

Roundabout

Magazine of the IPENZ Transportation Group

Issue 151 March 2017

Come and find out about transport in Hamilton - Conference March 29-31



Also in this edition:

- Study Award tour reports
- Electric buses
- The return of integrated transport?
- Business Case Approach training

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"And if you change twice - once at Holborn, then again at Green Park, then congratulations, you're a psychopath."
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Roundabout is the magazine 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. There is no charge for publishing vacancies for transportation professionals, as this is considered an industry-supporting initiative.

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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>

ISSN 01 1 3-9053

Editorial



We often work in a little bubble of our own world and it can be quite unsettling or revealing when we leave that bubble and experience other people's worlds.

In my professional life, I deal with 30 year planning for major public transport projects which will carry millions of people and enable huge city-shaping land use changes. A local link with thousands of users is fairly minor in this context, and issues with individual

locations are easily glossed over when you are looking at large segments of the region. Most of my projects will end up costing hundreds of millions of dollars, some will be billions. It is easy to become complacent about the scale of the investment.

So it is always useful to step away and experience someone else's world. Like a road safety engineer dealing with a handful of crashes at an intersection, or a

I mention this issue in relation to the upcoming conference. One of my favourite reasons for attending – other than catching up with the witty and intelligent attendees – is that I get exposed to a wide range of topics and projects that I would never normally come across.

The conference is for the profession to meet, greet and learn from each other. And sometimes get dressed up as hobbits.

This shouldn't be considered of novelty value. I think it is vital for all members of our profession to put their heads up sometimes and acknowledge the wide range of topics we deal with and look for opportunities to cross-pollinate or learn from these unrelated projects. And interacting with people from other sectors of the profession is another way of updating and refocusing your understanding of transport issues.

If you haven't already registered – DO IT NOW! There is



conference information on page 8. I can't recommend this conference highly enough. It isn't a money-making venture (like some conferences) – it is purely for the profession to meet, greet and learn from each other. And sometimes get dressed up as hobbits.

If you can't get to the conference, please drop into the

traffic engineer trying to work out how best to deal with a few hundred vehicle movements around a town centre while making it pleasant for pedestrians, or a maintenance engineer figuring out which low-volume road misses out on renewal this year.

In my working world these are tiny and unimportant matters, but I appreciate that they make up just as important and stressful a working environment for those people dealing with them. Those projects make up the entirety of the working world of somebody, and I shouldn't judge them as simple or insignificant. (I don't by the way – they are just totally out of my current working world.)

conference website at some point in the future and browse the papers and presentations. It's not quite as good as being there, but is a step in the right direction. And put a placeholder in for the conference next year.

And don't get put off by the conference being held in the 'Tron. Some of my favourite people live there (so it must be OK) and – if nothing else – it will help you step out of your bubble and experience someone else's world for a while.

***Daniel Newcombe
Roundabout Editor
@newcombe_dan***

Chairman's Message



I have a bad reputation for lack of contribution to Roundabout, Daniel will testify, so I have promised to do better this year.

As I write this, we are less than three weeks out from our annual conference, and things have reached fever pitch with finalising speakers and events. The Conference committee resemble ducks swimming upstream, calm and collected on the outside but frantic activity below the surface.

Speaking of the conference, it is the first time in over 15 years that we have held it in Hamilton and I urge you to put aside your doubts and see what our fourth largest city has to offer. We have a host of great speakers from Mercury, NZ Transport Agency, KiwiRail, and NZ Police to name a few, together with some great technical tours and a special conference dinner located in Hobbiton.

Pravin will be a hard act to follow, and I aim to build on the foundations he laid, and get a number of initiatives put into action including: the re-branding of the Group, and updating of the

membership rules to be more in line with who we are and our more diverse membership.

So, as we enter the brave new world of 2017, I can see for the first time in several years we are very busy in the first quarter, there is an unprecedented amount of work in all infrastructure sectors and this is going to lead to shortages in resources as projects progress from planning through design and construction.

We are a nation obsessed with mobility, either

transporting ourselves or our words across the country and the world. We certainly can't maintain business as usual with a growing and aging population. Driving to Auckland on a regular basis I have seen the queue on the "great southern car park" grow steadily from Mount Wellington to south of Papakura. A 90 minute trip can now take in excess of three hours if the perfect storm of schools and rain coincide. There has to be a better way, and building additional lanes can only be a short term relief.

Reliance on private vehicles for commuter transport is completely unsustainable, with huge amounts of investment to create roads with capacity needed for only 20% of the day. This is an obvious oversupply to cater for peak demand, perhaps it's time to take public transport seriously as a solution to congestion.

We talk of smart roads, smart vehicles and smart phones, but does this create dumb people?

I am sure we will see autonomous vehicles on our roads within the next decade, but will there be the wholesale uptake and transfer of the driving task to computer control that the technologists predict? I am not convinced. People like to drive, that's why there are hundreds of different makes and models of vehicle. If it wasn't a personal thing we would all be on the bus.

There are a number of questions in my mind which have yet to be answered such as; who will own and maintain this fleet of autonomous vehicles? Where will they be stored when not in use? Who will be responsible if something goes wrong? Can you commit a driving-related crime with an autonomous vehicle?

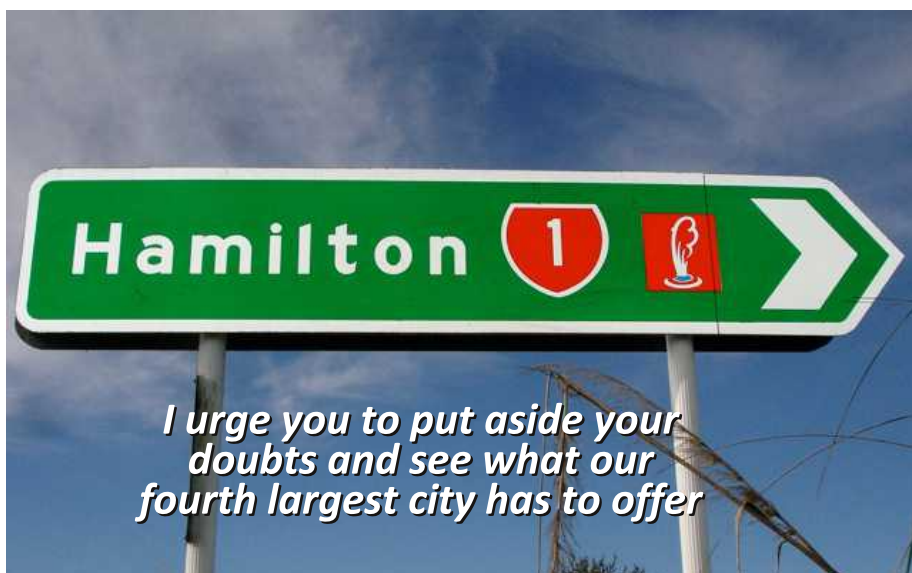
One thing that is real and happening right now is the progress of technology. We have an endless appetite for communication and fear we are missing out on something when disconnected, even for a short time. But this connectivity comes at a price, the level of distraction from reality is prevalent across all walks of life, and it is especially risky when mixed with the world of transport.

Distraction is a major contributory factor to accidents either in or out of a vehicle. We talk of smart roads, smart vehicles and smart phones, but does this create dumb people? There is still a need for people to actually interact with the real world and evidence suggests that some people are getting further from it.

The lingering questions are: are we ready for these changes in technology? What should we be doing as an industry now to prepare us for the future? Should we continue to build ourselves out of congestion based on the premise of predict and provide, or should we wait to see if we are building short term redundancy into our infrastructure?

I don't have the answers, but welcome the debate.

Alan Gregory
National Committee Chair



Letter to the editor

Dear Editor,

I am writing to express how much I enjoyed the article penned by Roger Boulter in your December 2016 issue "Oh those Germans: Either they do or do not, there is no try".

I found it extremely entertaining and also very pertinent. I firmly share Roger's view that we should all be striving for multi-modal transport planning and engineering, rather than working in silos.

It brings me back to a time when one of my main clients was a Council that used a multi-modal panel of in-house experts to review every traffic management proposal whether it be bus priority, parking changes, traffic signals.

It had the effect of keeping designers on their toes and thinking of all modes knowing that each design would come under such scrutiny.

I am aware of many examples, here in Wellington, where multi-modal thinking has been applied to designs for "another mode" with great success.

I am also conscious of how many opportunities to improve our roads for all users are lost through blinkered thinking during design or routine maintenance.

I think that the more we challenge ourselves to consider all modes in everything we do, the more we're likely to mainstream better outcomes for pedestrians and cyclists.

Thanks for your continued efforts on a very enjoyable publication.

Roger Burra | Project Manager | 41South
roger@41s.co.nz

Side thrust gauges – Ball Bearing Alert

Historically side thrust gauges were sold through the IPENZ Transportation Group, there are none left for sale. If anyone loses their ball bearing they need to buy a 3/16ths inch stainless steel ball bearing, available from SAECOWilson Christchurch.

The gauges were manufactured by Ludowici Plastics in Christchurch, which we understand is now part of Mulford Plastics. Feel free to contact them regarding any technical queries.



Keep up to date with IPENZ Transportation Group happenings:

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www.facebook.com/ipenztg



IPENZ
TRANSPORTATION GROUP



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or call 0800 252 627

2 million kilometres ridden during Bike Challenge

This February saw the nationwide launch of the Aotearoa Bike Challenge, a friendly workplace competition that encouraged people to try incorporating an A to B bike ride into their day and discover how easy it can be to build exercise into every day transport.

The Challenge pilot ended on 28 February, proving to be a huge success with over 1,000 organisations and

over 14,000 participants taking over 150,000 trips totalling almost 2 million kilometres.

Tauranga City Council was one of the top performing organisations to take part in the Challenge with 93 out of 500 staff clocking up over 1,000 trips by bike over the month, including 31 of them being new riders.

Winners are on the website www.lovetoride.net/nz

Cycling deaths on New Zealand roads at 25 year low

Five cyclists died on the roads in 2016 - the lowest annual number recorded in 25 years, latest road toll figures show.

The Cycling Action Network (CAN) hailed the preliminary figures as "encouraging". CAN spokesperson Patrick Morgan said the decline was a reflection of more people riding and becoming accustomed to sharing the road with cyclists.

He said the government needed to be more ambitious

in improving road safety but praised Simon Bridges as the best Minister of Transport for cyclists. Over the past 25 years about 12 cyclists died on the roads each year. There were six cyclist deaths last year and 10 in 2014.

"It is really encouraging, the numbers appear to be moving in the right direction," Morgan said. He said it was too early to say if improved infrastructure had positively impacted safety for cyclists and said dedicated cycling infrastructure was still in its infancy.



Auckland Transport to trial electric buses

Auckland Transport is to carry out a full trial of electric buses. The government has announced funding for the E-Bus trial and related infrastructure as part of the EECA Low Emission Vehicles Contestable Fund.

AT has been awarded \$500,000 to part fund an electric bus trial and \$300,000 for electric vehicle charging infrastructure. AT will top up the funding so two buses can be used in the trial.

AT Chief AT Metro Officer Mark Lambert says AT wants to test current E-Bus technology in Auckland. "We will trial two E-Buses to gather real operating data and to raise public awareness of the technology. We expect

them to be used over different routes and conditions to fully test them."

Mr Lambert says AT is constantly reviewing emerging technology when considering new infrastructure and services. "One of our challenges is to accurately estimate when this technology will meet the needs of our customers and service and route characteristics and also commercial viability."

Modern electric buses can have a range of more than 200 km with one charge and can have fast or overnight charging. Funding has also been provided for 60 EV charging stations at AT parking facilities.



Safe Sustainable Future

IPENZ Transportation Group Conference 2017

29 - 31 March 2017
Distinction Hotel, Hamilton

Mark your calendars now for the next IPENZ TG conference!

Special dates of interest 2017

- Early bird registrations close 13 February
- Applications for Young Professionals & Students registrations close 13 February
- Close of 3M Award entries 17 February

3M Award

New Zealand's premier road safety award recognising projects that exhibit exemplary innovation and effectiveness to save lives and injuries on roads – the 3M Traffic Safety Innovation Award.

Get your entries in now before 17 February.



