to highlight what this area is, but I think there needs to be a longer term, better enforcement somehow. Whether it's just better signage, or police coming round every so often."
Doesn't think that drivers would accept all roads as 20mph.	Road type	"...it [20] makes total sense around residential roads, but I think the majority of drivers would just ...just wouldn't accept all the roads being 20."
Not enough signage - should be made more obvious especially to drivers entering the area	Signage	"...[on Marsh Road] it seems like quite a small 20 sign and I just think...most people just...and I deliberately slow right down there and I'm coming the other way as well and I've always got someone right behind me. I just think, why isn't there somewhere, when you enter the zone as it were, make it very clear that that's what it is."
After driving for more than 25 years, 30mph feels normal and it's hard to change that	Social norms	"It's [30] also what we're used to as well. Most people on the roads, well a lot of people on the roads have been driving a long time...that's how they drive, when they passed their test."
Used to think that children playing in the street were a bit of a nuisance and would be safer in nearby park	Street function	"Before I had Wilf, the family down the road [play in the road] who used to annoy me actually! They'd be kicking a ball and the ball would be bouncing off the wall into the cars...if you're in the front room, you can just hear it."
Would like to have a street party to meet more neighbours	Street function	"I'd like it if we...I've thought about trying to do a sort of street party type thing. But yes, just to sort of meet people and get to know them."

Type of interview: Face-to-Face individual interview, JH female

Date and time: 1300-1430 on 02/02/12

Location: Ashley (not in 20mph pilot)

Name (confidential): JH, female

Key points from interview	Theme	Quotes
Lower speed limit alone won't make her slow down	20mph speed limit	"I don't think the speed limit change alone would make me change. "
Need better public transport to discourage people driving into city	Alternative modes	"I think if there was better public transport links to Bristol, people need not commute so much. I think organisations try and make it as hard as possible to park in Bristol, but yet people do choose to drive and park, you know, Cabot Circus, there's lots of car parking. If it was cheaper to park in town, maybe I would."
Tries to drive at 20mph but it is not always easy due to car gearing, hills. It feels slow	Behaviour	"Yes. Just on the gear ratio it can be difficult if you're doing a manoeuvre at 20. I think it would be, on a clear straight road with nothing around, or maybe...I just think 20 feels really slow. "
Has not noticed others driving more slowly and has not been pressurised by other drivers (but then reflects that maybe she isn't driving slowly enough	Behaviour/peer pressure	"No-one's beeped me for driving slowly or carefully, but then where I do drive around here, you can't go fast. You've got to pull over all the time to let other cars through. I don't know if people are more tolerant, or I don't drive slowly enough."
Aware of road safety implications but is swayed by people who say that 30 is ok.	Benefits of 20mph	"...but further up here [Ashley Down Road] I think it may feel quite artificial going at 20 when the road's clear along here. It might feel quite difficult just to keep your speed down. I am swayed by some people who have said that there's nothing wrong with 30, I think. I try not to be."

<p>Would be nice to see people using streets in a different way but can't imagine it being safe enough for her daughter to ride a bike on the road.</p>	<p>Benefits of 20mph</p>	<p>""If people felt that they could actually use the road in a different way, that might be a knock on effect of 20. But I can't ever imagine letting my daughter go on the road on her bike, even when she's 16! ""</p> <p>- So what you're saying is even if the traffic was driving at 20 for whatever reason, because it was being constrained to, that wouldn't greatly change your sense of road safety, you wouldn't let your daughter go independently...?"</p> <p>""No. I don't think so, I think because it's not going to affect the volume of traffic and it's volume rather than speed that's a factor really. Gloucester Road is full of cyclists that do over 30.""</p>
<p>Council generally too timid in taking decisions</p>	<p>Council communications</p>	<p>"I think the council are very timid in a way, not just about cars, but about general things. It's not an assertive council. I've never picked up the sense that, you know, this is what we're doing and this is why we're doing it, so here we go. "</p>
<p>Need to improve education of drivers e.g. immigrants</p>	<p>Education/awareness raising</p>	<p>"I think a lot of the bad driving I see in East Bristol, I often cut through Stapleton Road and go through Old Market, it seems to be a lack of understanding of the highway code... I'm not saying they're all Somalis, because it's not, but there's quite a few young Somali men who don't have any respect for the laws of turning right."</p>
<p>Need package of measures to educate and enforcement around driving behaviour</p>	<p>Education/awareness raising</p>	<p>"Assuming that 20 is introduced, I think it needs to be as a whole package with a whole launch of other initiatives and schemes as well. We are concerned about safety and it's not just drive slowly, but we're going to do a clamp down on illegal drivers, people without insurance and things, we're going to highlight examples of bad driving, we're going to challenge you if you are... I think if they just put 20 signs up like the pilot area, it needs quite an education. "</p>

