

20. REPORT ON TRAFINZ CONFERENCE 2004

Officer responsible	Author Chairman, Sustainable Transport and Utilities Committee
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The purpose of this report is to report back to the Committee on the TRAFINZ Conference held in Napier from 18 to 21 July and attended by Councillor Stonhill and myself.

DETAILS ON THE CONFERENCE

The TRAFINZ Conference 2004 was entitled “Launching a Safety Focus” and its subject was Road Safety and how to reduce the death and injury toll in New Zealand.

SUBJECTS COVERED

There were 25 different presenters and the general format of presentation, sometimes followed by questions, persisted until the closing session that was somewhat more interactive. This report highlights some key speakers and major themes and give the general flavour of the conference. Therefore the following sections are to be read as a précis, not exact quotations.

Key Themes

- Death and serious injury is not acceptable in other systems (workplace, air, rail) so why accept them in our roading transport system?
- NZ Road Safety Culture needs to develop further.
- Systems design - engineering and obstacle reduction can effectively reduce severity of crashes by designing for human frame and activity.
- Around pedestrians and cyclists, vehicle speed is best kept to 30kph.
- There are many technical advances available that are not mandated here by law nor encouraged by procurement policies.
- The NZTS five key objectives offer a more integrated approach to transport but potentially reduce focus on road safety.

Presentation Highlights

Thomas Carlsson, Media Director from the **Swedish Nations Road Safety Agency** was inspirational. He spoke of the ethical and humanist dimensions to road safety. Accepting some level of road death as a trade off with efficiency or mobility (in its narrower sense of moving more people and goods faster in private vehicles) is unacceptable. His agency promotes Vision Zero – the aim that nobody who sticks to the rules (drugs, speed, attention) will die or be seriously injured. It is an independent umbrella group advocating for Road Safety from a wide range of viewpoints. It aims to move public opinion, corporate response and legislative change towards Vision Zero and all the components of getting there.

Vision Zero *“is an achievable objective not a naïve utopia dreamed up by Road Safety fundamentalists in a cold northern country”*. We have an obligation to use knowledge, financial resources and technical systems in this cause.

The road transport system is the most unforgiving modern system – human error is punished by death. It is a gigantic international public health problem with 1.3 million fatalities globally per annum, let alone the serious injuries.

Instead of trying to adapt people to the infrastructure and blaming the victims, the human system must be the measure for our design – the transport system must be adapted to the weakest users – illustrated by a picture of a child in a car seat. Incidentally he showed analysis that suggests children need to sit in child seats and facing backwards much later than we regulate for. He suggested rules should be based on a height of 140cm. I discovered that the NZ seatbelt law doesn't apply if there are more people in a car than there are seatbelts. We must lobby to change this!

Swedish central and local government has a large fleet procurement role and uses it wisely to insist on safety measures in its own fleet and its suppliers and contractors.

Technical innovation included alcolocks (so you have to breath test yourself before the ignition will start), intelligent speed adaption – warnings, increased stiffness of the accelerator etc when entering a lower speed zone or getting too close to an object in front, connecting GPS, on-car cameras and computers and the car's acceleration and braking systems.

On a lower-tech note, wire median and side barriers were described as very effective for reducing impact of both head-on and run-off crashes. The 3 lane rural roads (2 + 1) were described as comparably safe and efficient as a traditional 4 lane motorway but far cheaper to build.

Swedish taxi and bus drivers must wear seatbelts.

To achieve Vision Zero for pedestrians and cyclists, their environment needs to be slow speed – around 30kph. This needs design and engineering to work effectively, not only signage and bylaws.

Paul Hambleton is a New Zealander living in Sweden who gave an interesting perspective on Vision Zero. Swedish cities already have 30% lower death rate than NZ cities.

He believes that NZ institutions don't take sufficient responsibility for injury crash prevention, preferring to blame the driver and/or the victim.

At current rates, more will die on NZ roads between 2003 and 2010 than during the Gallipoli campaign. He contends that while crashes may happen, serious and fatal crash conditions can be predicted and prevented by speed controllers.

To relate the transport system to quality of life will mean reducing the speed of vehicles, the severity of crashes and their emissions – three very compatible outcomes.

Research done by Guunar Carlsson at NTF shows that the optimal economic speed, taking all costs into account, is less than for the minimum legal journey time.

Physics and biology dictate the speed principles that humans can't usually survive impacts of more than 70 kph frontal impact in a car, 50 kph side impact or 30 kph as a pedestrian.

