Municipal Engineers Foundation Victoria Study Tour Report 2007

Mature Driver Behaviour Change Programmes in the United States of America, Sweden, Denmark & the Netherlands

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Executive Summary

Road safety is often described as comprising of three areas: the vehicle, the road environment, and the road user. In recent years the Australian emphasis has been on improving the road environment, and the safety of the vehicle. Improvements to the road user contribution to the toll are usually expressed either as enforcement programmes, or education programmes.

Road user programmes are typically based on provision of information through media campaigns. Recently in Victoria a programme has been developed to challenge the preconceptions of young people about to embark on their driving career. Similar programmes aimed at changing attitudes and behaviours of mature drivers were sought.

This paper reviews the road safety philosophies, and specific practices used to achieve mature driver behaviour change in four countries: the USA; Sweden; Denmark and the Netherlands.

A number of new strategies have been developed.

Local Authorities and Research Groups visited

The Californian cities of San Mateo and Daly City, and the Texas Transport Institute were visited in the United States of America. In Sweden, the national peak transportation research body, VTI and the City of Gothenberg were visited. In Denmark, meetings were held with the Copenhagen City offices, officers of the Fredericksberg Council, the Danish Police, and the Danish Road Safety Council, and in the Netherlands, meetings were held with the peak Dutch road safety research group SWOV, and the regional council of ROV- Utrecht.

APWA Congress

The 2007 APWA congress was held in San Antonio, Texas. Over 6,000 attendees were provided with technical, professional and personal development sessions, and a choice of a number of workshops. The congress was supported by a large trade exposition.

Through the congress, opportunities were provided to interact with officers of Chula Vista, San Diego, California and an introduction to the principles of community based social marketing theory.

Conclusion

In order to make the next quantum leap in road safety improvements for our communities, road safety professionals must re-enage with the behavioural side of the road safety triangle. Local Government is best placed to implement such programmes through its powerful, and direct connections to communities.

The approaches to road safety varied greatly across the countries visited. An inspirational approach is considered to be the next level of improving road safety outcomes. This type of communication is not the engineering profession's usual technique, and requires the development of links to other professions.

Notwithstanding this significant change in approach, a number of local scale programmes are proposed which can be tailored using social research techniques to suit individual communities' concerns and needs.

Five recommendations are detailed to achieve these outcomes.

Executive Summary

Recommendations

Road safety professionals, including traffic engineers should:

1. Seek to inspire, as well as build.

2. Develop stronger links with Medical Professionals for improved behavioural Road Safety Outcomes.

3. Develop programmes to improve the community's knowledge of current road rules.

4. Develop driver peer to peer feedback into training programmes.

5. Develop programmes based on adult education theory for use with community groups.

6. Use focus groups to inform local programmes to overcome community resistance to road safety programmes.

Introduction

> *"What is a city made of? Dreams of glory, wonderful riches, active people struggling to get ahead, selfish people holding back, life and death, vices and virtues, all this in one place."*
>
> Joan Maragall, Catalan poet 1909.

You might rephrase the question – *What is traffic made of?* A text book response might refer to road users - including drivers, cyclists and pedestrians- vehicles of all types, and roads. But reflect on the answer above– it could be a description of road users. Traffic is not an inanimate mix of steel, concrete and asphalt. It is also seething collection of conflicting desires, wants and needs of the users.

Traffic sometimes feels like a life-form, an almost organic thing. So how do we describe it, and how do we work with it? Traffic lends itself to many models. As engineers, we are technical professionals. We are most comfortable responding to traffic in a predictable, mechanistic form. But consider light. It cannot be described by one model alone. Is light best understood as using the wave model? Or is light better understood through the particle model? Both models provide key insights into the properties and nature of light, but neither are the full story. Traffic can similarly be considered using more than one model, and this paper considers the models used in various countries to influence traffic behaviour, with a view to selecting an alternate model to achieve improved driver behaviour in Victoria.

Traffic is often controlled through the use of devices, which improve the road geometry and remove hazards from the travel zone. Other devices improve the safety of the vehicle for occupants, and some for those who might be struck by the vehicle. These two areas of the safety triangle provide the comfort of known measurable outcomes. It is believed that with care in design and construction it will be possible to create an environment which is safe for all vehicle occupants.

The road user (which will include cyclists and pedestrians, and also passengers) does not lend themselves to such confident management. Humans are unpredictable, and prone to be self-determining. What levers can be used to amend road user behaviour? Education? Enforcement? And are there any other options? The modelling of the driver is often managed through the highly concave lens of enforcement; education approaches are reserved for student drivers, perhaps recidivist offending drivers; and for the general population reliance is placed on the assumption that the provision of knowledge is enough to bring about behaviour change. It is understood that without knowledge, behaviour change is unlikely to occur, but it does not follow that knowledge alone is sufficient to create any outcome, let alone the desired change.

Is it possible that drivers, and other road users, are complicated, and that alternate models might allow for improvements in road user behaviour with benefits flowing to all?

Study Tour Overview

The Municipal Engineering Foundation Victoria 2007 study tour was undertaken between 6th and 24th September visiting the United States of America, Sweden, Denmark and the Netherlands. In the USA, the tour group visited San Francisco, and San Antonio, with attendance at the American Public Works Association international congress and exposition in San Antonio, Texas. The study tour then divided into two groups, with the traffic group visiting Linkoping and Gothenberg in Sweden, Copenhagen in Denmark, and The Haag, and Utrecht in the Netherlands.

In the USA, Sweden and the Netherlands, the study tour held discussions with research groups, and in the USA, Sweden, Denmark and the Netherlands also met with local government representatives to discuss the education practices used with experienced drivers.

2007 Tour participants were :

- Phil Warner, General Manager, Infrastructure, City of Whitehorse
- Mauro Covaccio, Special Projects Engineer, City of Wyndham
- Daniel Kollmorgen, Manager Traffic and Parking, City of Stonnington
- Jane Waldock, Customer Services Engineer, Manningham City Council

The group was led and supported by the MEFV's Robert Ward.

Phil Warner, Mauro Covacci,
Daniel Kollmorgen and Robert Ward

Section 1: Research Objectives

The 2007 study tour provided the participants with the opportunity to compare and contrast attitudes, programs and interventions being undertaken in four countries concerning the education of drivers to improve the driver/human contributions to the number and severity of vehicle crashes.

In particular this report looks at the different education visions espoused at national and state government levels, and the practical application of these visions at local government levels. It is local government which most frequently attempts to connect with residents.

This report identifies what learnings might be built upon in Victoria to assist in the retention of the good ranking of Victoria, and Australia in vehicle crash data when compared to other nations.

It is recognised that the human element is one of a three-pronged approach which also allows for safer vehicles, and safer or more forgiving road environments. The emphasis of this report is the ability to create improved driver attitudes, behaviour and compliance with road laws to contribute to reduced fatal and serious injury road crashes.

Typically driver behaviour/education approaches around the world are based in early intervention, pre-licence programmes which might commence with children as young as 3 or 4 year olds, and through the use of mass media advertising aimed at the "mature" already licensed drivers.

All countries expressed a desire to find better ways to interact with already licensed drivers, and many were using similar approaches to those employed in Australia.