Not enough evidence of enforcement around speeding and dangerous driving.	Enforcement	"You don't ever see people getting speeding tickets, you don't see people getting clamped very often, you know, that sort of level of policing of...I suppose it's annoying when you see really bad driving, or illegal driving and there's no-one doing anything to stop it. "
Police should have a role in enforcing 20mph	Enforcement	- What about 20? If the council decides to make it a city-wide position, do you think that the police should be an active partner in that? "I think they need to be involved in that. As it is, with 30, what's the police's involvement in policing the speed of cars? You see police cars and they don't bat an eyelid when a car speeds past them. They're not there to slow them down."
Softly softly approach with use of PCSOs could work	Enforcement	"I think if community support officers work with communities with the message of 20, that would be a way forward. Having speed cameras are a short term fix maybe, but as soon as they've gone, people will change again. So it's a matter of people being happy to be confronted really. If the PCSO recognised someone from their patch driving really fast, to go and have a word with them. You know, not a caution, but just... just to try the softly softly approach."
Could link speeding to ASB behaviour using CCTV footage show bad driving on community tv.	Enforcement	"Bristol's got one of the best CCTV centres in the country, and I always think they must have some classic footage on there, bad driving, bad behaviour. They do it for anti-social behaviour a lot, there are teams that notify and you can pay the council for that service, the CCTV. But there's not a lot of community TV either, so where would we see...like a little snapshot of bad driving, get on the telly, it would get people questioning how they drive, perhaps."
Some roads should be 25mph (narrow residential), some slower and some faster depending on volumes	Road type	"As a general concept I think it's [20] good in the right places. I think there's some areas where, it's not difficult to go into 20, but as you go into a 20 zone from 30, you've got to consciously brake and you think, why am I slowing down here?"

Analysis of qualitative research

Not clear enough - had not noticed that St Paul's road off M32 is a 20mph road	Signage	[Shown picture of Lower Ashley Road to M32 junction] "No. I hadn't noticed that was a 20."
People would just change their driving practice.	Social norming	"No, I don't think there's too many implications for it [20], you would just change, you'd change your driving practice."
Thinking of getting people together for a street party	Street function	"Neighbours seem to be having children and it's an easy way to start talking to people and now there's 6 or 7 of us with children and we're starting to talk about let's have a street party"

Type of interview: Face-to-Face individual interview and narrated drive, TG

Date and time: 1500-1615 on 08/02/12

Location: Speedwell

Name (confidential): TG IAM instructor

Key points from interview	Theme	Quotes
Concerned that promoting slower speeds does not encourage better driving. Accident reduction needs to be focused on driver awareness and hazard perception.	Benefits of 20mph	"...if the driver isn't varying their speed according to the conditions around them, they're not driving safely... They've stayed at the speed limit and hit thing they're not looking at because they're looking at the speedo. Speed might be an aggravating factor, but it's not the cause of the accident. Every time somebody says – "ooh, watch your speed" – and they don't say – "watch where you're going" – it's diverting attention away from the real things that can actually save accidents. The reason accidents happen is because people aren't paying attention, I suspect. Lowering speed limits will mitigate the consequences of not paying attention, but it won't stop the accidents"
Acknowledges that if 20mph is taken as a social issue, not a road safety one, it has health and societal benefits	Benefits of 20mph	"...before I looked into it, I had the impression that this [20] was all being driven by road safety, and it turns out is it's not. It's being driven by social and health levers."
There should be more of a focus on better driving. Need to improve driver training e.g. staged approach, advanced courses	Education/awareness raising	"There's no public profile at all for better driving and nobody's heard about Advance Driving Motorists. Post-test training is non-existent. I think if there was a provision or acknowledgement of there's things to go after that, an encouragement to go on and do a graded licence, or do something afterwards, then fair enough."
Proposes advisory limits so that drivers can exercise judgment - though this will require better driving skills	Enforcement	"How about a city-wide advisory limit? Go back to the idea that the speed limit is part of the information you use to decide a safe speed, explain to people why it's advisory 20, lots of signage, traffic calming – fine in certain places – so give the information, but leave the decision of the actual ultimate speed down to the driver."