Dr Sam Charlton, senior lecturer in Psychology at the **University of Waikato**

Sam challenged the view of drivers as alert attentive agents. He gave evidence to back up that common feeling of *"I was on autopilot going home – I have no idea whether there's a new house at X and I forgot to post Y and I hope the traffic lights at Z were green."*

It's often said that 90% of crashes can be attributed to human error. However, there's usually no single cause. The advantage of blaming the driver is that the authorities don't have to spend so much money on engineering a more forgiving roading environment.

He described the process of driving as a circle from **P**erceptions of the Environment through **D**ecisions based on Knowledge through to **A**ctions performed with **S**kills. In ordinary driving conditions, about 10,000 PDA cycles are performed an hour. In demanding traffic, that number rises to 20,000.

We steer where we look – *"I hope I don't hit that power pole!"* may be many people's last thought – young fast drivers often hit them incredibly symmetrically.

Dr Charlton showed pictures of how dramatically the visual field narrows as speed increases from 40 through to 80 kph, which is why victims or objects are often just not seen. This channelised attention means that whatever knowledge or skills exist, they may not be applied because a danger was never spotted.

With practice, some aspects of driving become automatic. The PDA cycle is combined into a single loop that may not respond to changed situations eg, *"I'm on the home run now, so I'll think about what to cook for dinner"* rather than adjusting for dark or rainy conditions.

He divided driver error as contributing to crashes into three categories:

- Mistakes (includes learner drivers);
- Slips (includes inattention due to cell-phone use); and
- Violations (includes underestimating the danger and overestimating skills so going too fast).

Inattention causes more injury crashes than alcohol, speed and fatigue combined.

The best response is not always the obvious one – for example a bend sign with a posted limit below it is much less effective in slowing people down than a chevron marking, although the stated recall for drivers seeing them is similar. Warnings and threshold treatments need to be fairly close to the hazards and continuing visual clues or they can make the situation worse. Clear sightlines are not always the safest arrangement at intersections, which may be counter-intuitive.

He also made the point that it's not ethically acceptable or morally responsible to avoid doing anything about the road safety issue. *"We need to decide we're not willing to trade lives for dollars"*.

Professor Ian Johnstone, director **Monash University Accident Research Centre**, started by pointing out that every motorised nation has improved its road safety but further progress is increasingly difficult. Benchmarking NZ internationally is too simplistic – differences in topography, density etc make it very difficult.

He introduced a recurring conversation about Road Safety Culture – how does a nation move away from "Speed is cool" and the notion that speed limits or technical interventions remove individual rights and freedoms? Attendees probably generally agreed that more freedoms are removed from crash victims by excess speed.

Ian is pleased that NZ has moved away from total reliance on the Benefit Cost Ratio since it overemphasised motorised journey time above all other considerations.

We are not considering the increase in commercial traffic (twice the rate of the private car) and increasing mass in transport policy and planning. He also thinks a standard open road speed, irrespective of safety differences such as median strips or barriers and roadside obstacles, is ridiculous.

Local authorities' priorities, reflected in their spending, are still about protecting the road asset through structural maintenance, corridor maintenance and new construction. Safety retrofits, safety management systems, audits and minor safety improvements incur far less expenditure.

An idea he promotes is to use new speedometers with 50 at 9 o'clock, 70 at 12 o'clock and 90 at 3 o'clock, going up into a red zone over 110. He believes that this would make speed much easier to see and encourage drivers not to speed. These types are available and could be required for public sector fleets, for example, vehicle manufacturers still mostly sell on speed and power.

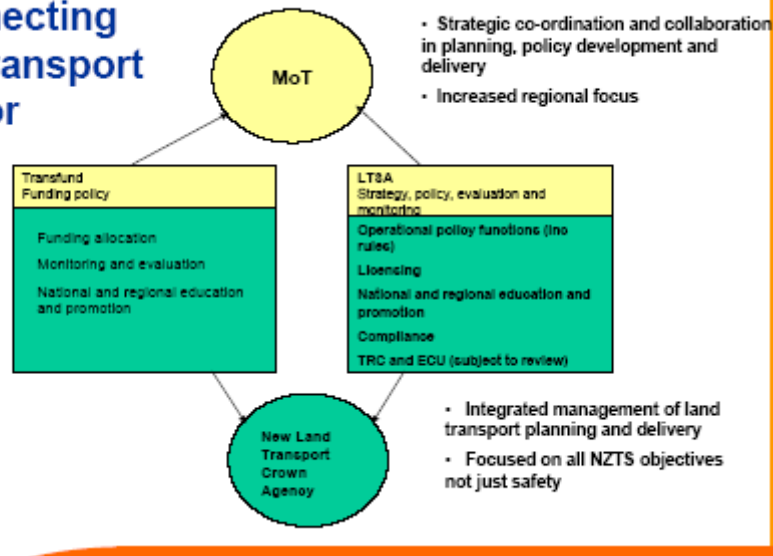
Professor Johnstone noted that with the widely publicised tolerances, the actual urban speed limit in NZ towns and cities is 60 kph and 110 kph on the open road.

