Roundabout

Newsletter of the IPENZ Transportation Group

Issue 144 June 2015

Using GIS to Predict Curve Risk

Also in this edition: Invercargill Pedestrian Improvements Auckland Personalised Journey Planning New Plymouth School Travel Plans Christchurch Conference Review

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"Five-time MC Greg Ellis tried hard to explain why there were two Daleks on the stage throughout the conference."

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Roundabout is the newsletter of the IPENZ Transportation Group, published quarterly. It features topical articles and other relevant tidbits from the traffic engineering and transport planning world, as well as details on the latest happenings in the NZ transportation scene.

All contributions, including articles, letters to the editor, amusing traffic related images and anecdotes are welcome. Opinions expressed in Roundabout are not necessarily the opinion of the IPENZ Transportation Group or the editor, except the editorial of course.

Many thanks are due to Opus International Consultants, who sponsor the printing of Roundabout for those members who prefer to receive a hard copy.

Correspondence welcome, to Daniel Newcombe: <u>daniel.newcombe@aucklandtransport.govt.nz</u> or c/o Auckland Transport, Private Bag 92250, Auckland 1142

Roundabout is published around the 15th of March, June, September and December each year, and contributions are due by the 10th of each publication month.

A monthly Mini-Roundabout email update is circulated on the 15th of in-between months and contributions are due by the 12th of each month.

If somehow you have come to be reading Roundabout but aren't yet a member of the IPENZ Transportation Group, you are most welcome to join. Just fill in an application form, available from the Group website: <u>http://ipenz.org.nz/ipenztg/files/TGApp.pdf</u>

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Editorial



The country is consumed at the moment by the flag debate. Well, parts of it are. Some parts just like coming up with amusing flag designs.

Other than those frivolous elements, I've noticed a range of groups and spokespeople entering the national debate to promote their views and raise issues.

It has prompted me to once again ponder the role of the Transportation Group in national (or even regional) discussions on

transport matters. We are after all an all-encompassing group of technical specialists on transport matters.

When there is a proposed Road Rule change or transport funding decision, why do the media go to the AA or the 'Dog & Lemon' guy for comments rather than us? Are their views any more valuable or accurate than ours? They go to Traffinz occasionally but why not us?

Even if the Group found a spokesperson from the smaller membership group of public sector workers, would that person speak freely on a topic about government funding or would that potentially jeopardise their day-job?

It has been suggested that therefore the Group should choose a retired member as a spokesperson, as they are not encumbered by future employment risks. But a retired member is (presumably) away from the day-to-day business of the profession, so may struggle to represent the latest thinking of the industry.

"Why do the media go to the AA or the 'Dog & Lemon' guy for comments? Are their views any more valuable than ours?"

And can we ever get a collective view from our members on any topic? I often get annoyed when the AA makes representations on behalf of their members (including me as a long-time flat battery victim) in a way that doesn't represent my views.



I took part in the AA's recent member survey on the Auckland Council transport funding proposals. I found the questions to be very leading and didn't allow me to represent my views (For instance, I was keen to record that I was willing to pay more get better transport to services, but my choices for additional payments were capped at a fairly low level ("Surely no-one will want to pay more than \$2-3 extra per day, so let's not give them the choice.") so I had to record my views in the text instead. The subsequent survey results trumpeted that members weren't willing to pay much more, but to me this was clearly a misleading result).

Maybe we won't be able to overcome the hindrance of fairly representing our members until we reach the situation where the Group can justify/afford to pay a fulltime team – including a media spokesperson – and

I had thought that it was purely about communications strategies – getting well-known in the media, raising a profile – but more recently I have wondered whether our Group's membership is in fact part of the problem.

We are increasingly populated by consultants – nothing wrong with that, that's the way the market is heading – but these people will naturally be reluctant to speak out on a topic in case that view is contrary to that of a client.

they are paid to understand and then promote the Group's views.

Until that time, the best we can do is to allow various member views to be published in Roundabout - and I encourage a range of views - and keep an eye out for an eloquent member with a quick brain and broad knowledge, and shoulder-tap them to be a future spokesperson.

Daniel Newcombe Roundabout Editor

Deputy Chair's Chat



Conveniently, Pravin (aka Maximus those of you who attended the conference dinner will understand the reference) has disappeared on holiday, leaving me as Deputy Chair, or "Minimus" according to Greg Ellis the conference MC, to step up and write something intelligent here.

Unfortunately I couldn't think anything so I wrote this instead.

Pravin is leading the drive to build stronger ties with other professional organisations such as CILT and NZPI, and to hold joint events and share industry knowledge. Branch chairs will roll this out locally as well as maintain ties with the main IPENZ branches.

The Transportation group has a very low public profile and we are looking for ways of improving this, part of this will be linked to the IPENZ upgrade of their main website.

We are responsible for the content and maintenance of our area and we have been struggling with IT resource since last year.

We are seeking someone with web skills and some good ideas in graphic design to help here. Anyone with good marketing ideas should not be shy and all suggestions and offers to assist are

I felt that this year's conference in Christchurch was a great success, bringing back Glenda and her team and Greg Ellis as host.

Dowsett, Mike Jackett, Wayne King, Marten Oppenhuis, and Dave Petrie, who between them have 235 years of experience.

We will be once again calling for nomination for next year, although with a better lead time, so look out for this around Christmas.

A number of times the future of the conference has been brought into question due to its poor financial performance. This is primarily because of dwindling corporate and industry sponsorship and not because of lack of interest.

As far as I can tell there is no official sanction or requirement for it to make money, or even break even. It is the highlight of the group's calendar and I for one want to see it continue into the future.

This year we will be reviewing the Strategic Plan and developing a Code of Ethics. Currently only full members of IPENZ are bound by any form of Code and whilst we are an IPENZ technical

sub-group, many of our members are not and do not want to be full members of IPENZ. Further details will be circulated as this progresses throughout the coming month.

Over the last couple of months we have been asked about the supply of Side Thrust Gauges. Historically this was something that the Group administered but since the last few were sold a couple of years ago we no longer carry any stock.

We are not able to source and re-sell technical equipment due to financial and administrative issues so we can no longer offer this service. However we are happy to promote and advertise any organisation which can offer this service within New Zealand.

Looking at our membership, we have been static for the past six years, with a little over 1,100 members, which means either we have peaked or we simply don't offer the right thing to NZ's transport industry professionals.

A quick search for "transportation" on LinkedIn came up with 17,000 results for New Zealand so there are a lot of people out there who either aren't interested in us or don't know we exist.

The National Committee is working on initiatives to make the group more attractive to new members and maintain interest for the current membership.

All credit goes to Jeanette and the conference organising team. We had a good turn out and some really good presentations and debate. quality Congratulations go to Paul Durdin and the team at Abley for winning the coveted 3M prize.

Alan dances with delight at coming runner-up at a conference event.

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The best presentation I remember came from Daniel Newcombe who completely ignored his script and subject matter and gave an engaging and entertaining ad-lib performance.

This year we had the pleasure of awarding Life Membership to five of our distinguished colleagues; Barry

As a group made up of and representing our members, we are continually looking for ways to improve what we offer and how we offer it - so my question to you all is "do we offer what you want to see from the Transportation Group?" and I welcome any feedback.

Normal service will be resumed in September.

Alan Gregory National Committee Deputy Chair



Antwerp sets up special walking lanes for texters

It's part of a publicity stunt but, hey, who doesn't like a good publicity stunt?

People sending text messages in the centre of the Belgian city of Antwerp have been provided with dedicated temporary "text walking lanes" so that they do not collide with pedestrians.

The initiative - clearly a publicity stunt - is the brainchild of a smartphone store based in the city. It says that a significant number of mobile phone breakages happen because of "text walking" collisions.

There are now believed to be more mobile phones in the world than people. Figures released by mobile operators and associated companies show that there are about 7.5 billion mobiles in the world, compared to a world population estimated to be 7.2 billion by the US Census Bureau.

"You probably walk through the streets while texting or sending messages to your friends and don't really pay attention to your surroundings - only to whatever is happening on your screen," a spokesman for Mlab, a smart phone laboratory based in Antwerp, was quoted as saying.

"This causes collisions with poles or other pedestrians. You could, unknowingly, even be endangering your own life while you 'textwalk' when you cross the street without looking up."

Mlab describes itself as a concept store that carries out phone repairs, sells the latest gadgets or provides expert advice to phone users. Although the "text walking lanes" are temporary, officials say, there is a possibility they will become permanent.





Keep up to date with IPENZ Transportation Group happenings: www.ipenz.org.nz/ipenztg www.twitter.com/ipenztg www.facebook.com/ipenztg



Letters to the Editor

Dear Editor

Although I have been retired getting on towards 20 years, I look forward to each edition of Roundabout.

In the last issue, I noted an article about Marsha Bomar in A View From Afar. There was a photo of her sitting in a ship's funnel and in the text, reference to the street furniture in the Wynyard Quarter mimicking the elements of ships.

You might be interested to know how some traffic engineers became involved. In 1972, a group of 15 professionals were concerned about the lack of Heritage provisions in district plans and set up a charitable society called Landmark Inc. Landmark bought a couple of heritage buildings here in Auckland and over the years made submissions on and grants towards saving and promoting our heritage.

Graham Dickson (life member) was chairman for a number of years and Ross Rutherford its treasurer. On its winding up (which I had the dubious pleasure of presiding over) Landmark made a donation of \$500,000 to the Auckland Council who commissioned the waterfront sculpture of three groups of ship's ventilation shafts, designed by a Finnish consultancy in stainless steel.

