Roundabout

Magazine of the Transportation Group NZ

Issue 174 December 2022

In this edition:

- Electric & On-Demand Buses
- Odd Place Names
- Police Tuk-Tuks
- Trapped In A Carpark
- Ooh La La! French Trains
- Biomass Solutions
- Driverless Cars in NZ

And much more...

Editorial

Daniel Newcombe
Roundabout Editor
daniel.newcombe@at.govt.nz

I work on business cases for a couple of very large, high-profile projects, both of which are currently undertaking public engagement. Probably the most common question I get asked at public events (and, for that matter, at when speaking with other transport professionals) is 'What is going to happen to the project if the government changes?'.

I know I shouldn't be surprised by the question but in my mind NZ is a long way from pork-barrel politics of the US and other countries where projects are often highly politicised and can be generated from political whim.

I have – perhaps naively – been operating under the assumption that most projects make their way through planning, design and delivery phases due to their merits and that they are needed in order to resolve a genuine transport problem. And that this must be particularly true for larger projects because they are subject to even more scrutiny than smaller ones.

Sure they change a bit as industry knowledge improves, but they don't generally stop and start.

So my answer to those questions is usually something along the lines of 'Well, if we do the business case well, it will explain the rationale for this project and be robust enough to withstand winds of political change'.

Contemplating it further, I think I'm half right. Yes, a good business case will clearly show the need for the project, but this is always within the context of the priorities and funding direction of the government of the day.

So if I come up with a great public transport project and the priorities of a new government are for, say, freight efficiency, then it makes sense that my project would take longer to progress to delivery, if not be paused.

So perhaps its luck if the projects we as professionals are working on line up with the government's priorities of the day. I'd like to think that the reasons for doing a project are objective and resilient, but maybe I've just been lucky that many of my projects have been very long term, so if the government changes, I'm still working on the project when it changes back again.

The most common question I get asked is 'What is going to happen to the project if the government changes?'.

Electric Elevated Railway (Suspension Railway) from Wuppertal, Germany

Inside this issue:

Chair's Chat

The Ministry of Transport's recent Knowledge Hub conference was a refreshing reminder that our profession is changing for the better.

There was frequent discussion of equity, wellbeing, and health across the conference talks and in social conversation. There was far more talk about access, than mobility. And there were clever people with practical recommendations about how to change the way we all work, to deliver the outcomes we all agree that we want.

I particularly enjoyed presentation of a recent research report by Dr Eilya Torshizian and colleagues, who were commissioned by Waka Kotahi to research how to incorporate equity in benefit-cost appraisal. If we trust the robustness of the economic research and gloss over the equations and logic that's incomprehensible to most of us, there are gems of insights in this work.
The standout for me was the need to shift from a mobility paradigm to an access one. As Eilya said, most of our peer countries have done this already, so Aotearoa is behind.

Traditional 'travel time savings' being used to justify (poor) investment decisions is a tangible example of what we are doing wrong. If we use those metrics, we assume that demand as indicated by traffic volume is something we can accommodate with more roadway space.

Worse than that, we are pretending that mobility is a good thing in and of itself. Aside from the Sunday drive (a guilty pleasure that can get in the bin if we want the planet to support human life beyond the timespan of our careers), mobility is only useful if it supports access to activities that make a good life.

Torshizian and colleagues say "*We argue that an equitable transport policy needs to provide access to all groups, without taking demand into consideration. We suggest a more useful approach would be to account for demand and the importance of accessibility to different socioeconomic groups."* (RR700, Page 10)

I am optimistic that we will move to an access approach to planning and investment very soon. Phew.

Another sign of industry improving for the better was the diversity of conference attendees.

I am delighted by the number of young woman and people of diverse ethnic backgrounds I see attending and presenting at industry conferences. Perhaps the minority group most conspicuous by its absence is disabled people.

To that point, I am delighted that the Transportation Group is again sponsoring a paid internship this Summer for a student who identifies as a disabled person and is interested in a career in transport.

We will hear more from the student and their host organisation in the March issue of Roundabout.

Also in March, I will end my two-year term as Chair of this Group. Look out for our announcement coming to your inbox about nominations for Vice-Chair so that our leadership succession can be assured.

