Road wars: contesting paradigms of road safety, public space and well-being
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With the ascension of Philip Hammond to Transport Secretary, the new coalition government declared their intention to end Labour's: *War on the motorist*. Calling for the raising of the maximum motorway speed limit to 80mph Hammond seems to prioritise the needs of motorists over other transport users. (Woolmar, 2011) Every year more than 3 million cars are added to the European car fleet. Total road, traffic, kilometres in urban areas are predicted to grow 40% by 2030 (European Commission, 2000). Our city streets witness growing tensions around road usage. Heaped flowers mark the fallen and road rage and transport modal interactions the battle. This chapter explores the paradigms that have emerged from participatory engagement with road space.

This chapter is informed by research I have conducted around road safety. Through engagement with communities and in particular young people living with high levels of child pedestrian injury on the streets in which they live I have learned to re-conceptualise my understanding of what is meant by road safety. My ideas evolved from several projects including an EU funded project which explored the consequences of health inequality and exclusion, and the socially creative strategies that have developed to challenge these inequities in Europe. In this research I highlight the growth in community engagement around attempts to establish car free spaces and times to support and develop healthier communities. (Kimberlee, et al, 2009)   Work exploring local governance and road safety (Lyons et al 2008); the evaluation of the Department for Transport's: Neighbourhood Road Safety Initiative, which promoted community engagement with road safety (Christie et al, 2010). An inner city road safety project that engaged young people in highway design to address high levels of child pedestrian injury in local, ethnically, diverse communities. (Kimberlee, 2008) It particularly draws on a presentation I made to the Parliamentary Council on Transport Safety (PACTS) in London in the fall of 2010. PACTS bought together engineers, community leaders, urban designers and road safety professionals to debate how to develop *Better, Safer Communities: the contribution from street design*. This chapter explicates my view that professionals have to respond to the changing participatory strategies evolving on our contested road spaces in cities if they wish to continue to address road safety and promote wellbeing.

The road safety paradigm
When thinking about public engagement, it is important to understand the different community and civic interests involved. This is true for road safety. In the UK passenger and pedestrian killed and seriously injured (KSI) rates have steadily declined since the introduction of local government road safety departments four decades ago. In 1967 the Department for Transport (DfT) published a key document: *Road safety - a fresh approach*. It was a response to growing concerns about high levels of death on the road. It prompted the establishment of a central road safety unit to co-ordinate a national programme of road safety policies to be delivered by local area units.

These new local road safety departments adopted a scientific approach. They were tasked with identifying accident and injury facts and implementing 'scientifically' based remedies. This approach dovetailed with the findings of the Buchanan Report (1963) which had recommended the separation of pedestrian and motorised transport modes in future urban planning and design. The unintended consequence of this separation was that it shifted travel risk from drivers to pedestrians by enhancing motorists' movement at the expense of public space ownership (Adams, 2005). Local authorities' implemented physical changes to the urban environment to ensure people and cars existed in separate spaces. Accident risk was reduced and safety enhanced through engineering solutions e.g. barriers, speed humps, pedestrian crossings etc. Within road safety and popular discourses 'accidents' with its connotations of being an unavoidable misfortune, enabled policy makers and communities to understand KSI at a local level as just an one-off event (Ogden, 1996: 45).

It's clear that these road safety policies, programs and measures have reduced the numbers and consequences of 'accidents', but they do not necessarily solve risk in communities. This realization is important, because it changes the focus from a problem that will go away if we devote enough resources to it, to a situation requiring on-going management. This management of accidents requires continued scientific analysis and remedies ensuring that safety resources are well-spent and effective. To Johnstone (2009) this approach ensures the dominance and mobility of cars and accidents, death and trauma are simply seen as an externality to be managed by local authorities and public emergency services.

Road traffic fatality remains a major cause of death within the UK; particularly for young people. However, as the table below suggests; since the adoption of the road safety paradigm and the development of road safety units there has been a large reduction in road death. Success is largely seen as an outcome of hard work by road safety professionals and their partnerships with emergency services like the police.