The more recent emphasis in Victoria has been to improve the road element of the infrastructure. This perspective has been strongly endorsed by the RACV who have adopted with enthusiasm the approach of classifying roads, to provide drivers with additional information about the risks of different roads. This is a potentially sophisticated tool, which can be used to assist road authorities in determining the priority order in which roads should be upgraded. Unfortunately, this approach is often only reported in short sound bites, and the message transmitted is more frequently understood as all roads should be upgraded to be class A roads.

A further view is that all reasonable gains in the area of education/driver contribution that can be made, have been made. Evidence to support this claim is usually quoted as the considerable investment made annually by the TAC in television, cinema and radio advertisements to remind drivers of the risks associated with fatigue, alcohol, drugs and speed. But evidence of expenditure is not the same as evidence of effectiveness.

In Section 2, by way of background, the road safety statistics for each nation visited are briefly laid out. Section 3 of this report reviews the overall policy context for road safety in each country. The practical applications of these policies are discussed in Section 4. In Section 5, other approaches to communication which were encountered during the study tour are discussed,

and in Section 6, conclusions are drawn for the study subject. Finally, in Section 7, the learnings and recommendations for possible application in Victoria and Australia are detailed.

Section 2: Key Road Safety Statistics

European nations have kept excellent records and undertaken detailed analyses of crash statistics for many years. (Refer to page 24 of Dutch traffic report). Perhaps due to population density, crash stats have been a profound information tool for countries such as the Netherlands, Sweden, and Denmark. Over the thirty years since 1975, the fatalities per 1,000,000 inhabitants have been reduced by approximately 63-73% in these nations to achieve respective fatality rates of 46, 49 and 61 fatalities per 1,000,000 inhabitants in 2005. A 70% reduction over the same period has been achieved in Australia, with a rate in 2005 of 80 fatalities per 1,000,000 inhabitants.

In the United States of America, a 29% reduction has been achieved. While there has been no attribution of this reduction to a specific set of interventions, it is possible that this reflects the younger car fleet age in the US, and the consequent higher benefit provided by more vehicles having higher safety features.

Table 1 shows the equivalent crash data of study tour nations and Australia.

Country	Fatalities per 1,000,000	Reduction since 1975
Australia	80	70%
Denmark	61	63%
Netherlands	46	73%
Sweden	49	66%
United States of America	147	29%

Table 1

Source: ATSB Monograph 9.

Australia's statistics can be further broken down by state as shown in Table 2.

State	Fatalities per 1,000,000	Fatalities per 10^8 vehicle km travelled
Australian Capital Territory	80	0.8
New South Wales	75	0.8
Northern Territory	270	3.4
South Australia	96	1.0
Queensland	83	0.7
Tasmania	105	1.0
Victoria	69	0.7
Western Australia	81	0.8

Source: ATSB Monograph 9.

Table 2

Victoria currently holds the most favourable record in Australia, a position which politicians, police, and road authorities strive aggressively to maintain.

Section 2: Key Road Safety Statistics

It is important to consider that the opportunities for improvement are becoming more difficult to achieve. The step improvements delivered by such innovations as mandatory seat belt wearing, reduced maximum legal blood alcohol limits, lowered speed limits in local streets, are unlikely to be replicated in future initiatives, which are likely to be more difficult and more expensive to implement and sustain.

The northern European countries and Australia have keenly observed each others' initiatives, seeking to adapt and adopt ideas as they are demonstrated successful in each place.

Section 3: Policy Context for Road Safety: Culture Vision and Targets

During the study tour, quite divergent approaches to the regulation of driver safety were observed. A spectrum was observed ranging from the paramountcy of individual rights at one end, (more strongly demonstrated in the USA) to one where impacts on the community are considered highest (more strongly demonstrated in European countries).

The Swedes in particular were extremely comfortable with the concept of having a vision. The Americans preferred to set a range of goals or targets. The difference in approaches is interesting to consider. Setting a vision is a bold strategy. Using the phrase "vision" is even bolder. The striking thing about "Vision Zero" is the confidence with which it is asserted. As one commentator noted, it is extremely hard to argue against Vision Zero – how can anyone *not* support the idea that there should be no deaths on the roads.

Yet this bold strategy is clearly understood by professionals as not meaning that there will be no deaths. One analysis undertaken in the UK noted that even if all proposed measures were fully implemented, there would still be deaths on the roads. The key thing about the use of Vision Zero is that it is simple to communicate, and that it is seen as a goal, but that it is not expected to be achieved. The approach is one of: set a high goal; work towards it; measure against past performance; and keep on trying. Failure is not defined by not achieving the goal, rather as having made no progress towards the goal. This is a very forgiving approach, which is reflected in the language used to describe the road system.

The Dutch have also identified a vision as their goal. As a point of differentiation, they have included the phrase "sustainable" to communicate that any gains in this area can be reversed without continuous effort. Successful road safety improvement requires continued diligence and attention.

Other countries' approaches are more pragmatically expressed. For instance, in the USA, the State of California has an extensive list of targets it is hoping to achieve. The list becomes almost self defeating. It is incredibly detailed, breaking down into individual factors and proposed acceptable number of fatalities and serious injury crashes. The Swedes might consider such an approach unacceptable as it clearly indicates that there is an acceptable number of deaths/injuries. Such a long list tends to allow for measurement which says we achieved 80% of our goals, but does not allow for simple communication to the general public. The data becomes confounding and obscures the simple objective of fewer road crashes.

Australia can be considered to be somewhere between these two cultural models. Here, there is a strong belief in the road user's right to drive, rather than it being seen as an expensive, albeit still highly desirable privilege. However, this is married with a willingness to submit to laws which might be considered restrictive of individual's rights and personal choices.

This paper explores how these visions and strategies are implemented in the USA and Europe - particularly in the area of driver contribution, and possible education approaches to positively reduce this contribution to the road toll.

Section 3: Policy Context for Road Safety: Culture Vision and Targets

3.1 Europe

Analysis of road fatalities has been undertaken around the world for decades, with the view that it is possible for societies, governments, and road authorities to reduce the number of people killed in vehicle related crashes. Sweden, and the Netherlands have long been considered leaders alongside Australia in efforts to reduce the number of fatalities.

3.1.1 Sweden

In 1997, Sweden passed the Road Traffic Safety Bill founded on *Vision Zero*. It represented a major shift in the way road safety interventions were considered. The premise of Vision Zero is that similar to other areas of public interaction such as air travel, it is not acceptable for road users to be at risk of death. As stated by Elvik and Amundsen:

> *Swedish road safety work is based on a refusal to accept human deaths or lifelong suffering as a result of road traffic.*

The Swedes describe Vision Zero as

> *"Rather than emphasising the responsibility of the road user alone, Vision Zero explicitly states that responsibility is shared both by the system designers and the road user.*
>
> *Sweden has become the recognised world leader in road safety policy. On October 9, 1997 the Road Traffic Safety Bill founded on "Vision Zero" was passed by a majority in the Swedish Parliament. It represents a paradigm shift in road traffic safety and is based on four principles:*
>
> - *ethics: human life and health are paramount and take priority over mobility and other objectives of the road traffic system;*
> - *responsibility: providers and regulators of the road traffic system share responsibility with users;*
> - *safety: road traffic systems should take account of human fallibility and minimize both the opportunities for errors and the harm done when they occur; and*
> - *mechanisms for change: providers and regulators must do their utmost to guarantee the safety of all citizens; they must cooperate with road users; and all three must be ready to change to achieve safety.*
>
> *VTI (Swedish Traffic Institute) website*

A striking commentary was provided by Whitelegg and Haq (2006), who stated that Vision Zero can be summarised as being founded upon "*the biomechanical tolerance of human beings.*" Vision Zero "*promotes a road system where the crash energy cannot exceed human tolerance...requires*

that no crash should be more severe that the tolerance of humans....Vision Zero is estimated to achieve a possible reduction in the number of fatalities by a quarter to on third over a ten year period."