<p>Advocates for strict liability - put responsibility on driver like on continent but concern that cyclists should not be blameless as are fast, unpredictable and can be dangerous</p>	<p>Enforcement</p>	<p>"I'd be much happier to see slightly more enforcement and responsibility placed on drivers to look out for their own safety, not to abdicate it to a speed limit, they need to look out for themselves.... I don't have a problem with pedestrians, provided they're not running, I think cyclists can move a lot faster and I'm slightly less easy about extending strict liability in motorist vs cyclist accidents..."</p>
<p>Questions the appropriateness of using a legal 20mph limit to achieve social and health aims.</p>	<p>Enforcement</p>	<p>"...fine, explain why you are doing it, use social marketing to change perception and that kind of thing, but whether or not you should use potentially quite serious legal sanction, that you're not expecting people to obey anyway."</p>
<p>Some roads are suitable for 20mph (narrow residential) but some should retain higher speeds as they are wide and hazard-free so drivers will not comply with slower limits</p>	<p>Road type</p>	<p>"...particularly on through roads, on arterial routes where there is sufficient space away from hazards to maintain 30 safely. If you put those to an artificially lower limit, I reckon you'll get terrible levels of compliance, but if you do start getting better levels of compliance, it will also come with side effects of lack of attention. "</p>
<p>20mph feels "weird", it's not right to drive that slow, particularly on roads where width and visibility are good.</p>	<p>Social norms</p>	<p>"Driving at an artificially low speed, I tried driving 20 on some of those [roads with no hazards], and it feels so uncomfortable because you are not doing what you should be doing – linking your speed to your vision. I'm trying to put into words exactly how it feels, because weird isn't really going to cover it. It feels perverse. "</p>
<p>Could use the message that using the car for journeys of two miles or less is bad for the car!</p>	<p>Social marketing</p>	<p>"Yes, so I would like to know more about the reasons why people don't walk and cycle for journeys less than two miles, because it's bad for the car, nothing to warm it up going that short a distance."</p>
<p>20mph fine for narrow residential roads</p>	<p>Speed limits</p>	<p>"I don't have a problem with 20mph limits on those roads appropriate and I was thinking about this on the way in today and there are lots of really quite narrow roads with lots of parked cars and there's lots of potential for hazards to come at you with limited notice and you can't see enough to go any faster than that."</p>

Posted speed limits are the acceptable maximum but it doesn't mean they are safe.	Speed limits	"...a posted speed limit can never be a safe speed. It can be a socially acceptable maximum, but it can never tell you what the safe speed for that road is, because that depends at that moment on what conditions, what's around you."
Suggest that some people use the perception of speeding (rather than actual speeding) as an excuse to not walk to school	Speeding perceptions	"...I saw another study where Frank McKenna...the first line was something like – 85% of people reported speeding traffic as a major problem in their area. Then it made the leap straight from people saying it's a problem to it being a problem. Rather than saying we measured outside their house and nobody was speeding. They've taken the perception of it being a problem and I wonder if people say speeding traffic or fast cars as a reason they don't walk to school.... I suspect that residential traffic may be a bit of a red herring..."
Very focused on needs of drivers but, when pushed acknowledged that he could accept slightly slower traffic to make it safer for cyclists	Street function	"Absolutely fine, encouraging people to cycle, slightly slower traffic OK, yes, I can go along with that. I think you need a way that slows traffic down more than a limit that nobody pays any attention to."

