

Roundabout

Magazine of the Transportation Group NZ

Issue 166 December 2020

NZ's Innovating Streets

In this edition:
- Gender equality in planning - Hyperloop tested
- CPEng changes - Suburbs too hot to live in
- 5 steps to better cities
And much more

Contents

3	Editorial
4	Chair's Chat
5	Hyperloop is tested
6	Christchurch traffic light clutter to be simplified
7	Plans for flying taxis in Barcelona
10	Online shopping impacts on travel demand
12	Transport planning and gender equality
15	Feedback sought on crash data
16	Speed gun comparison
18	Active modes added to journey planner app
19	CPEng - a case for change
20	Cities - don't get distracted
22	UK looking at road pricing
23	Knowledge Hub update
24	Rat-running increase blamed on sat-navs
25	Sydney's suburbs too hot to live in
26	Is a cable car rapid transit?
27	Council criticised for scrapping pop-up cycle lane
28	Innovating Streets overview
32	5 steps to making better cities
36	Driverless cars - a historical overview
38	Did Athens' 'great walk' stumble?
40	Planning for walking and cycling
42	Branch updates
44	ITE update
46	Separated bike lanes are safer
50	On the Go awards
51	Active Mode Infrastructure Group
52	On the Go update
54	City Rail Link update
55	Photo competition
56	Roundabout of the Month
57	Caption Competition
58	Transport Advice for Dummies
59	Group Contact Details
60	Kids Explain Traffic Engineering

"Nineteen traffic light poles were originally installed, however a council review found the setup was inadequate and another pole was added"
Page 6

"Genders are diverse in what they need from cities, because of differences in work and travel patterns, and their sense of safety."
Page 10

"In May, the Greek capital embarked on an ambitious plan to transform its traffic-clogged downtown - but things didn't work out as planned"
Page 38

"Any city can push itself to be better, but they usually go through this learning curve first."
Page 32

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 industry-supporting initiative.

Correspondence welcome, to Daniel Newcombe:
daniel.newcombe@at.govt.nz

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: www.transportationgroup.nz

ISSN 01 1 3-9053

Editorial



I was trying to think of one word to describe the year that has just been, but it is rude to swear so I will skip that.

Looking back over the year, we were incredibly lucky to hold the Group conference in March, just before the nationwide lockdown began. Many other industries had to cancel or significantly

downscale their events, but we squeaked ours in at the last second and it was a great occasion.

This edition has a wide variety of articles, from a diverse range of sources. There are a number of overseas items, showing both that we are a global profession but also that there are relevant lessons to learn from international locations. We may be quite different to Spain, England or Holland, but there are things we can learn by looking at happenings over there.

One of the key threads of these lessons is the tactical response to the COVID-19 situation – the rapid reallocation of street space to allow for physical distancing and to allow more room for active modes, to ease the burden on the public transport and traffic systems.

This innovative use of streets is well underway within New Zealand and we have several articles on this, and I expect many more in future editions as this area of the profession expands and matures.

We are looking at compiling a repository on our website of all the material created by our award winners over the years – the Study Award, work by our Tertiary Award winners, etc. It is currently a requirement that award winners provide us a copy to share with our members, but previous winners usually just did a conference paper and branch presentation.

So if you are one of our past winners and have created some material with support of the Group, please send me or Jeanette a copy and we'll upload it to the website for others to view.

Finally, I think this wrapped double decker bus from Auckland Transport is an appropriate image to finish the year with (also see the other examples in the Photo Competition page). Have a great break over the New Year – we all deserve it after such a tortuous 2020. Let's hope 2021 is boring, dull and uneventful by comparison.

Daniel Newcombe
Roundabout Editor
[@newcombe_dan](#)



**TRANSPORTATION
GROUP** NEW ZEALAND

Chair's Chat



After a very strange year indeed I hope we can all take a proper break soon and enjoy the classic Kiwi summer holiday at the beach or wherever you will be. I have to admit I am counting down the days and looking forward to the last day of work being an 80's theme at my workplace!

I thanked the National Committee this week at our monthly meeting for the great work this year rolling out so many webinars, and then picking up the face-to-face events again. Pub quizzes continue to be a hit with our members.

We still plan to make presentations and panel events as accessible as possible to all members, the technology is there! The MUGs conference this year was held remotely with some city hubs for networking. By all accounts it went very well, a big thanks to ENZ for helping with the technology part.



Speaking of technology, having access to a speed gun to assess operating speeds is becoming increasingly important. The high-tech LIDAR measurement devices are very expensive and are generally only owned by research labs and universities. The lower cost sport speed guns are more accessible for everyday practitioners.

I was interested in comparing the two ends of the tech/cost scale so teamed up with John Lieswyn to compare the University of Canterbury LIDAR device and an off the shelf sports gun. We have prepared an article for this issue of Roundabout that looks at the accuracy, precision, and practical aspects of each – have a read!

There are currently five TG branches in NZ, two in the South Island and three in the North. Branch events are generally held in main urban areas, for example Canterbury/Westcoast Branch events are held in Christchurch.

So what about our regional towns, are there enough members to gain some momentum on local events in those towns? On a recent trip to Nelson I invited the local TG members, who it turned out were allocated to a mix of Canterbury/Westcoast, Central and Auckland Branches, to join me for a catch up.

Eight gentlemen obliged me, and it turns out there are also quite a number of transport industry practitioners in the Nelson and Tasman area that aren't TG members.



These people could be interested in joining TG if they had a local group actively holding events. We will work with the Nelson folk to see where this goes and we hope it will provide a model for the future, and the also motivation for other growing regional areas to put their hand up to form a local group that could take the lead.

Happy and safe holidays to you all.

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



**TRANSPORTATION
GROUP** NEW ZEALAND

Virgin Hyperloop tests first passenger journey



Virgin Hyperloop has trialled its first ever journey with passengers, in the desert of Nevada. The futuristic transport concept involves pods inside vacuum tubes carrying passengers at high speeds.

In the trial, two passengers - both company staff - travelled the length of a 500m test track in 15 seconds, reaching 107mph (172km/h). However, this is a fraction of Virgin's ambitions for travel speeds of more than 1,000km/h.



Virgin Hyperloop is not the only firm developing the concept but nobody has carried passengers before.

Sara Luchian, director of customer experience, was one of the two on board and described the experience as "exhilarating both psychologically and physically" to the BBC shortly after the event.

She and chief technology officer Josh Giegel wore simple fleeces and jeans rather than flights suits for the event, which took place on Sunday afternoon outside of Las Vegas. Ms Luchian said the journey was smooth and "not at all like a rollercoaster" although the acceleration was "zipper" than it would be with a longer track. Neither of them felt sick, she added. She said that their speed was hampered by the length of the track and acceleration required.

The concept, which has spent years in development, builds on a proposal by Tesla founder Elon Musk. Some critics have described it as science fiction.

It is based on the world's fastest magnetic levitation (maglev) trains, then made faster by speeding along inside vacuum tubes. The Maglev train speed world record was set in 2015 when a Japanese train reached 374mph in a test run near Mount Fuji.

In a BBC interview in 2018, then Virgin Hyperloop One boss Rob Lloyd, who has since left the firm, said the speed would in theory enable people to travel between Gatwick and Heathrow airports, 45 miles apart on opposite sides of London, in four minutes.

Los Angeles-based Virgin Hyperloop is also exploring concepts in other countries, including a hypothetical 12 minute connection between Dubai and Abu Dhabi, which takes more than an hour by existing public transport.

Critics have pointed out that Hyperloop travel systems would involve the considerable undertaking of both getting planning permission and then constructing vast networks of tubes for every travel path.

Ms Luchian acknowledges the potential difficulties, saying: "Of course there's a lot of infrastructure to be built but I think we've mitigated a lot of risk that people didn't think was possible."

She added: "Infrastructure is such an important focus for so many people in government. We know people are looking for solutions. They're looking for the transportation of the future. We can keep building today's or yesterday's transport systems and keep encountering the same problems they bring or we can really look to build something that solves those problems."

Source: BBC

Christchurch traffic light clutter to be simplified



A Christchurch intersection once described as an “appalling eyesore” is set to be simplified as part of a \$6 million revamp. The intersection of Tuam and High streets currently has 20 traffic light poles, which were installed by Christchurch City Council in October 2016.

At the time, locals and an urban designer criticised the site for being unnecessarily busy and confusing, with one local calling it an “appalling eyesore”.

The council is set to reduce the number of signal poles to six as part of its long-term plan for revitalising High St between Cashel, St Asaph and Manchester streets, and extending the street’s tram route. About \$6.7m has been set aside for the High St revamp and about \$2.9m for the proposed tram extensions.

The proposed extension would use existing unused tracks on Poplar Lane and new tracks along High St towards Lichfield St – but the plan relies on the owners of the old High Para Apartment site being willing to sell their land.

The High St work would include new landscaping, paving, widening of footpaths, a 10kmh zone with no kerbs and gutters in the southern two blocks, additional street trees and a large rain garden.

A hearings panel in September last year recommended the council also investigate adding a Barnes Dance crossing at the intersection of Lichfield, Manchester and High streets and stop signs instead of give ways at the intersection of High and Tuam streets. A Barnes Dance crossing stops all traffic at an intersection, allowing pedestrians to cross in any direction.

Transport planning and delivery manager Lynette Ellis said there were no confirmed dates for the start of the work. Almost four years after the traffic lights were installed to manage three pedestrian crossings, Christchurch locals still could not see the point of having so many lights in one place.

C1 Espresso owner Sam Crofskey, whose business faces the intersection, said he was told by a council staff member that the poles would be removed in January. The poles contain 31 sets of lights – 11 for cars, 10 for pedestrians, eight for bikes and two for trams.

Nineteen poles were originally installed, however, a council review found the setup was inadequate and another pole was added before they were activated. The council said the poles were initially installed there to make allowances for the future use of Poplar Lane. At the time, then council head of transport Chris Gregory said the intersection was “far more complex” than most others because it would eventually service tram lines, a cycleway, pedestrian crossings and vehicles. Most vehicle traffic flows down Tuam St, which is one-way heading east.

Before the Christchurch earthquakes, the intersection had no lights and was a 50kmh zone. The area now has a 30kmh speed limit. After the poles were installed, urban designer James Lundy said there was an international movement in urban design to “declutter areas from signage and poles”.

“When you take that away, people drive in their cars and behave in a civil manner towards the more vulnerable road users like cyclists and pedestrians.”

Source: Stuff





Plans for flying taxi service in Barcelona

When Spain's much-missed tourists and pilgrims finally return, they may be offered a novel way to rise above the crowds and appreciate some of the country's most dramatic urban architecture.

Enaire, Spain's air navigation authority, has announced plans to begin demonstrating flying taxis in Barcelona and Santiago de Compostela in 2022.

"We need to move urban mobility into the third dimension: airspace. And we need to do it as efficiently and sustainably as we can," the authority's director general, Ángel Luis Arias, told an online conference recently.

Arias said Enaire was working on European projects involving the use of flying taxis and other flying vehicles to move people around urban and semi-urban areas, as well as the use of drones to deliver goods.

He added: "Enaire, in its capacity as a public company of the Ministry of Transport, Mobility and Urban Agenda, is willing to fulfil its duties to attract and help any private sector companies or public organisations that are interested in allowing Spain to position itself at the forefront of the development and operation of this new sector."

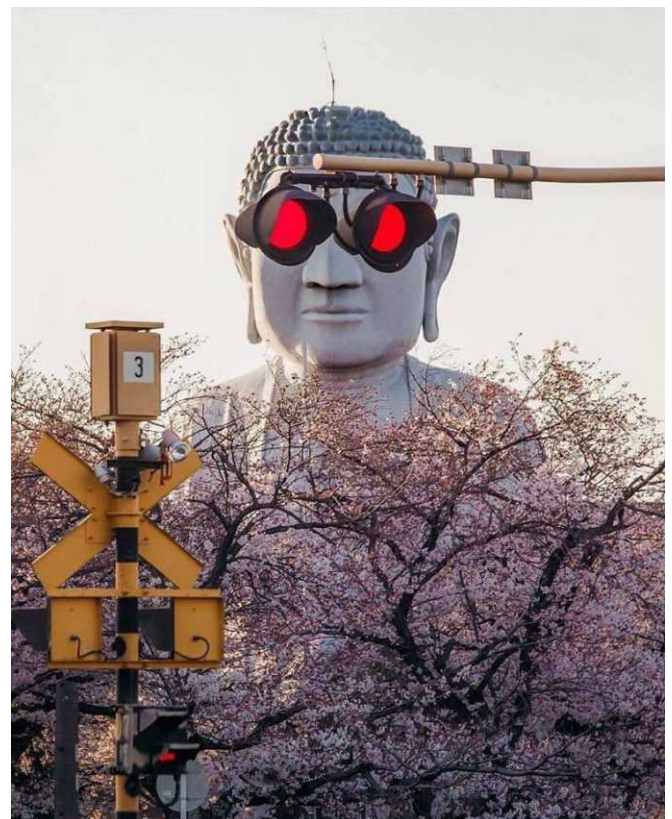
Enaire is participating in two EU-funded projects that belong to Horizon 2020, the union's biggest research and innovation programme to date. One is led by the European Organisation for the Safety of Air Navigation, the other by the multinational technology company Eversis.

"The plan is for both projects to demonstrate air taxis in Europe in 2022," Enaire said in a statement. "Enaire will manage the flight of the first air taxis in Spain, which will take place that year in Barcelona and Santiago de Compostela."

Passenger-carrying drones have been successfully flown in recent years by companies including China's Ehang and the German aviation startup Volocopter.

In July last year, the Spanish technology company Tecnia unveiled its prototype for a pilotless, one-person air taxi. The taxi, designed to carry a person or load of up to 150kg, has a cruising height of between 100 metres and 300 metres, and can cover distances of up to 15km in 15 minutes.

Source: Guardian





Decarbonising Transport

Transportation
Conference

9 - 12 May 2021
Hilton, Auckland



TRANSPORTATION
GROUP NEW ZEALAND

Join us at the Hilton Auckland, 9 - 12 May 2021



New
venue &
dates!

We are excited to announce Transportation Group Conference will now be hosted at the Hilton Auckland from Sunday 9th - Wednesday 12th May 2021! What a stunning venue offering outstanding water views.

The conference will now be hosted a few days later than originally planned. Update your calendar and join the conversation on Decarbonising Transport.

Sunday 9th - Wednesday 12th of May 2021, Hilton Auckland

Keep your eye out for some great accommodation rates when registrations open early 2021

Greg Ellis is back to MC the conference for the 11th consecutive year!

We're delighted to have Greg back on stage for the 11th consecutive year! Greg graduated from Victoria University in 1992 with a BA in Theatre and Film. He taught comedy & improvisation throughout the country for 17 years at secondary and tertiary levels. He has held the Secondary Schools, University, National and Commonwealth Theatresports titles.

He has represented New Zealand at Theatresports twice - firstly as part of a Commonwealth competition in 1992 and then at the World Championships in 2006.

Greg
Ellis returns
as MC in
2021!





Decarbonising Transport

Transportation
Conference

9 - 12 May 2021
Hilton, Auckland

Sponsorship and exhibition options still available!

The Hilton Auckland features an exciting exhibition level which offers view across the stunning Waitematā Harbour. Check out the floor plan and book your exhibition site or sponsorship package on the [conference website](#).



Thanks to the following 2021 sponsors & exhibitors

PLATINUM PLUS SPONSOR



Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always design with community in mind.

We care about the communities we serve - because they're our communities too. We're designers, engineers, planners, scientists, and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.

You'll find us in 16 locations throughout New Zealand and a further 350 around the world. Visit stantec.com/newzealand

PLATINUM SPONSOR



As a global leader in retro reflective technology, 3M is committed to delivering innovative safety solutions designed to maximise visibility and safety on the road, in the workplace and general community.

As part of this commitment, 3M New Zealand offers an Extended Warranty through our Approved Diamond Certified Manufacturers.

This warranty not only guarantees the durability and performance of our retro-reflective sheeting, it gives you peace of mind that you are delivering the highest level of road safety

3m.co.nz/roadsafety

PLATINUM SPONSOR



At Jacobs, we're challenging today to reinvent tomorrow by solving the world's most critical problems for thriving cities, resilient environments, mission-critical outcomes, operational advancement, scientific discovery and cutting-edge manufacturing, turning abstract ideas into realities that transform the world for good.

With approximately \$14 billion in revenue and a talent force of more than 55,000, Jacobs provides a full spectrum of professional services including consulting, technical, scientific and project delivery for the government and private sector.

Visit jacobs.com for more.

EXHIBITOR



The innovative ropeway systems from Doppelmayr/Garaventa offer a host of benefits in the urban environment. They cross residential areas, rivers and existing infrastructure with ease and glide over every traffic hindrance. As well as lending themselves perfectly to integration into urban planning concepts, ropeway solutions offer infinite scope for creativity. Structures and equipment can be individually designed to cater for cultures, local circumstances, and customer preferences. Passengers enjoy entirely new perspectives of the cityscape, top comfort and rapid connections while using the safest means of transport in existence, with the smallest carbon footprint possible. Visit <https://lapaz.doppelmayr.com/en> to visit the world's largest urban ropeway network and experience the next level of mobility.

Transportation Group conference is grateful for the support of Tourism NZ - helping keep the New Zealand business events industry moving

**100% PURE
NEW ZEALAND**
newzealand.com

Estimating the Effect of Online Shopping and Collection-Delivery Points on Shopping Travel



Ashu Kedia (pictured with daughter Cherry), recipient of a Transportation Group Tertiary Study Award, has recently completed his PhD on the effect of online shopping and collection-delivery points on shopping travel. The following is a summary of Ashu's PhD thesis, along with information on journal publications based on the research and a link to the full thesis.

The rapid growth in online retail sales in New Zealand during the recent years has resulted in a considerable change in consumers' shopping patterns and goods' last mile transport, as an increasing number of small freight vehicles deliver goods bought online to online shoppers, rather than consumers carrying goods home from a physical store.

This has potential to exacerbate the adverse effects of urban transport, such as traffic congestion, air pollution and road accidents in residential areas. In addition, failed home deliveries (which are increasing due to recipients often not being available at home to receive parcels) increase the vehicle-kilometres travelled by consumers collecting parcels from courier depots and/or delivery-vehicle travel to redeliver parcels that were not delivered successfully.

However, in European countries, delivery via collection-and-delivery points (CDPs), where consumers collect parcels from local stores (e.g. dairies), has been successful in decreasing delivery costs for couriers and increasing consumer satisfaction. Since a substantial proportion of New Zealanders currently tend to get their online orders delivered to their doorstep, CDPs might be a solution to the above-mentioned problems for consumers, couriers and the urban transport system.

CDPs have only recently become available in New Zealand and the study was aimed at investigating the acceptability and applicability of CDPs in Christchurch (New Zealand). The necessary data for the study were obtained via focus groups, online surveys and personal interviews.

Firstly, New Zealanders' online shopping behaviour and willingness to use CDPs were investigated via qualitative content analysis. Several factors, such as CDP density, parking availability at CDPs, safe and secure places for CDPs, hours of operation of CDPs, and proximity to consumer locations, were found likely to influence consumers' willingness to use CDPs.

Secondly, the likely effect of online shopping on consumers' shopping travel and goods' last mile travel were studied, via an ordinal logit model. No effect was found on consumers' shopping travel, but the goods last-mile travel was found likely to increase, as frequent online shoppers prefer home delivery and redelivery of the failed parcels.

Thirdly, consumers' choice of mode of receiving goods bought online, given the various operational features of two modes (i.e. home delivery and collection from a CDP), was analysed using stated preference data and mixed logit and latent class models. The shipping cost and risk of theft associated with both modes were found to be major factors influencing consumer choice behaviour. Other significant factors were shipment time, travel distance to CDPs, home delivery hours and CDP collection hours.

Finally, the optimal number and locations for establishing CDPs in Christchurch were identified, using location-allocation models. Consumers were found to prefer supermarkets and post shops for use as CDPs. However, the location-allocation analyses revealed that dairies (i.e. convenience stores) are the most accessible potential CDP locations from consumers' residences, which will encourage consumers to walk or cycle to CDPs to receive or return their online orders.

The study outcomes are expected to help inform transport policies (e.g. strengthening the transport infrastructure to promote active transport modes to collect parcels from CDPs), and businesses policies (e.g. deciding the locations for establishing CDPs), to foster sustainable growth of online shopping activities in urban areas.

It should be noted, however, that the e-commerce sector is evolving rapidly, hence it is difficult to upkeep with the pace of developments taking place in this sector, and to incorporate all dimensions of a problem in a single study.

For example, this study investigated consumers' choice of using a CDP to receive/return items bought online but did not examine factors influencing courier companies' choice of establishing CDPs. Therefore, future research should be undertaken to advance the understanding of the interaction between urban consumer online shopping and personal and goods transport.

For further information, see:

Kedia, A., Kusumastuti, D., & Nicholson, A. (2017). Acceptability of collection and delivery points from consumers' perspective: A qualitative case study of Christchurch city. *Case Studies on Transport Policy*, 5(4), 587-595.

