Contributed Articles

Holistic road safety report released

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A 2010 report, *Towards a holistic framework for road safety,* prepared by researchers from the University of New South Wales with funding from the NRMA ACT Road Safety Trust, has recently been released [1]. While supportive of progressive initiatives such as Sweden's Vision Zero policy, the report argues for a broader paradigm shift for road safety, particularly drawing on new thinking in health and ecological sustainability. In essence, a deeper cultural shift is needed, using a broad holistic framework that extends beyond a narrow focus on drivers, vehicles and roads. The report addresses cross-disciplinary approaches for facilitating change. Below is the executive summary of the report, summarising its main themes and recommendations.

Executive summary

Increasingly in recent years, research and public policy has been pointing to the need for a paradigm shift in the way the Australian community deals with road safety. Professor Don Aitkin, Chairman of the NRMA-ACT Road Safety Trust, has emphasised the need for a cultural change in relation to how people consider speed and the use of motor vehicles, in the same way that cultural shifts have occurred in relation to smoking and the issue of AIDS [2]. This research project sought to address the way in which road safety is perceived by the wider community and policymakers, and how it can be reframed using a holistic approach.

Given the almost universally acknowledged importance of speed as a major contributing factor in the number and severity of traffic crashes, a sub-theme is raised by the question: How can a holistic approach be applied in a way that reconnects road safety to communities that value social connectedness, quality of life and slower ways of being? A central assumption is that fundamental redesign of cultural arrangements is necessary in order to challenge the 'culture of speed' [3].

Current road safety programs and thinking are constructed within a paradigm that tends to accept existing cultural arrangements, especially in relation to mobility and travel. Typically, programs favouring symptomatic solutions and technical and/or physical solutions are pursued as a way forward. We agree with the assessments of those practitioners in the road safety field who consider that large potential gains in road safety depend not on technical fixes, but on changes in social norms – that is, in changes in social values, awareness, attitudes and behaviour [4, 5].

This, of course, does not mean that technical innovations such as intelligent speed adaptation (ISA) and pedestrian avoidance technology are not valuable additions for road safety. The range of current car safety features and those under development also includes, for example, electronic stability control, adaptive cruise control, ABS brakes, various kinds of airbags, fatigue monitoring and warning systems, lane departure warning systems and so on.

Supporting the value of such technical innovations is the finding that the crashworthiness of new cars registered in Australia has improved progressively during the period 1983 to 2006 [6]. On the other hand, such technical approaches are still car-centric in orientation, and the term 'risks of safety' has been used to describe the often-repeated pattern of the actual drop in fatalities not living up to the hopes of various safety devices [7, p. 262]. That is, technical improvements are likely to be weakened by behavioural responses that allow motorists to trade off safety benefits as performance benefits.

Recent critiques suggest the need for a much wider cultural change than is implied, for example, by just developing public education programs to change community attitudes to speeding. The combination of two major global issues – peak oil and climate change – is increasingly likely to affect transport and travel behaviour. Popular books such as *In praise of slow* by Carl Honoré [8] question whether speed, busyness, and 'saving time' should be the hallmarks of modern life. The current report therefore addresses questions such as the following: What is the nature of the cultural shift that is required to overcome death and injury on Australia's roads? How can such a cultural shift be facilitated, both institutionally and in communities?

In the ACT, the Government has expressed a commitment to achieving a cultural shift in order to reduce deaths and injuries on its roads. It is exploring whether the Swedish Government's 'Vision zero' policy could be implemented in the ACT in the years ahead.

Our research leads to the following recommendations, which have important social, environmental and economic benefits from their uptake. The recommendations are relevant to the ACT, and more generally to road safety in Australia:

Recommendation 1 on broader understanding of the huge cost of traffic crashes

We recommend that road safety agencies more effectively communicate the enormity of the problem of road deaths and injuries to both policy makers and the community. The annual economic cost of road crashes in Australia needs to be updated using appropriate measures and the collection of relevant data.

A fresh understanding of the enormity of the problem of road deaths and injuries is required at both policy and community levels. The annual economic cost of road crashes in Australia was conservatively estimated to be at least $18 billion in 2005 [9, p. 8], which is of a similar order to the annual defence budget. A commensurate level of political leadership, support and funding is required to address the cost issue. Complacency and lack of understanding of the size of the problem is also lacking at the community level.

Recommendation 2 on the value of the Swedish Vision Zero approach

The adoption of 'Vision zero' approaches by the ACT and other governments in Australia is supported. Successful implementation will require broad public understanding and involvement for successful cultural change.