Figure 1: Deaths on Great Britain's roads

Thousands

All road users

Pedestrians
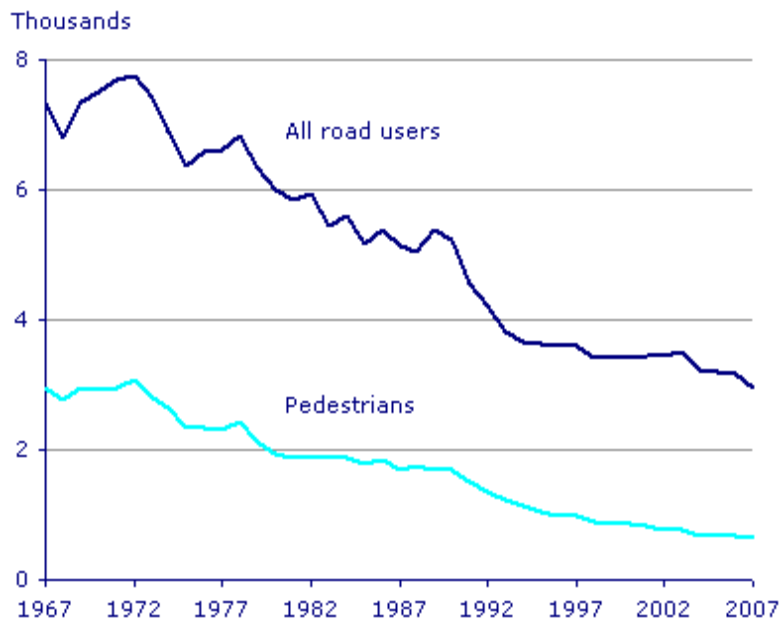
Clearly other technological improvements (safer cars) and safety measures (e.g. compulsory seat belt wearing) have also contributed to this reduction in death rates; but, according to a former Minister of Transport governments need to continue to encourage investment in improved highway engineering, as it is clear that such schemes are continuing to reduce casualties at a relatively low cost (Clark, 2009).

In 2007, 646 pedestrians were killed in road accidents in Great Britain; this was 22% of all deaths from road accidents, a 78% decrease from 40 years ago when pedestrian fatalities were 2,964. However, the number of fatalities has remained fairly constant over the last ten years. Nearly half (49%) of people killed in road accidents were car users in 2007. Pedal cyclists and motor cyclists represent 5% and 20% of those killed respectively. The decline in the casualty rate, which takes into account the volume of traffic on the roads, has been much steeper. In 1967 there were 199 casualties per 100 million vehicle kilometres. By 2007 this declined to 48 per 100 million vehicle kilometres (ONS, 2009).

However there are large inequalities in road traffic injuries. It is the leading cause of death among children aged 5–14 years and official figures are believed to under estimate the extent of the problem (WHO, 2005). The DfT estimates that the average cost per seriously injured casualty on the roads is £178,160 and that the average cost per fatality is £1,585,510 (Child Accident Prevention Trust, 2012). The externalised cost of emotional and mental trauma and its impact on families and communities is probably inestimable (Wenham-Clarke, 2007). What is staggering about the UK KSI figures is that it is in the poorest communities where death and injury are worse. According to the Public Accounts Committee (2009) child pedestrians from the most deprived areas remain four times more likely to be killed or injured on the roads than those from the least deprived areas (PAC, 2009:5). Nearly one fifth of the people injured in road traffic crashes subsequently develop an acute stress reaction and one quarter display mental problems within the first year. Long-term mental disorders consist mainly of mood disorder (10% of cases), phobic anxiety

(20%) and post-traumatic stress disorder (11%), (WHO, 2005). The burden of injury varies; the problem is more acute among vulnerable road users like: pedestrians, cyclists, motorcyclists etc. (Jacobs et al., 2000) A recent UK study estimated that child pedestrians and cyclists from the most deprived neighbourhoods were in fact over 20 times at greater risk of death from road traffic accidents than more privileged children (WHO Europe, 2007). So the links to exclusion dynamics are clear, with international data linking child death and injury to poverty, single parenthood, low maternal education, low maternal age at birth, poor housing, weak family ties and parental drug or alcohol abuse (UNICEF, 2007: 1.16).