3M Traffic Safety Innovation Award

Networking events

As usual there will be a welcome function on the Wednesday evening giving opportunities for delegates to network and create future opportunities for collaboration.

We hope you can also join us at the conference dinner, on Thursday evening at "real Middle-Earth" Hobbiton movie set, Matamata. This is an opportunity rarely afforded to many.

Programme

We welcome plenary speaker Fraser Whineray, Mercury, to the programme. He will discuss the role industry has to play in the future of sustainable transport.



Early bird registration fees 2017 (including GST)

Full	\$975
Single day	\$550
Life member	\$0
Student full	\$345
Student day	\$115
Young prof full	\$690
Young prof day	\$230
Exhibitor	\$575

Sponsorship opportunities



We wish to acknowledge the contribution of our sponsors, past and present, whose contributions are instrumental in helping us run what we hope are stimulating, rewarding and enjoyable conferences.

We have added some new packages and these are available on the conference website.

We look forward to seeing you there!

Transport for London has been tracking people: Here's what it discovered

For four weeks at the end of 2016, Transport for London (TfL) tracked Londoners via their phones. The experiment — carried out at 54 stations on the network — was implemented with a view to optimising journeys, among other things.

The movements were monitored of anyone who had their Wi-Fi switched on while in range of a TfL hotspot. Data was encrypted and the only information TfL took was the location of individuals.

So, what did TfL actually find out? Well, among other things: How passengers move between tube stations (currently Oysters only record the start and end of the journey). How passengers move within specific tube stations (to help TfL understand crowding). The same analytics above can be used to estimate footfall, and charge for advertising on the network accordingly.

It's possible tube station tracking could become a permanent thing. It's possible, too, that in the future it'll be used on a London-wide scale to capture the movements of all commuters, and optimise their routes.

As it was only a trial, only 54 out of out of 270 tube stations were involved. Mostly in Zone 1 and everything in the red patch below, apart from Tottenham Court Road, which doesn't have wifi yet. Though as you can see, the trial did extend out further up the Metropolitan and Northern Lines. According to the documents, the idea was to test whether a station being underground or not has an impact on wifi usage.

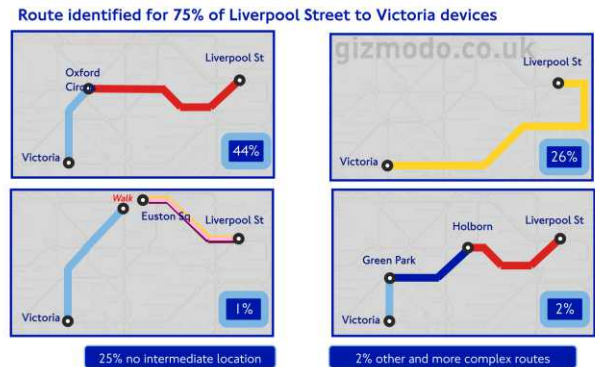
So what has TfL learned? Perhaps the number one reason to do the trial was to better understand the journeys that people actually make on the Tube. At the moment, TfL can tell what station you started and ended your journey at based on your Oyster card - but

Stations Included in the Pilot (Not for external distribution)



it can't tell how you got between two locations. It sometimes supplements this data with a Rolling Origins Destination Survey (RODS) to figure out specific routes, but this is done manually, which is expensive and time consuming.

So one immediately obvious benefit of the wifi data is being able to collect the same data much faster, on a larger scale, and for a fraction of the cost. If you look at the following slide, you can see how popular different routes between Liverpool Street and Victoria are.



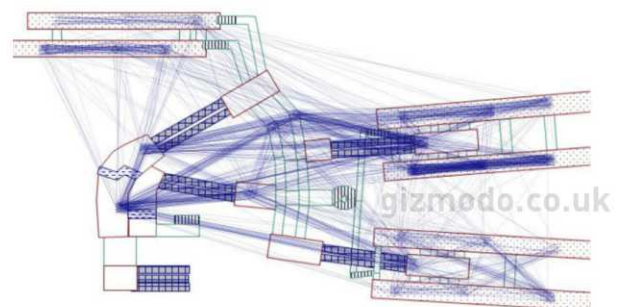
So if you travel via Oxford Circus, you do the same as 44% of other people. If you lazily sit on the circle line you do the same as 26% of people making the same journey. And if you change twice - once at Holborn, then again at Green Park, then congratulations, you're a psychopath.

According to one document, the inclusion of the Finchley Road to Wembley Park section of the Jubilee and Metropolitan lines (they run next to each other - the Jubilee just stops at more stations in between) was deliberately included in order to observe customer behaviour when there are two options where one is obviously faster than the other (It takes 5 minutes on the Met, 12 on the Jubilee).

TfL even checked if this data was accurate, by matching it up with actual train timetables, and was able to demonstrate how on one journey southbound down the Victoria Line they were able match the wifi data of one passenger and figure out which specific train they were travelling on.

The upshot of this is fairly obvious. As TfL says itself "By using Wi-Fi data, merged with aggregated Oyster and Contactless ticketing data we would have a far richer data source to ensure optimal and evidence based decision making for a wide range of planning decisions."

It isn't just travel across the whole network that can be tracked by wifi. It's even possible to track your location within an individual station - presumably by working out which access point that you're closest to. This means that TfL can use the data to make cool maps, like this:



This is a heat map of Euston tube station and shows where passengers walked around the station.

Comparing this to the excellent 3D tube map from the Station Master app reveals that the busiest platform by some distance is the southbound Victoria Line. Which perhaps isn't surprising as that's the line you need if you want to get to Oxford Circus.

TfL hopes that this data could be used to analyse crowding. For example, the Northern Line was included in the trial as the two branches enables them to compare how the City and Charing Cross branches impact each other.

The documents also seem to suggest that if TfL switched on tracking full time it could offer real time crowding information to passengers - so we could see a CityMapper of the not-too-distant future telling us which stations to avoid.

TfL also thinks the crowding data could be used to "Inform decisions on how many staff needed at each station and in what role".

This no doubt nods towards the recent reorganisations which have seen ticket offices close across the Tube network - which has provoked huge controversy in some quarters.

One thing that everyone will like, though, is that the same data could also be used to monitor how long passengers have been stuck on trains or held outside of stations - and refunds could be offered as a result.

Source: *Gizmodo UK*

WiFi data collection

We are collecting WiFi data at this station to test how it can be used to improve our services, provide better travel information and help prioritise investment.

We will not identify individuals or monitor browsing activity.

We will collect data between Monday 21 November and Monday 19 December.

For more information visit: tfl.gov.uk/privacy



Submit on the Government Policy Statement on Land Transport (or tell IPENZ TG what we should say)

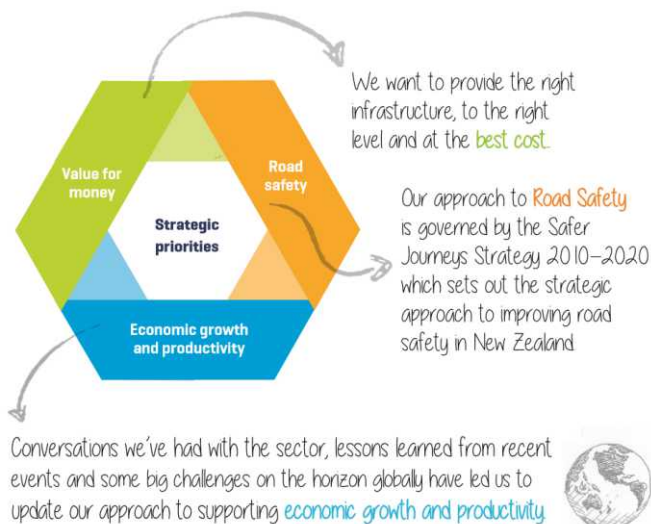
The Government Policy Statement on Land Transport 2018/19 – 2027/28 (GPS) is open for consultation.

The GPS sets out the government's priorities for expenditure from the National Land Transport Fund over the next 10 years. It sets out how funding is allocated between activities such as road safety policing, State highways, local roads and public transport.

The IPENZ Transportation Group will be making a submission on behalf of members. Anyone wanting to contribute should send Alan Gregory (AGregory@tonkintaylor.co.nz) their comments as soon as possible, as submissions close 5pm Friday 31 March 2017.

Information on the GPS is available at [here](#)

If you wish to make a personal submission, you can email gps2018@transport.govt.nz or by writing to:
Attn: GPS Policy Team
Ministry of Transport
PO Box 3175
WELLINGTON 6140



Driverless cars 'to increase congestion' says government

Driverless cars could initially lead to longer delays on the UK's major roads, according to a UK government report.

The Department for Transport predicted a "decline in network performance" once one in four cars become driverless.

However, should driverless vehicles make up between 50% and 75% of cars, DfT researchers say they will reduce congestion.

The average time spent delayed on city roads at rush hour will fall by 12.4% when 25% of vehicles are driverless.

The DfT said early models of the vehicles acted more cautiously and the result could be a "potential decrease in effective capacity" on motorways and A roads.

But as more people adopted the technology and it became common place on the country's road network, the study found that congestion could be cut by 40%.

Steve Gooding, director of motoring research charity the RAC Foundation, said: "There's a prize to be had in terms of swifter, safer journeys, but the transition to that world will be challenging.

"There are around 32 million conventional cars on the UK's roads - as driverless cars come in, traffic flow could initially get worse rather than better, potentially for many years.

"Much will depend on how an autonomous car's parameters are set and just how defensively these vehicles will be programmed to drive."

The study used software to map out the effects of the cars on the road network. The DfT said the report was the first step into more trials and researching, ensuring driverless cars are "safe and beneficial for all".

Transport minister John Hayes said: "This exciting and extensive study shows that driverless cars could vastly improve the flow of traffic in our towns and cities, offering huge benefits to motorists including reduced delays and more reliable journey times."

Ministers are also planning to extend existing insurance cover to driverless vehicles, covering individuals when they are driving and when they have handed over control to the computer.

In the event of a crash caused by the technology, a government consultation document suggests the driver and anyone else affected should be able to claim from the insurer and, in turn, the insurer would be able to claim compensation from the manufacturer.

In the document, the government adds it will incorporate the insurance proposals for automated vehicles forward into the Modern Transport Bill, which is expected to be debated by MPs later this year.

Source: BBC News



Something about this ramp seems to make it less useful for wheelchair users...

A vertical promotional graphic for T2. The background is a dark, blurred image of a road. The text "HG T2" is at the top in white, with a small yellow square in the 'G'. Below it, "NEW HORIZONS" is written in large, bold, white capital letters. At the bottom right, there is a logo for "HARRISON GRIERSON T2.COM". In the middle, there is a block of white text: "At T2, connecting our communities keeps us pushing forward. And like our thriving cities and towns, we're evolving and embracing change. Our merger with Harrison Grierson means we're bringing together some of the best engineering minds, expanding our scope and redefining what's possible for the future."

China's famous elevated bus is now just a giant roadblock

After seizing the world's attention over the summer, China's futuristic elevated bus appears to have reached the end of the line.

Video of the road-straddling bus cruising over the top of cars during a test run spread like wildfire on social media back in August. But the quirky vehicle now sits idle at the test site in northern China, where it has become a hulking eyesore.

Billed as a potential answer to China's crippling traffic problems, the elevated bus is now the source of bottlenecks in the port city of Qinhuangdao. Cars traveling in both directions have to crowd together on the other side of the road to avoid the test tracks and the 26-foot-wide bus.

"The road is narrower, of course it affects traffic," said Wang Yimin, a local mechanic who was one of several residents who grumbled about the inconvenience.



To host the test drive, the city built special tracks for the giant electric-powered vehicle, which is 72 feet long and 16 feet high. The company behind the bus, TEB Technology, was supposed to restore the 330-yard-long test site to its original state by the end of August, according to China's official state news agency Xinhua.

But that never happened.



"The tracks are still there and we're aware that it causes transportation problems," said a Qinhuangdao government official, who declined to be identified by name because he wasn't authorized to speak publicly.

"I don't know much about TEB's future plans or what we will do with the tracks," the official said, adding that residents have been calling to complain.

Shortly after the test run in August -- in which people rode in an elevated compartment as the vehicle straddled a two-lane highway -- Chinese state media began questioning the legitimacy of the project.