Kind regards, David Chandler





Dear Editor

Loneliness and an aging population

One of the problems we face in responding to an aging population is that sometimes the costs sit in a different sector to the one that benefits. There is a wealth of evidence to suggest that walkable communities for example, with extensive networks of safe and accessible footpaths and road crossings, make for healthier people, both mentally and physically.

However, 'reducing loneliness' is not a key performance indicator for any Road Controlling Authority. Similarly, while

more walking improves health, and smoother footpaths reduce likelihood of falls, the health sector doesn't have an asphalt budget except within the hospital campus.

The government-convened, cross-sector Expert Panel on Cycling Safety came about because of a statistical blip; three cyclists happened to die within a few days of each other one year. The overall numbers of crashes that year was not out of the ordinary. For the last decade three to four times as many pedestrians have died on our roads each year than cyclists have. It appears that pedestrian crash causes are too complex, and the locations too random, for the issue to be addressed by local authorities in isolation.

These casualties are only a proportion of those people who make it out the door in the first place. Improving perception of safety for walking would improve participation by all people. Perhaps a series of conveniently clustered mobility scooter incidents will encourage the high level, cross-sector expert intervention that an aging population so urgently demands. The new Chief Science advisor to the Ministry of Social Development might be best placed to lead this initiative.

Regards Bridget Burdett (Originally published in The Listener magazine)



The 8th annual NZMUGS Conference will be held in Auckland on 10–11 September with the theme of 'The uncertain future – A focus on model predictions'.

The committee is now pleased to announce that the key note speaker will be Pilo Willumsen, who is an internationally recognised authority in transport and traffic modelling, based in the UK.

Also, the call for papers closed recently, and a wide range of abstracts was received. A draft programme will be released in the coming weeks.

Please email all enquiries to Bob Hu at Bob.Hu@beca.com with the subject line: '2015 NZMUGS Conference'. We also invite interest in sponsorship, please contact Bob directly for further information.



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SAVE THE DATE!

29 and 30 October 2015

The SNUG Committee and Chair Sean Lewis are pleased to announce advance notification to Roundabout readers of the 2015 Conference. This year the SNUG Committee has elected to hold the event in the Capital, Wellington, over two days on the 29th and 30th October 2015 at the Mac's Function Centre on the waterfront.

Following the hugely successful 2014 workshop held in Christchurch, the committee is keen to build on the level of enthusiasm, with even more insightful and thought provoking presentations from members and a strengthening of the social collaborations and networking seen at last year's conference.

SNUG is a subgroup of the IPENZ Transportation Group with the objective of bringing about the advancement of the fundamental knowledge of the art, science and practice of design, operation and maintenance of traffic signals. The field of Traffic Signals and Traffic System Control is moving forward rapidly and the SNUG workshop is an opportunity for traffic signal engineers, local authorities, traffic systems specialists, contractors, consultants and other practitioners to discuss current developments in Traffic Signals and Traffic System Control.

The conference is in development right now and further updates on call for papers, programme and registration will follow in the coming weeks. So start thinking about those remits and presentations now!

Organising Committee: Jeff Greenough, Sam Boone and Dan Marsh

SNUG Conference 2015 - Wellington 29 & 30 October



I was humbled, honoured and indeed very surprised to learn that I had won this year's **NZAA Award for Best Transportation Paper** at the IPENZ Transportation Group Conference 2015.

I say I was surprised because I was only writing about what really matters to me in my day to day work as a transportation engineer. And what does really matter to me? The acknowledgement and recognition of all modes of transport within our transport network. Trains, buses, heavy vehicles, cars, motorcyclists, mobility scooters, skateboarders, cyclists and last but certainly not least, pedestrians.

Pedestrians come in all shapes and sizes, age ranges, abilities and have varying degrees of confidence levels. These confidence levels are related to their individual make up and more importantly, the road environment they are in.

I concluded from my Masters Degree research into pedestrian behaviour at traffic signals globally and within the city of Invercargill that a small number of slower walking pedestrians were receiving insufficient 'red man flashing' time to cross the road before it extinguished.

These slower walking demographic groups include the elderly, disabled, young children and parents with younger children. These demographics can find the task of crossing wide, heavily trafficked roads very difficult. Many elderly choose to not venture outside their local neighbourhoods on foot. The physical and psychological barriers that many cities arterial routes pose to them are often too great.

Eldror et al (2012) concluded that elderly people need to be educated to the fact that they are not as fast walking across the road as they used to be. Many elderly persons studied correctly evaluated the road situation but underestimated the

time it would take them to cross. Young at heart but old in function. The mind knows what should be happening but the body doesn't want to conform.

Jackson (2014) suggests that Invercargill City Councils population is experiencing 'accelerated ageing' and should use this information to develop applicable and timely policies to cater for elderly persons in their strategic Long Term Planning process. Invercargill is not alone. Many other cities in New Zealand and globally are also faced with this 'ageing population' issue.

In 2013, I and a colleague, Brian Ward, hatched a 'cunning plan' which would provide our slower walking persons with more 'red man flashing' to cross the road. This would be realised by an extended push of the traffic signal button. We named the system the **Dual Pedestrian Clearance System** (**DPCS**) and begun the process of stakeholder engagement and consultation.

The DPCS is kiwi-made and kiwi-designed. Designed by the stakeholder group formed in Invercargill. A group that we are all very proud of. This stakeholder group consisted of a lot of pedestrian user groups. The engagement of these user groups at the very start of the project better ensured the success of the DPCS.

The group consisted of representatives from elected members of Council, NZ Police, Southland Deaf Community, The Blind Foundation, The Association of Blind Citizens, Southland Epilepsy, Disabled Persons Assembly, Disability Resources Centre, IDEA Services, Plunkett, Age Concern, Grey Power, Road Safety Southland, Te Runaka O Waihopai, ACC, Southern DHB, Hearing Southland, National Party MP, Automobile Association, CCS Disability Action, Parent to Parent and RCA Traffic Engineers. The group was formed to discuss the proposed system and recommend changes prior to the launch date of August 4, 2014. Workshops on 30 April and 10 July 2014 were convened. Outcomes from this process were the introduction of an audible message system and braille labels to assist blind persons and all persons unfamiliar with the system. Importantly, the DPCS was designed to be self-explaining.

The DPCS provides two distinct functions. Function 1 provides the normal status quo crossing functions. Function 2 provides a longer than normal 'red man flashing' period. This longer time is produced by an extended 3 second push of the signal button. The longer time allocated is based on a slower walking speed of 1.0m/sec.

The Austroads 2003 guideline currently recommends the use of 1.2m/sec walking speed to calculate the 'red man flashing' period. The 'red man flashing' period is simply calculated by dividing the crosswalk width by the walking speed rate.

For example, assume a crosswalk width of 24 metres. The DPCS Function 1 would provide a 'red man flashing' time of 20 seconds and a Function 2 'red man flashing' time of 24 seconds.

The walking speed rate of 1.0m/sec is what I have chosen as a slower walking speed rate. Pedestrian clearance times at rail level crossings use 1.0m/sec to calculate alarm warning times. Other jurisdictions may opt for an even slower walking speed rate or a slightly faster walking speed rate.

The safe amenity and accessibility of all pedestrians must be maintained at all times. It is our task as transport professionals, to ensure that.

This difference between the two Function times of four seconds does not sound like much. But for a slower walking person this time can mean the difference between being 4 to 5 metres from the far side kerb, to actually reaching the far side kerb when the red man flashing time expires.

Under current status quo conditions, this equates to being at least one lane width short of the safe pedestrian position, when the 'red man flashing' ends.

Does this additional four seconds reduce the efficiency of our signalised networks? A good question but does it really matter? In some instances longer 'red man flashing' periods are not going to produce additional vehicle delays.

The volume of opposing side road traffic interacting with pedestrians on the crosswalk and main road through traffic is in many instances sufficient to extend the vehicle green time past the termination of the pedestrian phase.

Simply put, at busy, wide signalised crosswalks the dominance of vehicle numbers usually dictates the total green time allocated to that phase.

Philosophically, if we as practitioners recognise that our slower walkers are not afforded enough time to cross the road at signalised crosswalks, then our focus and commitment should be spent on mitigating this problem.

If that intervention realises efficiency losses for that intersection and the total route, then that loss is justified. The safe amenity and accessibility of all pedestrians must be maintained at all times. It is our task as transport professionals, to ensure that.

Psychologically, this longer 'red man flashing' time can



provide a great boost to our slower walking person's confidence and personal wellbeing. This increased confidence can be the stimulus towards more healthier and accessible lifestyles as our slower walkers feel more in tune with their local community and city and walk more to their intended destinations. The ageing population issue is recognised and mitigated by the DPCS.

Operationally, a red LED activates on the pedestrian call unit and an audible 'be beep' sound emits to confirm that the longer 'red man flashing' period has been activated. Braille labels advising blind persons to 'hold for 3 sec' have been placed on the push buttons.

All pedestrians receive an audible message when they push the button. The audible message system advises them that a longer crossing time is available to them if they need it. Signage on the pole for all sighted persons conveys the same message.

Figures 1 and 2 (above) show the integrated DPCS hardware with audible voice message unit, pole signage and new pedestrian call unit, with a close up view of the audible voice message unit.

Figure 3 (below) is a close up view of the activated red LED light indicating a longer crossing time and the braille label advising blind persons to hold for 3 seconds.

