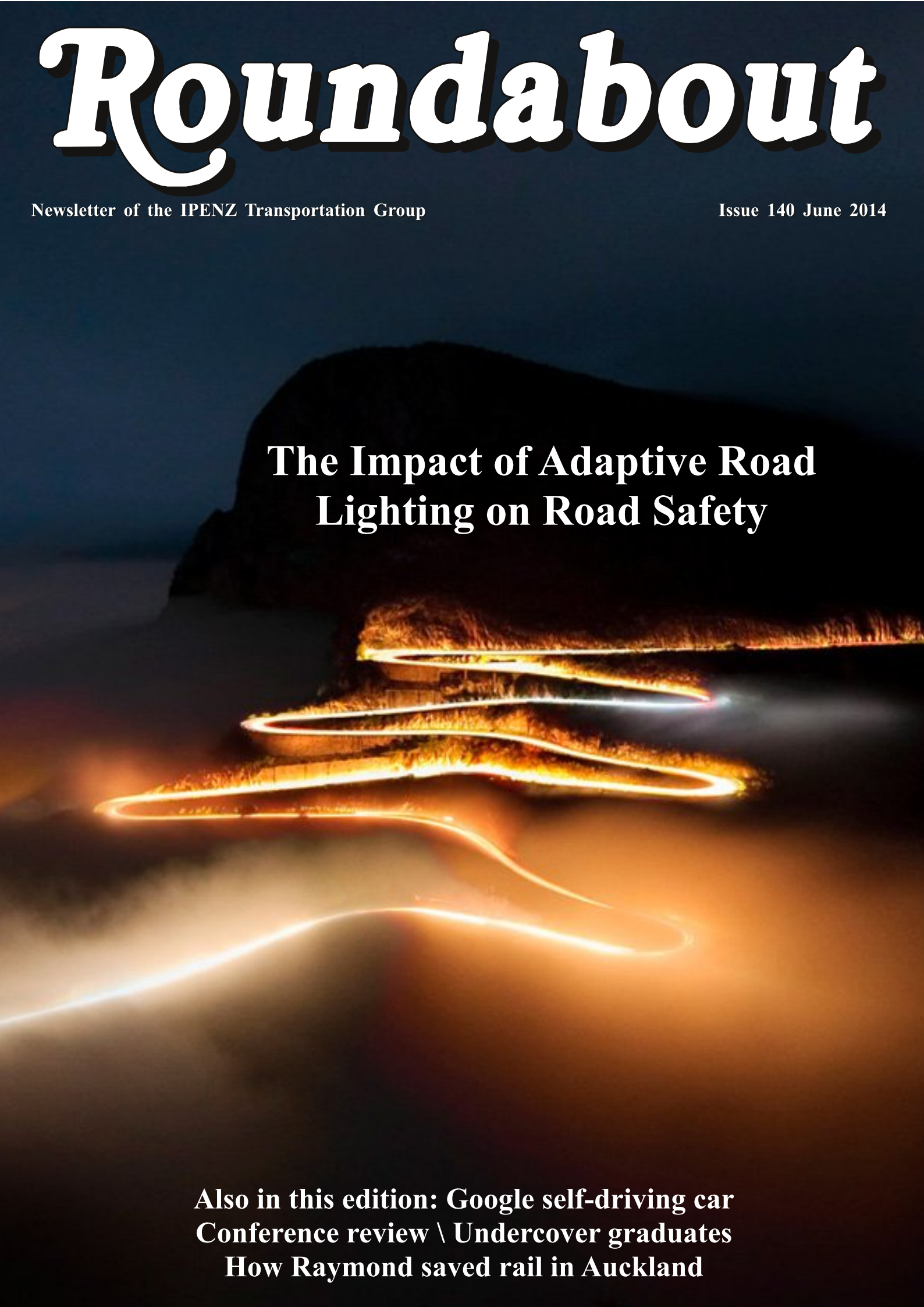
Roundabout

Newsletter of the IPENZ Transportation Group

Issue 140 June 2014



The Impact of Adaptive Road Lighting on Road Safety

Also in this edition: Google self-driving car
Conference review \ Undercover graduates
How Raymond saved rail in Auckland

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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: daniel.newcombe@aucklandtransport.govt.nz 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: http: //ipenz.org.nz/ipenztg/files/TGApp.pdf

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Editorial

The Wellington conference is now just a fond recent memory, but a few events stand out.

Being the centenary of IPENZ, it was great to see a number of 'retrospective' presentations on the history of transport in NZ. We spend so much time focusing on changes ahead, sometimes we forget just how far we have come, as a profession and a country.

The changes in transport technology, land uses, social systems and public expectations are staggering. The article on page 40 about how Raymond Siddalls saved Auckland's rail system is a glimpse into just how bad the rail network was, and how close we came to it shutting down completely.

Another memorable conference event, for me anyway, was the number of people who gave me feedback - both positive and negative - on Roundabout. The purpose of this magazine, again this is a personal view, is to share the ideas, stories and opinions of the transport industry (and other interested parties) for the betterment of the profession.

This sometimes means hearing opinions or facts that you may not agree with. But that's fine. That's the whole point. If Roundabout was only a list of things we all agreed upon or that were without controversy or interest, what a dull magazine that would be.

In that respect, I was as pleased (if that is the word) with the negative feedback. None of those complainants criticised the magazine for being dull - it was always an opinion, image or statement which caught their ire.

To all of those people, I offered to publish their counterclaims or opinions, or just their complaints. I see it as a sign of a healthy profession to have this kind of dialogue. So, if you disagree with something in Roundabout, don't just fume - write me something to publish in the next edition.

The conference itself was generally far less controversial but still excellent (see the conference review on page 10). Thanks go to Glenda and her team at Hardings, as well as the organising committee, for a well-run and enjoyable conference.

We spend so much time focusing on changes ahead, sometimes we forget just how far we have come, as a profession and a country.

Somehow they managed to arrange excellent weather for the duration of the conference, except during the conference dinner, when we were inside anyway. The balmy evening/night at Zealandia sanctuary was a stand-out. It's hard to top seeing kiwis and tuatara wandering around, but I'm sure the 2015 Christchurch conference organisers will give it a go.

This edition contains award-winning conference material - papers, presentations, posters - as well as the usual assortment of interesting and thought-provoking articles. Not all of it you will agree with. And that's the point.

Daniel Newcombe
Roundabout Editor

For more on Gandhi, see the conference review.

Chair's Chat

What makes a great city? Auckland aims to be the most liveable city in the world by 2040. Many of you will I assume be familiar with the attributes to be achieved in gaining such a lofty status but I'm going to shoot blind while using my tablet out of Wi-Fi range while holidaying in Shanghai.

To me every great city has to have a water feature, either a harbour, river or lake. It has to have a vibrant streetscape where you can walk around enjoying curious shops, cafés, little parks, without having to walk for ages. Major attractions on an international scale affordable and accessible by different transport modes are a huge plus, particularly if several of different sorts.

Wellington's (capital) sister city Beijing ranks well on this aspect but for me not so great on the others. Singapore does okay but its vibrancy is fairly uniform and its attractions are not on the same level as say the Bund here in Shanghai, and it sterilized all the older more interesting parts.

Apparently the French concession in Shanghai was a more shady lower rent area than the more organized British quarter - the demolition of the Wakefield market in Wellington lessened the variety in Wellington and I wonder what would have happened if the original Frederick and Haining St properties and opium dens of Chinatown had been retained.

In terms of transportation I think a great city needs great public transport, mainly an easy metro system but also easy and cheap taxi system. I've never been to America but in the absence of cheap taxis then simple multimodal multipass public transport card for bus, tram, ferry and train is needed instead.

This helps a city be liveable while not especially great in the world scale. What also helps are different seasons (but not in one day!) and pleasant evenings with shops, outside dining etc. still open to enjoy after a sunset cruise. So unless global warming concentrates in NZ we're not in the running on this score.

We do better on cleaner air and pavements (Paris has lots of dog shit) and we could do more to promote cycling, skateboarding around a key natural feature such as a Harbour. I enjoyed Hangzhou which has well used public bicycle hire system, although we hired privately, as we also did in Xiamen - having an electric bike option as many Chinese use would have been better still.

I wonder what would have happened in Wellington if the opium dens of Chinatown had been retained?

It seems to me that having a car-free area also helps improve a city. Wellington's sister city Xiamen has Gulangyu, a small traffic free island with only odd golf carts and old style carts pulled by hand. Wellington screwed up the pedestrian only part of Manners Street in my mind, not seeing beyond engineering / planning, something we all need to be mindful of even if our intentions are good.

Xiamen also has a 20th century university, along with nearby temple complex, that attracts thousands of tourists a day - you have to see it to believe it. Wellington city and other councils via Grow Wellington are working hard on limited budget to attract more education-based and other investors from sister cities et al. to Wellington to help incremental improving the coolest little capital in the world (Lonely Planet, Best in Travel 2011). Cruise ships, convention centre, airport are part of the bigger more welcoming picture, along with I hope electric buses.

Great cities also have security and police officers visible everywhere and their own in-house parking enforcement. I think in time to come they will also have drone deliveries established replacing courier deliveries. They have rail links to their airport(s) and high speed train services to other cities. So this also rules out NZ from great city status but having great liveable cities is still achievable.

Parking

I look forward to Wellington bringing parking enforcement back in-house. I have personal bad (unfair if not legally challengeable) experience with the current private contractors and similarly with Wilson Parking regarding off-street parking. I invite the CEO of Wilson Parking NZ to call me to discuss the issue of signage in particular and their auditing processes, which I think many members would be interested to learn about. Watch this space...

Weekend peak and its importance

Recently I heard it said from a road controlling authority employee that the weekend peak doesn't matter, even though it could be worse than the weekday peaks. A recent report by consultants for the NZTA didn't assess the weekend peak even though the previous report by a different consultancy identified that the Saturday peak level of service was substandard (but said that it didn't matter!). I raise the issue that this offhand dismissal or discounting of adverse weekend effects is an example of possibly being negligent, and I remind all members of their requirement to adhere to the principles surrounding membership of our Group.

TCD Manual and PPM follow-up

In a previous Chair's chat I did a status review of some NZTA publications. My follow up on 10 June (http://tinyurl.com/kmqgq4w) reveals no progress has since been made or even change to the TCD current status on the NZTA website. However this is being bought again to the attention of NZTA in the meetings we are holding with them, originally planned to coincide with our annual conference.

We did manage to hold a productive meeting at the time with the MoT deputy CEO and hope to arrange regularly scheduled meetings in due course with both the MoT and the NZTA.

Christchurch is rebuilding. How will it look in March 2015?
Find out. Be there for the 2015 IPENZ Transportation Group conference.
Details coming soon!

Furthermore our SNUG sub-group is involved with the NZTA in the revision of the national traffic signals specifications, held up in some part due to co-funding issues I believe. With respect to the Marking specifications "under consideration", if any member can enlighten me to its status, please do so, as my previous experience with sending an enquiry via info@nzta.govt.nz is about a 10% hit rate (does anyone do any better?).
Likewise re the Planning Policy Manual (http://tinyurl.com/ldztcwl) - is the 2007 Version 1 still current? ("This document is currently being reviewed by the NZTA" – no change noted in the past few years even though I know that MWH sent in various suggested changes on more than one occasion).

What's in a name – IPENZ?
IPENZ is considering changing its name again, including a subtle option to change E=Engineers to mean E=Engineering. Actually I personally like this idea and consider that perhaps it should be the base case, even though other "professionals" such as politicians sometimes "engineer" matters to best suit their circumstances (no, I'm just joking, lol). All are welcome to voice your opinion.

Also, congratulations to this year's winners of sponsorship to the AITPM conference: Craig Mitchell (Aurecon) and Gabriela Surja (Aecom). They will be reporting back to their local branches and contributing an article to a future Roundabout.

Dave Wanty
National Committee Chair

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

IPENZ TRANSPORTATION GROUP

Letter to the editor

Dear Daniel,

My December 'Roundabout' article about Women in Transport has certainly generated significant feedback, but not in the way that I naively hoped. I had a handful of emails in response, all in support of industry efforts to look into the real issues affecting gender imbalance in transportation.

This handful was outweighed by the number of 'phwoah, love the hottie on the cover' and also by the 'it is outrageous that you published that cover' comments that I understand you received as Editor. To me both of these points affirm that as a group, we are not at a level of maturity to really make organisational change that might address issues of equity and balance.

On the one hand, we have in our membership disappointingly vocal minority of little boys who will always be boys. They completely missed our intended irony with the woman-in-a-hard-hat cover. It was meant to be confronting so that people would read the article.

On the other hand, people who complained about the cover being demeaning also missed the point entirely. Trying to change culture by not using pictures of attractive women is like trying to win a horse race by dressing the filly as a Ferrari. Underneath, it's still a horse.

I wrote the article hoping to find a large enough subset of members willing to do the hard work necessary to start turning the tide in our industry. Interest is sparse and the waves are too high.

To all of those who read the article and agreed with my sentiments, thank you, and fear not; change takes time and I'm sure the tipping point will come. We will wait until the energy of the committed has potential to outweigh the immaturity of the loud minority. My benefit/cost calculation on that situation says 'not yet'.

Bridget Burdett

Ed: I too was disappointed at the response. Page 38 of this issue has a story on a leading transport professional, who happens to be a woman. Hopefully in a few years we will all look back in wonder at the time when it was ever necessary to discuss the gender make-up of our profession... In the same way we are today bewildered by these 1895 instructions to women about cycling:

- *Don't faint on the road.*
- *Don't wear a man's cap.*
- *Don't wear loud hued leggings.*
- *Don't cultivate a "bicycle face."*
- *Don't refuse assistance up a hill.*
- *Don't go to church in your bicycle costume.*
- *Don't wear a garden party hat with bloomers.*
- *Don't contest the right of way with cable cars.*
- *Don't wear white kid gloves. Silk is the thing.*
- *Don't go out after dark without a male escort.*
- *Don't let your golden hair be hanging down your back.*
- *Don't ignore the laws of the road because you are a woman.*

Carne Clissold – 1935-2014

On May 3, 2014, at Bishop Selwyn Lifecare, Carne Clissold, aged 79 years passed away. An esteemed Traffic Engineer for 40 years, his colleagues have compiled the following piece.

Carne Clissold BSc, MEngSc (NSW), FIPENZ (Retired) joined the Transport Department (forerunner to the Ministry of Transport, Land Transport Division, Land Transport Safety Authority, Land Transport NZ, and NZ Transport Agency) as a traffic engineering cadet in 1952. He went on to complete bachelors and masters degrees in transportation science, specialising in traffic engineering.

In 1962 Carne was promoted to Traffic Engineer Hamilton, but in 1965 moved on further promotion to Head Office in Wellington where he remained for his working career. In 1973 he was Senior Traffic Engineer Operations and in 1975 was promoted to Chief Traffic Engineer when a vacancy arose.

Despite some name changes (to Manager of Road and Traffic Standards) he continued in this substantive role until 1992 when he retired just before the establishment of the Land Transport Safety Authority.

Carne was a founding committee member and strong supporter of the IPENZ Transportation Group and the Traffic Management Workshop. He and his peer John Toomath were a force to be reckoned with in the traffic engineering profession in New Zealand for some 30 years.

During his career he managed the implementation of metrication and new transport legislation in 1976, which brought in the "left turn give way rule" that has only just been abolished. Legend has it this generated enormous piles of ministerials which Carne (predominantly) and his staff were obliged to draft answers to.

Under Carne's guidance and mentoring the traffic engineering section and its members always survived the myriad of corporate restructurings better than any other group in the Ministry. In fact they never lost anyone though redundancy - this was an under-recognised outcome of Carne's influence and the respect he carried in the various organisations.

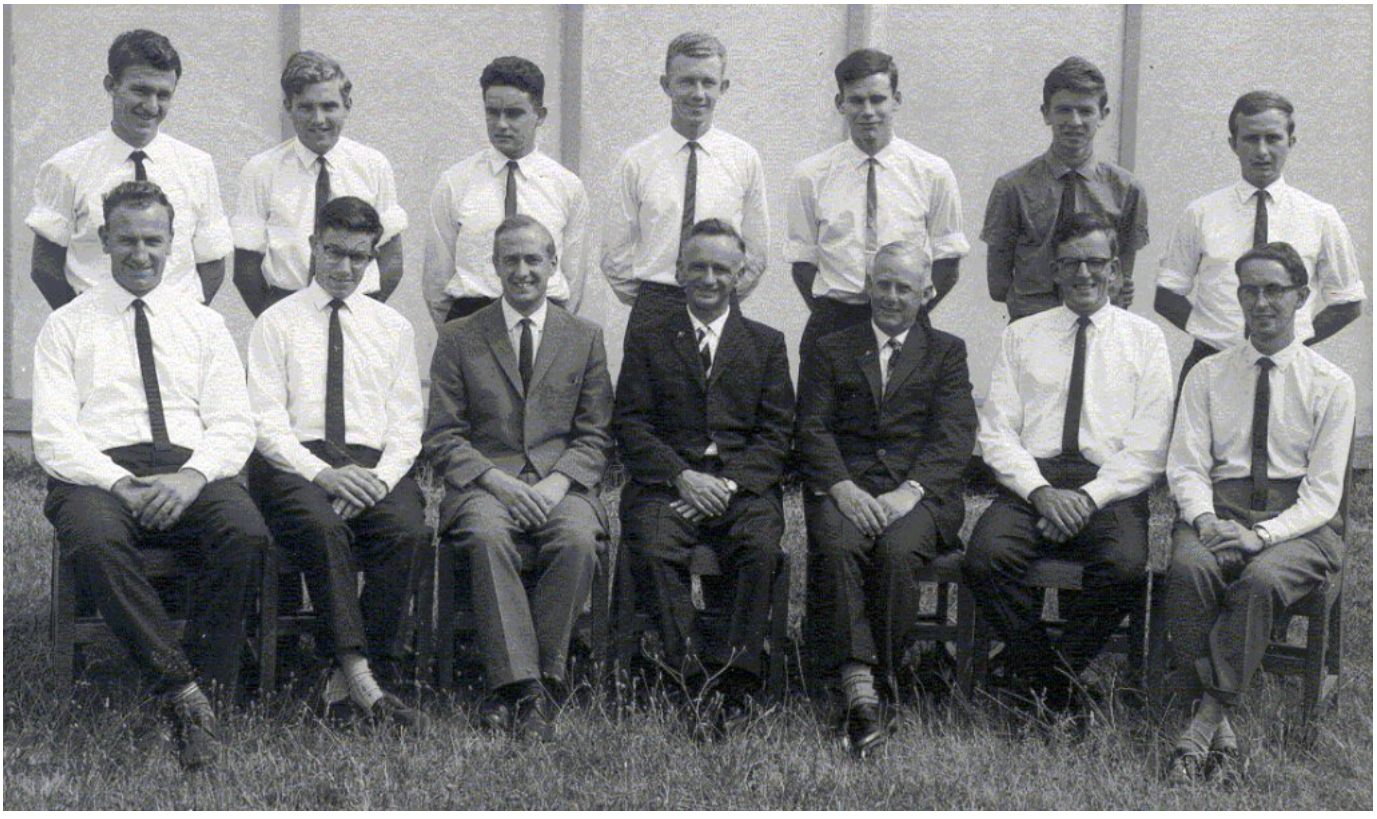
Staff who worked for Carne universally recall his calm disposition (not getting flustered despite the many trying customers he interacted with), kindness, gentle nature, thoughtful management, professional knowledge and integrity, and personal encouragement.

