
Can social marketing make 20mph the new norm?

Mrs Sarah Toy

Research Fellow, Bristol Social Marketing Centre

University of the West of England

Professor Alan Tapp

Professor, Bristol Social Marketing Centre

University of the West of England

Dr Charles Musselwhite

Associate Professor, College of Human and Health Sciences,

Swansea University

Dr Adrian Davis

Visiting Professor, Bristol Social Marketing Centre

University of the West of England

Corresponding Author

Professor Alan Tapp

Bristol Social Marketing Centre

Bristol Business School

University of West of England

Coldharbour Lane

Bristol

BS161QY

01173283439

Alan.Tapp@uwe.ac.uk

Abstract

This paper reports the findings of a study that explored the possible role for social marketing in supporting compliance with 20mph signs-only speed limits. The study, completed in July 2012, involved a review of literature, the re-visiting of case studies of existing and planned 20mph signs-only schemes, mainly within Great Britain, and a qualitative research project with the citizens of Bristol, England.

A key finding was the mismatch between people's apparent support for 20mph limits and their actual driving behaviour. The qualitative research focused on investigating this gap. A range of groups of Bristol drivers and residents were recruited for the research to provide insights into why some people may not comply with 20 mph limits where they are in place, and what could be done to counter this non-compliance.

The findings suggest three possible driver types in relation to 20mph areas: 'champions', 'pragmatists' and 'opponents'. The paper discusses the possible mapping of these types onto Moore's "crossing the chasm" variant of Rogers' diffusion of innovation model. Here, the 'chasm' represents the difficulty in encouraging compliance amongst pragmatists in the same way as champions. Based on this, it is suggested that social marketing techniques can provide a 'bridge' over this 'chasm' to pragmatists by helping position 20mph limits as the *new norm* for urban areas. The mechanism for change would be to support 20mph as the descriptive norm (what people believe *is* normal) as well as the injunctive norm (what people think *should be* normal). In theory, a social contagion effect would help spread the new behaviour amongst pragmatists - eventually generating a tipping point in which pragmatists would move en-masse, quickly shifting from driving at 30mph in urban areas to 20mph - 'because everyone else does'.

Key words

20mph limits, social marketing, driver behaviour

Highlights

- 20mph speed limits (and 30kph limits) are increasing in importance as they roll out across the UK and Europe
 - Attitudinal support is high in the UK
 - However there are concerns about driver non-compliance
 - Social marketing approaches may be helpful in influencing behaviour
 - Interventions may be best deployed across different segments of the population in different ways – split by a diffusion of innovations approach
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Can social marketing make 20mph the new norm?

1. Introduction: The rise of the 20 mph limit in Great Britain

Twenty miles per hour speed limits are becoming more important for the UK, reflecting the widespread establishment of 30kph limits in many parts of continental Europe. For many years the UK has lagged behind in this regard, with 30mph limits being the norm in urban centres until beyond 2010. Hitherto, towns or cities with extensive 20mph limits (as opposed to 20mph Zones – small areas that also contained traffic calming measures) were unusual, with Portsmouth and Oxford being two prominent exceptions. This however is changing, with rapid expansion of 20mph limits planned or underway throughout urban centres in the UK, and, (it is claimed by campaigning group ‘20s Plenty’) around 10% of the UKs urban roads already at 20mph.

The issue we deal with in this paper concerns the difficulties of achieving *driver compliance* with these limits. In the next section we review the available data, but learning to date suggests drops in driving speeds may be less than ideally wanted by road safety experts. Police enforcement in existing (and anticipated) limits in Britain has been constrained to below ideal levels. Thus, in this paper we report on a research project that investigated the possible use of social marketing as a discipline to help encourage better voluntary compliance with the limits.