They raised concerns that the whole thing was a publicity stunt funded by a peer-to-peer lending programme, a loosely regulated form of investment that has resulted in scams in China.

Some local news outlets reported that TEB's backers were in financial trouble after promising investors overly ambitious returns.

Repeated phone calls to TEB went unanswered. When CNN visited the company's Beijing office one afternoon last week, most of the lights were off. Inside, a miniature version of the elevated bus was circling around a scale model of the capital city.

An employee who was there said he didn't know what the company's future plans were for the elevated bus or any other projects.

The vehicle tested in Qinhuangdao was just a prototype, he said, and TEB planned to have a real bus ready by the middle of next year.

"But with all this money cutting off now, the company can't do anything," the employee said, declining to be identified by name because he wasn't authorized to speak to the media. His business card identified him as TEB's director of development.

The company appears to be "a good example of the risks that are involved" in peer-to-peer lending, said Zennon Kapron, the founder of Shanghai-based financial market research firm Kapronasia.

Transportation Engineering Postgraduate Courses 2017 (Provisional)



The University of Auckland
NEW ZEALAND



NZ TRANSPORT AGENCY
WAKA KOTAHĪ

Department of Civil & Environmental Engineering University of Auckland
For Master of Engineering Studies [MEngSt] and Post Graduate Certificate [PGCert], with
/ without Transportation specialisation, or for a one-off Certificate of Proficiency, COP

2017 PG Transportation COURSE OFFERINGS

Semester 1 (Mar-Jun 2017)

CIVIL758 – Traffic Systems Design (also part BEHons degree, Mon 3-5pm, Wed 5pm, 12 weeks)

Traffic signal timing analysis, gap acceptance parameters, intersection analysis of performance (priority, roundabouts, signals), introduction to transportation planning, RMA and other requirements, computer modelling and simulation.

CIVIL762 – Transportation Planning (2 x 3-day blocks > 22 – 24 March, 3 - 5 May)

In-depth exploration of various components of the urban transportation planning process, with emphasis on theories on modelling. The principles of conventional four-stage transport planning model, namely trip generation, trip distribution, modal split and trip assignment, are covered in detail.

CIVIL766 – Road Asset Management (2 x 3-day blocks) > 29 - 31 March, 17 – 19 May

Road asset management concepts; data requirements; evaluation of functional and structural performance; deterioration modelling; economic evaluation and lifecycle analysis; prioritisation and optimisation; risk management; pavement management systems.

CIVIL769 – Highway Geometric Design (2 x 3-day blocks) > 5 -7 April, 10 – 12 May

The geometric design of highways - user, vehicle, road environment, sight distance, vehicle speed, safety, safe systems & design consistency, horizontal/vertical curve & cross-sectional design, plans, signs & marking.

CIVIL770 - Transport Systems Economics (3 x 2-day blocks) > 20 - 21 March, 10 - 11 April, 22 - 23 May

Fundamentals of transport economics incl. supply, demand, pricing, congestion and other externalities; principles of economic evaluation in transport planning.

Semester 2 (Jul-Oct 2017)

CIVIL759 – Highway & Transportation Design (also part BEHons degree, Mon 11, Tues 11-1pm, 12 weeks)

Economic and environmental assessment of transport projects, land transport funding, road safety engineering, crash reduction & prevention, design of intersections, pavement asset management and rehabilitation, heavy-duty pavements, drainage.

CIVIL765 – Infrastructure Asset Management (2 x 3-day blocks) > 23 - 25 August, 4 - 6 October

Integration of planning and infrastructure asset management, resource management, institutional issues and legal requirements. Asset management plans and specific techniques.

CIVIL 771 – Planning & Managing Transport (3 x 2-day blocks) > 7 - 8 August, 18 - 19 September, 16 - 17 October

Integrated planning of transport and land use, transport planning modelling, LTMA and GPS, District Plans and RMA, Travel, trips and parking. Transport assessments and multi-modal transport, TDM, 'Smart roads', intelligent transport systems, EV's.

CIVIL 773 - Sustainable Transport: Planning and Design - new course (3 x 2-day blocks) 17-18 August, 21 - 22 September, 12 - 13 October

Pedestrian and cycle planning and facility design (network and route planning, trails, roundabouts, footways, terminals, plazas, footways, escalators, etc.); public transport (bus, rail and LRT) and vehicle operations for compact central urban areas and transit orientated developments, shared spaces and user safety.

NOTE: Other relevant courses at the University of Canterbury (e.g. Civil / Transportation) or at Auckland (e.g. in Civil / Construction Management) or elsewhere can be suitable for credit – prior approval is required.

For Admission / Enrolment inquiries contact: **Assoc. Prof. Roger Dunn**, Director of Transportation Engineering
Phone: (09) 923 7714 DDI, Mob 021 309 600 Email: rcm.dunn@auckland.ac.nz

Further details, including the course outlines, can be found at:

<http://www.cee.auckland.ac.nz/uoa/home/about/ourprogrammesandcourses>

Our Masters degree Brochure https://cdn.auckland.ac.nz/assets/engineering/for/future-postgraduates/documents/Transportation_final_print.pdf

Our Transportation Research Centre www.trc.net.nz



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Dubai hopes to launch autonomous drone taxi service in July



Dubai officials have revealed plans to launch autonomous drone passenger craft as early as this July.

Speaking at the World Government Summit, the head of Dubai's Roads & Transportation Agency Mattar Al-Tayer said the EHang 184 drone, originally from China, has already made its debut flying over the Burj al-Arab skyscraper hotel, but the transport will one day be more than a novelty.

As reported by the Associated Press, it remains to be seen whether the four-legged, egg-shaped drone could one day become an alternative to congested roads in the region, but Dubai's investment into futuristic technologies does indicate this may one day be the case.

The drone itself, introduced at CES 2016 and tested in Nevada, uses a four-rotor design and is capable of carrying up to 100kg or an individual passenger and limited cargo.

EHang says that once a passenger has input their destination on the drone's touchscreen, the EHang is capable of flying for 23 minutes at sea level or 10 minutes at up to 62 miles an hour if higher altitudes are needed -- such as the need to avoid skyscrapers and the tall buildings Dubai is known for.

The drone's top speed is 100mph and the autonomous vehicle can operate in an area of up to 50km.

Last year, EHang announced plans to work with Lung Biotechnology to launch the drone as a fast way to transport organs, but Al-Tayer said officials have already "experimented with this vehicle flying in Dubai's skies."

According to the transport official, the EHang will begin flying regularly in July, but Al-Tayer did not offer further details.

The ruler of the country, Sheikh Mohammed bin Rashid Al Maktoum, said last April that by 2030, he wanted to see 25 percent of all trips taken in Dubai to be made by

driverless cars.

The country already has a driverless rail service used by millions of passengers a year, and so the switch to autonomous cars and one day, drones, may not be too much of a stretch -- especially as the United Arab Emirates has cash to burn.



Sam Corbett sent in this photo from his recent trip to Taipei. It's an urban busway in the middle lanes plus a dad on bikeshare bike with his child in his backpack. Not something you see a lot in NZ.

Car ban fails to curb air pollution in Mexico City



Banning cars on Saturdays in Mexico City hasn't reduced air pollutants, according to a new study. Scientists had expected that limiting driving at the weekend would reduce vehicle emissions by 15%. But this analysis looking at pollution measurements in a city with serious air quality problems, found no discernible effect.

Residents got round the restrictions by car pooling, using taxis and purchasing extra vehicles, researchers say. Back in 1992, the UN declared Mexico City the world's most polluted city. Massive growth in the use of cars coupled with a geographic location that trapped a toxic blanket of dirty air over the city saw tens of thousands of people hospitalised every year. In an effort to tackle the problem, restrictions were introduced in 1989 with drivers prevented from using their cars on one day per week. The system was based on number plates so a licence ending in a five or six meant the car couldn't be driven on Monday and so on.

The programme, known as Hoy No Circula, has been hugely successful in terms of compliance and has seen some improvements in air quality with Mexico no longer ranked as the most polluted city, having been overtaken on that dubious honour list by the likes of Beijing and Delhi.

Mexico's driving curbs were extended to Saturdays back in 2008 with an analysis carried out beforehand indicating that nitrogen oxides and large particulates would decline by 16%. To look at the impact of the Saturday restriction, US researchers analysed not just air quality samples but also public transportation numbers and weekend attendance at the city's zoo to get a clearer picture of overall activity.

"I looked at a whole bunch of pollutants, mean levels, maximum levels, every hour of the day, but I couldn't find any evidence that the programme improved air quality," says Dr Lucas Davis from the University of California, Berkeley.

"The thinking was it was supposed to get people to take public transportation but if you look at data, they didn't and anecdotally people say they don't take the subway on the day they can't drive, they get a family member to drive them or they take taxis."

Public transport in Mexico City is inexpensive the author says, but often overcrowded. He also believes there are cultural factors behind the reluctance to give up the car.

"Driving is a real status symbol in Mexico City, and once a family have raised enough money to buy a car, there's a status associated with private vehicles that's tough for people to break. There's a bit of a cultural or socio-economic resistance to taking public transport."

Despite this study, other experts believe that Mexico has made significant strides towards improving the environment while both the population and the economy have expanded and hundreds of thousands of new vehicles have come on to the roads.

"Alongside driving restrictions, Mexico City has made massive investments in public transport to provide cleaner alternatives to driving," said Mark Watts, executive director of C40, the global network of cities dedicated to improving the environment and fighting climate change.

"Several new bus rapid transit lines have opened recently and they have the largest year-round bike sharing scheme in North America. At the recent C40 Mayors Summit hosted by Mexico City, Mayor Mancera committed to ban diesel cars from the city by 2025, because they are responsible for the pollutants that are most dangerous to public health."

The research has been published in the journal *Scientific Reports*.

Source: BBC News

60mph speed limit for M1 to combat air pollution?

A proposal to impose Britain's first pollution-linked speed limits in order to help ease smog over Sheffield is being considered by Highways England.

A 60mph speed limit at rush-hour when vehicle numbers are highest where the M1 runs close to schools and homes in the city could help address air quality concerns, a report commissioned by the agency found.

The mandatory speed limit, if approved, would be in place between 7am and 7pm seven days a week between junctions 32 and 35a.

The suggested initiative follows a Nice study, published in December, which found that "driving smoothly" could ease air pollution. Accelerating or decelerating too rapidly leads to greater fuel consumption and means harmful emissions are being released into the

Currently, an average of approximately 120,000 vehicles per weekday use the motorway in Sheffield, according to Mouchel, an engineering consultancy that put together the report.

It estimates that the smart motorway scheme will add a further 5,000-10,000 vehicles a day by opening the hard shoulder to traffic. It stated: "Air quality assessment predicted that operating a [smart motorway] at 70mph, 24 hours a day, seven days a week, would result in significant adverse impacts on air quality."

The consultancy firm found that the best way to prevent an increase in illegal pollution would be to implement a speed limit. The AA spokesman said the proposal, if implemented, could provoke anger among road users, who will face fines if they exceed 60mph.



He said: "Car users are always the easy hit when it comes to pollution when actually they are not one of the main contributors. There will be people raising their eyebrows about whether this is just an example of the authorities trying to look like they are doing something."

"There will be a section of car users, who will see that this is not safety-

environment unnecessarily, the study found.

A 60mph speed limit could also help create a smoother journey as drivers would not be accelerating and then decelerating at pinch points so often, a spokesperson for the AA said.

The plan coincides with Department for Transport (DfT) plans for a £106m "smart motorway", which is due to launch in March.

The scheme is likely to add thousands of cars, vans and other vehicles to the roads, causing an increase in air pollution. Sheffield already misses EU air quality targets and was highlighted by the World Health Organisation for having dangerously high levels of air pollution.

To mitigate the increased pollution caused by the smart motorway scheme, Highways England, which admits it is a "key challenge", has been trialling a number of initiatives.

related, and that they are being penalised for emissions that are likely to have come from other sources as well. That same section will say they pay billions of pounds in taxes ... and if we're contributing that amount of money why isn't it being spent on the road network to deal with the issues?"

He added: "There is a very good chance that the traffic is already moving at that speed during rush-hour." Highways England stressed that the speed limit is just one of "a range of other mitigation options" being trialled, and that despite the scheme being due to launch at the end of March, "there is no suggestion of a delay to the scheme on the M1 and there will be mitigation in place for when the scheme opens".