Type of interview: Face-to-Face individual interview AP young driver/motorcyclist

Date and time: 1545-1630 on 09/02/12

Location: Lawrence Weston

Name (confidential): AP young driver/motorcyclist

Key points from interview	Theme	Quotes
Does notice pressure from other drivers if sticking to the speed limit but does not let it rattle him	Behaviour	"...if someone is too close to you, you've then got a responsibility for yourself and those around you and that person behind you. So it doesn't wind me up at all, but it heightens my senses to think, right, this moron behind me obviously doesn't know what he or she is doing and it's up to me to make sure that my reaction speeds and my braking is enough to allow them to do it. "
Drivers will speed if they can get away with it and are only concerned about getting caught	Behaviour	"...you create what I like to call a cat and mouse culture, where if people speed, they're doing it, not because it's appropriate for the conditions, they are doing it because they think they can get away with it. All the time, they are thinking – am I going to get caught? – rather than – is this an appropriate speed to drive at?"
The social benefits of 20mph are clear	Benefits of 20mph	"...the thing that strikes me most about the 20 limit is, I understand the logic, I believe there to be an economic and a social benefit. The social benefit being that it encourages people to come out on the street."
The road safety benefits of 20mph are overstated as the emphasis should be on hazard, not speed	Benefits of 20mph	"I take issue with the phrase, at 30mph you are likelihood to injure a young person is 80%, at 40 it's this per cent. So that assumes that if you're driving at 20mph and you hit a child, yes it's got a 5% chance of dying. That assumes that it's almost OK to hit a child at any speed. Whereas what I believe is that if there are children anywhere near where you're driving, you should recognise that as a hazard and adjust your speed accordingly."

<p>Consultation needs to be done through community gatekeepers who have the respect and trust of the community. Otherwise you will not win local support.</p>	<p>Consultation</p>	<p>"...what a local consultation is, is they send a letter to everyone on Long Cross, bearing in mind that this is an area of high social deprivation with one of the lowest literacy rates in the country, they didn't get any information back and then things get built....If you speak to Mark Pepper, he's a gatekeeper, his social capital, you might say, is enormous, or high. There are key people in an area that you could speak to and get their support and, if you could just nail those gatekeepers, so to speak, they carry everyone else ...their influence of other peoples' opinions. But if you miss those people out, then you are going against the grain and you're making it more difficult."</p>
<p>Use of chevrons could be applied to 20mph roads</p>	<p>Education/awareness raising</p>	<p>"...one of my favourite things in road safety are these chevrons on dual carriageways. Keep 2 chevrons apart. Often that's not enough, but at least it's visual and so if there are certain roads, say this one [Longcross Avenue] probably, a bit long, 20mph.."</p>
<p>Suggest developing a series of education videos for 20mph that people could view on YouTube to better understand the reasons for 20mph</p>	<p>Education/awareness raising</p>	<p>"...design an educational, but not patronising video that, at that location, it signposts (not physically signposts), it signposts someone to a ...it says – search for Southmead Road, let's say. You go onto You Tube, type in Southmead Road and there's a nice video that says, we've recently introduced a 20mph zone here, this is the logic...."</p>
<p>Speeding is not taken seriously as an enforcement issue and millions of people speed every single day.</p>	<p>Enforcement</p>	<p>"...if you are going to make zones 20 and you are going to actually enforce it, then you should remember that it's a criminal prosecution that's going to result from not adhering to those 20mph zones....there are millions of people break the law every single day on the roads. There's nothing like it in the whole of the Crown Prosecution Service.."</p>