He was by no means a stickler for "the book" and was by the standards of the times a very modern manager, giving staff considerable freedom to achieve outcomes he had specified. These were happy and settled times when the Ministry staff were creating and upholding transport policy, and also performing operational functions somewhat like consultants do today, thus keeping the work interesting and varied.

Other memories are of Carne's desk piled high with files – to the chagrin of the records staff. These piles grew ominously upwards but Carne knew where everything was. Staff acting when he was away invariably tidied his desk, and Records staff would retrieve the files when he went on leave. Research however shows an untidy desk often goes hand in hand with an organised mind!

Carne's passion for sailing, mulled wine and home brew should not go unrecorded. He was a devoted family man and will be greatly missed by his wife Janet, son Tim, daughters Carolyn and Louisa, and members of the traffic engineering profession.

Carne is lower right in the photo below from the 1964 Traffic Management Workshop.



Updates

New York offers Auckland some transport advice

Recently Auckland was visited by an world-reknowned transport leader. Janette Sadik-Khan served as the Commissioner of the New York City Department of Transportation from 2007-13 and is Chair of the Strategic Advisory Board of the National Association of City Transportation Officials.

Janette spoke on her transport experiences in New York City. She led many innovative projects, including the creation of Broadway Boulevard, installation of 60 plazas, the addition of more than 600km of on-street bike lanes and the creation of Citi Bike (which is North America's largest bike share system), car-free Summer Streets, weekend pedestrian walks and creating more durable and attractive streets.

A typical approach was to implement street redesigns with paint and temporary bollards, then measure changes in traffic capacity and collisions before repaving or making other permanent changes. Her DOT also issued the first strategic plan in the agency's history.

Janette is also known for her work in implementing the New York City's 1997 Bicycle Master Plan. She installed the city's first parking-protected bike lanes on 9th Avenue. She has received numerous international accolades for her contribution to public service and transportation which includes the Lee Kuan Yew World City prize.

See her Auckland presentation at: http://tinyurl.com/JSKinNZ

2WALK AND CYCLE
communities on the move
2014 CONFERENCE
Nelson, 29-31 October 2014

Nelson is a community on the move and is considered by many as the walking and cycling capital of NZ. Experience how active transport can succeed in NZ by being part of the second 2WALKandCYCLE Conference.

We invite you to join us at the conference and:
- meet fellow professionals
- be inspired by New Zealand success stories
- share in the 2014 walking and cycling awards of excellence
- learn from international technical experts
- see the latest design technology and innovations
- take part in practical field trips.

Come along and experience how the 9% modal share of cycling and 10% modal share of walking shapes the Nelson community. This conference will also showcase the recently opened regional NZ Tourism Great Taste Cycle Trail.

Go to: www.2walkandcycle.org.nz

5th New Zealand Mobilities Symposium

Researchers from the social sciences and humanities are invited to join the mobilities studies community in Aotearoa New Zealand in exploring current and possible future mobilities and resilience.

People from any discipline are welcome and postgraduate participation is encouraged. The symposium will explore empirical research and ideas about how people, things and ideas may move – or not – in the future, and how such mobilities may impact on human, economic and environmental resilience.

Keynote speakers include Dr Juliet Jain and Dr Billy Clayton, Centre for Transport & Society, University of the West of England (Can digital presence reconfigure experiences of absence? - via videolink) and Dr Tara Duncan, Department of Tourism, University of Otago (Where might 'mobilities' go?)

Date: 3–4 July 2014
Venue: Dept of Public Health, University of Otago (Wellington)

Info: www.sustainablecities.org.nz/2014/03/mobilities/

new zealand centre for Sustainable Cities
te pokapū rōnaki tāone-nui

Updates

Need to know more on the CoP for utility operators' access to transport corridors?

The National Code of Practice for Utility Operators' Access to Transport Corridors was collaboratively developed by representatives of Road Controlling Authorities and Utility Service Providers and approved by the Minister for Infrastructure on 10 November 2011.

The Code is mandated by the Utilities Access Act 2010 and managed by the NZ Utilities Advisory Group (NZUAG).

By agreement, the principles of The Code apply to all works being carried out on, in, above or below the road reserve, thus any Road Controlling Authority's own development, renewals and maintenance.

It has become apparent that there is a considerable lack of knowledge of The Code and of its content in all sectors of the industries and organisations involved in road works resulting in poor processes and practices.

To assist in overcoming this and to help get all participants onto a level playing field, NZUAG and NZIHT have combined to develop a course that will unravel any mysteries.

The course is presented by Fiona Knight, Executive Officer of the NZUAG from 2001 to 2013. Fiona is a qualified and award winning presenter who has lived and breathed The Code from concept to completion.

The course, held over 2 days, is happening in Auckland on 16 & 17 July 2014 and is highly recommended for those involved in working on the road. For further information regarding this course please contact the Course Co-ordinator Lisa Banks on (06) 759 7065 ext 705 or lisa@nziht.co.nz

If you cannot attend the course you can access and download The Code via http://tinyurl.com/utilityCOP

Planners love motorways*

*Well, the consultation for one of them

The Christchurch Southern Motorway Stage 2 (CMS2) project recently received the prestigious 2014 New Zealand Planning Institute Best Practice Award. The annual awards recognise excellence within the New Zealand planning profession.

The CSM2 project team, led by GHD with partner Beca for the NZ Transport Agency, was recognised for helping deliver strategic consultation and participation processes for the motorway upgrade.

The consultation methods used by the team transformed public perception of the project and enabled a smooth journey through the Environmental Protection Authority's national consenting process. According to the citation, "This collaborative and professional approach demonstrates how responsive and proactive consideration of public and stakeholder feedback during consultation can deliver positive outcomes."

Mary O'Callahan, GHD's Planning Manager says, "When initially introduced, CSM2 drew high levels of community opposition. However, over a three year consultation and design process the project team improved public perception and addressed many of the issues that were initially raised."

Volunteers sought for IPENZ accreditation panels

IPENZ are seeking assessors to participate on panels for the accreditation of engineering qualifications in New Zealand.

Professional accreditation of engineering education programmes is a core professional body activity, which sets and maintains the academic standard for entry to the engineering profession under the Washington, Sydney or Dublin Accords.

IPENZ are seeking nominations from industry-based engineers to join accreditation panels to evaluate engineering qualifications ranging from two year diplomas to four year Bachelor of Engineering/Honours degrees.

There are two accreditations this year, in September and October, however volunteers may be able to assist with future assessments as well.

Any Transportation Group members interested in helping, please contact Catherine Novak – Learning and Development Advisor email: AdvisorLD@ipenz.org.nz or phone: 04 474 8982

transport ingenuity
celebrating 100 years

IPENZ TRANSPORTATION GROUP

3M

1914 – 2014

Shed 6, Queens Wharf,
Wellington
23 – 26 March 2014

ipenztg2014.co.nz

"The future is already here – it's just not evenly distributed"
~William Gibson

That quote was shared by one of the Keynote Speakers at this year's IPENZ Transportation Group conference which took place in March, in Wellington.

The conference theme was *'Transport Ingenuity: Celebrating 100 years'* to align with the centenary of IPENZ - or at least, 100 years since the 'New Zealand Society of Civil Engineers' was established in 1914.

It was a longer than usual conference, with three days of lectern presentations and parallel sessions including poster displays and 'roundtable' talks, as well as a welcome function at Zealandia on the Sunday evening and the lavish Conference Dinner on the stage of the historic St James Theatre on Tuesday night.

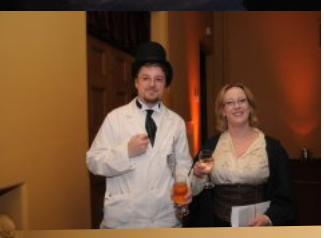
There was something for everyone in the technical programme, with sessions as diverse as Active Modes, Pavements, Signals, Modelling, Road Safety and Railways. In some ways the diversity of the profession is a disadvantage for conference organisers, because many delegates seem to have quite a niche interest and aren't so interested in the bulk of what is a widely varying programme.

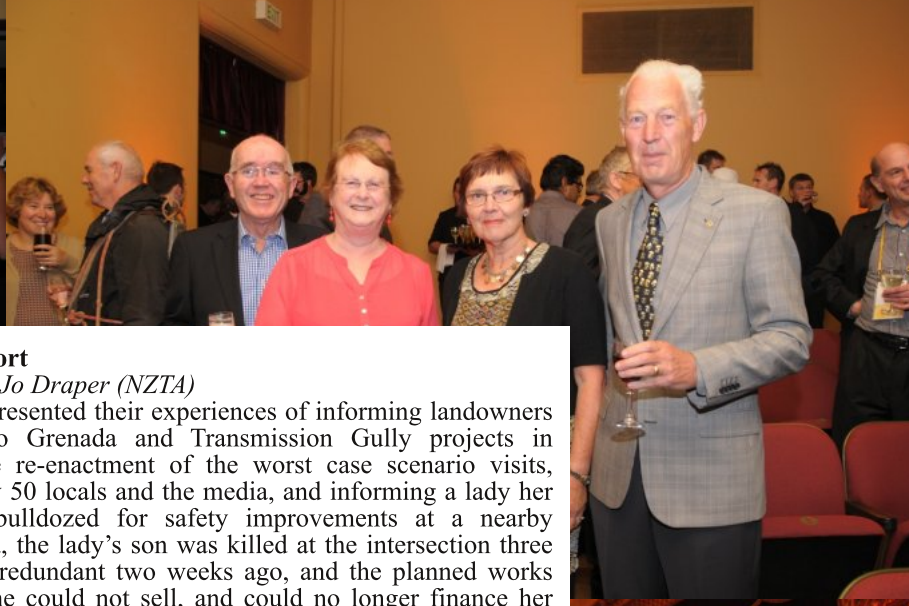
However, everybody seemed to enjoy themselves and there was good opportunity to mingle and network. In fact, I felt after the event that it is the time spent in relaxed conversation that seems to bear the most fruit in this small industry.

Here are some summaries of presentations some of my colleagues found particularly interesting, and here is the place you can download all of the available presentations and papers:
http://conf.hardingconsultants.co.nz/ipenztg2014/presenters/

Safer Journeys and Safe Speeds: The international context
Keynote presentation by Dr Soames Job

Main point was that safe speeds is the crucial factor in the safe system, largely because it seems that the driving public do not understand the direct link between speed and crash risk. Raising acceptance is a social and media communications issue. The focus now is on designing for the worst drivers, with a focus on reducing injuries rather than reducing crashes as a whole (because crashes are inevitable, but injury/death is not).










The Pointy End of Transport
Roundtable presentation by Jo Draper (NZTA)
NZTA Transport Planners presented their experiences of informing landowners affected by the Petone to Grenada and Transmission Gully projects in Wellington. Included some re-enactment of the worst case scenario visits, involving being picketed by 50 locals and the media, and informing a lady her house was going to be bulldozed for safety improvements at a nearby intersection. As it happened, the lady's son was killed at the intersection three weeks ago, she was made redundant two weeks ago, and the planned works around her house means she could not sell, and could no longer finance her mortgage.

Tips were given, including:
- Timing of consultation is key – the best time to go is when you have settled on a final option, but there hasn't yet been enough design done to stop you from switching to another option.
- Consult affected landownders in teams of two: one older, one younger; one male, one female; one experienced, one graduate.
- Expect the unexpected/worst case... there are always unfriendly dogs…
- People generally react in one of three ways: detached/business like; emotional; or angry.

Mobility in a world beyond the motor age
Keynote presentation by Professor Glenn Lyons (Transport Sociologist, University of West England (Bristol, UK) (he who provided the quote at the top of this story)
We have two ages co-existing: the motor age we all grew up in, and the 'digital age', where access is not necessarily related to physical proximity. The digital age is not replacing travel, but enhancing access with no change to overall amount of travel per person. We have been living through this revolution for the last two decades.

Network Operating Frameworks (NOF) and Network Operating Plans
Lectern presentation by Stephen Carruthers (NZTA)
This presentation was included within the Signals Tech Group session, which was debatably one of the more interesting overall sessions at the conference. Stephen presented on work NZTA has initiated workshopping with Local/Regional Councils in the 3 main centres. This involves the use of VicRoads "SmartRoads" software tool.

The parties go through the network with a fine toothed comb, identify areas with issues, by time of day, and prioritise modes. The tool then produces a network "impact" style plot coloured by mode, time of day etc. This then appears to be being translated into the NOP ('Plans') to deal with the issues identified – the tool can identify potential benefits of treatments. There are several interesting points to this:
- In Chch, the process identifies that Riccarton Road has issue with buses during the AM Peak
- The tool is not a model, it therefore has less sophistication in relation to system interactions and numerical outcomes.

In summary, everyone found different things interesting and relevant, the social functions were an outstanding highlight as usual, and I want to be a Transport Sociologist when I grow up.
Bridget Burdett

3M Award winner: Hamish Mackie, Mackie Research; Colin Brodie, Ken Holst, Fergus Tate, NZTA; Murray Russell, Armitage Group "RURAL INTERSECTION ACTIVE WARNING SYSTEM"

3M Finalist: Doris Stroh and Andrew Stevens, AMA "USE OF ORANGE TAPE FOR TEMPORARY DELINEATION OF ROAD WORKS SITES"
3M Finalist: Mark Lilley, Colin Brodie, Tony Spowart, Ken Holst, NZTA; Bridget Burdett, TDG "WIDE CENTRELINE TRIAL"
3M Finalist: Robyn Gardner, ACC; Peter Kortegast and Neil Garnett, OPUS; Brian Runciman and John Ashman, HMI; Jean-Francois Rheault, Eco-compteur; Philip Walton, Integrated Traffic Solutions "VEHICLE ACTIVATED ELECTRONIC SIGNS"
3M Finalist: John Glen, Tauren Barriers Ltd "TAUREN BARRIERS – WORKSITE SCREENING"

NZAA Award for Best Transportation Paper: Hamish Mackie, Mackie Research; Colin Brodie, Ken Holst, Fergus Tate, NZTA; Murray Russell, Armitage Group "HELPING DRIVERS TO MANAGE SAFETY AT HIGH RISK RURAL INTERSECTIONS"

Roundabout Award for Best Contribution: Ian Munro, Urbanism+ "IS THE WAY WE VALUE TRAVEL TIME FUNDAMENTALLY FLAWED?"

Best Technical Note: Wayne King, Hutt City Council; Mike Brearton & Brett Abbott, Digital Telemetry "40KPH SCHOOL ZONES REMOTE INTEGRATED SIGN CONTROL & MONITORING"

Best Young Author: Pritesh Karan, University of Auckland; Dr Douglas Wilson and Dr Tam Larkin, University of Auckland "METHODS OF COMPACTION OF BASECOURSE AGGREGATE FOR REPEATED LOAD TRIAXIAL TESTING"

Highly Commended Paper: William Frith, Opus Research; Mike Jackett, Jackett Consulting "THE IMPACT OF ADAPTIVE ROAD LIGHTING ON ROAD SAFETY"

Highly Commended Paper: Glen Koorey, University of Canterbury "INVESTIGATING COMMON PATTERNS IN NEW ZEALAND CYCLING FATALITIES"

Highly Commended Young Author: Paul Young, Generation Zero "A YOUTH PERSPECTIVE ON THE FUTURE OF URBAN TRANSPORT – GENERATION ZERO"

People's Choice - Oral Presentation - Monday: Sam Corbett, Auckland Transport "IF YOU BUILD IT, WILL THEY COME? CYCLE FACILITIES - STATE OF THE PRACTICE"

People's Choice - Oral Presentation - Tuesday: Chris Morahan, Opus International Consultants; Luke Reeves, NZ Transport Agency "UNDERCOVER GRADUATES: CLIENT VS CONSULTANT"

People's Choice - Oral Presentation – Wednesday: Imran Muhammad, Massey University "THE POLITICAL-INSTITUTIONAL CHALLENGES IN AUCKLAND PUBLIC TRANSPORT"

People's Choice - Poster Presentation: Urie Bezuidenhout, Da Vinci Research "ROAD SIGN CONSPICUITY AND MEMORABILITY - WHAT WE SEE AND REMEMBER"

People's Choice - Roundtable Presentation: Jo Draper, NZ Transport Agency "THE POINTY END OF TRANSPORT"

Conference dinner quiz: See if you can put a name to the past or present face.