Other options include painting barriers with "catalytic paints" designed to remove pollutants from the air and putting piles of "mineral polymer" – made from a secret compound that absorbs nitrogen dioxide – alongside the road.

Source: Guardian



IPENZ Cycle Study Tour 2016 Report - Claire Graham

In June 2016 I was incredibly fortunate to be a recipient of the IPENZ Transportation Group study award and headed off to North America and Europe on a study tour focussed on cycling infrastructure. I explored 9 cities in 4 weeks by bike, using and observing the different bicycle infrastructure each city had on offer. The specific focus of my trip was to look at non-signalised intersections and transition designs.

My journey began in Vancouver where although it was supposedly summer it was 12 degrees and raining! Luckily the weather improved and it certainly didn't curb my enthusiasm to get out and about and explore the city by bike.

I met with Mike Zip from Vancouver City and he showed me around for a morning, explaining the progress they were making and also the lessons they were learning as they steadily increased the amount of cycle infrastructure throughout the city.

A key lesson (also relevant to NZ) was they won't build any more bi-directional cycle facilities on the side of a two way road, as the intersections prove to be much too complicated and unsafe.

Unexpectedly one of the most impressive aspects of cycling in Vancouver was the local street bikeway network.

These were incredible in the extent of network available, the simplicity of design elements used and the low cost nature of these elements: e.g. limiting motor vehicle movements into and out of streets through dead-ending or building a raised central median to only allow right turns in and out (equivalent to our left). Speed bumps/tables were hardly used at all, in stark contrast to here in NZ where these are often the only feature.



Typical local street bikeway

Pedestrian Hybrid Beacon (PHB, formerly called a High-Intensity Activated crosswalk)¹ were another very useful element; these are used where the local road crosses an arterial, and are only active on the arterial road to stop traffic and allow movements from the local road - this is something which would be great to add to our design tool palette here.



Typical local street bikeway

Safety and comfort in numbers was evident along these routes and it was clear these were well used and highly valued pieces of the cycling network for Vancouverites.

Next stop was Copenhagen, here I completed a 3 day Master Class run by Copenhagenize Design Company. This was attended by 20 professionals from around the world and included a bicycle tour each day as well as design workshops, lectures and behaviour & desire line observations in the peak morning rush.

It was a fantastic opportunity to soak up knowledge from the Copenhagenize team especially from Mikael Colville-Andersen.

This was easily my favourite city of the whole trip. The streets felt human-scaled and comfortable, problems had been tackled with simple solutions and there was evidence everywhere of a city striving to become even better than it already was for cycling.

Riding a bike in the city was effortless and simple. I spent 8 days here, which allowed me to ride and observe many different areas and aspects of the city.

Seeing the interaction of people on bicycles with other modes was really useful, particularly with buses and bus stops.

Having been in many meetings in Auckland where 'assumed' behaviours between modes have led to over complicated and messy designs, I hope my experiences, photos and videos can shed some light and ideas on these challenging interactions.

Coming back to the focus of my trip, this city offered some great examples of non-signalised intersections which bicycle infrastructure moved through.

Here is a local street on the left of the image with a main street or secondary arterial type road on the right. You can clearly see the footpath and cycle path continuing uninterrupted through this side road, sending a message that movement along the main street is more important than access into and movement along this local street.

Next stop was London for 2 days. Having not been to London since 2010, I immediately noticed a significant change with many more people on bikes in the streets, most without helmets. The highlight was meeting Brian Deegan from Transport for London.

Dressed in a smart pinstripe suit, he set quite a pace as he led us around London for several hours on the Santander 'Boris' bikes, showing us some of the latest upgraded cycle superhighways.



¹ More information:
https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwas14014/



He was passionate and knowledgeable and it was fantastic to have the opportunity to pick his brains about various issues and challenges they have encountered in the upgrading of these routes.

Berlin was next and while cycling was very ingrained in many of the streets here, the 'centre' of Berlin took me by surprise with its vast scale. Many streets were 6 lanes wide and some of the footpaths were 10m in width.

Cycle paths interestingly were usually located at the same height as the footpath (unlike the Danish and Dutch which were a half kerb height lower) but separated and clearly distinguishable by a 300-800mm

wide of rough cobble stones strip, a white line of pavers and the cycle path itself was often red coloured and made of pavers or asphalt.

Finally the last stop was the Netherlands. Here I visited Utrecht, Rotterdam, Groningen and Amsterdam. Utrecht had some great examples of intersections and bicycle streets and like Copenhagen, cycling around this city was effortless and fun.

One of my favourite things to do was to head out for the afternoon rush hour and ride amongst the chaos, stopping at times and just observing how it all, just worked.

There were also several sites where infrastructure was being improved for cycling, cycle paths being widened and new cycle and pedestrian bridges being built, St Jacobsstraat had some very nice use of stone materials and detailing.

A whirlwind tour of Rotterdam one afternoon guided by the one and only Lennart Nout was great, again lots of pictures and ideas to take away.

Known for their bicycle Barnes' Dance intersections, Groningen did not disappoint and watching several of their intersections at peak times was mind boggling but inspirational, definitely something that will be worth looking into here for a couple of spots.

Amsterdam was beautiful and chaotic, a number of scooter classes are legally allowed to use the bicycle



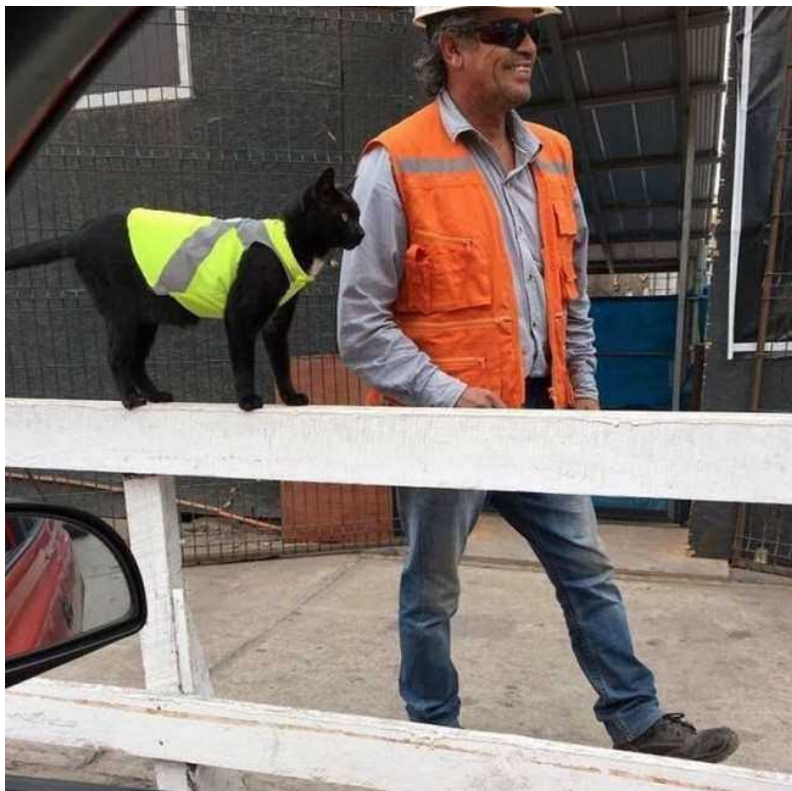
paths in the Netherlands, which definitely made cycling more intense and feel a little scary as many did not conform to the speed limits!

Overall the trip was an incredible experience, having the opportunity to physically ride the infrastructure in a variety of contexts and cities, as well as being able to touch, measure and photograph sites has certainly given me a much deeper understanding of how the infrastructure worked and how it could work here.

Observing human behaviour in the settings was also of great value and reinforced my thinking that some cities (including NZ) perhaps overdesign aspects of the infrastructure as humans are generally smarter than we give them credit for.

Thanks to everyone who provided me with overseas contacts, Auckland Transport for their contribution and support and of course IPENZ for offering such a great award.

Claire Graham,
Auckland Transport
[Click here to see Twitter library of photos and material](#)



This safety cat has nothing to do Claire's article but is really cute.



Riding with Lennart Nout in Rotterdam



Megan Fowler, ViaStrada

Mixing it up a bit – Can motorists and cyclists really share lanes at intersections?

Figure 3: Mixing zone, Smithe St, Vancouver

Pre-ramble

As we begin to install more separated cycleways and get a higher number and wider range of people cycling, we are faced with the challenge of how to give these people a suitable level of safety and comfort at intersections. Making this observation led to me receiving an IPENZ Transportation Group study award in 2016, which took me to the United States and Canada, to visit relevant sites and talk to people with useful experience.

I'll be presenting a paper discussing a number of possible treatment types and their relevant applications at the TG conference at the end of this month. But, as our dear Glenda only let me have 15 pages, I'm going to supplement that by focusing on a specific treatment in this Roundabout article.

Zoning in on mixing

A mixing zone (or mixing lane) is an approach lane at an intersection which is shared by motor vehicles making the short turn (i.e. left turn in New Zealand, or possibly a right turn from a one-way approach) and cyclists who may be turning or travelling straight through. The configuration of a mixing zone enables people on bikes coming from a kerbside facility to enter the kerbside lane at an intersection but still continue straight ahead.

Mixing zones are one example of a treatment that addresses conflict between through cyclists and turning vehicles when users are approaching the intersection, rather than travelling through it. The Austroads Research Report on Effectiveness and Selection of Treatments for Cyclists at Signalised Intersections¹ found that sites with exclusive left turn lanes are much safer for cyclists than those with a shared through and left turning lane.

¹ Note that the research considered intersections in New Zealand and Australia with cycle lanes, which are different to the separated cycleways discussed in this article.

Tim Hughes (the research project manager) later went on to analyse the data further and concluded that addressing the conflict between left turners and cyclists on the approach to the intersection is four times safer than addressing it going through the intersection. The theory is that the cognitive demand on road users is lower at the midblock than at the intersection, and therefore drivers are more likely to look for, notice, and give way to people on bikes.



Figure 1: Megan Fowler (left), recipient of 2016 IPENZ Transportation Group study award, taking her study seriously during a conference workshop in Seattle.

Another safety benefit of mixing zones comes from the fact that left turning vehicles travel more slowly than through vehicles because of the geometric constraints of making a short turn, resulting in a lower speed differential with cyclists. Therefore, it is safer for cyclists to share a lane with left turners rather than through vehicles.

Despite the theory about addressing the conflict on the approach to the intersection, and the safer speed differential between cyclists and turning vehicles, there is debate over the appropriateness of mixing zones. I'll point out some of the mixed experiences and my thoughts on the problems encountered by our North American counterparts as we go along.

Phases they go through

Mixing zones don't require any specific signal hardware or phasing. In fact, they should not be used where the turn movement is operated independently of the adjacent through movement (i.e. a lead or lag turn) unless a green cycle light is used concurrently. Otherwise, cyclists waiting to travel straight ahead will be in conflict with turning vehicles in the same lane.

Laying it out from the start: designing the entry point



Figure 2: Mixing zone, Dexter Ave, Seattle

From my observations of guidelines and sites, I've identified two key components to a mixing zone: the entry points (for both vehicles and cyclists); and the section where the mixing occurs on the approach to the intersection.

The entry point, where vehicles and cycles enter the mixing zone, should be designed to communicate to users the change in environment and hierarchy (e.g. 'first-come, first-served', or 'motorists give way to cyclists').

Some mixing zone entry designs involve a defined channelisation of motor vehicles, generally at an angle to give motorists a better view of oncoming cyclists, and a chance to slow down before encountering cyclists, whilst also getting out of the way of following through traffic. The mixing zones I saw in Chicago and those that MassDOT now recommends are designed so that the speed of vehicles is 20 mph (32 km/h) at the point where they start mixing with cyclists.

These types of designs generally have give way markings at the entry point, which not only establishes a hierarchy but makes it clear to motorists that this is not a normal turn lane.

Other mixing zone entry designs involve drivers simply crossing into the mixing zone as they would change into a turn lane (e.g. Figure 3).