Figure 4 (below) shows the pole mounted signage and pedestrian call unit with activated red LED light indicating to pedestrians that a longer crossing time has been chosen.





Function 1 and 2 have proved to be safe and reliable for the seven months to date that the DPCS has been operating.

Video footage from a camera filming pedestrian movements shows the vast majority of pedestrians calling the longer 'red man flashing' time are from the slower walking demographic. These include mums with young children and prams, young children, elderly and disabled persons. Intuitively the system appears to be working. The empowerment qualities of the DPCS are being realised.

These results and observations indicate that the DPCS is selfexplaining. It is a legitimate standalone facility that could be installed in isolation anywhere and still be comprehended. The need to undertake extensive educational and publicity campaigns to better ensure comprehension and correct use is not required with the DPCS.

More importantly, these educational campaigns do not permeate through to all road users. Many road users do not listen to the radio, read the newspaper, have access to the internet or watch television. Informing our road users at the source is the best form of education and the DPCS achieves this.

The audible voice message unit, in my opinion, is the key component that enables its comprehension and correct use. I believe the use of audible voice messaging at pedestrian facilities has many more future applications within New Zealand and throughout the world. Important safety and educational messages can be communicated to pedestrians by the use of this medium. Visually impaired pedestrians would benefit greatly by the use of audible announcements at all forms of crosswalks.

This technology is now commonplace in many environments. Modern lifts, supermarket checkouts, modern public transport facilities and modern public toilets are just some examples. The DPCS technology used is not totally unfamiliar to pedestrians as they have been exposed to it in other environments.

SCATS data for the seven months to date shows an average of 32% of all pedestrian demands, which approximate to 500 per week, for the longer 'red man flashing' time. This percentage again indicates a good level of comprehension and respect for the DPCS from all pedestrians interacting with it.

A percentage of 85% to 90% for the longer time would indicate that the DPCS is being comprehended but abused by users. The DPCS is being used as a 'toy' to activate the red LED light, 'be beep' sound and to delay traffic intentionally. Conversely a consistent percentage of 5% to 10% would indicate that the DPCS is not comprehended by users. The users are either not realising that a longer time is available to them or they are realising this and not comprehending the instructions on how to activate it.

I estimate that in 12 months' time this percentage could reduce to around 20% as regular users to the crosswalk become familiar with their own walking abilities and the system. There is however no right or wrong answer for this percentage.

This value will vary in accordance with the demographical composition of users at each site and the proximity of the crosswalk to places such as rest homes, hospitals, schools and vocational facilities. A reasonable range of percentages could be 15% to 50%. Anything higher or lower than these values could indicate either abuse or non-comprehension of the system in that location.

In conclusion I think that the DPCS is a beneficial step forward for the very old pedestrian push button technology used today.

The system is working safely and reliably in Invercargill. There have been no reported safety incidents. Users comprehend and respect the DPCS and there is wide ranging community support within Invercargill for it. The DPCS can provide the Community Outcomes that many road controlling authorities and local authorities are seeking for their ageing and slower walking demographic. This system can complement Network Operating Framework and Plan principles. Pedestrian friendly zones and time of day policies can be realised by the DPCS.

This system actually communicates positively with our pedestrians. It enquires about our pedestrians walking abilities and then provides them with a choice of 'red man flashing' times based on their needs.

This system is an acknowledgement to the community that the Road Controlling Authority and Council do recognise that all pedestrians are not the same and that some pedestrians walk slower than other's.

This system is a world's first. It is the first system that I am aware of that provides empowerment capabilities for our more vulnerable, slower walkers by providing them with a choice. A simple push button choice based on their individual circumstances and abilities. A push button choice that empowers them with the most valuable and oldest commodity of all, time.

The DPCS system places our pedestrians in Invercargill, first.

Eddie Cook, MIPENZ, CPEng

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11 This edition's Postcard From Vietnam. For some reason, this zebra crossing never seems to get many pedestrians...



On a similar vein - and following up on last edition's 'Someone hates cyclists' photo - this picture demonstrates how to diminish the usefulness of a cyclelane. Also see Axel's photo in a couple of pages.



Transportation Engineering Postgraduate Courses 2nd Semester 2015

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The courses below are available for full-time or part-time students studying for the following postgraduate transportation qualifications at Canterbury:

- Certificate of Proficiency (COP) ~ for individual one-off courses (great for CPD!)
- Postgraduate Certificate in Engineering (PGCertEng) ~ four courses
- Master of Engineering Studies (MEngSt) ~ eight courses
- Master of Engineering in Transportation (MET) ~ up to six courses plus research project/thesis

All courses run in "block mode" to enable part-time and distance students to easily take part.

All candidates with a Bachelor of Engineering OR other relevant degrees (e.g. planning, geography, psychology, maths) OR non-degree with suitable transportation work experience will be considered for entry.

2015 domestic fees are \$988 (except \$874 for ENTR401) incl. GST per course, plus Student Services levy (up to \$372/semester; some rebates available).

Note: Block course dates are given below. All prospective students must Apply To Enrol in courses no later than one week prior to the course starting (new students should apply earlier) – otherwise late fees may apply.

COURSE

ENTR 604:

ENTR401: Fundamentals of

Transport Engineering (Self-study course; a tutorial day or campus may be arranged)

A self-study programme in: Transportation planning; Road link theory and design; Intersection analysis and design: Traffic studies: Accident reduction: Sustainable transport planning and design; Pavement design; Road asset management.

DESCRIPTION (more detailed Flyers available on website)

{bridging course for non-transportation students} Road asset management concepts, levels and functions; data requirements; evaluation of functional and structural performance; intervention criteria; deterioration models; rehabilitation and maintenance strategies and priorities.

Road Asset Management (Block dates: 12-14 Aug, 14-16 Sep)

ENTR613: **Highway Geometric Design** (Block dates: 27-29 Jul, 5-7 Oct)

Human and vehicle factors; sight distance; horizontal and vertical alignment; cross-section design; design plans; land use access; signs, marking, delineation; intersection design; major design project.

ENTR618:

Urban goods movement: transport/freight logistics: supply chain **Transport and Freight Logistics** management; planning/design for other transport modes (rail, air, sea); (Block dates: 20-22 Jul, 28-30 Sep) major research project.

Other relevant courses at Canterbury (e.g. Construction Management block courses) may also be suitable for credit. Papers can also be cross-credited between Auckland and Canterbury university programmes. Special Topics and small research projects may also be available to some students - contact the Department.

Likely courses to be offered in **2016** (still to be confirmed; check with our website for more details.):

- ENTR401: Fundamentals of Trpt Engineering
- ENTR611: Planning and Managing for Transport
- ENTR602: Accident Reduction and Prevention
- ENTR603: Advanced Pavement Design
- ENTR612: Transport Policy & Demand Management
- ENTR614: Planning & Design of Sustainable Trpt
- ENTR615: Transport Network Modelling

For more details contact: Dr Mofreh Saleh Phone: (03) 364-2987 Email: mofreh.saleh@canterbury.ac.nz *Or visit the website: www.met.canterbury.ac.nz*

Axel Wilke points out that whilst the intersection may be closed at nights, the presence of the VMS sign means the cycle lane is closed 24/7....





And while we are on the subject, this cycleway is a temporary facility within a motorway construction site, but still - was the design really this wiggly on the plans or was the contractor laying this out by eye?



Making the smart move and leaving the car at home is becoming the way of life for many commuters in Auckland.

Auckland Transport is committed to helping people do exactly this. Only so much can be achieved by engineering, and winning the hearts and minds of commuters is the next step to reducing congestion.

Auckland Transport's Personalised Journey Planning (PJP) programme helps commuters and communities make smarter travel choices by encouraging single vehicle drivers in the morning peak to consider alternative travel choices and use more sustainable modes such as public transport, walking, cycling and carpooling.

The programme has a high level of engagement and personalisation. Auckland Transport representatives work with individuals to better understand their travel behaviour and motivations behind their travel choices.

Information is collected on commuters' existing travel patterns and this data is used to develop tailored travel plans to encourage the use of alternative modes of transport. Participants are provided with tailored journey plans, support and guidance, relevant information such as timetables and personal benefits including cost, health, fitness, time etc., plus incentives to help make the move and try a different mode.

One such project was undertaken in Birkenhead, Auckland. Situated on Auckland's North Shore and only 8km from the CBD, Birkenhead is well served by good transport infrastructure and alternative travel options. Despite this the majority of residents still use their cars as their main means of transport.

The area has a T3 transit lane which is operational on Onewa Road to provide faster travel times for morning carpool commuters heading towards the motorways. The T3 transit lane can be used by buses and vehicles transporting three or more passengers.



The lane operates from 6.30am to 9am, Monday to Friday and there is capacity for more people to use the bus and an additional 200 carpool vehicles to use the T3 lane in the peak hour (approximately 600 additional people).

There is also a nearby ferry terminal in Birkenhead with services departing half hourly each morning Monday to Friday. The terminal has 20 priority carpooling spaces and a secure bike parking facility which stores 30 bikes with a choice of standing racks and hanging bike parking. People are encouraged to leave their car at home and instead use their bike to connect with the ferry.

Households located within walking distance of the Onewa Road T3 transit lane and Birkenhead ferry terminal (maximum 2km) were offered a free PJP service. A targeted mail drop to 4,430 households was undertaken in the area to promote the project and residents were encouraged to register online or by telephone at the AT call centre if they were interested in participating.