This shift is important in ensuring that engineers look beyond the function of roads and vehicles as a mean of transport, and understand that vehicles and roads are also potentially places and tools which can contribute directly to human health outcomes. It is no longer acceptable to consider the possible adverse outcomes as the reasonable cost of movement of people and freight.

The emphasis in all these discussions is the increased recognition of the contribution of designers of vehicles and roads to road safety outcomes.

The necessary consequence of this increase in emphasis on these areas, is the commensurate reduction in the third element, being the contribution of the road user.

In a paper by Claes Tingvall and Narelle Howarth in 1999, the Swedish approach was explained:

> *The most important part of the vision and the meaning of 'Vision Zero' is that "no foreseeable accident should be more severe than the tolerance of the human in order not to receive an injury that causes long term health loss". If a virtually safe system is going to be designed, either the harmful event must be eliminated, or it should not reach the limit of the human tolerance. In the Vision Zero concept, it is assumed that accidents cannot be totally avoided, hence the basis for this concept is built around the human tolerance for mechanical forces.*

Tingvall and Horwath elaborate further:

> *Vision Zero also changes the emphasis in responsibility for road traffic safety. In all current road transport systems, the road user has almost total responsibility for safety. In most countries, there are general rules that the road user should behave in such a way that accidents are avoided. If an accident occurs, at least one road user has, by definition, broken the general rule and the legal system can therefore act.*
>
> *In contrast, Vision Zero explicitly states that the responsibility is shared by the system designers and the road user:*
>
> *"1. The designers of the system are always ultimately responsible for the design, operation and use of the road transport system and thereby responsible for the level of safety within the entire system.*
>
> *2. Road users are responsible for following the rules for using the road transport system set by the system designers.*

> *3. If road users fail to obey these rules due to lack of knowledge, acceptance or ability, or if injuries occur, the system designers are required to take necessary further steps to counteract people being killed or seriously injured."*

Tingvall and Horwath indicated that engagement with the road users could be achieved through the use the design of a "safe" way of using the road transport system, which might be implemented alongside corporate systems, such as ISO 9000 and 14000. Such a system has not yet been designed.

It is interesting to note that in 2006, Whitelegg reported an expert focus group opinion that road safety education has been downgraded in Swedish schools.

This approach is consistent with Vision Zero. The responsibility for safe road use outcomes has shifted from the humans, to the road and vehicle designers. The concept that individual road users may be able to assist in reducing the crash statistics, through making better choices is submerged beneath the more controllable and deliverable outcomes of altering vehicle and road design and construction.

While this shift in Sweden has occurred in practice, rather than through intent, it is also apparent in Australian road safety practice. This shift is re-inforced by the increased likelihood of legal challenge in the event of a crash, and allows the road user to disengage from the consequences of their use of behaviour. A disengaged community is less likely to exhibit better behaviour than an engaged one.

3.1.2 Denmark

The Danish Road Safety Plan is based on three "pillars" - safer roads, safer vehicles, and the use of new technologies to improve the interaction between road and vehicle. There is no pillar associated with the driver or road user.

In 2000 a new national action plan on road safety was launched by the Traffic Safety Commission. The main objective of this plan is to reduce the number of fatalities and serious injuries by 40 % in the period 2001-2012, compared to the base year 1998. The number of fatalities must be reduced to a maximum of 300 persons and the seriously injured to a maximum of 2,443 persons in 2012.

The Danish Ministry of Transport website states:

> *"Approximately 450 people are killed (2002: 459) (2001: 431) and 9000 injured (2002: 8820) (2001: 8456) every year on Danish roads. The main objective for traffic safety in Denmark is to reduce the number of fatal accidents and accidents with severely injured by at least 40% by the year 2012 compared to the year 1998.*
> *The action plan "Each Accident Is One Too Many" encourages municipalities and counties to focus on traffic safety work, including elaborating the local action plans for traffic safety.*

Section 3: Policy Context for Road Safety: Culture Vision and Targets

In 2001 Denmark adopted its "Every Accident is one too many" vision. The vision

> *"sets a course towards a future road system without any road accidents whatsoever and retains focus on preventative measures. Thus the objective of all initiative will be to prevent road accidents."*

The broad vision was underpinned by specific targets as follows:

- *The number of people killed or seriously injured on Danish roads must be reduced by at least 40 per cent during the next twelve years. The basis for calculations is 1998 statistics. This is to say that in 2012, the number of persons killed in traffic must not exceed 300, and the number of serious injuries must not exceed 2,443.*

While road user behaviour is not noted as a pillar of the plan, the Danish plan states the following:

- *The behaviour of individual road users is a decisive factor in most road accidents. If all drivers followed these three golden rules: observe the speed limit, fasten your seat belt, never drink and drive, we would experience an immediate reduction in the number of deaths in road accidents of at least 40 per cent.*

- *This entails allocation of more funds to more intensive national campaigns for road safety. Such campaigns must be forceful, direct, target specific, and systematic, and they must be repeated regularly – partly because the target group changes continually. Electronic media should also be used to a much greater extent that at present to communicate messages regarding individual road user behaviour.*

The Danish plan notes that it is necessary to maintain efforts in behavioural areas to ensure that old patterns such as the acceptance of drink driving do not become re-established.

Danish eSafteySupport.org web site

Road Safety Management Organisation

The Danish Commission on Road Safety has a central role in the development of road safety programmes. … The task of the Commission is to propose road safety initiatives to reduce the number of road accidents. To this end, the Commission shall:

** Set the overall central goals for road safety initiatives that can act as a signpost for efforts from other parties.*
** Inspire interested parties to enhance their efforts, and new players to implement initiatives to promote road safety.*

* *Monitor closely nationwide developments in road accidents and carry out regular assessments of road safety with a view to identify where there are needs for stronger initiatives.*
* *Identify new areas that require initiatives.*

Road safety programmes are financed mainly through the state budget and through local authority spending. Local authorities are free to decide how they arrange their decision making. One of the further objectives of the Danish Commission on Road Safety is to increase and intensify research efforts to support policy development, policy implementation, and evaluation. The Commission has identified the areas where more research is required where these are among:

* *Information Technology solutions and telematics.*
* *Impacts of changes in road user behaviour.*
* *Elderly road users and future traffic.*
* *Speed as accident factor.*
* *Passive safety, both for car occupants and vulnerable road users.*
* *Road safety factors.*
* *International research (ensure high degree of Danish participation in international research).*
* *Accident Investigation Board for road accidents.*

3.1.3 The Netherlands

The Dutch legislative context is described as follows on the eSafety website.