Throwing them into the mix: designing the mixing section

Once drivers and cyclists have entered the section where the mixing occurs, there are several possibilities for their relative positions:

- Side-by-side, specifically either:
 - Cyclists to the left of motor vehicles (i.e. on the kerbside), or;
 - Cyclists to the right of motor vehicles
- Single file (i.e. one in front of the other, thus effectively centred in the lane)

Sharrows should be used to indicate the preferred cycling position – not just for cyclists' benefit, but also so that motorists are aware that people on bikes may be present and understand that the lane is for sharing.

In choosing between side-by-side or single file mixing, I don't think one is objectively better than the other, but it depends on the site characteristics and opportunities (which generally result in single-file being the best option for a particular mixing zone). An important aspect is that lane widths should be designed to be either so narrow that it's clear that single file use is the only possibility, or wide enough that cyclists and cars can travel safely side-by-side.

Between these two options is an unacceptable width range where users might attempt to travel side-by-side without having the space to do so safely. The appropriate widths are outlined in the CNG (the Transport Agency's Cycling network guidance²).

Whilst side-by-side use may be a valid option, if a lane is wide enough to accommodate a marked cycle lane it's probably best to do so and give people on bikes a dedicated space. In which case, it may be more appropriate to use a 'lateral shift' (this is another treatment described in my conference paper) rather than a mixing zone, because the lateral shift makes the transition clearer and reduces the zone of potential conflict. The MassDOT guide gives a nice solution that achieves the best of both concepts by combining the entry design for a mixing zone with the transition markings for a lateral shift (see Figure 3).

Unless the vast majority of cyclists want to turn left at the intersection, it doesn't make a lot of sense to keep cyclists on the left, i.e. the kerb side – that means the conflict isn't actually addressed on the approach but rather within the intersection.

I think that's why the mixing zones in New York City (generally wide lanes with sharrows placed on the kerb side) don't seem to be working so well. Let's just say, at the mixing zones there I saw some 'interesting' interactions (admittedly, mixing zones weren't the only location on New York streets where I'd apply that term, or something stronger).

I was told that crash histories for mixing zones aren't as good as for other treatments in the toolbox for left³ turning crashes with pedestrians and bicyclists, and that their mixing zone design is still a "work in progress".

² <https://nzta.govt.nz/walking-cycling-and-public-transport/cycling/cycling-network-guidance/>

³ Note that New York City has an extensive one-way network, which means the left turn is often a short turn, but with the driver on the kerb side of the vehicle, making it different to the short turn in New Zealand.

The mixing zone designs given in the current NACTO Urban Bikeway Guide resemble those on the ground in New York City, which happens to be where NACTO's head office is located. Because of what I learnt over there, I'd caution New Zealand designers against applying the NACTO mixing zone designs at this stage.

They still have the benefits of slowing motorists down and making users more aware of the potential for conflict, but I think we could do better by guiding people on bikes and motorists to the intended positions within the mixing zone.

The best examples of I saw of mixing zone markings were in Chicago – these had sharrows leading cyclists away from the kerb side to the opposite side of the lane and a defined entry point for vehicles, with a deceleration lane and give way markings.

Toronto also had mixing zones with sharrows on the opposite side to the kerb, but drivers had to pull in directly from the through lane, without any dedicated space to slow down in.

Unfortunately, motorists in both Chicago and Toronto seemed to like to use these mixing zones as loading zones, and other motorists would drive around the parked vehicles – this highlights another problem with dropping physical separation of a cycle facility on the approach to an intersection approach.

The majority of North American mixing zone designs I've seen have a turn arrow marked in the mixing zone, either at the entry point or within the section of mixing. This helps to increase motorist awareness of the purpose of the lane and avoid through traffic trying to use the lane.

The current New Zealand Road User Rule prohibits the “use of any lane except for the manoeuvre appropriate to its marking or signage”, which means cyclists cannot travel straight through from a lane where a turn arrow but no straight through arrow is marked.

Modifications to the rule to allow cyclists to travel straight ahead from a marked turn lane are currently being considered; if these are adopted, it would be preferable to mark turn arrows in mixing lanes in New Zealand.

How many, if any?

The appropriateness of mixing zones comes back to the principle that a large proportion of the population prefers to be physically separated from high-speed and / or high-volume motor traffic when cycling – i.e. mixing zones are suitable at low speeds and low volumes.

I suggest that we should adopt a maximum vehicle entry speed of 30 km/h for our designs, based on the guidance from Chicago and MassDOT mentioned above. We should consider including this in legislation rather than just making it a recommendation.

FHWA (2015) recommends that mixing zones may be most effective at intersections with 50-150 turning vehicles in the peak hour. It's not clear why there's a lower limit, and I suggest there's no reason that mixing zones shouldn't be an option for locations with fewer turning vehicles.

The upper limit volume also happens to be the North American industry's rule of thumb for the threshold between filter turning and full signalised protection (but that's another story – and another plug for my conference paper).

We could adopt this upper limit as a starting point, but should monitor our mixing zones to check whether it is appropriate in New Zealand. The best outcome would be to establish a threshold based not only on motor vehicle volumes but also on cycle volumes.

That said, even at lower vehicle volumes and speeds, there may be more appropriate treatments; the viability of which generally comes down to space. As mentioned above, where width allows it is generally preferable to provide a lateral shift transition than a mixing zone (although the mixing zone

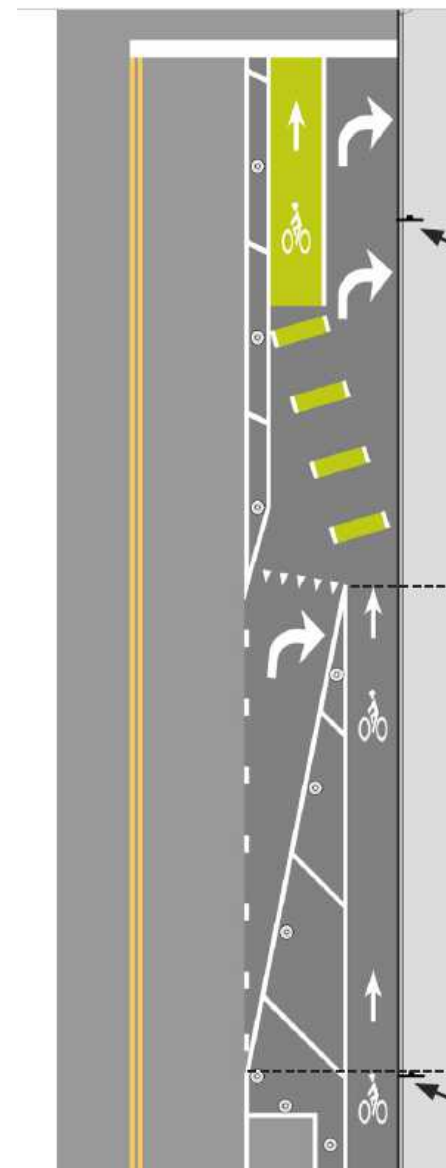


Figure 4: MassDOT (2016) solution for 'mixing zone with bike lane' (mirrored for NZ context)

entry concept could be retained, as per Figure 3).

If even more space were available, a 'protected intersection' design could be considered, as these are arguably more effective at reducing motor vehicle speeds, increasing motorist awareness and increasing intervisibility between motorists and people on bikes.

Overall, it seems that a well-designed mixing zone in an appropriate location is a useful treatment to throw into the mix in our intersection design toolbox.

Megan Fowler, ViaStrada



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For more information please contact Bevan Clement b.clement@auckland.ac.nz





ATAP – the return of “integrated transport”?

‘ATAP’, the Auckland Transport Alignment Project (final report, September 2016), attempts to get Central Government and Auckland Council together, after it emerged that Auckland Council’s prioritising of the Central Rail Link didn’t necessarily sit well with the Government’s focus on Roads of National Significance (RoNSs). This has happened before!

From what now seems very clunky 1930s traffic modelling in Chicago, USA, ‘classic’ transport planning saw models and computers become massively more grunty and sophisticated, coinciding in the 1970s with growth of environmental concerns and a search for alternatives to the car.

Then (with strikingly similar events to those preceding ATAP) in the 1980s Birmingham City Council in the UK

prioritised a proposed Birmingham-Wolverhampton light rail line (using a disused railway formation) as top of its transport programme projects list, the Government (which favoured roads) asked them to re-think, and the City Council nevertheless stood by the rail line as its preferred top project.

The result was ‘BITS’, the 1989 Birmingham Integrated Transport Study, a collaboration of the City Council as roading authority and the West Midlands County Council as public transport authority. This was followed by a rash of similar studies for nearby metropolitan areas – ‘CITS’ for Coventry, ‘BCITS’ (pronounced ‘buckets’) for the ‘Black Country’ (so named for industrial revolution pollution) and one for Solihull (who were no doubt thankful that their name was one, not two, words).



Birmingham-Wolverhampton light rail (now long-since built and operating), a transport planning cause celebre of yesteryear, much as Auckland’s Central Rail link is today.

The idea got taken up for non-metropolitan areas (and was formative in the UK’s later ‘Local Transport Plans’) and then overseas. Some readers may remember NZ’s ‘GATS’, Greater Wellington Area Transport Study, from the early 1990s. This consciously sought to apply the BITS approach in planning regional public transport and roading together. Hamilton’s late-1990s HITS is another NZ example.

ATAP’s two original aims were to ease traffic congestion (think Central Government’s focus on RoNSs) and increase public transport use (think Auckland Council’s wanting to turn Britomart into a through station). However, there’s more than a touch of ‘déjà vu’ between ATAP and BITS.

No sooner was BITS out, than academia was poring over it, and writing critiques, some of which showed up its flaws. Because it came from a pragmatic collaboration between different authorities (as ATAP

also was) the wider public didn't get much of a look-in. BITS was a highly technical document, with learned consultancies each throwing in their two-penn'orth, but little public profile or involvement from the wider public.

Its 'roads plus public transport' origin also meant BITS was breathtakingly silent on non-motorised transport. As Birmingham's Cycling Officer, I read it from cover to cover to see what it said about cycling. I found one sentence: "More must be done to encourage cycling" – and nothing on how this might be addressed.

ATAP matches this closely: reference to a "need to continue to make improvements to road safety and active modes (walking and cycling)." (By coupling these together, do I also detect a retreat into the old thinking of walking and cycling as a 'road safety problem'?).

ATAP, on cycling, also says that "In a number of areas, including safety and active modes (walking and cycling), the views of central and local government are already well-aligned on the priorities and likely level of future funding.

We have therefore taken as given the initiatives that are already underway in these areas, including the Safer Journeys Action Plan, the Auckland Road Safety Plan and the Urban Cycleways Programme". So that's alright then? Yeah, right.

Other than this, all I could find on cycling in ATAP was another passing reference to "a significant amount of expenditure" on it, and two eye-catching photos of some happy cyclists riding on the famous Central Motorway Junction pink path (where else?).

Since ATAP has so much to say on the role of public transport, where is the coverage of the great potential of good conditions for walking and cycling to increase the catchment areas and attractiveness of rail stations? Or walkability within bus stop 'pedsheds'?

Cycling's much-praised increase in funding is from one-tenth of diddly-squat to one-fifth of diddly-squat.

Or the necessary traffic management, traffic calming, change to on-street car parking regimes, and filtered permeability road network planning, together with the traffic capacity reductions resulting from all this, and how the rest of ATAP is going to enable all this to happen?

This is the sort of thing which would enable walking and cycling to fulfil their potential, and it would need to be at quite a radical scale, to deliver results across geographical areas of any significance. I could go on . . .

Like with German-style roundabouts, covered in previous Roundabout issues, most of what will most benefit cyclists will come through mainstream programmes, as it affects general road traffic conditions – not an Urban Cycleways Programme (regardless of what that might be doing).

Let's also remember that, as a proportion of overall transport budgets, the latter's much-praised increase in funding is from one-tenth of diddly-squat to one-fifth of diddly-squat.

I hear a birthday party was held recently, one year on from the pink path's opening, which included the spectacle of some people singing "Happy Birthday" to a piece of pink tarmac (I kid you not!), surrounded by swarming mass volumes of motor traffic. When are (actual and would-be) cyclists and walkers on the rest of the transport system going to have their birthday?



"Happy birthday, dear Lightpath". One swallow does not make a summer, one path does not make a walking- and cycling-friendly city. ATAP seems largely silent on the types of measures which would achieve this.