<p>Police should take on a role by pulling drivers over and warning them - awareness raising - but not enforcing with points or fines</p>	<p>Enforcement</p>	<p>"I think the police would be best off taking a different approach in 20mph, a more verbal partnership to explain why it's 20 in that zone and why, in that given situation...because being pulled over by the police, it can be quite a traumatic experience for some people. It will shock them and it will probably affect their behaviour in the long term. So should the police be pulling people over for enforcing this sort of stuff [breaking the 20mph limit]? No. Should they give someone 30 seconds of their time just to pull them over, perhaps, and just say – this is for a reason, calm it down. Yes. "</p>
<p>People living in residential areas deserve to have 20mph</p>	<p>Road type</p>	<p>"But people who live in these types of areas deserve to have 20 zones. [Looking at photo of Pennywell Rd which is residential mixed with trading and industrial estate]</p>
<p>Suggests use of paint on the road rather than roundels and that signage should be limited to carrot and stick e.g. smiley faces for sticking to limit</p>	<p>Signage</p>	<p>"I would argue that probably the cheapest and the most effective way to nudge people towards staying at 20 is to use paint on the roads, rather than having physical posts with 20 on them, I think the physical posts with 20 should be limited to interactive reward and punishment type, this sort of stuff that I've seen. If you go past it ...under 20 or around 20, they smile."</p>
<p>Suggest painting all lampposts in a 20mph are a different colour to raise awareness without increasing signage</p>	<p>Signage</p>	<p>"I wondered whether there was an opportunity to put things on lampposts to remind people. So you could have a whole area colour coded and once you're in a red zone, then you know you are in a 20mph zone ..."</p>
<p>20s plenty campaign is seen by many as a left-wing, anti-car campaign so doesn't speak to them</p>	<p>Social norms</p>	<p>"I did a little bit of a search on 20's Plenty for us and I could see why ...I'm going to project my opinions onto other people here, I could see why people might think this is an anti-motorist load of waffle by a load of middle class cycling tree hugging lefties. They are people who don't get up at 4 in the morning to go to work, they are people who have supportive jobs, so they can cycle to work and if they get a puncture, they can rock up an hour late and no-one bollocks them, and they are people that are generally anti-motor car because they don't have to ..."</p>

Could use community shaming e.g. finger signal in Australia	Social norms	""In Australia they tried this thing where young males were driving too fast in an area, the locals would do this (?) which would mean basically you've got a small cock, as you imagine."" This is the pinkie campaign - www.rta.nsw.gov.au/road_safety/speedandspeedcameras/campaigns/pinkie.html]"
Road safety messages (and professionals and Rod King) can't compete with the multi-million pound ad campaigns to make driving sexy	Social marketing	"...you're competing with road safety bores with marketing professionals. The road safety bores are saying – slow down. The marketing professionals are saying – driving is exciting, exhilarating, buy this car, people want to drag you into bed, this is what's going to make you look fantastic, you are rich, you've made it. Then you've got Ron King, or whoever it is... he just looks like you're classic road safety guy. Nothing personal, but the perception, he just looks like a lefty and I'm sure he cycles to work!"
20mph limits are fine where appropriate but there needs to be a trade-off with higher limits where there are no hazards	Speed limit	"I have strong opinions that driving fast in town is not a good thing, but I do believe that there are roads outside of town that you can drive a lot faster and safer than the posted speed limits...If you are going to have zones of 20, I've got no problem with that, but once you go outside of these 20 zones, the speed limits should be... there should be more consideration paid to ...well more respect given to competent drivers...there are lots of roads in Bristol ... where the speed limits are set too low. It's kind of insulting to the general population and they are set that way because there have been a handful of morons who have ruined it for the rest of them."
Drivers should choose their speed according to conditions, not the stated maximum speed limit	Speed limit	"I don't drive at a certain speed because the speed limit is set as it is, unless I'm on an advanced driving assessment, in which case you have to stick to the speed limit, which is part of the deal. But there's plenty of times when I will drive in a 30, but I will drive at 15 or 20 because I strongly believe that you should drive at a speed that is appropriate to the conditions."

Analysis of qualitative research

<p>Where there are children and cyclists there will always be hazards and drivers should be aware of these.</p>	<p>Street function</p>	<p>"I think that as a driver or rider, I believe that there are a number of universal truths on the road. Cyclist wobble, children step out into the road, drain covers are wet, things fall off the back of vans...yes, if more children are out on the streets playing, then yes, there are more hazards and yes, drivers should reduce their speed accordingly."</p>
---	------------------------	---

