# Roundabout

Magazine of the Transportation Group NZ

Issue 161 Sept 2019

What can we learn about transport from Santorini? (Answer: Not much, but it's a beautiful place)

Also in this edition: - Hackathon - Optimisation - Vision Zero - Pointing at things - Innovating Streets - Air quality - Future of rail And much more

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"When the Victorians were building London's sewage system they didn't endlessly consult on whether separating drinking water & human waste was OK with local people. It saved lives & so it was the right thing to do, so they did it." Page 12

"What is the plural of Prius? Priuses? Prii? Prium?" Page 48

"Eventually his work mates gave him a rubber DRAFT stamp with the 'R' removed." Page 7

"We have reached a consensus on the use of Dragon's Teeth." Page 22

Roundabout is the magazine of the Transportation Group NZ, 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 Transportation Group NZ or the editor, except the editorial of course. There is no charge for publishing vacancies for transportation professionals, as this is considered an industrysupporting initiative.

Correspondence welcome, to Daniel Newcombe: <u>daniel.newcombe@at.govt.nz</u>

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 Transportation Group NZ, you are most welcome to join. Just fill in an application form, available from the Group website: <u>www.transportationgroup.nz</u>

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#### Roundabout Issue 161

# **Editorial**



advance for yet another 'what I did on my holidays' editorial.

Honestly, I'm not always away having amazing journeys - I do show up at the office and work from time to time - but this edition I wanted to share some insights from my recent once-in-alifetime-because-its-so-

expensive Europe trip with my family (page 30).

There are also some articles about interesting events around the world, which randomly get sent in as Group members stumble across ideas and projects they'd like to share. A bit like my holiday photos.

I visited the UK, France, Switzerland and Greece (Santorini - whoop!). As usual I annoyed my family by taking photos of transport sights that they barely noticed - odd street arrangements, unusual signs, interesting composition of the moving public.

Often there were no particular 'lessons' to be learnt from the observations I made but often there were, and I hope to share some of these with you in this edition. If hearing about someone's holiday bores you, just look at the pictures and carry on with other articles.

There is a universal truth for traffic engineering the world over - wider, unobstructed lanes (something we have been told for years is necessary for safety) generate more and faster traffic. Narrower lanes feel safer and slower - because they inherently are - even as cars get closer to hitting things and people.

I know there are vast differences in history and traffic laws between NZ and various European countries, but find it staggeringly self-evident that it is a waste of time to build wide clear lanes and then chastise drivers for speeding the design invites them to.

Instead we need to find ways of using physical layouts and techniques to reinforce an appropriately safe speed, y'know, selfexplaining roads.



Narrow - very narrow - lane in Windsor, UK. Honestly, how do you get through without driving on the footpath?

I can only apologise in Having said that, I saw speed reduction devices in every country I visited, so it doesn't matter their history, they are all struggling with unsafe speeds. So that's another universal truth - there are bad drivers everywhere. (Psst, I think Greek drivers are the worst...)

> Other transport lessons are also the same around the world. People park in bus stops and footpaths if given a chance. Everywhere.

> Having too many cars ruins places, no matter how beautiful they are (the places, not the cars). There were several destinations I saw where I just couldn't understand why traffic was let anywhere near them.



Traffic pouring through the pedestrianised main square at Fira, Santorini

If you provide crappy bike facilities, only a few hardy (mostly male) people will cycle. If you provide good bike facilities then many more people, especially women, will cycle.

Providing poor walking environments means your street community excludes a chunk of society- elderly, mobility impaired, people pushing buggies, etc. Only fit young people will be present. And you may not notice it, unless you go to a more accessible location discover all those 'missing' demographics.

Were there any lessons from Santorini? Not really. There were way too many people for the small island, but I was one, so I can't complain.

End of holiday stories. Apologies again. I promise to look around NZ for future editorials and articles. There's plenty happening here.

> Daniel Newcombe **Roundabout Editor** @newcombe dan



## **Chair's Chat**



Another busy three months has whizzed by and now Spring is upon us.

My spare time has been taken up with rehearsing for a Dancing with

the Stars-style charity fundraiser event to be held later in September. I was nominated to be a novice dancer paired with a professional dancer - this has certainly pushed me out of my comfort zone. All previous dancing experience is limited to TG conference dinners where my style is what can only be called 'random'!!



In August the National Committee met at the Engineering NZ (ENZ) office in Wellington for a Strategy Day. We try to hold at least one face-to-face to meeting a year, as although we have a monthly teleconference, we never have enough time to strategize.

ENZ staff popped in to see us for certain items on the agenda which was great and good for developing our relationship with them. We



started with a workshop on diversity and inclusion. Someone asked, "what is the difference between diversity and inclusion", I found this description really useful: Diversity – You invite someone to the party, job done. Inclusion – You invite them to the party and then actually involve/include them at the party.

#### My spare time has been taken up with rehearsing for a Dancing with the Stars-style event.

We also discussed our Operating Procedures and how these need to be reviewed to align with the new ENZ Rules. This work will be undertaken prior to the AGM so members can review and vote on the proposed changes.

A draft Media Strategy was tabled, and we agreed to focus on social

media aspects. In the first instance, this will include setting up a Linkedin page. We discussed what best practice guidance might be needed in our industry as the ENZ Engineering Practice Manager can help with us projects. We concluded that we need to ask our members what might be useful expect to a see a survey on this shortly.

Thank you so much to the National Committee and their employers for giving a day to attend this meeting and be part of task forces to progress the actions.

We also recently submitted a submission on the draft Road Safety Strategy. Thanks to all the members who provided feedback on the initial submission, the final was strengthened due to your feedback.

Enjoy spring and keep safe!

Jeanette Ward National Committee Chair jeanette.ward @abley.com



**Roundabout Issue 161** 

## **Letter to the Editor**

#### To The Editor

## Adding to or leading the public transport conversation.

The Canterbury Branch paper [June Roundabout] on making submissions is a useful summary. It clarified the difference between making timely submissions on the basis of broad long term high level strategic transportation policy issues in contrast to the nitty gritty of submissions on immediate detailed traffic design/management and compromise solutions.

Since 1964 I have observed the St Albans situation in detail, and all would agree it is a matter of suburban planning and land use, rather than being solely a transportation issue.

The present expedient solution to make Cranford St into a multi-lane managed arterial street was however inevitably forced on the City Council and NZTA by their own policy failings in 1994.

This was when the St Albans motorway designation was abandoned. The time for the debate and submissions on these issues was back then.

There were two options, either:

(a) to keep the Regional Transport Plan and proceed with the St Albans Northern Motorway or

(b) to ignore the Regional and District Plan network provisions and to accept the inevitable build up of traffic on Cranford St and through the St Albans local streets.

In the event, with the strongest advocacy by the future mayor and the local MP (who was Minister for National Development) option (b) was chosen and consequently

the motorway and wider suburban renewal plans were 'scuttled'.

Transit NZ then lifted the 'motorway designation' and sold off the 200 properties already purchased over the previous 30 years.

Now had this deletion occurred as part of a District Plan review there might have been an opportunity, in 1994, for a higher level strategic submission from the Transportation Group (perhaps combined with with those of NZPI and the NZILA Branches) emphasising the strategic policy and environmental issues. This might well have yielded a better planned solution as part of a comprehensive planning and environmental solution.

In the present situation, however, I agree the Branch is wise not to persist with a substantial submission.

The more so as the most important issues remaining have now become detailed design aspects such as consequential street adjustments, minor widening and landscaping that can palliate the future situation so as to improve the environment and convenience for all modes to gain access to the St Alban's community facilities, especially along Cranford St.

These events, now recorded over a 60 year timeframe, provide a striking example of the relevance of the Branch's conclusions as to timeliness and keeping submissions at a strategic level in the future.

These opportunities will occur, for example with submissions on the next round of Regional and District Plan reviews.

Malcolm Douglass Nelson - Life Member douglass.malc@gmail.com





# Equity in Transportation

Transportation Conference 10–13 March 2020 Christchurch Town Hall

Thanks to those that submitted abstracts. Successful authors will be notified 20 September 2019.

Sponsorship opportunities are now available. <u>Be sure to check out the prospectus for further details.</u>

We look forward to seeing you in Otautahi, Christchurch, 10 - 13 March 2020

Take me to the conference website

## **Obituary: Peter Law Atkinson (1946 - 2019)**

Sadly, Peter passed away on 29 August. Peter was a traffic engineer at the Christchurch City Council before his retirement and was known as 'Pencil Pete' as he would draw and write all over others scheme plans in pencil.

Eventually his work mates gave him a rubber DRAFT stamp with the 'R' removed to avoid his pencil. He also doodled to amuse himself during meetings especially when they became a trifle boring... Filled all the white space around the agenda and then, as a matter of course, onto the other meeting documents.



As a transport professional he has left a great legacy to Christchurch, in the beautiful streets and spaces he inspired and helped create with his forward thinking, discussion and determined approach. He was an iconic character to all of us who worked with him at the Council, he will be greatly missed by the profession, family and friends.

Peter along with Bob Gibson and Tony Francis started their careers in the New Zealand Government Transport Department which later merged with Marine and Civil Aviation to form the MoT. While working for the Transport Department/MoT Peter drafted a document which was the catalyst for the Ministry of Works Road Marking Guidelines. His innovation was well developed even at that early stage.

Following a period overseas with BECA he became the sole Traffic Engineer at the former Waimari District

Council where he continued his reputation as an innovative thinker. Following amalgamation with the Christchurch City Council he transferred to a new Traffic Unit that was formed to manage traffic and transportation matters within the city environs.

Under the direction of Mike Gadd, it took time for Peter to exert his special influence on the City's policy and direction in the field of transport planning, operations and management. As the years rolled by however, he became more and more at ease with his professional life at the City and was able to pursue his aptitude for innovative traffic solutions both locally and through national forums and his old boss – the MoT.

Peter was one of the leaders in bringing the then IPENZ Traffic and Transportation Group together. He wrote many submissions, chaired meetings, and added technical input into group initiatives that found their way into best practice publications. Peter mentored many into the ranks of those of us wedded to the art of traffic and transportation engineering.

Known for his 'outside the box' thinking, Peter won the IPENZ 3M Traffic Engineer of the Year Award for his innovative design of the "Oxford Terrace Strip".



The Strip became the focal point for day and night life in Christchurch. A single lane slow street providing plenty of space for alfresco dining overlooking the Avon River. The pre-earthquake bus exchange could have been canned as the retrofit of an historic building didn't have enough height for buses until Peter suggested lowering the floor below street level.

In Christchurch, a number of his retired colleagues meet for lunch every six weeks or so to catch up on life in general. Peter attended until ill health caught up with him.

Strangely we don't talk much about current traffic solutions; maybe we are speechless! Not surprising as some of us go back to the MoT, MWD, LTSA and TRANSIT days. Must be getting old or we don't have Pete's D¬¬-AFT stamp handy.

From Bob Gibson, Bill Greenwood, Barry Cook, Tony Francis, Brian Neill and friends

### TRAFINZ INVITES YOU TO THEIR 2019 CONFERENCE

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- Placemaking that is designed for people
- Accessibility for people and wellbeing
- Smart transportation for people

"In 2017 I attended my first Trafinz conference and I thought it was great. Great app, very good and interesting speakers, great food, fun. It also gave me a more global view on traffic/transport challenges and I felt I added more value to our Access Hamilton Task Force." Siggi Henry, Councillor, Hamilton City



# Women in Engineering 'Hackathon'

Recently the University of Canterbury's Women in Engineering group held their first ever hackathon; Micro Challenge.

The Canterbury/West Coast Transportation Group branch sponsored the event.

We've had some great feedback from students who really enjoyed their day. The participant's highlights ranged from the presenting at the end of the day, to connecting with their group and the mentors, to food and playing on the micro-mobility devices available. We've also heard great things from the mentors and judges involved.

We're also very pleased to pass on the top three teams and their ideas to you.

#### 1st place

*e-Lime-inators* who's idea was around creating an app that brought all brands of micro-mobilty to one place. They also looked at targeting tourists through their app by creating day trips that can be accessed using various forms of micro-mobility.

#### 2nd place

Macro Change who looked at creating a shared road

zone for pedestrians, cyclists and micro-mobility users. They proposed that the road should have two sections, with slower movers such as pedestrians at the sides and faster movers using the centre of the road.



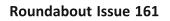
#### 3rd place

**Team Experience** who designed a 'park and use' system where people could park their cars at the edge of the city centre and then use micro-mobility devices to travel the last part of their journey to work. They also sold the idea that the parking areas could become a hub that included a cafe, gym, showers and locker spaces.



Keep up to date with ENZ Transportation Group happenings: www.transportationgroup.nz www.twitter.com/ipenztg www.facebook.com/ipenztg





## **Auckland Transport advances optimisation**

We regularly hear about congestion on Auckland's roads but we don't hear about the relatively inexpensive, quick and effective ways to help deal with it.