Meanwhile, if you have any thoughts about the profession or the Group that you'd like to share, of course you can contact me or our Roundabout editor, Daniel. We hardly ever get fan mail from members - or any mail, for that matter – and we like hearing from you. So if you have something to say, feel free to get in touch.

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Bridget Doran
National Committee Chair
bdoranmrcagney.com

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 editor Daniel Newcombe at:

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

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NZ-made e-bus hits the road

A New Zealand designed and made electric bus, the E-City, took its first passengers on a trial ride during the Bus and Coach Association conference in Rotorua recently.

Developed and manufactured by Zemtec (Zero Emission Technologies) in Auckland, the bus is a new development for sustainable transport in New Zealand. Zemtec chief executive John Bayes says the E-City is the first fully electric bus designed entirely from the ground up and created and built here.

"It's a complete new bus design. We've been able to take advantage of the new technology and make it much lighter and more comfortable, with a completely flat floor running from the front to the back of the bus."

"The New Zealand Government and most Australian state governments plan to completely decarbonise their public transport bus fleets over the next 10-15 years. This will create considerable demand for new zero-emissions buses, so we are really excited about what we have developed and how we may contribute to meeting that demand."

The New Zealand Government and most Australian state governments plan to completely decarbonise their public transport bus fleets over the next 10 -15 years. This will create considerable demand for new zero-emissions buses.

Bayes says the E-City is a true new generation zero-emissions bus run on batteries with support from solar panels built into the roof of each bus. It contains many innovative design features which make it 30% more energy-efficient than any other e-bus on the New Zealand market.

Most current electric bus are based on old diesel bus designs which are considerably heavier than the E-City. The E-City will carry more passengers at a much lighter weight than its competitors, which means that its road user charges, charging costs and driver training costs are also lower. It can also travel around 300 km before it needs re-charging.

The price of the Zemtec E-City bus is currently being finalised, but while it will cost more than the e-buses being imported from China, its operating costs, and whole of life costs, will be "significantly lower", Bayes says.

Zemtec is currently taking expressions of interest from bus operators in New Zealand and Australia and there's a lot of interest, he says.

"We're currently validating our sales projections through the interest we are receiving and have arrangements in place to scale up manufacturing quickly, if required."

Zemtec's parent company, Bayes Coachlines Limited, has received $302,000 from the Energy Efficiency & Conservation Authority's (EECA) Low Emissions Transport Fund towards the construction and trial of the E-City bus.

EECA transport portfolio manager Richard Briggs says the interest with the fund is in bringing new options to market to continue to accelerate transport decarbonisation.

"We are looking forward to seeing how the innovative design and build of the E-City performs. Well done to the team on reaching this milestone."

Zemtec is in discussions with Auckland Transport on plans to trial the E-City bus on commercial routes in Auckland.

The E-City was officially launched by transport minister Michael Wood at the Energy Events Centre in Rotorua on October 11.
Source: TransportTalk

Letter to the Editor

Dear Editor,

I have just read the excellent "Chair's Chat" in Issue 173 of Roundabout. Well Done, Bridget.

In recent times we have witnessed around the world catastrophic events which are a consequence of Climate Change. As these events are so horrendous, for example the flood in Pakistan, I expected that they would be a wake up call for Governments of richer countries around the world.

I had hoped to see an increase in urgency around actions to address climate change. But I don't see any evidence of increased action, in fact, the reverse.

Just one example: Daily in our newspapers we see full page advertisements for holidays to all parts of the world. Why are we promoting tourism to and from New Zealand? Surely we should be reducing not increasing the amount of air travel and cruises.

I can only agree with Bridget's final comment. "Future generations will most definitely be judging us not by our words, but by our actions" and I fear the judgement will not be complimentary.

Ian Appleton

Below: Recursive Beetles

400 new or upgraded bus stops, 240km of cycleways in $350m nationwide transport package

Almost 400 bus stops will be constructed or upgraded through a $350 million transport funding package in an effort to get Kiwis travelling in a more environmentally friendly fashion.

The Transport Choices package, first announced in May, will also lead to the development of more than 240km of cycleways, alongside more than 100 safety improvements to school areas and 11 new bus prioritisation lanes through funding spread across councils across New Zealand.