2. 20mph limits: the UK and Europe

Thirty Km/h speed limits have been commonplace in continental European countries such as Denmark, Sweden, The Netherlands, and Germany for over 30 years. Most 30km/h limit schemes (in both residential and shopping street areas) involved a significant element of physical traffic calming. In The Netherlands, which embraced 30km/h during the 1970s, two large demonstration projects were conducted in residential areas in Eindhoven and Rijswijk in 1975/76. Evaluation of these schemes found that road traffic injuries fell by 77% for all types of residential areas, and average speeds fell by 22%. One of the papers reporting on the overall impact concluded that:

“The safety effects of 30km/h zones appear to have a positive effect on road safety. Speeds are lower, there is less through traffic and the residents are happy”. (Janssen, 1991)

Similar levels of impact in reducing injuries have been reported in other European countries (Engel, Thomsen, 1992; Kjemtrup, Herrstedt, 1992). In the former Federal Republic of Germany in the 1980s a National Demonstration Project to assess the effectiveness of traffic calmed 30km/h for what became known as 'Tempo 30 Zones' reported that these Zones 'substantially improved traffic safety. For example, in one of the six demonstration areas, Berlin Moabit district, 30km/h zones resulted in a 60% reduction in injury collisions, and a 73% decrease in child road traffic injuries (Brilon, Blanke,1990).

In Great Britain, before 1991, the Road Traffic Regulation Act 1984 did not permit local authorities to set speed limits below 30 mph. 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 crash record. The impact of introducing traffic calmed zones in Great Britain has been similar in effect size as previously reported for other continental European countries. The introduction of 20 mph zones in London was associated with a 42% reduction in road casualties after adjustment for underlying time trends. The percentage reduction was greatest in younger children, and also greater for the category of killed or seriously injured casualties than for minor injuries (Grundy et al, 2009).

Since then, there has been a slow but growing recognition of the role that 20mph limits can play in reducing road danger and improving quality of life for residents and in response the UK's Department for Transport (DfT) has continued to revise and update its guidance (2006, 2009, 2011) The DfT recognised the growing popularity of 20 mph limits and continued to make it easier for local authorities to introduce these limits without any physical calming. This initial period saw a number of 20 mph signs-only schemes introduced across the country, including areas within Bristol, Liverpool, Oxford, Portsmouth and York.

More recently (2011 to 2014), a 'second phase' of development of 20mph limits has taken place, with firm plans, or actual roll outs of the speed limit across a large number of the UKs cities. Signs-only 20mph limits in the United Kingdom are enforceable by law, with drivers driving at over 20mph facing penalty points on their licence and a fine if caught. However, this alone does not always act as a deterrent and drivers continue to disobey the speed limit. Observations undertaken, mainly within English cities, suggest that 20mph limit areas lead to relatively small reductions in average speed. Atkins' (2010) work in one such city, Portsmouth, found that pre and 18 month post-implementation speed surveys at 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. Atkins reported a 22% reduction in casualties in the 18 months post-implementation compared to a national reduction of 14% in comparable areas. Early data from 20mph signs-only pilot areas within another UK city, Bristol, indicated reductions in average daytime speeds of 1.4mph and 0.9mph respectively, with 65% of roads seeing a reduction in mean speeds (Bristol City Council 2011). We sought further data (as part of other fact finding case study work undertaken for this project) from officials at two further UK sites - a small city in central England, and a county in northern England. These figures should be treated with caution, but can be reported as follows: in 2011 within the small city, one-year post-implementation speed surveys at 130 sites measured a 0.9mph reduction in average speed from 22.0mph to 21.1mph. The county ran five 20mph pilot schemes in 2011 and found average speeds increasing by 0.2 mph at one location, remaining constant at one, and reducing by an average of 0.9mph at the other three sites. Casualty data was not available at either of these sites.

Outside of the UK, Graz in Austria introduced a city-wide 30kph trial limit between 1992 and 1994. The speed measurements for pre and one year post implementation detected 'relatively small reductions in average speed' (Wernsperger and Sammer, 1995). However, there was a strong measured reduction in high speeds in that the proportion of those travelling at more than 50kph in the 30kph limits fell from 7% to 3%. A 12% reduction in collisions with slight injury and a 24% reduction in serious injury collisions were also attributed to the trial. Interestingly, the reductions were most significant at junctions and crossings. The study observed road user behaviour using video cameras at three junctions and in their paper the authors concluded that drivers and pedestrians 'were more considerate to each other'; however the paper did not provide further explanation or analysis on this interesting, albeit subjective, observation.

If people continue to break the law in such areas, despite the risk of being caught then there is a need to turn to alternative methods to help achieve better compliance with the speed limit. Compliance could be increased through changes in infrastructure such as adding speed humps or through changes in surveillance, for example increasing speed cameras. Both these have potential to improve compliance, but without changing long-term attitudes or habits, with effects being localised at the point of the intervention, for example, and, additionally, also being relatively costly (see Musselwhite et al., 2010 for review).