The 'One Network Road Classification' and 'Network Operating Plans' have, like ATAP, also bridged a professional dichotomy, between traffic engineers' views of roads for traffic movement and urban designers' view of roads as 'places'.

They've also recognised bus and cycle route networks. These, plus Wellington's multi-agency Let's Get Welly Moving initiative, and the 2010 revision of the NZS4404 subdivision guide, all now recognise that roads exist for many different functions, not just the movement of motor traffic.

'Link and Place', a term and philosophy coined a few years ago by Professor Peter Jones of University College London Centre for Transport Studies, is prominent in these documents. However, it's quite another thing to resolve the tensions and contradictions between the now many different functions road systems are recognised to have.

So at least one, and perhaps two, cheers for ATAP – which also contains a lot of other good stuff, like (at last) preparing to bite the difficult bullet of road pricing as a demand management tool. A step in the right direction, and worth commending for that, but there are gaps to fill and further steps to take.

Roger Boulter
roger@boulter.co.nz
www.boulter.co.nz
021 872 654



Record interest in upcoming SaferRoads Conference

A record number of papers and abstracts have been submitted for the 5th International SaferRoads conference being held in Auckland this May.

"We've had a huge number of abstracts submitted, both from New Zealand and internationally," says organizing committee chair Mark Owen. "Nearly 80 abstracts have been submitted with over a third coming from overseas."

Auckland's Viaduct Events Centre is playing host to one of the world's key road safety events when the triennial International SaferRoads conference comes to New Zealand this May. This year's conference has a wider scope than previous years. "The conference began with a focus on skid resistance but has since grown to be a forum to promote the diverse range of activities associated with road surfaces, and the role they play in safety," says Mark.

"In broadening the scope our aim is to attract a wide range of road owners, practitioners and those associated with maintaining and operating road networks. We also want to include those involved in the development of vehicle tyre and road interface. We want to find better ways to improve the performance, sustainability, safety and reliability of the global road surface network. However, it's not only the road surface but also cycleway, pedestrian footways, delineation and how they interrelate to play an important role in delivering a Safe System approach."

The conference alternates between the northern and southern hemispheres every three years, so the opportunity to attend the conference here in New Zealand makes it attractive in both the opportunity to hear from and talk to key international experts from the sector, it also makes the conference very cost effective. Registrations have so far come in from 12 different countries and the organizing committee is expecting upwards of 300 attendees.

"We are aiming to be leading edge, using the latest technologies, with a forum to share ideas and continue the significant gains we have made to date in reducing road trauma."

Please register your interest to be kept informed on latest information on the programme, activities and key speakers at www.saferroads.co.nz



Exciting career opportunities



TDG is a multi-office specialist transportation engineering consultancy offering the full range of professional transportation services. The company has a strong reputation as a market leader in New Zealand and, increasingly, across the Tasman.



TDG is 100% employee owned and our culture is professional and fun. With a broad scope of private and public projects spanning large and small developments, our people are among the industry's finest. We are big on mentoring and skills transfer to ensure all our people realise their potential and build reputations as respected transportation professionals and accomplished leaders. You will work alongside like-minded, recognised industry experts who provide support and mentoring.

To meet the increasing demand for our services we are looking for professionals with energy and passion to join us in creating remarkable journeys across all our main branches – Auckland, Wellington, Hamilton and Christchurch.

Senior/Principal Transportation Engineer/Planner

– team leadership and business development role involving identifying and developing new opportunities. You'll have energy and charisma plus the confidence and ability to enhance our client relationships. For the Hamilton position, modelling experience is preferred.

Intermediate Transportation Engineer/Planner

– intermediate role involving contributing to and/or leading projects from proposals and tenders to design and project management. You'll have recognised skills in transportation engineering or planning.

Ideal candidates will have:

a degree in engineering or equivalent, with a minimum 2-5 years' experience for the **Intermediate** positions and with 8 years' experience in traffic/transportation fields for the **Senior** positions;

- > relevant experience in working alongside both private industry and public sector clients;
- > superior spoken and written English, with the ability to communicate clearly and accurately;
- > a personality and ability to develop and nurture client relationships and gain the clients' trust and loyalty;
- > the enthusiasm, initiative and determination to overcome challenges and achieve results;
- > creativity and innovation to bring new perspectives, fresh ideas, and flair.

To explore working at TDG and becoming part of our unbeatable culture, please apply via our website careers page

tdg.co.nz/careers

or contact Karolina Spencer, HR Manager
at recruitment@tdg.co.nz

We look forward to hearing from you!



1976 – 2016
40 YEARS OF CREATING
REMARKABLE JOURNEYS

Business Case Approach learning resource – first phase live

As part of its commitment to improve the National Land Transport Programme (NLTP) for 2018-2021, the New Zealand Transport Agency has launched the first phase of a new, free learning resource to support users of its Business Case Approach (BCA).

Background

The BCA was introduced by the Transport Agency in 2013. Feedback from the transport sector following the 2015-2018 NLTP highlighted the need for the Transport Agency to show more leadership, and demonstrate more consistency in its approach, language and guidance.

To support the sector in its use of the BCA and to achieve greater consistency, the Transport Agency is introducing a series of learning resources. The resources are a blend of online, face-to-face and paper-based materials that will cover a wide range of BCA topics – from just the basics, to in-depth ‘how to’ content. They’re structured in a way that will allow you to access the materials you need, as you need them.

The first phase of these resources is now live and available for you to use.

What does it cover?

Phase 1 provides a high-level introduction to the BCA at a principles level; the “BCA Essentials”. There are two modules, each of which should take around 20 minutes to complete and you don’t have to complete them all in one sitting. Linked to the Phase 1 modules are a number of downloadable information documents giving a brief overview of:

- The Business Case Approach principles
- Critical thinking to support business case development
- Stakeholder engagement

There are also guides to help people leaders and technical leaders support their teams through their learning journeys.

Over the first half of 2017 the Transport Agency will progressively release more phases, with each release taking a deeper dive into the detail of the BCA.

How you can access it

It’s free to use; external users will just need a licence to access it. Please send your licence request to nltp@nzta.govt.nz with your name, e-mail address, job title and the name of your usual Transport Agency contact.

And remember...

...this is just the start. The first modules are deliberately pitched at an overview level, and will contain much that’s already familiar if you’re a more advanced user.

Phase 1 is aimed at creating a common level of understanding that everyone can build from and may also help you communicate some of the basic BCA concepts to others, for example elected members. It will also help people who are new to the sector, or are returning after some time elsewhere, to quickly become familiar with the BCA.

Tell us what you think

The Transport Agency is keen to know what you think. If you have comments or questions, please forward these to the BCA capability project team at: nltp@nzta.govt.nz



Always use a spellchecker

Transportation Engineering Postgraduate Courses 2017

Civil and Natural Resources Engineering

Course list

The courses below are available for full-time or part-time students studying for the following postgraduate transportation qualifications at Canterbury in 2017:

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

Semester 1

ENTR 401	Fundamentals of Transport Engineering Self-study course, with 1-day tutorial S1 course: 27 Feb, S2 course: 24 June Transportation planning; Road link theory & design; Intersection analysis & design; Traffic studies; Accident reduction; Sustainable transport
ENTR 603	Advanced Pavement Design Block dates: 6-7 Mar, 8-9 May Covers the principles and fundamentals of Superpave characterization system, Multilayer analysis using Circlay, Traffic volume and loading calculations, Austroads Mechanistic Empirical Pavement Design, Deflection Analysis and Backcalculations, and Overlay Design.
ENTR 615	Transport Network Modelling Block dates: 20-21 Mar, 22-23 May Principles of transport modelling; Road network modelling; Meso-scopic simulation (SATURN); Microscopic simulation (Paramics); Intersection modelling (SIDRA); Road network reliability & resilience.

Semester 2

ENTR 613	Highway Geometric Design Block dates: 31 Jul - 1 Aug, 2-3 Oct Human and vehicle factors; sight distance; horizontal and vertical alignment; cross-section design; design plans; land use access; signs, marking, delineation; intersection design; major design project.
ENTR 619	Quantitative Techniques for Transport Engineering and Planning Block dates: 14-15 Aug, 18-19 Sep Optimisation and linear programming; sensitivity analysis; simulation modelling and analysis; statistical modelling; estimation of statistical models; validity and hypothesis testing; survey design; analysis of surveys experimental design; statistical inference techniques.
ENTR 617	Traffic Engineering and Design Block dates: 21-22 Aug, 25-26 Sep Traffic flow & queuing theory; traffic study design and analysis; local area traffic management; traffic signals; intersection safety; parking planning and design; traffic detection; intelligent transport systems.

More course details can be found on our website www.met.canterbury.ac.nz.

Note: Other relevant courses at Canterbury (e.g. Risk Management and Construction Management courses), University of Auckland or elsewhere may also be suitable for credit to a PGCertEng, MEngSt or MET.

Block Mode Teaching

All courses run in "block mode" to enable part-time and distance students to easily take part. Each course is offered over two blocks, each block is two days teaching, and students taking the courses will be expected to do more reading and learning in their own time.

All prospective students must apply to enrol in courses no later than one week prior to the course starting (preferably earlier), otherwise late fees may apply.

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

How do I apply to enrol?

If you are interested in further studies your first step is to make contact with the Departmental Administrator.

Email: postgrad-enquiries@civil.canterbury.ac.nz Phone: +64-3-3642 987 Ext: 45540

Contact Details

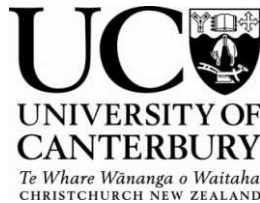
For more details contact:
Associate Professor Mofreh Saleh
Phone: (03) 364 2853

Email: mofreh.saleh@canterbury.ac.nz

Or visit the website:
www.met.canterbury.ac.nz



ENTR603: Advanced Pavement Design - 2017



Course Outline

Aims and Objectives:

This course covers two important aspects of pavement design and materials. The first part is mainly concerned with pavement materials characterisation and mix design, with emphasis on Superpave technology for bitumen characterisation, hot mix design and Recycling.

The second part covers in detail Mechanistic-Empirical (M-E) design for both flexible and rigid pavements. The Austroads M.E. pavement design for is fully covered. Deflection analysis utilising FWD and deflectograph, deflection bowl parameters and back calculations are thoroughly covered. Circlly software and back calculation software are fully covered.

At the end of the course, students should:

- Be able to carry out advanced material characterisation using both conventional and Superpave specifications.
- Be able to carry out Mechanistic-Empirical pavement design for both new flexible and rigid pavements.
- Be able to undertake overlay design of existing flexible and rigid pavements.
- Demonstrate their research and presentation skills through their research work.

Indicative Course Content

The course will comprise teaching material covering the following topics:

1. Bitumen Properties, Testing and Characterisation using conventional methods
2. Superpave Characterisation methods (Dynamic Shear Rheometer, Bending Beam Rheometer, Direct Tension Tester)
3. Superpave Aggregate Characterization
4. SuperPave Mix Design
5. APRG18 Mix Design
6. Pavement Recycling
7. Material Characterisations for fine grained, coarse grained unbound materials and asphalt concrete mixes
8. Stresses, Strains, and Deflection analysis of Multilayer system using Circlly
9. Traffic Loading and Volume analysis
10. Austroads Mechanistic–Empirical Pavement Design Procedure
11. Structural Responses in Rigid Pavements
12. Rigid Pavement Design Procedure (Austroads)
13. Deflection Analysis and back calculations
14. Overlay Design

Teaching Block:

The course is delivered over two blocks, each block is two days of teaching from 9:00 to 5:00 pm with some frequent breaks for lunch and tea. Each block would comprise lectures, tutorial, student presentations for reach topics, and demonstrations within the pavement laboratory.

The teaching block would be held at the University of Canterbury. Students would need to make their own travel/accommodation arrangements.

Block 1: 6-7 of March

Block 2: 8-9 May

Indicative Course Assessment: (subject to confirmation)

- | | |
|--|-----|
| • Research Paper (due date TBC) | 10% |
| • Two Assignments (due a week before final exam) | 20% |
| • Lab report (details TBC) | 10% |
| • Final Exam | 60% |

Students will choose a research topic to investigate from a range of suggested topics (based on the course notes provided) or in any other related subject if the student desires (discuss with the course coordinator beforehand).