Approaches such as the Swedish Vision Zero approach [10] provide a useful model for advancing road safety by adopting a proactive and preventive approach, with the goal that no person be killed or seriously injured for life in road traffic. In Australia, transport systems are not designed on the basis of human tolerance, but instead on what are considered to be safe speeds for motor vehicles.

Using Vision Zero principles such as setting speed limits in accord with the human body's tolerance against external violence enables speed to be considered in a new light by policy makers, road engineers, vehicle manufacturers and people driving vehicles.

So far in the ACT, the discussion surrounding the adoption of a Vision Zero approach has been very positive. Implementation of a Vision Zero approach requires broad public and stakeholder engagement in the vision in order that understanding of the principles involved is integral to cultural change, and to maximise commitment to such a vision.

Recommendation 3 on the deeper questioning of cultural priorities and the value of mobility management for road safety

The questioning of cultural priorities such as the spread of car-dependent lifestyles should be part of road safety policy. Mobility management strategies should become integral to road safety policy and practice. For example, access to goods, services and social opportunities should be considered, rather than mobility per se as the only option.

A distinction can be drawn between 'deep' sustainable change, which usually requires fundamental redesign of the systems involved, and 'shallow' compensatory change. For example, one critique of Vision Zero suggests that Sweden has done little to counter the spread of car-dependent lifestyles that result in more kilometres being driven [11, p. 25]. Mobility management (also called travel demand management) is currently not integral to road safety considerations. However, a strong case exists for mobility management strategies being of value in reducing overall crash risk, by reducing per capita vehicle travel (and hence exposure) [12]. That is, the *volume* of motorised traffic is a critical factor to consider in addition to speed.

Mobility management strategies are consistent with wider principles adopted for sustainable transport. These include access to goods, services and social opportunities, rather than mobility per se, and less movement of goods and services, for example, by appropriate urban design and access through telecommunications.

Recommendation 4 on vehicle manufacturers and slower, smaller and lighter vehicles

Vehicle manufacturers should be actively included in the process of developing Vision Zero and Safe System approaches, so that their role in producing safe vehicles and advertising responsibly is made clear.

To the extent that cars are still used, a strong case can be made on road safety and environmental grounds for slower, smaller and lighter cars [13, 14], in contrast with cars that are designed and marketed with an emphasis on speed and power. The increasing use of electric cars may offer an opportunity here.

Recommendation 5 on climate change, peak oil and links with road safety policy

Policy and practice in road safety should be integrated with policy and strategies addressing climate change and peak oil, as there are considerable synergies involved in regard to road transport.

The combination of two major global issues – peak oil and climate change – is increasingly likely to affect transport policy and travel behaviour. Climate change is generally considered to be a major sustainability emergency for humanity. With peak oil, there is significant risk of a crisis arriving before sufficient preventative action can take effect.

Efforts to cut greenhouse gas emissions from transport are linked to the reduction of single-person car use for urban trips, investment in world-class public transport systems, and the

design and redesign of local neighbourhoods [15, 16]. There is also evidence for the management of driving speeds as an effective carbon abatement policy [17]. In the ACT, separate roundtables convened on road safety and sustainable transport should be considered as having overlapping agendas.

Recommendation 6 on encouraging a shift to active modes of transport

Findings from behavioural science on understanding behaviour change need to be used to facilitate the shift to non-motorised modes, given a range of behavioural and practical constraints. Infrastructural and other policies are also needed to facilitate the shift.

Recent public policy reports on road safety, and those on climate change and peak oil, typically encourage a shift away from default car use to walking and cycling, as well as to public transport. The multiple health, environmental, economic, transport and community liveability benefits of active travel are now well established [18]. However, behavioural and infrastructural issues need to be addressed to facilitate a shift to active travel. The need for redesign is exemplified by the Gehl report for Central Sydney [19]. It concluded that the city is not geared to the needs of pedestrians and is dominated by cars. There needs to be a reorientation of road space and road rules to give pedestrians priority over motor vehicles.

More generally for public transport, increased funding is needed to address the requirements of effective public transport such as service quality (frequency of service, ease of interchange, comfort and safety), integrated timetabling and route planning, as well as responsiveness to customer needs.

Recommendation 7 on community programs significant for road safety

Much greater attention and support should be given to community travel behaviour change initiatives by policy makers. TravelSmart travel behaviour change programs and Walking School Bus (WSB) programs have significant value for road safety and deserve to be expanded.