To boost the response rate, AT representative's door knocked to raise awareness of the project and invite residents to participate in the programme.



Interested participants were provided with travel information at the respondent's door if their journey was straight forward and on a direct public transport route to popular destinations such as the City, Takapuna or Albany.

For more complex journeys which required two or more modes, the participant also received a personalised letter in the mail providing suitable alternative options such as public transport, carpooling, cycling or walking.

Following the recruitment and/or personalised letter, participants were contacted by telephone to obtain a commitment to trial an alternative mode to their car.

Once commitment was gained, participants were offered an incentive to encourage the use of alternative modes including a two week travel pass which could be used on the bus, train and inner harbour ferries, pedometers and umbrellas for participants interested in walking, and cycle packs for cyclists.

Five weeks after the incentives were mailed to participants, all participants were invited to undertake a short evaluation survey either online or by telephone to determine uptake of alternative modes and behaviour change.

The programme successfully recruited 438 individuals to participate in the Birkenhead PJP programme. Of these 171 individuals made a commitment to trial a different mode and 110 participants completed the entire programme (see figure 1).



Figure 1: Number of members of the public involved at each stage of the project **Presumes average household size of 2.9 people per dwelling*

**Presumes average household size of 2.9 people per dwelling (12,800 individuals/4,430 households)*

Respondents were provided with information on all transport options in their local area and whilst there was interest across all modes of transport, the most popular mode amongst this group was trying public transport (90%) for their morning commute to work or study.

Of all 110 participants that completed the entire programme, 61% tried a different mode during the trial period. The project achieved a 49% reduction in morning peak sole-occupancy vehicle trips and a 42% reduction in vehicle kilometres travelled.

Bus was by far the most popular public transport mode with 88% of respondents trying the bus, followed by 8% trying the ferry. The strongest component was commuters who were city-bound and inner-suburb travellers where they could enjoy a relatively short and direct journey to work.

Active travel also increased with an additional 282km walked and 42km cycled during the morning peak hours each week.



The programme has received a high level of customer

satisfaction with 84% of participants rating they were satisfied or very satisfied with the programme.

Participants were highly supportive and positive feedback included:

- "The bus lane is so efficient. It takes far less time to the city, it's brilliant."
- "I enjoy being able to read/check emails instead of driving."
- "I do like the HOP cards they are very convenient and much easier and quicker than cash."
- "Love cycling, clean, green and great incidental exercise."
- "Great that AT are being proactive about walking."

This article by Auckland Transport's Nicola Maire and Ravina Patel won Best Technical Note at the 2015 IPENZ TG conference.



Eastern Bay of Plenty Signature Project SignatureNET and the Curve Risk Prediction Model



This article is a version of the technical work which won the prestigious 2016 3M Traffic Safety Innovation Award. The judges were impressed with the innovative application of a GIS tool for a helping solve a realworld problem, and the potential for this to have widespread benefits.

Safe System Signature projects are exemplar projects that adopt a complete safe system approach to road safety incorporating each of the four safe system pillars: safe speeds, safe vehicles, safe road use and safe roads and roadsides.

The Eastern Bay of Plenty was identified as an area where a signature project could make demonstrable advances in reducing road trauma for all road users.

The Eastern Bay of Plenty (EBoP) region is a region with significant rural road safety issues; particularly inappropriate speed, use of alcohol/drugs, poor restraint use and inexperienced drivers.

The majority of roads in the EBoP region are remote low volume roads with а high proportion of crashes occurring on rural curves (57.9% of all fatal and serious rural road crashes between 2004 and 2013).



Due to the remote nature of the region's roads, fatal and serious crashes tend to occur sporadically on parts of the network where high-severity crashes have not occurred in the recent past.

In these areas, relying on crash history alone is not a robust method of predicting where future crashes are likely to occur. Because of this, a new methodology that could assess and identify all high-risk curves on the network independent of crash history was required.

The NZ Transport Agency asked Abley Transportation Consultants develop a risk prediction model that would incorporate a vehicle speed model and establish risk at specific parts of the network based on geometric and operational data from existing datasets, such as RAMM.

Using known relationships between the characteristics of the built environment and operating conditions, a risk model of the network would be produced to highlight those parts of the network where road and roadside interventions could have the greatest impact on safety outcomes.



The Austroads operating speed model for rural roads[1] provides a procedure for calculating operating speeds[2] along road sections based on the geometric features of the road, taking into account the typical behaviour of drivers and vehicles on higher speed rural roads.

Using road geometry, the speed model includes figures for modelling acceleration along straights, deceleration through curves, and the identification of curve design limits based on approach speeds and curve radii.

One of the outputs of the Austroads methodology is the identification of design limits for curves, which can be used as a proxy for curve risk when considered in conjunction with the approach speed.

Whilst the Austroads methodology can be applied to any corridor, it is a manual process that would be impractical to apply to an entire network. So taking road centreline, speed

limit and terrain inputs an automated GIS workflow process was developed to apply the Austroads speed model along every part of the rural road network.

From this, all curves where deceleration is required were able to be assessed to determine whether it was within context or out-of-context in relation to the approach speed.

The outputs were calibrated against the State Highway sections of the Eastern Bay of Plenty network where out-of-context curves have been identified using data from the "high speed" geometry table found in the NZ Transport Agency's RAMM database.

A matching rate of 97% was achieved suggesting that the simplified method developed for the signature project could be robustly applied to any road network regardless of the presence of comprehensive high-speed geometric data.





The curve model is sufficiently sophisticated to determine whether the curve is out-of-context in one direction of travel and not the other. Targeting out of context curves is targeting to risk.

The figure above presents the results of the curve analysis in the EBoP region, where 6,985 curves were identified.

The figure clearly shows that the greater the curve is out of context with its approach the much more likely it is to be the site of a loss of control crash. The results show that two thirds (66.6%) of all loss-of-control crashes occur on out-of-context curves i.e. those identified as 'unacceptable or 'undesirable'.

This is a particularly important finding as it means road controlling authorities in the Eastern Bay of Plenty can target efforts on 20.3% of all curves where 66.6% of all loss-of-control crashes occur.

The operating speed model is the first network screening tool that has been developed specifically to address the primary road safety risk in low volume rural areas – loss of control crashes on curves.

As such, the model has the potential to benefit communities where road safety has been delivered in a largely reactive manner – which in low volume networks especially is usually a very ineffective way of deploying road safety funds.

Austroads Curve Context Definitions



The operating speed model provides a proactive approach of targeting to risk at a network-wide level.

As a result, road controlling authorities can now make better informed decisions about the use of their limited road safety finds in a more efficient manner. The feedback since the tool was delivered has been extremely positive.

Since receiving the 3M Traffic Safety Innovation Award at the IPENZ Transportation Conference in March, the model has been extended to the Top of the South region (Marlborough, Nelson, Tasman) for the express purpose of being used for exercises in the Safe Systems Engineering Workshop.

It has also been rolled out over the high-speed parts of the State Highway network (more than 11,000km). The outputs from the model are being used to inform the development and prioritisation of safe and appropriate speeds across the network.



The profile of the award has also attracted interest from ACC and agencies in Australia who see benefit of the tool for supporting road safety investment decision making processes.

[1] Austroads (2009), Guide to Road Design Part 3: Geometric Design

[2] In the Austroads model operating speeds are defined as 85th %ile speeds.

The 3M Traffic Safety Innovation Award recognises outstanding innovation and success in the field of road safety. Entries open towards the end of this year. Enter your innovative project and be in to win a trip of a lifetime to the ITE Conference in the USA and visit the 3M global head office in St Paul, Minnesota. Look out for the call for applications!





Japan's maglev train breaks own world speed record



Japan's state-of-the-art maglev train clocked a new world speed record in a test run near Mount Fuji, smashing through the 600 kilometres per hour mark, as Tokyo races to sell the technology abroad.

The maglev train - short for "magnetic levitation" - hit a top speed of 603 kilometres an hour, and managed nearly 11 seconds at over 600kph, operator Central Japan Railway said. The new record came soon after the company recorded a top speed of 590 kph, breaking its own 2003 record of 581 kph.

The maglev hovers 10cm above the tracks and is propelled by electrically charged magnets. About two hundred train buffs gathered for Tuesday's record-setting run, with the crowd cheering as the train broke through 600 kph per hour.

Where are the UK's superfast trains?

At the time the UK was completing its first stretch of highspeed rail in 2007, China had barely left the station. Nearly a decade on, Britain still has only that same 109km stretch of track, but China has built itself the longest high-speed network in the world.

At more than 12,000km in total, it is well over double the length of the European and Japanese networks combined. So what is the future of rail travel? As it stands, train technology doesn't seem to have changed much for decades.

The UK may have just received its first Hitachi-made Super Express high-speed train capable of running at up to 225km/hr, but this is hardly a quantum leap forward. The much-loved InterCity 125 - as its name suggests - could do 125mph (200km/hr) back in the 1970s. And France's TGV and Spain's AVE travel at more than 190mph (305km/hr).

Meanwhile, China is planning to double the size of its network again within the next five years or so and has recently confirmed plans to build a \$242bn high-speed rail link to Moscow.

The benefit of all of this railway construction, at least in the short term, has been obvious in the form of a huge investmentdriven boost for the economy. The train journey from Beijing to Guangzhou - now the world's longest unbroken high-speed rail journey at 2,298km - now takes eight hours rather than 20, and costs just over \$100. The main question for China is whether such a massive expansion is commercially sustainable.