Vacancy: Senior Transport Planner/Project Engineer - 2 Year Fixed Term - Auckland Transport

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For more details contact:
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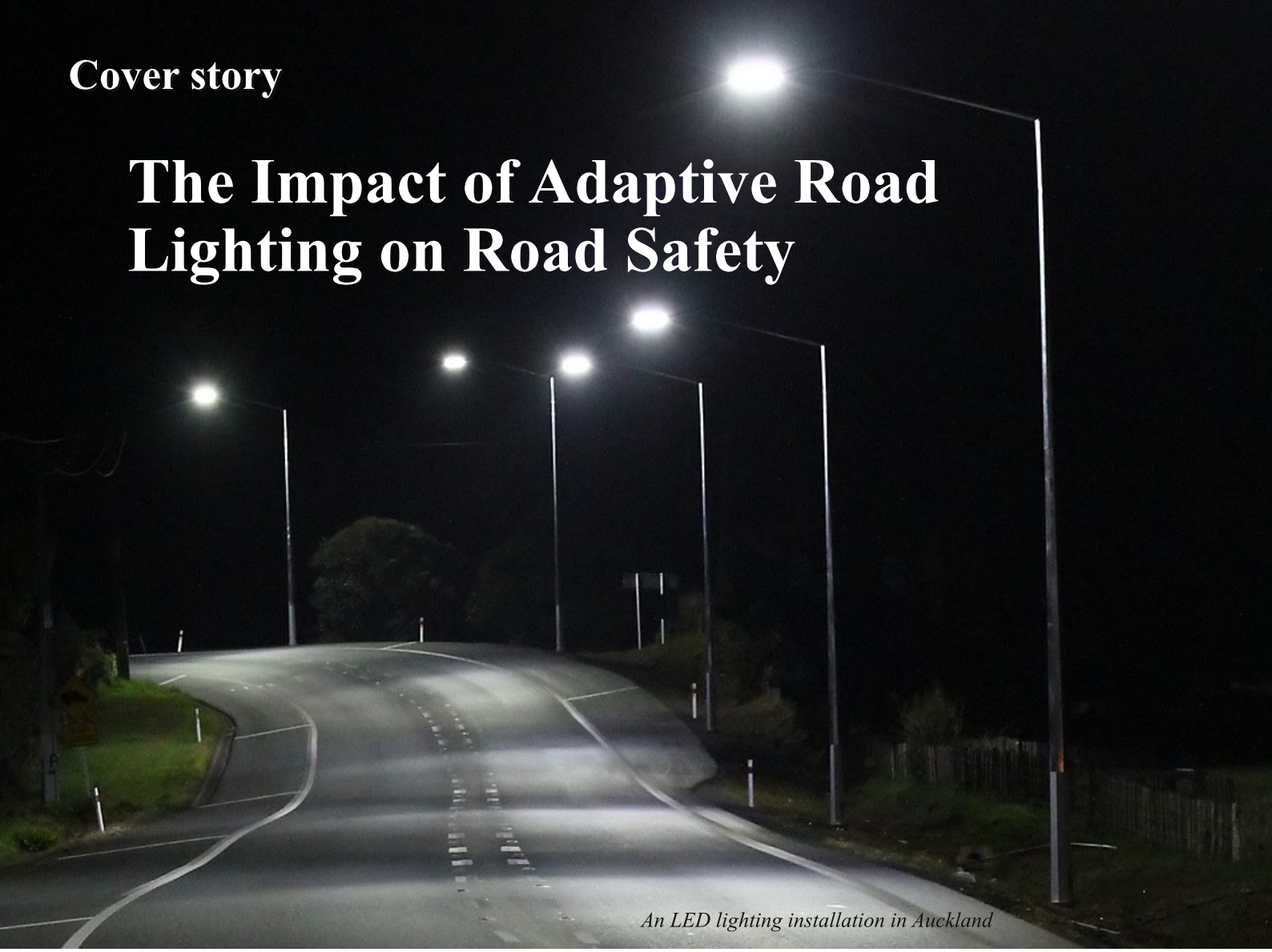
The Impact of Adaptive Road Lighting on Road Safety



An LED lighting installation in Auckland

This article, by Bill Frith (Opus Research) and Mike Jackett (Jackett Consulting) is a summary of the paper which won a Highly Commended award at the 2014 IPENZ Transportation Group conference.

Road lighting for safety

Road lighting is primarily a safety measure. As stated by Austroads in 2004, "Road authorities are primarily concerned with road lighting for its crash reducing potential, with any improved road utilisation or level of service being a secondary benefit."

This is in accord with the Safe System Approach to road safety now adopted throughout Australia and New Zealand. The ultimate goal of the safe system approach is a road system free of serious injury and death

How effective a safety measure is road lighting?

The literature generally associates improved road lighting with crash reduction (~30% reduction). In reports of before and after studies the prior and post levels of lighting are seldom stated. Under a Safe System Approach it is important to optimise the safety benefits of lighting in the context of our overall repertoire of road safety measures.

We now to know how safety in urban New Zealand varies with the level of lighting. Jackett and Frith (2013) described the dose response relationships between the level of road lighting and road safety for urban New Zealand lighting installations. This relationship is described in Figure 1.

This indicates that in general any decrease in lighting levels can be expected to decrease safety and vice versa.

What is adaptive lighting?

Adaptive lighting installations are those where lighting levels may be varied over time using computer-based control

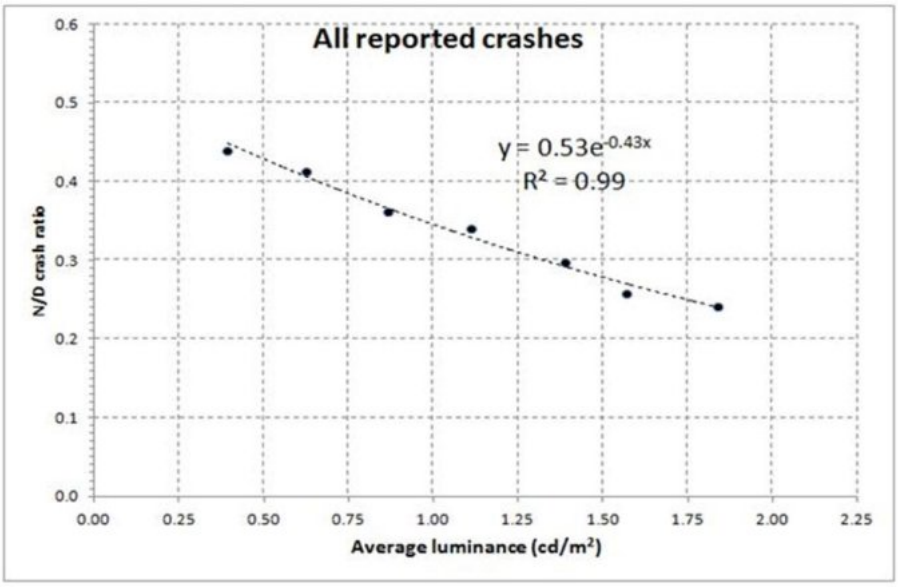


Figure 1: The relationship between the light reflected off the road surface and reported crashes

Night-time drink driving enforcement

systems. Adaptive lighting has been available for some time but the advent of LED technology has allowed it to be used with very little energy loss.

Adaptive LED lighting has many advantages
• LED luminaires use less power than legacy technologies
• The light is usually better directed, resulting in less light pollution
• Their light output can be easily reduced or increased using computer controlled technology
• Hardware prices are dropping and are expected to continue to do so

The advent of LED road lighting has made adaptive lighting much more accessible. Normal lighting is designed to a chosen subcategory of lighting according to national or local codes of practice and stays unchanged during the period of darkness.

Adaptive lighting is appropriate:
• where there is a need to vary the level of lighting at different times; for example off-peak, during better weather or worse weather, times when there are more or fewer crashes,
• when there are more vulnerable road users around or when there is more ambient light.

An example is the adaptive lighting used around Eden Park at the rugby world cup. With adaptive lighting a higher or lower level of lighting can be selected from the range of subcategories available in National Standards depending on the circumstances

With the arrival of adaptive LED lighting we now have in our grasp the ability to vary lighting levels virtually at will. This ability, as with all new technology will become more affordable.

To move towards a safe system, we need to know the safety impact of the changes we are considering, whether they involve dimming or brightening road lighting. Lighting decisions need to be made alongside with other safety measures so that overall system safety continues to increase, but with best use of the road safety dollar. This means that safety should be considered in all road lighting decisions including those related to adaptive lighting.

How adaptive LED lighting is used at present
Decision making on how to use adaptive lighting varies internationally
• Decisions tend to be based on traffic volumes and perceived energy savings
• Decisions tend to be arbitrary, based on little hard evidence, and safety is often not explicitly or implicitly taken into account.
• None of the approaches found internationally have provision for the direct inclusion of crash information in the choice of lighting level
• Most only allow dimming rather than dimming and brightening

New Zealand is fortunate that our road lighting standard allows for safety implicitly and also has flexibility to move to a higher as well as lower level of lighting as appropriate.

Lighting levels used in New Zealand
Lighting for road safety purposes is classified into four sub categories V1, V2, V3 and V4. Its use on roads is often guided by traffic volume and task related factors such as the presence of vulnerable users.
• V1 corresponds to an average luminance of 1.5 cd/m2,
• V2 to an average luminance of 1.0 cd/m2,
• V3 to an average luminance of 0.75 cd/m2
• V4 to an average luminance of 0.5 cd/m2

Traffic volume criteria and safety

Crash rates per hour vary during the night. Notwithstanding lower traffic volumes, they still exceed weekly median levels in the small hours of Saturday and Sunday mornings. This is related to the presence of high risk drivers who may be fatigued and/ or intoxicated.

Figure 2 illustrates the variation of risk over the days of the week and times of day on a selection of major urban roads within the former North Shore City.

It would appear sensible to use this risk information when setting adaptive lighting levels. If a lighting installation can be varied to deliver more light at the periods with high crash numbers and less light at the periods with low crash numbers, then safety can be maximised for a given total nightly lumen output. This concept was piloted in a case study of targeting lighting to risk using historical crash and flow data from the North Shore of Auckland.

Targeting lighting to risk
Now that we know how lighting level impacts on crash risk we can use this knowledge to estimate: potential savings

Hour	Mon/Tue	Tue/Wed	Wed/Thu	Thu/Fri	Fri/Sat	Sat/Sun	Sun/Mon
6-7pm	2.4	2.9	3.3	4.0	4.7	2.5	2.3
7-8pm	1.8	1.8	1.7	2.3	2.1	1.4	1.7
8-9pm	0.9	1.4	1.8	1.8	2.2	1.8	1.8
9-10pm	1.1	0.98	1.8	1.6	2.7	1.9	0.9
10-11pm	0.7	0.9	1.7	1.5	1.9	1.5	0.9
11-12pm	0.6	0.7	0.9	1.3	1.6	2.0	0.6
12-1am	0.6	0.5	0.5	0.98	1.3	1.6	0.3
1-2am	0.3	0.4	0.7	0.6	1.8	1.9	0.2
2-3am	0.2	0.4	0.4	0.7	1.1	1.7	0.5
3-4am	0.5	0.3	0.2	0.6	1.0	1.4	0.4
4-5am	0.3	0.2	0.3	0.6	0.9	1.0	0.1
5-6am	0.5	0.6	0.8	0.5	0.7	1.3	0.4

Figure 2: Number of crashes per hour normalised such that the median cell is set to 1.0

from utilising a higher and lower lighting level; and, comparative savings if targeting lighting levels by crash risk compared to traffic volume. We tested four scenarios:

• A single V3 level of lighting provided throughout the night. This represents the norm for much State Highway lighting in NZ.
• A V3 level provided for 50% of the night dimmed to V4 for the remainder of the night with switching based on traffic volume alone
• A V3 level provided for 50% of the night dimmed to V4 for the remainder of the night with switching based on historic crash records
• A single V2 level of lighting provided throughout the night.

Results (compared to no lighting)
• A V3 level all night provided crash savings of 27.6%
• A mix of V2 and V4 lighting based on traffic volumes provided crash savings of 30.6% (11% more savings than V3)
• A mix of V2 and V4 lighting based on crash risk provided crash savings of 31.4% (14% more savings than V3)
• A V2 level all night provided crash savings of 34.9% (26% more savings than V3)

In a real situation, the decision on lighting levels would involve consideration of the overall mix of road safety measures. This is only a rough illustration- extra safety achieved by targeting to risk will differ with the situation.

Discussion
• Traffic volume works as a reasonable surrogate for crash frequency, but fails in some specific high risk times at the weekend and approaching the weekend.

• A case study found that without increasing energy output an increase in crash savings of some 14 % over V3 lighting could be achieved with a simple two step adaptive lighting scheme (one level above, one level below normal) targeting light levels according to traffic crash data.
• A smaller figure (11%) is applicable if light levels are targeted according to traffic volume data.
• By increasing levels to V2 a 26% increase in savings could be achieved
• The ready availability of detailed traffic volume data at most road lighting sites could provide a useful first step in selecting periods for high and low level lighting.
• This could then be supplemented by information on high risk times, using information similar to that in the crash frequency matrices used in the case study

Conclusions
• Adaptive road lighting, within a safe system context, can fine tune our lighting conditions so that safety and environment benefits can be simultaneously realised at more optimal cost.
• As a simple guide urban arterial network lighting should be retained at higher levels during the dark periods from dusk Friday evening through to sunrise Sunday morning.
• As more sophisticated adaptive technology becomes available, weather related changes in lighting could be incorporated, giving greater light to those times when weather is bad.
• Guidelines to aid decisions on raising /lowering the level of lighting using adaptive LED technology would be helpful to practitioners

Reference: Jackett, M. and Frith, W. (2013). Quantifying the impact of road lighting on road safety — A New Zealand Study. IATSS Research, 36, 139–145.
Acknowledgement: NZTA provided the funding for this work

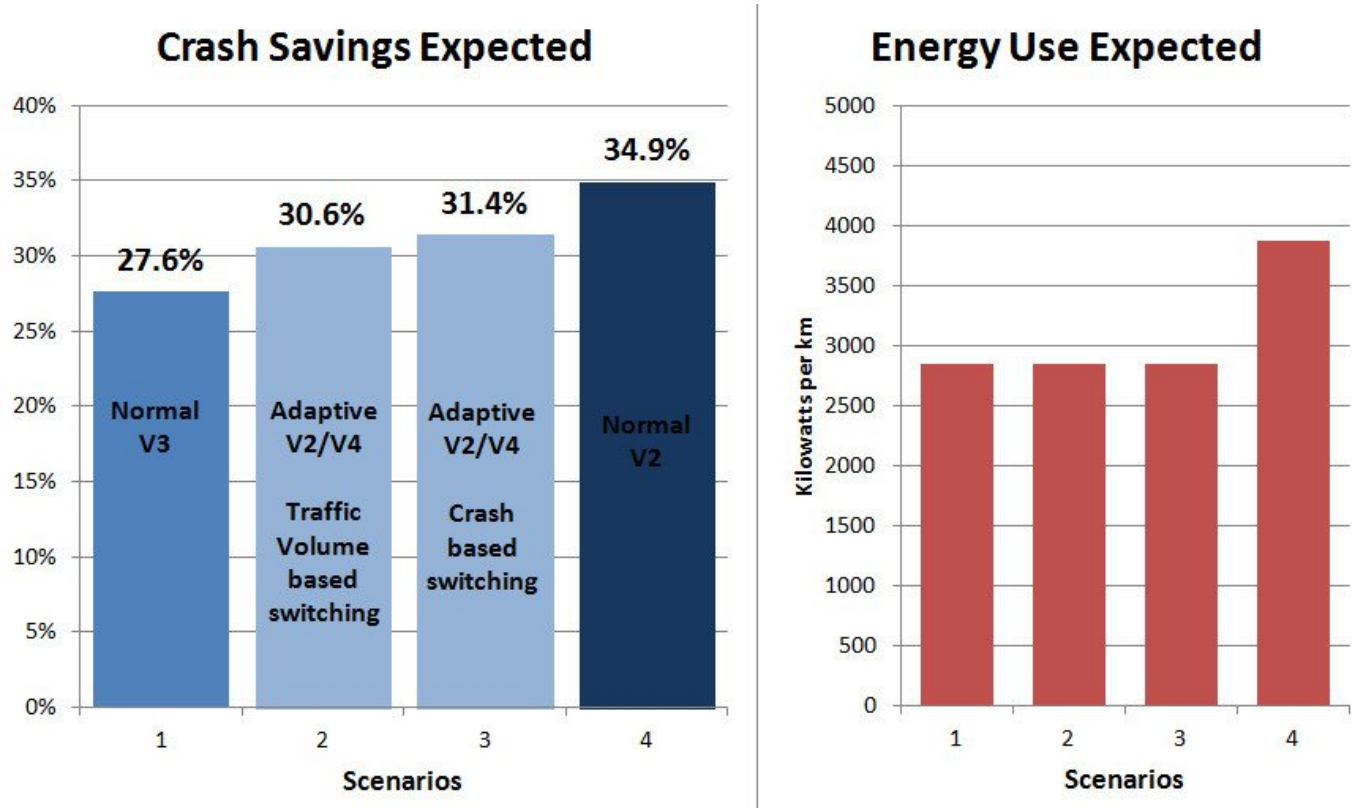


Figure 3: A comparison of crash savings and energy use for the four scenarios tested

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At the 2014 IPENZ Transportation Group Conference, Dr Hamish Mackie of Mackie Research and Consulting was awarded the 3M 'Traffic Engineer of the Year' prize for innovation, as well as the NZ AA Award for Best Technical Paper, for his work *'Helping Drivers to Manage Safety at High Risk Rural Intersections'*. A summary of the paper (co-authored by, pictured left to right, Dr Fergus Tate, Ken Holst and Colin Brodie - ahem, Gandhi - all of NZTA) is presented here.

In New Zealand, the Rural Intersection Activated Warning Signs (RIAWS) development began with a scoping study (Mackie 2010) to understand various intersection ITS based safety systems that have been developed overseas and the potential for the trial of such a system in New Zealand.

The most compelling of the overseas examples was a system that was trialled by the Swedish Road Administration (SRA) between 2003 and 2007. Variable speed limit (VSL) field trials were implemented at 19 locations in different parts of the country.

Many of the installations were at intersections where the variable speed limit was triggered by the presence of a side road vehicle that may have the potential for a collision. At locations where a permanent 90 km/h speed limit existed, a variable 70 km/h speed limit was installed. At these sites, vehicle speeds reduced by 14 km/h on average, accepted gap time increased by 1 - 2 seconds and the system was perceived very positively by the motoring public (Lind 2009).

RIAWS has the potential to reduce serious casualties at rural intersections by:

- Slowing motorists on major road intersection approaches and thus reducing crash likelihood (effectively increasing available stopping distance) and severity (less energy on impact)
- Increasing driver state awareness and therefore preparing motorists for a possible event (effectively reducing reaction time)
- Improving motorist gap judgement (accepting longer gaps) on minor road intersection approaches

Given the potential for RIAWS to improve safety at rural intersections, a trial was planned and carried out. The purpose of this trial was to demonstrate the development of a RIAWS system in New Zealand and evaluate its effectiveness.

After considerable development and discussion, the sign formats for RIAWS were agreed (Figure 1). The speed limit option has been evaluated to date with the "Slow Down" format currently being trialled in Northland.

Analysis determined that a variable speed limit of 60 km/h would be a 'Safe System' solution for the RIAWS. However, further discussion among the project team and wider reference group resolved that a 70 km/h variable speed limit may have overall better compliance by motorists. Based on this, a 70 km/h variable speed limit was chosen for RIAWS by the project reference group and project team.

Two initial pilot sites (Figure 2) were identified and confirmed:

- Himitangi (Manawatu) – SH1/Highway 56/Himitangi Beach Rd
- Yaldhurst (Canterbury) – SH73/Buchanans Rd

Figure 1: Signs developed for use as part of the RIAWS trial

Figure 2: The general layout of the Himitangi and Yaldhurst trial intersections

The RIAWS consists of the following elements (Figure 3):

- Side-road radar sensors (high definition radar) to detect approaching side road traffic approximately 150m from the intersection and activate signs
- Side-road limit line sensors (cut loops) to detect waiting traffic and trigger the end of sign activation following a delay
- Right turn bay sensors 50-66m from limit line, to activate signs, plus limit line sensors to detect queuing traffic and terminate sign activation following a delay
- Variable speed limit signs approximately 150m from intersection
- A central control system box to manage the system and accommodate data collection equipment

Evaluation Methods

This study evaluated the following outcomes:

1.RIAWS development and operational performance

2. Major road traffic speed through the intersection

3. Public perception and understanding of the system

Further work is underway to understand the motorist gap selection patterns following RIAWS installation. To understand the operational performance of RIAWS, the project team attended a 'launch' of each system and observed it operating.