This paper examines the potential of social marketing in achieving better compliance with 20mph limits, addressing how it has the potential to increase longer term behaviour change. Can a change in attitude or norms within society, for example, affect compliance? In a recent British Social Attitudes Survey for the Department for Transport, 71% of the population were found to support 20mph limits with signage only, with only 15% against; indeed support has remained consistently at these levels for a decade (DfT, 2011b). When British citizens are confronted with the idea of 20mph speed limits, support, uncertain at first, tends to increase (Musselwhite et al, 2010). Musselwhite et al (2010) also found that initial concerns with pollution and difficulty of driving at that speed were superseded by the perceived benefits for road user safety. Hence, the 'headline' benefit (i.e. the benefit picked out from alternatives as the most easily absorbed/seen as most important, by a lay audience) was concluded to be 'reduced road traffic collisions'.

In addition, analysis of British Crime Survey data on public perceptions of antisocial behavior revealed that speeding traffic is rated as the greatest problem in local communities (Poulter, McKenna, 2007). Males and females both rated speeding traffic with the same degree of concern, with 30–59-year-olds and 16–29-year-olds rating it higher than the 60+ age group. Even when conducting analysis on the sub-groups, speeding traffic consistently came out as the most antisocial behavior, whether respondents were male or female, young, middle aged, or older. Hence, there is potential to use these attitudes when shaping behaviour change with 20mph limits. It is perhaps fair to conclude that – so far - speed reductions remain modest. It seems apparent that, notwithstanding better effects for reducing excessive speeds, and some encouraging drops in the numbers killed and seriously injured as a result, at present a 'general' lack of compliance remains an issue. Put another way, it is possible that many or even the majority of drivers are largely ignoring the new limits. It therefore follows that there remains much work to be done to further reduce average speeds such that they are more aligned with these new limits. This, then, was the basis for researching the use of 'behaviour change' interventions to support new 20mph areas, in particular, the potential application of social marketing that encourages drivers to comply with the lower limits. This paper examines in what ways might social marketing potentially change attitude and behaviour with regards to 20mph limits in a case study area chosen where they are just about to introduce 20mph limits, Bristol, United Kingdom (UK).

3. Methodology

3.1. Case study area

A case study approach was chosen in the city of Bristol around two years prior to a phased roll-out of the new 20mph limits across the city between 2013 and 2015. The council had introduced two 20mph signs-only pilot areas of approximately 30,000 households in inner South Bristol and inner East Bristol in May and October 2010 respectively. Commencing in July 2011, the research reported on here sought to examine the potential role(s) of social marketing techniques in supporting signs-only 20 mph limits.

3.2. Design

This qualitative research aimed to gather data in order to firstly assess attitudes and reported behaviours with respect to 20mph limits, and secondly to gather reactions to intervention ideas that ranged from car stickers, pledging, 'community speed watches', to neighbourhood or "DIY" street redesigns. A mixture of focus groups and in-depth interviews was used. Focus groups explored socially shared attitudes and opinions, and revealed how social discourses in the area may be shaped. In-depth interviews on the other hand revealed more privately held attitudes and behaviours – in particular with respect to personal driving behaviours including non-compliance with 20mph limits.

3.3. Participants

Focus group respondents were purposively selected from different social groups as shown in Table 1 below in order to provide a variety of perspectives. Key selection criteria included different likely perspectives on driving (e.g. speeds, the use of cars versus active travel, parents of young children, and city centre versus commuter views). The intention was not to create accurate representative samples, but instead to ensure a wide variety of perspectives would be available for analysis. Participants were recruited through community groups, council contacts, professional and personal contacts and word of mouth. Each participant was offered a £20 cash incentive to take part in the study and most people gave from 1.5 to 2 hours of their time. Freedom of expression was emphasised throughout, and subsequent data analysis confirmed a wide spectrum of views were received. Interviews and focus groups were held either in people's houses or in local community spaces at times to suit – mostly in the evenings.

3.4. Procedure

A series of topic guides and tools including use of images were developed for the research and these were adapted and adjusted as the research revealed new insights. A total of nine focus groups including a total of 43 participants (21 male and 22 female) were held with different groups as shown in Table 1. Eight in-depth interviews were conducted to explore specific positions as shown in Table 2.