> *"The Dutch road safety policy centres on the concept of sustainable road safety. In the 1980's, the Dutch Ministry of Transport, Public Works and Water Management, set the following road safety targets: 50% fewer fatalities and 40% fewer hospital admissions resulting from road crashes by the year 2010 compared to 1986. In 1991, it became apparent that these targets would not be met if traditional policies were continued, even if the related activities would be intensified, and new, scientifically based and data-driven policy was developed with the aim to develop a sustainable and safe traffic system. This comprises an infrastructure that is adapted to road user capacities and limitations, safer road vehicles, and road users that are adequately trained, informed and – where necessary – controlled.*
>
> *"An intermediate fatality reduction rate was set at 25% for the year 2000 (compared to 1.527 fatalities in 1986). The number of killed persons on Dutch roads in 2000 was 1.082 (sic) (actual reduction of 29%). In 2001, the number of road fatalities dropped below 1.000(sic) (993 killed persons). The following national road safety plan was the Start-up Programme for 1998-2001, and regional road safety plans are being developed from the national plan. The next step will be to integrate a Long-term Road Safety Programme (MPV) into the Dutch National Traffic and Transport Plan (NVVP)."*

Section 3: Policy Context for Road Safety: Culture Vision and Targets

Since the early 1990's the Dutch Institute for Road Safety Research, SWOV has developed and promoted the concept of sustainable safety.

In 1998 the Dutch government passed the Traffic and Transport Plan Act which determined that lower governments (regional and municipal) draw up traffic and transport plans for their areas

The SWOV website (in part) explains:

> *"The goal of Sustainable Safety is to prevent (serious) crashes, and where this is not possible, to practically exclude the chances of severe injury. Therefore the human being is the point of departure: his physical vulnerability, but also what his capabilities and intentions (after all, it's people who make mistakes and don't always obey the rules). People breaking the law now and again is a new point of attention in Advancing Sustainable Safety.*
>
> *"Sustainable safety is an integral approach of (sic) the traffic system consisting of 'human' 'vehicle', and 'road'. Road and vehicle should be tuned to a person's capabilities, and need to provide protection. Education must prepare the human for the traffic risk, and finally he should be checked to see if he participates safely.*
>
> *"Sustainable Safety aims at road safety measures that intervene as early as possible in the chain from system design to ultimate traffic behaviour. This is necessary because it is the gaps in the traffic system that lead to unsafe behaviour, such as errors and offences, and can eventually lead to crashes. By intervening in the system as early as possible, unsafe actions are made minimally dependent on the individual road user's choices."*
>
> *In Sustainable Safety there are five main principles:*
>
> - Functionality *of roads,*
> - Homogeneity *of mass, speed, and direction,*
> - Recognizability *or* Predictability *of the road design and predictability of the road course and road user behaviour,*
> - Forgivingness *of the physical surroundings and socially between road users,*
> - State awareness *(sic) by the road user.*

The Dutch have placed considerable resources into improving the physical infrastructure, and to creating road environments that are fit for all users, not only vehicles. Great emphasis has been placed on the safety of pedestrians in residential areas, with the adoption of a 30 kph speed zone in all such areas. These speed zones are re-inforced with a high density of infrastructure to remind drivers of the desired speed, and the priority of pedestrians.

The first three areas involve signage and physical treatments to the road infrastructure to ensure maximise the survivability of the road system in the event that a road user should make an error (the fourth area).

The concept of state of awareness is elaborated as below.

> *State awareness refers to the capacity or possibility of the road user to correctly estimate his own fitness to drive. This means that he must know which skills he possesses and if they are sufficient to drive safely. Road users should also know themselves if they are, temporarily, unfit to drive because of alcohol, stress, or fatigue.*

Of importance to the Dutch in their recent analysis is the notion of sustainability of outcomes. The relocation of crashes to other physical areas is not an acceptable solution, and they are now beginning to turn their attention again to the road user's part in the equation.

It is noted that a key point of differentiation between the Dutch and the Swedes is the inclusion of the word "sustainable" in the Dutch vision. This is emphasised to demonstrate that short lived outcomes are of little value to the community.

SWOV has identified five themes which are the main focus of traffic education. These are:

- Insufficient road safety problem awareness and low acceptance of Sustainable Safety measures;
- no or insufficient use of strategic safety considerations in traffic choices (vehicle choice, route choice);
- deliberate violations;
- incorrect and dangerous behavioural habits; and
- poorly prepared novices.

SWOV have researched the processes involved in learning, and make clear distinctions between what people can learn from being in traffic, and other subjects (such as driving speed) which cannot be clearly derived from the traffic itself. This latter class of subjects are the areas where there is most resistance from the general public. It is these areas, where individual's personal experiences and developed automatic behaviours present the greatest challenge to achieving improved behaviours. SWOV recommends that

> *"traffic education should change its focus from improving operational skill (eg. Vehicle control) to promoting the traffic insight which is crucial to safe road use."*

SWOV literature further notes that reliance on the school education system is insufficient to achieve the full results required. SWOV promotes the involvement of parents to strengthen behavioural routines acquired during formal lessons. However, SWOV does not specifically identify this as an opportunity for parents to revisit and perhaps self-assess their own driving practices.

SWOV literature identifies that pressures within school curriculum programs can result in inhomogeneous presentation of material, and that there is a risk that specific road safety expertise will diminish, unless formats are developed that are, and remain over time, attractive to both teachers and students.

SWOV considered the question whether *"... efforts to further improve the behaviour of the average road user can make a substantial contribution to road safety?"* and reflected that the five identified educational themes would *"give a new stimulus to traffic education in the Netherlands"*. It is not apparent that these themes are yet being implemented, however, it is clear that SWOV considers that the benefits to be achieved from working with the road using public are not exhausted, and recommend as part of the education process the inclusion of the public in *"thoughtful participation in public hearings which decide on infrastructure measures."*

3.2 United States of America

The politics and philosophies of independence and federation strongly underpin relationships between jurisdictions in the United States. The fiscal context is heavily regulated, but the power of devolution of control of taxation to local community levels does not create a context conducive to vision or programme success other than compliance with auditable budget outcomes.

3.2.1 California – Office of Traffic Safety

The mission of the California Office of Traffic Safety is to obtain and effectively administer traffic safety grant funds to reduce deaths, injuries and economic losses resulting from traffic related collisions. Their objective is to receive grants from the US federal authorities.

There is a clear distinction between local roads and state roads on the part of the local authorities. The local authorities have no authority over state roads, and so take no responsibility for any crashes or incidents on those roads. These roads are the responsibility of the State.

The overall objective is to reduce the "mileage death rate (MDR) from the 2002 rate of 1.27 fatalities per 100,000,000 vehicle miles of travel (VMT) to 1.0 by 2008. In 2006 the reported MDR rate was 1.31.

Some specific funded grants goals as follows have been established:

- To reduce the number of persons killed in alcohol-involved collisions five percent by September 30, 2007.
- To reduce the number of persons injured in alcohol-involved collisions six percent by September 30, 2007.
- To reduce hit and run fatal collisions five per cent by September 30, 2007.

- To reduce hit and run injury collisions five per cent by September 30, 2007.
- To reduce night-time (2100—259) fatal collisions five percent by September 30, 2007
- To reduce night-time (2100—259) injury collisions five percent by September 30, 2007; and
- To reduce Had Been Drinking (HBD) drivers under age 21 in fatal and injury collisions by five percent by September 30, 2007.

In the Impact Programs/Strategies area the goals identified are:

- Conduct interactive traffic safety rodeos and updated presentations targeting elementary, middle and high schools, and community groups
- Implement court diversion courses for children under 18 years of age, who are cited for violation of safety helmet compliance, pedestrian and bicycle laws.
- Actively promote safety helmet distribution and incentive programs, as well as enforcement
- Conduct aggressive public information and education campaigns for diverse markets.