Kedia, A.; Kusumastuti, D.; Nicholson, A. (2019). Effect of online shopping on consumers' shopping travel and goods' last-mile travel: A case study in Christchurch. In *Proceedings of the 41st Australasian Transport Research Forum (ATRF)*, Canberra, Australia, 30 September–02 October 2019.

Kedia, A., Kusumastuti, D., & Nicholson, A. (2019). Establishing collection and delivery points to encourage the use of active transport: A case study in New Zealand using a consumer-centric approach. *Sustainability*, 11(22), 6255.

Kedia, A., Kusumastuti, D., & Nicholson, A. (2020). Locating collection and delivery points for goods' last-mile travel: A case study in New Zealand. *Transportation Research Procedia*, 46, 85-92.

Kedia, A. (2020). *Estimating the Effect of Online Shopping and Collection-Delivery Points on Shopping Travel in New Zealand*. PhD Thesis, University of Canterbury, Christchurch, New Zealand. <https://ir.canterbury.ac.nz/handle/10092/101117>



How can transport planning and design impact on gender equality?

Nicki Williams, Registered Landscape Architect, Christchurch City Council

1. Introduction

Historically, transport systems, town planning and public spaces have been designed by men for men. Not intentionally, but because they assumed that what's good for them is good for everyone. This has resulted in cities that work best for those who work full-time and have no unpaid caregiving roles. While this group includes all genders, national and international data indicate the group is dominated by males.

Statistics from New Zealand and overseas show that genders use cities differently. Genders have different needs from transport systems, public space, parks and streets. Designing and planning for the needs of all genders mean cities can better cater for everyone. If women and the broader spectrum of genders are taken into account, this will not only benefit gender diversity but also all those in deprived households; those who work part-time; those who undertake unpaid care work; those with mobility issues; and children and the elderly.

This article brings together studies, examples and data from New Zealand, Christchurch and overseas so that we can start to understand how our own residents use - and would like to use - the city. This will enable us to apply a gendered lens to Aotearoa to see what opportunities there are to close the gender gap.

2. Why do genders have different needs?

Genders are diverse in what they need from cities, because of differences in work and travel patterns, their sense of safety, activities, and caregiver roles. The differences reflect a range of circumstances, as discussed below. However, current data doesn't capture all of the issues relating to gender in the city; not all information is split by gender, and where it is, it doesn't tend to cover the full spectrum of genders that exist.

2.1 Women do the majority of unpaid care work

In New Zealand 67% of work done by women is unpaid compared to 37% of work done by men. The data collected on unpaid work in the 2018 Census found that the only category where men are recorded as doing more than women is in the "no activity" category.

This appears to be an issue of gender norms as a recent New Zealand study shows that even in households where women are better educated, work more and earn more than their male partners, they still undertake 50% more household serving trips.

2.2 Women are more likely to not work or to work part-time

In Christchurch only 40% of women of working age are working full time compared to 61% of men. This isn't

surprising given that we know that women carry out the majority of unpaid work.

2.3 Women get paid less than men

The gender pay gap was 9.5% as at June 2020 when based on hourly rate and ranges between 7% and 17% depending on the industry. The gender pay gap is 38% when based on annual income and this has only reduced by 1% in the last 15 years.

The significance of lower income for women is that they have less discretionary income to spend on things like transport and less capacity to save for their retirement.

2.4 Women and girls have different threats to moving around the city.

Women are faced with a number of threats such as sexual harassment, sexual assault and the resulting fears for their safety that come from this. These threats create barriers for women's free movement and enjoyment of a city.

Only 55% of females feel safe walking in their neighbourhoods after dark compared to 83% of men and 74% of women in Aotearoa have at some point faced harassment while on public transport and in public spaces.

Trans and non-binary people feel unsafe at rates that are similar to women in the general population. Trans and non-binary people are at least four times more likely to experience discrimination on the street or in a public place.

2.5 Women and girls have different barriers to moving around the city.

A city that is designed for cars limit women's movement and travel mode options. Women are more likely to be accompanying others, have complex travel patterns and to have less access to, or ability to afford, a family car.

Studies in Aotearoa and overseas demonstrate that women are more likely than men to walk or take public transport. In a city designed for cars, other forms of transport such as public transport, cycling and pedestrian infrastructure are not adequate to meet women's more complex travel needs.

Figure 1 below shows the difference between linear travel and trip chaining travel patterns. Trip chaining becomes even more difficult for deprived households. In Christchurch 44% of households have only 1 or no car and men are more likely to dominate access to the family car. Only 52% of Christchurch residents feel that they have enough income to meet their basic needs.

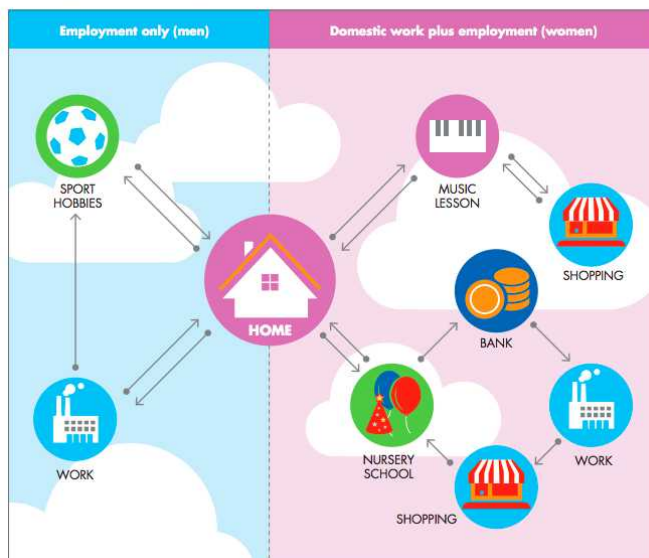


Figure 1 - EU Civitas Policy Note "Gender Equality and mobility: Mind the Gap"

2.6 Women and girls enjoy different activities and use spaces differently.

Males and females tend to use public space differently. This in part stems from feelings of safety, and also from different activity preferences.

Studies show that from the age of 10, girls' presence in parks and playgrounds decrease significantly. Trials in Sweden and Vienna found that girls prefer informal games; can feel intimidated in a larger space dominated by boys; and youth spaces tend to focus on male activities such as skateboarding and basketball. In Aotearoa, only 31% of school-aged girls participate in basketball and 88% of skate park users in an Auckland study were male.

2.7 Women tend to have less time for work and leisure

The design of a city right from the stages of budgeting, transport and land use planning impacts on the daily lives of residents. This is particularly true for the 44% of the Christchurch population made up of the young and elderly and the unpaid caregivers related to this group.

Whether a man or a woman is the main caregiver, there is a greater burden on that person if:

- their children don't have safe places they can go to independently;
- their children can't get to school on their own;
- elderly relatives don't have access to nearby facilities;
- transport systems aren't adequate to enable young people and the elderly or disabled to move around their city independently.

The less independent these groups are, the more unpaid care work is required. And if the main caregiver doesn't have access to the dominant form of transport being the car, then the level of burden is increased. This has flow on effects to the amount of time available for paid employment and their own social and leisure time.

3. How can the different needs be catered for?

Gender equitable cities can be achieved through the use of gender mainstreaming which involves applying a gender lens to all planning, policies, budgeting decisions

and design projects. There are many examples of this being incorporated throughout Europe, the UK and Australia.

3.1 Women Focused Housing Developments and City of short distances

In Vienna in 1997, the first housing development designed around the needs of women was implemented called Fauen-Werk-Stadt I. The key objective of the design was for it to support women in their caregiving tasks, housework and family chores. Other similar developments followed, and every housing development in Vienna must now meet women's needs.

Vienna has also adopted the principle of a "city of short distances"; the idea that jobs, shops, open spaces, schools and homes are in close proximity. This supports the complex demands of daily life particularly for families but also for the young, elderly and those in lower socio-economic groups.

3.2 Transport

a. Civitas Policy Note: Gender equality and mobility

The European Union published a policy note in 2014 called "Gender equality and mobility: mind the gap!". The policy note aims to answer the question of how transport policies should be adapted to support women's mobility needs and that improving accessibility, safety and comfort of transportation modes are key in this respect. A range of studies show that women are more likely to adopt sustainable travel behaviours than men and the policy note proposes that meeting women's transport needs will therefore support more environmentally-friendly development.



Figure 2 - <https://civitas.eu/content/civitas-policy-note-gender-equality-and-mobility-mind-gap>

b. Separated cycleways

Women with children in their household are 60% less likely to bike than those without children, and women report greater safety concerns and stronger preferences for separated cycleways. More women than men cycle in cities that are designed with protected cycleways and low speed streets, such as in the Netherlands, Germany and Denmark. Christchurch illustrates this trend; since 2016, female cyclists in Christchurch have increased by 9% following the implementation of major cycleways.



Figure 3 – Women cycling with children in Christchurch. Photograph: Christchurch City Council

c. Timaru MyWay

Timaru is trialling a new bus system called MyWay which uses mini buses to provide an on-demand bus service. It's a flexible service that can be booked via an app and makes use of existing and virtual bus stops to reduce walking distances. The system coordinates passengers heading in the same direction to pick people up along the way.

There is potential for this service to significantly increase the mobility of Timaru residents through making trip chaining by public transport much easier and making pick up and drop off easier for those with mobility issues. It's currently being offered from 7am-7pm but if this was extended, it would provide better safety aspects for people travelling late at night as well.

d. Flexible Services in Europe

A number of initiatives have been implemented in Europe including:

- Pink taxis are dedicated to women at night at discounted rates
- Female only parking areas that are easily accessible, well lit and near exits
- Reducing the distance that women need to walk at night by allowing buses to stop between bus stops
- It's free to ride public transport in Stockholm if you have a pram.

Other design elements that have been identified include:

- A shift of priorities for slower road users
- A close-knit, walkable and barrier free route network
- Frequent services where women don't have to wait too long for public transport

3.3 Parks and Playgrounds

a. Vienna

The City of Vienna redesigned two parks to align them better to girls' interests and to raise feelings of safety. This was based on research by female planning experts and sociologists. The result was an increase in girls using these parks and the city is now applying this

strategy to all 23 districts of the city. The ability for girls to travel safely to these spaces further impacts on their participation in parks and playgrounds.

3.4 Funding and Budgeting

Gender budgeting can help improve gender equality by identifying and classifying expenditure that is likely to have a positive or negative impact on a particular gender. Gender budgeting highlights how cuts in services impact women and men disproportionately and seeks to redress this.

3.5 Safety – Women's Safety Audit Tool

The Women's Safety Audit Tool was developed in Canada in 1989 and built on the concept of CPTED. The tool is used by a range of groups to highlight the different perceptions of places by gender; the outputs are used in the planning and designing of safer public spaces, a large portion of which is made up of a city's streets.

The above examples from Aotearoa and overseas show that the unintended gender disparities in a city can be addressed through planning, design, policy and funding changes. There are plenty of resources available to guide countries and cities who want to make a difference for their residents and communities.

4. What does this mean for transport planning and design for gender diversity?

Transport planning, strategy and design have a huge impact on the safety, accessibility and inclusivity of our cities. As such, it's vital that gender mainstreaming practices be incorporated at all levels to enable the positive impacts to flow down to the day-to-day lives of our residents.

As the data shows, the situation here reflects the patterns overseas, where planning, design, policy and funding affect genders disproportionately. This impacts on how effective the built environment is for these groups and their ability to enjoy and move freely around their towns and cities. In responding to this situation, I propose the following steps in order to improve the gendered outcomes for all New Zealanders:

- 4.1 Collect additional information to fill the data gaps for the full spectrum of genders;
- 4.2 Incorporate gender mainstreaming into transport planning, design and implementation;
- 4.3 Explicitly build gender equity into strategies, policies and master plan documents;
- 4.4 Develop, implement and promote gender mainstreaming guidance documents and assessment criteria;
- 4.5 Apply a gender lens to all planning and design projects, both public and private;
- 4.6 Apply a gender lens to funding and prioritising of project delivery;
- 4.7 Actively educate, advocate and promote gender mainstreaming through all professions.

Incorporating these activities into transport planning and design processes will not only benefit gender diversity but all those in deprived households; those who work part-time; those who undertake unpaid care work; those with mobility issues; children and the elderly.

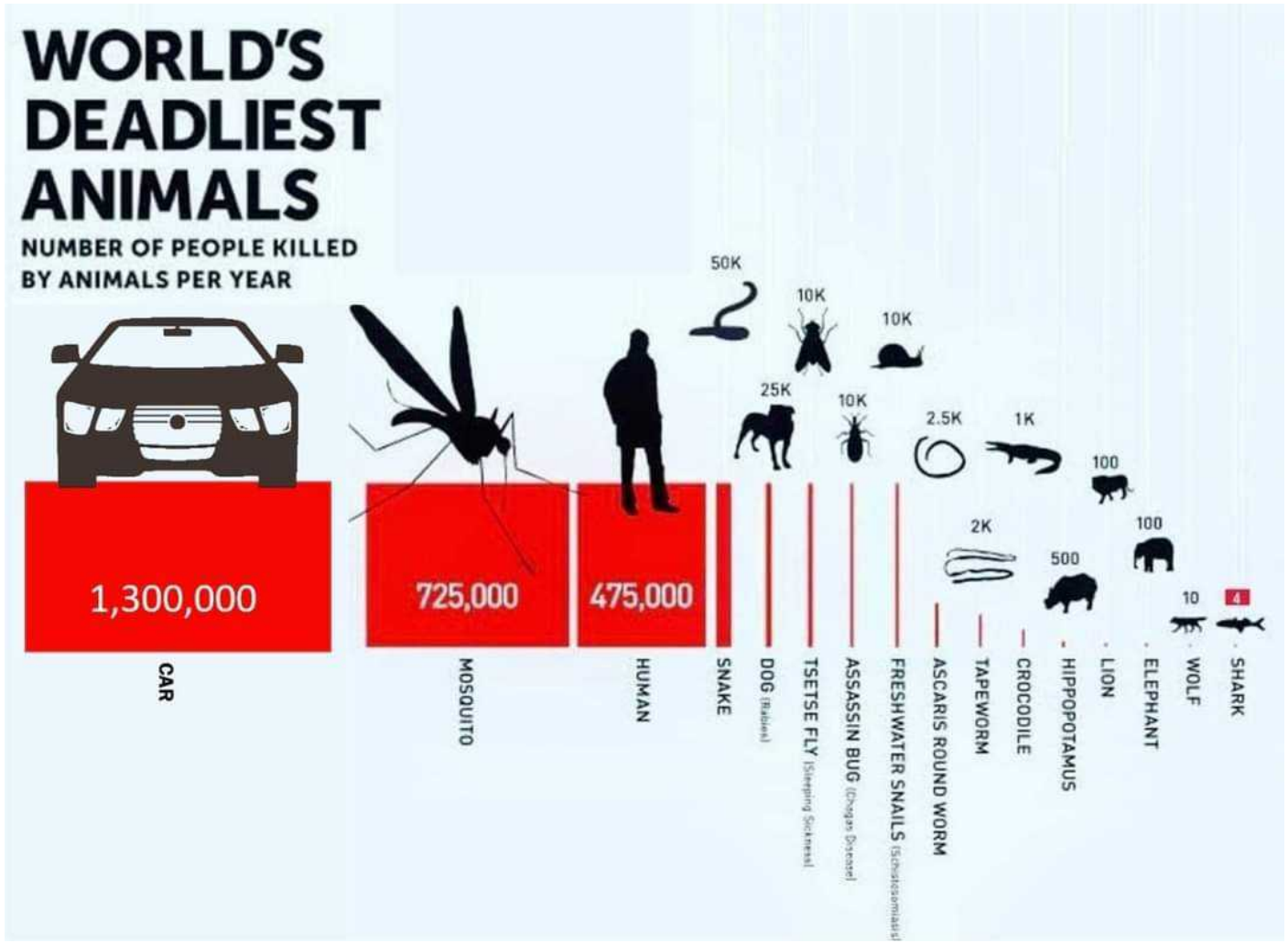
Provide feedback on the quality of crash data

We invite you to respond to an online survey on Information Importance. This is your opportunity to provide your feedback on the quality of crash data.

We are very keen to hear from as many people as possible, as your feedback will help Waka Kotahi NZ Transport Agency to keep improving its services.

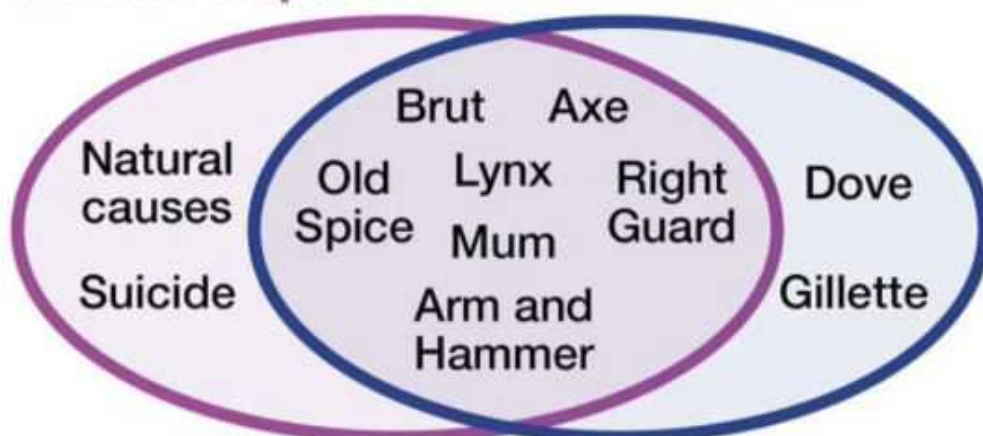
Please fill in the survey by clicking on this link: <https://www.surveymonkey.com/r/JFCCZXT>

The survey will close on 22 January 2020. If you have any questions about the survey, please contact us at CAS.Administrator@nzta.govt.nz





Things that killed Roman emperors

Deodorants



Speed gun comparison

This table features the results of a comparison between a low cost sports gun (Bushells Velocity) and a higher cost LiDAR speed measurement device (Prolaser III). This comparison was undertaken so people understand the limitations of the lower cost guns but noting they may be useful in some scenarios if the higher cost equipment is not available. This comparison was undertaken by Jeanette Ward and John Lieswyn in December 2020.

Aspect	Bushells Velocity 	Prolaser III 
Accuracy	Good The results were the same as or very close to Prolaser for a selected vehicle	Good Manufacturer stated +/- 1 to 2 km/h
Precision	Poor This device cannot be precisely targeted to select individual objects moving in the same direction close to each other e.g. a cyclist in cycle lane next to a car, or a pedestrian next to a E-scooter, or crowded paths	Good The laser scope allows you to pin point the object (including pedestrians, scooter riders, cyclists, and all sizes of motor vehicles) from within a traffic stream and measure its speed
Ability to record data	This device momentarily displays the results; the user must write them down or make a voice recording for later tabulation	This device can store results for download via USB connection; each observation is listed sequentially but the type of vehicle or other contextual information would need to be recorded with other means
Scenarios for use	Operating speeds on roads (possibly not dual lanes due to inability to precisely select vehicles in same direction – but we didn't test that) and uncrowded paths	Operating speeds in all road and path situations as object can be targeted
Battery	2 x Size C	12V rechargeable; optional external battery terminals lead or 12V "lighter" lead
Approximate cost	\$350 NZD	4,550 Euros = \$7,500 NZD Prolaser 4
Transporting the device	Light and compact	Heavier and has a box



**TRANSPORTATION
GROUP** NEW ZEALAND

Designing streets for the 21st century

Urban street design workshop



1-2 MARCH 2021

Christchurch - venue TBA

8-9 APRIL 2021

Auckland - venue TBA

19-20 APRIL 2021

Wellington- venue TBA

There are many competing demands for space on our urban road corridors and a growing appreciation of the need to encourage more sustainable, healthy modes of transport. Part of that involves making our streets more accessible to everyone. As a result, best-practice guidance on multi-modal urban street design has been gradually evolving in New Zealand, mostly based on international good practice and the results of local implementation and trials.

These 2-day workshops will introduce the guidance and give you opportunities to put some of it into practice.

Expert practitioners will introduce you to:

- current regulatory and policy context for urban transport development
- principles of good street design practice in Aotearoa
- urban network planning (land use and transport integration, speed management)
- general approaches to roadway design and road space allocation
- planning and design for inclusive access
- planning and design for walking, cycling, micro-mobility and public transport
- design for motor vehicles (parking, servicing, use of design vehicles etc.)
- street design issues such as urban design, lighting and security, wayfinding, audit and review
- implementation issues such as pilots, trials and monitoring.

Practical sessions

Following an introduction to the key concepts, participants will be able to work in groups on greenfield or retrofit street design exercises to apply their learning to some practical situations.

Who should attend?

These workshops will be of value to a wide range of people including those involved in planning, designing, reviewing and implementing urban transport corridor projects, from the perspective of new developments like subdivisions, or upgrades to existing streets. Potential attendees include:

- transport engineering and planning consultants
- land developers and surveyors
- local authority transport and planning staff
- road safety professionals
- urban designers and landscape architects.

FEES

Standard rate \$975 +GST

INFORMATION AND REGISTRATION

To register your interest and secure your place contact registrations@viastrada.nz
If COVID restrictions are in place we will look to having the course fully online.