Further, a regional engineer carried out a structured audit of various characteristics of the system shortly afterwards. The data collection system provided data from which an analysis of sign activation time could be carried out.

Speed was measured for each direction on the major road, both at the sign (using radar) and at the intersection (using inductive loops). A target of 14 days of data collection prior to, and following RIAWS commissioning, was set. In reality, eight days of data were collected before and after RIAWS commissioning at Himitangi and a ten days at Yaldhurst.

A public perceptions survey was carried out for Himitangi only, by capturing number plate information for vehicles passing through the intersection using automatic number plate recognition (ANPR) and then accessing vehicle owner address details through the motor vehicle registry (following NZTA approval).

A paper survey was then mailed to vehicle owners, with an option of completing the survey online. The survey asked motorists a range of questions related to the meaning, conspicuity and legibility of the signs and any perceived hazards and suggested changes associated with the system.

Evaluation Outcomes

The proportion of time the variable speed limit signs spent on and off was measured and analysed, to check power demand and ensure that the system was not being overused or underused. An example of the sign activation patterns is shown in Figure 5, for Yaldhurst.

At both Himitangi and Yaldhurst the sign was active for over 50% of the time for large parts of daylight hours, transitioning to minimal activation at night. The project team has concluded that this activation pattern is acceptable as it reflects the periods of demand and does not unduly slow through vehicles when there is no collision risk.

The RIAWS has been effective in reducing traffic speed through the intersections. When the signs are activated by potentially conflicting traffic, mean and modal speeds are typically very close to the speed limit of 70 km/h (Figure 4).

Figure 3: The RIAWS in operation at Himitangi with no conflict risk (left) and a potential conflict risk (right) with a side road vehicle present (circled)

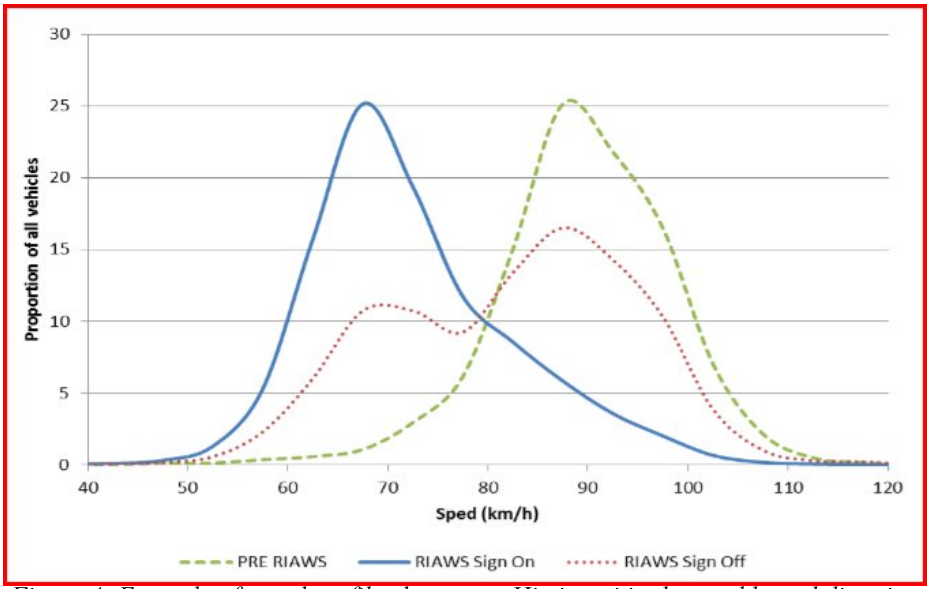

Figure 4: Example of speed profile changes at Himitangi in the northbound direction before and after RIAWS Installation

Statistically it is clear that the RIAWS system has positively reduced traffic speed at the intersections. For example, a t-test comparing the mean speed at the Yaldhurst intersection before and after RIAWS installation (with the sign activated in the post condition) returns the following results:
Degrees of freedom = 16393
t statistic = 64.9
p = < 0.001 (very close to zero)

Further, effects sizes (Cohen's d statistic) for the intersection comparisons with the sign on were typically between 0.72 and 1.0 (Table 2), reinforcing a strong real effect in reduced mean speed. However, statistical significance is less relevant here because it is very obvious that the system has positively affected mean speed.

More importantly is whether RIAWS has had sufficient effect to improve road safety at high risk intersections. Prior to RIAWS, modal intersection speeds ranged between 81-96 km/h across the Himitangi and Yaldhurst sites. Following RIAWS, when the sign was active, modal intersection speeds ranged between 68-72 km/h.

Public Perception
In total 307 survey responses were collected (297 posted paper surveys and 10 online) representing a 31% response rate. Overall, based on the driver feedback, the RIAWS has been positively received.

There have been a minority of negative comments regarding the system however it is important to distinguish between drivers' opinions of the system as opposed to their actual behaviour, which generally appears to be positive to date. Nevertheless, some of thefeedback can be used to further improve the RIAWS at future sites.

The majority of respondents correctly understood the key message from the RIAWS at Himitangi, although a minority did not understand the regulatory nature of the signs or why they were being instructed to slow down by the signs. More conspicuous signage indicating the up-coming intersection, and possibly the potential for conflict, could be considered.

Discussion
From the data it is clear that generally, motorists slow down slightly at rural intersections when the potential for a collision exists, although this was clearer at Yaldhurst than at Himitangi. However, it appears that most motorists do not adjust their speed sufficiently to mitigate the effects of a potential collision situation, no doubt trading off safety with convenience, or perhaps being unaware of the consequences of an intersection collision at 80-100 km/h.

The relatively high level of compliance with RIAWS suggests that the system is highly credible to most motorists and the variable speed limit of 70 km/h simply represents an extension of reasonable precautionary behaviour at rural intersections.

It could be said that RIAWS helps motorists by extending their existing precautionary behaviour, in line with current evidence of the survivability of crash situations at various speeds. Applying the analysis that was carried out earlier (Mackie, 2011), it could be interpreted that the RIAWS is likely to significantly reduce the crash forces involved in collisions at the intersection and potentially reduce the likelihood of collisions.

Applying the RIAWS speed outcomes to the risk of KSI curve for side impacts (adapted from Richards and Cuerden 2009), it is clear that in theory the RIAWS system should have substantial effects on intersection safety (Figure 8). But only the crash behaviour of the intersections over time (minimum five years) will determine if this eventuates in reality.

Conclusion
A RIAWS has been developed and evaluated in New Zealand. The findings to date suggest that the RIAWS performs well and has the potential to significantly reduce fatal and serious casualties at rural high risk intersections by extending drivers' natural intersection risk management strategies. Longer-term evaluation of the pilot sites and further trial sites will help to confirm the efficacy of RIAWS in New Zealand.

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- Lunch, morning tea and afternoon tea
- Conference Dinner on Monday 8th September including pre-dinner drinks

To register please send the attached registration form and payment to

Kerstin Rupp KRupp@globalskm.com
(Please have NZMUGS2014 in the subject line)

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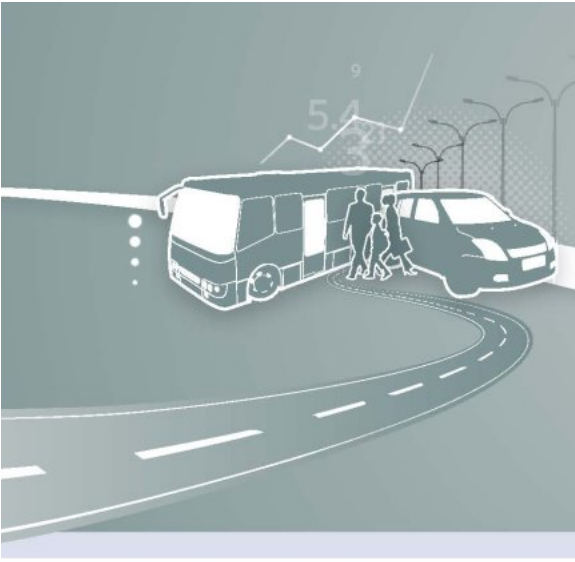

NZMUGS

New Zealand Modelling User Group

Christchurch 8th - 9th September 2014 CONFERENCE

Rydges Latimer, 30 Latimer Square, Christchurch

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Payment

Number of delegates: ☐ @ NZD**$400.00** (incl. GST) each = $

Late registrations: ☐ @ NZD**$450.00** (incl. GST) each = $

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Cheque enclosed ☐ (Cheques to be made payable to "IPENZ")

or please charge my ☐ Visa ☐ Mastercard ☐ Amex ☐ Diners Club

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Registration form to be received no later than 24th August 2014.

Cancellations / Late Registration:
Should you be unable to attend, a substitute delegate is welcome. Cancellation notices received prior to the 16th of August will incur an admin fee of $75 (incl. GST). Any cancellations after 16th of August will be charged the full conference fee. **Registration forms received after 16th August 2014 will be charged at $450 (incl. GST) per person. No Registrations will be accepted after the 24th August 2014.**

GST number- 10-385-946. **This becomes a tax invoice / GST receipt when paid.**

IPENZ TRANSPORTATION GROUP

The political-institutional challenges of Auckland public transport

Muhammad Imran, Senior Lecturer in Resource and Environmental Planning at Massey University outlines some of the complexities for transport in Auckland. This article is a summary of the paper which won a People's Choice award for Best Presentation at the 2014 IPENZ Transportation Group conference.

Local government in New Zealand sets land-use regulations and plans public transport, but transport funding remains under the control of central government. Conflict arises between the two due to differing priorities.

The current (National-led) government has a major focus on Roads of National Significance (RoNS), three being in Auckland. Auckland Council/Transport is focused on improving public transport, including the Central Rail Link (CRL). Funding for CRL is a source of tension between central and local government. Analysis of transport policies and strategies affecting Auckland between 2000 and 2013 reveals central and local government perspectives and the (in)consistencies between them.

Central Government Transport Policies (2000-13)

The first New Zealand Transport Strategy 2002, a Labour-led government (1999-2008) initiative, advocated sustainability, a new funding system for public transport to improve access and mobility, and purchase of the Auckland regional rail network. With the 2008 update setting specific targets to be achieved by 2040, a public transport focus including upgrade of the metropolitan rail network and the Northern Busway investment was expected to alleviate Auckland's congestion problems.

The Land Transport Management Act 2003 (LTMA) as amended in 2008 allowed Auckland to impose a regional fuel tax of up to 10 cents per litre to fund capital projects. The amendment was repealed two years later by the National-led government.

The first Government Policy Statement (GPS) on Land Transport Funding 2008, released by the Labour-led government, aimed to increase public and active transport. The 2009 GPS amendment reflects the National-led government's economic productivity and growth priorities, with 'investment in the SH network … a key to the efficient movement of freight and people'. Government describes RoNS as 'essential routes that require significant development to reduce congestion, improve safety and support economic growth', with investment in SH infrastructure at 33-34 percent of the total fund. The 2012 GPS 'reinforces this focus … as the primary objective for land transport expenditure'.

"PM John Key showed support for the CRL but without funding commitments."

The National Land Transport Programme (NLTP) 2009-12 specifies funding distribution. Besides funding for three RoNS, Auckland received a large proportion of the 30 percent increase in nationwide funding for public transport services (compared to 2006-9). The majority of public transport investment was in rail capital and supporting operational funding.

Auckland Local Government Transport Policies (2000-13)

Auckland Regional Council prepared the Regional Land Transport Strategy (RLTS) in 2005, stating that low density development, makes private vehicle use 'inevitable … [as] cars give most Aucklanders a wide choice of living and work locations'. In contrast, the Rail Development Plan 2006 sees rail as 'extremely efficient at moving people … [the] essential back bone of the Rapid Transit Network'. Private vehicles are seen as contributing to Auckland's $1billion/year congestion problem with ARTA wanting 30 million trips per annum to be made by rail by 2030.

The Auckland Transport Plan 2007 and 2009, expecting to utilise the regional fuel tax, identified projects requiring almost $17 billion over a ten year period, not including the full costs of the Waterview connection, CRL, rail to the airport, or an additional Waitemata Harbour Crossing. Ongoing funding gaps continue to exist; projects of regional importance are often delayed because Auckland cannot fund its 50 percent portion.

Auckland Regional Land Transport Strategy 2010-2040 (RLTS) has a 30 year timeframe stressing 'investing in public transport improvements and on improvements to local roads', including integrated ticketing and fares; electrifying the rail network and

"Roading projects generate commonalities between central and local government, and differences relate to public transport projects."

increasing frequencies by 2015; and constructing the CRL by 2021. With similar key objectives to the RLTS, the 30 year Auckland Plan 2012 aims to increase public transport from 70million trips in 2012 to 140million trips by 2022, subject to additional funding. New funding mechanisms are required to help finance the approximately $10-15billion funding shortfall for transport, most prominent in the first decade, with insufficient funds to implement priority projects such as the CRL.

Political Differences and Similarities

The 2002 NZTS showed concern for Auckland's auto-dependence. Acknowledging previous underinvestment in public transport, by 2008, investment had risen to 31 percent of spend on SHs. The election of a National-led government in late 2008 saw investment drop to 17 percent of SH investment, accompanied by heavy investment in RoNS. The only focus on public transport was to partly combat congestion in major cities. In June 2013, Prime Minister, John Key, first showed support for the Auckland CRL, but without funding commitments.

Inconsistency and conflict between local councils contributed to both the formation of ARTA in 2004 to coordinate regional transport planning, and the 2010 formation of Auckland Council/Transport. The mayoral election in 2010 elected Len Brown, a strong advocate for public transport in general, and the CRL in particular. Brown's re-election in 2013 shows public support for his commitment to public transport and the CRL.

Planning Differences and Similarities

Normally in New Zealand local government is responsible for local roads, public transport, cycling and walking, and central government is responsible for funding SHs. Auckland Transport has some overlapping responsibilities with NZTA as shown in

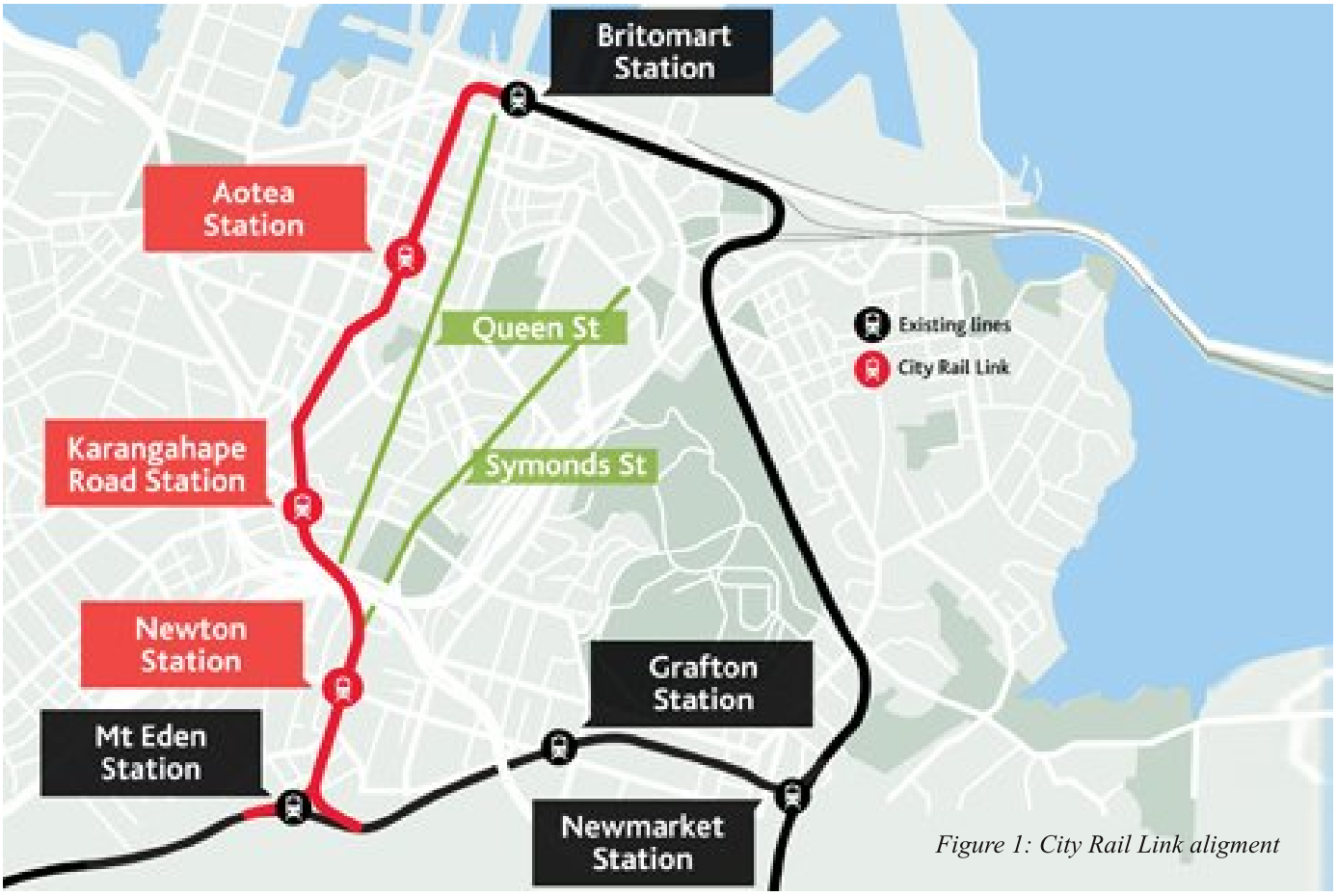


Figure 1: City Rail Link aligment

Table 1, and over the last decade, a partnership approach has been progressed for SHs and regional arterial roads. Central and local government have a significant focus on Auckland's economic capability, with the region receiving a large proportion of national funding for rail track extension and electrification, RoNS and SHs.

Functions	Central Government (Ministry of Transport / NZTA)	Local Government (Auckland Transport / ARTA)
Roads		
State Highway	✓✓	✓
Arterial roads	✓	✓✓
Local roads		✓
Public transport		
Rail infrastructure	✓✓	✓
Rail services	✓✓	✓
Bus infrastructure		✓✓
Bus service planning		✓✓
Transport planning		✓

Table 1: Auckland transport responsibilities: Number of ticks shows the intensity of responsibilities (Adapted from the Royal Commission on Auckland Governance, 2009)

Note: The Ministry for the Environment is interested in the pollution and environmental aspects of transport in Auckland, whilst the Ministry of Energy is focused on the energy aspects of transport. The focus of this project is on urban transport and therefore airport authorities and ports are not relevant to this research.