Transport Minister Michael Wood announced the details of what would be funded through the package in Auckland recently.

"The ambitious Transport Choices package will help people in communities across the country get to where they need to go more safely and efficiently, and help to reduce emissions, supporting us to meet emission reduction targets as set out in the Government's Emissions Reduction Plan released in May 2022," Wood said.

Council representatives from across the country have welcomed the Government's support of local projects, including from the Far North, Hamilton, Tauranga, Bay of Plenty, Rotorua, New Plymouth, Horizons, Lower Hutt, Christchurch and Dunedin.

Auckland projects included enhancements to the northwestern busway feeder routes and new bus lanes and cycleways, alongside safety improvements around Māngere College, Māngere Central School, St Mary MacKillop School and Viscount Primary School in Māngere, and Manurewa and Homai train stations and the Blind & Low Vision Education Network NZ's Homai campus in Manurewa.

Auckland mayor Wayne Brown said he was grateful for central government support, even though the projects were not considered a high priority.

"There always has to be some give and take when central and local government are both involved in planning, funding and implementing transport projects," he said.

"That's why Minister Wood and I need to work together quickly to agree a plan for one high-quality, joined-up transport system."

In Christchurch, funding had gone toward creating more walkable neighbourhoods, particularly in Linwood, by linking public transport and footpath connections.

Christchurch Mayor Phil Mauger said the projects would help achieve a more efficient transport network while reducing emissions.

"Staff focused on Linwood because of its proximity to the central city, its potential walking and public connections to community hubs and the number of schools in the area.

"We're really committed to reducing our transport emissions, but also want to make it safer and easier to travel around the city's east."

Far North mayor Moko Tepania was glad improvements hadn't been limited to major centres, noting Kerikeri residents would see new cycle lanes created.

"Provincial communities often feel left out when it comes to the funding of projects like this so this is an excellent success and I look forward to seeing more," he said.

In Stratford in Taranaki, connectivity between schools and Whakaahurangi Marae was currently hindered by State Highway 3, which split the town in two.

Through funding from the package, Stratford District Council aimed to provide connections between the schools and the marae for those riding bikes, with the overall goal to allow students to travel safely without the need for parental supervision.

About 4km of road space would also be reallocated to connect three primary schools in the western part of Stratford's township in a bid to increase safety.

Waka Kotahi would now work with successful councils to further refine and scope project proposals, with construction beginning on some projects by June, 2023.

Source: NZ Herald

Stratford District Council aimed to provide connections between the schools and the marae for those riding bikes, with the overall goal to allow students to travel safely without the need for parental supervision.

In other news, people who speak Welsh walk two minutes faster than those who speak English


The UK's Oddest Place Names
Brawl
Fattiehead
Lost
Brokenwind
Dull
Rest and Be Thankful
Spunkie
Wide Open
Pity Me
Ae
Stranagalwilly
Crackpot
Giggleswick
Wetwang
Blubberhouses
Jump
Llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogogoch
Besses o'th' Barn
Bunny
Chemistry
Barton in the Beans
Great Snoring
Wig Wig
New Invention
Plwmp
Nasty
Upton Snodsbury
Matching Tye
Mumbles
Catbrain
Marsh Gibbon
Horrid Hill
Curry Mallet
Donkey Town
Nether Wallop
Loose Bottom
Brown Willy
Beer
Droop
Blotusfleming
Crapstone

What in-person multi-modal training would you like to see in 2023?

Waka Kotahi (NZ Transport Agency) is keen now to start delivering once more some training courses at locations around New Zealand.

The Covid disruptions of the past couple of years have limited our ability to deliver in person multi -modal transport training courses to the industry.

Although this void has been somewhat filled by online webinars (and these will continue), Waka Kotahi (NZ Transport Agency) is keen now to start delivering once more some training courses at locations around New Zealand.

Potential topics to deliver include existing and new courses (typically 1-day) in:

- Planning and design for walking
- Planning and design for cycling
- Advanced cycle intersection design
- Planning and design for public transport
- Designing Streets for the 21st Century (2-day course)
- Mini Designing streets for the 21st Century (1-day course)
- Safe System design for Walking, Cycling & Public Transport (half-day course)

Ideally the first courses would be delivered from February 2023.