20-335

Active modes added to AT Mobile app

Planning a walking or cycling commute has become easier with the launch of a new journey planner function within the AT Mobile app.

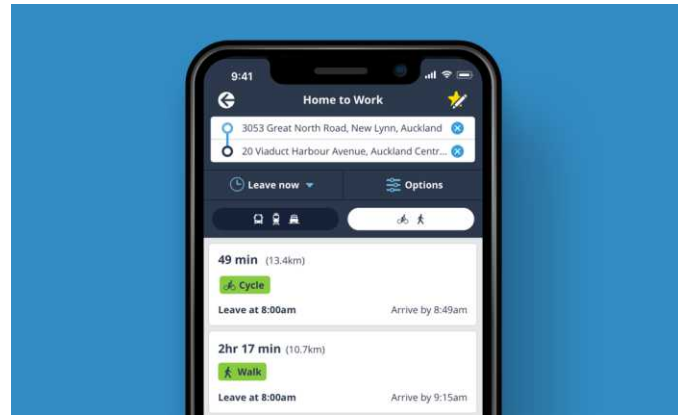
Recently Auckland Transport (AT) released a new version of the AT Mobile app, which will enable users to find and plan walking and cycling journeys across Auckland.

This feature was accelerated earlier in the year due to the opportunity Covid-19 created as more Aucklanders took up cycling and walking during lockdown. During August, 278,000 cycle trips were recorded - a 23.6% increase compared to August 2019.

AT was keen to build on the momentum seen over lockdown and wanted to understand how it could continue the behaviour change and convert more regular trips to active modes. There was an opportunity to use technology to help facilitate safe, active commutes and promote these modes to Aucklanders. And for the first time ever, AT Mobile will show more than just public transport journey options.

Through customer research and prototype testing, AT found there were two key barriers for people taking up active modes:

There is no easy way for a customer to plan an active mode journey and compare this with a public transport journey. Current journey planning options for cycling are very limited. AT offers the static, non-interactive PDF maps, which aren't very user-friendly and become out of date quickly. Google Maps also has cycling journey planning but this prioritises the fastest journeys, not always taking into account cycling infrastructure or safer routes.



Perception of safety is a significant barrier to the uptake of cycling in Auckland - only 16% of potential cyclists feel confident cycling on public roads, 42% feel confident on a cycle path.

This led to AT's first iteration of active modes journey planning in AT Mobile, where cycling and walking journey options will be shown alongside the public transport options. The routing prioritises safe cycling journeys, using cycling infrastructure and quiet routes wherever possible.

The function is easy to use alongside current AT Mobile journey planner for public transport. By selecting a start and end point, the planner will pick the most cycle/walk friendly route.

Sustainable Mobility Manager, Cliff Wilton says "it's great to see walking and cycling options included in the app alongside public transport, making it easier for people see the range of choices available to them as they move around Auckland."

Survey on pathways for chartered transportation professionals

I am currently undertaking a survey to assist in the preparation of a conference paper on "Pathways for Chartered Transportation Professionals in NZ", a copy of the abstract can be provided on request. This is to be co-authored with Glen Koorey.

The survey is to help us understand the professional diversity of people within the transport planning and engineering sector and the desire for industry recognition. This is an independent survey for our research and has not been initiated by any professional bodies or groups.

We would like to invite you to complete the survey <https://forms.gle/YZmrkesB7yMnh44DA>

Please also note that this survey is separate to the consultation that Engineering New Zealand is currently undertaking (see next page) on *CPEng: A case for change*.

The survey will require approximately 10 minutes to complete. This is an anonymous survey. Please answer all questions as honestly as possible.

The outcomes are to be presented at the 2021 Transportation Conference. However, if you would like a copy of the paper when it has been completed, please let me know.

If you require additional information or have questions, please contact me at the number listed below.

Ngā mihi | Kind regards,

Gemma Dioni
Senior Transportation Engineer
ViaStrada Ltd
M: 021 400 599
Gemma@viastrada.nz



**TRANSPORTATION
GROUP** NEW ZEALAND

CPENG: A CASE FOR CHANGE

We all want a regulatory system that keeps New Zealanders as safe as possible. A system that engineers and the public can trust. But high-profile failures have undermined public trust and confidence. The current regime doesn't provide enough assurance that engineers are working within their competence.

There's been a lot of talk about change over the past 10 years. Rather than wait any longer for regulatory change, we want to improve what's under our control now. There are multiple risks in the systems engineers work in – fixing CPEng won't resolve every problem or risk, but we need to do what we can.

Our proposals include raising the standard of CPEng by making changes to the assessment and reassessment processes.

They also include introducing classes of CPEng that set clear competence requirements for specific disciplines and have their own postnominal; for example, CPEng (Structural) or CPEng (Fire). This would set a higher bar, developed in conjunction with technical groups.

And we're proposing changes to the complaints and appeals process that will make them more efficient and proportionate.

At the same time, we want to make the general CPEng a respected quality mark that engineers of all disciplines strive for, with space for every professional engineer.

Read the full proposal [HERE](#)

How can I give feedback?

This is a draft proposal and we need your feedback. Please provide it by **20 January 2021**.

You can join one of our online webinars to hear about the review and ask questions [HERE](#)

To share feedback, please fill in our survey or simply send us an email at hello@engineeringnz.org

Start the survey:

<https://www.surveymonkey.com/r/CPEngReview>



Keep up to date with ENZ Transportation Group happenings:

www.transportationgroup.nz

www.twitter.com/transport_nz

www.facebook.com/TransportationGroupNZ

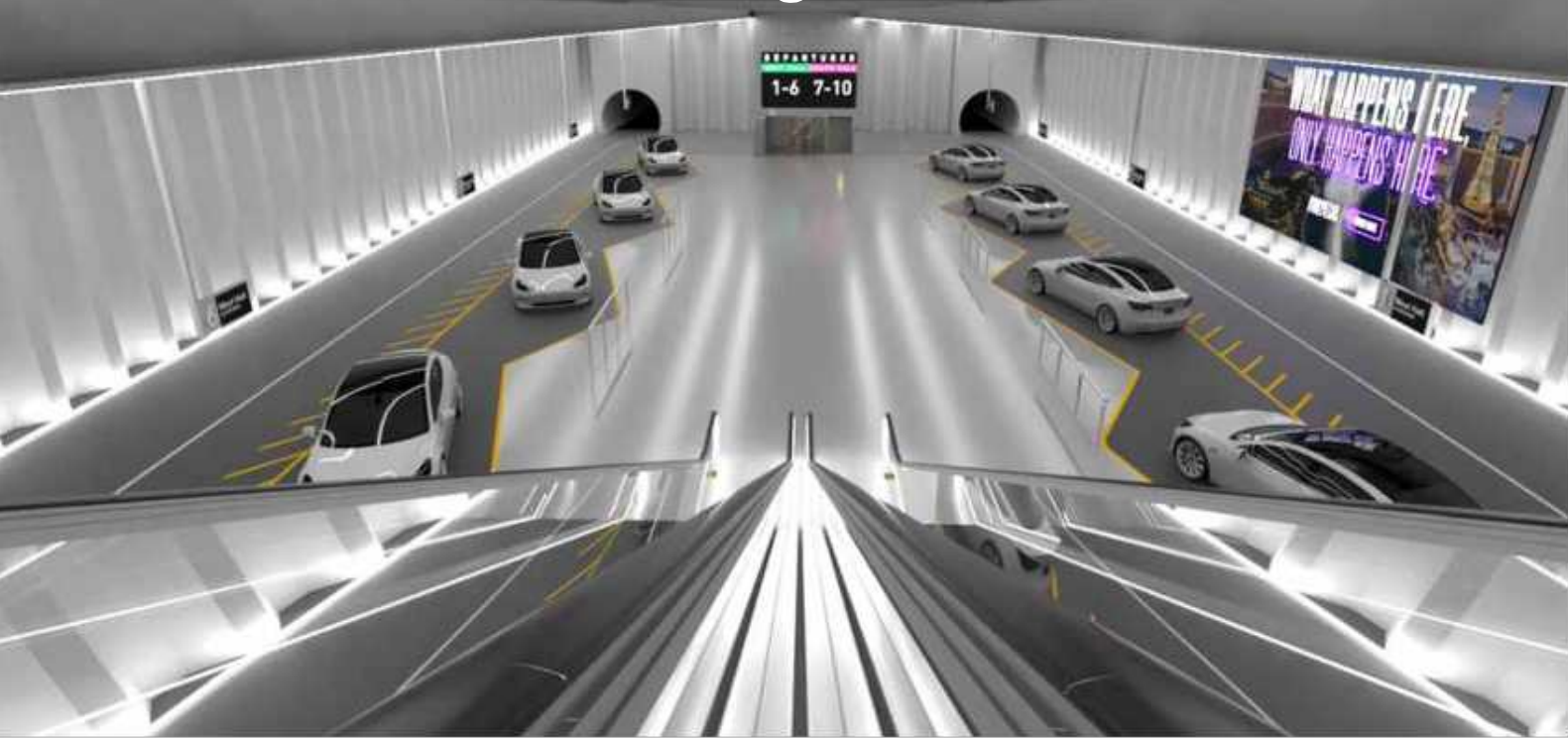
www.linkedin.com/company/transportation-group-new-zealand



TRANSPORTATION
GROUP NEW ZEALAND



Cities: Don't get distracted



Earlier this year, Elon Musk's Boring Company won a contract to construct a people mover for the Las Vegas Convention Center. This people mover system is contractually required to move 4,400 people per hour. For comparison, a metro system can easily carry 30,000 people per hour or more. The Boring Company is in trouble however, because the system is expected to be able to move no more than 1,200 people per hour, which presents a significant problem to the Boring Company.

In an effort to model how we could scale up the system to carry over 21,000 passengers per hour, an analysis was done using modified self-driving 12-seater vans. Besides the fact that the simulation shows many passengers being run over by the endless stream of Teslas that are supposed to carry them safely to their destination, the model is a great example of the simple beauty of public transport we take for granted.



Chaos at the modelled Las Vegas Station

To move even two thirds of the passengers a standard metro system can move, we need 10 vehicles per minute(!) to arrive at the station. That is a van arriving at the station every 6 seconds. This, in combination with an arguably ambitious dwell time of a mere 40 seconds per vehicle may be able to get us to

21,000 passengers per hour, but can you imagine the chaos at the station? The vans will be bunching like crazy and will likely end up grinding the entire system to a halt within minutes.

Meanwhile, an old-fashioned self-driving metro system (of which there are plenty in existence right now) would be able to cope with this flow of passengers in a more predictable, comfortable and reliable manner. Vancouver's ExpoLine, for example, can carry 30,000 people per hour. Today. No gimmicky pods or years of research required.

If the challenge is how to move people through our cities (or convention centres for that matter), we know the answers. It is not the hyperloop nor self-driving underground Tesla's. To move people safely and efficiently, you need a high quality rail system that moves large numbers of people across the city, at a high frequency and at reasonable speed. Paired with excellent pedestrian and bicycle facilities to get people to and from the stations, a seamless transport system can and already exists in countless cities.



We all know this, we can see it in action in hundreds of cities around the world. Yet we continue to get fixated on the new shiny thing that is presented to us by Venture Capitalists using slick videos and grand visions

of the future. While we should thank the Boring Company for the push for innovation in tunnelling technology, maybe the Boring Company should become just a little bit more boring and focus on proven real world solutions instead of pie in the sky concepts that do not make sense when we start applying some real world physics and mathematics.

So my hope for 2021 is that we can move beyond the shiny and new, and focus on real-world solutions that are proven to work. Don't build hyperloops and Tesla-tunnels in cities where to this day it remains unsafe for a child to cross the road or a parent to ride a bike. And if this sounds like rocket science, get in touch. We can help!



Lennart Nout
Manager of International Strategy
l.nout@mobycon.com





UK 'looking to road pricing' as sales of electric cars rise

Uk motorists could be charged for using Britain's roads under plans reportedly being considered by chancellor Rishi Sunak.

The Times reported the move is being mulled to cover a tax shortfall of £40 billion caused by the rise in popularity of electric cars.

The UK currently only has one major toll road — the M6 Toll in the West Midlands — and drivers also face levies when using certain tunnels and bridges.

According to the report, Mr Sunak is "very interested" in the concept of a national road pricing scheme but it is unclear how the charges would be calculated.

Currently, motorists pay 57.95p in fuel duty for each litre of petrol and diesel they buy — a figure that has been frozen since March 2011.

It has recently been reported a proposed ban on the sale of new petrol and diesel cars will be accelerated to 2030 as part of efforts to reach net-zero carbon emissions by 2050.

Under former prime minister Tony Blair, Labour backed and then abandoned the idea of a national road pricing scheme with a petition against the plans reaching 1.8 million signatures.

Edmund King, president of the AA, said that while electric vehicles were good for the environment, they are less so for the exchequer.

He said: "The government can't afford to lose £40bn from fuel duty and car tax when the electric revolution arrives.

"It is always assumed that road pricing would be the solution but that has been raised every five years since

1964 and is still perceived by most as a 'poll tax on wheels'."

He said the country needed an "imaginative solution", highlighting a proposal he made in 2017 where drivers would be given an allowance of 3,000 miles per year — or more in rural areas — free of charge, and any mile over that would be subject to a fee.

Source: Independent





A truck loaded with thousands of copies of ROGET'S THESAURUS crashed yesterday losing its entire load. Witnesses were stunned, startled, aghast, taken aback, stupefied, confused, shocked, rattled, paralyzed, dazed, bewildered, mixed up, surprised, awed, and dumbfounded!

Knowledge Hub update

We are very pleased to announce that the Transport Knowledge Hub now has a dedicated website: knowledgehub.transport.govt.nz

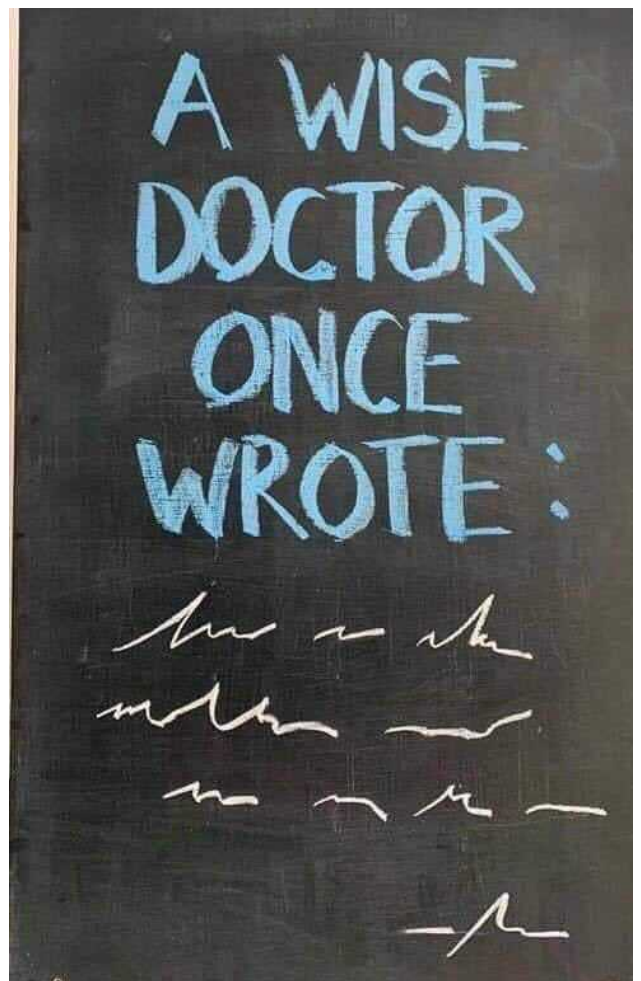
This new website cover information about the Transport Knowledge Hub, the topic hubs and also presentations from events and TKH-related conferences. We're very keen to hear any feedback and development ideas – please email knowledgehub@transport.govt.nz Please note that the search function is not working at this time and we are looking at a solution for this issue.

In terms of recent events:

The TKH webinar series (30 November – 4 December) presentations can be found [here](#)

The Transport Research Colloquium (held on 26 November) presentations can be found [here](#)

The Ministry of Transport also has a new website transport.govt.nz so you can easily understand the work the Ministry of Transport does and our stewardship role in the transport sector. The new [Statistics and Insights section](#) continues to provide an extensive range of New Zealand transport related data, which is updated regularly.



‘Rat-running’ increases on residential UK streets as experts blame satnav apps

“Rat-running” on residential streets has increased dramatically in the past decade, according to statistics from the Department for Transport.

London has experienced a doubling in motor traffic on quiet C roads since 2008, while in most other parts of the UK polluting motor traffic has increased more greatly on residential streets than on A or B roads.

Motoring organisations and anti-traffic campaigners blame the internet. The AA president Edmund King has highlighted the rise of online deliveries, while urban liveability experts point the finger at smartphones and satnav apps including shortcutting app Waze.

Another reason is bloat. In 2007, there were 27m registered motor vehicles in the UK. There are now 38.3m, with experts predicting numbers will rise above 40m within the next two years. Even if all new cars and vans were powered by batteries rather than fossil fuel, that would not solve congestion or reduce road danger, say campaigners.

The government’s air quality expert group said in 2019 that brake wear, tyre wear, and road surface wear contributed to more than half of the particle pollution from road transport – not something that will be solved by switching to electric vehicles.

Between 2018 and 2019, urban minor road traffic increased by 3.2% across the UK, the DfT said in a recent data release. But looking at the regional figures reveals a startling increase in the use of residential roads by motorists since 2009.

Driving on residential streets remained stable in London between 1994 and 2008. From 2009 onwards, however, motoring on such roads almost doubled from 5.5bn vehicle miles to nearly 9.5bn in 2019.

Graphs for other regions in the UK during the same period show a similar rise in rat-running. In north-west England, vehicle usage on C roads increased from 9bn miles in 2009 to just under 13bn miles last year. The same steep rise happened in north-east England, although the increase did not start until 2012.

The DfT says the general rise of road traffic is because of rising population, economic recovery and the reduced cost of owning and running motor vehicles.

“The massive increase in traffic on C roads is probably due to a combination of home shopping and van-based home services,” said King. The greater use of satnavs to avoid traffic congestion was also a likely factor, he said.

Real-time smartphone routing apps such as Waze aim to reduce motorists’ journey times by diverting them away from bottlenecks, which often means cutting through residential areas. You can “drive like a local with shortcuts,” claims the Google-owned app.

Rolled out as FreeMap Israel in 2006 – before the iPhone had GPS, and when Android was still in development – Waze is edited on the fly by volunteers who report traffic jams, crashes, speed

cameras, and weather conditions. The app also tracks the location and speed of users to give the 130-million strong global user base real-time fastest-route information.

A Waze spokesperson said: “Roads and streets weren’t built for the volume of cars that exist today. On average, the number of vehicles on UK roads has increased by 594,000 per year since 2012 and road networks have struggled to keep up with this increase. Waze routes its users through the public roads infrastructure, based on local driving laws and the road signs in the area.”

The active travel charity Living Streets said smartphone apps such as Waze were “wreaking havoc on our streets”.

The campaign group’s Lambeth branch said: “Traffic jams are popping up on once-quiet residential roads as navigation apps like Waze direct traffic down roads that were never designed to take them.”

Danny Williams, a Lambeth-based cycle campaigner said London had to “work out which roads are going to be prioritised for motor traffic and which roads are to be prioritised for people”.

He said: “What London needs is an overarching plan of what it’s going to do with its roads. Otherwise it’s just going to keep getting messier and messier, and no one is going to be happy.”

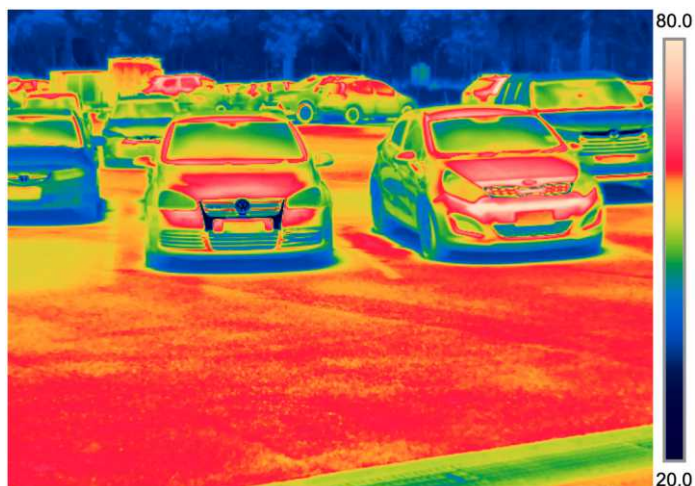
This concern is echoed by Alison Stenning, professor of social and economic geography at Newcastle University, and an activist for Living Streets on north Tyneside. “We should not be sending more traffic down residential roads that already have high levels of pollution,” she said. “We need not just to see where traffic is going, but aim to reduce it.”

Stenning said that many rat-running motorists – whether guided by apps or not – used residential streets to “get from A to B as fast as possible” but did not want heavy traffic and fast cars on their own street.