The technical jargon for a range of measures is "Road Network Optimisation", and since 2010 it has taken more than 18,000 vehicles off our roads.

AT's Group Manager Network Management Randhir Karma says there are low cost ways to make the most of the existing roads by doing small changes such as rejigging the road to create extra capacity.

The \$8 million a year programme is enabled by the Regional Fuel Tax. "We actively monitor the roads and also take on feedback from drivers to identify points of significant congestion. On average individual projects have delivered a return of \$4 to \$10 for every dollar invested."

He says AT is currently looking at 18 projects across Auckland to improve how our roads operate. "These involve changing traffic signal times (phasing), introducing roundabouts at intersections so that traffic can continue to circulate, changing lane configurations, improving connections for pedestrians, putting in special vehicle lanes and introducing dynamic lanes, as has been done on Whangaparaoa Rd."

Each year approximately 350 traffic signals are reviewed and optimised.

AT first began its road optimisation programme in 2010 and since then there have been some impressive results:

#### **Road optimisation benefits achieved**



The Whangaparaoa Dynamic Lane project saw a 58 per cent increase in people movement with an annual saving of 83,500 hours and a reduction of 845 tonnes in CO2 emissions.

And now, in a further optimisation project, AT will be installing dynamic lanes on a 350-metre section of Redoubt Road in Manukau, between the Southern Motorway offramp and Hollyford Drive.

Dynamic lanes use overhead signs and on road lights (cats eyes) to change the direction of centre lane. Many Aucklanders will have experience with these lanes, as they already operate in Auckland on Panmure

Bridge, Auckland Harbour Bridge, and Whangaparaoa Road.



Randhir Karma says since the installation of dynamic lanes on Whangaparaoa Road, all road users have seen fantastic results. "We know it has made for shorter and more reliable journey times."



Mr Karma says that like Whangaparaoa Road in the past, this section of Redoubt Road has particularly bad traffic at certain times of the day.

"On weekday afternoons, most vehicles on Redoubt Road are heading away from Manukau. They have to merge into one lane at the start of Redoubt, near the motorway offramp. This can cause significant delays."

"We will change the direction of the centre lane between 4pm and 7pm on weekdays. Removing that pinch point and allowing traffic to flow."

Safety is a key priority for AT with independent safety checks undertaken and close monitoring of the lanes to continue throughout.

Construction will begin in October 2019, with the dynamic lanes set to be operating by early 2020.





## Auckland is now a Vision Zero region

Under the Tāmaki-Makaurau Road Safety Governance Group's new safety strategy, released early September, Auckland is now a Vision Zero region. Under Vision Zero, there's a goal of no deaths or serious injuries on our transport network by 2050.

The success of this goal will be built on strong partnerships created under the Tāmaki-Makaurau Road Safety Governance Group, made up of Auckland Transport (AT), Police, NZ Transport Agency, Ministry of Transport, Auckland Council, Auckland Regional Public Health Service and Accident Compensation Corporation (ACC).

Vision Zero is a Swedish ethics-based approach that focuses on a core principle that human life and health can never be exchanged for other benefits within society.

As the custodian of the region's transport systems, Auckland Transport plays a vital role in shaping the future of our region. We will make this happen using an evidence-based approach and by refusing to trade off people's safety for other benefits.

Imagine an Auckland where our children look forward to walking or cycling to their school, local dairy or sports practice. If that sounds familiar, it's because many of us grew up this way.

Research shows active children grow up to be healthier adults. However, current research also shows that only 7% of five to-seven-year olds are getting the recommended level of moderate to vigorous exercise. The top reason for parents not allowing their children to actively commute to school is the fear of speeding cars.

Bryan Sherritt, AT's Executive General Manager for Safety, says other major cities around the world have successfully implemented the Vision Zero approach and have seen the immediate benefits.

"Auckland is joining other cities around the world to continue the trend and save lives. We agree with our government that too many people are dying on our roads, streets and footpaths; and we can't sit by and do nothing."

It's an approach that has strong support from the Auckland Regional Public Health Service: "It's no longer acceptable to trade human life for mere convenience," says Dr Julia Peters, Clinical Director.

"As well as reducing injury rates, Vision Zero will make walking and biking attractive. That means more people being more active every day and that's good for every part of our bodies; and our minds too."

Police is also proud to be part of the road safety partnership. "Everyone who uses the road has a part to play: every driver, rider, and pedestrian," said Superintendent Naila Hassan, Waitemata District Commander.

"We're partnering with road controlling authorities, iwi, community groups, and schools to save lives and prevent harm on the road.

However, Auckland Transport is taking more time to consider a proposal to reduce speeds on some of the high-risk roads in the region.

The AT Board decided that more work needs to be done on the timing of any implementation - and more importantly the effects any changes to the original bylaw proposal, if a decision taken by the AT Board to go ahead with implementation, might have on death and serious injury rates. AT will now reconsider the matter by 31 October 2019.

An extensive public consultation exercise proposed lower speeds on around ten per cent of the region's high risk roads in order to cut the number of deaths and serious injuries which occur daily across the region.

AT also received requests from the public for an additional 876km of roads to be included in the proposal. Evaluating the implications and supporting evidence associated with a wide range of implementation options, including levels of community support, is being thoroughly considered prior to the matter being presented to the AT Board, says Chief Executive Shane Ellison.

More than 11,700 submissions were received on the proposal.



#### Peter Walker - Guardian

More or less every time a city orders a report into how expanding populations can be moved around in efficient ways that also improve liveability and sustainability, the same answer comes back: active travel – that is, more walking and cycling.

And yet in many of those same cities, when specific plans are introduced to make walking and cycling safer and more pleasant, they face a fierce backlash, which can be sufficiently noisy and disruptive to scupper the schemes.

Such wrecking tactics are, it appears, increasingly common even as the need to move away from vehicle-based cities becomes ever more urgent.

Are the nimbys winning? A particularly alarming example has just been seen in London, where the grandly-named Royal Borough of Kensington and Chelsea (RBKC) in effect pulled the plug on a flagship plan from Transport for London to improve walking and cycling on a particularly feral stretch of west London roads between Notting Hill and Wood Lane.

Yes, I'm afraid it's another example from London, but please do bear with me. The recent events are illustrative of the ways safer, cleaner transport is being undermined in towns and cities, largely through myths.

So here's some selected thoughts and lessons from the ongoing battle. Feel free to add your own below.

#### *Opponents claim to support cycling in principle.*

Really? RBKC's decision to block safer cycling and walking on a route that has seen 275 collisions in three years came, amid loud applause, at a meeting of opponents recently. Beforehand the council's cabinet member for transport reportedly said he was "hugely supportive" of cycling, but did not support this particular scheme.

This seems deeply peculiar. If he does support cycling, then why not work with TfL on improving the scheme, rather than blocking the entire thing, without warning and before a consultation was finished (more on that later), with no plans for a replacement?

There is something of a pattern to this. The wise and indefatigable New York blogger and podcaster Doug Gordon once compiled a long list of people who insist they simply love cycling, but have a unique, unfixable problem with one particular bike lane, namely the one in their city or neighbourhood. See also: "I'm a cyclist"; "I own a bicycle".

## Many of the arguments against bike lanes are misleading or false

One of the most depressing elements of events in west London has been the spread of the myth that protected bike lanes cause more pollution (© Professor Robert Winston). This has now reached the mainstream, with elected politicians repeating it as fact.

It is a complex issue, one often reduced to an asinine series of assertions ("less space for motor traffic must equal worse congestion, which must equal more pollution"), one blithely repeated by RBKC.

While the TfL modelling does indicate some journeys in one direction of travel could take longer after the work, a series of other factors need to be considered, not least the primary cause of congestion – too many motor vehicles – and the aim of eventual modal shift to other means of transport.

Then there's also the fact that when similar routes have already been built in London, actual measured pollutions levels have stubbornly not risen.



Opponents also cited worries from shops and companies along the route. Again, these are common with other plans, but invariably ill-founded. For a variety of reasons, cycle infrastructure is almost always good for business.

A more easily-comprehensible objection was the fate of up to two dozen trees of various sizes that would have been felled to make way for bike routes. It's worth remembering that trees can be replanted, and also that the route could have been adjusted to save the trees – instead of taking more space from cars.

#### **Opponents don't have any plans of their own**

Chris Boardman, the saintly walking and cycling guru for Greater Manchester, has an inevitable response to those who oppose schemes for safer, more humanfriendly streets: OK, so now what? Without proper cycling infrastructure, how will you ease gridlock, reduce pollution, lower the road casualty toll?

In my experience what usually follows is silence or platitudes. In the case of RBKC, I'm afraid, they're offering both. The council has, as far as I can see, no scheme on the table to improve the main roads on which the ditched scheme was due to run.

It does have another planned bike scheme, one that was intended to be an addition, not an alternative – a convoluted quietway-type route via back roads, roughly twice as long, and with few planned safety interventions beyond some speed bumps and tweaks to junctions. It's not what you'd call ambitious.

#### "Consultation" too often means vetoes from nimbys

Perhaps the oddest part of the RBKC debacle is the fact that the council said it was acting on behalf of local residents, but blocked the scheme before a consultation run by TfL even closed, long before it had any results.

I repeatedly asked the council's press team how they could know the scheme was opposed by residents without a formal method of assessing local views. They were unable to tell me.

The council did receive, I was told, 450 emails opposing the scheme – which amounts to 0.28% of the borough's population. The press team angrily insisted there had been "hundreds" more residents getting in touch via other means. Even if you give a generous final total of 1,000, that's 0.6% of the population. It's almost the dictionary definition of nimbyism.

Two other things are worth noting on consultations. Firstly, even when they are strongly in favour of new bike schemes, the opponents often do not back down.

Secondly, there is a strong argument that safer walking and cycling isn't something people should have a veto over anyway. To paraphrase the argument of another tireless New York cycling

advocate, Paul Steely White, when the Victorians were building London's sewage system they didn't endlessly consult on whether separating drinking water and human waste was OK with local people. It saved lives and so it was the right thing to do, so they did it.

#### Labour are at fault as well

RBKC is a Conservative-run council, and a famously dysfunctional one, as the appalling tragedy of Grenfell Tower showed. But worryingly, both the local Labour MP, Emma Dent-Coad, and her constituency party, not only failed to support the safer walking and cycling scheme, they – in the case of the party – openly celebrated its demise.

This might seem weird, that a left-leaning party would oppose the most equitable forms of urban transport available and choose instead to favour the needs of drivers. But it shows how far the anti-cycling myths have penetrated.

## People die as a direct result of campaigns like these

London's walking and cycling commissioner, Will Norman, is generally a patient and measured man. But in a furious reaction to what he called a "cynical political stunt" by RBKC he said: "People will die and suffer serious injuries as a direct result of this."

This is perfectly possible. Among those who have expressed alarm at the council's decision is Kate Cairns, whose younger sister, Eilidh, a 30-year-old television producer, was run over by a lorry in Notting Hill in 2009. Kate has said she is happy to meet local officials to see if there is a way to build the separated cycle lane, which she says would have saved her sister's life.

The stakes could hardly be higher. Having cities still dominated by motor vehicles is heavily contributing to a climate emergency; to deadly pollution and endless noise disproportionately caused by richer people and visited on poorer ones; and daily peril for more vulnerable road users.

It's simply not good enough to say you support walking and cycling in theory, but then block every effort to make it actually happen. People are, and will be, judged by their actions. And they should remember that. *Source: Guardian* 

## Letter to the Government on Climate Change

The Transportation Group Chair Jeanette Ward signed the below letter on behalf of the Group, joining a large number of concerned organisations, seeking that the Government take action on climate change.

#### Hon David Parker, Minister for the Environment Parliament House Wellington Cc: Hon James Shaw, Minister for Climate Change

#### Friday 6 September 2019

Dear Minister Parker

In 2004, the Resource Management Act 1991 (RMA) was amended to include sections (ss 104E and 70A) that specifically ruled out the ability of a council to take into account the effect of greenhouse gas emissions on climate change when making rules and when considering a resource consent. While this was supposed to be followed up with either a carbon charge or a National Policy Statement that would set out the criteria to deal with climate change, these never eventuated.

A similar section was also included in the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ/CS Act) - s59 (5)(b).

We understand that the RMA II revision programme would have the Climate Change Response (Zero Carbon) Amendment Bill (Zero Carbon Bill) "in scope" - but this will not be completed before the next election, and we simply don't have the time to wait. Neither would this take care of s59(5)(b) of the EEZ/CS Act.

It is 2019, and both the Amazon and the Arctic are on fire. Both poles are at record melt. Thousands of New Zealanders face increased floods, droughts, wildfires, and tornadoes appear to have become a regular thing. We face a climate emergency.