3.5. Analysis

All interviews and focus groups were recorded and subsequently transcribed in full. Analysis was performed by annotating each transcript and identifying categories to group data according to strong or recurrent themes. These themes were then tabulated and quotes attributed from each focus group and interview. This enabled the researcher to map ideas and interpret meaning across the range of data, utilising a thematic analysis approach to the data. These were then mapped to known social marketing theories outlined in the findings.

Table 1: Focus group participants

Group type	Nr in group	Gender	Pilot area resident?
Cyclists and sustainability champions	7	Mixed	Some
Professional drivers (city centre van & lorry deliveries)	7	Male	None
Retired residents in pilot area	5	Mixed	All
High mileage commuters	3	Male	Some
Young drivers/edge of city/deprived	3	Male	None
Middle age residents/suburban	6	Female	None
Young parents/urban/deprived	6	Mixed	None
Residents supporting 'Playing Out'* group / suburban	2	Female	All
Other mid-income residents in above suburban area	4	Mixed	All

*A Bristol-based initiative to encourage street play through regular, formalised street closures

Table 2: In-depth interview participants

Person type	Gender	Pilot area

		resident?
Regular driver opposed to 20mph	Male	Yes
Regular driver supportive of 20mph	Male	Yes
Community representative (activist)	Male	Yes
Parent of toddler	Female	Yes
Parent of school-age child	Female	No
Institute of Advanced Motorists driving instructor	Male	No
Young driver and motorcyclist	Male	No
Community youth worker	Male	No

4. Results and Discussion

The authors sought to explore and understand the possible roles that social marketing could play in supporting 20mph limits. After noting generic findings, we move to examine findings from the participants could be mapped around five key social marketing theories, fear appraisals, cognitive bypass (Bamberg and Schmidt, 1983), social influence (Fleiter et al., 2010), social norms (Cialdini 2007) and diffusion (Rogers, 1962). We conclude the section by examining the role of social norms in more depth since it showed considerable promise having been discussed at length by participants themselves. Hence, the final section of the paper discusses the use of a marketing model for 'diffusing' a 20mph 'norm' into UK society.

4.1. General attitudes to 20mph limits

When initially asked what their attitude was to 20mph limits in their position as drivers, respondents tended to raise the difficulty of *sticking to the limit*:

"I think I would probably try. It's quite hard to stay at 20mph, that's why I said I'd try."

Focus group, parents of young children

"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. "

Focus group, Retired people

Discussions quickly moved to enforcement, with respondents anticipating difficulties, either *their own lack of compliance*, perceived lack of police/public interest:

"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?"

Focus group, parents of young children

"...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."

In-depth, middle aged driver, resident in pilot

Some respondents wanted to discuss the perceived effect on *journey times*. Some responses were very positive:

"But how much does it (having higher speed limits) knock off your journey? Probably not very much. Maybe 2 minutes, if that."

Focus group, parents of young children

"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..."

In-depth, middle aged father, resident in pilot

Once respondents had time to absorb the debates, a recurring theme became *road layout*:

"...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. "

In-depth, advanced driving instructor

Some groups included respondents who were likely to be less sympathetic of 20mph limits, including high mileage commuters and young drivers. For these groups, the 'blanket' 24 hour coverage of 20mph limits was irksome:

"...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."

Focus group, High mileage commuters

"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."

Focus group, young drivers

Others however revealed that over time their initially negative attitudes had changed for the better:

"...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."

Focus group, middle aged female participant, pilot area

Discussion then turned to possible sources of influence and persuasion for compliance with 20mph limits. We began with 'fear appeals'. These have been used extensively in road safety marketing, hence we cover this area in a little more detail:

4.2. Fear appeals

Fear appeals- 'imagine how you will feel if you hit a child' - raise the fear of the personal anguish and social stigma of causing an injury. Within the UK such tactics have been long established through the long running Government 'Think!' campaign. Amongst our

respondents their effect seemed to have been felt to the extent that a typical view was that excessive speed is not socially acceptable. For example one participant observed:

"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."