Students have to carry out literature review on this subject and make a class presentation for 10-15 minutes on this topic during the teaching block and submit a research report. The research project report will be in the form of conference or journal paper format.

The final exam will be a closed-book exam designed to test students' understanding and application of the material covered in the course notes and teaching block. Students from outside of Christchurch will be able to arrange to sit the final exam in their home town with a suitable local supervisor.

While a minimum 50% overall grade of the total course mark is the usual benchmark for passing, to guarantee a pass in the course you must also achieve at least 40% in both coursework and examination total marks.

Teaching Staff:

This course will be taught by:

- Associate Professor Mofreh Saleh (Course Coordinator), University of Canterbury

Target Audience:

This course is available to full-time and part-time students enrolled in Canterbury’s postgraduate transport programme (i.e. MET, MEngSt, PGCertEng; or CoP see the website www.met.canterbury.ac.nz for more information).

Other undergraduate or postgraduate students at Canterbury (e.g. in engineering, geology, etc) may also apply to enrol and will be considered on a case-by-case basis. Such students should make contact in advance with the course coordinator.

The course will also benefit industry professionals and practitioners involved in pavement design but with little theoretical experience. The course can be undertaken for a one-off Certificate of Proficiency (COP) or as part of a larger qualification such as MET.

Some previous training in basic pavement engineering/design or rehabilitation is desirable, e.g. the undergraduate course ENC1415 (background reading references can be provided if necessary).

Course Workload and Learning Resources:

This course is worth (15 points), which translates into a nominal average of 150 hours of lectures, labs, assignment work, background reading and other study time for a typical student.

All participants will be given detailed lecture notes for each topic at the beginning of the course. While there is no required textbook, suggested books in the Engineering Library will be indicated where appropriate, and students will also be expected make use of the Library’s research tools (note: distance services are available for non-Christchurch students).

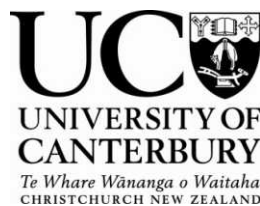
Links to useful websites and electronic documents (including Austroads pavement guides) will also be provided on the University’s online teaching system, Learn, and students will be expected to use Learn for ongoing communications and discussions.

Enrolment:

All students should apply to enrol in “ENTR603” no later than one week prior to the start of semester, i.e. by Mon 27th of February 2017 – otherwise late fees may be applied. Students new to the UC programme should ideally apply earlier than this to confirm eligibility.

Completion of enrolment (documentation, fees, etc) is required before access to Learn and course notes can be provided. See www.canterbury.ac.nz/enrol/ for details on enrolling.

For more information about this course contact Associate Professor Mofreh Saleh, Civil & NatRes Eng Dept
Phone: (03) 3642853 Email: Mofreh.Saleh@canterbury.ac.nz
Postgraduate Transportation website: www.met.canterbury.ac.nz



*Cargo Bike: Good
Parked in disabled spot: Bad*

The evolution of driverless cars

The motorist dream of having fully automated vehicles on the road inches toward reality

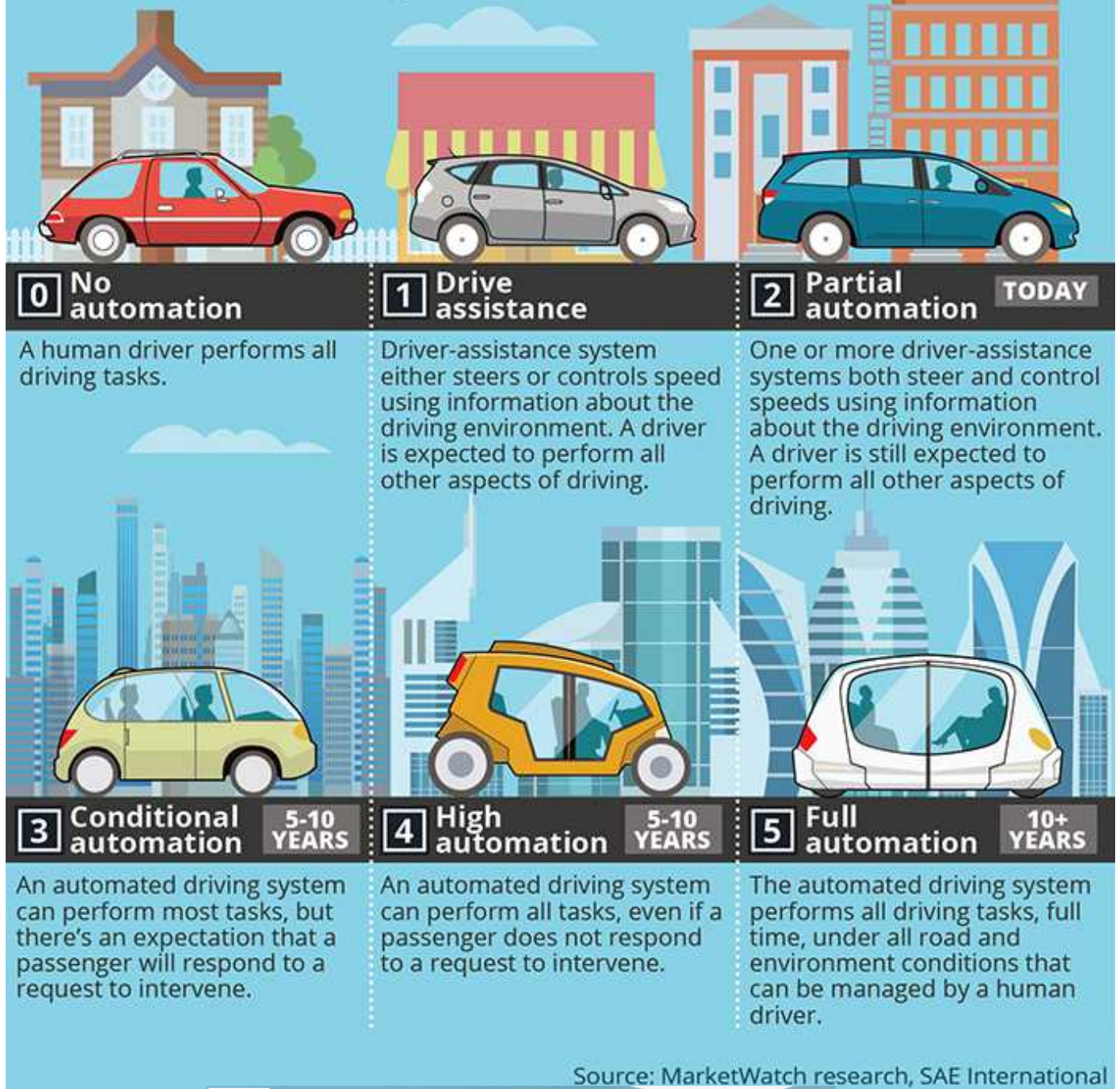
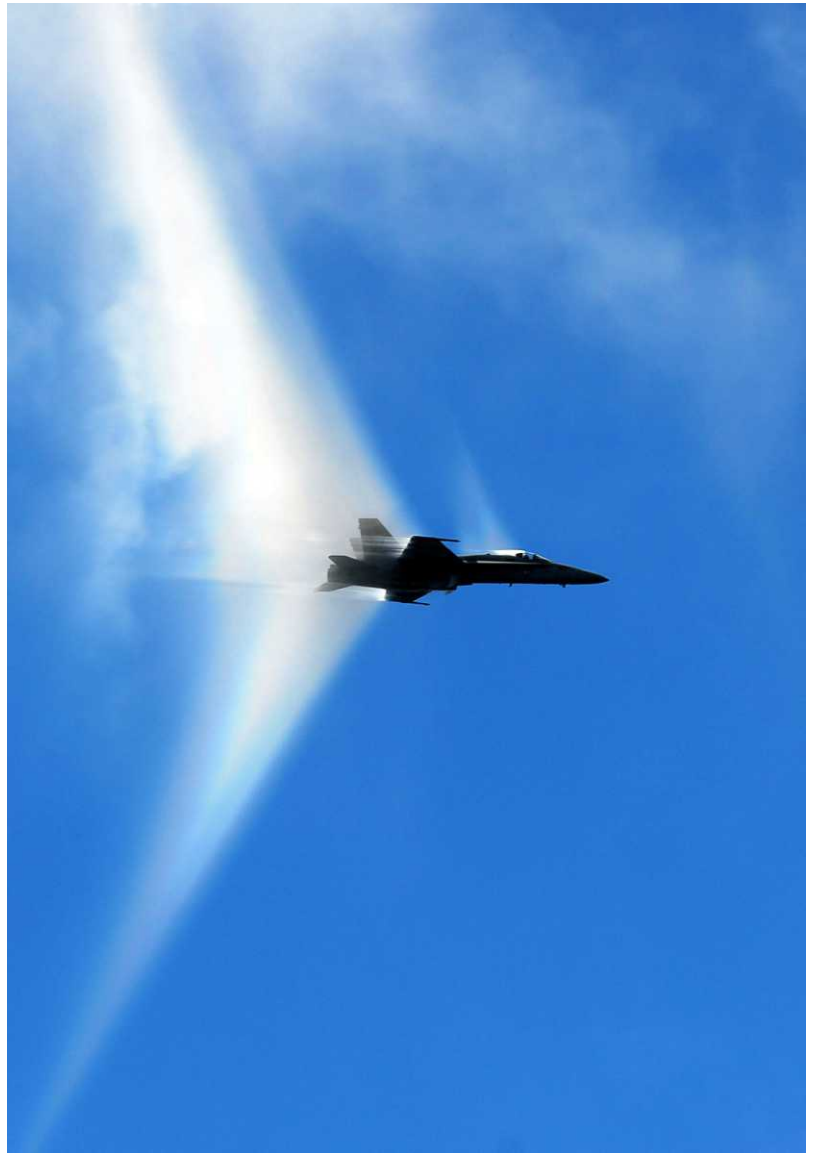




Photo Competition

Got a few plane photos this edition. Just because. Got any better shots? Send photos to: daniel.newcombe@at.govt.nz



Auckland/Northland Branch

The IPENZ TG Auckland/Northland Branch AGM was held Thursday 16th February 2017. While the core committee is staying the same, we would like to welcome Chun-Lin Lee, David Matthews, Kathy Matete, Nick Renton, Shane Ingley and Stephen Carruthers who have joined the committee this year. We would also like to thank Liz Halsted for her contributions to the committee last year.

Wrap-Up of Recent Events

Auckland/Northland Welcome 2017 Function

Held at The Original in the Viaduct Harbour, the IPENZ TG Auckland/Northland Branch held a Welcome 2017 function which included the AGM. Despite the heavy rain, there was a good attendance of approximately 50 members with lots of networking and interesting conversations.

A highly specialised stakeholder engagement process (A3 paper and dot stickers) was used to obtain feedback from members on their preferences for events in the upcoming year. The branch committee is now using the results from this for their planning of the upcoming year.

Upcoming Events

Findings from IPENZ study tour to North America – signals and bikes

Tuesday, 28th March 5pm

Level 2 Reception Lounge, Auckland Townhall, Queen Street

Presenter: Megan Fowler, Traffic Engineer, ViaStrada, Christchurch

Megan was a recipient of the 2016 IPENZ Transportation Group study award and supplementary funding from the New Zealand Transport Agency. The study focuses on ways of addressing conflict between people on bikes and motor vehicles at signalised intersections with separated cycleways on the approaches.

She undertook a background literature review and visited seven cities in North America to investigate relevant sites with a variety of different treatments and talk to people involved in the planning, design and operation of these sites.

Megan also attended the NACTO Designing Cities Conference, which gave insights into the technical, political and legislative context of planning and designing for cycling in North America, plus the chance to meet a great number of North American planners and designers.

The particular treatments studied include: full protection of cycling movements (i.e. via traffic signal operation); allowing filter turning of motor vehicles through cycle movements, with physical treatments to highlight the potential for conflict; addressing the conflict on the approach to the intersection by cycle facility transitions; and 'protected' intersection design (a combination of geometric and operational aspects similar to what is used in Holland).