“We have to deal with that disconnect,” she said.
Source: Guardian



Sydney's New Suburbs Are Too Hot to Live In



Climate change is making things worse as Australia's biggest city expands.

Out west of Sydney it gets hot. Really hot. Like 50 degrees Celsius (122 Fahrenheit) hot. Stand in a car park and the radiant heat from the tarmac can push the mercury to 80C—approaching the temperature of a slow cooker.

It's these new suburbs that the government is banking on to accommodate almost half of the 1.8 million people who are expected to swell the city's population over the next 20 years.

Once a place of sweeping plains, eucalyptus trees and cottage farms, the area is changing rapidly. Housing estates are rising for those pushed out by the center's high property prices. A new airport is slated to open in 2026, along with a huge industrial precinct.

What the glossy brochures fail to mention is the challenges that come with living in a region where the number of days over 35C—a level dangerous even for the fit and well—is forecast to keep rising as global temperatures increase.

"Australia is ahead of the curve when it comes to warming," said Liz Hanna, an expert in heat and health at Australian National University. "We need to be really serious about not having houses where people sit and cook and die."

Sydney isn't alone in facing the perils of a hotter future. Cities across the world's desert belts, many of them some of the poorest parts of the planet, are in a direct

line of fire for global warming. But Australia is a rich country where even the less well off have greater options of mobility.

Yet stories of melting roads have become a staple of the local news in Sydney's west in recent years as high temperatures raised mortality. During an exceptional heatwave like last summer, death rates spike, particularly when the heat carries on into the evening and people are unable to cool down. Academics have documented increased violence both in and outside the home as temperatures and tempers rise.

So why is Sydney building here? Simply put, it has little choice. The city proper is bounded by the ocean to the east and national parks to the north and south. Out west, there is space and land is cheaper.

Most of the housing is built by the private sector and the homes are often single-glazed, black-roofed properties crammed together with little natural greenery. Access to shops or services nearly always requires getting into the car. On really hot days, the power grid can buckle under demand from air conditioners.

The more they build the worse it will get. As the volume of hard surface increases, so does the temperature. Researchers found that in Sydney's treeless urban areas, morning summer surface temperatures are nearly 13C higher than in vegetated areas.

"It is going to be stinking hot with lots of people," said Sebastian Pfautsch, a researcher at Western Sydney University who specializes in projects to mitigate urban heat. "These new suburbs—the nice term is urban sprawl, I call them the Australian nightmare."

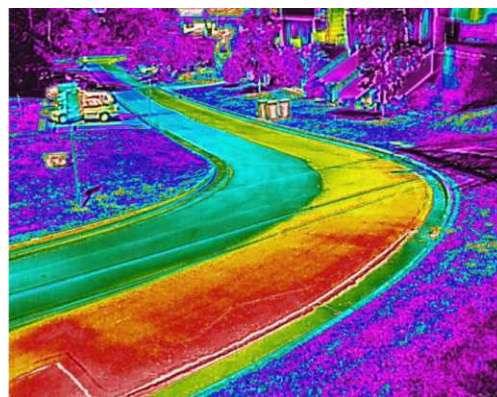
He advises local councils who are trying to plan for that nightmare. Pilot projects are testing approaches such as painting road surfaces with heat-reflective paint to retro-fitting playgrounds with materials to protect children from excessive ultraviolet light. But what's really needed, Pfautsch says, is a change in the whole development process which puts environment considerations from shade to water usage at its heart.

The solutions Sydney finds may end up helping other cities where global warming is making a bad problem worse.

Hanna's research has shown areas where urban and housing design is appropriate, temperatures can be as much as 8C cooler than neighboring suburbs—the difference between life and death on the hottest days.

"That buys us time," Hanna said. "With climate change, some places are going to be too hot to live in. That's coming sooner than we know."

Source: Bloomberg



Half of this residential street in Parramatta is covered with a paint that reflects solar radiation, keeping it at least 10C cooler than the untreated section on a normal summer's day.

Council staff debate whether Wellington's 20kmh cable car qualifies as rapid transit



Debate between senior city council staff about whether Wellington's 20kmh cable car was a form of rapid transit led to a seemingly predictable answer: no.

Official information documents show senior city design and place planning staff exchanged emails on the topic over almost six hours before one apologised for even asking the question.

The topic came up following the release of the Government's national policy statement on urban development, which directs local councils to enable building heights of least six storeys near existing and planned rapid transit stops.

With the council still coming to terms with the new rules, a senior city design and place planning employee raised a question about the cable car with other senior staff in July.

"I just had a thought – is the cable car considered a type of rapid transit? In which case we would need to consider Kelburn [building height provisions] again."

The question led to a lengthy discussion between the other senior staff, with one even updating a "heat map" to show where increased building height provisions would apply if the public transport service was deemed to be rapid transit.

According to one email from a senior planning advisor, the cable car appeared to fit almost all the criteria identified for rapid transit in the national policy, but fell short on size. A rapid transit service needed to be frequent, quick, reliable, high-capacity, and operate on a permanent route largely separated from other traffic.

"Where we got to is that it arguably meets all the criteria in the definition to be classed as rapid transit,

with a question mark over 'high-capacity'," the employee told staff.

"It's every 10 minutes, separated from other networks using rail, travels at approximately 20kmh, and is probably reliable."

However, an online search showed the cable car was too small to be rapid transit, he said.

"Wikipedia tells me it can take up to 100 people at a time (if there's only one car, [does] anyone know?). That's probably questionable for high-capacity."

The staff member who raised the question explained the cable car operated in both directions at the same time. She suggested staff consult the council's transport strategy team to get its view.

"They must have done some analysis at some point, surely. I think it is a fairly popular commute option, so we at least need to consider it."

With a maximum of 100 people, it could move only about 600 passengers each direction per hour. A double-decker bus could carry the same number of people and operate every two or three minutes. The senior planning advisor eventually concluded that the cable car did not meet the definition of rapid transit.

"600 people per hour is pretty minimal compared to the average commuter bus route."

The employee who posed the question agreed.

"Yes I am comfortable with that position. I am sorry I even asked the question though."

Source: Stuff

UK council criticised for scrapping pop-up cycle lane



A Conservative-run council has been accused of favouring the convenience of car drivers over the wellbeing of local people by scrapping a popular cycle lane after opposition from 0.2% of the borough's population. Kensington and Chelsea council, which last year vetoed its section of a cross-London bike route, has said it will remove the separated cycle lane along Kensington High Street, seven weeks after it was installed.

Cyclist numbers have more than doubled since the introduction of the lane, to about 3,000 daily along the busy A-road, a key route into central London for people coming from the west. Transport for London said it had no discernible effect on traffic congestion.

The decision comes amid a wider battle between Downing Street plans to promote cycling and walking schemes, in part to reduce congestion on roads and public transport during the coronavirus pandemic, and pushback from a series of councils, many Conservative run.

One of the leading voices arguing for the Kensington High Street lane to be scrapped has been Felicity Buchan, the local Conservative MP. The council's decision to remove the lane prompted anger. Will Norman, London's commissioner for walking and cycling, said it was "putting the convenience of car drivers over the lives of local residents".

The London Cycling Campaign said the removal of the lane would make Kensington and Chelsea "a borough that cannot be trusted to put its own residents' interests first".

In a letter announcing the plans, the council said it was "clear that large majorities of local businesses and residents do not feel the experiment has worked".

Asked how this was known, a council spokeswoman said 322 residents had emailed to oppose the scheme, against 122 who backed it. The borough has a population of about 160,000.

The spokeswoman also pointed to an online petition against the bike lane, which has 3,000 signatures. However, this has been found to have been signed by people living in places as far away as Portsmouth, Suffolk, Nigeria and Florida. The council also cites opposition from businesses, based on one local commerce group, which said 96 firms of 126 questioned stated that they opposed it.

Supporters of the bike lane say it is disingenuous to blame it for harming local businesses when the government forced many of these firms to remain closed for the past month. Other local groups have spoken out in favour, including Imperial College London, Royal Albert Hall and a local primary school, which organised a protest ride along the route on Tuesday.

Kensington and Chelsea has also claimed the cycle lane increased congestion. However, over the period of its operation the area had several sets of unconnected roadworks, including for a burst water main. The council spokeswoman did not explain how it was known the cycle was to blame for congestion, rather than the roadworks.

In 2019, the council vetoed a flagship scheme for safer walking and cycling in London before a formal consultation had been completed, again citing local opposition. It later emerged this comprised 450 emails opposing the scheme – less than 0.3% of the borough's population.

Source: Guardian

Innovating Streets

Creating vibrant streets for people



Photograph: Justin Mitchell

We need to shape our towns and cities to allow people to move around in ways that are convenient, good for their health and the environment, and create vibrant spaces for people to enjoy.

The Innovating Streets programme, run by Waka Kotahi NZ Transport Agency is using a tactical urbanism approach to facilitate faster delivery of 'people-friendly' street changes in urban areas where space is a premium. This includes helping to deliver existing strategies more quickly.

The technique of employing fast tactical changes in our streets is well evidenced overseas and has the potential to deliver significant benefits in a short timeframe, while taking communities on the journey with us.

Through the programme's \$23 million pilot fund over 70 projects will be delivered by 32 councils, by June 2021. They include safe streets around schools so children can get some exercise and out into nature on their way to school, 'low traffic neighbourhoods' where streets are made much quieter by reducing rat-running, and town centre revitalisations to make business districts more vibrant.

Projects are designed in partnership with local communities with the opportunity to test layouts, materials and designs to ensure they meet people's needs in the longer term.

Kathryn King Urban Mobility Manager at Waka Kotahi, says, "We launched the programme so that we could nurture a tactical urbanism approach in Aotearoa, and collectively learn how best to test changes in our streets, which processes we might need to change, and where we might need to build our capability. Ultimately we're aiming to make it faster to transition our streets to being safer and more liveable."

As part of the programme Waka Kotahi set up a community of practice to connect people working on tactical urbanism projects across the country, to collectively build capability and learnings in what is a relatively new approach here. This has included a series of international speakers and focus on topics such as codesign, the use of road art, and how to test changes at intersections.



Sale Street in Auckland

Co-design

Tactical Urbanism projects use a co-design approach that allows the community to be directly involved in shaping the way a project is created and delivered. This approach involves designing and user-testing with the community in-situ, resulting in pilots that have been developed collaboratively.

The pilots are then implemented as trial interventions in a low-cost, low-risk and low-commitment way that allows the community to try the design out for themselves and provide invaluable feedback.

Guy Protheroe, Urban Designer with Tauranga City Council is project managing Innovating Streets at the Mount which includes several kilometres of roads adjoining the Mount Maunganui and Pilot Bay beaches. The project is looking at opportunities to improve the safety and amenity of these streets for people walking, cycling and riding e-scooters.

Guy and the team have been codesigning their project with the community and are seeing the benefits of the approach.

“By engaging the community in a highly interactive manner, we’ve been able to better understand what the community wants and needs. They have provided us with a widespread range of viewpoints and additional ideas, which have helped shape our designs for the potential trials. In the end, we are confident that this will contribute to a more successful outcome.”



Community Design Group workshops held by the Innovating Streets at the Mount team



Walkabout with some budding Innovating Streets design consultants in Selwyn Street, Christchurch

Placemaking

Tactical urbanism projects have a strong ‘placemaking’ focus. Good placemaking helps to strengthen the connection between people and places, and activate a new space, and works hand in hand with the co-design process.

As part of the Innovating Streets programme, Waka Kotahi has been working to overcome system barriers to transitional street design. International evidence shows that roadway art can influence driver behaviour, build community pride and identity and make a street feel safer and more inviting.

This helps to reinforce that towns and cities are for all people – not just those driving through them.

Recent changes to the Land Transport: Traffic Control Devices Rule 2004 permit road markings to support safety and streetscape projects, by allowing roadway art to be used by councils on low-risk streets, similar to many projects seen overseas.

The changes support the delivery of Innovating Streets projects across the country that intend to use roadway art to test how they improve the safety and vibrancy of towns and cities. Roadway art can include colourful designs, artwork, or murals on the road. Used properly and alongside other tactical changes, overseas experience shows that roadway art can help achieve safe operating speeds of 30km/h or less.



Artwork going in at Wood Street in Kaipara

Activation helps create a sense of place by helping people to see streets differently. It also helps elicit much richer community engagement from a broad range of regular users of a street.

In November, the Wellington City Council team held a parklet activation event in Newtown to gather feedback on how best to unlock these spaces in the city. A key learning was that activation, like the hugging tree and a drinks fridge, creates a greater depth of engagement with the space, and ultimately more filled out surveys that help to inform designs.

Innovating Streets Project Manager for Wellington City Council, Hugh Wilson, is leading the team of Council staff and consultants to deliver five co-designed projects around Wellington.

“We’re really excited about the opportunity to pilot projects where the community take more of a lead in telling us what they want for their city. This pop up is just the first of a number of co-design activities we have planned in the next few months.”



Wellington City Council's pop-up parklets in Newtown

Resources for all councils

All the Innovating Streets projects will be delivered by June 2021 as the funding was made available through this National Land Transport Fund cycle.

Kathryn King says: "You don't have to have a project funded by the Innovating Streets pilot fund to benefit from the work that's underway to make your streets more people-friendly.

It's a learning curve for New Zealand and we're producing resources and case studies that all councils can benefit from."

Waka Kotahi has developed a draft Tactical Urbanism Handbook (see link below) which lays out the end to



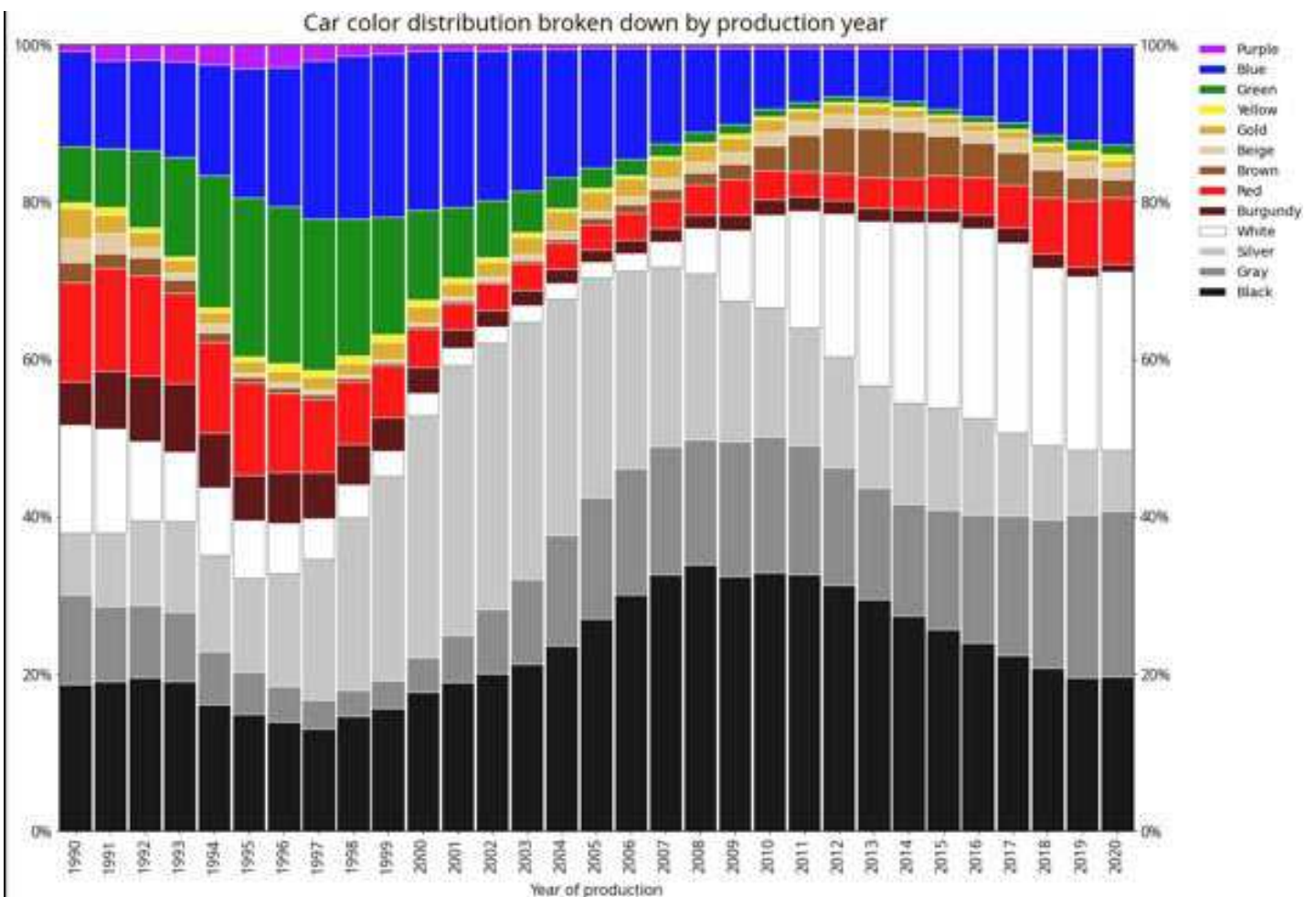
end process of running a tactical urbanism project and can be used by any councils. The handbook will be updated following learnings of the projects being run this year, and case studies of the current projects will be made available online.

Links:

Innovating Streets programme – www.nzta.govt.nz/innovating-streets

Traffic Control Devices Amendment 2020 and Q&As - www.nzta.govt.nz/resources/rules/traffic-control-devices-index

Tactical Urbanism Handbook – www.nzta.govt.nz/tactical-urbanism-handbook





2WALKandCYCLE 2020, the 5th biennial conference, will now be held at the Dunedin Centre, Tuesday 16 – Friday 19 March 2021

Virtual options also available.

Recently, due to Covid-19 uncertainties, the 2WALKandCYCLE 2020 Committee made the difficult decision to postpone the conference. The Conference will now be held on 16 – 19 March 2021.

From the innovative separated cycleways on major arterials to the proposed urban realm enhancements along George Street, Dunedin has great new examples of redesigning our public space to encourage walking and cycling. The rapid implementation of road safety improvements for the cluster of five central city schools is another must-see.

Stay an extra day or two to enjoy a city steeped in heritage and natural scenic beauty. Stroll among New Zealand's largest concentration of Victorian and Edwardian buildings, visit the local farmers market or join a walking tour of Dunedin's emerging street art scene. Close to town, visitors can tour historic Olveston or stroll through the Botanic Gardens. Take a trip further afield to visit Larnach Castle, Orokonui Sanctuary, or travel out to Taiaroa Heads to see albatross, penguins, fur seals and sea lions. Hire a bike and cycle along paths either side of Otago Harbour, hit some of the city's mountain biking trails, or visit the region's rail trails. Alternatively, get out onto the harbour on a local cruise, or try your hand at kite surfing or sea kayaking.

The theme for 2WALKandCYCLE 2021 is 'walking and cycling: everybody's business'. Investment in walking and cycling is often considered to be a 'nice to have' if there is money left over after providing for cars. Likewise, the convenience of driving often takes precedence over active modes when hard decisions have to be made during transportation system management. It emphasises that the many forms of walking and cycling have a central role to play in meeting society's health, wellbeing and climate change targets.

2WALKandCYCLE 2021 will showcase ways to enable us to achieve this goal and will inform our journey towards transport systems for the future. It will re-examine the balance between competing demands for space and resources, and ways to re-balance our transport system to better provide for walking, cycling and public transport.

We look forward to welcoming you to Ōtepoti Dunedin in March 2021! **[CLICK HERE FOR DETAILS](#)**



5 steps to making better cities

By Brent Toderian

Any city can push itself to be better, but they usually go through this learning curve first.

One of the most common questions I get asked is “what are the best cities in the world?” I have a few different

answers, but I usually look to shift the conversation to a question I think is more interesting: Which cities out there are doing remarkable things to get much better right now?

Since most of my work around the world advising cities on what I call “advanced urbanism” is in its simplest sense about helping cities get better, inspiring examples of recent successful urban change can be worth their weight in gold.

On the other hand, cities that have been great for a really long time can ironically be less helpful as examples, as they can be too easy for cynics to write off. How often have you heard this one: “Come on, [insert great city here] has always been like that! We could never be like [insert great city here]!”