Type of interview: Face-to-Face individual interview MP

Date and time: 1730-1815 on 09/02/12

Location: Lawrence Weston

Name (confidential): MP youth worker

Key points from interview	Theme	Quotes
Sticks to the speed limit to be a role model (to the lads) since being involved in road safety issues but not always aware of limits	Behaviour	"I don't drive fast normally, I'm quite conscious of driving to the speed limit, especially around residential areas for the exact reason of where my passion lies, around safety for young people."
Feels strongly about limits in his own neighbourhoods and will drive slowly to deter others.	Behaviour	"I always drive 30, not just to be safe myself, but to inconvenience those behind me that want to go faster, because the area I live is the area my kids live and you get a lot of through traffic and they just belt down, lorries and such like."
Street parties, DIY streets, community speed watch will not be effective in areas like Lawrence Weston.	Community participation	"In this area? I don't think so, no. I think everyone wants to see change in lots of areas, but they haven't got the energy, the time or the inclination to really sacrifice any time or energy into it."
Most of the residents would be pro-20mph, doesn't think there would be much negative reaction to it.	Consultation	"I think the residents that would take the time and energy to give their views over to a consultation or a workshop or whatever, I think are the ones that would want a 20mph speed limit, so it would be pro, yes, to be honest."
Neighbourhoods partnerships and local planning groups are useful structure but not always representative and a bit too imposed or "organisational" at the moment. Need time to bed in and for local people to realise they have a voice. It is hard to engage people but the council shouldn't give up!	Consultation	"Hopefully, once residents see that they've got an influence and a voice, then hopefully you will get a wider representation of the residents."

<p>Noticed signs outside schools but not sure if only advisory or actually legal and most residents would not be aware.</p>	<p>Education/awareness raising</p>	<p>"I don't think there's been enough education or awareness about the 20mph zones."</p>
<p>Improving skills for young drivers to raise self-esteem so that they don't feel they have to prove themselves by driving fast all the time.</p>	<p>Education/training</p>	<p>"That's what we're trying to get over for the young lads that were driving quite recklessly. You give them those skills so they are advanced in driving and then hopefully that would transpire on the roads – I don't need to drive like an idiot to impress people now, because I know I've got the skills, I know I'm a good driver, I know I can drive fast and in control if I want to, when I want to, but in conditions that allow me to."</p>
<p>Community speedwatch would definitely not work in this area</p>	<p>Enforcement</p>	<p>So being realistic, you can't say – let's have a community initiative to do this work.</p>
<p>LW is a bit of a guinea pig area with ANPR cameras. This has led to confusion as initially residents thought they were speed cameras (the same sign is used) but no-one got tickets so now people speed again.</p>	<p>Enforcement</p>	<p>"..we tried it [community involvement] on loads of different things which the residents have got more of a passion for than 20mph and it's not really worked. Things like going out with the PCSO, pooh definite no-no, you'd turn people away there. "</p>
<p>Speed cameras are seen as cash cows and not regarded as helping to make streets safer</p>	<p>Enforcement</p>	<p>"I'm sure a lot of cynical people would say you're only putting a 20mph out there so that you can create more money, so you can fine us more."</p>
<p>Confusion around limits, not always clear what limit should be. Physical features send out messages about appropriate speed but these don't always match the actual limit.</p>	<p>Existing speed limits</p>	<p>""""...like the Portway, for example, it changes 4-5 times from 30 to 40 to 50 to 30. I'd prefer just to have one speed limit that's the simplest and away you go."" ""So you don't have to keep thinking about it all the time?"" ""Yes. But that's only to ensure that I'm staying within the law and I don't get any consequences of it, not because I think it's safer that way""</p>