Locations would be dependent upon demand, although likely to focus in the main centres of Auckland, Wellington and Christchurch. Custom in-house offerings for large organisations could also be considered.

We would like to hear from anyone who is interested in attending any of these courses (or their staff).

Please complete a short (3 minute) online survey.

We hope to advertise the first courses early in 2023, maybe sooner.

For any additional queries or discussion about in-person training opportunities, you can also email Waka Kotahi's team

Kerbside is valuable road space

Auckland Transport (AT) is creating a GIS-based application to baseline and visualise region-wide kerbside allocation.

Road space is a valuable public resource with many competing uses, and road controlling authorities have a key role to play in managing this space effectively and efficiently.

With the 2020 Government Policy Statement on Urban Development, planning rules no longer include minimum requirements for onsite parking.

This means that development mightn't provide onsite parking, which is likely to lead to more pressure on publicly provided parking – especially parking within the road corridor.

Add to that pressure: land use intensification and population growth. At the same time, it is recognised that parking availability plays a role in travel demand management, with implications for air emissions and congestion.

The resulting dataset classifies how the kerbside is utilised/allocated. AT have begun to map this data in GIS, with an initial focus on the Auckland City Centre, in anticipation of receiving data for the rest of the region in early 2023.

A digital inventory of kerbside allocation will help AT better understand its assets and enable further use of technology in management and compliance monitoring.

It will also assist in answering questions such as:

- How much road space is used for parking?
- How much is allocated for transporting people, goods and services?
- How much on-street parking is available for mobility parking? Loading zones?

This work raises opportunities for nation-wide collaboration in further developing this, and other tools for kerbside and transport management.

Look out for further updates as AT develops this app.

Fedasen mobilised a camera-mounted vehicle around Auckland's urban roads collecting imagery, which was then analysed using artificial intelligence to interpret road signage and line markings

AT's GIS-based application uses data commissioned from/collected by Australian-based company, Fedasen.

Fedasen mobilised a camera-mounted vehicle around Auckland's urban roads collecting imagery, which was then analysed using artificial intelligence to interpret road signage and line markings.

If you have any queries or requests for further information, please direct them to: ATParking-Map@at.govt.nz.

Manaaki Tāngata

Transportation Group Conference 2023

Transportation 2023 is Aotearoa New Zealand's premier forum for the transportation planning, safety, engineering and design community. The conference is intended to stimulate debate and provide problem-solving and thought-leadership amongst peers within the transportation sector and related professions.

We want to welcome you, our manuhiri, to Tauranga for an excellent three days of education, connection, and discussion. Secure your earlybird registration now alongside your onsite conference accommodation at Trinity Wharf Tauranga.

We are expecting a great turnout that will provide vital networking opportunities and great important conversations that will help shape the future of transport.

Register here

Conference website

At the Transportaion Conference 2023 we will share and discuss all of the ways that we care for people and our communities by working to improve health and wellbeing. To do this we will explore how transport contributes to the four dimensions of the Te Whare Tapa Whā model.

With several exciting projects underway in the Bay of Plenty, there will be no shortage of subjects for the conference technical tours. Our theme of Manaaki Tāngata will provide an interconnected lense between the tranport system and the wellbeing and health of Aotearoa New Zealands tangata whenua.

TRANSPORTATION GROUP NEW ZEALAND

Stantec

aurecon

CSP

beam

3M

SIDRA SOLUTIONS

Manaaki Tāngata
Caring for the People

Networking Functions

Join us on Tuesday March 28, for pre-conference networking at the Barrel Room. Located at 26 Wharf Street, the Barrell Room will provide the perfect setting for getting excited with your colleagues about the days ahead. This is a self paying event.

Our other great networking functions include the Welcome Function on the Water and the Conference dinner at the Papamoa Surf Club. Both will provide opportunities for networking with like-minded individuals. Get your registration in and secure your spot at both these amazing functions.

Cultural Tour to Otamataha Pā

On Wednesday at 5pm, before the Welcome Function, join Buddy Mikaere on a cultural tour to Otamataha Pā. This cultural tour will provide informative insights on the history of Tauranga.