3.2.2 Texas

TTI website:
The Center for Transportation Safety (CTS), within the Texas Transportation Institute, was established in 2001 by Texas Senate Bill 586 to conduct research, education, and technology transfer to assist the state in achieving the goal of reducing the overall fatality rate on Texas roadways. Through partnerships with federal and state government agencies and other privately owned organizations, the centre conducts innovative research to help reduce traffic crashes, deaths, and injuries and to lessen the economic burden of these crashes in Texas and the nation.

In Texas, the absence of any documented Road Safety Strategy, Road Safety Goals and Road Safety Plan, or similar government endorsed policy is disappointing as it reflects the lack of leadership from senior government.

Those organisations such as TTI which aim to improve road safety outcomes are heavily reliant on private sector funding. Researchers operate in a context where extreme caution is practices in order not to “bite the hand that feeds” them. The comparison to the breadth of research being undertaken and commitment to road safety in Europe could not be more stark.

Section 4: Local Government Application of Approaches

4.1 Europe

4.1.1 Gothenberg (Sweden)

Gothenberg is a city of approximately 450,000 people in the south-west of Sweden. It is Sweden's second largest city after Stockholm.

Gothenberg's road systems provide for trams, cars, buses, cyclists and pedestrians. Some streets in the CBD are car free; others are designated as locations where motorised vehicles must travel no faster than walking speed.

In suburban areas, the speed limit on local roads is 30kph, and the council uses novel signage to remind car drivers that pedestrians and cyclists are in the area, and that speeds should be lowered accordingly.

Traffic programmes in Gothenberg are based around implementing Vision Zero, with much emphasis on appropriate segregation of traffic streams. However, no specific mature driver education programmes are being implemented in Gothenberg.

4.1.2 Copenhagen/Fredericksberg (Denmark)

Copenhagen is a city of approximately 1,100,000 people. It is divided into smaller municipalities, including Fredericksberg.

Copenhagen's road systems provide for cars, buses, cyclists and pedestrians. Like Gothenberg, some streets of Copenhagen are car free, and Copenhagen has also piloted a larger car-free area on three separate days to demonstrate the benefits and viability to residents, workers, and traders of removing motorised vehicles from the traffic mix.

A significant number of Danes make use of cycles as part of their daily commuting practice. Some use two cycles: one at each end of a train leg of their travels.

Traffic programmes in Copenhagen are aimed at school students from 3 years of age to completion of high school.

However, no specific mature driver education programmes are being implemented in Copenhagen.

The Danish Road Safety Council education campaigns work at three levels. At national and regional levels, "Show and Tell" approaches are delivered using mass media. At local levels, the campaigns involve posters along the roads, events and demonstrations and dialogue.

Typically these campaigns provide information and promote awareness, rather than engaging the drivers directly. While the campaigns are creative, sometimes confronting, and receive strong feedback from the community,

much as the “Drink Drive : Bloody Idiot” campaign carried out in Victoria, they are still founded in the show and tell model. It is not a new approach.

4.1.3 ROV-Utrecht (The Netherlands)

ROV-Utrecht is a regional area, including the city of Utrecht with a population of 234,000 people.

SWOV state that on average 40-45% of drivers in the Netherlands exceed the posted speed limit. It is interesting to note that the proposed solutions to manage speed include establishment of safe and credible limits, with good speed limit information, but does not recommend any education processes to assist in improving compliance levels.

Considerable effort is made to educate Dutch children and youth from 3 years of age onwards to understand the responsibilities and risks of being a road user. As many Dutch people are keen cyclists, (perhaps encouraged by the high costs of acquiring a driver's licence) and continue cycling well past the ages when most Australians have allowed their bicycles to rust, it can be considered that the Dutch as a population are much more aware of pedestrians and cyclists as legitimate road users because most Dutch would readily make use of all three major modes of personal transport. This perhaps better informs the Dutch in their driving practice.

However, despite the considerable education effort aimed at the captive markets of school children, efforts to educate older already licensed drivers remain primarily marketing campaigns. Some of these campaigns are skilfully focussed on particular segments of the driving population, for example young drivers, but the success of the processes has been difficult to measure. There is a reliance on changes becoming manifest through the process of generational change: recently licensed drivers have had the benefit of extensive school based programs, and older drivers retire from driving. Active change of existing licensed drivers is a tough nut to crack.

ROV-Utrecht reported a program where young drivers are able to receive feedback from other young drivers. The concept behind this program is that feedback from peers is better received than feedback from parents. The program involves young drivers who do not know each other, and therefore have no relationships to put at risk. A driving instructor takes three learners out in a normal vehicle. One learner drives, the instructor is in the front passenger seat, the other learners are in the rear passenger seats. The passengers then provide feedback during the drive, and also after the drive. The learners take turns, and there is no written feedback.

This feedback process is part of a program where the learners also discuss alcohol, drugs and driving, and get to practice emergency stopping. Participation in the program incurs a small fee, and is optional.

4.2 United States of America

4.2.1 San Mateo (San Francisco)

The study tour members visited the City of San Mateo. San Mateo City has a population of 90,000 people, and is located on the San Francisco peninsula area, approximately 20 kilometres south of the San Francisco CBD.

Historically, there has been a low fatality record on local (San Mateo managed) roads. Council is not concerned with state roads which have much higher fatality records (no number cited). San Mateo council had approved a budget amount which was intended to cover traffic calming works for a twenty year period. However the allocation was expended in 5 years on capital works and related staff costs. No additional allocation has been sought or provided.

This gap in funding has forced the county officers to rely on prepared communications to manage resident traffic issues when they emerge. San Mateo officers have developed a traffic calming document. This booklet aims to inform the residents of traffic related issues, and acts to deflect issues before they become political.

Education projects are around the use of traffic calm equipment, some of which is permanently fixed in school neighbourhoods.

No mature driver education programmes were in place in San Mateo.

4.2.2 Daly City (San Francisco)

The study tour members visited Daly City. Daly City has a population of 100,000 people, and is located on the San Francisco peninsula area, immediately south of the San Francisco CBD.

Traffic programs are run through the Daly City Police Department. This provides a strong link between enforcement and education in the communities' mind. Programmes are currently focused on graduated licence presentations to high schools, and to parents of children attending elementary school, reminding them of the importance of child seats and seat belt wearing.

No mature driver education programmes were in place in Daly City.

4.2.3 Chula Vista (San Diego)

Information concerning the activities at Chula Vista was obtained at the APWA conference in San Antonio.

A community based programme was implemented in Chula Vista in response to an increase in fatalities.

The Chula Vista web site reports on their program as follows:

> *The Engineering and Police Departments are working together on a comprehensive program to reduce speeding by employing Engineering, Enforcement and Education efforts. These efforts include strategically placed posters throughout Chula Vista; informational brochures, in English and Spanish; along with bumper stickers and window clings that our Police Department distributes at community events, DUI checkpoints and special enforcement events. Brochures are also available in the lobby of the Public Services Building.*

The Chula Vista officers conducted detailed analysis of behavioural change as part of the programme. Two forms of survey were undertaken. Self reported behaviour change, as ascertained through an email survey indicated that 63% of people had slowed down. Unfortunately this impressive change was not reflected in the traffic count data which showed slower speeds at only three of 16 locations.

This optimistic self reporting is consistent with social marketing research which identifies that people are keen to be seen to conform to what is considered to be good behaviour, but that this is not necessarily what they actually are doing.