Central government sees public transport as partially reducing congestion to enhance economic activity. Local government concurs, also seeing the community, environmental, health and accessibility benefits of efficient public transport.

Funding Differences and Similarities

The activity classes in the GPS set the fiscal limits for public transport improvements funded by the NLTF. Funding for land transport is split between central and local government. The NZTA, a crown entity, funds the SH network and controls the NLTF, which in 2011/12 allocated 53 percent of transport funding to SHs. This fund, subject to caps, is accessible to local government for regional projects, but only with at least 50 percent match-funding. Responsibility for the rail network in Auckland is shared between KiwiRail and Auckland Transport. By controlling allocation and funding of work through the NLTF, central government effectively decides which regional projects proceed, and the direction of national and regional transport policies.

Conclusion

Generally, roading projects generate commonalities between central and local government, and differences relate to public transport and related projects. It is recommended that central government should give Auckland greater financial independence to enable implementation of the regions preferred strategic transport vision. A permanent Auckland Transport Forum is needed where local stakeholders and residents can discuss the future direction of transport in Auckland. This would highlight the needs of Aucklanders' and support Auckland Council/Transport in their negotiations with central government.

Muhammad Imran
Senior Lecturer in Resource and Environmental Planning, Massey University
Email: i.muhammad@massey.ac.nz

Note: Full paper (co-authored with Teryll Lepper and Jane Pearce) is available at the IPENZ Transportation Group Conference 2014 website: http://conf.hardingconsultants.co.nz/ipenztg2014/presenters/

Ever got lost in an airport? Here's help

This contraption at Guangzhou airport in China not only carries your carry on luggage but also:

· Tells you the gate number of your flight (on your boarding pass only get the Wing A- international B = domestic)
· Tells you how long to when you need to get to the gate
· Tells you where you are (you are here) and where the gate is
· Tells you the weather in your destination city for the next few days
· Enables you to charge a device using USB (only 5W and quite slow but better than nothing – in China for free wifi you typically also need a local mobile number)

I thought it was quite brilliant and came in handy since there was a huge difference at this airport in finding the gate number for my domestic transfer when going to China versus international transfer when leaving – this made it EASY. However it didn't stop our plane from developing a mechanical problem and approx 4 hour delay...
Dave Wanty

Vacancy: Public Transport Planner

MRCagney is a leading independent transport and planning consultancy, with a reputation for excellence in complex projects. The Company operates across the Asia-Pacific region from its offices in Australia, New Zealand, Singapore, and China. MRCagney prides itself on our ability to deliver transport and urban planning solutions which support the communities in which we operate.

From our inception, MRCagney has been involved extensively in urban mobility projects. The services we offer range from strategic management and business consulting through to technical transport, planning, urban design, and engineering activities.

MRCagney's Auckland office is currently looking to engage a public transport planner with 3 or more years' experience. While primarily based in Auckland, the successful applicant will be expected to work internationally from time-to-time, as required by individual clients and projects.

Applicants should have knowledge of transport planning in general, as well as a passion for public transport planning in particular. Demonstrable expertise in the following fields is required:
• Public transport infrastructure and network planning;
• Operational planning, including timetabling and scheduling; and
• Fare policy, ticketing data, and real-time vehicle management systems.

Applicants are expected to have strong qualitative and quantitative skills, and be able to communicate effectively in English (written and verbally). Applicants who are not New Zealand or Australian residents are also encouraged to apply.

The following attributes will also be favourably viewed:
• Ability to commence work within the next 2 months;
• Previous experience in consulting and/or project management;
• Knowledge of GIS, scheduling, and graphic design software; and
• Programming skills, especially Python.

We offer competitive salaries commensurate with skills and experience. MRCagney's Auckland office is conveniently located in the city centre close to public transport; we foster a flexible, diverse, and innovative workplace environment.

Prospective applicants should email a one-page cover letter, two-page curriculum vitae, and – if possible – some examples of their work to pwagh@mrcagney.com before June 30, 2014.

MRCagney

An early self-driving prototype

Google's self-driving car: How does it work and when can we drive one?

Google's self-driving car prototype has no steering wheel, brake or accelerator pedals. So how safe is it, and what is it like on the road?

After offering a glimpse at the IPENZ Transportation Group conference in March, Google unveiled a brand new self-driving car prototype last month; the first company to build a car with no a steering wheel, accelerator or brake pedal.

The car's arrival marks the next stage in Google's self-driving car project, which was born from the Darpa Grand Challenges for robotic vehicles in the early 2000s.

Google kickstarted its own self-driving car project in 2008, and it has been rumbling on ever since, first with modified Toyota Prius and then with customised Lexus SUVs, which took the car's existing sensors, such as the cruise-control cameras, and added a spinning laser scanner on the top.

What is it?
It is the first truly driverless electric car prototype built by Google to test the next stage of its five-year-old self-driving car project. It looks like a cross between a Smart car and a Nissan Micra, with two seats and room enough for a small amount of luggage. It is the first real physical incarnation of Google's vision of what a self-driving car of the near future could be.

Where is it?
It operates in and around California, primarily around the Mountain View area where Google has its headquarters.

What does it do?
It ferries two people from one place to another without any user interaction. The car is summoned by a smartphone for pick up at the user's location with the destination set. There is no steering wheel or manual control, simply a start button and a big red emergency stop button. In front of the passengers there is a small screen showing the weather, the current speed and a small countdown animation to launch.

Once the journey is done, the small screen displays a message to remind you to take your personal belongings – reinforcing that this is not aiming to be a substitute for your personal car at the moment, but more as a replacement for the taxi without the human driver.

What's it like?
Very few people outside of Google have been allowed to ride in the new car. Most of the people depicted in Google's promotional videos for the new car described the experience as "smooth" and "nothing that feels the least bit threatening".

Kara Swisher and Liz Gannes from technology site Recode were one of the few independent test riders, who described the car as having "ample" room despite being small, likely due to the lack of the normal controls taking up space in the cabin, and "that this felt a lot like a theme park ride".

Who built it?
Google has designed the car from scratch, starting with the sensors and a frame to interconnect them, then adding a cabin that does not block any of the sensors or create blind spots and eventually the body shell. The manufacturing of the 100 or so prototype cars will be done by a firm in the Detroit area, but Google declined to comment on which.

How does it work?
Powered by an electric motor with

around a 160km range, the car uses a combination of sensors and software to locate itself in the real world combined with highly accurate digital maps. A GPS is used, just like the satellite navigation systems in most cars, to get a rough location of the car, at which point radar, lasers and cameras take over to monitor the world around the car, 360-degrees.

The software can recognise objects, people, cars, road marking, signs and traffic lights, obeying the rules of the road and allowing for multiple unpredictable hazards, including cyclists. It can even detect road works and safely navigate around them. The new prototype has more sensors fitted to it that can see further (up to 200m in all directions) and in greater detail than the ones available on the previous repurposed Lexus and Toyota vehicles.

The quirky self-driving car

How safe is it?

The new car is the next evolution of Google's self-driving car. While the new frame is untested, the company's previous versions have clocked up over 1,000,000km of testing on public roads, mainly around California, including over 1,500km of driving in the most complex situations and cities like San Francisco's hills and busy streets.

The car itself is limited to 40km/h, which restricts it to certain roads, but also minimises the kinetic energy it could carry into a crash if one should happen. The front of the car is also made to be as kind to pedestrians as possible with a foam bumper and a flexible windscreen that is designed to absorb energy from an impact with a person's body.

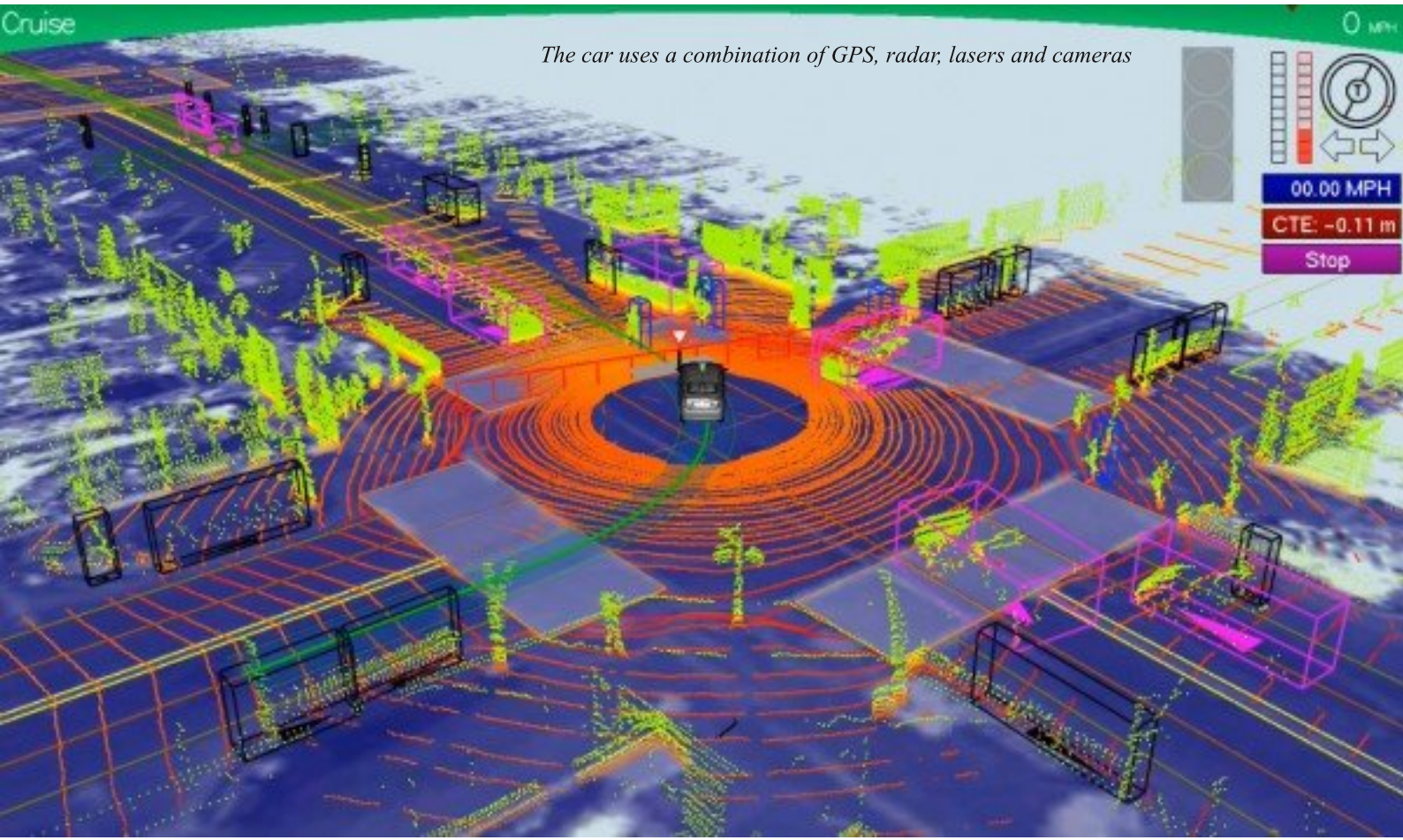
Seat belts are also provided – a safety requirement for vehicles on the road – while the car has redundant systems, a "fault-tolerant architecture" as Google calls it, for both steering and braking, should the primary systems fails; plus that emergency stop button that passengers can hit at any time.

Google has also taken the data and behaviours it learned from its previous vehicles to create a defensive, considerate driving style that is meant to protect both the passengers and other road users. For instance, the car will wait a second after the traffic lights turn green before it moves off, although this could incur the anger of drivers stuck behind it.

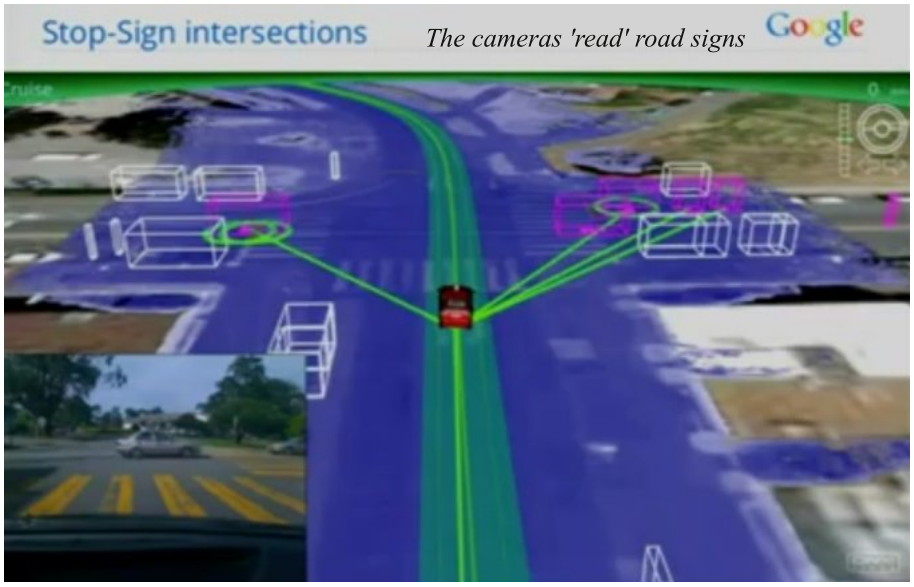
Google also says that making it drive in a natural and predictable way has been one of the key goals, so that it behaves in a familiar way on the road for other drivers.

Why now?

Google says it has gone as far as it can with the current customised vehicles and that a new platform is needed to take the project and technology to the next step and closer to a product people can



The car uses a combination of GPS, radar, lasers and cameras



The cameras 'read' road signs

actually use. For instance, the previous generation Lexus vehicle had blind spots right up against the car where the sensors couldn't see, something that needs to be eliminated in any vehicle open to the public.

The cars will first be used to test the software driving the car and push its capabilities.

Google says at some point, when it deems its software safe, it will start putting real people into the cars beyond Google engineers. It will use the cars in a similar manner to the company's Google Glass explorer programme, analysing how people use them and what works and what doesn't.


The car features just two buttons: Go and Stop

Why so damn cute?

The car's cute looks and friendly "face" were created intentionally to be "very Googley" according to its designers, to put both other road users and passengers at ease with the new technology. The shell is also designed to give the sensors the best view of the surroundings.

Why does it still look like a car on the inside?

The new car has two traditional car seats, primarily because in this iteration passengers have to be strapped in like they would in any other car to meet safety regulations, which means using standard seat belts. It also provides a more familiar passenger experience, which at this stage is likely important to aid adoption.

Is this something I'm going to be able to buy?

Google's vision for this kind of self-driving car isn't an exact replacement for the one parked outside your home. They are designed to be more like shared vehicles, possibly within a family or more likely as a replacement for taxis. These cars are still very much in the early prototype stage still, and Google is still trying to figure out how to make a product out of the technology, how much it is likely to cost and when it will be available.

Apparently it will not have ads according to Google, although whether it'll eventually have a small screen like some taxis now that plays video adverts, who knows. That will likely be up to the operator rather than Google.

Who will build it for me?

Google is proving the technology, but it is unlikely to make the cars for sale once that technology is ready for the mass market. It has said in the past that it is actively seeking car manufacturing partners, which means we could see a Toyota, Ford or Fiat-made Google car in the future, but that is all very much still up in the air.

When can I get one?

Google says the cars should be road-ready by early next year, but that testing would take more than two years. At that point the technology will be ready for the next stage, which is likely to be greater pilot testing. Current expectations are that these self-driving cars are at least five years away from being mature enough to create a real, non-prototype product, but it may be far longer until you can buy or hire one for personal use.

What about legislation?

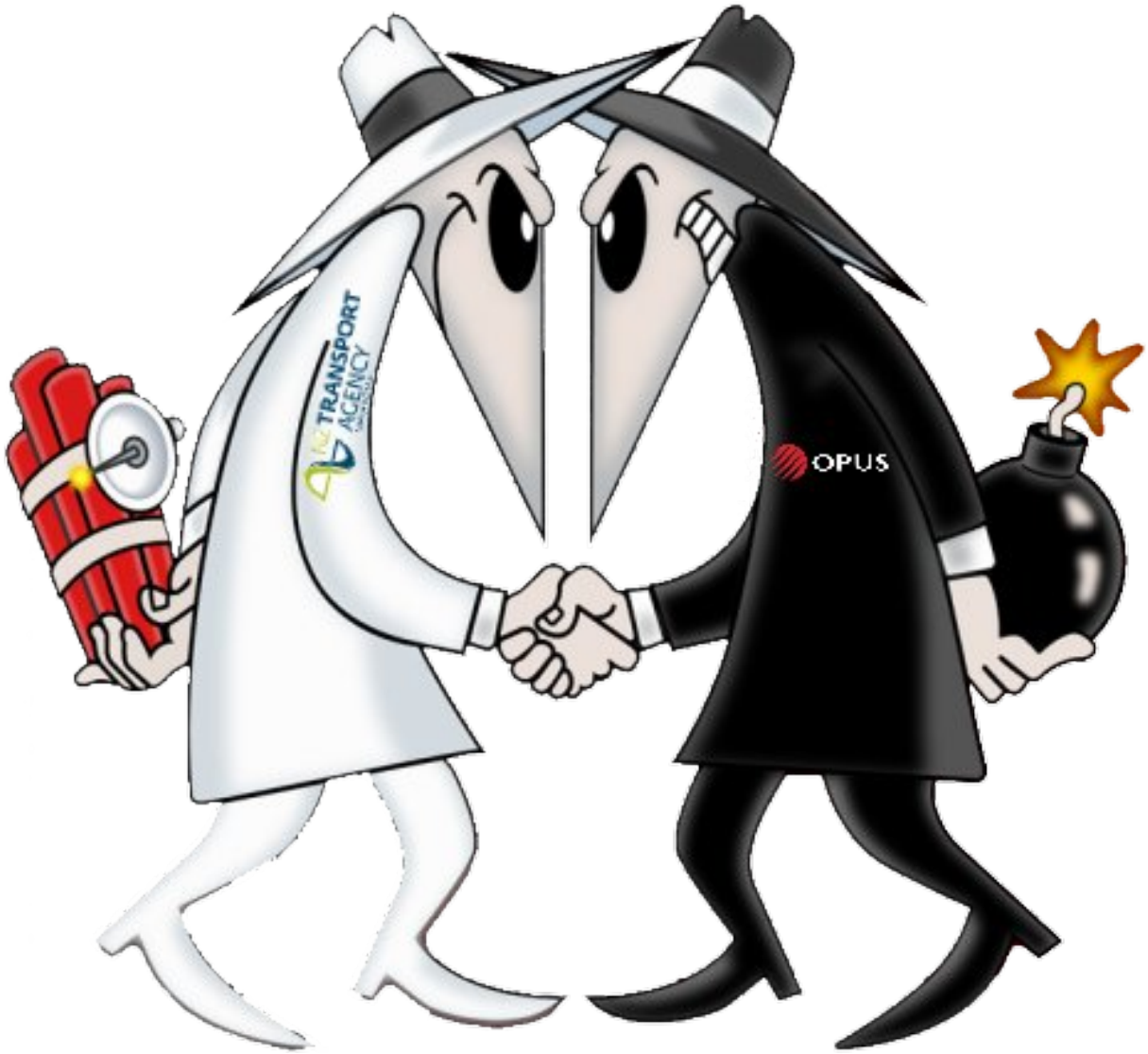
One of the biggest hold-ups to the progression of the technology onto the open road of Britain, the US, Australia and the rest of the world will be legislation. A law was passed in California over a year ago that made the testing and operation of self-driving vehicles on roads possible, as long as they had manual override controls. The Department of Motor Vehicles in California is expected to issue regulations on the operation of self-driving cars soon, after which self-driving cars may become a bit more common place.