Programme Update

View the online agenda here

Keep an eye on our conference website to see programme updates. Our programme boasts lots of interesting and relevant presentations. Our second call for abstracts has closed and you can be sure of some great conversations and learning.

Sponsorship opportunities

Book your sponsorship here

This is our invitation to you, to be a part of this vital journey by sponsoring the Transportation Group Conference in 2023. Reshaping transport is vital to the future of New Zealand so we can all live happy healthy and connected lives.

"If the four walls of the whare are strong and well, then the people are strong and well"

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"There will be no driverless cars on a dead planet"

'Smart', 'intelligent' and 'advanced' are great words when they're applied to mobility – but just make sure they can actually change the world for the better, warns Professor Glenn Lyons.

The biggest word I learnt during my PhD was 'anthropomorphising'. It means attributing human characteristics or behaviours to an animal or object. My PhD (30 years ago now) was about using artificial intelligence (neural networks) to model driver behaviour.

Turns out I was ahead of the curve on driverless cars, I just didn't know it. I ended up in this PhD topic for two reasons: (i) I was a computer geek in my teens in the '80s, writing and playing games on my ZX81 and ZX Spectrum; and (ii) I started falling in love with transport during my undergraduate degree in civil engineering.

"Will driverless cars help address climate change, social inclusion, liveable cities and improved public health; and if so how?". That's a wicked problem (linked to multiple other wicked problems).

With regard to the latter, it was the module on traffic management that did it. I found it fascinating how a formula had been developed to determine the phasing on traffic lights to optimise the throughput of vehicles at a junction. These were my kind of problems, I was up for more.

Before I knew it, I was spending my postdoctoral years in a group renowned internationally for its research into Intelligent Transport Systems (the Transportation Research Group at the University of Southampton in the UK – I owe so much in my career to what I learnt from its Director at the time, Professor Mike McDonald).

Fast forward to the me of today and I'm the Mott MacDonald Professor of Future Mobility at UWE Bristol. It's important to note that I'm not Professor of Smart Mobility or Professor of Intelligent Transport. This was a conscious choice because along the way I've never forgotten the criticism from that reviewer of the draft journal paper from my PhD – criticism that I was guilty of anthropomorphising as I referred in the article to my artificial neural network models as if they had human qualities.

Wicked problems

Don't get me wrong, I haven't lost touch with my engineering and technology roots. In fact, I've made a career out of addressing the collision and merging of the digital age and motor age. However, what I have come to realise is that the bigger picture of our sector has problems way beyond that complex but soluble problem of optimising traffic signals which drew me into transport as an undergraduate.

The problems I'm referring to are known as wicked problems. They are problems characterised by: (i) a divergence of perspectives and values people hold about the problem itself; (ii) a lack of evidence about the problem; and (iii) being intertwined with other complex or wicked problems.

Let me give you an example: driverless cars (or self-driving cars for the purists among us). There are two very different questions we can ask. The first is "How can we make a driverless car that 'works' and doesn't kill people?". That's a complex problem. Not easy to solve but a matter of inventive flair and enough funding in charting a course to a solution.

The second question is "Will driverless cars help address climate change, social inclusion, liveable cities and improved public health; and if so how?". That's a wicked problem (linked to multiple other wicked problems). Impossible to even attempt to answer without a litany of 'it depends' qualifications relating to how the invention of a driverless car becomes an innovation – something that is adopted by, and which then shapes, society.

This is the professional world I now inhabit. I'm concerned with how we try and manage the slew of wicked problems in the transport sector – problems that exist within a world that is in a state of considerable flux which has given rise, for many of us, to a sense of deep uncertainty about what the future has in store. Oh, how I sometimes long to be back in the world of bounded, soluble problems like optimising signal timings at a junction. Don't misunderstand me, we still very much need those soluble problems to be solved. But they are often the tip of the iceberg when it comes to determining whether we are making transport 'better'.

Climate change

Years ago I wrote an article called "From Advanced to Effective Traveller Information Systems". 'Advanced' is in the same cadre of terms as 'intelligent' and 'smart' for me. To be truly advanced or smart, solutions surely have to deliver outcomes that are good for society – they have to be effective. And perhaps the most wicked problem of all is how we address climate change.