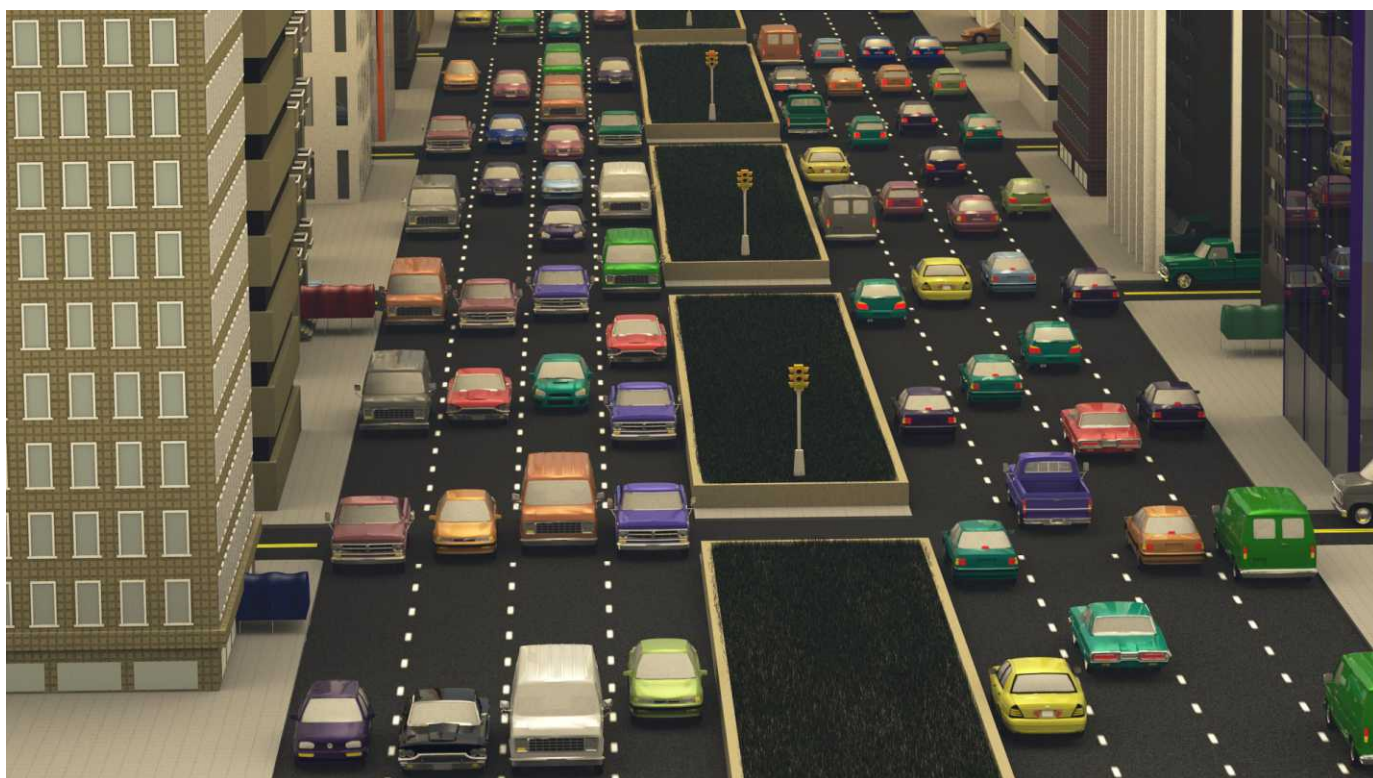
Plus let’s be honest: Great cities can easily rest on their laurels, coasting on smart decisions made decades or even hundreds of years ago. Think New York before Mayor Bloomberg, or Paris before Mayors Delanoë and Hidalgo.

STEP 1: DOING THE WRONG THINGS

Sadly, many cities still exhibit plenty of evidence of being stuck in this step: Picture every city out there, from Dallas to Melbourne, that’s still building new freeways in and through cities; widening already too wide roads; or building more low-density, car-dependent subdivisions and retail power centers.

There’s ample evidence of the costs and consequences of continuing these wrongheaded practices, but decision-makers keep doing them anyway, often due to wrong-headed rules and policies, market momentum, silo thinking, or just poor leadership. Really achieving better cities requires that we not only start doing the right things, but also stop doing the wrong things—which can often be harder.

STEP 2: DOING THE WRONG THINGS “BETTER”



Or maybe your own city comes to mind. But the cities out there that are currently doing bold, creative things to get better—whether they’re currently great or not—those are inspiring, and hard for any city to ignore.

Every city in the world is going through a learning curve, working hard to improve, albeit from very different starting points. It’s true that “better” is open to opinion and debate (including answering the really important question, “better for whom?”), and even when the difference between better and worse is well proven, some cities sadly are still doubling down on the wrong path (more freeways, anyone?). But I find even those cities with clear visions of what better means can easily struggle with the “how” part, and the fact that the path to success is often not a straight line.

Over many years working with cities at all points in that learning curve, I’ve developed a simple conversation starter that I call the “five steps toward better cities.” I’ve found it can help break the ice around how to improve, if people are really honest about where they’re starting from.

This one usually generates the most interesting discussions, both in and outside city halls. Cities can put remarkable energy and effort into avoiding having to change what they’ve been doing, so it can be seductively easy to pat ourselves on the back for finding ways to do those wrong things better.

A favorite example is electric and driverless cars—in other words, “better cars”—when the right answer is fewer cars. Or by extension, Elon Musk’s initial pitch to build better tunnels with a better borer in order to move better (and many more) cars underneath our cities. I’ve had too many mayors insist to me that they don’t need to fund transit because we’ll “all be riding in driverless cars in a few years” (we won’t).

Other examples in a city design context include wide arterial “car sewers” with lovely landscaped medians, or huge surface parking lots with guidelines that insist on nicer landscaping between cars (I myself fought for these while working in Calgary, because at the time I wasn’t able to achieve the right answer: much less parking). High-profile protagonists like Musk can be

powerful feeders of this “wrong thing better” narrative, distracting decision-makers from the right fundamental solutions, like better land-use decisions and smart investments in multimodal infrastructure.

STEP 3: TRYING TO HAVE YOUR CAKE AND EAT IT, TOO

Cities in this step have started to invest in better things, like transit and biking infrastructure, and putting in place the right policies, like smarter decisions on land use. But at the same time they continue to do the wrong things, and usually bigger.

A favorite example is Denver’s decision to build a new light rail line, while at the same time widening the highway beside it and requiring massive parking structures at LRT stations. How about Brisbane, Australia, investing in bus rapid transit and a bike-lane “freeway” under their elevated waterfront expressway (which they really should tear down), while still spending most of their transportation money trying to make it easier to drive.

Cities stuck in this step are often frustrated that they’re not seeing actual progress—like mode shift from driving to transit ridership. But that really isn’t surprising, since they won’t make the hard choices that lead to the kind of city they describe in their visions and plans.

STEP 4: DOING THE RIGHT THINGS BADLY

A step I’ve recently added, after countless conversations, is about whether initially doing something that’s right badly is worse than not doing it at all. Think about those bike-lane or transit experiments that were poorly designed, or didn’t really connect much with much. When they failed, or underperformed, what did that do to the infrastructure conversations that came after?

It’s true that if something is done badly enough, it can easily set back the idea by years or even a generation. (“See? I told you that was a horrible idea! We’ll never try that again!”) But it’s also true that smart, strategic cities have found great success with well-orchestrated experiments and pilots, or just learning from ordinary,

everyday “competent failure” within a culture that embraces creative risk and faster learning.

Becoming nimble when it comes to learning and fixing things is a badly needed culture change that many city halls need work on. In the meantime though, I’d rather have cities doing the right thing badly (at first), than continuing to do the wrong thing better.

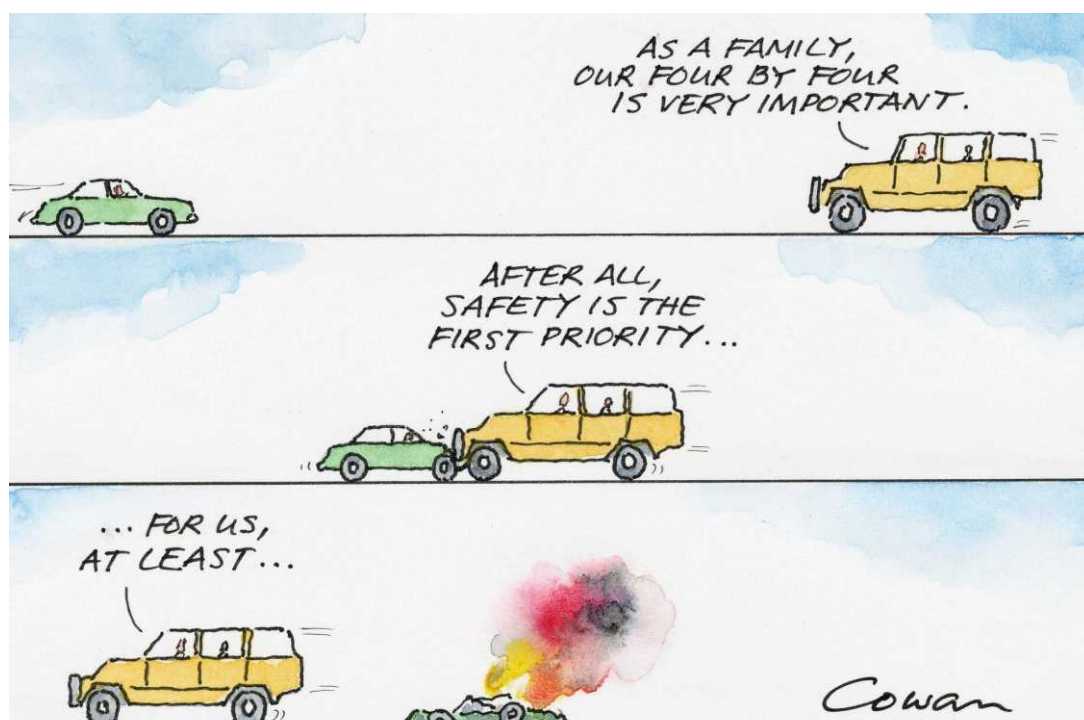
STEP 5: DOING THE RIGHT THINGS WELL

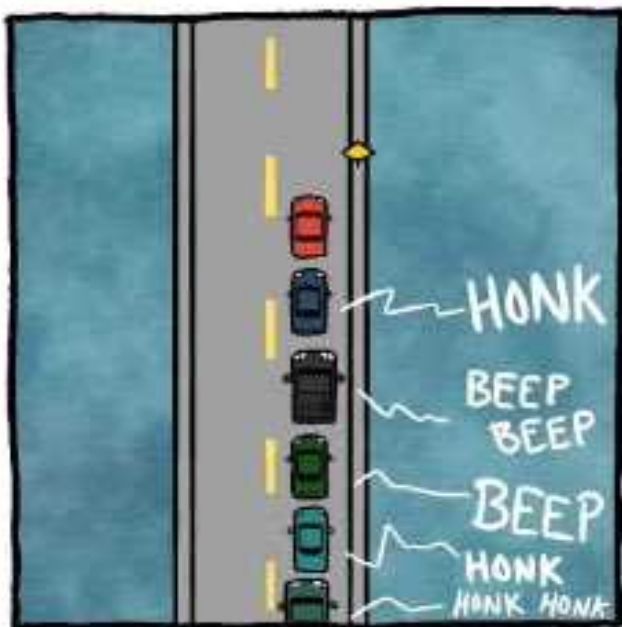
Even when you finally get to the point when you’re doing the right things, and doing them well, the learning curve doesn’t end there. A culture of continuous learning and improvement is needed. The good news is that the “seduction of success” is helpful: Just look at how many of the world cities generally considered successful, like Barcelona, London, Vienna, Buenos Aires, New York, Stockholm, Melbourne, Vancouver, and Copenhagen, are still working hard to outdo each other and get even better. They love the results (and attention) that real improvement earns them, and they want to go even further!

So where is your city on this learning curve? Before you answer, remember these steps aren’t intended to be absolute descriptions of a city. A city can be sitting on all five simultaneously when discussing different elements of city-making.

Every city can choose to make different decisions and can choose to transform itself. The first step often involves a candid conversation about where it is, and where it’ll end up if it doesn’t change course. I hope these five steps and the ensuing conversations help your city.

Brent Toderian is a global thought-leader on cities, an acclaimed city planner and urbanist with Toderian UrbanWorks advising cities and progressive developers all over the world, and the former chief city planner for Vancouver. Follow him on Twitter @BrentToderian





© DARKnoodle

f / t / i : @darknoodlecomic

THE RELATIVE SIZE OF PARTICLES

From the COVID-19 pandemic to the U.S. West Coast wildfires, some of the biggest threats now are also the most microscopic.

A particle needs to be 10 microns (μm) or less before it can be inhaled into your respiratory tract. But just how small are these specks?

Here's a look at the relative sizes of some familiar particles >



SOURCES: Courtenay, Crater, Llewellyn, WPA, Firemap, Tish, News Medical, Science Direct, SCMR, Science, ScienceDirect, Petrosian, U.S. Dept. of Energy

COLLABORATORS: RESEARCH: Writing, Content, Ang, Sam, O'Connell | DESIGN: ART DIRECTION: Margaret, Scott

VISUAL CAPITALIST

f / t / i : @visualcapitalist

Driverless Cars: A Historical Overview

Automated driving was originally envisioned in the 1920's despite its being presented today as a mobility of the future.

As early as 1921, a remotely radio-controlled vehicle was produced in the US followed by another radio-controlled vehicle trialled on New York's public streets in 1925 as illustrated in Fig 1.

During the 1920's, car accidents were responsible for the deaths of about 200,000 people across the world. Thus, it was imagined that autonomous vehicles (AVs) would improve safety by presumably eliminating the driver error, as Illing (1930) describes in the 1930 that "the most wonderful thing about it was that the car (...) behaved as if it had learnt all possible traffic rules by heart".



Figure 1: Remote-controlled vehicles in USA, 1930s. (Source: Kröger, 2016).

The automobile industry was heavily involved in the AV discourse to the point of promoting overly high expectations. In 1935, General Motors (GM) produced an educational film about road safety named 'The Safest Place'. The vision promoted in their film was that human drivers were the only responsible cause for accidents.

However, there was barely any reference to how safe this technology might be. This suggests that the automobile industry at that time did not realise the importance of conducting research on the safety of this technology nor did they acknowledge the complexity of this radical change in automobility systems.

In 1939, GM invited people from the general public to the New York World's Fair to share with them the vision of building new 'automated highway systems' (AHS) designed for cars to be self-driving by 1960 (Fig 2). Following this Futurama exhibit, an industrial designer at GM named Bel Geddes published his book "Magic Motorways", where he promotes his vision of using technology to improve safety and alleviate congestion.

Further benefits of AVs were also recognised in 1935 as Keller (1935) describes, "young people found the driverless car admirable for petting. The blind for the first time were safe. Parents found they could more safely send their children to school in the new car than in the old cars with a chauffeur." (cited in Kröger, 2016, p.45).



Figure 2: The New York World's Fair, 1939 (Source: Wetmore, 2003).

In 1940's, the car industry was focussing on developing new technologies for army vehicles and highway infrastructure, which subsequently introduced the radar technology. In the late 1950's, new car gadgets were developed such as sensors, cruise control, and automatic transmissions.

Fig 3 shows how AVs were envisioned in the 1953-1956. The consistent advertising and promotion of automated driving has had a cultural impact which reverberates down to the present time. The car industry's portrayal and projection of the driverless car at this time seems to have placed a greater emphasis on its potential in respect of its narrower safety aspects than as a truly feasible technology with significant implications for its broader mobility and societal outcomes.

For AVs to operate properly, there was a need for the development of machine learning, the internet, 3D sensors, GPS, and intelligent infrastructure and networks, none of which were available at that time.

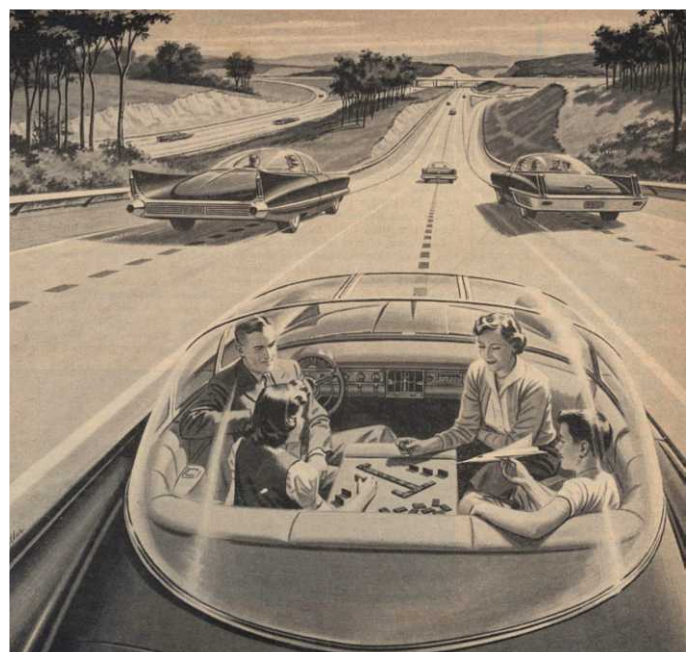




Figure 3: Detailed illustration of an AV in 1953 (previous page) and 1956. (Source: Kröger, 2016).

Moving forward to the 1960's, technological innovation reached a milestone when the Transport and Road Research Laboratory in the UK tested a Citroen car that could communicate with implanted magnetic cables on the street.

In 1977, Japan presented a vision-based autonomous car that had a top speed of 30 Km/hr and was guided by two TV cameras and a small computer. Several countries continued to test automated driving during the 1990's such as Germany, France and the US. In 1991, the US supported advancing the AV technology.

The US Congress passed an Intelligent Vehicle-Highway Systems Act that required the Secretary of Transport to (1) start a research program on AHS for evaluation and testing; (2) develop an AHS and a prototype vehicle that could be developed into a full AV in the future; and (3) to have the first fully AHS ready by 1997. Despite this legislation, automated driving was still not possible by 1997.

Over the past 100 years, the world was regularly promised automated vehicles. However, these efforts failed to become a reality due to the complexity of implementation. Firstly, it costed about \$100,000 per mile to build AHS, which was perceived as too high an economic burden.

Building new highways also required buying private

property, which delayed the progress of construction for years. Secondly, AV demonstrations during 1970s-1990s drove in a controlled environment and pre-determined routes.

At that time, the technology was not sufficiently advanced as AVs did not have 3D-detection capability, which made them unready to perform in cities where normally would expect to encounter cars and other obstacles.

Thirdly, the overly promoted public expectations by the car industries, the media, and sometimes government officials who made it seem simple to implement AVs. GM designers also publicized that the safety issues can be resolved by the mere intervention of car manufacturers and road builders.

Technological advancement in various sectors continued to grow. The development of technologies such as the internet, GPS, machine learning and LiDAR paved the way to trigger the AV discourse again.

Consequently, Google was the first company to introduce a self-driving taxi project known as Waymo in 2009 (Jensen, 2018). It is predicted that AVs will form a proportion of 1 in every 4 conventional vehicles by 2030.

To this day, scholars still argue about the lack of proper planning for AVs, and planners are currently adopting a "watch and wait" approach although the technology has advanced substantially. Reflecting on the AV history of the past 100 years was essential because it reminds us of the repeated visions that are presented to us today regarding how AVs will solve transport problems such as road traffic accidents and congestion.

About the author:



Moayad Shammout is a PhD candidate in the School of People, Environment and Planning at Massey University. This article is part of a research on "Driverless Cars Implications" which was funded by the Transportation Group of Engineering New Zealand through the Tertiary

Study Grant 2019.

Author: Moayad Shammout. PhD Candidate in the School of People, Environment and Planning, Massey University. Email: M.Shammout@Massey.ac.nz

Note: Full report is available at the Transportation Group website entitled as "Driverless Cars Implications: A Literature Review".

References

- Kröger, F. (2016). *Automated driving in its social, historical and cultural contexts*. In *Autonomous Driving*. Springer, Berlin, Heidelberg.
- Wetmore, J. (2003). *Driving the dream. The history and motivations behind 60 years of automated highway systems in America*. *Automotive History Review*, 7, 4–19.
- Illing, W. (1930). *Utopolis: Roman*. Der Bücherkreis, Berlin.



Did Athens' 'Great Walk' Stumble?

In May, the Greek capital embarked on an ambitious plan to transform its traffic-clogged downtown with bike lanes and pedestrian walkways. But things didn't work out as planned.

The vision was simple: Athens would embark on a radical rethink of the heart of the Greek capital, slashing car lanes and parking spots and replacing traffic-clogged arterials with spacious tree-lined pedestrian boulevards.

Conceived in 2019 and dubbed the "Great Walk" ("Megalos Peripatos" in Greek), the plan followed in the footsteps of several other successful pedestrianization projects in cities like Paris and Barcelona. In February 2019, during his successful campaign, mayoral candidate Kostas Bakoyiannis boasted that the vision of linking the ancient archeological wonders of central Athens along a car-free route could create "the most beautiful walk in Europe."

When the coronavirus pandemic came in early 2020, the lockdown that helped to still the city's traffic from late March to June seemed to offer the ideal opportunity to accelerate the project; Bakoyiannis, now Athens' mayor, launched it as a six-month pilot in May.

Five months later, it's clear that something has gone terribly wrong with the Great Walk. The new trees look dead, the paint on the pedestrian lanes has worn off and car traffic in the city's downtown — already among the most congested in Europe — is somehow even worse.

"It both did and did not work out," said Bakoyiannis in a radio interview that made headlines in September. Though its future remains undecided, the project's fast-track implementation attracted so much criticism during its five-month existence that a rethink is likely due. So what exactly went wrong?

The plan's intentions certainly seemed good — the Great Walk aimed to encourage walking, biking and public transit in central Athens by clearing some major roads of vehicle traffic. That's not a new idea.