However, there is still much to work out, primarily revolving around what a passenger in a self-driving car and can't do – will they have to be able to take control at any moment, for instance – as well as questions around what happens when an accident happens, who is at fault and who pays

Guardian News & Media

Why not get your Google self-driving car to take you along the spectacular Seven Mile Bridge in Florida?

Undercover Graduates: Client vs Consultant



This article, by Chris Morahan (Opus) and Luke Reeves (NZTA) is a summary of the paper which won a People's Choice award at the 2014 IPENZ Transportation Group conference.

Graduates today face big challenges. The transportation industry is more competitive than ever, more fragmented and specialised than it used to be. Developing into competent, well-rounded, broadly-experienced professionals is not an easy task for today's young engineers.

For decades the transport sector in New Zealand was dominated by the Ministry of Works. Many of our readers would have begun their careers here, and will understand how large this organisation was and how broad were its many different functions.

Speaking to several of our silver-haired colleagues, the general consensus was that the Ministry of Works was a great place for young people beginning their careers. Graduates were rotated around different departments, gaining a broad range of experience all within the one organisation.

However, since the Ministry's privatisation in the 80's, smaller more specialised organisations have made it harder for graduates to obtain a broad understanding of the sector. One method gaining more traction, and which we believe is essential for a healthy future for the transport sector in New Zealand, is graduate secondments between organisations.

In 2013, Luke (a Transport Agency graduate) swapped places for 12 months with Chris (an Opus graduate). In other words, we each crossed enemy lines and went undercover.

The secondment was enormously beneficial to us both, as well as to our respective organisations. We had our eyes opened to a whole new type of organisation, built key relationships with people we still work with now and likely will into the future, experienced different work environments and different management styles, filled holes in our competencies for CPEng without needing to change employers, and learnt a whole new set of technical skills.

We both also feel that we grew in our "soft" skills, gaining confidence, developing professionally and maturing ethically through the secondment.

The Transport Agency are very much in tune with the benefits they gain from graduate secondments, with 8 of their 24 graduates currently on secondment (as

of November 2013). Benefits include their graduates gaining design experience and field work necessary to gain CPEng, and an understanding of how consultants and contractors operate.

In contrast, consultants and contractors seem less aware of the benefits to them of graduate secondments. Many of these organisations rely heavily on the Transport Agency for work, and having a secondee within the Agency is an invaluable way to increase their visibility and build relationships with a key client. It gives the secondee and their home organisation a deeper understanding of the client's requirements, and how to meet those better in their future work.

Another benefit is the increased retention of graduates. Many graduates are looking to get as broad a range of experience as they can in the early years of their careers and, if they cannot find this within one organisation, will switch jobs in order to get it. The view of both of the secondees is that they are more likely to stay with their home organisations, now that they have been given the opportunity to temporarily go and work in a different environment.

Graduate secondments are currently underutilised. As part of this research a poll was conducted through the IPENZ weekly newsletter (Engineering Direct, Issue 515). This poll asked "Do you think your organisation gains, or would gain, value from sending graduates on secondments to other organisations?" Of the 84 members who responded, 97% of thought their organisations would benefit from sending graduates on secondments, yet only 44% of respondents' organisations (of those applicable) actually did send their graduates on secondments.

There are a perceived risks with graduate secondments which put some managers off. Resourcing can be tricky with one-way secondments, although a two-way swap eliminates this problem.

There is a period of low productivity when the secondee arrives at their new organisation, while they are learning new skills, new projects, new procedures and new people. This occurs with any new employee and is unavoidable, but the impact of it is reduced in a longer secondment. For this reason graduate secondments shorter than 12 months are not recommended. The duration of a secondment is a key component in its success, and to get full value a duration of 12-18 months is recommended.

Occasionally secondees have been known to enjoy their host organisation so much that following the secondment they leave their home organisation and permanently join their host organisation. The chances of this can be reduced by having a clearly defined duration and end date, ensuring secondees know that they still have a job when they return, making sure that the new skills they've learnt on secondment will be utilised when they return, and actively maintaining regular contact with the secondee.

It has been suggested that graduate secondments involving clients can create a perception of an unfair market, where the client is becoming too close with certain consultants or contractors. The Transport Agency have tried to reduce this by spreading secondments around a wide range of organisations, completing secondments in recent years around the country with Opus, Aurecon, MWH, Beca, Fulton Hogan, InRoads, Downer, Higgins, and various alliances.

Managers considering secondments for their graduates should not let the risks put them off graduate secondments. They can all be managed to acceptable levels, and the benefits are orders of magnitude greater than the challenges.

Graduate secondments are a vital component to a successful future for transport in New Zealand. If more organisations looked to secondments to fill the gaps in their graduate development programmes, we could look forward to a future of better relationships between clients, consultants and contractors, and a transportation sector made up of more broadly experienced, well-rounded engineers.

Branch updates

Auckland/Northland Branch

Auckland Parking Discussion
On Tuesday evening (10 June) Stuart Knarston, (Plans and Policies Leader) and Scott Ebbett (Parking Design Manager) presented an overview of Auckland's new draft Parking Discussion Document. This draft document represents the first time the region's planning and management of parking has been brought into a single coherent strategy. The presentation was well received with lots of thought-provoking questions throughout from the floor.

The draft document is worth checking out and represents a positive way forward towards a future-thinking regional parking regime. Comments and feedback on the document are welcomed – being available on the Auckland Transport website at:
http://tinyurl.com/pd5k47z

Up-Coming Events
Shared Spaces – Pieter de Haan
We are just putting the finishing touches on the next presentation, likely to be held on 16 July. The topic will cover an international review and approach to the provision of shared spaces in major cities throughout the world. Pieter is Coordinator for the Knowledge Centre Shared Space at NHL-Hogeschool, University of Applied Sciences (www.nhl.nl/sharedspace).

Mid-Winter Centennial Event
We are also putting the finishing touches on a mid-winter event looking to celebrate the centennial year for IPENZ. Keep an eye out for details to be circulated shortly.

Annual Debate
The date of the debate has been confirmed as the 5 August 2014 at the Auckland University Conference centre. The topic is "The car is so last century." A flyer will be circulated closer to the time.

Submissions
The Branch will be putting together a response to the Parking Discussion Document. Please forward any suggestions to me (matthew.hinton@aecom.com) by 25 June 2014 if you would like your view considered as part of the Branch response.

A reminder again that we welcome feedback from members on any issues they feel the branch committee could improve on, respond to, or simply ideas for future presentations.

Waikato/Bay of Plenty Branch
It has been a relatively productive first half to the year, with a number of interesting technical events, visits and social activities throughout the region. Although we have had a mixed level of success with attendance, which is sometimes disappointing for the people who put a lot of effort into organising these things. Perhaps we are not doing enough to get the interest from our membership - any feedback on events and their location and timing would be appreciated. On the plus side, we have forged closer links to associated organisations like CILT and NZPI, so we are looking forward to more shared events and activities.

We are working to develop a system of matching up junior members with appropriate senior mentors and anyone wanting to offer their experience as a mentor, or wanting to find a mentor should, in the first instance, contact Shaun Lyon-Cachet who is coordinating this initiative.

Another local initiative we are looking at is a study award or research grant to assist a local student or member to carry out research for a transportation topic that is particularly relevant to the region. We are working on terms of reference for this and any interest or enquiries should be directed to the committee via Liam Ryan or me.

We are working to develop a full programme of activities and events through the remainder of this centenary year including:

Come along to a lunchtime presentation in Hamilton or Tauranga. Bridget Burdett will present a summary of her psychology PhD research proposal, which is about mind wandering during driving. **Wednesday 18th June** at Hamilton City Council reception lounge; **Thursday 26th June** at Beca Tauranga. Both events run from 12pm - 1pm with refreshments provided. RSVP to Alastair.black@graymatter.co.nz (Hamilton) or Aaron.washington@beca.com (Tauranga)

July 17th – Pieter de Haan, a psychologist and former representative of the Dutch Government will be presenting on Shared Space from 530 in Hamilton, venue to be announced

August – we are planning a pub quiz in Hamilton and also in Tauranga

September – we are trying to organise a centenary dinner, possibly at the classic car museum in Hamilton with keynote speakers on a transport theme, this is in the early planning stages and further details will be supplied as things develop, the dinner will probably cost something like $20 with transport provided between the Tauranga and Hamilton to make sure BOP members are not disadvantaged

September – we are hoping to organise a presentation on Hamilton Southern Links once the hearings are concluded

We are also looking at round-table discussions and possibly a poster competition but these are not fully developed yet. If anyone has any good ideas or wants to get involved please contact the committee.

Central Branch

Central Branch Chairman change:
Current Central Branch Chairman, Roger Burra, is standing down from the role after 4 years including leading the group through the recent Transportation Group Conference. The Committee would like to thank Roger for his hard work, passion and professionalism during his tenure.

Departing Central branch chair Roger Burra, in his usual casual attire

Branch updates

IPENZ TRANSPORTATION GROUP

Under his leadership the group has hosted more events around the Central region and had an increase in the number and variety of topics in Wellington. Roger is going to continue to be involved in the IPENZ Transportation Group working as the National Administrator overseeing the transition to this activity being undertaken as a paid role.

Stephen Carruthers will be taking over as Central Branch Chairman. Stephen is an active member of the committee, and has been the branch treasurer for the last 4 years. Stephen has lots of drive and energy to stimulate the group. Feel free to contact him if you have any new ideas or issues at stephen.carruthers@nzta.govt.nz

Upcoming Lunchtime Sessions:

• **Progressing Toward Bus Rapid Transit in Wellington**, Luke Troy, GWRC – 24 June 2014 – NZTA Regional Office on Ballance Street
The presentation will outline what BRT might mean in the Wellington context and the challenges that will have to be overcome to deliver it. It will also cover the next steps in the project beyond the decision of the Regional Transport Committee and who is doing what. The integration of BRT with decisions on the future Wellington bus network will also be discussed.

• **Transport in Fiji**, Mike Rudge, MWH – 1 July 2014 – MWH, Level 13, 80 The Terrace
MWH has been consulting on interesting transport projects in Fiji. Come along to this talk to find out more!

• **NZTA Advertising**, Rachel Prince and Paul Graham – Scheduled for August 2014 – Location TBA
This presentation will go over how NZTA communicates its messages to the public through advertisements.

• **Basin Reserve RoNS Board of Inquiry** - Treatment of Transport Improvement Alternatives and Assessment Methodology, Kensington Swan – Scheduled for September 2014 – Location TBA

• **ICC Cricket World Cup 2015** – Scheduled for October 2014 – Location TBA
This will be a presentation about the challenges from a logistical and transport perspective in pulling the tournament together and what is needed to make the event a success.

Social Events:

• Quiz Night – Scheduled for an evening in August 2014
Watch this space!

Canterbury/West Coast Branch

Over the last few months the Branch Committee met on the 19 February, 16 April, and 9 May 2014. The Committee focus over the last quarter was to start organisation for the 2015 Conference being back in Christchurch.

The last 3 months has been slow with Local Branch events fitting around the National Conference in mid-March. I was lucky enough to attend in Wellington and complements to the Wellington Branch in establishing a high standard for us to follow in our planning and execution of the 2015 event.

March was a special month with the IPENZ Forum in Christchurch on 20-22 March 2014, the IPENZ Fellows and Achievers Dinner on Saturday 22 March, and the celebration of 100 years of IPENZ. The latter was another spectacular black tie event showcasing the Engineering profession and recognising outstanding contributions from IPENZ members. We also experienced the IPENZ Pickering Lecture on the 25 March in Christchurch as well Exploring the Unknown, To Mars and Beyond – Dr Charles Elarchi. I hope Members took the time to attend.

We held a Local Speakers (from the IPENZ Transportation Conference 2014) Event on Wednesday 16 April – thanks to MWH for hosting us. As always we had a good Branch turn-out and we will continue with this approach that we have used in the past.

We wanted to give Local Branch Members the opportunity to hear from their local peers and their quality work:

- **Undercover Graduates: Client vs Consultant** - Chris Morahan, Opus International Consultants and Luke Reeves, NZ Transport Agency; (Winners of the 'People's Choice' award on the Tuesday) gave a first-hand discussion on how secondments work in giving a better understanding of how the "other side" really operates.
- **New Emissions Analysis Techniques** - Bevan Wilmshurst, TDG; (Local and global air quality issues and environment effects are a critical concern. What are some of the concerns for Transport Planners? Are traditional analysis techniques still relevant? What are the key differences with modern approaches and techniques used overseas?)
- **Capacity over Community?** - Jeanette Ward, Abley Transportation Consultants; (examines the way in which projects to improve traffic capacity for road users also need to consider the communities who live along these roads. Northcote Road is used as a local case study).
- **Trips Database Bureau Update** - Stuart Woods, NZ Transport Agency; (this presentation explain swhat the Trips Database Bureau (TDB) is, some recent survey findings and demonstrate the new TRICS7 release).

The Branch Committee continues to liaise with the local IPENZ Branch during this 100th Celebration Year to maximise the joint opportunities to increase the public profile (in a positive sense) of Engineers and engineering achievements.

Coming up we have planned some joint events with CILT in June/ July on the Freight Masterplan Study and also on the new Bus Exchange. We are happy to support our kindred group and hope these events are well attended.

Also we are planning some Local Speakers (from the Velo-City Global Adelaide 2014 Conference) over probably two evenings in June/July. Again we hope to give Local Members access to their peer's quality work and encourage other Members to step-up and promote their own efforts more widely.

As noted previously Canterbury and West Coast TG Branch are hosting the 2015 IPENZ TG Conference, in Christchurch. To ensure this will be another terrific event we have convened a group of about 8 willing and committed Members. This Subcommittee has had two meetings now and things are moving along with some big decisions made early and Kerstin Rupp nominated as the Chairperson.

This is a challenge (as it is every year) but one that the Branch here is looking forward to great outcome from. Any ideas in this respect please send through

Roundabout of the month

This roundabout in York, UK has a working windmill in the middle. The Holgate Windmill, which is stationed on a roundabout at the centre of a 1960s residential estate just outside York, dates as far back as 1770.

Seen a better one? Email daniel.newcombe@aucklandtransport.govt.nz

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the normal Branch contacts and we can let Kerstin know. A big thanks to all Members who have "grasped the nettle" to get involved.

Of course ideas from Members for future Committee activities and events are always welcome, to the Chair James Park (james.park@opus.co.nz) or Administrator Jared White (jared.white@ableyl.com).

Southern Branch

The Southern Branch held their April meeting at Port Chalmers once attendees had seen the penultimate Cruise Ship for this season released and head down the Harbour destined for Milford Sound. Back in the warm Peter Brown, Commercial Manager for Port Otago Limited, explained the importance of the Cruise Ship market to the Port. He also spoke of the key export commodities and how the transport to the Port, storage and handling are all managed. The Port Company has continuing plans for upgrading its operations and equipment and will be dredging a deeper channel to accept the increasing size of container ships.

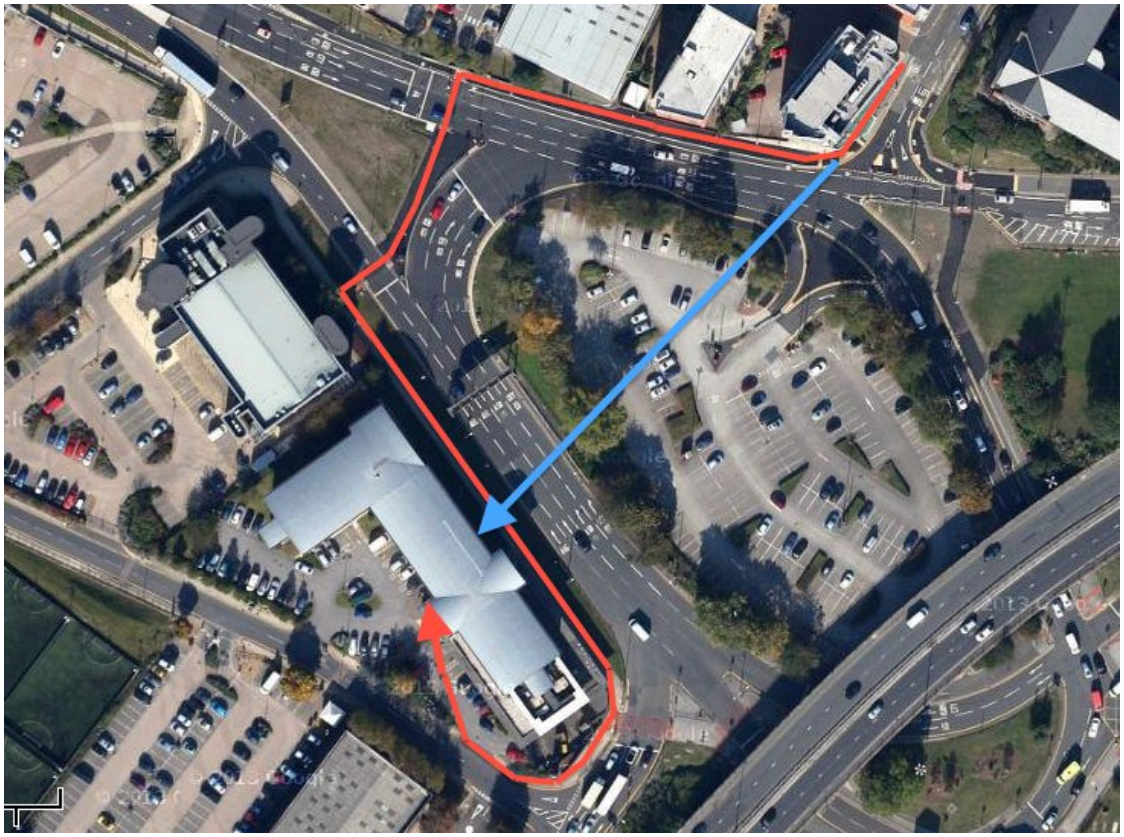
The May meeting was again held in Invercargill and organised by Eddie Cook. Eddie explained the Dual Pedestrian Clearance System trial for Invercargill City. Indications are that the approach could generate substantial benefits in reduced delays for vehicles at traffic signals.