"We're still seeing large growth in air and rail travel around the world," says Mr Acklam. "There doesn't seem to be a reduction in the need to travel in the digital era. Business always demands more speed."

USA's First Fully-licensed Autonomous Truck Unveiled

Daimler Trucks North America has unveiled the first fullylicensed autonomous commercial truck to operate on an open public highway in the USA. The new 'Inspiration Truck' has the potential to unlock autonomous vehicle advancements that reduce accidents, improve fuel consumption, cut highway congestion, and benefit the environment.

The truck underwent extensive testing before the Nevada Department of Motor Vehicles granted it a license to operate on public roads in the state. The truck is equipped with 'Highway Pilot' sensors and computer hardware, and is fully certified to meet all US Federal Motor Vehicle Safety Standards.

The Highway Pilot links together a sophisticated set of camera technology and radar systems with lane stability, collision avoidance, speed control, braking, steering and other monitoring systems. This combination creates an autonomous vehicle operating system that can perform safely under a range of highway driving conditions.



China may build rail tunnel under Mount Everest

China is considering extending a railway line linking the country to Nepal via a tunnel under Mount Everest, according to Chinese state media.

The proposal is the latest in a series of ambitious rail schemes Beijing is reportedly examining. It comes amid scepticism about whether some of the projects will ever get off the ground and at a time of a growing Chinese presence in Nepal.

The Qinghai-Tibet railway already links the rest of China with the Tibetan capital, Lhasa, and beyond, and an extension running as far as the international border is already being planned "at Nepal's request", the China Daily quoted a railway expert at the Chinese Academy of Engineering as saying.

The project is expected to be completed by 2020, the newspaper cited a Tibetan official as saying. Extending the line would potentially forge a crucial link between China and the huge markets of India. It was raised by the Chinese foreign minister, Wang Yi, on a visit to Kathmandu in December, according to Nepalese reports.

"The line will probably have to go through Qomolangma so that workers may have to dig some very long tunnels," railway expert Wang Mengshu told the China Daily, referring to Mount Everest by its Tibetan name.

Owing to the challenging Himalayan terrain, with its remarkable changes in elevation, trains on any line to Kathmandu would probably have a maximum speed of 120km/h, he added.

Paris emergency measures to combat smog hailed as a success

Emergency measures introduced in Paris to halve the number of vehicles on the roads after a noxious smog descended on the French capital have been hailed as a success.

Police said the measures had reduced traffic jams in and around Paris by up to 40% and that during the one day ban 2,800 drivers had been stopped and given on-the-spot fines of \notin 22 (\$36) for flouting the regulation.

Only "clean" cars, those with uneven number plates or vehicles carrying more than three people have been permitted to enter Paris and 22 surrounding areas on the selected Monday in an attempt to reduce the level of fine PM10 particles from diesel engines.

Vehicles were also ordered to travel at a maximum 20kph in the city. An estimated 750 police officers were dispatched from 5.30am onwards to about 100 busy roads and junctions to hand out fines to those who ignored the measures. To encourage people to leave their cars at home, public transport and residential parking were free.

Pedestrians and cyclists in the city have said that the pollution has become steadily worse over the past few weeks. Recently, as the pollution peaked and a cloud of smog almost completely obscured the city's famous landmarks, including the Eiffel Tower, Paris was declared the most polluted city in the world – worse than Shanghai, which normally tops the list.

The effect of the ban on some of the capital's busiest roads was evident first thing on Monday morning. On the grands boulevards, the main roads running from Place de l'Opera to Place de la Republique, traffic was moving freely. On a normal weekday morning, it is backed up and crawling from traffic light to traffic light.

Cars that slow when they see speed-limit signs

Ford is to sell a car that can read road signs and adjust its speed accordingly to ensure the vehicle is not driving too fast.

The speed-limiting tech can be activated via the steering wheel and briefly overridden by pressing firmly on the accelerator. The car company suggests the facility will help drivers avoid fines and could reduce the number of accidents. However, one expert said the innovation might only serve as a "stopgap".

"There's a plan for speed restrictions to be beamed to your car's computer systems and controlled from there, rather than requiring street sign visual recognition systems," said Paul Newton, an automotive industry analyst at the IHS consultancy.

"This would be part an extension of the networks that will connect vehicles, allowing cars to warn those behind them if they are slowing down, which is all part of a move toward autonomous vehicles that drive themselves."

The new vehicles will alert the driver to detected road signs via a read-out in the centre of the car's speedometer. Such a system, however, is some way off.

Ford's technology will become available to the public this August, when it launches the second generation of its S-Max cars in Europe.

It is only the third time since 1997 the city authorities have resorted to such emergency measures. This time last year, a similar two-day ban was said to have had a positive impact on air quality, reducing the PM10 particles and the toxic nitrogen oxides (NOx) according to Airparif, which measures pollution in the capital.

Experts say the problem is caused by carbon monoxide and PM10 particles from vehicles, an absence of wind to disperse the pollutants and other meteorological conditions including sunshine coupled with a drop in temperature leading to a stagnant cover of warm air over Paris.

Airparif issued its maximum alert after the carcinogenic PM10 particles (those with a diameter less than 10 microns) topped 80mg per cubic metre and reportedly peaked at 120mg per cubic metre. On Monday, Airparif said the level of particles had risen after falling over the weekend, but was expected to level out on Tuesday with a north-west air current expected to disperse the pollution.



Man buys car with 660,000 coins

A Chinese man has paid for his new car using 660,000 coins and 20,000 low value banknotes, it's reported. The buyer, identified as Mr Gan, handed over the huge haul of small change to a dealership in the northeast city of Shenyang. Each coin and note was worth just one yuan (\$0.16), and the hefty sum, weighing four tonnes in total, took up more than 4m of floor space within the showroom.

Mr Gan explains that he paid in cash because he had amassed a huge amount of small denomination coins and notes through the petrol station where he works. "As our station is in the suburbs, there are very few banks. So we didn't deposit the coins and decided to use them to buy a car for our company," he says.

The buyer warned staff at the car dealership in advance about his unusual payment method, and the cash was neatly wrapped in small packages. But it still posed a logistical challenge - employees needed more than an hour to move all the cash into the showroom. They then had the unenviable task of gathering it all up again and taking it to the bank.



Kinshasa's traffic robots



Gridlock has seized Kinshasa, the capital and the largest city of the Democratic Republic of the Congo.

Faced with rising car ownership and a lack of trust in police, city authorities have recruited solar-powered 'robocops' to control the DRC capital's chaotic streets. The 2m tall humanoid traffic robots, equipped with a rotating chest

and video cameras, control and monitor traffic in several Kinshasa intersections.

They are solar-powered, with small video cameras built into the eyes, conveying footage back to a central office. They can also play pre-recorded messages to pedestrians, letting them know when it's safe to cross the road.

'People on the streets apparently respect the robots in a way that they don't follow directions from human traffic cops,' says a local policeman.

The robots are intended to blend the functions of traffic lights with human traffic cops, to control and monitor traffic flow.





Freight Information Gathering System (FIGS) Review Questionnaire

The Ministry of Transport has developed the Freight Information Gathering System (FIGS) to provide reliable and consistently collected data on freight movements into, out of and around New Zealand, including containerised freight, rail freight, and bulk coastal freight. This brings together on a quarterly basis information supplied by the main container ports, Statistics New Zealand, KiwiRail and bulk coastal shipping operators and can be accessed on:http://www.transport.govt.nz/sea/figs/

While FIGS started in 2010 with information from a limited range of ports it has now expanded and the full set of data has been available for the period since 2012. The Ministry of Transport wishes to undertake a review of FIGS to gain an understanding of users' views and perceptions of value of the present system and to identify ways in which the information collected might be reviewed or extended to include additional elements. Richard Paling Consulting Ltd and Murray King & Francis Small Consultancy Ltd have been appointed by the Ministry of Transport to undertake this work.

In parallel with FIGS the Ministry has begun publishing an annual Transport and Trade Report focussing on foreign trade movements by sea and air and identifying the commodities traded and the important overseas sources or destinations for these. This can be accessed on:-

http://www.transport.govt.nz/sea/transport-and-trade/

The questionnaire which follows seeks your views on FIGS. We have also asked some supplementary questions about the Transport and Trade report. The questionnaire can be completed electronically or in hard copy.

When you have completed the questionnaire please return electronic responses to: either Richard Paling (<u>rpaling@xtra.co.nz</u>) or Murray King (<u>murray.king@xtra.co.nz</u>) or by mail to Murray King at Murray King & Francis Small Consultancy Ltd, PO Box 2884 Wellington 6140. We would appreciate it being returned by no later than **Monday 15 June**.



Demonstrating the Value of School Travel Plans – A New Plymouth Model Communities Case Study



School travel plans can be a very effective way to encourage active travel and improve road safety for school children.

As part of the model community projects rolled out by the Let's Go team at New Plymouth District Council, school travel plans are being implemented across the district.

Overall the current performance of the primary school travel plans to date and the expected performance over the next 6-8 years results in a benefit cost ratio of 7.5 following the basic procedures in simplified procedure 11 for walking and cycling facilities in the NZ Transport Agency's Economic Evaluation Manual (EEM). The performance of the travel plans has been monitored through annual travel surveys.

School travel planning in New Plymouth has a focus on encouraging people to travel by active modes (Walk, Cycle and Scoot/Skate).