If we are not effective in managing that problem then all bets are off regarding what 'intelligent' transport inventions might have delivered for society. There will be no driverless cars on a dead planet; unless the rise of the machines is imminent, which I doubt.

One of the reasons addressing climate change is a wicked problem is because of the globalised system of systems we now inhabit within which there are multiple vested interests at play. And can there be many more powerful vested interests that drive behaviours throughout society than profit and power? Think about it for a moment.

Private sector companies are expected to make a return on investment for the venture capitalists and shareholders behind them. They need to produce products or services that the public wish to consume. Profit drives marketing which is used

to shape lifestyle aspirations of consumers to want the products or services on offer. Consumers who are then signed up to those lifestyles are also voters. Voters matter to politicians and politicians matter to private sector companies – power and profit.

Public authorities looking to try and shape a better future for their citizens have their behaviours governed by their elected members. The work they procure from consultants and academics is indirectly influenced by power and profit. While consultants may wish to play a part in shaping a better future, they are beholden to turning a profit and giving their public sector client what they want (even if they should really try to give them what they need, which may be different). You start to see how hard it becomes to pursue future mobility that is smart enough to be sustainable (and not just profitable).

Manifest influences

This interplay of influences between actors is manifest in the world of ITS. Gartner (a technological research and consulting firm in the US) came up with a wonderful model that depicts how so many new and exciting inventive ideas play out. You may have heard of it, but if not I encourage you to read more on it: Gartner's Hype Cycle.

From initial obscurity, an idea or possibility captures the media's interest. Think driverless cars (we're still waiting for the revolution), Mobility as a Service (why are private cars still a thing in cities?), 3D printing (you mean you don't print your clothes at home?), machine learning (why hasn't one passed the Turing Test yet?), flying taxis (oh, p-lease).

We read stories and tweets about how transformational these new inventions are set to be. The buzz around them reaches what is know as the 'peak of inflated expectations'. Beyond this, media interest dies down as tests and trials start to reveal just how challenging it is to deliver what the hype had suggested.

Visibility of the idea subsides downwards to what is called the 'trough of disillusionment'. Some ideas stay there and die. Others continue their journey onwards, overcoming obstacles and, albeit in perhaps a more muted way than first anticipated, ascend up the 'slope of enlightenment' to the 'plateau of productivity' where they have entered into society – from invention to innovation.

It really becomes quite amusing if not infuriating to see how politicians are 'seduced by the siren sound of technology' when the peak of inflated expectation is being reached. Equally, investors can get greedy at this stage, seeing revolution just around the corner and wanting to profit from it.

'Pump and dump'

I learnt of a lovely Silicon Valley notion which is called 'pump and dump'. The hype surrounding a new phenomenon draws investors in like moths to a lamp. The expectation of huge future profits inflates market valuation of the company or companies pushing forward the phenomenon.

Having 'pumped' the phenomenon, the smart investors sell their stock while the share price is high knowing the hype will soon give way to reality. The 'dumped' stock is gobbled up by less shrewd investors who then watch the share price tumble. Pump and dump! I mean, who cares if the hyped idea ever becomes a reality if you can turn a profit along the way?

Pump and dump! I mean, who cares if the hyped idea ever becomes a reality if you can turn a profit along the way?

Well, thank you for still being with me as I draw this piece to a close now. I've tried to share some of my personal learning journey during my professional career, associated with the world of ITS. I still get excited by the art of the technologically possible. Though I have to say that the last 30 years has shown me that much more transformational change has happened in the digital age than the motor age – just look at how we have been living our lives through our device screens rather than windscreens during the pandemic.

My closing message is to be on your guard – don't bandy about terms like smart, intelligent or advanced unless you can argue with conviction that they are set to play their part in shaping a 'wicked' world for the better. And good luck to us all in that endeavour.

Glenn Lyons is Mott MacDonald Professor of Future Mobility, UWE Bristol, UK

Source: ITS International

Police unveil tuk-tuks as latest crime fighting tool

Officers will be using the motorised rickshaws to patrol parks, walkways and elsewhere.