In-depth interview with middle-aged father

Overall, fear appeals were received cautiously in terms of their perceived effectiveness. Indeed, studies indicate that fear appeals suffer a number of limitations (Hastings et al 2004), not least the need to generate ever more powerful imagery in order to continue to create the same effects over time. Fylan et al (2006) reviewed road safety campaigns and suggested that campaigns that try to induce fear had little effect on some driver attitudes and behaviour partly because many drivers - ironically often the most risky road users - distance themselves from the message through believing the campaign is targeted for those with less road-user skill than themselves. O'Connell (2002) suggested that a series of effects lead some people to believe the (drive safely and slowly) message is not for them. These effects include incurable optimism (where most drivers believe they are better than average), the illusion of control, (where drivers feel very much in control of their vehicle and their own safety) and the false consensus effect (the mistaken view that most other people share their pro-risk attitudes). In earlier work, Silcock et al. (1999) concluded that some campaigns can give drivers an excuse for aberrant driving behaviour by reinforcing the belief that such behaviour lies with a limited group of "other" drivers, not themselves. This links to the 'third person effect', the belief that interventions are effective on others but not on one-self (Davison, 1983). The use of fear appeals particularly causes this to happen, especially for those that need the message most (Lewis et al., 2008). As Lewis et al (2007) have shown this is very much the case for male drivers who are most likely to attribute the blame away from themselves and on to others when presented with negative fear appeals. For these reasons, while recognising their continuing use in practice and appeal to some of our respondents, in this study we were particularly concerned to explore alternatives to fear appeals.

4.3. Cognitive By-passes

The alternative to *conscious* attitude change, and one very fruitful area that we wished to understand in more detail was so called *cognitive by-passes*. Cognitive by-passes happen when behaviours come to be governed by habit or instinct, using the brains 'automatic'

functionality (Bamberg and Schmidt, 1983). An example of automatic response triggering is the use of in-situ road safety interventions such as Vehicle Activated Signs (VAS). Trials of VAS stretch back to 2006 (Lee et al, 2006), however a more recent intervention (Kalla et al 2010), consisting of a VAS mounted next to the road and visible to both motorists and the public, tested driver reaction to a display of the real-time speeds of cars. Kalla et al's self-report questionnaire of 300 motorists found that the majority of motorists believed these devices influenced their own compliance with the speed limit.

Our respondents commented that they were positively influenced by new VAS with one participant saying:

"I think a flashing sign is really effective. When it flashes, I'm like – oooh, they've seen me."

Focus group participant, female parent, inner city location.

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 reduced. A study for Transport for London (Walter and Knowles, 2008) found that the 'novelty' effect wore off after about three weeks. In response, a local authority continually rotated a number of signs between different fixed locations across the city (Bristol City Council, 2011).

4.4. Social influence

A key area for our research was that of social influence: to what extent can people *influence each other* to comply? Fleiter et al (2010) 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 (obviously unknown) other drivers. Passengers were generally found to have a slowing influence on drivers, with key themes being responsibility for the safety of people in the car and consideration for passenger comfort. One young driver explained this effect very clearly:

"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."

Focus group participant, teenage driver, non-pilot deprived area

In relation to other drivers, key themes included speeding to keep up with traffic flow and perceived pressure to drive faster. Fleiter et al's research of driver responses to others provided scope to use social sanctions for speeding and social praise for speed limit compliance. However they found that external sanctions and rewards, whilst apparently effective over a short time-frame, had significant limitations over a longer period of time, with little evidence that they are effective after the novelty of the intervention ceases. Thus, the search for longer lasting effects led the researchers to the use of social norms as behavioural influences.

4.5 Using Social Norms to influence behaviour

Once a 'critical mass' of people regards something as 'normal' the cost of conversion of new entrants into the behaviour is likely to drop dramatically as each new entrant is more likely to copycat an embedded 'new norm'. For example if people believe that driving at 20mph is the 'normal, everyday thing to do', and that 'everybody else' is doing it, then they are more likely to adopt this behaviour (Fuller et al., 2008; Musselwhite et al., 2010). There has been a rise in professional interest in such interventions that seek to create the conditions for pro-social automatic behaviours (e.g. Scaffidi, Abarte et al., 2013) because of their relative ease of application and potential cost-effectiveness.

There seems little doubt that social norms are important influences on driver behaviour. Findings from our qualitative research reinforced work from others that social norms can influence choice of speed and that drivers set their speed to match the perceived speed of others (Aberg 1996, Fleiter 2010, Arthur 2011). The belief that '*most other drivers regularly speed*' influences an individual's own choice of speeding behaviour; the more likely drivers are to perceive that other drivers speed, the more likely they are to speed themselves (Fuller et al., 2008). A quote from one of our focus group participants highlights this effect:

"...I used to [drive at 20] and then I just noticed that no-one else does, so I started going a little bit faster "

Focus group participant, female parent, resident in non-pilot area.