Our response to these challenges must honour te Tiriti o Waitangi and the rights of tangata whenua. Protecting indigenous rights in the world is fundamental to how we take action to protect our climate.

The IPCC's Special report on 1.5°C made it clear that warming beyond 1.5°C will be extremely challenging and increases the risk of runaway climate change. To get onto a 1.5°C pathway, we must decarbonise our economy - and fast. The urgency of the situation has been voiced by many politicians, including the Prime Minister. But these clauses directly prevent local authorities from considering, and acting on, the climate crisis.

We are in the middle of a Select Committee deliberation on the Zero Carbon Bill. We are very concerned that once the bill comes into force, and the Climate Change Commission sets out its carbon budgets, local authorities and the EPA will still be blocked from even considering the effects of emissions on climate change for any new project. The RMA and EEZ/CS Act will stand in the way of New Zealand endeavouring to set itself on a path of cutting emissions in order to get onto a 1.5°C pathway.

This would render the Zero Carbon Bill ineffective in crucial respects for at least two years until any revision is made to the RMA and EEZ/CS Act. We envisage this could cause litigation including judicial review under the Zero Carbon Act and further confuse the public about the consent process even after it was fixed in legislation.

It has been argued that the NZ ETS would deal with high-emitting projects, but we would respond that not all of them would be, such as out-of-town shopping centre without any public transport, that would drive up transport emissions. While this could be affected by a price on carbon brought about by the ETS, at the moment any expected price on carbon is not going to be high enough to stop such activities. Hard rock minerals mining, including gold mining, is another very high-emitting activity, and there are many more.

Consents these days are often non notified so the public has no opportunity to demand consideration of climate. Speaking frankly, the 2004 RMA amendment was a failed experiment, and it's now time to put climate change back into its remit.

If we want to get onto a 1.5°C pathway, we must decarbonise our economy. The urgency of the situation has been voiced by many politicians, including the Prime Minister. But these clauses directly prevent local authorities from considering, and acting on, the climate crisis.

We have a straightforward proposal: insert a clause in the Zero Carbon Bill by Ministerial Supplementary Order Paper (SOP) that would specifically take precedence over sections 104E and 70A of the RMA and section 59(5)(b) of the EEZ.CS Act, to allow consideration of the effect of emissions on climate change where relevant. A threshold of emissions could be considered or inserted so that low level emissions are not covered.

This would send a very clear signal that climate change is an issue that needs to be taken into account across all activities.

If you consider that amending the RMA through the Zero Carbon Bill process is out of scope, then we request that you urgently amend the first round of RMA amendments due to be introduced this year, so that our Zero Carbon Act does not come into force completely hobbled by the RMA for at least two years before the second round of amendments are completed. Climate change doesn't allow us that kind of time. We also request that you urgently introduce legislation amending the EEZ (CS) legislation to repeal S59(5)(b).

It is now time for climate change to be a relevant - indeed, often central - consideration in local and regional authority decision-making. Only then can New Zealand effectively and comprehensively address climate change.

Signed

Jeanette Ward Chair - Engineering NZ Transportation Group



Other signatories include: Coal Action Network Aotearoa Ecologic Foundation Forest and Bird Generation Zero Greenpeace Aotearoa New Zealand Human Rights Foundation OraTaiao: The New Zealand Climate and Health Council Oxfam New Zealand School Strike 4 Climate WWF-New Zealand 350.org

## National Committee considers fee change

At it's Strategy Day in August, the National Committee discussed financial viability of the Group and setting of the 2019/2020 financial year budgets with representatives from Engineering NZ.

Engineering NZ has requested that all technical groups review their budgets and ensure that income covers predicted expenditure for the next financial year, including fee levels.

Having reviewed the other Engineering NZ technical group fees, the Committee found there was a wide spread of membership fee values and the Group currently sits at the lower to middle part of the range.

The Group has not increased membership fees for a number of years and to help the Group be more

financially sustainable it was agreed a fee increase was appropriate, up from the current \$55 for Employed Members.

The National Committee has determined that an annual fee of \$75 for Employed Members will ensure we meet annual National and Branch budgets for the next financial year and assist with continuing to provide income for sub-group activities.

There is no plan to change to the Unemployed or Retired membership fees.

More information on this proposed fee increase will be provided by the National Commitee closer to the time of any change.



## Why Japan's Rail Workers Can't Stop Pointing at Things



It is hard to miss when taking the train in Tokyo. Whitegloved employees in crisp uniforms pointing smartly down the platform and calling out—seemingly to no one—as trains glide in and out of the station.

Onboard is much the same, with drivers and conductors performing almost ritual-like movements as they tend to an array of dials, buttons and screens.

Japan's rail system has a well-deserved reputation for being among the very best in the world. An extensive network of tracks moving an estimated 12 billion passengers each year with an on-time performance measured in the seconds makes Japanese rail a precise, highly reliable transportation marvel.

Train conductors, drivers and station staff play an important role in the safe and efficient operation of the lines; a key aspect of which is the variety of physical gestures and vocal calls that they perform while undertaking their duties.

While these might strike visitors as silly, the movements and shouts are a Japanese-innovated industrial safety method known as pointing-and-calling; a system that reduces workplace errors by up to 85 percent.

Known in Japanese as shisa kanko, pointing-and-calling works on the principle of associating one's tasks with physical movements and vocalizations to prevent errors by "raising the consciousness levels of workers"—according to the National Institute of Occupational Safety and Health, Japan.

Rather than rely on a worker's eyes or habit alone, each step in a given task is reinforced physically and audibly to ensure the step is both complete and accurate.

In the rail context, when train drivers wish to perform a required speed check, they do not simply glance at a display. Rather, the speedometer will be physically pointed at, with a call of "speed check, 80"—confirming the action taking place, and audibly confirming the correct speed.

For station staff who ensure the platform-side tracks are free of debris or fallen passengers, a visual scan alone is not sufficient. Instead, the attendant will point down the track and sweep their arm along the length of the platform—eyes following the hand—before declaring all clear. The process repeats as the train departs, ensuring no bags—or passengers—are caught

hanging from the train's closed doors.

It is such an integral part of Japanese transportation that direction boards at the Kyoto Rail Museum even feature characters in the classic point-and-call stance.

The system is in place across a number of industries in Japan. Originally developed by the now-defunct Kobe Railroad Administration Bureau in the late Meiji Period (the early 20th century), pointing-and-calling is known to reduce workplace errors by up to 85 percent, according to one 1996 study.

While some workers point-and-call more enthusiastically than others, even those who are more blasé benefit from the increased awareness that comes from physically reinforcing each task. For such a simple but effective method of improving workers' error rate, the system continues to find itself largely confined to Japan.

Indeed, it is one of the many quirks of the Japanese workplace that fall flat with Western workers. In the case of pointing-and-calling, Japanese commentators have theorized that Western employees feel "silly" performing the requisite gestures and calls.



A notable exception is New York City's MTA subway system, whose conductors have used a modified pointonly system since 1996 after then Chief Transportation Officer Nathaniel Ford was fascinated by the point-andcall system during a business trip to Japan.

In the MTA's case, conductors point to a fixed blackand-white "zebra board" to confirm a stopped train is correctly located along the platform.

According to MTA spokeswoman Amanda Kwan, conductors were quick to adapt to the new system, and within two years of implementation, incidents of incorrectly berthed subways fell 57 percent.

Japanese workers are also not immune to feeling selfconscious when it comes to pointing-and-calling, although with training it soon becomes an accepted part of the job.

A spokesperson for Tokyo Metro noted in a statement that new employees "recognize pointing-and-calling as necessary for safe rail operations, and therefore do not feel embarrassment." *Source: Atlas Obscura* 

#### **Roundabout Issue 161**

## In Madrid, Car Ban Proves Stronger Than Politics



Madrid's new administration might already be regretting its promise to cancel the city center's car ban.

When the city's current center-right/right/extremeright coalition came to power following May 26 elections, one of its first promises was to scrap the laws that had seen almost all private cars disappear from inner Madrid—not just from side streets, but from major roads, too.

As it turns out, the measure isn't as popular as politicians supposed. Now, after a whirlwind of protest, they're backpedaling. Madrid City Hall is pausing its plans to repeal the law, and it's likely they'll be abandoned for good.

This development is arguably significant far beyond Madrid's boundaries. When the city's repeal of the ban was announced, some saw as a possible first domino in a chain of anti-green backlashes that would see car bans start to collapse across Europe.

Less than two months later, however, the repeal's public and legal rejection has actually shown the opposite: that there is widespread support for green urban policies even when the political pendulum swings right.

The fight started almost as soon as the election result was announced. As CityLab previously reported, Madrid's new mayor José Luis Martinez-Alameda announced that repealing the car ban was a priority.

Isabel Diaz-Ayuso, the new president of the Madrid region (akin to a state governor), went so far as to declare that late-night traffic jams were part of the city's identity. When the city actually suspended the fines that enforce the no-car zone, however, the public backlash was swift.

Thousands took to the streets at the end of June to protest the about-face—10,000 people according to the Madrid state government, 60,000 according to organizers—something that has previously never happened so soon in the term of any Madrid mayor.

Along with the march came critical coverage in the New York Times—a significant, chastening step for an administration which, regardless of who's in power, is rarely discussed in much detail outside Spain.

Compounding the bad impression this made on locals was widely circulated footage of the city removing blooming planters to convert them back into parking spaces. Finally, but most devastatingly, came news that a local court judge had blocked the city from canceling the ban.

Barring cars from the city center was essential, the court said, "to improve the quality of the air that the citizens of Madrid breathe, which has a direct impact

on health." Since then, two further court judgements have ruled in favor of retaining the car ban as a public health protection. It's hard to think of a municipal measure more roundly and swiftly defeated on so many fronts.

The administration has not officially given up on repealing some aspect of the ban, but this episode has given the new leaders' tenure a tough start. It could be that the new coalition misidentified support for the ban as partisan and party-affiliated.

While the ban came from a left-wing administration, it has actually enjoyed widespread support. Figures on the ban's first few months in fact showed it doing exactly what it was supposed to: slashing pollution without damaging retail sales.

This, along with popular support for it, forced the new administration to make some rather odd, unsubstantiated statements to criticize it. Pablo Casado, the national leader of the right-wing Popular Party, said it had created more pollution, even as data suggested the opposite.

Madrid state president Diaz-Ayuso said it "killed the Rastro [Madrid's flea market] and increased crime"—an account that was promptly contradicted by Rastro market traders, who insisted their trade was strong and healthy, and that Madrid was still a very safe city.

Madrid's administration has years to recover from the fallout, and it may well bounce back—but its climbdown here is telling. Car bans like Madrid's offer clear, tangible improvements to citizens' health and quality of life, and have largely gained the popular support needed to make them sustainable long-term.

Authorities who seek to scrap such plans thus have to make particularly persuasive arguments, ones that need to be far more watertight than they would have been, say, a decade ago. The problem is that, in cities with proper public transit, such arguments are few or non-existent. As Madrid's test cast suggests, European car bans in some form are likely here to stay. *Source: CityLab* 

## **How Hackathons and Smart Cities Relate**



Kathy Matete Highly Commended Young Author - Transportation Group conference 2019

New Zealand is one of the first countries with a government using hackathons to harness open data to drive technology transport solutions. In doing

so it also acts as a tool to prepare a smart workforce, smart government and smart industry.

Most of the transport problems New Zealand face stem from the effects of increasing urbanisation. Using 2013 baseline population statistics, Auckland is predicted to increase in population by 48%, 43% in Tauranga and 41% in Wellington by 2038 (Statistics New Zealand).

At this rate, the population increase will likely result in the emergence of megacities with overcrowding issues as well as increased traffic congestion and air pollution which will in turn affect health, wellbeing and quality of life (Junipers Research Global Smart City Performance Index).

The concept of smart cities has emerged as an approach to help solve these problems. This approach is to view cities as urban ecosystems that integrate digital technology, data, knowledge, resources and assets to become more responsive to users, improve city services, and make cities more liveable.

#### THE HACKATHON SYSTEM IN TRANSPORT

In the transport industry the primary purpose of a hackathon is to use the agile innovation process to define challenges in the transport industry and develop solutions that provide value through an iterative process. This iterative design process is based on the principle "fail fast and learn fast" which allows a team to redefine the product offering.

A hackathon conducts Stage 1 of the agile innovation process. The process involved in Stage 1 is shown in Figure 1. This stage involves the formation of a crossindustry team, researching the customer need, defining a problem statement, opportunity investigation and ideation, developing customer personas, a product vision board, a user journey map to develop a low fidelity prototype and creating a pitch.

A transport hackathon team is made up of a range of skillsets including design, technology and software developers, user experience professionals, ethnographers, service designers, behavioural psychologists, transport engineers and planners, urban planners, geospatial analysts, data analysts and transport customers.