Italian police have driven Ferraris, American officers Corvettes and in the United Arab Emirates the Bugatti Veyron has been used.

To this list Gwent Police have added their latest weapon in the fight against crime - the mighty tuk-tuk.

The force snapped up four of the three-wheelers to use in Newport and Abergavenny, in Monmouthshire. It said officers will be using the motorised rickshaws to patrol parks, walkways and elsewhere.

The force has not said how much it spent on the vehicles, which have a top speed of about 55km/h. But one dealer was advertising them online from £10,995.

Gwent Police said they will be used as "safe spaces" where crimes can be reported, help sought and crime prevention advice given.

Ch Insp Damian Sowrey said: "They were on show at our Behind the Badge day, giving local residents the opportunity to see them up close and to hear more about how they will be used.

"The feedback was overwhelmingly positive with parents telling officers that they would feel safer knowing that there was support for young people out at night, and from women who could think of an occasion when the tuk-tuk would have been a welcome sight."

The force said "ambassadors" could also use them, which could include Newport Now staff. Newport Now oversees marketing and management of the city centre.

An agenda from One Newport - a partnership between Newport Council, Gwent Police and other organisations - recently dubbed the vehicles "novelty" and said they could be used by "community safety guardians".

According to that document: "The night ambassador scheme will allow these guardians to drive novelty tuk-tuks to deliver high visibility reassurance patrols within the city centre to make residents and visitors feel safer."

It said tuk-tuks and guardians could be used "across all organisations" which would increase their impact across the city to reduce crime.

Source: BBC Wales

ENTR602: Road Safety Improvement Short Course

The University of Canterbury is pleased to offer a short course on **Road Safety Improvement** in the first semester of 2023.

This postgraduate course (ENTR602: Road Safety Improvement) will cover:

- Road safety issues and initiatives globally and in New Zealand
- Safe systems principles
- Strategies for crash reduction and prevention
- Different ways to measure "safety" and road safety trends
- Statistical modelling and analysis of crash data
- Identification, diagnosis, treatment and monitoring of hazardous locations
- Effects on safety of human, vehicle and road environment factors
- Common industry tools and practices for assessing road safety issues

At the end of the course, participants will be expected to:

- Understand the safety implications of road planning/design decisions
- Be familiar with common statistical techniques for crash analysis
- Be able to assess the relative safety of various traffic situations
- Demonstrate the ability to identify, diagnose and treat typical road safety problems.

The course will be taught by:

- Emeritus Professor Alan Nicholson, University of Canterbury (Course Coordinator)
- Dr Shane Turner, Abley Ltd (Adjunct Senior Fellow, University of Canterbury)
- Dr Glen Koorey, ViaStrada Ltd (Adjunct Senior Fellow, University of Canterbury)

This course will be delivered in two 2-day blocks (Thu 23rd – Fri 24th February and Thu 23rd – Fri 24th March) at the University of Canterbury campus (Ilam, Christchurch). On-line participation can be arranged. The course will also feature calculation assignments, a crash investigation case study, and a final exam.

The course will benefit industry professionals and practitioners involved in road safety but with little formal training in the area.

The course can be undertaken as a one-off paper or as part of a postgraduate qualification. The fee for NZ residents is **$1133** incl. GST, plus a Student Services Levy.

See https://www.canterbury.ac.nz/enrol for further information about how to enrol for this course ("ENTR602-23S1").

For any queries or further details about this course, please contact Prof Nicholson:

Email: Alan.Nicholson@canterbury.ac.nz
(put "ENTR607" at start of email subject line)

New law allows Californians to legally jaywalk

A new law signed will allow Californians to legally jaywalk without being ticketed. Pedestrians can now cross the street outside of an intersection without breaking the law as long as it is safe to do so.

The bill, AB 2147, also known as The Freedom To Walk Act, was introduced by Assembly member Phil Ting and signed into law by Gov. Gavin Newsom. The law will take effect on Jan. 1, 2023.

Jaywalking tickets are disproportionately given to low-income individuals or minorities who typically cannot afford to pay the tickets

"It should not be a criminal offense to safely cross the street," said Ting.