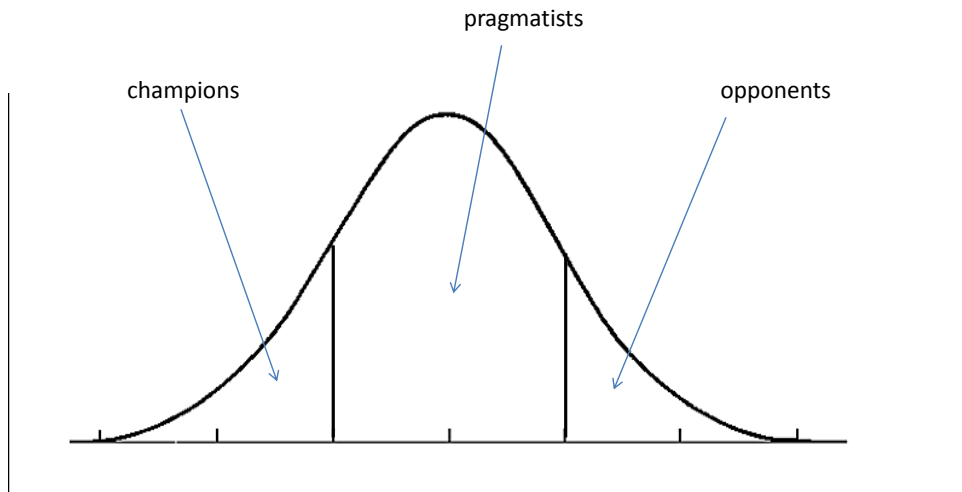
These normative social influences can be amplified by providing drivers with information to shift their perceptions about the speed and behaviour of *other* drivers. A study from Iceland (Ragnarsson and Björgvinsson, 1991) found that when drivers entering a residential area were shown a posted feedback sign communicating 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. Even more impressively, in a classic 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 the experiment and the researchers found that excessive speeding could be reduced by 40 per cent. However this impressive change in behaviour was subject to decay, albeit the speed reduction was maintained for a number of weeks after the sign was removed.

4.6 Diffusion effects

Social norms tend to 'diffuse' through society (see figure 1 below), moving from opinion leaders (champions) to more 'mainstream' groups (pragmatists & opponents). This idea of different groups with varying attitudes to 20mph limits emerged quite strongly from our focus groups: a wide range of levels of knowledge, understanding and liking for the idea of 20 mph limits was apparent amongst different segments. For example mothers of young children exhibited a strong appreciation of the issues relating to 20mph limits. Others were more neutral or indifferent, with more superficial views that seemed capable of fluctuation within the group itself, and these groups seemed to be more easily influenced. But others (for example, high mileage commuters) were more conservative, and exhibited stronger resistance to any behavioural change that the new speed limits would, in theory, force upon them. Based on these three groups, the picture that emerged seemed to be explained by the use of Rogers (1962) classic Diffusion of Innovation model. Figure 1 offers a simplified version of this model, and an illustration of how the different groups may be represented. The use of a bell curve is common in such models, but as this work is qualitative we make no such claims of accuracy here in depicting group sizes with respect to 20mph limit influences.

Figure 1: Diffusion of innovation curve applied to attitudes to 20mph speed limits



Each group proffered different responses when asked about 20mph limits. An 'early adopter' or champion of 20mph described in detail how he responded to tailgaters when he is sticking to the 20mph limit:

"I'll be coming home down Whitehall Road, there is nobody in front of me because everybody bugged 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...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..."

In-depth interview, middle aged father, resident in pilot area.

Another early adopter explained how he liked to stick to the speed limit to make driving simpler:

"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."

Focus group participant, male resident in non-pilot area

In contrast, 'pragmatists' explained that 20mph didn't feel normal, that they felt the pressure to speed up. Pragmatists were much more likely to discuss what *others were doing*, as well as their own habits:

"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."

Focus group participant, parents with young children,
resident in non-pilot inner city area

"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."