The team then uses the three C's Approach which applies creativity, co-creation and co-design into the engineering hackathon system. Figure 3 explains how each of the three C's are used in the hackathon system.

#### **SMART TRANSPORT FOR SMART CITIES**

Transport and mobility are key components of a smart city. Urbanisation brings an increase in city populations and therefore creates a challenge for a city to provide smart transport with good levels of mobility and accessibility.

Smart city ranking approaches look at important elements of the smart city. There are four main smart city rankings that have been developed so far. They include the IESE Cities in Motion Index, Junipers Research Global Smart City Performance Index, Smart Cities Prospects published by Procedia Computer Science, and Easy Park Group Smart Cities Index.

The elements of a smart city ranking are called smart city indicators, which are developed using research and case studies of cities around the world. The indicators transport or mobility appear in all four of these ranking systems. This shows consensus that transport is a key indicator of a smart city.

## THE SETUP - PREPARING FOR SMART TRANSPORT IN SMART CITIES

"The Setup for Smart Cities" is defined as the components required to prepare for smart cities. The recipe for the Setup includes three ingredients: a smart government, smart workforce and smart industry.

#### Preparing a smart government

The characteristics of a smart government have been defined by Eden Strategy Institute and ONG&ONG Pte Ltd in the Top 50 Smart Government publication. These

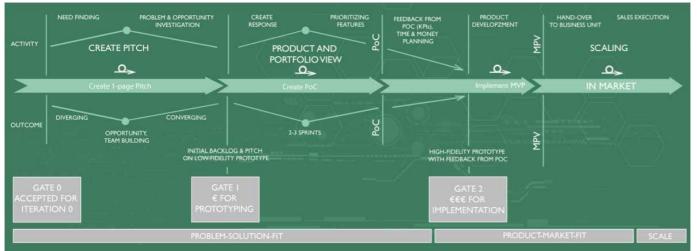


Figure 1 - Agile innovation process

characteristics have been categorised into ten factors that should be considered by city governments that aim to transform into a smart government.

Hackathons are a tool that can be applied in four of the ten factors to prepare a smart government. These components include support programmes, peoplecentricity, talent readiness, and smart policies. It does this by equipping and enabling smart governments. Figure 6 illustrates how hackathons can be used as a tool to prepare a smart government.

For the support programme component, hackathons are a form of incubator that's invites other players in the transport industry and other industries to be a part of solving NZ's transport problems. This provides an opportunity for technology developers who may not have the platform to explore and co-design technology capabilities with the NZTA or engineering consultants.

A government lead hackathon sets a good tone for a smart cities culture in the transport industry by driving innovation and allows them to have more authority on how the processes and delivery mechanisms for these solutions should function.

People-centricity allows for customer-centred design and co-creation. This relates specifically to the team structure on a transport hackathon which includes user experience, ethnographers, service designers, behavioural psychologists and transport customers. It is also a key component of stage one of the agile innovation process where customer needs are researched.

For the smart policies component, the implementation of a solution from a hackathon acts as a driver for change in policies or regulations to enable the adoption of that solution. This drives the government to set up processes and a governance structure that allows for future smart city innovation to be assessed, progressed and regulated.

Without these elements in place the lost time due to an inefficient and undefined process and governance can result in a loss of benefits or savings. An example of this is LicenseMe, the winner of the NZTA hacathon hosted in March 2018, which has ignited the consideration of changes to licencing regulations.

For the talent readiness component, a hackathon provides an opportunity to equip the city's workforce including transport consultants and transport service providers with skills required for the future.

#### Preparing a smart workforce and industry

A hackathon is a tool used to equip a smart workforce with skills required for the future of work. Artificial intelligence and automation will transform the nature of work and job the landscape (Mckinsey Global Institute, 2018).

The demand for advanced technological skills such as programming will grow rapidly as well as social, emotional, and higher cognitive skills, such as creativity, critical thinking, and complex information processing, and agile thinking which will also grow in demand (Mckinsey Global Institute, 2018). These skills required for a smart workforce are the skills practised and developed during a hackathon.

More governments are running hackathons, not only to solve problems but also to attract talented workers and provide a place to exercise and build those skills. This makes hackathons well placed to become part of the evolving education system and learning for the changing workplace. This is particularly relevant considering new research that places an emphasis on adaptive and life-long learning (OECD/CERI International Conference, n.d).

The additional benefits of a smart workforce are that it provides business opportunities within the smart industry. Existing companies with employees equipped with smart skills creates an opportunity for intrapreneurship.

Programmes such as new venture accelerators have a similar purpose and function as a hackathon, which are tailored to fit into a company's internal approvals and financial processes. Transport companies can benefit financially by adopting such practices like new venture accelerators.

The smart cities industry was valued at USD 442 billion in 2017 and is expected to reach a value of USD 1,226 billion in 2023 (Mordor Intelligence, 2018). While this includes the other areas of smart cities such as smart health, the size of the market value still provides a great opportunity to tap into new revenue streams in the smart transport sector.

#### EVIDENCE OF SUCCESS IN NEW ZEALAND The NZTA All Access Hackathon 2018



A good case study is the third-placed solution from the NZTA All Access Hackathon, Jaid. Jaid was created to address a need for vision impaired

transport users who experience barriers when using public transport. Team Jaid applied the agile innovation process and the three C's Approach for Smart Cities.

Day one involved pitching the idea, forming a cross industry team of 6 professionals, was formed with collective expertise in transport engineering, human factors consulting, service designing, psychology and software development. And market research to validate the idea.

Day two involved activities in Stage 1 of the agile innovation process. All these activities were required to develop the pitch for day three. In day three, the

#### The three C's Approach for Smart Cities

<ul> <li>Creativity fuels innovation particularly in the idea generation stage and the business model stage. It is key to solving transport problems that will require innovative new solutions or improved traditional solutions</li> </ul>	
Co-design	

 A team with members that have different types or expertise and experience creates an opportunity for a wider range of alternatives to be generated during the idea generation stage and business model development. By considering all aspects involved in the transport system it also helps makes for a more holistic design of the solution.

Co-creation

A hackathon is driven by customer needs rather than jumping straight to technology and product development. The customer need should be captured well in the business case. It also highlights the need to understand customer behaviours and preferences to design fit-for-purpose solutions.

output of the hackathon was a six-minute pitch to a panel of judges with backgrounds in disability services, NZTA subject matter experts, entrepreneurship and innovation consultants. NZTA provided judging criteria which helped structure the pitch. This involved demonstrating the impact, ability to implement, execution and experience.

#### RECOMMENDATIONS

1. Companies invest in intrapreneurship through programmes such a new venture accelerator programme, and explore how public-private partnerships could work successfully and use them to help create new services.

2. Employers and the workforce should engage and participate in hackathons because it provides an opportunity to upskill for the jobs of the future. In doing so, it helps future proof one's career when automation and artificial intelligence increase in the workplace.

3. The government continue to prepare themselves to be a smart government. This will allow them to develop and put processes, governance and structures in place to help deliver, regulate and govern the smart cities transport industry. This would particularly help to set up the structure for public-private partnerships to work in the industry. The government should continue running hackathons in the transport industry because it is a good tool to help equip and enable the government, workforce and industry for smart cities.

#### **Kathy Matete**

Bachelor of Civil Engineering (Hons) Committee member of the ENZ Transport Group Auckland Transportation Engineer at Beca Email: <u>kathy.matete@beca.com</u>

## **Low Emission Vehicles Contestable Fund**

Minister Woods congratulated the 29 recipients of cofunding for projects approved under the latest round of the Government's Fund, administered by EECA. They will share \$4.5 million of government co-funding – the largest amount made available so far.

The successful applicants will contribute nearly \$12 million of their own money, bringing the combined investment by government and the private sector to over \$16 million across a variety of projects ranging from one van to one hundred 100% battery electric carshare vehicles.

Speaking at Blackwells Isuzu in Christchurch, Minister Woods said "this fund has proved a successful stimulus for action and innovation... thanks to leadership shown by businesses like Blackwells."

Blackwells has received funding to convert a truck to use as a trial vehicle for their customer, allowing them to test electric heavy transport in real-world conditions. Steve Grenfell, CEO of Blackwells, acknowledged the hard work his staff had put in to upskill in this area. "We're very proud. For Blackwells, it doesn't stop there - we're committed to helping customers understand what EV tech will do for their businesses."

In total, the Fund has committed \$20.9 million in government funding to 120 projects. This is matched by over \$40 million applicant funding.

The latest round of application to support the uptake of electric vehicles (EVs) and other low emissions vehicles in New Zealand has just closed. Up to \$3.1 million was available from the Fund.

The next call for applications will be made around February 2020, with results to be announced in July 2020. The round will have the same funding priorities as previously, but will have an additional opportunity to support e-biking by providing secure public storage facilities. Contact Camilla Cochrane if you'd like to discuss your ideas, on 027 457 0205, or



levfund@eeca.govt.nz.

Companies, councils and organisations can apply, or partner together to apply to the Fund, administered by EECA. The Fund will offer up to 50 per cent funding towards projects. Applicants must match or exceed the amount granted.

Detailed information, including how to put together an effective proposal, fund priorities and previously funded projects, can be found on our website. www.eeca.govt.nz

### The Vehicle of the Future Could Already Be Here. It's called the bus.



As long as there has been traffic in Washington, there have been dreams of new ways to deliver us from it. In recent years, innovations have ranged from electric scooters to Elon Musk's proposed high-tech tube that could shoot commuters to Baltimore in 15 minutes.

Now comes word that District transportation officials are moving forward with another concept—an exciting idea that promises to whisk us from one side of downtown to the other. It brings together such futuristic tools as signs, paint, and parking tickets. It's called a bus lane.

Not exactly a subterranean rocket, but unlike Musk's famous initiative, you'll actually see it in action this summer if you're on H or I Street downtown. During a three-month trial, DC has closed lanes of traffic to private drivers. Designated by red paint, the lanes are for buses and also open to bikes and some taxis.

There were still some kinks when, on the second day of the trial, I headed downtown during the morning rush hour to see how the lanes were working. On I Street, buses chugged unencumbered as regular traffic crawled beside them. But H Street was another story: The bus lane was blocked by an idling delivery truck, a taxi, and four tour buses. More enforcement definitely seemed in order.

Those issues could be solved by a more dramatic—and permanent—rethinking of one of the District's most maligned thoroughfares: K Street. Instead of the current setup, in which a long stretch is gunked up with cumbersome "service roads" on each side, the roadway will be reconfigured with sealed-off lanes for buses in the center.

No matter how jammed the car paths get during rush hour, buses—once the pokiest form of transit—will have a clear route. The project, which was announced 15 years ago but only recently got the official go-ahead from the Bowser administration, is expected to cost more than \$120 million.

The bus was once Washington's preferred mode of

transport. For much of the 1960s and '70s, if you wanted to get around town quickly, you took a bus. The last streetcar stopped running in 1962, and in its place a network of bus-only lanes proliferated on heavily used including Connecticut routes Avenue in DC, Wilson Boulevard in Virginia, and Georgia Avenue in Maryland.

Then came Metro. After the gleaming subway opened in 1976, bus lanes were gradually phased out and replaced with more space for cars.

In recent years, buses have been getting less popular. Overall ridership has fallen, from 188 million annual rides less than a

decade ago to about 163 million today. No wonder: Buses in Washington travel 9 percent more slowly than they did in 2012, due in part to congestion and lack of enforcement of all those Ubers and delivery trucks blocking curb lanes.

Moving commuters around efficiently is vital to the area's economic health, but the reality is that most options for improvement have flaws. The streetcar on H Street, Northeast, was expensive and controversial. (The K Street bus transitway was originally envisioned as a streetcar, but that plan isn't moving forward.)

Metro expansions, meanwhile, are cost-prohibitive. Metro's new Silver Line extension to Dulles Airport will cost \$5.8 billion. Compare that with the bus lanes Virginia recently built between Pentagon City and Braddock Road—for about \$42 million. Viewed in this context, finding ways to speed up buses makes a lot more sense.

To accomplish that goal, the region's bus-service providers have teamed up for a program called the Bus Transformation Project. This past spring, the group released a set of recommendations that include an app that can be used to pay fares and technology syncing traffic lights to buses. Also key: "prioritizing buses on major roads." In other words, bus lanes.

Sounds good, right? Sure—so long as you don't need to drive home on K Street at rush hour. Either the road has to get wider—hard to pull off in the middle of a big city—or car lanes have to be eliminated. The folks who will be plodding home from downtown even more slowly than they do now might not be mollified by a lecture on the (indisputable) fact that buses are more efficient people-movers than cars.

For the rest of us, though, old-fashioned buses might soon become more attractive, especially if these upcoming projects are successful. Soon you might find yourself waving to those car commuters from the window of a shiny red Metrobus as you fly past them on your way to work. *Source:Washingtonian* 

# **Innovating streets for people**



Making it faster and easier to make our streets safer and more liveable



#### Introducing Innovating Streets

It's fair to say that some of New Zealand's urban streets need some transformation so they can properly support a healthy, low-carbon, economically resilient future.