In many schools, 'park and walk' sites have been implemented to fit the needs of parents who are dropping their children off on the way to/from somewhere else.



These sites are located approximately lkm from the relevant school and their purpose is to encourage parents to refrain from dropping/picking up their children at the school gate and encourage active travel for part of the journey to school. For interest, the mode shift results have also been compared to the diversion assumptions that underlie simplified procedure 12 (SP12), travel behaviour change, in the EEM.

SP12 assumes that in all schools the number of children driven to school reduces by 9%. In Primary schools 17% of the 9% reduction is anticipated to be converted to children who cycle to school and 83% to people who walk.

Initial results of the New Plymouth primary school travel plans show a 14% reduction in car passengers with a further 29% of students utilising the park and walk sites. In the analysis these results have been assumed to decay over time in order to produce a conservative benefit cost ratio.

If the uptake of active transport is maintained or continues to increase in the analysed schools, the actual BCR will be significantly higher than reported in this analysis.

This study has highlighted that scooting/skating is a popular transport mode for primary and intermediate age children.

Scooting/skating is not explicitly considered in the SP12 procedures. Analysis of the mode shift realised in New Plymouth against the SP12 assumptions shows that the popularity of scooting/skating may be a factor in the difference between what has been realised in New Plymouth and the averages included in SP12.

Any future update to SP12 and the associated information within the EEM should therefore consider the impact of the popularity of scooting/skating on primary school travel.

Initiatives such as park and walk sites are also not included in SP12. These are site specific and for this reason are probably not appropriate to include in a national average such as SP12.

However when evaluating the anticipated benefits of school travel plans the impacts of new initiatives should be considered as part of the analysis.

Overall the benefit value of the Let's Go school travel plan initiative equates to \$947.97 per enrolled student over 10 years. The equivalent cost is \$126.09 per enrolled student for establishment, skills training and travel planning.

It should be noted that this cost does not include improvements to the wider walking and cycling network in New Plymouth, an evaluation that includes all costs and benefits of the investment in walking and cycling across New Plymouth is currently underway.

This analysis shows that school travel plans can

be very effective at encouraging mode shift and provide an excellent return on investment.

In communities where there is a strong motivation to encourage walking and cycling, the benefits of school travel plans using the SP12 methodology could be being under-estimated.

This article by won the People's Choice award for the Best Poster at the 2015 IPENZ TG conference. For more information please contact: Courtney Groundwater – <u>Courtney.groundwater@abley.com</u> or Robyn Hyde – <u>robyn.hyde@abley.com</u>

The paper prepared for the 2015 IPENZ Transportation Group Conference can be found here: <u>http://tinyurl.com/trvpln</u> And the associated poster here: <u>http://tinyurl.com/trvpln2</u>





MODE CHANGE OVER ANALYSIS PERIOD





2015 Conference Wrap

Rydges Hotel Christchurch 22 — 24 March / 2015

> It was great to be able to hold this year's conference in Christchurch just over four years after the February 2011 earthquake. The venue was one of the first rebuilds to occur in the central city. The delegates were made up of 10% central government delegates, 20% local government and the rest were predominately consultants but also some research/university based delegates.

> The conference began with several technical tours, unsurprisingly focusing on progress and planning of the Christchurch Rebuild.

There were walking and cycling tours (the latter being particularly for the brave, due to the wind chill factor) and a coach tour of the CBD Anchor Projects. This included a Cathedral Square walkaround in the bitterly cold temperatures (for Aucklanders) and the new bus exchange (see below).



The vantage point from back in the coach allowed delegates to gaze down into construction trenches and see the complex infrastructure required for the rebuild.

There was also an airport tour, however delegates on that tour reported that it was apparently light on the actual airport component and certainly wasn't what the organising committee had expected..

The traditional Icebreaker event was held in the beautiful Hagley Oval, South Hagley Park (see below images).

Delegates were entertained with a selection of team games based on a Village Fete theme, from giant Jenga and Four Square to egg-and-spoon races and a strange hula hoop/wrestling game. The teams became quite involved and as expected highly competitive.

Getting out onto the manicured grass soon after it had been used for the Cricket World Cup was a particular highlight.

The conference, held at the Rydges Hotel, was opened by five-time MC Greg Ellis, who tried hard to explain why there were two Daleks on the stage throughout the conference (on the last day one actually began moving and tried to exterminate delegates....).

> As usual Greg took the mickey out of transport engineers and planners but less so than previous years, perhaps he is progressively becoming one of us!

> The first key note speakers were Rob Kerr, Development Director - Anchor Projects, CERA and Don Miskell, General Manager - Design and Planning, CERA. Rob and Don spoke on the 'Implementation of an Accessible City', outlining the intricacies of the Crown role versus the local authority roles.

> Importantly, both are placing a focus on placemaking as much as infrastructure. However the perilous state of infrastructure in the central means the

rebuild process was described as 'building the plane while flying it'.

Probably the most interactive and bubbly keynote speaker of the conference, Rose McArthur (above) from Mott MacDonald in the UK spoke on Travel Demand Management (TDM) as an economically, socially and logistically sound solution to managing transport network disruption.



In particular, Rose (pictured below) discussed TDM in relation to supporting major events, maintaining vibrant urban economies, improving public health, alleviating overcrowded transport networks, and supporting low carbon growth.



Following the conference, Rose returned to the Gold Coast where she is currently advising on how to keep the city moving during the forthcoming 2018 Commonwealth Games. Rose posed a challenge to the industry to come up with a better term for this work than TDM, or as she called it 'tedium'!

Craig Burrell, Aecom and Craig McWilliams, IBM spoke on 'Bringing Smarter, Safer Transport to NZ'. This includes many of the ITS technologies we have come to expect but also 'the internet of things' and how this may change future transport systems.

Hamish Mackie spoke via a video link on his trip to the US as the 2014 3M Traffic Safety Innovation Award winner. He experienced a range of temperatures – with both snow at the 3M global head office in St Paul Minnesota (above right) and sun at the beach he somehow ended up at. In between he attended the 45th ITE conference and an ice hockey match (though those did not seem to be related).

Andrew Jackson from the Ministry of Transport and Ernst Zollner of NZTA both gave updates for their respective organisations.

Andrew covered the 'issues of the day' for MoT, which included urban cycleways, operator licensing, Auckland, an offshore oil financial security review, overseas drivers and a diverse range of other topics.

He also covered the challenge of future freight movements and dealing with the uptake of electric vehicles (which lower the fuel tax revenue). See graphs on the following page.





The final conference keynote was presented by Stuart Donovan, who was using his upcoming departure from NZ as an opportunity to raise a number of uncomfortable issues.

His presentation, called 'Do our aspirations match our abilities? Systematic challenges facing the traffic and transport profession' raised concerns such as the issue that many of our profession's 'empirical' practices actually have a lack of scientific rigour.





He used the example of trip generation surveys inadvertently omitting causal variables or having sample selection bias.

Stuart encourages delegates to address the lack of rigour in our quantitative predictions, and make data public; to ensure professional practices are supported by robust economic analyses; to develop new KPIs and adopt urban street design guidelines that consider all users; and avoid subjective valuejudgments, and instead present real trade-offs to decisionmakers.





Example uptake scenario

The large number of interesting and informative papers and presentations are available at <u>http://conf.hardingconsultants.co.nz/ipenztg2015/</u>

A big thank you to our regular and new sponsors for supporting the conference – we look forward to seeing you all again next year in Auckland.

Special thanks to the Conference Organising Committee:

Kerstin Rupp (Chair) Chris Morahan Jeanette Ward Glen Koorey Katy Marriott Aimee Dunn Courtney Groundwater Jared White Nick Bristed Mike Smith Yan Zhou



2015 Conference Award Winners



3M Traffic Safety Innovation Award 2015

Winner

Paul Durdin and Dale Harris - Abley Transportation Consultants *"Curve Risk Prediction Model"*

Finalist

Mike O'Halloran - AECOM Chris Ballantyne - AECOM Andrew Foy - AECOM Shaun Lion Cachet - AECOM Dawie Maritz - AECOM Norm Robins - AECOM "Hamilton Southern Links Study"

Finalist

Daron Turner - Smith & Davies Ltd NZ Sandra HeiHei - ACC Paula Rogers - National Road Carriers Leah Everest - NZ Police Ian Crayton-Brown - Northland Regional Council Jon Moore - NorthPort Bridget Rowse - Northland District Health Board Eileen Kerry - NZTA "Northland Freight Group's Truck Education Stops"

Finalist

Wayne King - Hutt City Council "Eliminating The Perplexing Flashing Red Man Signal" NZAA Award for Best Transportation Paper Eddie Cook - Invercargill City Council

"The innovative empowerment of Invercargill's slower walking pedestrian demographic"

Study Award Jo Draper - NZ Transport Agency "Road tolling and road pricing in NZ"

Roundabout Award for Best Contribution Sam Corbett - Auckland Transport "What can Sydney teach us about walking and cycling?"

Best Technical Note Nicola Maire & Ravina Patel - Auckland Transport *"Personalised journey planning in Auckland"*

Best Young Author

Dale Harris - Abley Transportation Consultants "Developing a risk prediction model for a safe system signature project"

Highly Commended Paper

Sam Corbett & Carl Chenery - Auckland Transport "One size doesn't fit all - reconciling overlapping transport networks in a constrained urban environment"

People's Choice Best Poster

Courtney Groundwater - Abley Transportation Consultants "Demonstrating the Value of School Travel Plans"

People's Choice Best Oral Presentation

Daniel Newcombe - Auckland Transport "Is a 'Framework' a Smarter Way?"