Currently, community programs are typically rated as being of low effectiveness in the range of possible speed management programs, as in the Global Road Safety Partnership's 2008 *Speed management: A road safety manual for decision-makers and practitioners* [20]. 'Soft' transport policy measures that encourage voluntary behaviour change unfortunately do not yet have mainstream status.

TravelSmart travel behaviour change programs have significant value for road safety and deserve to be expanded. Their advantages include modal shifts and reduced car use, and involvement by a high proportion of participants contacted in the target population. Professor Peter Newman suggests that the importance of the TravelSmart program in bringing about a transition to more resilient cities should not be underestimated [21, p. 111]. In the TravelSmart Belconnen project run in 2006-2007, car travel was reduced by 12.7%, in terms of vehicle kilometres travelled [22]. This is significant in road safety terms when travel demand management is accepted as a valid road safety objective.

Walking School Bus programs have multiple social, health and safety benefits, including addressing obesity and low fitness levels in children, promoting child pedestrian and road safety, the development of social and community networks, environmental improvements, and encouraging sustainable travel choices [23, 24]. The outcomes from our research on WSB in the ACT support other research on the benefits of the Walking School Bus. However, the discussions also highlighted the need for much better funding, marketing and support if this approach is to be more than a marginal approach to road safety.

Travel behaviour change programs are, of course, greatly facilitated by infrastructure spending on walking, cycling and public transport.

Recommendation 8 on whole-of-community change and integrative management

A separate Office of Road Safety in the ACT with a budget and staffing commensurate with the costs of road crashes to the community is recommended. Such an office should adopt a holistic and whole-of-government approach that extends beyond a narrow focus on road safety to include a wide range of fields and skills relevant to road safety, including health, environment, sustainable transport, planning, behavioural change and education. The same approach deserves to be applied more broadly in Australia, given the enormous cost of road crashes in Australia.

Recent road safety inquiries in the UK recommended that a high level body or independent road safety commission be established to work across the whole of government to integrate efforts from fields such as health, environment, sustainable transport and behavioural change [25, 26]. The complexity of the cultural change required with respect to road safety points to the value of holistically oriented management systems in facilitating whole-of-community change. 'Vision zero' approaches need to be integrated with a common vision for a sustainable transport system developed in conjunction with energy, transport, health, environment and education agencies.

With respect to organisational direction and integrative management, policies can frequently fail if responsibility is shared among too many players. A study discussed in our report, namely *Halving roadway fatalities: A case study from Victoria, Australia 1989-2004,* provides useful lessons in terms of 'success factors' for organisational effectiveness in relation to road safety [27]. The value of influential 'champions' to create political and community saliency for more fundamental change in relation to road safety was underlined.

There could be value in having a network of ACT champions for road safety, in addition to the road safety roundtable already convened. Chief Minister Jon Stanhope has championed the Vision Zero idea for the ACT, and significant others championing road safety objectives from other areas, including health, environment and police, could form part of a champions network to facilitate cultural change.

Recommendation 9 on promoting slower ways of being and civility in society

For a wider cultural shift, greater attention should be given to the Slow City movement – an ecological and humanistic response favouring local, traditional cultures, a relaxed pace of life and conviviality [28]. Time costs shape travel choices and behaviour and should be addressed as part of wider policies to facilitate road safety.

In discussing such priorities, David Engwicht refers to the 'Great Civility Outbreak' – a cultural revolution in which it becomes the social norm to be 'civilized' and 'a good citizen' [29]. So-called 'time pressure' is emerging as a modern malaise, with implications for people's driving behaviour on the roads, as borne out by surveys by the insurance company AAMI on the increasing prevalence of road rage [30].

Time costs also shape travel choices. Organisational practices related to flexitime and telework, for example, are relevant. Although the issue of time may seem too hard or complex, and outside the scope of environmental and public health policy, the need for a deeper cultural shift suggests that time as an issue should be addressed as part of road safety policy. The work of Dr Lyndall Strazdins, National Centre for Epidemiology and Population Health at the Australian National University, considers the issue of 'time' and its relevance for a range of policy considerations [31].

Availability of the report

An electronic copy of the report can be downloaded from the NRMA – ACT Road Safety Trust website at http://www.roadsafetytrust.org.au/c/rtt?a=da&did=1004593. For a hard copy of the report, email Associate Professor Paul Tranter at p.tranter@adfa.edu.au with a postal address.

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