Remodeling the city's street plan to link its archaeological sites via a largely car-free walk from the Old Panathenaic Stadium past the Acropolis to the ancient cemetery of Kerameikos has been an aspiration of Athens urban planners for four decades. That vision was partially achieved in 2003, with a new limited pedestrianized route that connected some ancient sites in advance of the 2004 Olympics.

The Great Walk was designed to take the next step, matching the pedestrian link between ancient sites with one between the city's museums, so visitors could more easily walk from the Acropolis Museum to the National Archeological Museum.

This required a more radical street redesign than the 2003 project, taking away traffic from the city's main commercial arterials, which feature many retailers, offices and government buildings. Crucially, building the Great Walk required reducing vehicle lanes on



Panepistimiou Street, a major avenue known for the spectacular neoclassical buildings lining its route. By dropping car lanes from six to two, the city would create a

broad, mainly pedestrian boulevard landscaped with trees, benches and cycle paths.

Accompanying this came a dramatic overhaul of road use. Following the example of cities such as Madrid, the Great Walk project would, in its pilot phase at least, bar through-traffic across a zone of central Athens.

While emergency services, officials and people living or employed within the controlled zone would be allowed access, other drivers would only be permitted to drive there if traveling to a pre-confirmed parking spot. Anyone found breaking these rules, to be reinforced by random police checks, would face a €150 (\$177) fine.

After winning the election in September, Mayor Bakoyannis initiated the project's preliminary traffic study, due for delivery in July 2020. But then Covid-19 happened. Inspired by European cities that had swiftly adopted broader sidewalks and "Corona cycleways" during lockdowns, Athens fast-tracked the Great Walk.

In May, before the traffic study was delivered, the city started a pilot version, with soft temporary barriers put in place before "hard" construction came into place. Former car lanes were repainted in bright colors and filled with planters and benches.

The city promised great improvements. "Athens will stop hiding its immense cultural wealth behind grey streets and concrete," read the project's publicity announcement. "Citizens and visitors will see and experience the positive change the project brings from day one."

The changes were indeed noticed from day one — but they weren't all positive. Local police proved to be inadequate for filtering through-traffic, and post-lockdown Athenians began using their cars more than before the pandemic. With no restrictions enforced, regular traffic squeezed into far fewer lanes than before, resulting in chaos. After a public outcry, the city backtracked and began to reopen some lanes to cars on July 27.

Congestion wasn't the only problem. The project was also attacked on aesthetic and financial grounds. Trees and shrubs planted along the route appeared to have dried out within days, while many felt the choice of non-indigenous palm trees clashed with the Great Walk's classical and neoclassical backdrop. Paint on pedestrian lanes wore off within weeks.

In a city where summer temperatures routinely pass 100 degrees Fahrenheit, the skin-scorching metal benches chosen by the city became unusably hot. With street furniture costs at two million Euros and no specific planner or landscaper's name attached to the project, Mayor Bakoyannis drew fire from the

opposition for rushing the project budget through a financial affairs committee on which — unlike the city council as a whole — he had an absolute majority.

This lack of proper deliberation damaged the project. Dimitra Siatitsa, an architect and opposition member of the Great Walk's steering committee, says that the mayor gave the committee notice for important morning meetings only late the night before and provided no minutes, leaving the committee without feedback on discussions.

Bakoyannis also proved reluctant to meet with business or civil society associations inside the committee, Siatitsa says. "If you implement a pilot phase through a fast track instead of a typical process," she says, "a wider process of deliberation is essential."

George Yannis, the civil engineer who led the project's traffic study, sees things differently. "This trial implementation's goal is to deliberate," he says. "Especially as far as Panepistimiou is concerned, which has been studied for over 20 years, no one can claim the project came out of nowhere, no one knew about it, and no deliberation took place."

According to the findings from Yannis's Great Walk study, the project has had some positive results. The concept of limiting traffic has been normalized, and pedestrians now take over central Athens on weekends. Cycling's modal share has tripled since the Great Walk's trial period. More Athenians are using taxis and motorcycles, with a 6% rise in share.

But as it stands, the pilot appears to have placed the project's future in jeopardy. Recent interviews with the mayor imply that the city may reboot the project in some form for 2021, possibly retaining some of the innovations.

While many of the lanes and planters remain in place, Bakoyannis recently suggested that the equipment would be re-distributed among Athens neighborhoods. Support in the city council is waning: Open City, the current main opposition party in the Athens assembly, withdrew support for the project in July, condemning its "sloppiness and naïveté."

Members of the opposition Athens is You party have suggested that the streets chosen for remodeling were the wrong ones, with one lawmaker saying that the "Great Walk didn't walk" because, among other reasons, it was a plan that lacked a clear beginning, middle and end.

Other cities that dream of dramatic schemes to become greener and less congested might take note. The Great Walk could end up serving as a cautionary tale on the importance of thorough planning, transparency and alliance-building with stakeholders.

In its hasty implementation, says Siatitsa, the Great Walk's ended up creating an environment hostile to change, likely increasing difficulties for future attempts to combat congestion and pollution — in a city that badly needs them. "I feel that the momentum, and the initial goals on sustainable mobility and public space, have been abandoned," she says.

Source: CityLab



Planning for Walking and Cycling in New Zealand

Excerpt 1 from a book by Roger Boulter

This draft book by Roger Boulter (free to download from www.boulter.co.nz) won a 2020 WSP Golden Foot Award (in the Research Category). This is the second of four articles outlining some issues it covers.

New Zealand history

New Zealand picked up planning for cycling from the 1977 Geelong Bike Plan, with its template of the 'four E's' ("engineering, education, enforcement, encouragement").

Major centres especially took initiatives, notably City Engineer Mike Gadd in Christchurch with a comprehensive network of 'back street' cycle routes (mostly signed, little engineering, and helped by a largely grid-based road layout). New Zealand's first cycle lane, first signalled cycle crossing, first share path and first official 'Guide to Cycle Facilities' all emerged from 1980s Christchurch.

Other than supporting cycling facility trials and authorship of the Guide, central government involvement at this time was limited to road safety (for example, introduction of a compulsory cycle helmet law from 1994).

In the late 1990s significant innovation was led by some local authorities and an emerging cycling advocacy movement. The Cycling Advocates' Network was founded in 1996 (drawing in a few older localised groups) and New Zealand's first cycling conference was in 1997. Some local authorities employed specialist staff.

1990s road safety officials sometimes conveyed a message that "cycling is dangerous!", implying it is not to be encouraged. Cycling specialists and advocates countered this with the emerging international evidence on environmental benefits, and that preventive health benefits from regular cycling significantly outweighed the road safety risk.

Internationally, Mayer Hillman's 1992 ground-breaking work for the British Medical Association Cycling: Towards Health and Safety took until the early 2000s to be substantially accepted by New Zealand road safety officials. From this time, 'peace broke out' between the conflicting positive health and negative road safety messages on cycling in the form of the Safe and Sustainable Transport Association (SASTA).

Also gaining ground over this period was acceptance of a 'safety in numbers effect' that higher cycling levels were associated with a lower per-cyclist crash rate. Initially dismissed by road safety officials as based on overseas data inapplicable to New Zealand, New Zealand evidence of this effect was demonstrated in Kerry Wood's 1999 Bicycle Crashes in New Zealand Lincoln University Masters Thesis. Road safety officials came to accept 'safety in numbers' from the early 2000s.

Two research projects in 1999-2000 outside government, Roger Boulter's NZ Cycle Strategy Foundation Project (part-funded by the IPENZ Transportation Group Annual Study Award) and Reena Kokotailo's National Pedestrian Project (funded by the Road Safety Trust) were already in hand when the government changed in 1999, and for the first time positively supported preparation of a National Cycling Strategy (later broadened to also cover walking). Being outside government, these projects had a free hand in their recommendations (useful when charting a new area).

The new government's early 2002 Moving Forward package introduced major changes including renaming the National Rooding Fund as the National Land Transport Fund; 'kick start' and other new funding for public transport; and the first Walking and Cycling Activity Class funding.

A New Zealand Transport Strategy in late 2002 led onto

the 2003 Land Transport Management Act (which gave its objectives statutory force) and reform of funding processes and criteria. Reena Kokotailo joined the Ministry of Transport to lead work on New Zealand's first National Walking and Cycling Strategy, using her own and Roger Boulter's project outcomes as sources.

The national strategy *Getting There On Foot by Cycle* was launched in 2005, followed by its 2006 Implementation Plan and then its flagship Walking and Cycling Model Communities Project (focused on Hastings and New Plymouth).

The new post-2008 government effectively shelved this work (except for the Model Communities project, which had not long started work). The 2009 NZ Cycle Trail initiative was significant in broadening the government's perspective on cycling to cover leisure and recreational cycling (previously excluded as irrelevant and ineligible for 'transport' funding) and regional economic development as a justification for cycling investment.

The next significant government initiative was the 2014 Cycle Safety Panel (in response to a spate of cycling deaths) which effectively filled a policy vacuum and led on to a National Cycling Team to oversee a \$100M Urban Cycleways Programme; more official money than ever before devoted to cycling. Like with the NZ Cycle Trail, none of this renewed official attention applied to walking.

The new focus on large cycleway infrastructure projects and promotion of their use lost valuable past lessons. Even the 1977 Geelong Bike Plan's very basic 'four E's' had recognised that, to be effective, infrastructure needed to be accompanied with non-infrastructure measures.

Another lesson lost – although it had never been substantially applied in New Zealand – was that wider transport policy measures to reduce motor traffic volumes and speeds needed to be at the heart of any mix of measures to help cycling.

Internationally, comparisons between the Netherlands and the 'Geelong Bike Plan country' approaches had nearly 20 years previously (culminating in the 1996 UK study *Cycle Friendly Infrastructure Guidelines for*

Planning and Design) found that an approach based on providing 'cycling facilities' (dedicated cycling infrastructure, such as separated cycleways) always gave disappointing results if motor traffic volumes and speeds were not also reduced.

"Easier said than done", you may say, but more recent examples of what might be involved are Barcelona's 'Superblocks' or Ghent's 'Circulation Plan', among a range of other "non-cycling" projects which together tip the balance in favour of making cycling a 'mode of choice' compared to driving.

A well-intentioned official adoption, after 2015, of Roger Geller's Portland USA population categorisation, with its very large segment of people "interested" in cycling but "concerned" about road traffic, coming at the same time as some advances in detailed cycleway design, reinforced the post-2015 narrowing of official focus away from wider transport planning and towards dedicated, and generally off-roadway, cycling infrastructure.

The by-now-established focus on off-roadway cycling infrastructure led on to an increasingly common response of 'shared paths' (which often replace footpaths), ostensibly to help walkers as well as cyclists but generally being a response to a concern to help cycling; and to some calls (sometimes supported by officials) for some or all cycling on roadside footpaths to be legalised.

These recent development have seen some cycling advocates pitted against advocacy groups representing seniors, people with disabilities, and walkers. The arguments, which continue to run, focus around relevant types of data, and the nature of walking.

Official reports have covered crash, injury and hospital data, but not data on footpath users' perceptions, potential for walking to be deterred, or the various forms of public disbenefit which would stem from this.

Behaviour expectations on 'shared paths' may also negate the casual and unconstrained freedom of movement which are the source of walking's attractiveness (as elucidated by Danish urban designer Jan Gehl and others).

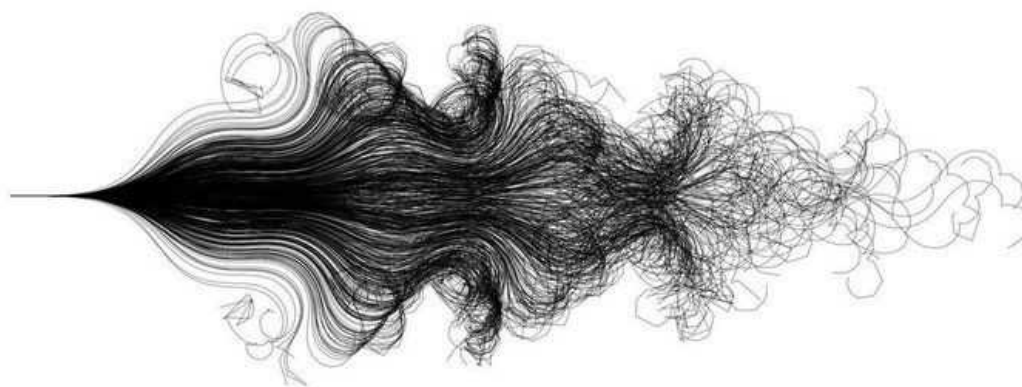


Figure 2: Instability of an unsteered bicycle. This shows 800 runs of a bicycle being pushed to the right. For each run, the path of the front wheel on the ground is shown until the bicycle has fallen over. The unstable oscillatory nature is due to the subcritical speed of the bicycle, which loses further speed with each oscillation.

Waikato/Bay of Plenty branch

In Hamilton, a dozen new and very old TG members caught up for a pre-Christmas coffee where much enthusiasm was expressed about a rejuvenated program of activities for 2021.



Fifty or so planners and transport planners/engineers turned up to contest for the BOP NZPI/ENZ TG trophy recently – the 4th annual quiz contest! This popular local annual social event usually brightens up the winter months but this year due to Covid the event was pushed into Spring, so we were able to make the most of Beca's lovely deck views for pre-quiz drinks



After a shaky 'technology issues' start (everyone was too busy sampling the beer to notice!) MC Will Johnston got the crowd in order and kicked off the quiz with some tough but entertaining rounds. Lots of laughs were had and colleagues got to know each other's interests just a little better (!) and the scores were so close we even had to hold a tie-breaker question for 2nd. Well done to the Maven team for successfully taking the trophy off TCC!



Winning score board for 2020:

- 1st: The Mavenauts (Maven Associates)
- 2nd: Randerson Fanderson (Beca)
- 3rd: Blue Thunder (BOPRC)
- 2nd to Last: Sharesies (Beca)

Thank you to all the organisers and to Beca for hosting. Until 2021

The Branch also held a lunch time presentation about the Western Bay of Plenty Urban Form and Transport Initiative (UFTI) and Transport System Plan (TSP) in November. The event was jointly hosted with the Chartered Institute of Logistics and Transport.



Robert Brodnax (Technical Director at Beca and project director for UFTI), Namouta Poutasi (General Manager, Strategy & Science at Bay of Plenty Regional Council) and Craig Richards (Senior Associate at Beca and transport planning lead for the UFTI and TSP) discussed the process and outcomes of UFTI and the TSP which will influence land use and transport planning in the Western Bay of Plenty over the next 30+ years.

A good mix of Transport Group and CILT members came along and there was great discussion after the presentation. Thanks to Robert, Namouta and Craig for presenting and to Sarah Dove for organising. We have a coffee catch up planned in Hamilton and a Christmas get together in Tauranga coming up, contact Craig Richards (craig.richards@beca.com) if you would like to get involved.

Canterbury-West Coast Branch

The Canterbury and West Coast chapter of the Transportation Group had a Movie and Pizza Night on Tuesday 08 December.

We screened two highly acclaimed, international award-winning transport films at the Space Academy in Christchurch.

- Radiant City - (Gary Burns and Jim Brown, Canada, 2006)
- The Traffic Separating Device (Johan Palmgren, Sweden, 2018)

15 transport enthusiasts joined us for some MASSIVE slices of Alligator pizza and a fine selection of craft beer and wine.

The Radiant City proved to be the crowd favourite for its insightful and dark, yet humorous portrayal of life in the suburbs and the planning concepts that have and

Longest train ride in the world

still are driving us toward infinite urban sprawl. Well worth a watch!

Great audience conversation followed the conclusion of each film.

- Discussion surrounded some of the issues that we face as both professionals and residents within Christchurch and throughout New Zealand.

- The Radiant City, in particular, highlighted the direct link between poor city planning and negative social outcomes, e.g. tolerance and diversity are much harder to achieve in a subdivision than a thriving city centre where people MUST interact with each other.

Special thanks to Johan Palmgren for providing the screening rights to his film., and a final thanks to all the people that put in effort organising the event, and to the audience for making the event a success!

Radiant City



The Traffic Separating



Ben Zmijewski and Amanda Klepper from the Canterbury / West Coast branch committee attended a workshop as part of the Greater Christchurch 2050 engagement process. The purpose of the workshop was to gather input from Third Sector Organisations to bring the vision to life. Third sector organisations include not-for-profit, Non-Government Organisations, community-initiated organisations, and other volunteer organisations.

Attendees were asked to consider the role of Third Sector Organisations in delivering the Greater Christchurch 2050 aspirations. The survey found that 53% of respondents chose "Public transport, walking, and cycling are easy and affordable" as one of their top-priority aspirations for the future of Christchurch. 50% of respondents felt that "Traffic congestion is getting worse" as one of the main issues facing Greater Christchurch in 2050.

We have a large role to play in realising the top priorities of the Greater Christchurch 2050 vision. Some of the ways in which we can contribute our passion and technical expertise to achieving this vision are:

- Holding governing bodies accountable to transport related aspirations through submissions on various projects;
- Advocating for a city where transport is safe, affordable, and equitable, especially for active and public transport modes;
- Raise awareness of transport issues that specifically detract from these visions; and
- Help develop strategies and policies through our various roles in the industry to help achieve Greater Christchurch 2050.

Survey results available at [Greater Christchurch 2050 : Greater Christchurch](https://www.greaterchristchurch.org.nz/)

<https://www.greaterchristchurch.org.nz/>

Here are a few photos from the recent Avon River Walk organised by the Canty/WC Branch on Nov 11th. This was followed by retiring to the Tasting Room at Pomeroy's Tavern for a quick AGM and some drinks and nibbles...





ITE Update

ITEANZ Presidents Dinner

The ITE Presidents dinner and awards held on Tuesday 1 December at the Kew Golf Club in Victoria, Australia.

This has been the venue for the last couple of years. The special guest speaker this year was Mr Corey Hannett - Director General, Major Transport Infrastructure Authority.

Corey oversees the delivery of Victoria's Big Build which cover 165 projects and \$80B worth of transport projects delivering 18,000 jobs across Victoria. Google the "Big Build" and take a look at some of the projects.

As part of the dinner, there were also the annual awards events were held, including;

- Contribution to the Transport Profession
- Outstanding Service to the ITE
- Transport Sustainability
- Emerging Transport Professional

I was fortunate enough to chair the Transport Sustainability award assessment panel and there were some excellent submissions, but nothing from NZ. We'll have to show the Aussies up with some of our great work here. With covid restrictions, a trip to Australia was also off the agenda.

UC Transport (ITE Student Chapter at Canterbury University)

UC Trans held a webinar in November to discuss transport related topics and the NZ industry. Organised by Abhirup Basu Roy Chowdry (Roy), current President of UC Transport and Dr Dana Abudayyeh (Past President), the event was a great success.

A huge thanks to John Lieswyn of ViaStrada in Christchurch and Hasan Alwalie, an ITS Project Manager

from Danlaw in the US for attending and presenting to the students. It's great to have this kind of industry involvement with the next generation of transportation professionals.

For those of you that don't know, John has a long cycling history including three seasons for the US National team in Germany, France and Italy. John turned professional in 1993 for Coors Light, scoring numerous top ten results and winning the Delémont (Switzerland) mountain stage of the Regio-Tour.

After taking a break in 1996, he focused on the US domestic scene with over 40 major wins. John has also won the Southland Tour here in NZ! John first moved to NZ in 2005, then in 2012 he returned to the USA, before returning to New Zealand in 2015. Thanks to Wikipedia for my extensive knowledge of John :-).