Southern branch members on their Port Chalmers visit

The next meeting is planned for Queenstown in July and details will be advised soon. A preliminary schedule of meetings through the rest of the year and into 2015, promises to deliver a varied and interesting programme. Some of the meetings will be jointly hosted with the Otago Branch of IPENZ.

Isabelle Gensburger has recently provided the latest meeting reports, complete with downloads, for the IPENZ TG website. You can view them all, including more detail of the April and May meetings, at:
http://www.ipenz.org.nz/ipenztg/events/Branch-Southern.htm

Do you hate humans?
Take it out on them through design



From As Easy as Riding a Bike blog: For attendees staying in Leeds for the Cycle City Expo, one hotel was quite convenient – only 600m from Leeds Town Hall where the Expo was being held (image above).

Despite this proximity to the centre, the layout of the hotel, and the surrounding roads, is quite extraordinary if trying to get to it on foot.

The hotel entrance doesn't face onto the street; it can only be accessed from the car park at the rear.

This meant that some people cycled straight past it while trying to find it.

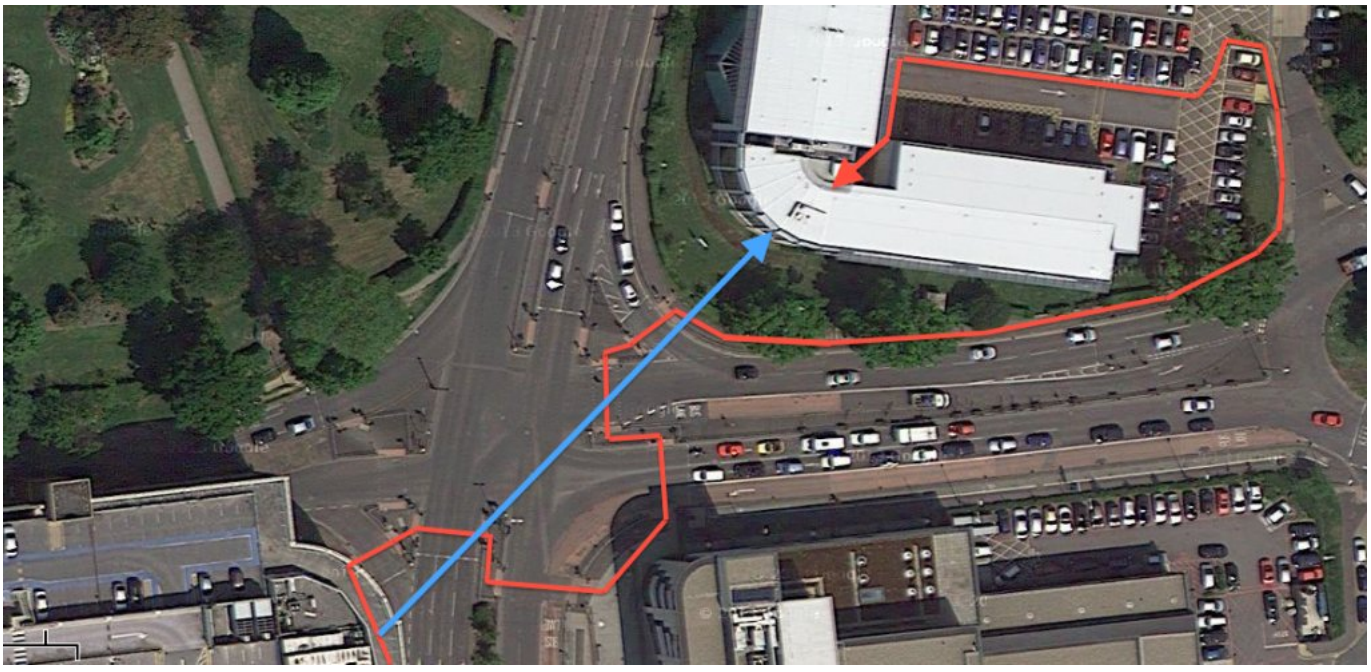
If attempting to walk to this hotel from the north, the direct route – of just 100m or so – becomes an extraordinary meander, thanks to a combination of bizarre building design and enormous roads with limited crossing points, that force a hugely indirect path.

An even more preposterous example can be found in Crawley in West Sussex, right in the centre of the town.

Central Sussex College (image below) is adjacent to the main shopping centre, separated from it only by College Rd. It can be seen, only a matter of tens of metres away, from the shopping centre. But just try to walk there.

Six (yes SIX) separate crossings, followed by an infuriating diversion all the way around the building to enter it from the car park.

Have you seen worse in NZ? Send your examples to:
daniel.newcombe@aucklandtransport.govt.nz



How Raymond saved rail in Auckland

Monday April 28th 2014 was a historic day for transport in Auckland as for the first time the city had electric trains carrying fare paying passengers.

Electrifying the rail network is something that has been talked about for 90 years, mostly in conjunction with a version of the City Rail Link. While Britomart was undoubtedly a turning point for rail in Auckland it wouldn't have been possible without some key events and a whole pile of luck that occurred just over a decade earlier, without which it is unlikely we would have a rail system today. One man was at the centre of it all and this is the story of how he saved rail in Auckland.

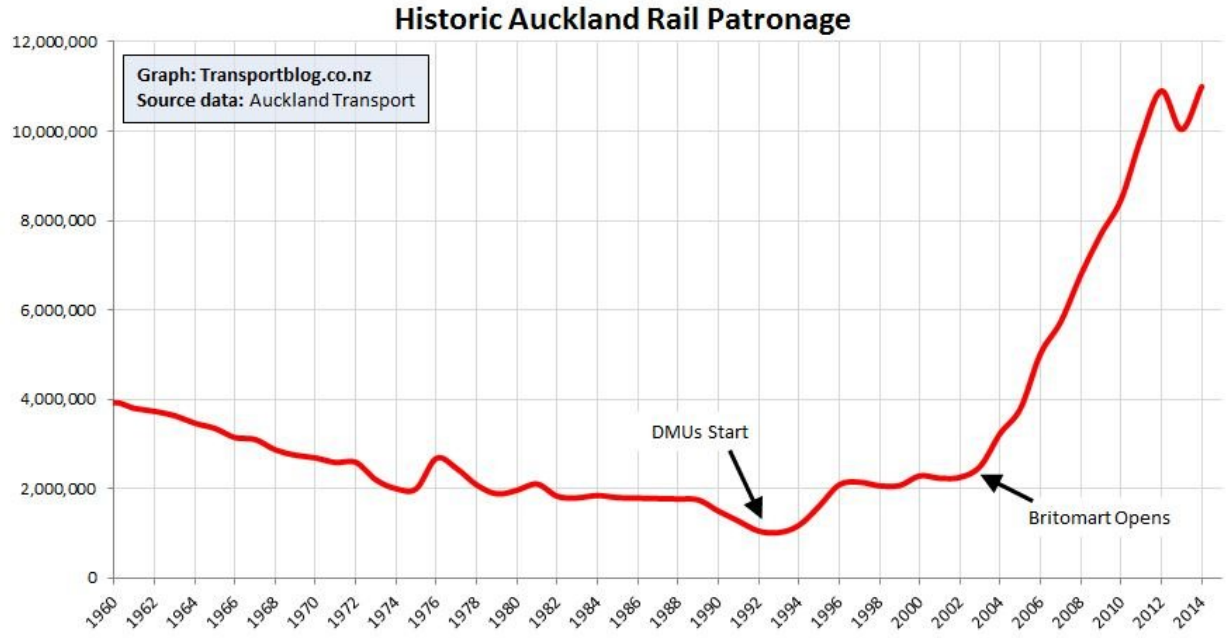
The story starts in the late 1980′s where the Auckland rail network is in serious decline. The trains were being run under the name of City Line which was part of NZ Rail Ltd and also ran a number of bus services.
Unlike Wellington which had just fairly new electric trains, the trains running on the Auckland network were decrepit and consisted of former long distance carriages that had been converted for suburban use. They were originally built in 1936 and had steel frames but the bodies were made from wood. They were also hard to access, requiring customers to climb up into the trains from what were basically oversized kerbs that masqueraded as station platforms.

At the time Auckland had also seen numerous grand plans for new public transport networks but none ever saw the political support needed to actually implement them.

At the time the latest idea was convert the western line to light rail using a tram train from Henderson then send it via a tunnel under K Rd before running down the surface of Queen St. The problem was the idea couldn't get political support. The City Council didn't want trams on Queen St and the regional council saw it as competition to the Yellow Bus Company which they owned 90% of. That left Auckland with its near derelict trains and not much hope for the future.

With a new fleet of trains seemingly secured it wasn't the end of the problems though. Perth is flat and the steepest track has a grade of 1:200 while Auckland is far from flat with trains needing to be able to handle grades of 1:36. This meant many needed their engines and transmissions overhauled to be able to handle the Auckland conditions.

One of the ADLs as they looked before being refurbished in the mid 2000′s



They also wanted to refurbish the trains by re-upholstering the seats and replacing the floor coverings. Lastly they had to raise the platform heights around the network so that people could actually get on to the trains. To make things even more difficult in Auckland the rail unions were striking trying to reopen the workshops and re-employ some of the staff who had been laid off by the earlier rail restructuring.

To fund the overhaul, refurbishment and raise the platform heights it was determined that the only way they could make it viable would be if the rail contract was extended to 10 years. Due to the confirmed availability of rolling stock this was considered a good deal. As such the regional council ended up voting unanimously to support the proposal with one person abstaining - the abstention was from a light rail advocate.

In another stroke of luck all of this happened just before the rail network was privatised, something that could have put the whole idea in jeopardy.

At around the time the DMUs (Diesel Multiple Units – the ones that don't have a locomotive) were introduced patronage on the rail network reached its lowest point ever of just over 1 million trips per year.

Within a couple of years after their introduction, the DMUs were responsible for a reverse in the in the patronage decline that had been witnessed over the previous decades. It then continued to grow and reached about 2.5 million trips before Britomart was opened. It was also that growth that helped give the political courage needed to get Britomart built.

It's now the early 90′s and enter Raymond Siddalls. With a year to go before the regional council took over the contracting of services he was in charge running the suburban fleet. His bosses had also tasked him with shutting the Auckland network down. With an aging fleet, falling patronage and little political support (both locally or nationally) no one thought it could be made to work. After looking at the operations, Raymond was surprised to find that with with a restructure he was be able to cut down the costs and actually have the company start making a profit on the gross contracts it held.

The critical time came in 1991 when a decision needed to be made on how to move forward. New legislation controlling how public transport services would operate was coming into effect and basically changed everything. No longer could PT be treated as a social service and the focus was on making PT stand up commercially.

The legislation also didn't allow for any distinction between rail and bus services which meant bus companies could tender for rail routes. Note: this legislation is still in effect today and has had a significant negative effect on the planning and provision of PT for over two decades. The new PTOM legislation should address most (but not all) of the issues it caused.

With the network actually making a profit the operation was kept going and the operating company tendered for the 120 services a day that they were already running (today there are something like 365 services per day). One problem though was each service had to take on the full cost of running the network. They subsequently were able to re-tender for the services as a combined timetable which allowed the costs to be shared across all services.

The councils started to get on board and the company was awarded the contract in the South for three years while in the west it was for four years. They were then able to successfully argue that with a 4 year contract on the entire network there was a chance to look at new rolling stock which would boost and the councils agreed to this. The contract was due to start in June 1992.

Around this time it just so happened that one staff member was about to go to Perth to attend a wedding. Perth was just about to finish electrifying their rail network and so the staff member was asked to drop in to find out what they were planning to do with their unneeded DMUs.

It turns out there were no plans for them and so subsequently Raymond flew over to inspect and value the trains. He made a call that there were no other buyers interested in them and so put in an offer for them at scrap value. All up he was aiming for 20 trains and his hunch about no other buyers being interested paid off, managing to secure 19 of them.

Raymond also happened to table the idea of Britomart all the way back in 1990 and he was instrumental in ensuring that a corridor was left to the site of Britomart as the initial plan had been to sell off the old rail yard land entirely.

Put simply, without the actions that Raymond took we almost certainly would not have a rail network today that is about to served by modern electric trains. He has been a hero to PT in Auckland that I think the city should be eternally thankful for. Thanks Raymond.

Note: Thanks to Raymond for agreeing to share his memories with us. Also thanks to Auckland Transport (where Raymond currently works) for allowing us to talk to him.

From the transportblog.co.nz

SH20 Waterview update: Preparing for Alice's turnaround

As Alice the tunnel boring machine creeps further on her journey, preparations are well underway for her breakthrough at Waterview in late 2014. Turning the 3000 tonne, 88m long machine around in the limited space of the Northern Approach Trench will be no easy feat, so considerable planning is required.

NZTA's team ticked off a major milestone recently in the lead up to the big turnaround, when they installed a large steel drum form (like a giant steel wheel, see below) against the northern headwall of the tunnel portal. The 14.5m high, 30T drum form is just one of a variety of temporary structures that are needed to help turn Alice around.

The main purpose of the drum form is to get Alice into the right position to begin boring the second tunnel back towards Owairaka. The drum form was purpose designed and built on site to be an exact fit for Alice, and was lifted into place using two large cranes. With the drum form safely in place, the next step is constructing a 1.6m deep concrete wall around the steel drum.

If you want to find out a bit more information on the project, visit:
www.nzta.govt.nz/projects/waterviewconnection
or www.facebook.com/AliceTBM for regular updates and some great vidoes.

ELECTRIC RAIL- BUILDING AUCKLAND'S FUTURE

REGISTRATIONS OPEN! 3-4 OCTOBER 2014, RENDEZVOUS HOTEL, AUCKLAND

Your Continuing Professional Development and Networking opportunity for 2014

Register for the Electric Rail – Building Auckland's Future. All early bird registrants go into the draw for a mystery weekend for two. Prize drawn at the conference dinner.

RTSA, IRSE or IPENZ Members - Early Bird before 1 July 2104 - $750
Non Members - Early Bird - $850
2 October - ATP Seminar - Members - $230
2 October - ATP Seminar - NON - Members - $345
*** Includes New Zealand's GST of 15%**

The Railway Technical Society of Australasia (RTSA), Institution of Railway Signal Engineers (IRSE) and IPENZ bring to you the Electric Rail – Building Auckland's Future conference at the Rendezvous Hotel in Auckland on Friday 3 and Saturday 4 October 2014, which will celebrate and examine the engineering achievements that have helped revitalise Auckland's rail system the over the past decade.

Preceding this conference on the 2 October 2014 will be the ATP Seminar Principles of Automatic Train Protection Operation.

Who will benefit from this conference?
Professionals working or associated with the rail, engineering and transportation sectors, including rail engineers and operations personnel, transportation engineers, consultants, contractors and suppliers.

The seminar will benefit Signal and Telecommunications engineers who wish to gain an understanding of ATP systems, their major elements as well as their advantages and disadvantages. It is also appropriate for engineering managers who may need to make decisions on the implementation of these systems in the future. The seminar will also be of interest to rail operators and rolling stock providers looking to understand ATP and the associated operational implications.

This conference is recognised for IPENZ CPD Hours and EA CPD Hours. Business development and networking opportunities will be available throughout the conference.

www.aucklandrailconference2014.org.nz

Caption competition

Colin Brodie impressed many with his Gandhi costume at the recent conference, as shown in this photo. Who knows what he is saying? A suggestion has been made.
If you think you know better, send your suggestion to daniel.newcombe@aucklandtransport.govt.nz

Reducing car pollution easier than experts thought

Reducing pollution from cars has been cheaper and easier than UN experts thought, a draft report says.

The UN's climate panel has admitted it underestimated the huge gains in weight and fuel efficiency achieved by car manufacturers. But the panel says all the improvements will be swamped by the future growth in global traffic.

That is unless governments improve public transport, tax motorists and plan cities for walking and cycling. The report warns that transport will become the biggest source of CO^2 emissions unless politicians act firmly.

It points out that the majority of homes in urban centres are yet to be built, but raises doubts about the capacity of governments in developing countries to plan cities that will avoid car dependency and pollution.

The authors say in a background document: "Without aggressive and sustained policies (to cut CO^2 from cars and trucks), transport emissions could increase at a faster rate than emissions from any other sector and reach around 12 [billion tonnes of carbon dioxide or equivalent greenhouse gases per year] by 2050.

"Transport demand per capita in developing and emerging economies is far lower than in [Organisation for Economic Co-operation and Development] countries, but will increase at a much faster rate in the next decades, due to rising incomes and development of infrastructure."

Transport currently produces 23% of global energy-related CO^2 emissions. Its growth has historically been linked to the amount of wealth in the economy, but the report says this link will have to be severed if the world is to avoid dangerous climate change (the catchphrase is "decoupling").

The report displays signs of optimism, noting that the growth in the use of light vans has slowed strongly in rich nations. It says: "If pricing and other stringent policy options are implemented in all regions, substantial decoupling of transport GHG emissions from GDP growth seems possible."

The report lists a host of measures to be used to combat increased emissions. Some will be controversial, others will be invisible. They include: behavioural change leading to avoided journeys, internet shopping, a shift to public transport, better technology, low-carbon fuels, investments in related infrastructure and changes in cities to promote walking and cycling.

The UK's leading expert on transport and the environment, Prof Julia King from Aston University: "The automotive industry has brought energy efficiency technologies into vehicles faster than most people predicted and at lower cost.

"The result in the UK of technology acceleration, combined with fuel price increases and the impact of the recession, is that new car emissions fell to 130g/km - two years ahead of the EU deadline of 2015.

The drop shows that regulation can work - the EU new car CO^2 regulatory target and the US efficiency target seem to be driving the acceleration."

BBC News

RASCals update

The new IPENZ TG Research Advisory Sub-committee (RASCals) has met by teleconference a couple of times since the 2014 Group conference. The group has eight current members. Anyone else in the TG can become a 'Friend' of the group by email request to the Convener, Bridget Burdett.

Current action items for RASCals include:

• **Recruit some 'Organisational Friends'.** Current invitees include the University of Auckland Transportation Research Centre, AA Research Foundation, University of Waikato Traffic and Road Safety Research Group (TARS), MoT, Police, CILT (fund research), RCA forum, ACC, Health Research Council, ARRB, Australian College of Road Safety, Austroads, AITPM

• **Develop a list of transport research priorities** for New Zealand in the short, medium and long-term, including a procedure to review and update this list such that it reflects the diverse range of practice areas and interests of Group members as a whole.