Experimentation is a powerful way to find the best street changes for different towns and contexts, but it can be hard to try things out under current processes.

Innovating Streets is making it easier in two ways: Affecting a raft of system changes behind the scenes to establish fit for purpose guidance and processes, which includes streamlining legal frameworks, professional codes of practice (such as COPTTM), and developing new fit-for-purpose trial processes.

Providing support for case studies of street innovation projects that test the guidance and processes and ensure they are effective.

#### The latest on Innovating Streets

"That street's quite a low risk environment, these improvements are really promising for accessibility and better place value... why don't we try, and see how it all works?" Ask this question of colleagues around the country and you'd get a range of answers. But typically they'd be on the theme of "no, too much hassle".



Ciclovia in Bogotá (photo credit: nati\_fg)



Tauranga Wharf Street trial planter separators and precinct sign (photo: Tauranga City Council)

But thanks to Innovating Streets and various courageous project leads nationwide, it's getting easier to answer that question with "Ok, let's look into trying that out". This month, the Innovating Streets for People guidance went live on the NZ Transport Agency website - <u>www.nzta.govt.nz/innovating-streets</u>

The guidance outlines how to go about a temporary street treatment, with some regularly requested information on what constitutes a legal TCD, plus project-scale guidance on how to strategically plan, configure, monitor and evaluate, deliver and communicate about a temporary project.

The guidance is launching as an online draft so it can be road-tested through case studies. These are 'pro people' streetscape change projects employing temporary methods, which had their own local momentum but are now receiving a professional services boost from the Innovating Streets team – while also road-testing the written guidance.

Case studies will then join the ranks of existing projects – initiatives underway independently of Innovating Streets – which demonstrate the variety of practices and applications so councils from across the country can learn from others' experiences.

Meanwhile, system elements such as the COPTTM and the Land Transport Management Act are being reviewed so they don't inadvertently suppress smallscale, low-risk, valuable activities (like Neighbours' Day BBQs, night markets and play streets).

Innovating Streets has an email update so please subscribe if you want to be involved in the project, email <u>innovatingstreets@nzta.govt.nz</u>

#### Innovating Streets TCD trial: Dragon's Teeth

Along with 'low risk' case study projects to quickly and efficiently test new ideas, Innovating Streets is also demonstrating how innovative treatments can be efficiently progressed through the trial process for Traffic Control Devices. 'Dragon's Teeth' is one example.

Improving people's safety on busier urban roads, and those with higher speeds, often calls for a prompt that alerts drivers to a change in the road environment (like approaching a town centre).



Dragon's Teeth road markings have been used for some time in the UK (see the photo above) and in some states of Australia, to indicate a change in speed environment and encourage people to focus and slow down, particularly around villages and school zones.

On the approach to the 'threshold' where drivers need to adjust how they're driving, Dragon's Teeth are laid in pairs either side of the carriageway or a lane. Their size and spacing can vary, and while they're quite commonly used overseas there's a need for more data.

We have reached a consensus that the markings have two initial uses. This includes at 'speed change locations' in rural or arterial road environments with Dragon's Teeth marked ahead of a change to a lower permanent speed limit and speed threshold treatment.

The other situation could be where the awareness of pedestrians or active modes needs to be enhanced. Here Dragon's Teeth markings could be used in association with a school zone and/or on approach to a permanent zebra or signalised crossing which might be suffering from drivers failing to stop.

The markings at these two situations have subtly different purposes. The first is connected to getting better speed compliance and more appropriate travel speeds and the second is connected to raising driver awareness of a different road situation and encouraging different driver behaviour.

We have a plan of attack on how to check the effects of the markings, measuring speeds as well as user behaviours and perceptions. This may include the use of driver simulator technology. Calls for initial trial sites that meet these broad criteria are open now with a view to approving the trial in the next few weeks.

Running parallel but just behind this topic are a couple of other discussion areas, including how to better make zebra crossings stand out and represent the presence of a pedestrian at the crossing.

It's already possible to install studs in the road that light up when a pedestrian is waiting to cross or is on a zebra crossing, but more can be done. Can we make the belisha beacon work and operate in a different manner? Could the beacon flash at a different rate of flashes per minute when a pedestrian is there or not there? And could we add on to this the intensity of brightness of the belisha to reinforce flashing rates?

We are talking to councils now about what might work, what level of interest there is in trying something out and whether this should be a formal trial at all if we could find something that works within the framework of the Rules. Watch this space!



**Roundabout Issue 161** 

## NZ Transport Agency Cycling Network Guidance (CNG) – What's new in the last six months

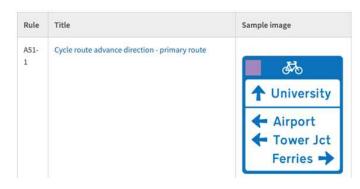


## Considering historic heritage in walking and cycling projects

Many of New Zealand's trails and roads follow wellworn historic routes, because the easiest terrain to navigate remains the same as it was generations ago. Historic and cultural heritage may be located on these routes and might not be visible above ground. This information sheet provides guidance on historic and cultural heritage considerations in walking and cycling projects. It includes steps to follow during the planning, design, and construction phases of a project.

#### Wayfinding signage layouts

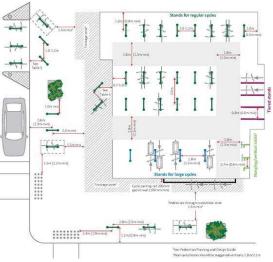
In consultation with road controlling authorities and the New Zealand sign industry, the Transport Agency has produced the New Zealand cycling network wayfinding signage layouts. Consistent use of these designs will help users recognise official cycling routes throughout New Zealand.



#### Cycle parking planning and design

This guidance summarises best practice provision of parking and end-of-trip facilities for people who cycle. It includes principles of good cycle parking, district plan guidance, and design requirements for cycle stands. The "inverted U" stand (also known as a hoop or a Sheffield stand) is the preferred type. Layout spacing guidance is also provided.

**Pavement specification guidelines for cycling routes** What grade chip should you specify? Find out in the new guidelines covering cycle lanes, cycle paths, shared paths, separated cycleways, and pavement shoulders where cycling demand is high and where a high level of service is desired.



Links to all new guidance can be found <u>HERE</u>

Coffee is vital for survival. Dinosaurs didn't have coffee, and look how that turned out.



## VACANCY - PRINCIPAL ADVISOR/CONSULTANT

Looking for a different type of work experience? NB are looking to grow our team in Wellington to help us meet our clients' needs and support a growing client base.

NB is a Transport Planning Consultancy Founded by Directors Neil Cree and Ben Peacey with over 40 years' experience in the public and private sectors including over 17 years' experience at the NZ Transport Agency. Our expertise and knowledge of transport planning, strategy and investment systems enables us to help clients' right size the effort and products needed to enable efficient and informed decision making.

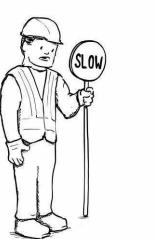
You will have the chance to work closely with central and local government transport planning professionals to solve complex transport and urban based problems by providing a range of transport planning and business case advice.

Check out our website at <u>nbconsulting.co.nz</u> and, if interested, get in touch for a job description or a confidential discussion.

## Side thrust gauges (ball bank devices)

Ball bank devices (also known as "side-thrust gauges") are useful for determining the safe speed for horizontal curves. Professional digital devices can run a thousand dollars, so a few years ago ViaStrada looked after the sale of low-cost and reliable analogue devices that the Transportation Group sourced. https://viastrada.nz/news/2008/side-thrust-gauges

While there are apps now available that make use of the gyro sensors in modern smartphones, the oldfashioned device is still preferred by many engineers for simplicity. We are now out of stock and have received one request from a council interested in one. Is there anyone out there with a spare? Contact iohn@viastrada.nz if you have one that you aren't using, or to register your interest for a possible new run.





#### Roundabout Issue 161

## Keeping the future of rail on track **III BeCa**

Rail is essential for a modern, multi-modal and interconnected transport network. As cities expand, suburbs sprawl, and environments are impacted by more people, more cars and more roads, rail is taking the stage as a safe, sustainable and attractive means of mass transit and freight.

Here to discuss key issues, trends and opportunities to make everyday better in rail are two leaders from Beca: Claire Booth Jones, Technical Director - Transport Infrastructure, and Katharina Gerstmann, Principal -Transport Infrastructure NSW.

# Q1 – You each have more than 20 years' global rail experience - what is it that makes you so passionate about the industry?

**Claire Booth Jones:** I love the complexity and challenge of rail projects, and all the different technical and social drivers that come into play; the need to be operationally efficient, safe, accessible, sustainable and of course, enjoyable for customers. Stations are real community hubs and centres in so many cities around the world.

While working in Hong Kong on some of the Lantau and airport railway stations, and with City Rail Link NZ for many years, I developed a passion for underground rail. There is all the complexity of surface rail, with the additional challenges that come with large numbers of people moving below ground.

**Katharina Gerstmann:** What I love is the dynamism and size of the industry. Rail employs over 100,000 people in more than 170 different companies across Australia and New Zealand. It is an industry that contributes billions of dollars to the Australasian economy, and that keeps things moving and connected.

## **Q2** - How does the New Zealand and Australian rail environment compare to that of Europe and Asia?

**Claire:** Obvious differences are in the number of people using the systems and the sophistication of existing infrastructure. New Zealand rail has suffered from under-investment for a long time, and people are not in the habit of turning to rail to travel.

Although Auckland Transport is celebrating 100 million public transport trips in the last year, it's still common for Aucklanders to jump in the car without a second thought. Imagine that translated to Hong Kong or London, and what it would do to the city!

**Katharina:** Alongside differences in scale, complexity, and population density, Europe also tends to have greater acceptance and civic pride in public transport systems. Take the new Gotthard-Base-Tunnel; a 57km rail tunnel connecting Switzerland and Italy with a highspeed line. Not only is it the longest railway and deepest traffic tunnel in the world, but the railway line can be used by freight traffic at night and highspeed trains at 250kph during the day.

A memorable moment working on the project was when Swiss people voted for a tax increase in 2007 to help fund it. Their attitude and support towards rail

transport is second-to-none in the world, something others can learn from.



Pictured: Claire Booth Jones, Beca Technical Director – Transport Infrastructure

## Q3 – What is multi-modal transport all about, and why is effective integration so important?

**Claire:** From origin to destination, not all journeys can be made using one mode of transport. Passengers only have limited patience with the disruption of changing modes – so it has to be made easy, frequent and convenient. Rail forms the transport spine that carries large volumes of people and needs arterial connections via bicycles, buses, and scooters to reach beyond the bounds of walking distance from a station. Stations themselves ideally need to be spread out so they have a reasonable catchment area, and so trains are not stopping too often.

If you don't live within walking, cycling (or scooting) distance of a station, you need to connect by another transport means, such as ride sharing, so let's plan for that to be seamless.

*Katharina:* Rail transport, though vital, is only one contributor to the effective running of businesses, industries and communities.

To make rail transport a success, transport planners need to consider a range of factors for both current and future demand: interaction of the rail transport network and land use; performance of the various transport systems; and demand management and behavioural change, to name a few.

Integrated transport planning is required to bring this all together, and achieve the best solutions for people, communities, cities and funders. Examples of this can be seen in work Beca is involved in, in New South Wales, with the Transport Access Program. This is an initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated infrastructure.

We make sure stations are accessible to people with a disability, limited mobility and parents with prams. We provide modern interchanges that support a better connected network, and allow seamless transfers between all modes for all customers.

## Q4 – What's needed to take the global rail industry into the next decade?

*Katharina:* Rail and other mass transit systems need a long-term vision and plan, with buy-in and support across community and political boundaries. Rail projects are lengthy and expensive to build upfront, although cheaper and more sustainable in the long run.

As an example of long-term thinking, the planning horizon for the 1,748km High Speed Rail Network between Brisbane, Sydney, Canberra and Melbourne would likely extend to 2055 and not be fully operational until 2070.

To achieve public buy-in to this type of planning, we need to ensure a consistently great user experience for all customers, regardless of which transport mode they choose to use.

**Claire:** Yes, we definitely need vision and planning for the long-term. We also really need to consider our changing environments and the pressures and impacts of climate change. Think rises in sea level, flooding and severe weather; and how this will affect the flows and movement of people within and between countries and cities.

We must build resilience into our networks and provide alternative options should we need them. We shouldn't assume that existing infrastructure is going to function in future decades and that we can simply add to it.

Beyond our changing world, we also need to consider changes in lifestyles, and how, where and when people work. Will people still be getting up and travelling to city centre offices at the same time every morning? When we look at the pace of change over the last fifty years, it is entirely possible people will be living very different lives in future.