Nonetheless, it can be argued that the efforts made to engage the community were highly successful. If knowledge is the first step in behaviour change, then the foundations have been laid.

The education element of the Chula Vista programme involved simple messages which could be read quickly by passing drivers, and therefore had little context or information. Chula Vista officers commented that enforcement drives in the USA suffer from public perceptions that the objective is "about revenue raising, not safety" and commented that their programme achieved recognition but not acceptance.

The Chula Vista traffic safety campaign is further explained on its web site.

> *The Neighborhood Traffic Calming Program addresses specific neighborhood pedestrian, bicycle, and motorist safety concerns, with a high level of public involvement from the people that know the problem best: the neighborhood residents themselves. Through a series of public outreach meetings and surveys, the program's goal is to educate the neighborhood regarding the traffic calming tools available to the City and address the safety concerns using the tools most desired by the residents in the area.*

This approach is designed to work with communities who have expressed concerns about speeding on their local streets. As in Australia, it is recognised that most drivers in local streets are in fact residents of the area. Occasional visitors to an area are less likely to speed due to their unfamiliarity with the

area. The Chula Vista officers have designed the programme to assist residents to slow each other down.

A key element to community satisfaction in this area is the ownership by the community of meetings and decisions. Residents are likely to feel empowered by participation in Chula Vista's traffic calming committees, and this can lead to good community connectedness. How to translate this connectedness to other road users, outside of the resident's immediate community is the problem!

Section 5: Other Communication Approaches

As part of the study tour, I attended the American Public Works Association Convention held in San Antonio. Doug Mohr-McKenzie was a key note speaker, and also a workshop presenter. Dr Mohr-McKenzie is a director of the Canadian based Community Based Social Marketing consulting organisation, and has lectured extensively on its methodologies.

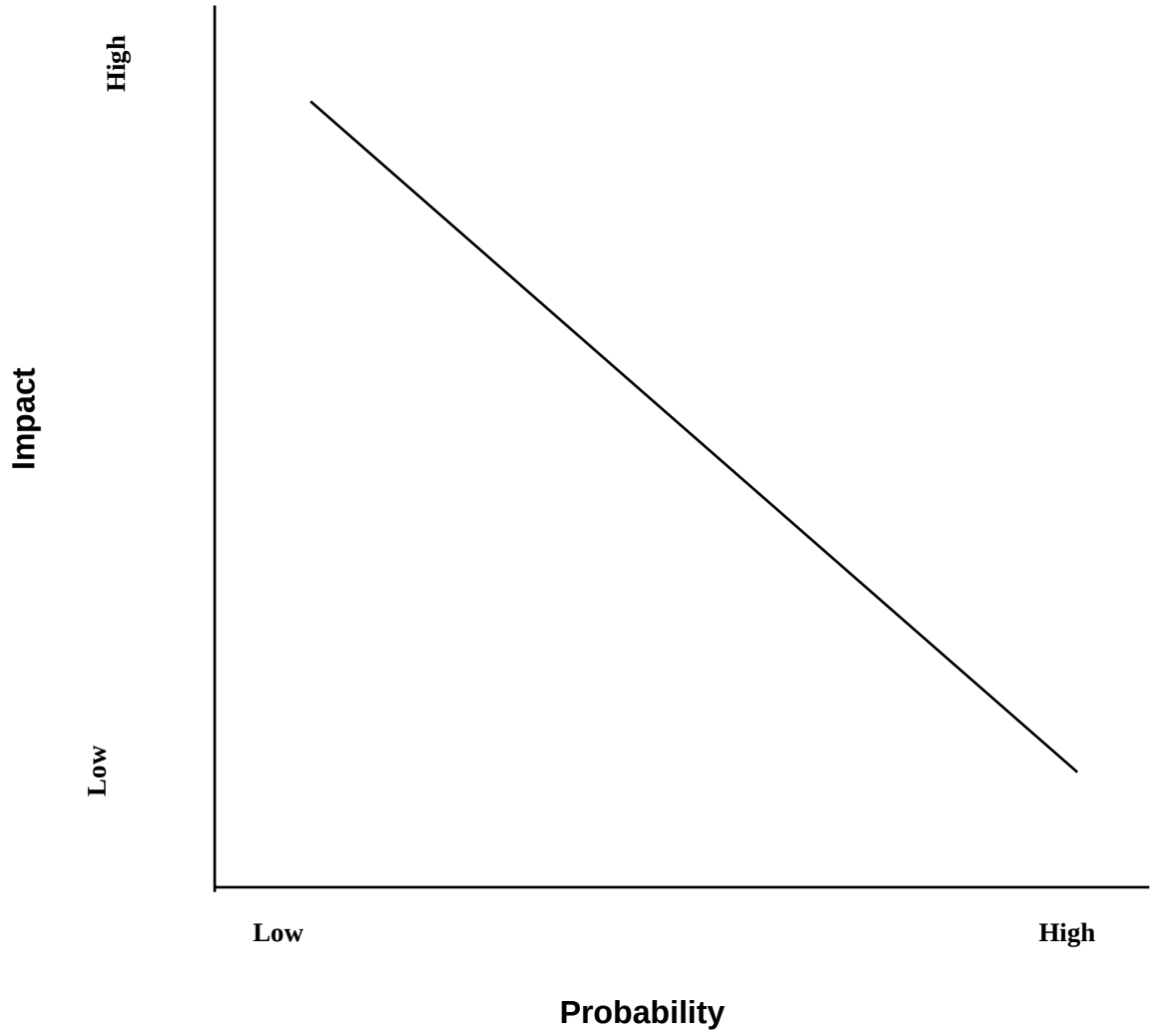
A meeting was held with the Texas Transport Institute's program manager, Dr Russell Henk who explained the basis for the Teens in the Driver's Seat programme aimed specifically at young drivers.

5.1 Community Based Social Marketing

Community-based social marketing draws heavily on research in social psychology which indicates that initiatives to promote behaviour change are often most effective when they are carried out at the community level and involve direct contact with people. The emergence of community-based social marketing over the last several years can be traced to a growing understanding that programs which rely heavily or exclusively on media advertising can be effective in creating public awareness and understanding of issues related to sustainability, but are limited in their ability to foster behaviour change.

The essence of social marketing is marketing by stealth! It is also strongly grounded in understanding your market. Do not attempt to lead the market further than it is willing to go, and furthermore, ensure that you understand what the real (as opposed to believed) barriers to change might be.

The social marketing analysis has developed the following simple chart:



Source: Doug Mohr-McKenzie –
Community Based Social Marketing, 2007

Figure 1: Impact - Probability Chart

The social change strategy recommended is that a change which is likely to have a higher "pick-up" with a lower impact is the best initial project to implement. Such a project will start the change, move the centre of gravity of the issue, and build to other, greater impact shifts later in time. This is consistent with the common wisdom that people who break one law are more likely to break other laws. The positive side of this is that those people who demonstrate a willingness to change, are open to the suggestion to adopt other changes.

A further key notion is that small changes are important. These can set the foundations for compounding action.

Further useful analysis came from considering the proposals which might be presented to the public. Typically traffic education is around discouraging poor behaviours, rather than encouraging good behaviours. We discourage speeding, driving when fatigued, or if under the influence of drugs or alcohol. These are strong areas for law enforcement co-operation. However, the social marketing information indicates that it is a good idea to encourage good behaviours, as there is no guarantee that people will select a better behaviour if they heed the "*don't*" message – they may chose another undesirable behaviour!