• **Establish a communications plan** for sharing of actions and progress with Friends, the IPENZ Transportation Group National Committee, and with the wider IPENZ Transportation Group. We're currently thinking of having a Dropbox folder that Members and Friends can access our meeting notes and other documents

• We're thinking of starting a **'Research Snippets' column** in Roundabout, including for example how to do a literature review, how to write a survey, how to get a journal article submitted… ideas or requests welcome.

• **Identification of key overseas stakeholders** to be included as Organisational Friends of the Sub-committee.

• **Identify current and potential future funders** of transportation research, e.g. NZTA, MoT, AARF, CILT, RCA Forum, operational research (plus others through others eg through MBIE, EECA)

• **Identify priorities** and a timeline for sponsorship of research within the Group, using Group funds as assigned by the National Committee.

• **Define Conference Technical Liaison role** to work with Conference organising committee with support as required for peer-review of conference technical papers, with awarding of conference prizes, and with planning conference structure insofar as research activity is supported and promoted.

• Develop mechanisms to **promote the best-quality transport research** from New Zealand within the Group, among stakeholders, and among the wider transportation industry.

RASCals welcomes input at any time from any Group members. If you'd like to discuss anything, please contact any of the Group members. Remember, you can look up contact details for any IPENZ TG member in the 'Members' Only' section of the IPENZ website (even if you are not a member of IPENZ).

Bridget Burdett , Alan Nicholson, Caron Greenough, Bill Frith, Glen Koorey, Shane Turner , Pippa Mitchell, Jo Chang

The Woman Leading Salt Lake City's Transportation Revolution

Robin Hutcheson is part of a new class of female Dept of Transportation (DOT) heads stressing alternatives to cars.

Here are a few things to know about Robin Hutcheson. She's a Connecticut native who came to Utah in 1994 for the skiing, and except for a few years in Europe, has lived here ever since. Since 2011, she's been head of the transportation planning division of Salt Lake City, the state's capital and biggest metropolis, often commuting by bike, at other times running one way and taking public transit on the return trip. Also, as you have noted by now, she is a woman.

That last part shouldn't be a big deal. And most of the time, it isn't. Every now and then, though, as the 43-year-old Hutcheson has climbed the ranks of her chosen profession, she gets a reminder: being a woman in a leadership position in American transportation is not the norm.

Sometimes Hutcheson finds that she's the only female sitting at a table full of men who hold power over some aspect of urban transportation or another. Sometimes, she says, people look a little surprised when she speaks up and asks a hard question, which she does as a matter of course. And then, she recalls, there was the time she was giving an important presentation at a town in suburban Utah.

Back then, she was a consultant with a private firm, putting forward a plan for the community's future transportation needs. When she got up in front of the room to speak, an older man, one of the people who was going to be making a decision, took one look at her and said, "Well aren't you just as cute as a button!"

"Pretty much every job in the transportation profession has traditionally been dominated by men"

Hutcheson says her blood began to boil. "It was a fight or flight moment," she recalls. But she neither fought nor fled. She just did her job. "I did not let the temper flare," she says, smiling at the memory. "And my plan got passed."

Pretty much every job in the transportation profession, from mechanics to road engineers, from truck drivers to airline pilots, has traditionally been dominated by men. That reality is what's driven the work of the nonprofit group WTS, founded as Women's Transportation Seminar in 1977. The WTS has as its mission "advancing women in transportation," and president and CEO Marcia Ferranto explains that it's not just for the benefit of women.

"There's a real crisis going on globally in transportation workforce development," she says. "We need to attract more people to transportation." And women are a big, largely untapped pool of talent. They may also come equipped with some inherent advantages. Ferranto cites research showing that companies headed by women are more successful than those

headed by men, perhaps in part because of the way they tend to manage and their ability to see things from other people's point of view.

In the transportation field, specifically, women are more likely to see the world through a lens that is not exclusively focused on peak commuting hours and maximum throughput on roads. They can relate to the concerns of a woman who must get to and from a night shift, and who dreads the long wait at the dark bus stop. Many of them have, or have had, primary responsibility in their own families for transporting children on multiple trips daily. As a result, they are perhaps more sensitive to how hard it is for people with different needs, schedules, and challenges to get from point A to point B — which is, after all, the whole point of transportation systems.

The question for WTS members is how to get women into leadership positions where they can make a difference, whether in the corporate world or in government. In a nation where STEM education lags in general, and where girls are chronically underrepresented in particular, helping women get to the top is a process that plays out on several fronts, says Ferranto. "You can't talk about attracting without retaining," she says. "You can't talk about retaining without advancement." To that end, the organization runs several mentorship and scholarship programs for girls and women, at the local, national, and international levels. It involves men as well: about 20 percent of the membership is male. "We're very inclusive of men," she says. "Who better to advance things than the men in power?"

Women in transportation leadership positions remain hard to find. Only a handful head state departments of transportation, and top executives at major private transportation firms are also in short supply. (There are some exceptions, such as Jacqueline Hinman, CEO of the Denver-based engineering firm CH2M Hill.) At the city level, several women have taken charge of DOTs and led them in exciting new directions — breaking the traditional mold of traffic engineers eager to build roads.

Examples include Leah Treat, who was appointed to lead the Portland Bureau of Transportation in 2013 and describes herself in her Twitter bio as a "good government gal with a passion for change in the trans industry." And Rebekah Scheinfeld, who just took the reins of Chicago's DOT, arriving with a strong record in developing transit, as well as a background in housing and parks. And Polly Trottenberg, who came in as New York City's DOT commissioner in January (the third consecutive woman to hold that post) from a job as undersecretary of the U.S. DOT, where she had a reputation as someone who supported transit funding and forward-thinking street design.

She follows Janette Sadik-Khan (pictured below), a former executive at engineering firm Parsons Brinckerhoff who became one of the best-known (and most controversial) figures in the Bloomberg Administration by promoting pedestrianized streets, public plazas, and a major expansion of bike infrastructure, including the nation's largest bike-share program.

And then there's Salt Lake's Hutcheson, founder of the Utah WTS chapter and newly minted executive-board member of the National Association of City Transportation Officials.

On the Monday morning when she picks me up, Hutcheson is keeping a close eye on her phone. Just two days earlier, the city had launched a new low-cost transit card called the Hive Pass for Salt Lake residents. The pass costs only $US360 a year (or $US30 a month in installments) and gives holders unlimited access to buses, light rail within the city, and commuter trains. It's a pilot program designed to take into account the type of trips made by the 190,000 residents of Salt Lake, which are often shorter and more numerous than those of the 1.2 million who live in the larger, suburban metropolitan area.

The lines at City Hall and the two other locations where the pass first went on sale were long. Wait times stretched into hours as city employees painstakingly verified proof of residency, snapped photos of the pass applicant, and issued the cards. Hutcheson is concerned that this second sale day will bring a repeat of those long waits, and warns me that she might have to take off to deal with any glitches that arise.

She never does. Sales go smoothly: after less than three weeks, the city had sold nearly 800 passes toward a six-month goal of 6,000. Instead, we spend the day touring the city and checking out the transportation innovations that Salt Lake has been racking up over the past several years. At one stop, Hutcheson asks the head of the local refugee resettlement agency pointed questions about how to better serve members of Salt Lake's large refugee community, many of whom arrive not knowing how to drive or are unable to afford a car. At another, she discusses figures that show how women take more varied types of trips than men.

"As a woman, it's possible that one of the things I bring is that I make relationships easily," says Hutcheson, after we've left the office of yet another colleague she's been working with for years. "And I keep relationships. These are my people."

Salt Lake City might not seem at first glance like the most obvious candidate for the kind of transportation overhaul that Hutcheson and many others in the region have been attempting. It does have a regular grid design centering on the Temple of the Church of Latter-Day Saints, which was dedicated in 1893, but the streets are uncommonly wide — 132 feet, a measurement Brigham Young allegedly described as enough room to turn a wagon team without "resorting to profanity."

Today the streets provide a fast-moving conduit for lots of cars, but are daunting to cross on foot. City blocks are unusually long, making for a sometimes tedious pedestrian experience that isn't helped on Sundays, when many businesses in this heavily Mormon city shut down. Steep hills lead up out of the central business district into the residential and university neighborhoods in the foothills of the spectacular Wasatch Range, whose often snow-capped peaks define the city's eastern edge. Surface parking lots are common downtown.

This is a car culture, no mistaking it. One resident told me that seeing drivers run lights is an almost everyday occurrence in his neighborhood. During my brief trip, I saw many pedestrians who seemed reluctant to cross against the light downtown, even when there were no cars in sight and the walk signal seemed like it was stuck on red for an unbearably long time. But in the past 15 years, the state and city have made enormous investments in public transportation and streets that better accommodate people on bike and on foot, with strong support from business interests and also the locally powerful LDS church.

"The good thing about Salt Lake City is that there is a general movement to make these kind of changes," says Mayor Ralph Becker. "We view everything we do as a partnership." Salt Lake is also a politically progressive city in one of the most conservative

states in the nation. (In the 2012 election, the Salt Lake Tribune raised eyebrows by endorsing Barack Obama over Mormon native son Mitt Romney.)

Becker is a rangy man who, like many in Salt Lake, takes full advantage of the magnificent landscape surrounding the city. When I met him, he said his knee was bothering him a bit after five hours of skiing the day before. People in Utah put a high value on their remarkable natural setting — which also fuels the powerful tourist sector of the economy — and that environmental mindset has been one of the driving forces behind the movement to reduce vehicle-miles traveled here.

For several years now, Salt Lake City's air quality has earned it the sad distinction of being one of the ten worst cities in the nation for short-term particulate pollution, and both residents and visitors have been dismayed at the visible smog that hangs over the city during bad cold-weather inversions.

"As the air-quality issue has risen in the public eye, people are accepting that we need to do more than just say we're going to do better," says Becker. "It's about people being able to move around in their city without having to use their car. How do we get from where we are today to having a city where people easily get around, can drive if they wish, but that isn't their only or necessarily their best option?"

Since a commuter rail line connecting Salt Lake to Provo opened in December 2012, public transit ridership in Utah has soared 103 percent. TRAX, the sleek light rail system that runs within the city, has been steadily expanding since 1999, when the first line opened, and has met or exceeded ridership projections throughout its short history. The current plan calls for two more lines to open by 2015, and so far it's ahead of schedule and under budget. TRAX ridership was up 6.8 percent last year.

Meanwhile, Hutcheson and her team have been working hard to make Salt Lake a more welcoming city for people on bicycles and on foot. Last December, a streetcar line with a walking and biking trail alongside it opened in the rapidly developing Sugarhouse neighborhood.

Salt Lake has been granted a budget for bike and pedestrian capital improvements that will be about $3.5 million for 2014-2105, up from just under $US500,000 in 2009. They've got a seasonal bike-share up and running, they've been striping new bike lanes all over town, and they've piloted some protected lane designs as well — a project that will be expanded this summer. Hutcheson knows that international research has shown protected lanes encourage more women to ride. She wants to see that happen, as currently only around 20 percent of the city's cyclists are women.

As Hutcheson shows me around town, I see evidence of the investments in transit and pedestrian and bike infrastructure everywhere. Driving North Temple Street on the way to the offices of the Wasatch Front Regional Council, Hutcheson proudly points out the changes in what was once an eight-lane roadway dominated by speeding traffic. Now the TRAX Green Line runs down the middle of the street, headed out to the airport. Ample bike lanes are on both sides of the street, and the sidewalks are wide and well maintained. Cars are just part of the mix. It's the kind of transformation she expects will be coming to more streets in the near future.

At the WFRC offices we met several of the people who have been working for years on land use and transportation plans to guide more sensitive development of the area along the Wasatch Front, now home to well over a million residents and growing all the time. These are the folks whom Hutcheson called "my people" earlier — a cohort of relatively young, energetic, forward-thinking planners, developers, engineers, and advocates who have known each other and worked together on various projects for years. They are committed to seeing Salt Lake City become a national model for growth. A city that preserves the natural environment on its outskirts. A city where people can enjoy life with minimal dependence on a car.

Hutcheson is at the heart of many of the initiatives that are aiming toward that goal. "She's been such a breath of fresh air," says Jon Larsen, who works on transportation issues for the group. "The industry has been dominated by engineers who just look at numbers and don't step back to look at the bigger questions." Hutcheson, he says, is always eager to do just that.

Mayor Becker, too, says that Hutcheson has been central to the city's new approach to its transportation challenges. "Robin is our star," he says. "Salt Lake City is a progressive city, but it takes the right people from top to bottom and the right commitment and the right approach. And fortunately Robin embodies all those things."

She waves him off when he says it, insisting as she does several times over the course of the day that she herself is not interesting, and that the focus should remain squarely on the city. She also downplays the idea that there's anything particularly remarkable about being a woman in charge of a city division that is shaping the future of a regional hub. When she took the job, she says, she simply buckled down to the task at hand, and ignored anyone who might be looking at her funny.

"I try not to get a chip on my shoulder," she says. "I just acted as if it were a non-issue. I just went to work."

Sarah Goodyear, The Atlantic

Photo Competition

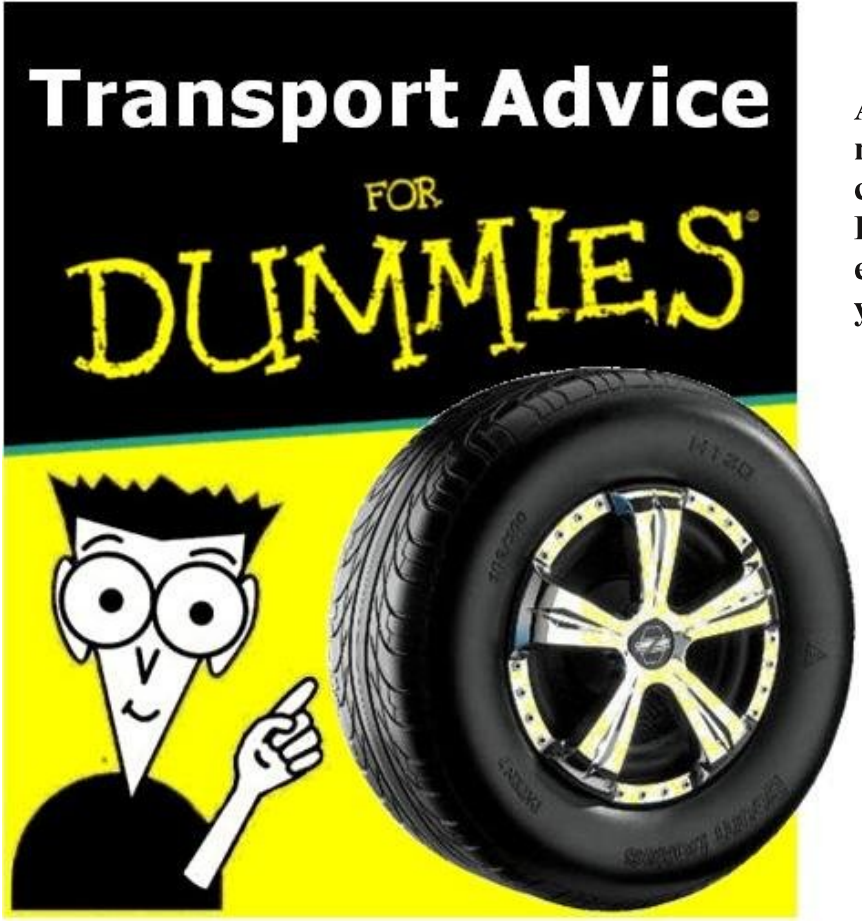
Taken or seen photos you want to share? Send them to:
daniel.newcombe@aucklandtransport.govt.nz
and win the adoration and begrudging respect of your peers.

The good and the bad of pedestrian management around construction

The picture on the right was taken recently at Mt Maunganui and shows a fairly light-handed approach to dealing with the temporary closure of the footpath.

The picture below, by comparison, was also taken recently, this time in central Auckland, showing a more comprehensive approach.

Taken photos of better or worse examples? Send them to:
daniel.newcombe@aucklandtransport.govt.nz



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
Great conference in Wellington! I had a blast. So many interesting papers and presentations. I wasn't sure about the fire alarm on the first morning. That seemed to be pre-arranged.
Stu, Paunui

Dear Stupid
It was pre-arranged. It is now traditional for each Transportation Group conference to have at least one fire alarm. We usually choose a time when the weather is nice and the attendance is high. It's like a team-building exercise. We all trundle back into the conference venue with a sense of comradery. The Christchurch folk tend to shake their heads at our endurance at 'surviving the false alarm'. Who knows what they will put us through next year?
~Transport Guy

Dear Transport Guy
I have been seeing more and more in the media about self-driving cars and I just can't believe that technology will ever be safe enough to take human judgement out of driving a car. I can't believe we are supporting this tosh. There is even an article in this very edition!
Wayne, Waipukurau

Dear Whine
I'm afraid you misread the article. It was actually about an 'elf-driving car'. I'm sure you are familiar with what elves get up to around Christmas, but for the rest of the year they are underemployed. Many have now become taxi drivers to supplement their meagre income from Santa Claus Inc. All those news items and articles you have seen - the reason you don't need to drive is that a small elf is doing it for you.

Google is taking the credit of course, but the truth is elf-power is behind many of today's smartphone apps. Need your GPS co-ordinates worked out? There's an elf with a compass doing that. Need to update Facebook? There's an elf alerting all your friends to your activity. It's a bit creepy, but no worse than having Google do it.
~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
David Wanty davidwanty@clear.net.nz
Vice Chairperson, Treasurer: Pravin Dayaram
Pravin@t2engineers.co.nz
Immediate Past Chair: Mark Apeldoorn mark.apeldoorn@tdg.co.nz
Auckland Branch Chair: Matthew Hinton
matthew.hinton@aecom.com
Waikato/Bay of Plenty Branch Chair: Alan Gregory
alan.gregory@opus.co.nz
Central Branch Chair, Administrator: Stephen Carruthers
Stephen.Carruthers@nzta.govt.nz
Canterbury/West Coast Branch Chair, Technical Subgroup Coordinator/Liaison: James Park James.Park@opus.co.nz
Southern Branch Chair: Phil Dowsett Phil.Dowsett@nzta.govt.nz
Website Administrator: Liam Ryan liam.ryan@tdg.co.nz
National Committee Minutes Taker: Michelle Bound
ipenz.auckland@gmail.com

Branch Administrators

Auckland: Stephanie Spedding
stephanie.spedding@beca.com
Waikato/Bay of Plenty: Liam Ryan
liam.ryan@Liam.ryan@nzta.govt.nz
Central: Josephine Draper
josephine.draper@nzta.govt.nz
Canterbury/West Coast: Jared White jared@abley.com
Southern: Lisa Clifford lcliffor@dcc.govt.nz

Roundabout Editorial Team

Editor: Daniel Newcombe
daniel.newcombe@aucklandtransport.govt.nz
Immediate past editor and dogsbody: Bridget Burdett bridget.burdett@tdg.co.nz

Kids explain traffic engineering