Pictured: Katharina Gerstmann, Beca Principal - Transport Infrastructure NSW.

## Q5 - How is technology and innovation having an impact?

**Katharina:** Compared with other transport modes, railway technology might seem to be progressing as slowly as an 80s-era suburban commuter service, rattling and screeching its way from one station to another.

Automotive technology, by contrast, seems to change constantly. In the past decade GPS, hybrids, parking sensors, keyless entry and other innovations have flourished. And in the aviation industry, we've seen rapid advances in in-flight entertainment and communication, fancy flat-bed seats and quieter, more efficient engines.

However, this comparison is not entirely fair, as there is no shortage of new ideas steadily making their way out onto the track - in Australia and around the world. Better technologies are delivering everything from improved traction, braking and route planning to trains designed to glide on air at 500kph. There are schemes to transfer electrical energy from braking trains into the local power grid, and even more radical plans for 'moving platforms' that dock with high-speed trains.

So really, rail and mass transit is a very exciting space, and an area likely to see even more dramatic advances in coming years.

**Claire:** Technology is having a huge impact on the global rail industry, however much of it is hidden behind the scenes or taken for granted. Advances in wireless technology, together with personalised customer information systems, such as variable digital signage and text messaging, is being used to communicate real-time travel data and assist in managing emergency scenarios. Facial recognition technology can be employed by advanced CCTV systems to improve security, and be linked directly to rail communication or signalling systems.

Ticketless systems are being trialled by Transport for London on their Underground using bank cards and potentially smartphones. In Tokyo this has been around since 2001, with Suica and Pasmo cards used as to pay for everything from tickets to snacks and shopping.

Harvesting the data collected via ticketing information or smartphones also gives us greater insight into how customers use systems – ensuring safer, smoother and better-connected journeys.

Alternative ways of powering trains are also being explored, such as the use of battery technology and hydrogen. Virtual reality and BIM are increasingly commonplace rail design tools, with fully 3D models created to view and navigate spaces we have created. These models can link to those that show how people move through at rush hour, to model peak flows and emergency scenarios.

#### Q6 - What are some key rail trends to keep an eye on?

**Claire:** As populations grow and shift we need to provide people with a safe, resilient and sustainable transport network that increases connectivity between urban and regional centres.

Alternative fuel sources for freight as well as passenger transportation will reduce carbon emissions, predictive maintenance technologies assist pre-empting failures building resilience, wireless technologies reduce the need for expensive and vulnerable cabling.

These are a few specific technical advances. But the development of an approved long-term plan - 30 year

plus - for rail transport, providing a stable and predictable pipeline of work and allowing specialist skills to be developed and maintained in the New Zealand industry, is essential to market efficiency and economic growth.

**Katharina:** To look forward, it's also important to look back. For the past century, transportation has fuelled the world's economy by enabling the movement of people, goods, ideas and resources. Yet in recent decades, road and air have dominated many nations' transportation investments to the disadvantage of the most sustainable solution – rail. Investing in rail stimulates economies while reducing carbon emissions and urban congestion.

Things are changing though, with greater awareness of climate change and sustainable best practice, and of new and innovative uses of technology. There is also a greater consciousness today of the links and interdependencies of transportation and economic growth, and the need for networks to be more inclusive and accessible.

#### Think piece from Beca





A dastardly person (or possibly a wily coyote) painted a tunnel on a wall, and drivers drove into it.

## How much do you know about London air quality?

#### Transport for London - July 2019

Here's the situation... Every person in every area of London is affected by air pollution. Fact. What's more, around 2 million people reside in areas that continually exceed the legal limits for air pollution, including 400,000 children. In short, air pollution is having a detrimental effect on our health. In fact, every year our toxic air contributes to the premature deaths of thousands of Londoners and costs to our economy of up to £3.7 b. So, what exactly causes air pollution?

Air pollution can come from a number of sources, such as construction sites, industry, and generating heat and power. But today, the biggest contributor to air pollution in London is road transport. Petrol and diesel vehicles pump a host of toxins into the air, such as nitrogen oxides, carbon monoxide and harmful particulates.

From minuscule bits of carbon to tiny metal and rubber parts from engine use, there are all sorts of harmful particles in our air.

What's more, the smallest of these particulates have the potential to enter our blood streams and cause a whole range of health complaints – such as dizziness, coughs, headaches and reduced immunity – and are also known to worsen conditions such as chronic obstructive pulmonary disease (COPD).

The combination of all these elements is potentially decreasing our life expectancy and increasing our risk of cardiovascular disease. And children are particularly vulnerable – those who live in heavily polluted streets have been shown to have a 5% smaller lung capacity on average than those who live in areas with cleaner air.

It's clear that we need to act to improve air quality now.

The good news is that TfL and the Mayor of London have already put measures in place that will help improve London's air.

All new double deck buses in London are hybrid, electric or hydrogen, which will help reduce the pollutants in our atmosphere. The Mayor of London has now completed ten of 12 Low Emission Bus Zones, reducing nitrogen oxide emissions from buses by an

average of 90% along some of the capital's most polluted roads.

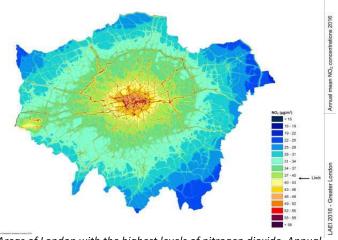
In addition to this, all new taxis must be zero-emissions capable in order to be licensed to work in the capital. Since 2018, over 1,500 zero-emissions taxis have been licensed in London.

Not only this, but the central London Ultra Low Emission Zone (ULEZ) is expected to reduce harmful road transport nitrogen oxide emissions by 45%. Thanks to ULEZ and other new air quality policies, the number of state schools in areas exceeding legal air pollution limits are expected to drop from more than 450 to just five by 2020, and zero by 2025.

We can each do our bit to help, too. More cycle routes are being introduced across the capital, so we can opt to ride our bikes to work rather than drive. Or, we could take in the sights of the capital by walking more.

If you need a car to get from A to B, then there are things you can do to start to drive consciously, such as turning off your engine while waiting in traffic for long periods. Alternatively, you could sign up to a car club; these are cost-effective and usually provide low emission or even electric cars.

To find out more about how Transport for London and the Mayor of London are improving our air quality, visit <u>tfl.gov.uk/air-quality</u>



Areas of London with the highest levels of nitrogen dioxide. Annual mean NO2 concentrations, 2016

## London cycling data released to all

Recently, Transport for London launched the world's largest cycling database which is set to make journeys by bike in the capital even easier.

TfL scoured every street in London to record details of every one of the 240,000 pieces of cycling infrastructure in the capital – from cycle lanes to parking spaces, down to traffic filters and wayfinding signs.

The data has now been added to the TfL Journey Planner, so that everybody can now find a place to park their bike before they set off on a journey.

The data is also available for absolutely anybody to

access on the TfL website, as part of TfL's commitment to open data. TfL data is open to everyone, with more than 675 mobile phone and online apps already powered by TfL's feeds.

Third-party developers will be able to use the cycling infrastructure data for their own journey planning tools, which will make it simpler for Londoners to plan cycle journeys using their preferred apps. TfL is also planning to invite app developers to a 'hackathon' later this year to explore innovative ways to use the data to make cycling simpler and easier for more Londoners.

Go to: cycling.data.tfl.gov.uk

## -What I did on my holidays Global transport lessons

**By Daniel Newcombe** 

The above photo is from evening rush hour at London Bridge station on London's hottest day (38 degrees), as thousands of commuters wait in vain for cancelled or delayed services (due to buckling tracks and overheated engines). It reminded me how awesome London's public transport system is, but how impactful it is when something goes wrong with it.

I was in London with my family and was busy noticing how much had changed in the decade since I was last there (short version: a lot) and along the way started a mental list of 'global lessons' - things I could learn and apply back in NZ.



In London, aside from the impressive public transport, I was struck by the transformation of cycling culture and provision. The ubiquitous hire bikes, the extensive separated cycleways, and the substantial number of Londoners zipping around in bikes. When I lived in London I would cycle to work, but dressed as one of those maligned 'road warriors' and wearing a helmet. London now is buzzing with a wide range of people on bikes – hipsters, commuters, mums, teenagers, elderly – most without helmets and many towing or accompanying children.

But even with the clear step change in cycling infrastructure and support, there are still far too many busy roads with no provision at all (but still having to be used by cyclists).

I was still perturbed by the UK tradition allowing kerbside parking in any direction (as opposed to just in the direction of the adjacent lane) and the common practice of parking a car straddling footpath. This obviously narrows the footpath and in many cases blocks it entirely. Sometimes the parking practice is actively promoted by the local authority.

I was staggered as always by the scale of the network of motorway and major A roads. There are massive stretches of decaying 1960s motorway through gorgeous English countryside, linking places where it feels like people have no option but to drive. Most of the roads bypass rather than link towns, but there is a



ridiculousness in some of the engineering which uses great effort to quickly move high volumes of traffic between small villages with no capacity to receive them.

There are a surprising number of urban streets where it is not possible to pass a parked car without crossing the centre line or where opposing cars must informally give way to each other. NZ standards would never allow it but it struck me that the result is slower, less and probably safer traffic than a "modern " road where a clear travelling lane is provided and higher speeds result.

In Paris, I noticed even more cycle provision than London, but a great deal of it seemed to be painted contraflow lanes, so it felt unsafe. This was the case even though there seemed to be less traffic than in London and less aggressive driving. With typical French



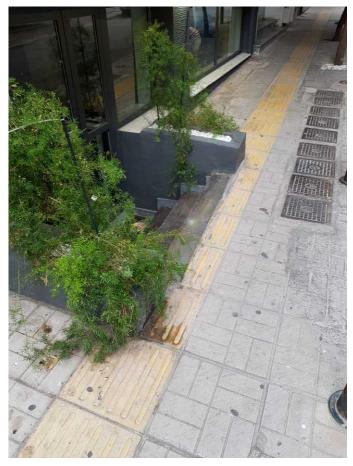
aplomb, parts of Paris felt less accommodating of traffic and is all the better for it. However, substantial provision of kerbside posts/bollards everywhere to prevent illegal parking create pedestrian obstacles (unless you are a 9year-old boy who enjoys leap-frogging them).

Urban realm tip – people appreciate being near the water, so if you have some waterfront traffic space, consider repurposing it as public space. People flock to it.



Moving on to Greece, it was easy to see the effects of the economic downturn in the poor quality and maintenance of much of their transport infrastructure. Little things like fading roadmarking may be affecting road safety, though in my experience most Greek drivers don't follow them anyway.

Greece also seemed to have an abundance of tactile pavers but often running into poles or obstacles or (in the worst case) down a hole. There is a lesson there that having a go at improving accessibility might be worse than not doing it at all.



**Roundabout Issue 161** 



Greek parking occurs pretty much anywhere, including in live traffic lanes, on intersection corners, footpaths, bus stops, etc. (these last few traits are not unique to Greece, though they seem to pursue it enthusiastically). My favourite roadmarkings were from the French Alps, where a painted walking area (we might have used a footpath) was formed by zebra crossing stripes many hundreds of metres long.





My first lesson from driving French motorways - make sure you carry some spare Euros, as the toll booths pop up repeatedly and without warning (or maybe my companions and I weren't reading the signs sufficiently). The quality and design of the motorways was good (the tolls must be paying for some of that) but I was surprised by the very short onramp merges I came across (some were dangerously short and had no runoff areas).

I also saw little design difference between the 130kmh motorways and the 100 or 110kmh ones. Same curvature, same grades, same lines and signs.





# Equity in Transportation

Transportation Conference 10–13 March 2020 Christchurch Town Hall

Thanks to those that submitted abstracts. Successful authors will be notified 20 September 2019.