People's Choice Best Quick Fire Presentation

Wayne King - Hutt City Council "Puffin Traffic Signal Benefits"

IPENZ TG Life Members 2015



Barry Dowsett - NZ Transport Agency



Mike Jackett - Jackett Consulting and wife Lynne Jackett



Wayne King - Hutt City Council



Dave Petrie - TDG Limited and wife Judy Petrie

People's Choice Best Roundtable Graham Norman - Jacobs Nalisha Kesha - Auckland Transport "Using smartphone for cycle planning"

Obligatory embarrassing conference dinner photos

The Conference dinner was held at the 'cardboard cathedral' with the theme of 'Rise of the Empire'. This resulted in a large number of togas – probably the largest number seen in Christchurch since the last university keg party – a number of

centurions, emperors and one Empire State Building (worn by the Roundabout Editor, who awarded himself the prize for most imaginative use of the term 'empire').



Transportation Engineering Postgraduate Courses 2015



WAKA KOTAH

Department of Civil & Environmental Engineering University of Auckland For Master of Engineering Studies (MEngSt) in Transportation and Postgraduate Certificate in Engineering (PGCertEng), or for one-off Certificate of Proficiency (COP).

Semester 2 (Jul-Oct 2015)	
CIVIL661 - Highway & Pavement Engineering (29, 30, 31 July + Civil 759#)	A range of selected topics in highway engineering and pavement materials which will provide a basis for extension into further studies. (<i>This is a pre-requisite for several other 700 series courses</i>). #1 x 3-days + integrated w Civil 759, a BE(Hons) course, 3 hours per week
CIVIL763 – Transportation Networks Analysis (3, 4, 5 Sept and 1, 2, 3 Oct)	Introduction to logistics and scheduling; Definitions of graph and network theory; Max-Flow problems; Minimal spanning trees and shortest path; Minimal-cost networks; Location problems.
CIVIL766 – Road Asset Management (10, 11, 12 Aug and 21, 22 and 23 Sept)	Road asset management concepts, levels & functions; data requirements; evaluation of functional and structural performance; deterioration modelling; economic evaluation and lifecycle analysis; prioritisation and optimisation; risk management; pavement management systems.
CIVIL 771 – Planning & Managing Transport (3 & 4 August, 24 & 25 August, 12 & 13 October)	Integrated planning of transport and land use, Outline of transport planning modelling, LTMA and the GPS, District Plans and RMA, Travel, trips and parking. Transport assessments and multi-modal transport, Travel demand management, 'Smart roads', Intelligent transport systems.
Civil 772 – Public Transport – Planning & Operation (20, 21, 22 August & 17, 18, 19 Sept.)	PT Data Collection; Frequency and Headway Determination; Alternative Timetables; Vehicle and Crew Scheduling; Short-turn Design; PT Network Design; Reliability; Design of Shuttle and Feeder lines; Bus priority and BRT
Semester 1 (March-June 2016)	
CIVIL660 - Traffic Engineering & Planning (mixed mode*, TBA in March + Civil 758*)	A range of selected topics in traffic engineering and transportation planning which will provide a basis for extension into further studies. (Diploma course - is a pre-requisite for several other 700 series courses). *1 x 3-days + integrated with Civil 758, BE(Hons) course, 3 hours per week.
CIVIL764 - Highway Safety & Operations (TBA, 2 x 3 days)	A range of topics on the operation of two lane highways and their safety including highway capacity, LOS, passing/climbing lanes, and economic evaluation methods. Safer Journeys and Safe Systems, Skid resistance, materials and roadside safety.
Civil 767 – Pavement Analysis and Design (TBA, 2 x 3 days)	Pavement design philosophy; stresses, strains and deflections in pavements; pavement material properties and characterisation; traffic loading; pavement failure mechanisms; assessment of pavements; empirical and mechanistic pavement design methods; pavement overlay design; asphalt mix design.
CIVIL770 - Transport Systems Economics (TBA, 3 x 2 days)	Fundamentals of transport economics incl. supply, demand, pricing, congestion and other externalities; principles of economic evaluation in transport planning.

NOTE: Other relevant courses at Auckland (e.g. in Civil / Construction Management) or at Canterbury (e.g. Civil / Transportation) or elsewhere are suitable for credit.

For Admission / Enrolment inquiries contact: Assoc. Prof. Roger Dunn, Director of Transportation Engineering Phone: (09) 373-7599 x87714 or (09) 923 7714 DDI Email: rcm.dunn@auckland.ac.nz

Further details, including the course outlines, can be found at: <u>http://www.cee.auckland.ac.nz/uoa/home/about/ourprogrammesandcourses</u> <u>http://www.engineering.auckland.ac.nz/uoa/home/about/our-staff</u>



Introducing the premium event for the transport fuels sector and fleet managers...

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Branch updates

Auckland/Northland Branch

Wrap-Up of Recent Events

The Auckland/Northland Branch has had some exciting events over the past couple of months. In April we had three presenters from the IPENZ TG Christchurch conference present their papers. This was a great opportunity for those branch members that couldn't attend the conference to get a taste of what was covered.

On 23 April Andrew Stevens from the Auckland Motorway Alliance presented on 'Combating Wrong Way Drivers on Divided Carriageways'. Then Duncan Campbell from Traffessionals Ltd presented his paper on 'Practical Compact Roundabout for Urban Areas'. There was interesting discussion around both topics.

On 29 April Stuart Donovan from MRCagney presented his paper 'Drinking the Kool-Aid'': Reflections on the traffic and transport profession'. The presentation reflected on common practices of the traffic and transport profession and identified areas of major concern. This provided a great opportunity to debate the challenges and opportunities facing our profession.

Then in May we had Sue Philbin from Auckland Transport present on Travel Demand Management based on her recent Key Note speech to the Mobility & 'Sustainable Healthy Communities Summit' in Canada. Sue updated us on the direction Auckland Transport is heading with Travel Demand Management and many of the interesting and exciting projects emerging in this area.

Submissions

The Branch has put in two submissions this year. If you would like a copy of either of the submissions please contact branch chair Pippa on pippa@t2engineers.co.nz.

The first was on the Regional Land Transport Programme / Long Term Plan. Overall, we were supportive of the focus on greater investment in transport. We commented on the need within the next 3 years to invest in walking, cycling and public transport, and integrating with the Western Ring Route Program.

However, we were not necessarily aligned with the view that there need to discuss alternative funding mechanisms prior to certainty around funding for CRL. The second submission was on the proposed variations to the Regional Public Transport Plan (RPTP). The Branch has previously submitted on the original RPTP in 2012. The variation included updates to the Simplified Zone Fares section of the plan, the inclusion of a section on Light Rail, changes to the Ferry Services and infrastructure and updates to service descriptions based on the New Network consultation.

The Branch provided a high level submission supporting the changes but requesting further clarification on some of the Light Rail aspects and the status of the Ferry Development Plan which the RPTP effectively defers to.

Up-Coming Events

We are planning a number of upcoming events including further technical presentations. The Branch is also in the process of organising a careers evening with the University of Auckland. This will be held in September with the aim of encouraging students from a range of degree backgrounds to consider transport as a future career path. We are hoping to have speakers from a range of transport organisations. Watch this space.



Branch updates

Waikato/Bay of Plenty Branch

Half way through the year and we have not really ramped up events as we had hoped so no major list yet.

We have held a couple of good meetings in both Tauranga and Hamilton but the quiz team seems to be lacking, with only one member signed up so far. If you are in Tauranga and want to join the pub quiz team please talk to Aaron Washington.

Coming up we have a great presentation from Andy Lightowler on Rotorua's bus network in Tauranga on 22nd June and Sue Philbin from Auckland Transport has promised to show us her holiday slides from her sponsored trip to Canada for her presentation at the Sustainable Mobility & Healthy Communities Summit within the next couple of months. Other possibles include a trip to the Avantidrome in Cambridge for a ride round the track.

We are also planning another event similar to last year's successful dinner at the Classic Museum; this could be at Classic Flyers in Tauranga with a bus from Hamilton, we will keep you posted for developments.

As a technical group we should be doing more of a technical nature and this includes submissions on local issues. Where appropriate we will be looking at these and asking for assistance in collating and writing our response.

On the professional side, we are still open for business in matching up mentors with mentees, so if you are interested in either contact Alan or Clara (see details below) and we will match people up.

Once again we are looking for any ideas, suggestions or comments from our members so if anyone has anything to say please let us know. Alan Gregory (Chair) <u>Alan.gregory@mwhglobal.com</u> or Clara Hechei (Administrator) <u>Clara.hechei@ghd.com</u>

Central Branch

Upcoming Lunchtime Sessions: Maintaining Wellington's State Highway Network

Dave Dunlop – 23 June, 12:00-1:30PM – NZTA Regional Office, PSIS House

'Maori law' Elements of Transportation Projects
Buddle Findlay – 13 August, 12-1:30PM
– Buddle Findlay offices at 1 Willis St.

We are also planning a lunchtime session in July covering technical work about cycling safety as well as a Roundtable discussion in September. These will be held in IPENZ brand new offices on Customhouse Quay.

Expression of Interest: Transportation Group Cycle Tour

The Central Branch is keen to organise an event outside of Wellington for our members, and the potential for a social/semi-informative cycle tour around the Hawkes Bay Region has been suggested.