Focus group participant, female parent, resident in non-pilot area

"I don't think the speed limit change alone would make me change... on a clear straight road with nothing around...I just think 20 feels really slow."

In-depth interview, mother of schoolchild, resident in non-pilot area

Pragmatists were quite likely to have low awareness of new limits, illustrating a lack of attention to speed limits generally:

"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."

In-depth interview, male, non-pilot area

Even when pragmatists supported the idea of a 20mph limit they were not comfortable publicly displaying this support. When asked whether they would be happy to display a (campaigning group) '20s Plenty' sticker in their rear car window to show their support many (though not all) expressed discomfort:

"I probably would, yes"

"I'm not sure that I would."

"I don't think I would, but I'd feel a bit embarrassed about saying that"

"...it's a bit evangelical."

Focus group participants, parents with young children,
resident in non-pilot inner city area

"...[my 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!"

Focus group participant, parents with young children,

resident in inner city pilot area

The final group, 'opponents' were characterised by their occasional libertarian views with respect to speeding. They had higher awareness of the limits than pragmatists, but were opposed to them. For some, this reflected a belief in drivers setting their own limits according to conditions:

"I don't drive at a certain speed because the speed limit is set as it is...I strongly believe that you should drive at a speed that is appropriate to the conditions."

Young driver, motorcyclist and advanced driver,
in-depth interview, non-pilot deprived area

Many opponents just could not see the point of 20 limits, arguing that 30mph was fine:

"...like King's Drive I don't think should be 20 miles an hour because there's no reason..." "I think 30 is fine on the road I live in. I don't have any...it's quite a wide open road and ..."

Male, commuter

Or that 20mph would make journey times longer:

"You'll have to go 10 minutes earlier."

Commercial driver, male

The champions, pragmatists and opponents could be *tentatively* characterised as shown in Table 3. With further research, it is suggested that each "type" of participant would require different social marketing approaches, though we are not at a stage to be able to offer this here.

Table 3: Putative 'segment' descriptors

Type of participant	Descriptor	Attitude to 20mph
Non-car owners, utility cyclists, sustainable transport professionals,	Early adopters	Champions
Parents of young children, middle aged drivers, retired drivers	Mainstream middle	Pragmatists
High mileage commuters, young drivers	Late adopters	Opponents

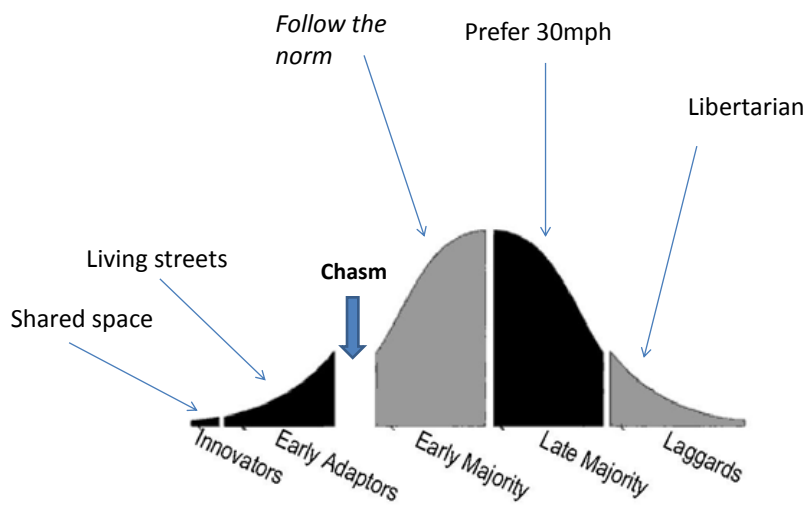
4.7. Diffusion of Innovations and ‘crossing the chasm’

We have already hypothesised that the population may be patterned within a normal distribution curve as shown in Figure 1. In this section we examine the interface between early adopters and pragmatists in a little more detail. One thing we noticed in our primary research was the (often) sharp differences between early adopters and pragmatists in terms of awareness, knowledge, and intended behaviour. Early adopters were typically very knowledgeable, not just about the existence of 20 mph limits but about their benefits and about the transport policies underpinning them. At the extreme, this knowledge would extend to the benefits of fringe groups/ideas such as Living Streets (a movement to promote urban space for non-car use), and Shared Space (the radical removal of ‘street furniture’ to encourage mutual use of all space in urban settings). Early adopters were also more likely to discuss issues, and to communicate and influence each other. This echoed a similar effect observed by one of the authors in earlier work: a focus group effect was observed where people’s opinion shifted in favour of 20mph through discussion amongst themselves (Musselwhite et al., 2010).