This persistent inequality in road deaths suggests there are limits to the road safety paradigm. It is clear poor neighbourhoods endure more involuntary injury than affluent areas. But they also endure more environmental threats and these persistent inequalities challenges the paradigm that we can simply get 'scientific based remedies' to solve injury and reach zero levels of death as envisaged in Sweden' *Vision Zero* road safety policy. It is recognised that poorer neighbourhoods now need to improve their health at a faster rate than the improvement trend for the population as a whole if their exclusion is to be addressed (Kunst et al., 2005). Their greater exposure to death and injury on the road ensures that these inequalities are maintained. But other lifestyle changes are being compounded by the road safety paradigm approach.

The ONS (2009) estimate only 48% of children walked to primary school in 2008, down from 62% in 1991. The main reasons parents' gave for accompanying their children to school were the danger of traffic (58%) and fear of assault or molestation (29%). Fear of traffic is also a powerful deterrent to allowing children to cycle to school or play outdoors, especially in deprived neighbourhoods (Institute of Public Policy Research, 2002). With children perceived as becoming more sedentary it is also known that childhood rates of obesity range from 10-20% in Northern Europe to 20-36% in Southern Europe, where the scale of the problem has been compared to that of the USA (Rigby and James, 2003: 7).

The problem is affecting adults. Europeans are developing sedentary lifestyles, becoming more dependent on motorised transport and ever more reliant on the consumption of processed food (Ogilvie and Hamlet, 2005: 11). Looking at the latest Active People Survey for England only 16.2% of adults aged 35-54 undertake 3 x 30 minutes of exercise every week. (Sport England, 2011) Half the population of the WHO (Europe) region were deemed to be insufficiently active to meet health recommendations, and the trend was towards less activity (Cavill et al., 2006: ii). Europe is at the crossroads on nutritional health. Obesity continues to escalate; which is seen as a pandemic with major economic as well as health consequences, increasing the burden of chronic non-communicable diseases (Rigby and James, 2003:4).

Increasing reliance on privatised motorised transportation is reducing the amount of time people spend physically active in public space. Our pavements and streets are contributing to a growing sense that non-motorised transport is a threat to health. It is leading to a withdrawal from participation in public spaces and contributing to environmental damage. Epidemiologists and public health specialists in the U.S. and U.K. estimate that up to 60,000 Americans and 10,000 UK citizens are killed annually as a result of particulate pollution

fumes from motorised vehicles, with young people being the most vulnerable to respiratory complaints like asthma (WHO, 2005).

The withdrawal from public space, fear of traffic and stranger danger are powerful deterrents to allowing children to cycle to school or play outdoors, especially in deprived neighbourhoods (Institute of Public Policy Research, 2002). Less exposure to road traffic and greater insulation from risk is an important contributor to the decline in road deaths. The scientific based remedies of road safety units contributes to withdrawal from space. With an increase in obesity and a decline in physical activity new challenges are emerging to question the road safety paradigm. Road safety and indeed health services per se have only a partial role to play in the determination of people's well-being. Contemporary solutions to inequalities in health are more likely to be discovered in neighbourhoods where local people understand and have insight into the exclusionary dynamics their communities face (Asthana and Halliday, 2006). Thus, the Audit Commission (2007) argued that local solutions involving community participation was the only way forward to promote road safety in the future. It is in the local sphere that challenging innovation has emerged to question motorised dominance of city spaces and the importance of well-being.

Although KSI rates have declined the road safety paradigm's failure to address other health and environmental issues stemming from increased car usage and sedentary lifestyles suggests it is limited in its understanding of what constitutes well-being. Well-being is about risk reduction in their paradigm. However WHO promote a vision of healthy neighbourhoods. Barton (2000) argues that by linking health and environment disciplines together we can begin to provide an alternate approach to understanding well-being in our neighbourhoods. Given that globalisation poses complex challenges, practical, participatory strategies to address exclusionary dynamics are increasingly likely to demand inter-disciplinary approaches which draw upon knowledge from a broad range of fields including: medicine, epidemiology, sociology, political sciences, environmental sciences and economics (European Commission, 2006).

Participatory innovation
In recent times the road safety paradigm has been challenged from: community responses to traffic encroachment; innovative and alternative designs to public space usage; social movement reaction to the problems posed by environmental degradation. These participative approaches question motorised dominance in urban areas and demand an alternate understanding of well-being. This chapter suggest the adoption of a transdisciplinarity approach to road safety. This requires a shift in the paradigm to meet the challenges being posed in public space by participatory practices of radical designers, road protestors and civil society. Particularly the latter, because through direct action some, local communities are learning to challenge the road safety paradigm by expressing their concerns around speed, congestion and environmental degradation.