NZ Transport Policy Session

Several government agencies described the forthcoming transport sector changes. Essentially three organisations; Ministry of Transport, Land Transport Safety Authority and Transfund, merge into two – the MoT with an increased policy and strategy role and a new agency. This is intended to increase collaboration across the sector in attaining the NZTS goals and is the subject of the Land Transport Amendment Bill. **Wayne Donnelly** from Transfund was most convincing in his grasp of the new Transport context, emphasising the role of Travel Demand Management and greater use of public transport, walking and cycling in urban areas. **Donna Goodwin** from EECA shared some interesting information about travel to school journeys, attitudinal surveys and possible solutions to the public health issues posed by inactivity. EECA has a strong mandate for transport modal shift since 42% of New Zealand energy usage is in the Transport Sector.

There is now an associate Minister of Transport, with a focus on safety - Harry Duynhoven.

Connecting the transport sector



There were many other items of interest and important points that I lack room to cover in depth here, including:

- **Benita Cairns, Injury Prevention Coordinator at Kahungunu Executive** introduced a resource kit including a short film “Shattered Dreams” about Tamati Paul’s injury in a crash caused by a drunk driver and the huge difficulties it caused him and his family.
- **Lyndon Hammond, LTSA**, introduced the **Pedestrian Network Planning and Facilities Design Guide** that is being produced by LTSA and other agencies, including wide consultation with a reference group.
- **Paul Hillier, Transport Research Laboratory**, demonstrated an amazing 3D virtual modelling tool that was developed to enable better data to be captured at a crash site together with faster road reopening. Then it could be examined, with more or less photo-realism, from all sorts of different perspectives. It also has potential application over a wide range of other Council areas from safety audits, safer roads designs and even resource consent processes.
- **Rob Robinson, NZ Police Commissioner**, spoke movingly about a colleague’s death in a road crash. I was pleased to hear his strong commitment to traffic enforcement in order to reduce the road toll.
- **Glen Koorey**, well known to us all, civil engineer and lecturer at **Canterbury University**, focussed on how the injury rates for pedestrians and cyclists are not improving, especially given their decline in modal share. He advocates a road danger reduction approach. He showed evidence to back up the commonsense “safety in numbers” idea – if drivers don’t expect to see pedestrians then they may not react appropriately, A road danger reduction approach addresses the actual concerns not being purely data driven, This can be very effective in encouraging walking and cycling since the perceived barrier is reduced. This is consistent with our WCC Safer Roads project.

This implies that it is NOT necessarily dangerous to encourage more people to walk and cycle even if the facilities are not yet ideal.

He described a UK five step treatment hierarchy for existing roads where pedestrians and cyclists are to be encouraged, catered for and made safer:

- Reduce traffic volumes
- Reduce traffic speed
- Intersection treatments
- Reallocation of space in the roading corridor and only if other four can’t be done
- Create separate facilities off the main road corridor.

MATERIAL FOR CIRCULATION

There were considerable volumes of technical data, information about projects and notice of the inaugural NZ Walking Conference in November 2004. Many of the handouts are either too detailed for a committee paper or available via the following websites: www.hardingconsultants.co.nz/trafinz2004 for TRAFINZ programme and all presentations will be added there as PDFs. These are quite resource hungry to download but are useful for detailed knowledge.

Unfortunately Ian Johnstone and Thomas Carlson's presentations are not yet available there.

More information on technical devices, generally known as Intelligent Transport Systems, can be found at <http://www.its-australia.com.au/> by choosing to download the handbook.

POSSIBLE ACTION FOR CHRISTCHURCH

The ideas raised at the conference could be communicated and, more implemented by the following actions as part of our work with the Metropolitan Christchurch Transport Strategy:

- Adopting "Vision Zero" for Christchurch.
- Fleet management changes regarding training, safety (models, additional devices e.g. alcohol, use of the non-standard speedo) and efficiency, incorporating "company cars" policy.
- Developing a travel plan for CCC as leadership model, supported by EECA.
- Support travel plan with other Council CCO's and the DHB, also supported by EECA.
- Continuing to progress Living Streets in urban areas, and more 40kph neighbourhoods where appropriate.

Chairman's

Recommendation: That the information be received.