In contrast to champions, pragmatists, while potentially compliant with a new speed limit, had little or no interest in lower speed limits. Their main concern was typically to ‘fit in’ with what they saw as the societal norm. Opponents, meanwhile, differed from both champions and pragmatists. Some opponents just could not see the point of 20mph limits, arguing that 30mph did the job perfectly well. Others, on the fringe, argued from a libertarian standpoint that people should be free to choose their own speed according to their own judgement. That champions might be viewed as an ‘outsider’ belonging to a particular pro-environmental, anti-car identity and culture which may in fact be a deterrent for a pragmatist to adopt the new norms of 20mph. Pragmatists need to identify with some of the people in the champion group for the crossing the chasm to occur.

These observations have been mapped onto a variant of Rogers’ model shown in Figure 2.

Figure 2: Applying Moore’s ‘chasm’ idea to driver types for 20mph speed limits



The 'Crossing the Chasm' model may be applicable to the kind of 'step-jumps' in behaviour that would typify what is required for pragmatists to adjust their driving behaviours in the light of new 20mph limits. The model firstly suggests that enthusiasts and proponents of 20mph will *not* act as role models or influencers to the early majority or pragmatists. A more targeted approach is required, with potential 'champions' approached in one way, and 'pragmatists' in another way. Champions respond well to in depth communication of the benefits of 20mph limits. But for pragmatists the most compelling message may be a feeling that obeying 20mph limits is normal, that it is supported by the majority, and that most other drivers are happy to comply.

How these normative messages are communicated may be crucial. For 'champion' early adopters, campaigning organisations may be appropriate, but evangelical campaigners may be off-putting for risk averse mainstream audiences. Within the mainstream, specific groups may be easier to identify and to work with and may include new parents, learner drivers, driver clubs, motoring repair organisations and so on. These groups may be approached with well-crafted social norms campaigns that emphasise the new speed limit as 'normal' and a good idea from a safety point of view. This could play on the conservative, law abiding nature of the pragmatic majority. A key message may be that '20mph is the new legal maximum in these areas', that 'most people support 20mph limits' and that 'everyone should obey the law'. With regards to using fear appraisals, we contend that fear appraisals have little benefit in changing attitudes and compliance to 20mph areas,

especially for those in Western society who hold strong just world beliefs (the view that ultimately people get what they deserve) (see for example, Feinberg and Willer, 2011).

One other possibility would be to the deployment of the “hot-house” promotional approach that sprung from Moore’s work. An intensive combination of ‘soft measures’, of which public relations, social marketing and behavioural economics would all form important parts, placed alongside timed and co-ordinated police support could combine to create a ‘tipping point’ (Gladwell 2000) effect in which sufficient numbers complying with the new limits would outweigh the influence of any non-compliance, generating a virtuous cycle of copycat behaviour.

5. Conclusions

We asked in what way can social marketing make 20mph the new norm?’ Our review and findings suggest that there is little point in isolated and un-sustained interventions such as ‘nudge’ style in-situ campaigns. Changes amongst a few individuals may occur, but these tend to be temporary: normative pressures are too great and automatic driving habits too embedded. At the risk of stretching a metaphor somewhat, like gravity acting on a rocket that never quite reaches ‘escape velocity’, drivers subside back to previous behaviours. Such isolated initiatives therefore fail to generate critical mass amongst drivers as a whole. In order to create permanent change across the driver population, a ‘tipping point’ across sufficient drivers is required such that compliance with 20mph limits is the everyday norm of behaviour. Moore’s variant of the diffusion of innovations model suggests a variety of possible strategies to bring this about.

It is clear that more academic research is required to further justify and validate the use of the diffusion/chasm models. In turn, practitioners will be keen to amass an evidence base that identifies best practice in behaviour change interventions. With the current plans for 20mph limits reaching a crucial stage within the UK and 30kph limits plans across much of Europe, such work has assumed increased importance. The dangers of insufficient or inaccurate measures to support signs-only limits seem clear: it is important to avoid the spectre of 20mph limit areas becoming large scale ‘white elephants’, ignored by all but the hardened minority.

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