Sponsorship opportunities are now available. <u>Be sure to check out the prospectus for further details.</u>

We look forward to seeing you in Otautahi, Christchurch, 10 - 13 March 2020

Take me to the conference website

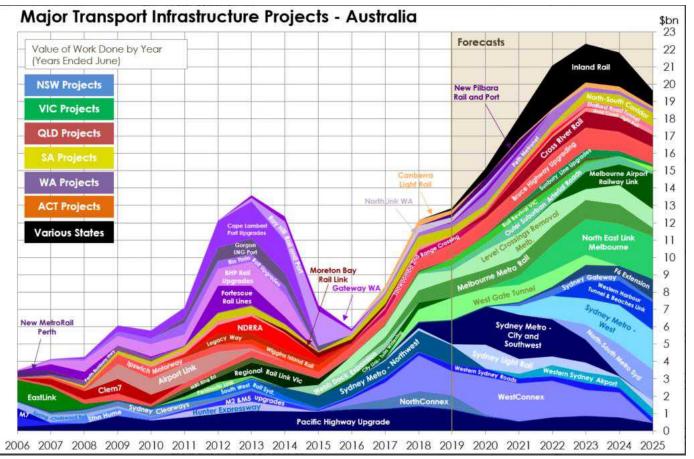
Clever street art using a mailbox

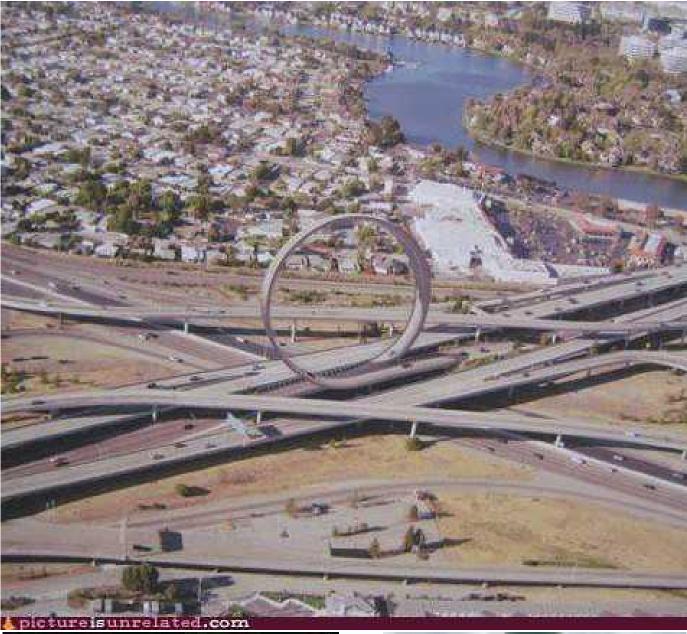




But....

An interesting chart showing the flow of money over time for various Australian transport projects.











#### Author: Milos Popovic (www.milosp.info)



And this ATM in Naxos, Greece, also has traffic lights installed. As the alleyway doesn't fit vehicles, presumably the traffic lights are to keep passing pedestrians back when someone is using the machine or when it is being refilled.

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Transport Knowledge Conference 2019

## Transport's contribution to wellbeing and liveability

Thursday 5 December 2019 | James Cook, Wellington

# 6th Transport Knowledge **Conference (TKC2019)** Call for registrations

The Transport Knowledge Conference organising committee invite you to join us for the 6th Transport Knowledge Conference (TKC2019) at the James Cook Grand Chancellor in Wellington on Thursday 5th December.

This year, we have focussed the conference on "Transport's contribution to wellbeing and liveability" with presentations that connect to our wider transport outcomes – Inclusive access, healthy & safe people, environmental sustainability, resilience & security, and economic prosperity. The conference will bring together a stellar line up of presenters from New Zealand who will present alongside international experts in the field.

### Why should I attend?

The Transport Knowledge Hub connects transport-sector professionals together and promotes the sharing of transport data, evidence, knowledge, research, information, capabilities, and ideas.

### **Registration information**

For more information, or to register, please visit the conference website at:

www.transportknowledgeconference.nz/register Registrations will close on Friday 22nd November at 12pm, so we encourage you to register now.

### Interested in Presenting?

Submission of topics for the Transport Knowledge Conference 2019 are open until 5pm on Friday 20th September. Go to: www.transportknowledgeconference.nz

Submissions that best align to the conference theme and Transport Outcomes Framework will be selected for inclusion in the programme. This year we will consider abstracts for the following formats:

- Presentation 20 minutes (including Q&A time) Poster no larger than A3 in size (landscape or portrait)

Further information about preparation, submitting and timeline is available on the conference website.

### Venue and accommodation information

The conference will be held on level 16 in the James Cook Grand Chancellor (147 The Terrace). Further information about the venue and accommodation options is available on the conference website.

### Contact

For all registration queries, please contact Paardekooper and Associates Phone: + 64 4 562 8259 Email: events@paardekooper.nz

For gueries related to abstracts and programme please contact the Transport Knowledge Hub team directly on: knowledgehub@transport.govt.nz

### Transportation Engineering Postgraduate Courses 2020 (Dates provisional)





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

Semester 1 (Mar-Jun 2020)	
CIVIL758 – Traffic Systems Design (Monday & Tuesday, three hours / week, 12 weeks)	Traffic signal timing analysis, gap acceptance parameters, intersection analysis of performance (priority, roundabouts, signals), introduction to transportation planning and modelling techniques, RMA and other requirements, computer modelling and simulation.
CIVIL761 – Planning & Design of Transport Facilities (25-27 March & 9-11 May	A range of topics on planning and design of transport facilities including fundamentals of traffic flow, modelling and simulation of transport facilities, macroscopic traffic models and traffic signal safety and operations.
Civil 767 – Pavement Analysis & Design (1- 3 April, 13-15 May)	Pavement design philosophy; stresses, strains and deflections in pavements; pavement material properties and characterisation; traffic loading; pavement failure mechanisms; assessment of pavements; empirical and mechanistic pavement design methods; pavement overlay design; asphalt mix design.
CIVIL770 - Transport Systems Economics (11-12 March, 29-30 April, 27-28 May)	Advanced specialist topics in transportation economics including economic analysis, theory of demand and supply of transport, govt. intervention policies, and externalities and agglomeration. A research project analyses 2 major transportation infrastructure projects to determine likely future social benefits and dis-benefits.
Semester 2 (Jul-Oct 2020)	
CIVIL759 – Highway & Transportation Design (Thursday and Friday, 3-hrs, 12 weeks)	Economic and environmental assessments of transport projects. Road safety engineering. Crash reduction and prevention methods. Pavement asset management. Pavement rehabilitation techniques. Heavy-duty pavements, highway drainage and chip seal design.
CIVIL765 – Infrastructure Asset Management (12-14 August & 23-25 September)	Advanced theories and techniques fundamental to the management of infrastructure assets, primary focus on Asset Management Plans (AMP). Entire spectrum of infrastructure, roads, water and buildings. Major project incorporates a literature review / critical review of an AMP from industry.
CIVIL 771 – Planning & Managing Transport (29-30 July, 16-17 September & 14-15 October)	An advanced course on integrating land use planning and transport provisions, including planning for different land use trip types and parking, travel demand management techniques, and intelligent transport systems. An independent project applies this specialised knowledge.
CIVIL 773 - Sustainable Transport: Planning and Design (5-6 August, 26-27 August & 1-2 September)	Pedestrian and cycle planning and facility design using best practice (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

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: Bevan Clement Email: <u>b.clement@auckland.ac.nz</u> DDI (09) 923 6181 Mob: 021 022 65184

Further details, including the course outlines, can be found at: <a href="http://www.cee.auckland.ac.nz/uoa/home/about/ourprogrammesandcourses">http://www.cee.auckland.ac.nz/uoa/home/about/ourprogrammesandcourses</a>

Our Masters degree Brochure <u>https://cdn.auckland.ac.nz/assets/engineering/for/future-postgraduates/documents/Transportation\_final\_print.pdf</u> Our Transportation Research Centre <u>www.trc.net.nz</u>



### New employer guide to encourage e-bike use

A new e-bike purchase support guide aims to help employers make it easier for their staff to buy e-bikes through discounted bulk purchases and reducing upfront costs.

The NZ Transport Agency, in partnership with the Sustainable Business Network, launched the guide in Wellington last month.

"E-bikes are a great example of how the way people get around is changing. They contribute to lower carbon emissions, less congestion and cheaper travel," says Vanessa Browne, Transport Agency Senior Manager, Operational Policy, Planning and Performance, Vanessa Browne.

Purchase support schemes work through employers negotiating a discount from an e-bike supplier and then using a financing arrangement to reduce the upfront cost of the purchase for their employees.

The guide provides private businesses and organisations with information on how to implement a scheme for their employees.

### www.nzta.govt.nz/employer-e-bike-purchase-support

### New bike parking for Paraparaumu

New bike parking has been installed at Paraparaumu train station on the Kapiti Coast by Greater Wellington Regional Council.



Inspired by other bike racks around Wellington it features a Dutch-style two-tier bike rack which is surrounded by a three-sided bus stop style shelter to provide a safe, secure place to store 24 bikes at the station.

The facility is designed to accommodate bikes of different sizes and types. The top rack is gas assisted

and the bottom rack features a roller mechanism, both designed to assist with putting a bike into the rack.

The bike racks are a great way to make it easier for people to actively travel their 'first mile' connection between home and work.

## Walking and cycling link between Auckland city and North Shore moves forward

The NZ Transport Agency is forging ahead with the walking and cycling link between North Shore and the city centre over the Auckland Harbour Bridge with further feedback being sought about connections and a contract being awarded for the detailed design and consenting of the SeaPath section of the link.

"We know there is significant public support for us to get on and build the shared path as quickly as possible and we are grateful for the feedback that we've had so far. We have heard that people generally like the fivemetre width of the path over the Auckland Harbour Bridge and feel that it provides safe connections for users." says the Transport Agency's Senior Manager Project Delivery, Andrew Thackwray.

Feedback on the Auckland Harbour Bridge shared path section was sought earlier this month and more material can be found at: <u>www.nzta.govt.nz/ahbpath</u>

The Detailed Business Case for the Auckland Harbour Bridge shared path will go to the Transport Agency Board later this year. Construction on that section of the path could begin as early as the end of 2020 and take two and a half years.

The SeaPath contract for detailed design and consenting is the next step for delivering the section of the path that runs alongside the Northern Motorway connecting the Auckland Harbour Bridge shared path with Takapuna.

The shared path will follow a landward route beside the motorway which is cost effective and avoids nesting coastal birds on the seaward side. It will also connect well to the Northcote Safe Cycle Route and the Esmonde Interchange to Takapuna, providing the best connections and transport options.

The detailed design and consenting work on the SeaPath project is due for completion in late 2021.

### Building an evidence base for walking and cycling

The NZ Transport Agency wants to build a robust national evidence base for walking and cycling to support planning and investment decision-making, monitor progress and help take our communities on the journey as we develop our networks.

In the spirit of improving our data sets and information, the Transport Agency is planning to coordinate a national procurement exercise for walking and cycling counters – to help support an increase in these useful devices at what we hope will be a bulk purchase discounted price.

If your council is considering purchasing more counters, and would be interested in taking part in this offer, please contact <u>multimodal@nzta.govt.nz</u>



The City Rail Link (CRL) is a game-changer for Auckland. It's NZ's largest transport infrastructure project ever. The CRL is a 3.45km twin-tunnel underground rail link up to 42 metres below the Auckland city centre. It will transform the downtown Britomart Transport Centre into a two-way through-station that better connects the Auckland rail network and allows the rail network to at least double rail capacity.

Friday 19 July was a huge day in the life of the City Rail Link project, with the signing of the Project Alliance Agreement between CRL Ltd and a group of national and international companies making up the Link Alliance.



It means that works on the single biggest stretch of City Rail Link, including the tunnels, rail systems and new and re-developed stations, can now forge ahead keeping us on track for having Auckland's first underground rail system in place by 2024.

Putting pen to paper on the agreement represents a significant milestone, not only in the history of this project, but for Auckland's future and we're excited to be getting stuck into the main works that will deliver the type of modern rail network expected of world-class cities.

Known as the C3 contract, the works will include the construction of two inner-city underground stations - Aotea and Karangahape - the revamp of the existing Mount Eden Station, as well as the twin-tunnels to link them all.

The Link Alliance is made up of top-tier national and international construction companies with a proven record of delivering large and complex infrastructure projects.

Aucklanders can be confident that a project transforming the way they travel, live and work will be delivered to a high standard, on time in 2024, and on budget - leaving behind an outstanding legacy for the for the city.

The Project Alliance Agreement and other projectrelated documents were signed inside the Chief Post Office heritage building in lower Queen Street, whose 4000 tonnes of 106-year-old masonry is being suspended on temporary foundations above the construction of tunnels below it.

Transport Minister Phil Twyford, Auckland Mayor Phil Goff, kaumatua representing Tāmaki Makaurau Iwi, CRL Ltd, the Link Alliance and project partners Auckland Transport and KiwiRail were all present at the signing.

The Link Alliance will start shifting utilities in spring, and main construction work of the C3 contract will start in the new year.





GROUP NEW ZEALAND Branch updates



### Auckland/Northland Branch

On Wednesday 4th September, three of our Young Professionals In Transport put their presentation skills to the test and spoke on their chosen projects. This followed a short one-on-one public speaking coaching session. Thanks for Enakshi Chakravorty, Catherine Roh and Tom Williams for the great presentations.

Coming up on the 18th September we have a CRL site visit. The places are all filled, having gone within 30 minutes but you are still able to join the wait list.

Join us on Tuesday 24 September, with Auckland Engineering NZ Branch, for a discussion on how we are working with our partners to make Vison Zero our reality in Tāmaki-Makaurau, looking at some examples of vision zero in action across the city and opportunities for real change across the network.