Signs-only will not be effective in slowing people down, need to alter the road layout to deter people from speeding.	Physical measures	"I think if you want people to drive at 20mph, you should be doing more to stop them from exceeding the speed limits, not wait until they're caught and then say – that was very naughty, have some awareness. Me personally, sign-posts, yes let them know what the speed limit is, but more so, the planning of the road and...the design of the road so it makes it impossible, not impossible, but it makes it difficult or uncomfortable, you know, speed bumps. I know everyone hates them and all the rest of it, but I think they do their job. It slows me down."
Speed choice (other than in local residential area) depends on road type, visibility, weather etc.	Road type	"I don't take much notice of speed limits...not without the sign. " "If I feel it's safe to do 40 in what may be a 20mph zone, I will, unfortunately."
Likes the idea of making places more attractive and safer for pedestrians but can't imagine it being safe with cars around - prefers the idea of complete segregation.	Shared space/road function	"I think it's a brilliant idea, but I don't think it's very practical. I'd love to see that, but do I really want to see a mixture of cars and pedestrians, or do I want to see designated areas for pedestrians and designated areas for cars? I suppose if I was totally honest, I would like to see more power to pedestrians, or more priority given to pedestrians than cars and keep the two away. It's a lovely thought, but even that car there, it ruins it really. It doesn't look safe anymore to me."
Make it personal - you might knock down your neighbour's child. But fear tactics don't really work. Building on WST to make people feel like better drivers so that they don't have to speed to prove something?	Social marketing messages	"If you can get people to start thinking about, if they are going to carry on speeding they are going to have an accident, especially in residential areas it might be one of their neighbours or it might be one of their friends. I think trying to bring it home to them more."
Feels strongly about limits in his own neighbourhoods and will drive slowly to deter others.	Social norms	"...it sounds corny, but [driving at 30 makes me feel] as though I am carrying out a service for the local residents

<p>Signs only will not change behaviour, especially as many locals don't respect the law.</p>	<p>Social norms</p>	<p>"I don't think speed limits, especially in areas like this where they feel a little bit disaffected from the rest of society, if you like, and they've got their own morals, their own values, their own laws, there's a big contingency in the local residency that don't even take the law seriously, if that makes sense. That's the problem really and I don't know whether a 20mph signpost is going to achieve what it's trying to achieve."</p>
<p>People want 20mph for their road/area but are not prepared to drive at 20mph in other people's areas.</p>	<p>Social norms and hypocrisy</p>	<p>"Everyone will be clamouring – yes, we want 20mph for the safety of our kids and blah, blah, blah, but then they're going to get in their cars and still do 40 for everyone else. They haven't really got a fear of the police, they haven't got a fear of speed cameras and stuff like that. I see them now, well I do it myself, break the speed limit up to a speed camera, wait until the white lines are gone and then off you go again. It's ridiculous really, but there you go."</p>
<p>People want 20mph for their road/area but are not prepared to drive at 20mph in other people's areas.</p>	<p>Social norms and hypocrisy</p>	<p>""I would drive at 20mph around this area, where I am living...Having said that, outside of my area, totally different! I'd be blasting down your road, unfortunately, but that's...!""</p> <p>- Is that really true?"</p> <p>""It is, unfortunately, yes. It's quite hypocritical of me, but ...""</p>
<p>Likes the idea of 20mph in residential areas but not sure whether would adhere to it in practice.</p>	<p>Social norms and hypocrisy</p>	<p>"But yes, I would love to see 20mph limit in all residential areas, but whether or not I'd stick to them remains to be seen."</p>

Type of interview: Face-to-Face individual interview MP

Date and time: 1400-1530 on 24/01/12

Location: Southville Centre

Name (confidential): BB community leader

Key points from interview	Theme	Quotes
It's hard to drive at 20mph because of gear ratios and having to concentrate.	Behaviour	"...[my wife] she says it's actually more difficult to drive at 20mph compared to 30. Presumably it's the gear ratio, or whatever, plus also she's used to not having to worry about it. So she does the best she can, but she says it's actually more difficult, so I think that's maybe true of other drivers."
Need to work at a neighbourhood and street level to get people involved in local issues.	Community engagement	"...our approach has been actually that you need to really get down to real neighbourhoods, the neighbourhoods that people actually feel that they're part of...Street level, so street parties, residents groups, Neighbourhood Watches, those sorts of things that are very local, people are prepared to commit themselves to, or particular groups or whatever it might be..."
Community development e.g around cultural change for 20mph takes a long time and the council's approach is rather short term and naïve.	Community engagement	"I think one of the naïve things about the way the council's approach it is that they've not taken into account timescale. This is long term community development and it's about building confidence, it's about re-educating people from a situation where they've learned..."
Decent consultation involves starting by listening to residents and then educating them about the possibilities. If you bring in a scheme with no preliminary work it will be rejected because the benefits are not properly understood.	Consultation	"Coming into an area with no preliminary work, saying here's a scheme [residents parking], take it or leave it. Well not surprising, they are going to say no... So there's a whole process of re-education. Again, it goes back to what I said earlier, we're not talking about car parking, we're talking about education, we're talking about changing people's attitudes and the way you do that is to be with them, be part of ...listen to what to they say, understand where they are coming from, value the ideas that they have."