This trip would provide an opportunity to explore the cycling network around the Hawkes Bay region by bike whilst liaising with TG members in the Napier/Hastings area. The region has a vast network of off-road cycle paths which connect suburbs, rural areas, and draw tourists from across the globe.

This tour could involve renting bikes and witnessing first-hand the effectiveness of off and on-road cycling provision in the Hawkes Bay, the connectivity between Hastings and Napier, and/or a talk about the Hastings Model Communities project. No date has yet been set, but anticipate late October/early November (subject to demand)

If you have not already done so, please indicate your interest in this trip by contacting lead organiser Eliza Sutton at <u>Eliza.Sutton@opus.co.nz</u>

Upcoming Evening Event



Mid-year annual quiz night – scheduled for August, 2015 – The Green Man Pub

Watch this space for information on how to enter and take part in this annual contest of transport 'street' smarts. Food, drink and challenging questions will be provided.

Recent News Article:

'Wellington's taxi wars' <u>http://tinyurl.com/taxiwars</u>

Canterbury-Westcoast Branch

The local branch co-sponsored a Christchurch Conversations event "A Conversation with Charles Montgomery" on Tuesday 21 April at the Council Civic Offices.

Unfortunately the event was massively oversubscribed and many of our members missed out on attending this event. There is a lack of reasonably sized, low cost, venues at the moment, hopefully this situation will improve!

Following on from the Conference we held a "Local Speakers" event on Thursday 30 April at Aurecon. The speakers were:

- Mark Gordon, AECOM Transport and Resilient Cities - A Review of Current Developments

- Chris Morahan, Opus International Consultants Congestion: What are Christchurch's Worst Offending Roads?

- Dale Harris, Abley Transportation Consultants Developing a Risk Prediction Model for a Safe System Signature Project – This project was winner of the 3M Award

Our most recent event (27 May) was a joint event with the Chartered Institute of Logistics and Transport on the "Christchurch Central Parking Plan" which was recently approved by Council. The event was held at the Council Function Room. The speakers were:

- Christchurch Central Parking Plan (Ruth Hudson, CCC and David Corlett, CCDU)

- Short term parking (Kevin Warwood, CCC)

- Long term parking model (Chris Rossiter, TDG)

We are currently organising a midwinter social event with details to follow shortly!

Southern branch

Last seen in 2014. The police have been informed.



Roundabout of the month



A finalist in the 2014 UK Roundabout of the Year, the Old Market roundabout in Bristol. Seen a better one? Email <u>daniel.newcombe@aucklandtransport.govt.nz</u>



Abley Transportation Consultants is a leading consultancy providing strategic transportation advice to central government, regional and local authorities and private developers as well as non-profit groups. To learn more about the specific work we undertake visit www.abley.com.

We are seeking a highly competent, motivated and energetic person in the mid stage of their career to join our respected team. This person will support and build on the cutting edge thinking and analysis we provide for a wide range of clients. The role is an ideal opportunity for an ambitious transportation professional to take a rapid leap to a senior leadership role within our company. Ideally applicants would have knowledge and application in the areas of transportation assessment techniques, local, regional and national transportation planning policies, various NZ engineering and standards, transportation modelling software, planning and engineering design.

Abley Transportation Consultants is located in Auckland and Christchurch and either location would be suitable for this position at the option of the applicant.

The successful applicant will have the ability to develop the role and provide the top notch deliverables that our clients expect. At the same time our wider engineering and transport planning team will provide support and guidance.

To be successful in this role you will ideally have:

 \cdot Experience working within a transportation consultancy or a clear understanding of how consultants work, their business objectives and client interface.

 \cdot A clear determination for providing the best quality advice, both technically and professionally.

 \cdot Experience understanding and solving a wide range of complex transportation problems and presenting clear outcomes to decision makers.

· Proven ability to manage the delivery of concurrent projects.

 \cdot A relevant and respected tertiary qualification on the road towards competence assessment.

We fully support professional ethics and would support you with membership of an appropriate associated professional body. This is a full time position. You will report to the Managing Director and be supported by (and in turn support) the other team members.

Further information including our company values, what makes us a great place to grow your career, and the rest of the team can be found at <u>www.ableycareers.com</u> and <u>www.abley.com</u>.

To make an application for this role please include a covering letter explaining what interests you about this position and your CV. Please make application via the <u>www.abley.com/careers/</u> website and specifically the Principal Transportation Planner / Engineer. All enquiries will be treated in the utmost confidence.

Applications close **5pm Tuesday 30 June 2015**. Only applications with the right to work in NZ need apply. If you are keen to develop an exciting career, contact us today. We look forward to your enquiry.

Caption competition



Urie Bezuidenhout is captured enjoying himself at the Conference Dinner, apparently chasing one of the night's entertainers (she is a singer, just to be clear). Who knows what she is saying? A suggestion has been made. If you think you know better, send your suggestion to <u>daniel.newcombe@aucklandtransport.govt.nz</u>







The huge tunnel boring machine (TBM), Alice, is now well into her return journey to complete the second motorway tunnel for the Waterview Connection project.

Alice has excavated more than 700 metres of the second tunnel, which is about a third of the way along her 2.4km-long southbound journey to Owairaka. She is 22 metres below ground and has passed under Great North Road.

Tunnelling resumed after a complex operation to turn Alice, the world's 10th largest TBM, around. The front section or cutter head of the TBM was turned first to excavate the first 250 metres of the second tunnel and provide room for the rest of the TBM and other facilities.

Alice broke through into daylight at the end of last September after excavating the first of the two three-lane tunnels that are part of New Zealand's biggest and most ambitious road transport project.

Backfilling is underway to build the motorway lanes and install the concrete culvert – the tunnel within a tunnel – to carry electronic and electrical services is underway in the second tunnel.

Installing mechanical and electrical equipment in the first tunnel is starting. Work has also began on the excavation of 17 cross passages that will connect the two tunnels.

Excavation of rock between the tunnels is in progress. The installation of canopy tubes provides temporary ground support for the cross passages before an interim shotcrete lining and permanent concrete lining is completed.

If you want to find out a bit more information on the project, visit: <u>www.nzta.govt.nz/projects/waterviewcon</u> <u>nection</u>

or <u>www.facebook.com/AliceTBM</u> for regular updates and some great vidoes.



Photo Competition

We have all experienced needing to briefly park somewhere in order to undertake a chore and - in the absence of a suitable space - parked in a way we shouldn't.

Courier drivers experience this situation constantly and are reknowned for their creative use of the traffic rules and street layout. The below photo is not one of these situations.

This van was parked here over a weekend and created difficulties for all but the slimmest of pedestrians. The 5-year-old boy pictured made it past but the rest of the family had to walk on the road to pass. Not good, NZ Post.

Seen a worse example? Send it to: <u>daniel.newcombe@aucklandtransport.govt.nz</u>





We should all applaud truth in signage....

Transport Advice

Dear Transport Guy

I enjoyed the tour of the Christchurch CBD at the recent IPENZ TG conference. It was interesting to see the progress being made in rebuilding the heart of the city.

I was just puzzled about the new bus exchange. Why on earth was it designed so that buses have to reverse out of bus stops, and why does the front of it (below) look like a crumpled wreck?

Arnold, Hastings



Dear Are Old

Hey, if there is one thing Cantabrians know about it is crumpled wrecks, so don't be so hasty in judging the wonky appearance of the bus exchange. It is deliberately jagged and dilapidated as a homage to the shopfront canopies that are constantly hit by taller buses, coaches and trucks. Basically they were getting the damage in early, because it is bound to happen eventually. A tongue-in-cheek column on transport matters by The Transport Guy. The contents do not represent the views of the IPENZ Transportation Group, or anyone else for that matter. Follow the advice at your own risk.

Dear Transport Guy

I was at the recent IPENZ Transportation Group conference in Christchurch.

I understood the theme "Smarter, Stronger, Safer", I appreciated that a lot of the presentations were about the Christchurch Rebuild and I had come to terms with having seen Urie chasing that poor singer around the Cardboard Cathedral. I just have one question.

Why were there two Daleks on the stage (below)? **Confused, Auckland**

Dear Confucius I don't know either. ~**Transport Guy**



As for the reversing buses, this was the only way they could get buses to do a right-handed loop. It is hard enough to get Gerry Brownlee to support a loop - I'm looking at you Auckland - let alone a left-leaning loop. It's politics. **~Transport Guy**

Do you have a dumb question for Transport Guy? Email it to: transportfordummies@gmail.com and he'll do his best to answer...



Group Contact Details



Transportation Group National Committee

National Chairperson, Submissions Coordinator, Membership Coordinator, Treasurer Pravin Dayaram Pravin@t2engineers.co.nz Vice Chairperson: Alan Gregory alan.gregory@mwhglobal.com Immediate Past Chair: David Wanty davidwanty@clear.net.nz Auckland Branch Chair: Pippa Mitchell pippa@t2engineers.co.nz Waikato/Bay of Plenty Branch Chair: Alan Gregory alan.gregory@mwhglobal.com Central Branch Chair, Administrator: Stephen Carruthers Stephen.Carruthers@nzta.govt.nz Canterbury/West Coast Branch Chair, Technical Subgroup Coordinator/Liaison: Jeanette Ward jeanette@abley.com Southern Branch Chair: Phil Dowsett Phil.Dowsett@nzta.govt.nz

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Kids explain traffic engineering

"Cars make hot air and this rises and makes cyclones. So we shouldn't have too many cars. The only time you should is when it's raining."