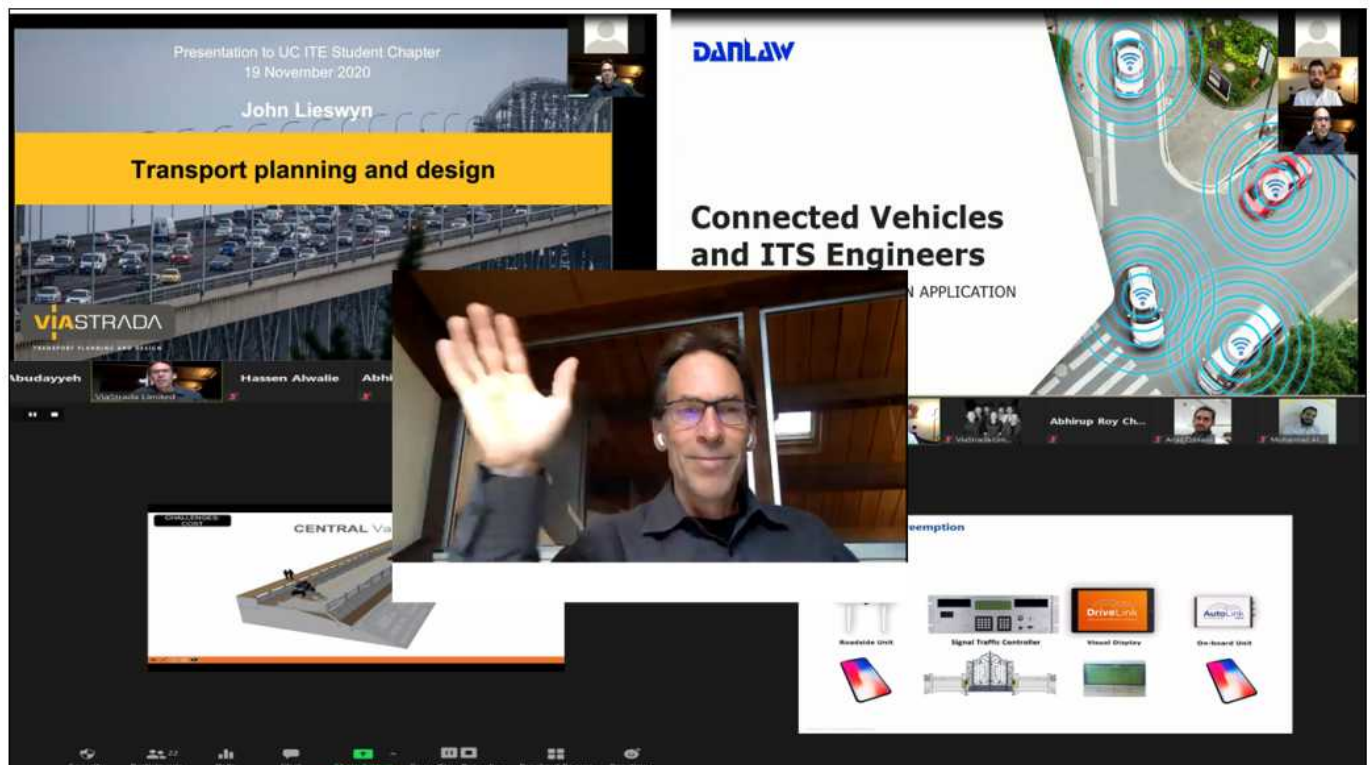
The event was recorded (see picture below) and here is a link, for those who would like to watch the webinar. <https://youtu.be/t3K3QLJqaWI>

Did you know that ITE has a number of student chapters including Monash, University of Sydney, University of Melbourne, Victoria University, Deakin University as well as our own University of Canterbury?

Electric Car Tax

Australia (by comparison to NZ) has many gas guzzlers on their roads, and are well behind on uptake of electric vehicles. They are paying dearly in fuel bills; pain experienced on both sides of the Tasman. In Australia, emissions from the road transport sector have mostly been on the rise and now equal one-sixth of national greenhouse gas emissions.

The average emissions intensity of new passenger and light commercial vehicles has been stuck at a high level



for years. Australia are behind Europe, Japan and even the US and China. The average fuel efficiency of passenger cars in Australia is similar to that in Peru, Chile and Saudi Arabia.

You may have heard that the Victorian Treasurer announced a tax of 2.5 c/km on EVs and 2.0 c/km on PHEVs in the pre-budget announcements, following on from the lead in South Australia. While this might seem to be crazy, given the desire to increase the numbers of electric vehicles, it is a simple tax adjustment with the lack of revenue from petrol taxes. There must be a better way.

ITE-ANZ will be holding a panel discussion on whether or not to tax electric vehicles. This event is tentatively planned for late early February 2021. If you, or your organisation is willing to be involved please let me know. We will provide further details and coordinate a time that suits you in the week to come.

This discussion is in line with the ITE-ANZ aim to grow the knowledge and capability of our industry through informative seminars and networking opportunities.

Electric vehicles including plug-in hybrids made up only 1 per cent of new vehicle sales in Australia last year, compared to 56 per cent in Norway, 5 per cent in China and 2 per cent in the US. Both Australia and New Zealand could be doing much better.

ITE-ANZ webinar to the world

As part of expanding the "Global" agenda of ITE, Randy McCourt (ITE International President) wants ITE-ANZ to do an online session at the proposed technical conference in March (although time is not confirmed). Separate to this, we will also be doing a standalone webinar in April for the Traffic Engineering Council.

At this stage we've identified 3 possible topics:

- SCATS - benefits of adaptive systems (particularly with COVID effects on traffic variability)
- Roundabouts, particularly metered roundabouts as the USA has very few of these
- Managed Motorways

We are seeking feedback and ideas on topics, particularly those where we can share some of our achievements to the wider global transportation society. If you want to be involved in helping us find ideas, out together the background information or be involved in the presentation, let me know. I'll make sure we advertise the links so everyone can be involved in this, when it happens.

David Mitchell
ITE-ANZ NZ Representative
David.mitchell@nzta.govt.nz



Emergency services by bike

Paris has launched Emergency Bikes, a new ebike to help emergency doctors move faster through the congested streets (top photo).

But don't worry, NZ isn't being left behind. The bottom photo shows a St Johns Ambulance bike that was spotted at the recent Auckland Santa Parade.





Separated Bike Lanes Means Safer Streets, Study Says

A 13-year study of a dozen US cities found that protected bike lanes led to a drastic decline in fatalities for all users of the road.

Cities that build protected lanes for cyclists end up with safer roads for people on bikes and people in cars and on foot, a new study of 12 large metropolises revealed Wednesday.

Researchers at the University of Colorado Denver and the University of New Mexico discovered cities with protected and separated bike lanes had 44 percent fewer deaths than the average city.

“Protected separated bike facilities was one of our biggest factors associated with lower fatalities and lower injuries for all road users,” study co-author Wesley Marshall, a University of Colorado Denver engineering professor, told Streetsblog. “If you’re going out of your way to make your city safe for a broader range of cyclists ... we’re finding that it ends up being a safer city for everyone.”

Marshall and his team of researchers analyzed 17,000 fatalities and 77,000 severe injuries in cities including Denver, Portland, Dallas, Seattle, San Francisco, Kansas City and Chicago between 2000 and 2012. All had experienced an increase in cycling as they built more infrastructure. (Update: All of those cities also have varying rates of gentrification, which needed to be factored into the results, specifically because of “the safety disparities associated with gentrification.” Researchers said safety improvements in largely gentrified areas “suggest equity issues and the need for future research.”)

Researchers assumed that having more cyclists on the street was spurring drivers to slow down — a relic of a 2017 study that found that cities with high cycling rates had fewer traffic crashes. But it turned out that wasn’t the case.

Instead, researchers found that bike infrastructure, particularly physical barriers that separate bikes from speeding cars as opposed to shared or painted lanes, significantly lowered fatalities in cities that installed them.

After analyzing traffic crash data over a 13-year period in areas with separated bike lanes on city streets, researchers estimated that having a protected bike facility in a city would result in 44 percent fewer deaths and 50 percent fewer serious injuries than an average city.

In Portland, where the population of bike commuters increased from 1.2 to 7 percent between 1990 and 2015, fatality rates fell 75 percent in the same period. Fatal crash rates dropped 60.6 percent in Seattle, 49.3 percent in San Francisco, 40.3 percent in Denver, and 38.2 percent in Chicago over the same period as cities added more protected and separated lanes as part of their Vision Zero plans.

“Bike facilities end up slowing cars down, even when a driver hits another driver, it’s less likely to be a fatality because it’s happening at a slower speed,” Marshall said.

Perhaps even more important: Researchers found that painted bike lanes provided no improvement on road safety. And their review earlier this year of shared roadways — where bike symbols are painted in the middle of a lane — revealed that it was actually safer to have no bike markings at all.

“We found they’re worse than nothing. You’re better off doing nothing,” Marshall said. “It gives people a false sense of security that’s a bike lane. It’s just a sign telling cyclists it might just be there.”

Not all protected bike lanes provide the same level of security for cyclists and drivers. In Denver, for instance, some protected lanes have plastic bollards that are interspersed along the roadway, allowing cars and trucks to park in the bike path and forcing cyclists to swerve into the street.

“When you have them designed like that, even if it’s a protected lane, that might create a more dangerous situation because cyclists are merging in and out of the road versus places with foot-wide concrete planters,” Marshall added.

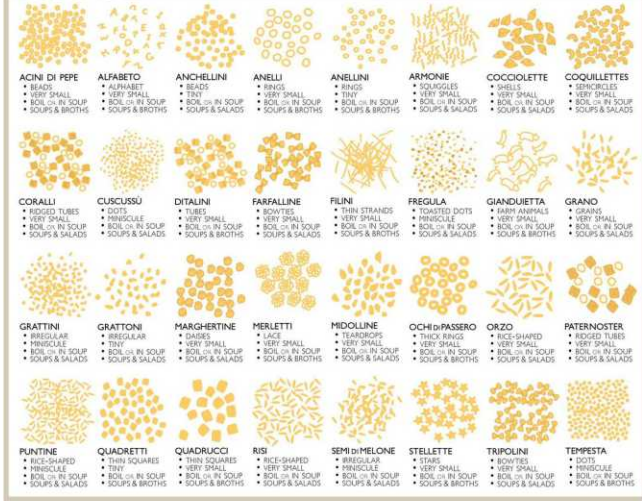
New York was not included in this longitudinal study because the high number of cyclists and lanes would have overwhelmed their models, but will be a focus of a future study, Marshall said. New York’s Department of Transportation consistently touts how its protected bike lanes improve safety for all road users — but often denies neighborhoods the full protection of such infrastructure when some car owners complain of lost parking.

Sometimes, it’s not always “safety first.”

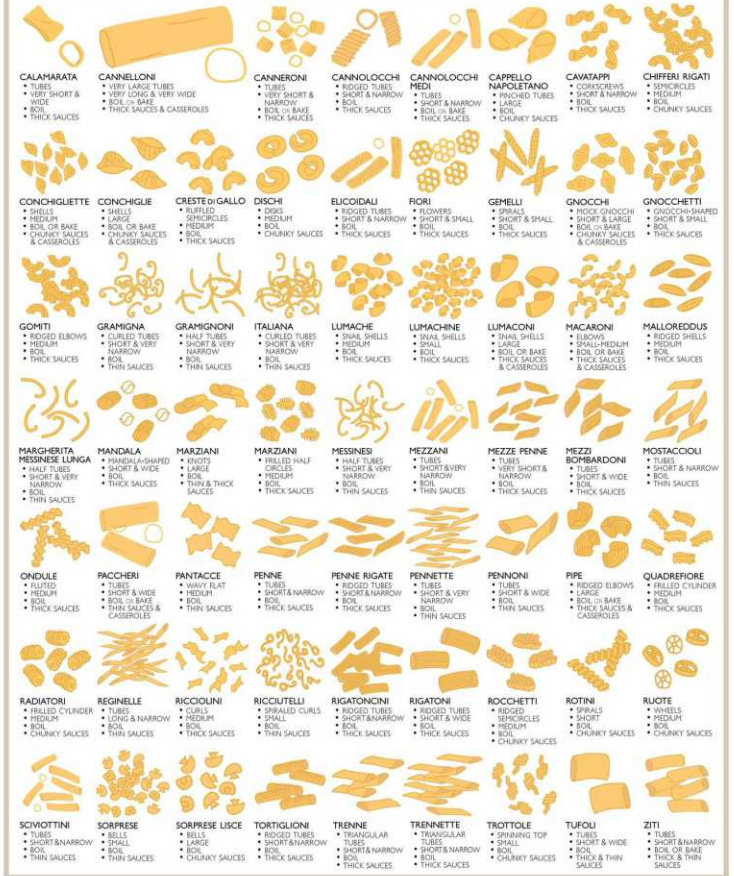
Source: Streetsblog USA

ENCYCLOPEDIA OF PASTA

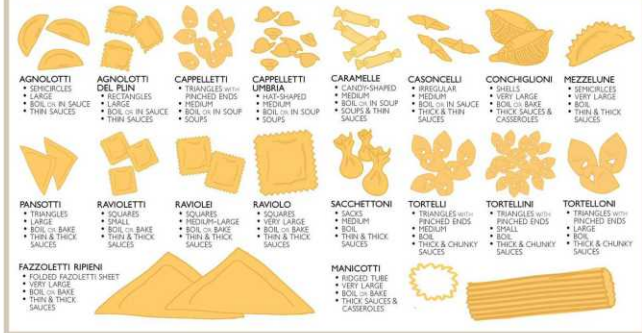
MINUTE



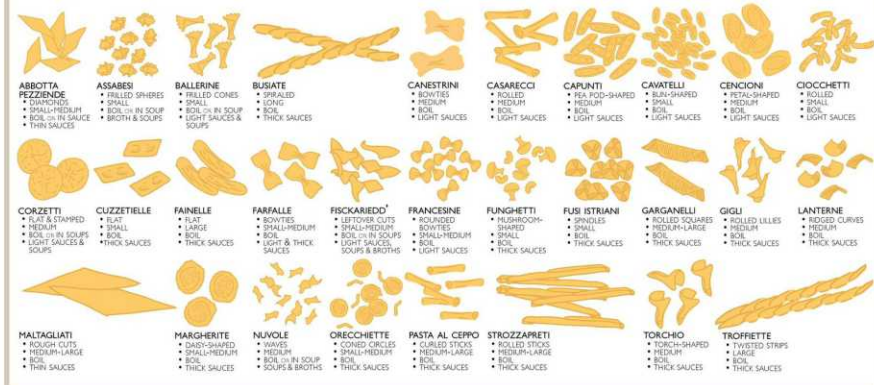
SHORT CUT



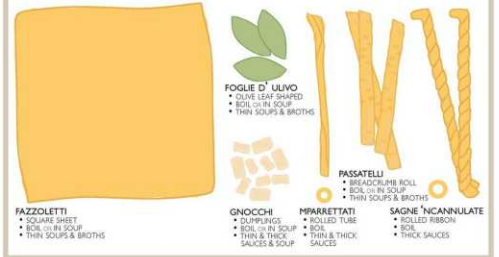
STUFFED



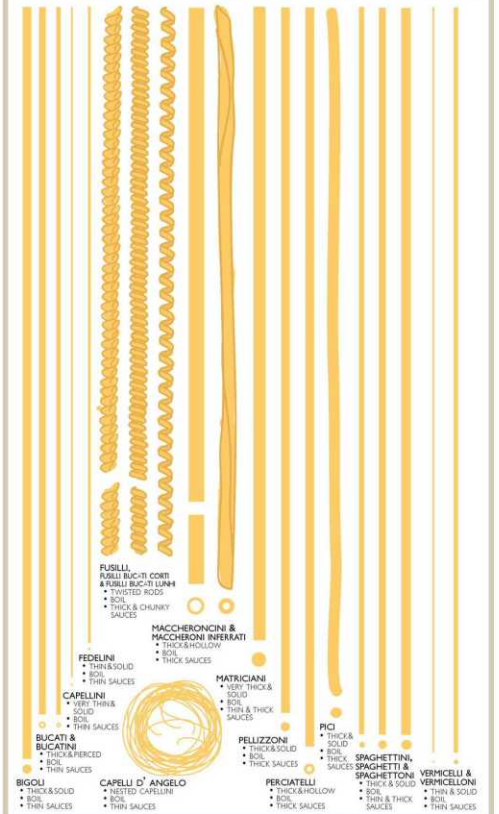
SPECIALTY



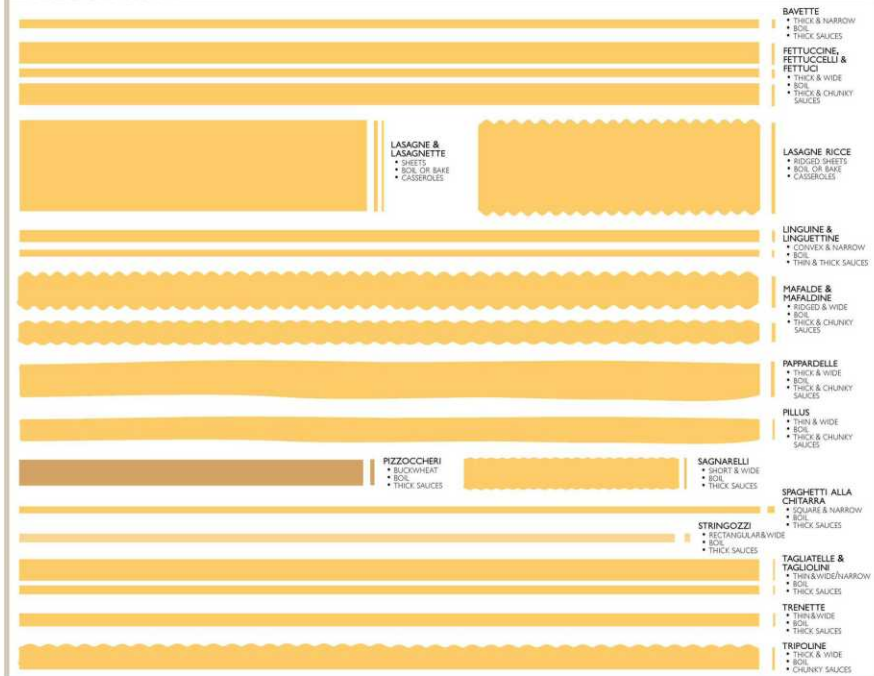
IRREGULAR



LONG



RIBBON CUT

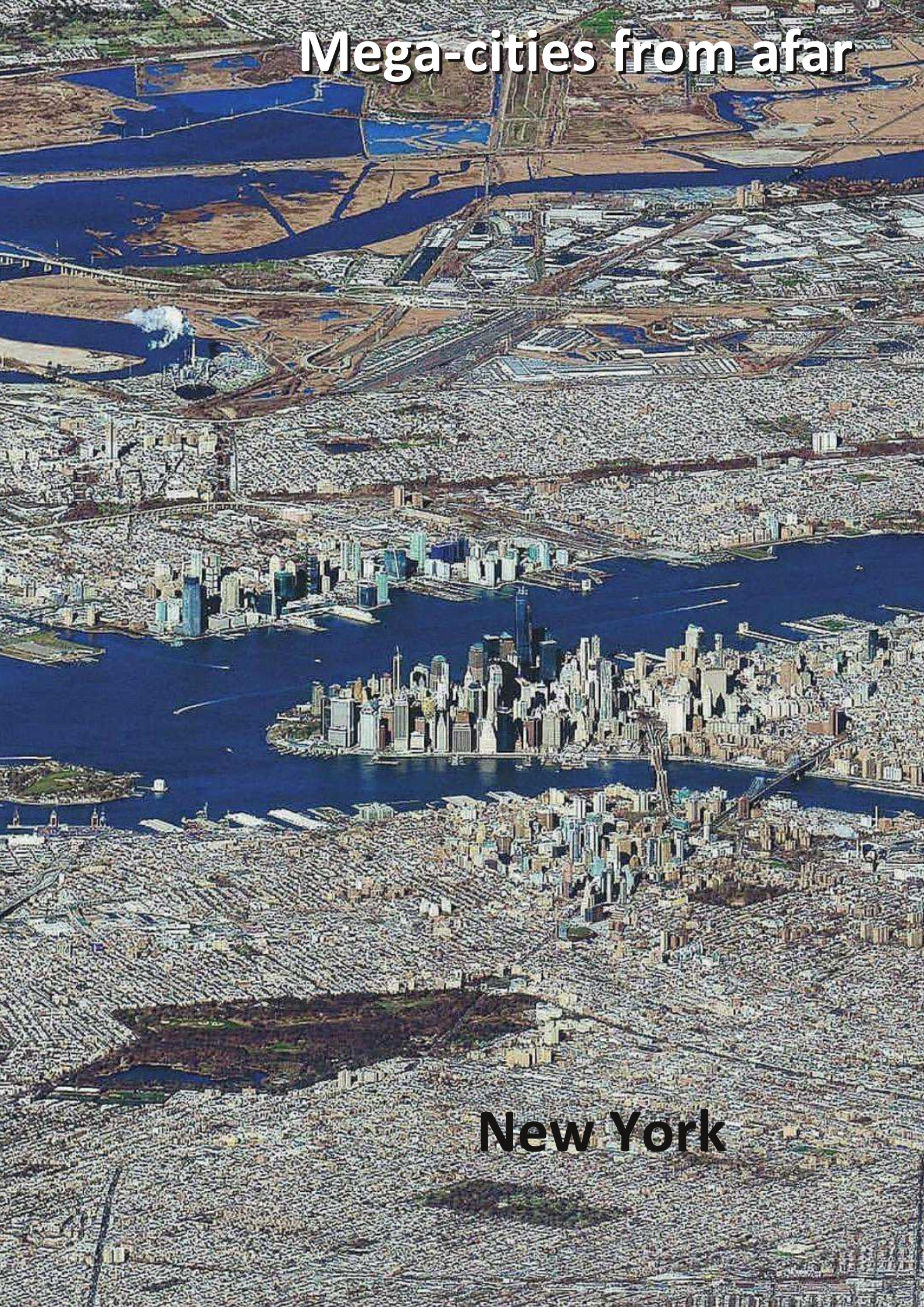


Mega-cities from afar



Tokyo

Mega-cities from afar



New York

Designing excellent urban streets for New Zealand



Urban streets play a big role in supporting vibrant, safe, healthy and inclusive city life by creating safe, attractive spaces for people.

Waka Kotahi is developing an Aotearoa Urban Street Guide to provide a national framework and high-level principles for excellence in multi-modal street design for urban spaces.

One of the key actions within the Road to Zero road safety strategy's road infrastructure and speed focus area is a review of infrastructure standards and guidelines, updating them to reflect current best practice and filling gaps where they exist. This guide is an important part of supporting this action.