<p>To make real change towards being a Green City we need to do some challenging things, but the council is a very timid organisation.</p>	<p>Council communications</p>	<p>"Well I think unless we do some challenging things, we'll never...if we don't take a chance... Again one of the interesting things with the council is that it's a very timid organisation. It encourages its officers to be timid. If you don't do very much, you're not going to get into trouble. If you do something and it goes wrong, you're going to be criticised. We need to get over that..."</p>
<p>Working with the community on a number of fronts to promote and educate about the reasons for 20mph.</p>	<p>Education/awareness raising</p>	<p>"...what we are trying to do is basically raise people's awareness by explaining the background [of 20mph], that's one thing, but also interventions, whether that's popping up with a speed gun on a particular road so certain people know that they might get caught, do a bit of the frighteners, but also working with schools, because obviously the message that children are in danger is quite a strong and acceptable message for ...and schools certainly take that on board."</p>
<p>Need to keep communicating the link between severity of accidents and speeding</p>	<p>Education/awareness raising</p>	<p>"But the link between number of accidents, the severity of accidents and speed is something that I think they need to keep hammering until people understand that."</p>
<p>Using street parties is a good mechanism to engage neighbourhoods and raise awareness of issues such as 20mph</p>	<p>Street parties</p>	<p>"...that's why things like street parties are so good because it begins to build links across with the neighbours, but also it's a different experience for the street and you can do things...I think it's [street parties] a very good mechanism, yes. You've got to do it carefully and subtly. But if you are getting people together in a street party, especially if it's the first one, or the first couple that they've had, you need to have something to talk about in order to get to know your neighbours otherwise it's not going to work."</p>
<p>The community speedwatch initiative is a good idea but it is hard to get a group of 6 to commit. The police has not been very flexible in that they require a minimum of 6 before offering training which has to be in Portishead.</p>	<p>Enforcement</p>	<p>"...we wanted to set up our own speed watch and we asked them to put us in touch with whoever. The difficulty is that they say you've got to be trained, you need to be at least 6 people, and we haven't actually managed to get a group of 6, they've got to come to Portishead to be there at the same time. So even if you get 6, they've got to be people who are able to get to a particular place at a certain time..."</p>

<p>The Neighbourhood Partnership, with the support of Jon Rogers, campaigned for excluded streets to be included in the pilot on the basis that it was clearer to ask drivers to change their behaviour across a whole area and not chop and change.</p>	<p>Road type</p>	<p>"...there was a debate about exclusions...We got pretty well every excluded street wasn't any more excluded. Of course it's true that those are the streets where people still drive faster. So in that sense, council officers are actually right, but it didn't seem to us to make any sense at all..." [to exclude streets like North Street]."</p>
<p>Making the limit city-wide would make it easier for people to remember and get used to it</p>	<p>Social norms</p>	<p>"I think actually the main issue for improving 20mph would be to extend it to the city as a whole. Because we are a pilot area, we're exceptional, so why should people remember it, especially people coming in from outside. But if it were citywide, I think it would be easier for people to get their head around it."</p>
<p>Trying to promote the alternative use of roads but this is a difficult message for younger generations</p>	<p>Street function</p>	<p>"The other message that we're trying to get across, so I think it's very difficult for younger people to understand – a sweeping generalisation there- is the alternative use of roads. That roads have not always been for the cars, there were roads before there were cars and the roads were for other purposes, like meeting people, or walking up and down, or holding markets, or a whole range of things that you can do in a road that you now can't do because...the analogy is quoting about how you boil a frog, I've never tried this, but I'm told if you put a frog into cold water and gradually heat it up, it will stay there, it won't get out, it will just boil. In a sense we've done that, haven't we? But if we'd known in say 1950 that permitting parked cars, for example, cars to park for free on the Queen's highway, was going to lead to where we are now, in 1950 we'd have said no. "</p>