The examples of innovation highlighted here represent important responses sometimes based on and networked into broader social movements that, like many in the post-Fordist world, are concerned with reproduction and consumption and not necessarily with production. Some are pan-European or even global in coverage, but they remain local in

impact and reflect real participation from local communities. Such innovation involve bottom-up creativity giving voice to groups that have not only been traditionally absent from the politico-administrative systems at the local and other institutional and spatial levels, but have never even been included in the state's evolution into its post-welfarist forms. They are groups that evolve in neighbourhood spaces and take on unique forms: they are resident action groups, critical mass cyclists and environmental campaigners. These people matter because their local neighbourhoods are often open, dynamic and adaptive systems that do not have simple cause-effect relationship with national or global drivers of economic, social or policy change (Blackman, 2006, 1).

Community responses to traffic encroachment;
Actor Network Theory (ANT) emphasises the role of creative, innovative, entrepreneurial individuals in science (Latour, 1987). However, it is not enough to have an inspiration, enrolling other individuals, institutions into participatory networks; is crucial to having new ideas accepted (Callon, 1986). Across Europe and in North America there are various innovative responses to traffic encroachment. Later we will be looking at individual engineers and artists, but crucially these have then been taken up by NGOs, local communities and in some cases accommodated by local government planning departments.

The Australian artist, social inventor and street philosopher, David Engwicht, invented the motor taming activities of the: Walking Bus and the Neighbourhood Pace Car. The former is known to thousands of school children across the UK. It promotes physical activity and sociability amongst young people, reduces school run traffic and protects the child from injury. Neighbourhood Pace Cars are little used in the UK. Schools in South Bristol tried them in 2005. Engwicht suggests these participatory strategies for movement empower people to calm traffic on their streets and around schools. Pace Car drivers set traffic speed by driving within the speed limit and displaying the official Pace Car stickers on their vehicles. They make public spaces safer for local children and adults to walk and cycle.

Anti-car community protests are increasing. In Flitton and Greenfield, Bedfordshire, Residents Against Traffic Speed have declared exhaustion from the effects of speeding traffic on their families. They formed an action committee to work to reduce excessive speed of HGV's (*especially through the night*). Local communities are using speed monitoring devices like 'Community Speedwatch' to track vehicles breaking speed limits while passing through communities. Ten local areas in Buckinghamshire saw volunteers use technology to monitor traffic. In 2003 an Oxford grandfather moved his front room and granddaughter into his residential street as a protest against rat running. The action is part of a broader Road Witch campaign which amongst other things organises Halloween DIY traffic calming measures. In 2010 in Chideock, Dorset; a 77 year old pensioner galvanised the local community to repeatedly activate a pelican crossing on the busy A35. Traffic jams were soon created and the pensioner was threatened with an ASBO. And, recently the BBC newsreader Alice Arnold won national praise for her efforts to tackle a litter lout when she saw a motorist throw a purple plastic bottle out of a car. She threw it back into the vehicle.

Shared Space
The challenge facing city urban planners and politicians is sometimes seen as balancing the demand for increasing personal mobility with the need to respect the environment and

quality of life. Some communities like Vauban, Freiberg in Germany have are carfree. (Melia, 2003) And given that analysis of international data on collision rates suggests that the frequency of vehicle and pedestrian/cyclist collisions declines with increases in the numbers of people walking and cycling at busy major intersections (Jacobsen, 2003) the Dutch engineer Hans Monderman developed ground-breaking shared space designs which challenged traditional traffic calming measures (used within the road safety paradigm) (Glaskin, 2004). Similar to Home Zones various schemes in the UK have been inspired through combinations of restricting density traffic, shared surfaces, pavement withdrawal, trees and planters (Hamilton-Baillie and Jones, 2005). These designs for urban centres necessitate drivers making eye contact with pedestrians to navigate space, forcing them to assume greater responsibility for safety and speed as people and bikes share all spaces.