Social marketing has also identified that it is easier for people to adopt single action items which make them feel better (eg installing a water tank) than to maintain repetition of options. The latter of course is the preferred outcome. We want people to reduce their consumption of water. When this comes to traffic behaviour, it again supports the difficulties that we are facing. We are hoping road users will adopt, and then maintain different better driving habits. We cannot offer a "feel good instant reward, only the long term, self monitored and perhaps "boring" good citizen award.

However, there is good news from the social marketing world. The power of peer pressure has been confirmed. An illustration of this is the story of the recycling bins. A family moved into a new area, and determined the programme for bin collection. Now this family was quite waste wise, they in fact adopted such good practices that it was not necessary to put out the recycle bin each collection period. This was observed by their neighbours who misunderstood the activities of the household, and after a while communicated to the family that they were considered to be a poor reflection on the local community – they were not doing their recycling share! It transpired that it was better to put your recycling bin out, even if it was half full (and presumably even if it had the wrong material in it...) rather than to not put the bin out at all.

This notion of norms is important for what we are considering with road user behaviour change. Norms as a psychological position are not actively considered by individuals. They are social constructions, and when it comes to sustainable change (eg in waste management) norms usually resist the desired change, making it more difficult.

Lastly, focus group work is important, but it must be undertaken with great care. People who participate in focus groups are rarely "typical" community members. Where it is possible to identify active and inactive participants, they should be separated in their own groups to obtain the most useful feedback. Questions should be devised to obtain the information you really need, not to get the information the participants think you want to get! Clearly stating a context such as "we know this isn't happening – what can we do to make it easier?" is one very useful strategy.

The main lesson from the social marketing sessions is that it is difficult, but not impossible to achieve change, and that it is vital to seek prompt and detailed feedback about the barriers, the proposed interventions, and to be extremely alert to the demographics of the focus groups.

Social Diffusion Theory is based on the adoption of new technology in a population. This is not new. What is new, is the application of social diffusion to non purchasing behaviours, such as sustainable practices, road use, areas of behaviour that are largely considered by the individual to be private.

5.2 Texas Transport Institute – Teens in the Drivers Seat

The "Teens in the Driver's Seat" programme has been designed to provide young Texans with a menu of options which can be used to design a unique programme for each school with the aim of alerting young drivers to the risks they face when they first obtain their driver's licence at the age of 16.

The emphasis of the process is on young people choosing what interests them, and what they believe will interest their peers. Each school can design its own program, allowing the participants to be in charge not only of the vehicle, but also of the education process.

This approach of empowering the young people is very much in keeping with the idea of individual choice having a high intrinsic value. The emphasis of the program is on the students themselves being interested in reducing the road toll, and being prepared to take action.

Section 6: Conclusions

In participating in this study tour I hoped that I would be able to tap into a rich seam of demonstrated good practice which I could adapt and utilise in Australia. Unfortunately this seam was not available.

Instead, I was fortunate to meet passionate individuals who are proud of the successes of past road safety campaigns, and are determined to continue to work to reduce the impacts of fatal and serious injury crashes on the community.

I have greatly appreciated the opportunity and time to consider the highly varied approaches adopted between the USA and Europe, to place our own Victorian and Australian practices into context. Further, I have been able to take time to imagine the next phase intervention to further significantly reduce the road toll in Victoria.

Community behavioural change, (with no commercial incentive) is a new field of academic inquiry, and its application by the engineering profession to road safety outcomes has scarcely entered the experimental stage. While specific interventions with demonstrated success were not identified, it was possible to synthesise the many conversations, observations and reflections to imagine a new approach to achieving road safety behaviour change.

Recommendations in this report vary in scale from modest to challenging, commensurate with study subject based on changing the behaviour of people.

Road user behaviour is part of how we live our lives, and contributes to how we define our relationship with the community every day, as drivers, passengers, pedestrians, or cyclists.

In order to make the next quantum leap in road safety improvements for our communities, both within and beyond the municipal boundary, is to re-engage with the behavioural leg of the safety triangle. Local government is best placed to implement such programmes through its powerful, direct connections to communities.

The importance of grass roots projects is vital. Small steps can deliver grand outcomes over time. Local Govt provides a fertile context within which to imagine, pilot and demonstrate innovation. The networks of local government engineers also allow successful campaigns to be copied, and amended to suit individual communities.

Section 7: Key Findings and Recommendations

The recommendations in this report are strongly predicated on interaction with the community. They require the time of a road safety or similar officer. Programmes can be developed as pilots, and then shared with others as their methodologies are tested and proven.

Some can be applied to the Australian local government context generally and with little additional assistance, needing only the courage to try something new; others require the development of strong relationships with other professional groups and organisations. The following key is used to identify these variations and assist with the interpretation of the recommendations.

Able to be piloted in Manningham or other local govt.	A recommendation that requires little lead-time or resources to put in place.

Scaleable to other municipalities through Roadsafe Inner East, etc	A recommendation that has the potential for application to a broader range of circumstances that those specific circumstances from which the recommendation is derived.
Suitable for media campaign	A recommendation that may be suitable for opening communications and seeding ideas in the wider community.
Requires political support and extensive networking effort	A recommendation that will require investment in relationship building, persistence and a longer time to be successful.
San Antonio/SWOV	A reference to a local authority/research group from which the recommendation is derived.

7.1 The USA and Northern Europe do not have innovative approaches for working with mature drivers.

The study tour provided an opportunity to consider and discuss with other professionals the practices used in other countries. It is evident that that each of the other countries visited is looking for new ways to engage with the community, and that there is close attention to programmes and initiatives undertaken in Australia, and particularly Victoria, which is considered by many to be a leader in road safety measures.

Education programmes for mature drivers are delivered through television, radio and print media and poster campaigns. No other mechanisms to educate or improve the behaviour of mature drivers were identified.

Nonetheless, a number of recommendations have been developed for consideration by local government and other road authorities throughout Australia in the area of mature driver education.

7.2 Road Safety strategies should be Inspiring

After review of the approaches used in several different countries ranging from visionary to pragmatic, and considering the "fit" of these approaches within Australian culture, it is considered that there are benefits to moving from the current education approach of information to one of inspiration.

The power of this approach lies in the simplicity of Sweden's Vision Zero: it can be readily understood by all members of the public, and it applies to every road user.

An inspirational approach can re-inforce positive behavioural attitudes, where they are practiced and be concurrent with enforcement approaches which discourage undesirable behaviours.

A strategy that relies on rational argument leaves room for individuals to claim exemption status due to their perceived superior driving skills, vehicle safety features, or other individual circumstances.

An inspirational approach will require a champion. A champion may function at a municipal, regional, state or greater level.

The adoption of a vision approach is challenging to the Australian psyche. As a nation we have our own mythology, which includes the "Tall Poppy" syndrome, and a distrust of authority. Nonetheless, there is a place for leadership in changing how Road Safety is communicated.

Leadership in road safety can be demonstrated at many levels of government from municipal programs and initiatives, to State and Federal programmes. Municipalities can create, and champion their own visions.