Her presentation will outline the key findings from the study tour, including recommendations for aspects that could be applied in New Zealand.

THINKING ABOUT A CAREER IN TRANSPORT?

Meet and hear from practicing professionals at THE IPENZ TRANSPORT CAREERS EVENING.

Come listen to speakers from a broad range of backgrounds talk about how they fell into a career in transport. Organised by the IPENZ Transportation Group Auckland Branch.



WEDNESDAY 17TH MAY | 5PM | UNIVERSITY OF AUCKLAND GENERAL LIBRARY, B28



IPENZ Annual Transport Careers Evening Wednesday 17th May 2017

Held at the University of Auckland this event is focused more on providing general information about potential careers in the transportation industry. It is targeted at students from all disciplines in their earlier years of studies who are interested in transportation.

The intention is to create awareness about different pathways and potential employers with great speakers on the night from a wide range of backgrounds all working in the Transportation space. Over the past two years we have had between 150 to 200 students and 12 to 14 companies and organisations in attendance.

We invite all member firms to support this initiative. For more information, please contact the branch chair Jenson Varghese (jvarghese@mrcagney.com)

Waikato/Bay of Plenty Branch

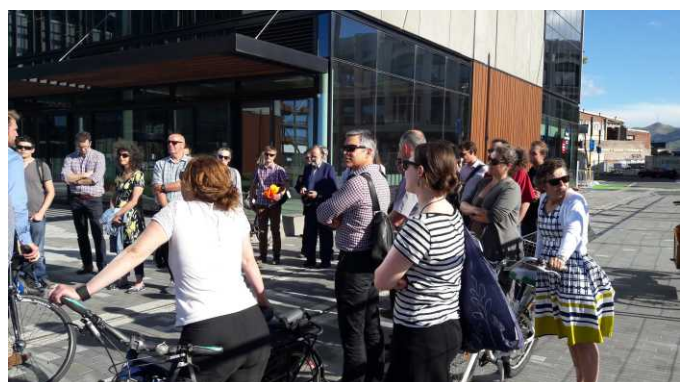
These guys are so busy with the conference they can't even find a

Central Branch

These guys are so busy they haven't sent an update.

Canterbury-Westcoast Branch

We held a great End of 2016 function with the Urban Design Forum on 15 December. We walked around the central city on a sunny evening taking in some of the completed and partially completed Anchor Projects, commentary from those involved was much appreciated. We ended the tour at the wonderful Dux Central and much collaboration was had!



Our first event of this year was a cycle tour around some of the Central City street/intersection and cycle facility projects. We started off at the Bus Interchange with a brief overview of the SparkBikes scheme and then CCC staff provided commentary along the way, finishing up at Engineers Bar.

New branch committee for 2017

Katie Dugan - Chair
Grace Ryan - Administrator
Mel Muirson - Treasurer
Mike Tottman - Submissions officer
Jeanette Ward
Tim Cheesebrough
Kerstin Rupp

Jared White
Glen Koorey
Cameron Bradley

Southern branch

These guys are... apparently still in existence.

NZMUGs update

Planning is already well underway for our 2017 NZMUGs conference with Bob and Kerstin leading the charge again this year. In a world first exclusive scoop, I can reveal the conference will be in Christchurch this year on 4 and 5 September at the Rydges hotel. Pencil those dates in your calendar, and the call for papers and registration forms will come out later in the year.

We continue to work on the model forecasting research topic, and work towards better defining our role in research going forward. We are also working on formalising a number of minor departures from the TG rules which were agreed at the last AGM.

Random fact of the day is that we have 196 NZMUGs members as at 31 October 2016, which is 18% of the Transportation Group membership. As an existing Transportation Group member, to join NZMUGs you can simply email techgroups@ipenz.org.nz and provide your IPENZ ID number. No additional fee, postage or packaging required, but unfortunately no Ginzu knives either. If through some miracle you are reading this and aren't a Transportation Group member, then why not visit www.transportationgroup.nz and use the application form through the members area, which has a check box for NZMUGs.

Have a good Transportation Group conference in the mighty 'Tron!





Roundabout of the month



This edition's roundabout is from Bridget Burdett. This Hamilton roundabout has its own grade separated pedestrian/cycle roundabout underneath it. The shared path connections extend some ten kilometres west and five kilometres south, joining Hamilton's northeast to the University in the southeast, and the river paths to the West. You can walk or cycle for miles without crossing a live traffic lane. Go Hamilton! Seen a better one? Email daniel.newcombe@at.govt.nz

New cycle safety research

Three investigative research projects have been completed which are recommendations within the Cycling Safety Panel Report ([click HERE](#)) and actions in the NZ Transport Agency's Cycling Safety Action Plan: Making Cycling Safer and More Attractive ([click HERE](#)).

- Investigating minimum overtaking gaps in NZ (Opus Research)
- Investigating footpath cycling (Abley Transportation Consultants and Mackie Research)
- Investigating road user rules for people walking and cycling (MWH and ViaStrada)

The reports are all available to view [here](#)



Caption competition

**NZ Police
vehicle for low
speed pursuits**



An oldie but a goodie supplied by Alan Gregory. A caption has been suggested. If you have any other suggestions, send them to: daniel.newcombe@at.govt.nz

Level crossing interim guide workshops - Wellington

KiwiRail and the NZ Transport Agency invite you to attend a workshop about a new approach to risk assessment for all level crossings, and a new design guide for treatments at level crossings for pedestrians and cyclists.

This session will summarise new requirements for risk assessment, and the Level Crossing Safety Impact Assessment for all new, and/or upgrades to, level crossings.

The risk assessment approach applies to all level crossings that are along or adjacent to a new cycleway or public pathway, as well as all level crossings scheduled for an upgrade by a council or KiwiRail. This approach also applies to the new design guidance.

Council transport managers, traffic engineers and planners as well as consultants working in the field of level crossing upgrades are encouraged to attend. Auckland and Christchurch workshops have already been held. Urgently register for the Wellington workshop:

Wellington - Thursday 16 March - MWH Wellington, 80 The Terrace

Please email Sheryl.A.Foster@mwhglobal.com to register for a workshop near you.



New Zealand's largest roading project is weeks away from completion.

The \$1.4 billion Waterview Connection - twin 2.5km tunnels and 2.5km of motorway that will provide a second route through Auckland, bypassing the city centre - is set to open in April, most likely the weekend of April 8 and 9.

NZTA Auckland highway manager Brett Gliddon said the only remaining works involved polishing road surfacing, line marking, signage and testing all the electrical tunnel equipment before the route can be used.

When finished the connection would provide the "missing link" between the Southwestern Motorway and SH16. The new route will provide faster more direct transport options and prevent total gridlock if an incident blocks one motorway, he said.

Existing infrastructure is feeling the strain of Auckland's burgeoning population. Since 2013 Auckland has grown by 121,000 people and there are 44,000 more vehicles on Auckland roads than this time last year.

Gliddon said the benefits to Aucklanders would be "huge".

People who live in the north and west will have an alternative route through the city, there will be a full motorway connection to the airport and motorists can bypass the CBD on the Western Ring Route.

Cyclists will also benefit with an upgraded cycleway along the Northwestern motorway and a new cycleway following the Waterview tunnels. Dedicated bus lanes along SH16 will speed up public transport.

"It is going to change travel patterns," Gliddon said. "A lot of traffic will come off Mt Albert, Sandringham, Mt Eden, Avondale as there's a lot of rat-running that happens through those streets.

Gliddon said the tunnels, 6m to 45m below ground, had state-of-the-art design and safety, with next generation equipment.

"It's a fully automated system. So if a car stops, the cameras pick that up, it comes up on the screen for an operator. If a car catches fire, the deluge system starts.

"There's a PA system and radio override. If you're listening to the radio we can send a message to the



Waterview Connection

FREEPHONE 0508 TUNNEL (88 66 35)
 PROJECT WEBSITE www.nzta.govt.nz/waterviewconnection
 FOLLOW THE PROJECT ON FACEBOOK www.facebook.com/AliceTBM
 WATCH VIDEOS ON YOUTUBE www.youtube.com/wcnow

radio and tell people what to do."

The current fit-out included compacting 74,500 cubic metres of aggregate for backfill, laying almost 5km of drainage pipes, installing 104 flame traps and applying 140,000sq m of paint: black on the roof so drivers are not distracted and what's above them just disappears, and cream on the walls for high visibility.

The 87m long tunnel boring machine, nicknamed Alice, was designed for the Waterview geology by the German company, Herrenknecht, and manufactured in China.

The public will be able to walk through the tunnels on an open day next month.



Work to widen the SH20 alignment by adding an extra southbound lane continues to move ahead successfully.

The addition of a third lane between Maoro Road and Hillsborough Road will help to accommodate for the increased volume of traffic using the tunnel when it opens in April 2017.

"Our team is doing a great job on this part of the project," says Project Engineer, Dan Trotman. "We expect to have this lane ready for use by the time tunnel opens to keep moving seamlessly along SH20 as well as providing safer exit lanes to off-ramps."

Helping the team stay on course for this opening has been a series of night work throughout December which has enabled a temporarily switch traffic to part of a new lane while they work on extending the signage gantry near Dominion Road.

More night work is expected to take place over the next two months as the team will be carrying out more

civils, subgrade and trenching work prior to opening. This will start with weekend closures at Dominion Road southbound off-ramp in late January.

A new park in Owairaka will provide local people with a space to sharpen their sporting skills.

Kukuwai Park, named by the Whau and Albert Eden Local Boards after public consultation, has quickly taken shape over the past couple of months.

Situated on the northern side of State Highway 20, a sporting field will get local people out of the house to throw a ball around, kick a few goals or to exercise.

"This area had previously been as a base for our tunnels team during Alice TBM's journey," says Project Engineer, Sunil Punwani.

"It's been transformed to include a carpark and training field for local people and sports teams to utilise, with a shared path surrounding it for cyclists and walkers to get around."

Access to Kukuwai Park will be from Barrymore Road for vehicles, with cyclists and walkers also able to enter from Richardson Road before continuing to Te Whitinga over SH20.

Construction at Kukuwai Park is expected to be completed over the



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

Transport Advice

FOR DUMMIES



A tongue-in-cheek column on transport matters by The Transport Guy. The contents do not represent the views of the IPENZ Transportation Group, or anyone else for that matter. Follow the advice at your own risk.

Dear Transport Guy

I have nothing against Hamilton, but the best thing about it is that it is gradually being bypassed by expressways, so eventually I won't have to pass through it at all when I travel to somewhere more interesting. Why did you have to hold the conference there?

Barry, Albany

Dear Barely

You are quite right. There are many places more interesting than Hamilton. Sadly, Albany isn't one of them.

~Transport Guy

The best thing about Hamilton is that it is gradually being bypassed by expressways, so eventually I won't have to pass through it at all when I travel to somewhere more interesting.

Dear Transport Guy

I was watching a movie called The Transporter recently. It has Jason Whatshisname, that English guy, who got to drive around really fast and punch people. Is that what your job is really like?

Dave, Whangarei

Dear Depraved

No. What you are describing there is the NZ Police. A transport professional has a much more adventurous life - spanning from submissions to select committees on obscure road rules, through to working out depreciation on asset management investments by road type. It is an ongoing mystery why there hasn't been a major movie on these scintillating topics.

~Transport Guy

Dear Transport Guy

I hear that the conference next year will be in Queenstown. Do you think I should go?

Sarah, Kaipapoi

Dear Scarer

I don't know why you would be more interested in Queenstown than Hamilton. Sure, Queenstown has more scenery, tourist activities and and awesome nightlife, but you go to a conference for the presentations, right? Right?

~Transport Guy

Dear Transport Guy

Auckland is getting electric buses, Christchurch has self-driving buses, what is Wellington getting?

Harriet, Naenae

Dear Hatchet

Wellington has had electric buses for years, and judging by the bumpy trips I've been on it seems the drivers let them drive themselves. Wellington's greatest asset is the cable car - which neither Auckland or Christchurch need, I mean, have. And those waving wand things. Although New Plymouth has those. But, you know, yours are nice too.

~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...

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Kids explain traffic engineering

"Road renewal is when you get a new road. Because the old one doesn't work anymore. Maybe the batteries ran out."