Shared space schemes are not uncontroversial. Even though they seek to redress the balance between pedestrians and vehicles some groups contest its desirability. In Southend-on-Sea, Essex, in October 2011 protests against new shared space developments were led by blind and partially-sighted people. It included disabled people, older people and families with prams. It was organised by Jill Allen-King, chair of the European Blind Union's Commission on Mobility and Transport who warned that such developments breach the parts of the UN Convention on the Rights of Persons with Disabilities on accessibility. (Pring, 2011) In February 2012, London Mayor, Boris Johnson faced protestors at the official opening of the Exhibition Road shared space scheme in Kensington and Chelsea. And anti-shared space protestors in Coventry have their own facebook page (www.facebook.com/pages/End-Coventrys-Shared-Spaces-Experiment).

Neighbourhood responses to environmental degradation
In an increasingly post-industrial European society we recognise that city populations are threatened by global forms of pollution and the depletion of natural resources (Beck, 1992; Yearley, 1996). In the 1970s fossil fuel based industries and energy intensive transport systems were simply conceptualised as depleting natural resources. Today, re-conceptualisations see them, and the lifestyles they support, as posing threats to health and well-being through climate change (e.g. through increased risk of air pollution, drought, natural disasters etc). The road safety paradigm helped to minimise injury risk on roads by prioritising motorised transport in urban centres complementing the agreed assumption that people and cars should be separate.

The links between health and environment are increasingly recognised across WHO policy agendas. Key themes include the inter-related issues of: carbon emissions, climate change, energy futures, non-renewable resource usage, waste/pollution, environmental quality and biodiversity etc. The UN (2007) Intergovernmental Panel on Climate Change Report affirmed the broad scientific consensus that validates the view that human activity is responsible for global warming and this threatens people's well-being (Coote, 2006). Since the Stern Review (HM Treasury, 2006) climate change, and the need for sustained integrated policy action, remains a key concern that runs counter to the notion of car dependency.

Both government and neighbourhoods have therefore been seeking ways to improve physical and social spaces to reduce inequalities, promote low-carbon lifestyles and sustain people's well-being (Sustainable Development Commission, 2004; Department of Health, 2004). In neighbourhoods NGOs, social movements and local people are beginning to mobilize a wide range of resources to address environmental degradation. In so doing they valorise their own wellbeing in new ways. Because environmental problems are global in nature it has become important to people in local communities to make trans-national links. This can be seen in the Critical Mass (CM) movement. Using the internet, the CM movement has inspired thousands of people across the world to be physically involved in challenging car cultures and global warming impacts in our cities.

Bicycle designer George Bliss first used the phrase 'Critical Mass' to describe a new type of protest action for the bike-culture art documentary *Return to the Scorcher* (1992). Bliss observed in China bike flows at road intersections. A CM of cyclists builds up and halts the flow of cars, permitting them to undertake turns and manoeuvres from which they were previously excluded. Cyclists thereby gain the freedom to use the road while cars and other motorised traffic wait. *Bicycles are traffic too*, CM's rallying call. They attract participants wishing to express resistance symbolically. 'Music on the move' is a feature. Affiliated participants often include skateboarders and roller-bladers who relish the opportunity to reclaim the streets. CM events happen throughout the world on the first Friday of every month. In 2006, the Metropolitan police tried to declare London's CM ride illegal. Since losing that battle both initially and on appeal, the ride has operated independently. The court papers from the 2006 judgment reflect the changing CM attitudes. They cite the aims of some participants as 'getting our own back at motorists' and 'causing disruption'; more recent CM events are 'charm offensives' (Wright, 2011).

Deterring car use and promoting human-powered movement is an important consideration for health, environmental and social reasons. It has a direct impact on health in terms of air quality and traffic accidents, but it is also an important factor in terms of the design of urban areas which can directly affect city dwellers well-being. In the UK, road wars and challenges to motorised vehicles in urban areas is increasingly taking different and innovative forms. People are participating in new ways and challenging the post war consensus that had demanded order in space usage and the primacy of motorised vehicles on city roads. The road safety model that delivered separation of space and injury risk reduction around accident prevention is now facing challenges from participants with new conceptualisations as to what constitutes well-being and how they want to participate in public spaces. The cyclist Masser, anti-rat run campaigners, active pedestrians and urban planners are shaping and entering the road wars in new ways. Making UK road spaces not separated or shared space but contested spaces with daily battles being fought between motorists, pedestrians, cyclists and local communities.

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