Recommendation 1:

Seek to inspire!		Able to be piloted in Manningham or other local govt.	✓	Sweden
		Scaleable to other municipalities through Roadsafe Inner East, etc	✓	
		Suitable for media campaign	✓	
		Requires political support and extensive networking effort		

7.3 Link to Medical Profession is important for Road Safety Outcomes

Engineering based road safety measures which emphasise the road and the vehicle, will deliver a reduction in possible road crash outcomes. These areas for improvement are well managed by the engineering profession at vehicle manufacturers, and road authorities. However, the driver component is not well managed by engineering professionals who are not trained in education, psychology, and marketing. These specific skills are used by public health practitioners when seeking to change behaviours associated with illnesses such as cardio vascular disease, obesity, and addiction.

A failure to deliver safe roads, vehicles and behaviours most often results in increased effort being required in the medical field – typically in hospitals.

In Northern Europe, safety professionals work with medical professionals to analyse crash data.

The medical profession is well versed in communicating messages to the general public, and is widely respected by the public. Engineers have a much lower "respect" rating from the general public, and are not well regarded as communicators.

The placement of traffic education roles within the engineering driven roads sector may not be the ideal location.

The medical profession has not recently been active in preventative road safety campaigns. It is considered that building links with the Australian College of General Practitioners and the Australian College of Surgeons might be a way forward to improve the educational outcomes with adults.

Recommendation 2:

Establish working relationship with medical profession to develop road safety as an adult education outcome.		Able to be piloted in Manningham or other local govt.	✓	Sweden Holland Denmark
		Scaleable to other municipalities through Roadsafe Inner East, etc	✓	
		Suitable for media campaign	✓	
		Requires political support and extensive networking effort	✓	

7.4 Develop Programmes based on Adult Education Theory for use in Community Groups

The education approaches used in most countries are designed for people aged 3 to 18 years of age. There are important differences between young people as learners and adults as learners.

Adult education theory is developing beyond knowledge acquisition to

Some key points of adult education have been summarised as follows by Malcolm S Knowles:

- As they mature adults tend to prefer self-direction.
- Adults' experiences are a rich resource for learning.
- Adults are aware of specific learning needs generated by real life events such as marriage, divorce, parenting, taking a new job, losing a job, and so on.
- Adults are competency based learners, meaning that they want to learn a skill or acquire knowledge that they can apply pragmatically to their immediate circumstances.

The above describes the process of learning, which is about knowledge acquisition. This is important to understand, but not the final goal which is referred to as transference.

Transference requires reinforcement to encourage correct modes of behaviour or performance. Reinforcement can be positive - applied to recognise and reward desirable behaviours - or negative - to make undesirable behaviours disappear.

Typically, negative reinforcement comes in the form of police intervention through targeted campaigns. But what other forms of reinforcement, especially positive reinforcement are available?

Positive reinforcement is a more subtle subject to tackle. This has the potential to be a very diverse and large project. Previous Victorian campaigns have included the "Drive Right" campaigns, and there is little information available on the success or otherwise f these programmes. Anecdotal information often discourages such programmes, with feedback such as "rewards" are considered t be too small and too random in their awarding, or open to improper interference or manipulation.

Care clearly needs to be taken in designing and marketing such programmes. Nevertheless, it is considered that there are immense gains to be made through well planned positive change programmes. The aim should be to spark conversation and community approval around preferred behaviours. One possible area for attention , which is a common subject of comment from motorists is knowledge of road rules.

Positive improvement is the knowledge of current road rules. Most drivers learn the road rules when obtaining their licence, but fail to keep abreast of amendments to road rules. Many adults only re-learn the road rules when their children obtain their L-plates. This might be a gap of twenty or more years.

Positive reinforcement might be used to actively encourage adult drivers to refamiliarise themselves with the road rules. Councils might lead by example by running road rules competitions for their staff. These competitions might over time be expanded to include local businesses and community groups.

Recommendation 3:

Improve community's knowledge of current road rules through refresher "tests" of road rules, eg Parents vs L-plater competitions at local high schools, or inter-departmental competition.		Able to be piloted in Manningham or other local govt.	✓	
		Scaleable to other municipalities through Roadsafe Inner East, etc	✓	
		Suitable for media campaign	✓	
		Requires political support and extensive networking effort		

7.5 Develop driver feedback into Driver Training Programs

The Dutch process of providing young L-Plate drivers with peer to peer feedback should be trialled. This will require the development with local driving eduction programmes such as METEC and Motorvate.

Recommendation 4:

Develop and trial young driver feedback programme similar to that used for learner drivers in the Netherlands. Commence with student groups participating in METEC and Motorvate programmes.		Able to be piloted in Manningham or other local govt.	✓	ROV-Utrecht
		Scaleable to other municipalities through Roadsafe Inner East, etc	✓	
		Suitable for media campaign	✓	
		Requires political support and extensive networking effort		

A peer to peer driving feedback could also be developed for mature drivers. The basis for participation could be to challenge drivers to invite objective feedback.

The programme could be piloted within Councils, commencing with COncil officers and then expanding the project to localbusinesses and community groups.

Recommendation 5:

Develop and trial mature driver peer to peer programme similar to that used for learner drivers in the Netherlands.		Able to be piloted in Manningham or other local govt.	✓	ROV-Utrecht
		Scaleable to other municipalities through Roadsafe Inner East, etc	✓	
		Suitable for media campaign	✓	
		Requires political support and extensive networking effort		

The peer to peer feedback system combined with the road rules re-test process can be used to establish "better driver" rankings for businesses, community groups, neighbourhoods etc.

7.6 Focus Groups might assist in understanding community resistance to road safety programmes.

Community Based Social Marketing principles indicate that a higher success level will be achieved where smaller objectives are set. Over time, a series of small successes can be converted to greater outcomes. Social marketing does not predict 100% uptake of concepts. However, it has great potential in re-inforcing positive behaviours.

CBSM works best with visible behaviours (eg waste management) within a community. Drivers often feel protected by their vehicles from detection. Many CBSM programs are aimed fundamentally at changing established behaviours. (eg: recycle more, use fewer plastic bags, compost organic waste).

TAC adverts, due to their context of utilising mass media, are open to rationalisation processes, where road users can differentiate their behaviour from that depicted in the advertisements, and so distance themselves from needing to attend to the message, and change their behaviours.

CBSM may identify locally applicable encouragement processes to reinforce desired behaviours. There are benefits in carefully targeted campaigns over

mass marketing campaigns. The Dutch have begun using specific marketing campaigns aimed at new drivers, and report good connection to the target group, but are yet to assess the effectiveness of the campaigns.

The use of much smaller, targeted focus groups is a key element to cbsm. Collection of data from the community, on a much more segmented basis, may assist in the development of more specific programmes with greater ability to result in changed behaviour.

Local government is ideally placed to run such sessions in the context of their own road safety plans, and to develop socially acceptable behavioural change programmes for their communities.

Community education processes typically focus on driving behaviour within residents' own neighbourhoods. This is usually in response to residents' perceptions of speed on their local streets.
Community based social marketing principles can be used to work with communities to lower speeding behaviour in their neighbourhoods.

It is considered that social marketing projects could be undertaken with small communities, to improve speed behaviour of residents in their local streets. The focus of the trials would be the behaviour element of drivers, rather than the road configuration. This could be undertaken in areas which have recently been provided with physical changes, to optimise the participation rate.

Recommendation 6:

Use social marketing practices with residents to reduce speeding in their local area.		Able to be piloted in Manningham or other local govt.	✓	CBSM
		Scaleable to other municipalities through Roadsafe Inner East, etc	✓	
		Suitable for media campaign	✓	
		Requires political support and extensive networking effort		

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