# A strategy with Vision Zero at its heart



Vision Zero for Tāmaki-Makaurau sets out how the principles of Vision Zero will be used to create a city and region that allows our children to grow up curious and experience the freedom of being active.

Networking from 5pm at the Council Chambers, Town Hall, Queen Street, Auckland Register now. The presentation will start at 6pm.

A link to the strategy that was approved and launched on 3rd September is available <u>HERE</u>

### Waikato/Bay of Plenty Branch

We held a (long overdue) branch AGM recently, so the following roles can be announced:

- Craig Richards new Waikato/BOP branch Chair
- Sarah Dove new Waikato/BOP branch Secretary

Who'd have thought there were over 60 planners/transportation professionals in Tauranga?!

It was like the whole industry turned out for the annual joint NZPI/ENZ Transportation Group quiz at the end of June on a rainy mid-winter's evening – maybe it was the temptation of the beer and pizza or just the good company and annual quiz reputation!

The turn out was great, the MC Will Johnston (The Hits local radio celeb) was on form and the conversation and laughs were flowing (see photos).



The competition was fierce and as usual the results were close until the last round. The committees have invested in a special trophy cup for the winning team,





TRANSPORTATION Branch updates C TRANSPOR

which is engravable, and will be passed on to next year's winners. But the best prize was for 'second to last' (because you can rig last!) with some tubs of very gooey 'slime'!

### Winning score board: 1st: Baldrick's Cunning Planners (TCC) 2nd: Wasps (Opus) **3rd: Unlawful erections (HG & Lysaghts)** 2nd to last: Consentsus (TCC planners)

A big thank you to the organisers and to Beca for hosting. Let the competition begin for the trophy next year!

### **Trips Database Bureau**

TDB will hold the AGM on 18 Sept 2019 at the NZMUGS conference - A new Australasian Board will be confirmed.

The survey programme ongoing – Many 12 hour surveys, multimodal and interesting land uses for trip generation and parking.

The web-based trips data base is proving popular.

### NZ Modelling User Group

A global webinar: Future strategies for utilising mobile phone / big data in transport modelling

Wednesday 25 September 2019, 7:00pm NZ Standard Time

This free webinar is being organised by a global partnership including the New Zealand Modelling User Group (NZMUGs), Australian Institute of Traffic

Planning and Management - Transport Modelling Network (AITPM TMN), and Landor LINKS (UK), with expert facilitation from Aimsun and Mott MacDonald.

Senior and globally sourced speakers are contributing from the cutting-edge of the associated technologies and methods, including from Highways England, Transport for London, UK Department of Transport, Transport for New South Wales, Jacobs, AECOM and CitiLogik. The concise and informative webinar format will be facilitated via Landor LINKS (UK).

This unique webinar will bring together clients and data / modelling consultants and decision-makers for discussion between parties from across the world regarding:

Future strategies for using new data sources in ٠ transport models.

Setting standards for, and building confidence in, using data sources such as mobile phones, Google maps journey times, smart card data and smartphone app data.

Success stories, plus lessons learnt.

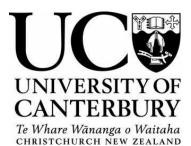
 How clients are developing new data approaches in supporting their decision-making.

Data availability, data quality and data accessibility

Please click HERE for more details and to register for the event, by 12:00 Wednesday 25 September NZST. Registration is free.

Remember if you are a Transportation Group member, it is free to join NZMUGs. All you need to do is email tech.groups@engineeringnz.org and ask to sign up.





## **Transportation Engineering Postgraduate Courses 2020**

Dept of Civil & Natural Resources Engineering University of Canterbury



The courses below are available for full-time or part-time students studying for the following postgraduate transportation qualifications at Canterbury in 2020:

• 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

Please see the website of the University of Canterbury for fees per course in 2019:

http://www.canterbury.ac.nz/courseinfo/MyGetCourses.aspx?course=&year=2019

All courses run in "block mode" to enable part-time and distance students to easily take part. In 2018, the contact time will be four days (i.e. a 2-day block of 2 blocks), 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.

COURSE <u>Semester 1</u>	DESCRIPTION (see flyers on website for more details)
ENTR 401: Fundamentals of Transport Engineering	Self-study course with tutorials at certain times determined by the course coordinator. Traffic engineering; Road geometric design; Highway capacity and level of service; Intersection analysis & design; Traffic flow theory; Traffic signal control; Transportation planning; Accident reduction; Statistical analysis. [bridging course for non-transportation students]
ENTR616: Transport Planning and Modeling	Block dates: 19-20 March, 14-15 May Course coordinator: Dr Diana Kusumastuti Urban transport planning context and process; Transport and land use interaction; Travel demand modelling: Trip generation modelling, trip distribution modelling, mode choice and trip assignment modelling; Choice Modelling; Stated preference; Land use modelling approaches: Models of residential and employment location
ENTR608: Traffic management and monitoring	Block Dates:15-16 April and 18-19 May Course coordinator: Dr. Mehdi Keyvan- Ekbatani Traffic network estimation techniques, including control theory, traffic estimation and traffic control techniques using a variety of simulation and software packages. This course is expected to develop student skills to the level where the student understands the theory behind traffic control and can identify, diagnose and
<u>Semester 2</u>	manage traffic flow problem
ENTR610: Intelligent Transportation Systems and Connected Autonomous Vehicles	Block dates: 15-17 July, 6-7 August Course coordinator: Prof. Panos Prevedouros ITS, active traffic management, incident management, connected and autonomous vehicles, bilateral cruise control
ENTR614: Planning/Design of Sustainable Transport	Block dates: 30-31July, 24-25 Sep Course coordinator: Dr. Diana Kusumastuti Planning and design for cycling (eg cycling facilities between intersections, through intersections and on paths); Pedestrian planning and design (eg pathways and crossings); Audits/reviews of walking and cycling projects; Planning and design of bus public transport facilities (eg network design, routing, connectivity, demand and capacity, service timetabling/scheduling); Economic evaluations
ENTR617: Transport Network Optimization Block dates: 24- 25 August, 28-29 Sep	Course coordinator: Assoc. Prof. Dong Ngoduy This course introduces advanced concepts and principles of urban transport network optimization. Participants will also obtain skills in the practical application of transport network optimization software (i.e. SATURN).
ENTR615: Advanced Traffic Flow Theory and Simulation (Block dates: 2-3, 16-17 Sep)	Course coordinator: Assoc. Prof. Dong Ngoduy This course introduces advanced concepts and principles of traffic flow modelling. Participants will also obtain skills in the practical application of traffic simulation software (i.e. AIMSUN).
Note: Other relevant courses at the University of Canterbury, University of Auckland or elsewhere may also be suitable for credit to a PGCertEng, MEngSt or MET (contact Assoc. Prof. Saleh for approval).	

suitable for credit to a PGCertEng, MEngSt or MET (contact Assoc. Prof. Saleh for approval). For more details contact: Associate Professor Mofreh Saleh (Ph. 03 369 5118; Email: mofreh.saleh@canterbury.ac.nz)

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





An alarming number of Parisians still smoke but at least some innovative ways are being found to cater for the leftovers cigarette butts. This ashtray lets smokers choose between science fiction brands as part of encouraging them to thoughtfully dispose of their butts. The clear container showed that Star Wars was winning the popular (smokers) vote.

> Who knows what merry hell must have been occuring in Greenwich that there was a the need to create a bylaw and signage to regulate ice cream vans? Fisticuffs over softserve cones? Arson destroying a year's supply of hundreds and thousands? Extremely loud Greensleeves tunes? We'll never know. All we have left are these signs.

This month's selection is from the editor's holiday Taken your own holiday snaps you want to share? Send photos to: <a href="mailto:daniel.newcombe@at.govt.nz">daniel.newcombe@at.govt.nz</a>



Anyone familiar with the Harry Potter empire will recall the Sorting Hat that allocates students to their houses in Hogwarts. At the Harry Potter movie set in London, the road cones are appropriately crafted into replica Sorting Hats.







This roundabout is in St Gervais, France, near to Mont Blanc. It really is a roundabout, even though it isn't round. There are several others in the village and even some regular circular roundabouts. The triangular roundabouts appeared to be a useful feature for couriers, with vans seen parking in the flush centre area whilst loading or unloading.

Seen a better pic? Email: daniel.newcombe@at.govt.nz



# **Caption competition**



This edition's caption competition is of a woman waiting obediantly at a red light at a construction site. Whilst humourous, at least she is attempting to obey safety laws, which is more than many road users do.

An appropriate caption has been suggested. If you have a caption suggestion, or a photo of your own you want captioning, send it to daniel.newcombe@at.govt.nz



**Roundabout Issue 161** 

# **Transport** Advice



### Dear Transport Guy

I see more and more of these app-based taxis around town. Its great, as it means I don't need to drive.

They are cheap to use but the sheer number of them driving aimlessly around all day is starting to make me wonder if they are actually reducing traffic volumes at all?

### Tony, Wellington

### Dear Tone Deaf

You are spot on. Those unregulated 'taxis' are really cheap. Mainly because passengers aren't paying the full cost of their journey - but hey, public transport passenger fares don't pay the whole cost of their trip either, right?

More pertinently, the growing snake of empty Priuses (Prii? Prium? What is the plural of Prius?) searching for passengers will eventually reach the point where something has to be done.

Already those companies are suggesting customers wait at set points on a dedicated route around town, and if possible consider sharing their journey with other customers heading along the same route, as a more efficient way of running the service.

Ladies and gentlemen, they have just invented a very expensive bus.

### ~Transport Guy

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

### **Dear Transport Guy**

I see an Auckland mayoral candidate has come up with a new proposal for a better harbour crossing. I read in the paper that an engineer had reviewed and it was all feasible and affordable. So why aren't we getting on with it?

### Alistair, Takapuna

### Dear Alas Sir

If it is the proposal I think you are talking about, an engineer did call it feasible. In the same way that a ladder to the moon is feasible. You *could* do it, but a bunch of fairly obvious questions would expose it as '*challenging*'.

**~Transport Guy** 

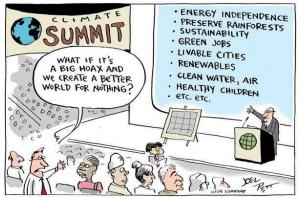
### **Dear Transport Guy**

I'm beginning to think that climate change might be a real thing and we might need to think about starting to take some steps to mitigate it's effects. But without ruining the economy, what can we really do?

### Simon, Mt Maunganui

### **Dear Simian**

Congratulations on discovering the bleeding obvious. Was it the thousands of protesting schoolchildren that tipped you off or is your coastal home underwater? In terms of what we can do to help, you are right in thinking they have economic effects. But I like to recall this cartoon - we'd be making the world a better place, full stop.



If you still have economic concerns about the cost of addressing climate change, just think about how costly it will be to not act.

### ~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...



### TRANSPORTATION GROUP <u>NEW ZEALAND</u>

## Group Contact Details



### Transportation Group National Committee

National Chairperson: Jeanette Ward jeanette@abley.com Vice Chairperson: Bridget Burdett bburdett@mrcagney.com Immediate Past Chair, Submissions Coordinator, Membership **Coordinator, Treasurer:** Alan Gregory AGregory@tonkintaylor.co.nz Auckland Branch Chair: Stephanie Spedding stephanie.spedding@jacobs.com Waikato/Bay of Plenty Branch Chair: Craig Richards craig.richards@beca.com Central Branch Chair: Thomas Small thomas.small@jacobs.com Canterbury/West Coast Branch Chair: Nick Lovett Nicholas.Lovett@ccc.govt.nz Southern Branch Chair: Blair Mckeever Blair.Mckeever@dcc.govt.nz Website Administrator: Vacant Modelling User Group: Nathan Harper nathan.harper@aecom.com Signal Network User Group: Daniel Burgess daniel.burgess@nzta.govt.nz Active Modes Infrastructure Group: Glen Koorey glen@viastrada.nz Research Sub-committee: Alan Nicholson alan.nicholson@canterbury.ac.nz TDB rep: Tony.Brennand@nzta.govt.nz

Branch Administrators Auckland: Chun-Lin Lee chun-lin.lee@stantec.com Waikato/Bay of Plenty: Sarah Dove s.dove@harrisongrierson.com Central: Josephine Draper josephine.draper@abley.com Canterbury/West Coast: Grace Ryan grace.ryan@ghd.com Southern: Lisa Clifford Icliffor@dcc.govt.nz





Roundabout Editorial Team Editor: Daniel Newcombe daniel.newcombe@at.govt.nz Immediate past editor and dogsbody: Bridget Burdett bburdett@mrcagney.com Additional dogsbody: John Lieswyn john@viastrada.nz

**Roundabout Issue 161** 

## Kids explain traffic engineering

"I liked Europe but everywhere there was too much traffic. No one could hardly go anywhere."