The guide will provide an overarching direction for New Zealand by supporting existing good practice internationally; complementing best practice design guidelines for walking, cycling and public transport; and supporting work already underway by local authorities.

Waka Kotahi is working with the transport sector and national/local government to develop content. We expect the guide to be ready by mid-2021. If you have any questions please email streets@nzta.govt.nz

On the Go Awards 2021 open

In 2021 Waka Kotahi NZ Transport Agency is holding the On the Go Awards in partnership with Cycling Action Network and Living Streets Aotearoa as an opportunity to acknowledge the dedication and contribution of projects that support a healthier, cleaner and safer transport system.

These awards celebrate the champions, leaders, organisations and communities who have put their energy and innovation into making any form of active travel a safer and more attractive transport choice for people.

The Awards will be presented as part of the 2WALKandCYCLE conference, which is being held 16 – 19 March 2021 (rescheduled from September 2020).

More information and information on how to enter: www.nzta.govt.nz/on-the-go-awards

If you have any questions about the awards please email onthego@nzta.govt.nz



Active Modes Infrastructure Group (AMIG) Update

Since the last update, AMIG has held a couple more short video-chat meetings; a 2-hour one on Sep 24th and a bumper 3-hour session on Dec 3rd to round out the year. Despite the extra time in the latest meeting, the AMIG team were up to their old tricks of easily filling in the time (and then some) with the various topics on offer... Here are some of the different items discussed in these recent meetings:

- We previously mentioned advice being developed for the Pedestrian Network Guidance regarding the use of “courtesy crossings”. While a draft Technical Note on these was developed and presented to AMIG, since then some further thinking expanded the discussion to a draft pedestrian crossing facility selection advice note. Using a series of flowchart decision points, this new guidance aims to identify the (usually 2 or 3) most appropriate options for a given situation – AMIG is now providing feedback on this.

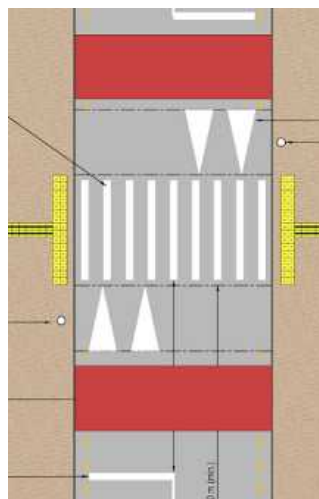
- A few trials of various markings are currently being wrapped up and progress update reports were given. These included “dragon’s teeth” (triangular markings either side of an approach to a crossing or speed limit change), tactile delineators (low physical separators between walk and cycle paths), and various shared path behaviour markings designed to encourage keeping left and slowing down. More results on these to come in future meetings.



- Commonly seen overseas, “advisory shoulders” is the local term for narrow roadways featuring a single traffic lane flanked by cycle priority shoulders. Some advice was presented to AMIG on typical attributes for potential candidate roads to trial these here, both in urban or rural settings. Contact us if you would like to see the advisory memo and to offer a site as a possible pilot candidate.



- Often known colloquially as “shark’s teeth”, the triangular markings on raised platform ramps will now be just referred to as “ramp markings”, to avoid



confusion with the previously mentioned dragon’s teeth. Another related proposal is to recommend the use of red on the approaches to zebra or platform crossings rather than directly under the pedestrian crossing itself.

- It seems like an innocuous question: can cycle wayfinding signage on shared paths also show pedestrian symbols too? The answer would appear to be “it depends”, recognising that many walking destinations are much shorter than the typical cycling destinations shown. A bit more policy thinking is needed and some advice in the coming national cycle wayfinding guidance.



- One new feature to recent meetings has been the introduction of local design challenges, where various Councils can present an idea they’re thinking of or an issue they’re grappling with, and the AMIG ‘hive mind’ can provide some (hopefully helpful) advice. In recent months, this has seen the likes of Hutt City, Palmerston North and Tauranga present a few interesting problems to the team for their thoughts – do you have something to get advice about?

- Other items discussed briefly at recent AMIG meetings include an update on the forthcoming Aotearoa Urban Street Guide, sign/marketing options for neighbourhood greenways, recent speed surveys of e-devices, and the release of guidance on tactile indicator installation. Fingers are also crossed that the release of the Traffic Control Devices Manual Part 5 (between intersections) is finally imminent...

AMIG meetings will return in the New Year on 4th Feb 2021; generally meetings will be held every couple of months after that.

For RCAs who would like to be added to the group, contact co-convenors Wayne Newman (RCA Forum; wayne@cresmere.co.nz) or Gerry Dance (NZTA; Gerry.Dance@nzta.govt.nz). Group members can also talk with me about raising any ideas or issues on your behalf at AMIG as well.

Glen Koorey (Transportation Group AMIG rep), ViaStrada (glen@viastrada.nz, ph.027-739-6905)



Rotorua Cyway complete

The remaining part of the Rotorua Cyway, the Utuhina shared path, was completed in September to improve access and safety for those with reduced mobility; create space for young families with prams, scooters or bikes; and provide space for people cycling to move about more freely.



The existing trail that wound its way alongside the Utuhina Stream received a facelift, with flat sections of the track resurfaced with tinted concrete and lime chip in the sections closest to the stream and magnificent redwood trees.

Rotorua's shared path network supports the district's Urban Cycling Strategic Plan that aims to provide the community with safe and enjoyable riding facilities. Funding for the programme was shared between Rotorua Lakes Council, Government and Waka Kotahi.

The shared path network aims to connect people to where they want to go and promote biking as an attractive and convenient form of transport.

Aotearoa Bike Challenge returns in February



The Aotearoa Bike Challenge is a month-long challenge which encourages Kiwis to make everyday trips by bike, offering the chance to win some great prizes along the way. The challenge will be back in February.

In 2020 there were a record-breaking number of participants with more than 24,500 people from over 2,450 organisations taking part, including over 4,950 new riders. Participants collectively made more than 320,000 trips by bike and cycled nearly 4.5 million kilometres.

The challenge is a fun, free competition that incentivises people to improve their health and wellbeing. It's all about seeing which organisations can get the most people to ride a bike for just 10 minutes or more.

It runs throughout February and encourages Kiwis to make everyday trips by bike while being in to win some great prizes.

Find out more and register at www.aotearoa.bike

Tākaka shared path opening

A new footbridge and shared path on SH60 between Tākaka, the Golden Bay Community Health Centre, and the popular Paines Ford recreation area will be opened by Mayor Tim King this Friday.

Funded by Waka Kotahi, the 2.5km path will provide a safer environment for people who walk, bike and scoot this busy stretch of highway. It will be sealed for 2km between Tākaka and the Community Health Centre, and then unsealed to Paines Ford.

The project included the replacement of an old footbridge, which was too steep and narrow to be used by mobility scooters or by children on small-wheeled scooters. It was also difficult for people with push-chairs and less fit cyclists – sometimes forcing them onto the state highway alongside motorists, including heavy vehicles and campervans.

It is expected that the path will encourage locals to use different types of transport.



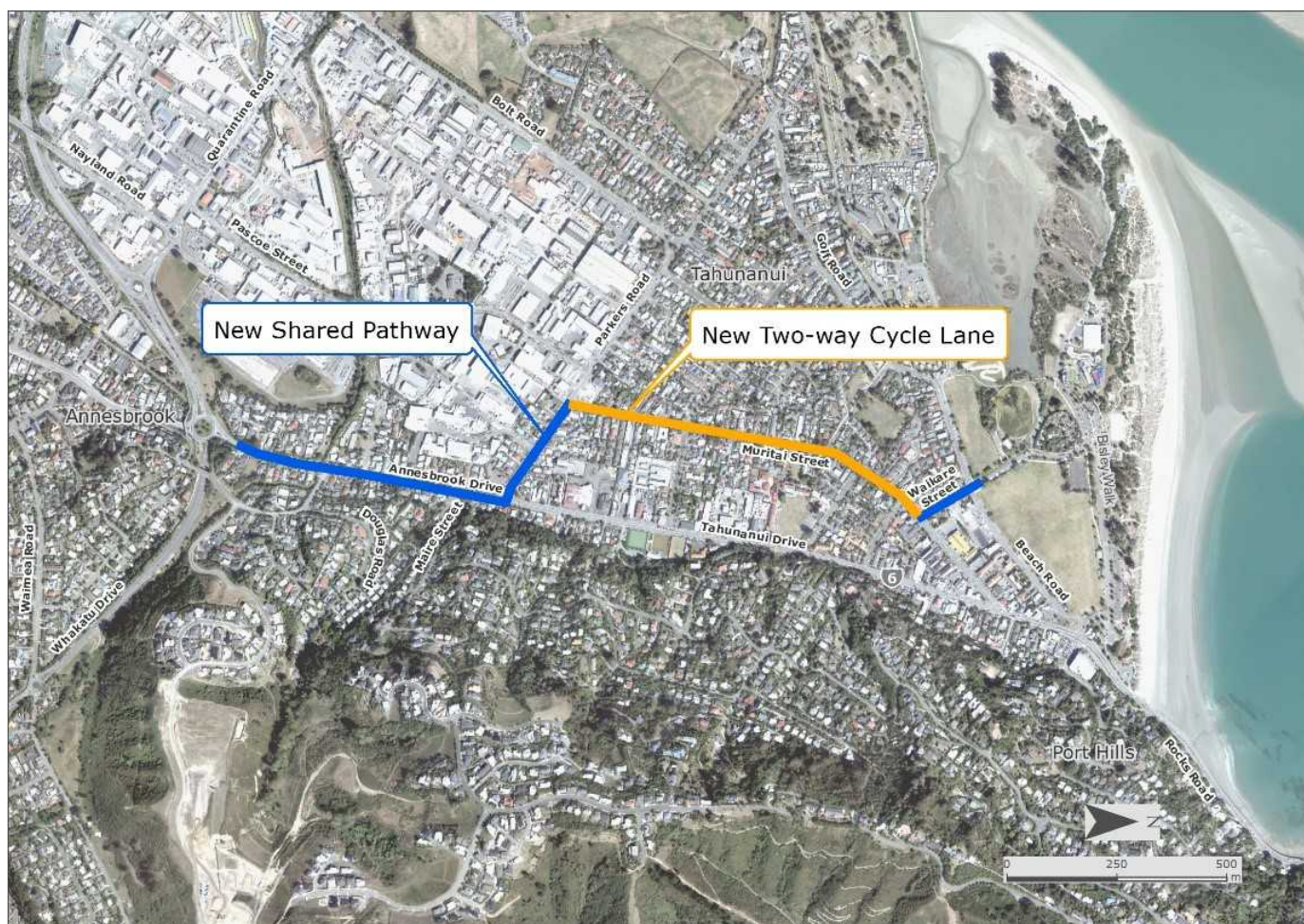
WSP Designer, Peter Kortegast on the new footbridge beside SH60

New cycling infrastructure equals a biking boom for Tahunanui School

Cycling to school just became a lot safer for students at Tahunanui School in Nelson with the completion of Stage 2 of the Tahunanui Pathways project. The project was funded by Nelson City Council and Waka Kotahi, including from the Urban Cycleways Fund. The new project, which is a mixture of shared pathways and protected cycle lanes, has made cycling and walking a safer and more appealing option for everyone living in Tahunanui.

Children from Tahunanui School are already enjoying the benefits of the new cycle lane, according to headteacher Barbara Bowen.

"Lots more children are cycling to school now and feeling more confident about it as well. Previously we



would only have had a few bikes in the bike stand, but now we have more children cycling, and more parents cycling with their children too. It's been really well supported."

Barbara says she is fast approaching a point where 50% of the children at her school have the ability to ride to school independently. Her goal is for that number to reach 100%.

New interactive map to help explore Aotearoa by bike
Waka Kotahi has developed an interactive cycle route map that shows how the cycling network connects across New Zealand, to help people explore the country by bike.

It consists of three parts: The New Zealand Cycle Trail's 22 Great Rides which are mainly off-road, Heartland Rides which allow people to explore scenic back roads while enjoying stunning scenery and local hospitality, as well as council cycling infrastructure (cycle lanes, cycle paths, shared paths, etc).

It is the most comprehensive map available of cycling routes in New Zealand as it gives an overview to show how they all connect.

People can determine if a ride is right for them by viewing the route summary which outlines trail type, grade, traffic volume and speed.

The draft interactive map was trialled late last year and has since been updated. It will continue to be updated as new infrastructure is built.

The map is available here: www.nzta.govt.nz/cycle-touring

The shared path: people not cars at the heart of communities

Early this month, The Helen Clark Foundation released the second report in its Post Pandemic Futures series, aimed at stimulating new ideas, and ways of doing things post-COVID-19.

The Shared Path report looks at how Aotearoa needs low-traffic neighbourhoods and cities to reduce emissions, improve road safety, and create the connected urban communities we need in a post-pandemic future.

The report was produced in partnership with WSP.

Parking management guidance out for consultation
Draft National Parking Management Guidance has been developed to provide consistent, best-practice guidance for the management of on-street parking and publicly owned/managed off-street parking in New Zealand.

The guidance supports Keeping Cities Moving, the Waka Kotahi plan to increase the share of people walking, cycling and using public transport - with parking management being a key intervention for influencing mode shift.

<https://www.nzta.govt.nz/roads-and-rail/parking-management-guidance-for-consultation/>



City Rail Link update

The big Tunnel Boring Machine (TBM) that will excavate the City Rail Link tunnels was recently unveiled at the Mt Eden station construction site.

The TBM will have three jobs - excavating the tunnels, removing tunnel spoil, and installing concrete segments to line the tunnels.



Specialist German manufacturer, Herrenknecht has built the TBM at its factory in Guangzhou, China. Herrenknecht designed and built Alice, the TBM used to construct Auckland's Waterview motorway tunnel.

The TBM was blessed by Dame Whina Cooper's daughter, Hinerangi Puru Cooper, and they were joined by Deputy Prime Minister Grant Robertson, Transport Minister Michael Wood, and the city's Mayor Phil Goff.

The TBM was named by public vote after the famous Māori rights champion.

Once underway, up to 1,500 tonnes of spoil can be excavated each day. Spoil from Mt Eden will be a mix of cleanfill, managed and contaminated. The team won't know how much of each until tunnelling is underway.

Cleanfill will be disposed of at the Three Kings Quarry in Mt Eden. All other spoil – managed or contaminated –

will be trucked to various disposal sites at Mercer in Waikato.

Te Komitanga – the name of Auckland's newest civic space in downtown Auckland - will soon be opened and these images show how well it is shaping up.



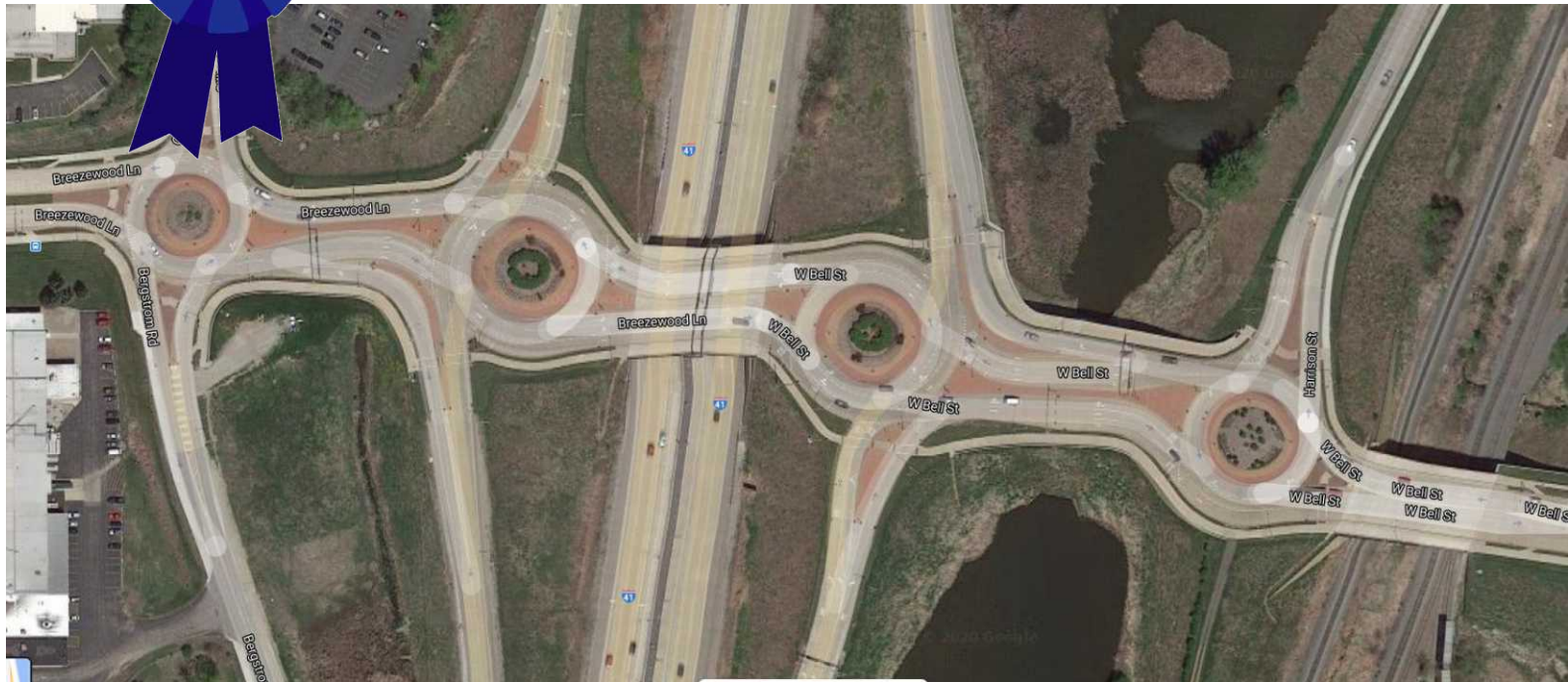


This month's photo competition involves Auckland Transport's new double decker bus advertising (also see the seasonal image in the editorial). Have you seen other good examples of good branding of vehicles? Send your own photos to:
daniel.newcombe@at.govt.nz





Roundabout of the month



This roundabout - well, these roundabouts - are in the US state of Wisconsin. They make an interesting view from above. Hopefully they provide a safe and legible user experience on the ground. Seen a better pic? Email: daniel.newcombe@at.govt.nz



Caption competition

Dave Wanty snapped this fairly confusing use of speed signs on SH1 near Otaki. We wonder what motorists make of it. A suggestion has been made. If you have a caption suggestion, or a photo of your own you want captioning, send it to daniel.newcombe@at.govt.nz



Transport Advice

FOR
DUMMIES



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

Dear Transport Guy

I am sick of this year. It has completely screwed up all my plans and projects. My budget is shot. My workload is unpredictable. Half my colleagues are being laid off, the other half are overloaded. We're in a global pandemic but everything looks the same. Streets are being repurposed but nothing has changed, but maybe everything has changed. I can't work out what will happen next. Help!

Bert, Paraparamutu

Dear Berk

Its fine, you are just experiencing reality.

~Transport Guy

Dear Transport Guy

What is so innovative about Innovating Strrets? It seems to me it is just a process of taking space away from motorists and giving it to walkers and cyclists, often in very cheap and quick ways. I don't understand why this is so exciting or important.

Greg, Tauranga

Dear Greed

I have bad news for you. You have expertly and accurately identified what Innovating Streets is all about. The only thing you neglected to mention is that it aims to rebalance historical imbalances between vehicle movement and space for people.

The fact that you don't like making streets better for people rather than cars tells me one of two things - either you just can't acknowledge and accept the needs of others around you, or you are hermetically sealed into your car and will never need to walk ever again.

~Transport Guy

Dear Transport Guy

The pandemic. Is it over yet?

Stephen, Ngarawahia



Dear Heathen

Nope. Best stay in your off-the-grid bunker for another six months or so, avoiding all social contact and definitely ignoring the media (which may try to convince you things are getting better). We'll let you know when it is safe to come out, by sending a talking bee which will one day get trapped under your tinfoil hat and sting you repeatedly. Until that day, stay safe. And away from us.

~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 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: Grace Ryan
grace.ryan@ghd.com

Southern Branch Chair: Lisa Clifford lisa.clifford@nzta.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@harrisingrierson.com

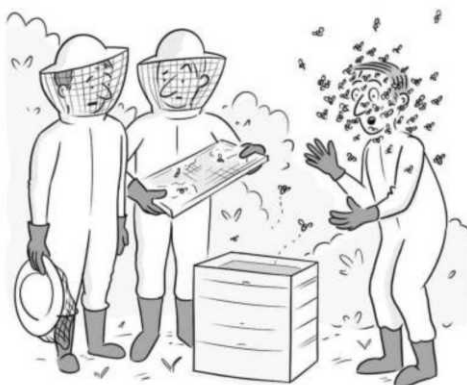
Central: Josephine Draper
josephine.draper@abley.com

Canterbury/West Coast: Grace Ryan
grace.ryan@ghd.com

Southern: TBA



Accordion player tries piano



"I told him as an expert in the field I strongly recommend wearing it, but he just kept bringing up his 'rights'."

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

Kids explain traffic engineering

“Daddy, I know why the motorway is fast. There are no traffic lights!” – Peter, aged 5.