"When expensive tickets and unnecessary confrontations with police impact only certain communities, it's time to reconsider how we use our law enforcement resources and whether our jaywalking laws really do protect pedestrians."

Under the new law, officers can cite a jaywalker "only when a reasonably careful person would realize there is an immediate danger of a collision."

Proponents say the law is a win in decriminalizing jaywalking, for which tickets are disproportionately given to low-income individuals or minorities who typically cannot afford to pay the tickets.

"No longer will law enforcement be able to stop people who are safely crossing the street and burden them with citations and heaps of debt," said Zal Shroff, senior staff attorney at the Lawyers' Committee for Civil Rights of the San Francisco Bay Area.

"For too long, our jaywalking laws were used as a pretext to stop and harass people, especially low-income people and people of color. The reforms enacted in AB 2147 will put an end to that and, in doing so, make all of California safer for pedestrians."

Supporters say lower-income communities typically do not have the funding or infrastructure to provide safe crosswalks, while the new law could also prevent a jaywalking arrest from turning serious or fatal, citing incidents in San Clemente, the Bay Area and Sacramento over recent years.
Source: KTLA.com

Locations Johnny Cash claims to have been in the song "I've been everywhere"

Bollards: A Photo Essay

Westfield Newmarket shoppers trying to exit carpark are trapped for hours

A man says he was stuck trying to leave an Auckland shopping centre car park for two hours – one of several disgruntled drivers who said poor design and heavy traffic kept them in long queues.

Wally Wells went to Westfield Newmarket for some food on a recent Saturday, returning to his van to leave just before 3pm.

After pulling out of his car park on one of the top floors, Wells says he joined a queue of cars at one of the down ramps to exit.

Wells said he finally got out of the car park after two hours, but spent more time stuck in traffic as he tried to get onto the motorway.

From there, Wells estimated it took him an hour to move the length of six cars.

Eventually, there was a queue of cars as far as he could see both in front and behind him.

"No one could get out," Wells said, adding that he spent his time in the queue listening to an audiobook while feeling angry.

Wells said he finally got out of the car park at about 5.10pm, but spent more time stuck in traffic as he tried to get onto the motorway.

"The entirety of Newmarket was gridlocked."

He believed the Westfield Newmarket car park had been poorly designed with one way lanes, so it could fit more car parks.

"The car park is far too large for the road's ability to absorb that many people. Everyone is funnelled into the same spots."

Sandra Macaulay and her friend left the mall at 3pm, as she needed to drop her friend at the airport.

By 3.10pm her car had barely moved, so Macaulay told her friend she would need to grab her bags and catch an Uber if she didn't want to miss her flight to Wellington.

"By the time she was in the Uber, I'd gone forward about two car park spaces."

Macaulay was still in the car park by the time her friend reached the airport. She eventually got out at 5.25pm, after almost two and a half hours of queueing.

Her friend arrived in Wellington – a one-hour and 10 minute flight from Auckland – just as Macaulay arrived at her home in Castor Bay on the North Shore.

Macaulay, who was also parked near the top of the car park, believed the traffic jam was due to drivers feeding into the queue from the floors below.

"I probably won't go back to the Newmarket mall."

Westfield Newmarket security guard Victory Ipiniu wasn't aware of any incidents causing a traffic jam inside the car park, but said traffic had been heavy around the shopping centre on Saturday.

"It's all jammed up. There's cars everywhere," he said, adding that the rain didn't help.

He had received some calls from people in the queue, including someone who had been waiting 45 minutes to get out of the car park.

Westfield Newmarket and its parent company Scentre Group have been approached for comment.

The Auckland Transport website suggests people use public transport to get to the mall to avoid heavy traffic.

"Newmarket [Station] has train links with the three Auckland rail routes and an excellent bus service connecting it to the CBD and down Manukau and Remuera Roads."

Source: Stuff.
This is a Public Interest Journalism funded role through NZ On Air

Car colour and crash risk:
Black - 47% more likely
Grey - 11% more likely
Silver - 10% more likely
Blue - 7% more likely
Red - 7% more likely

Car colours with the least accidents:
White Yellow Orange Gold

Vacancies:
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Principal Transport Planner
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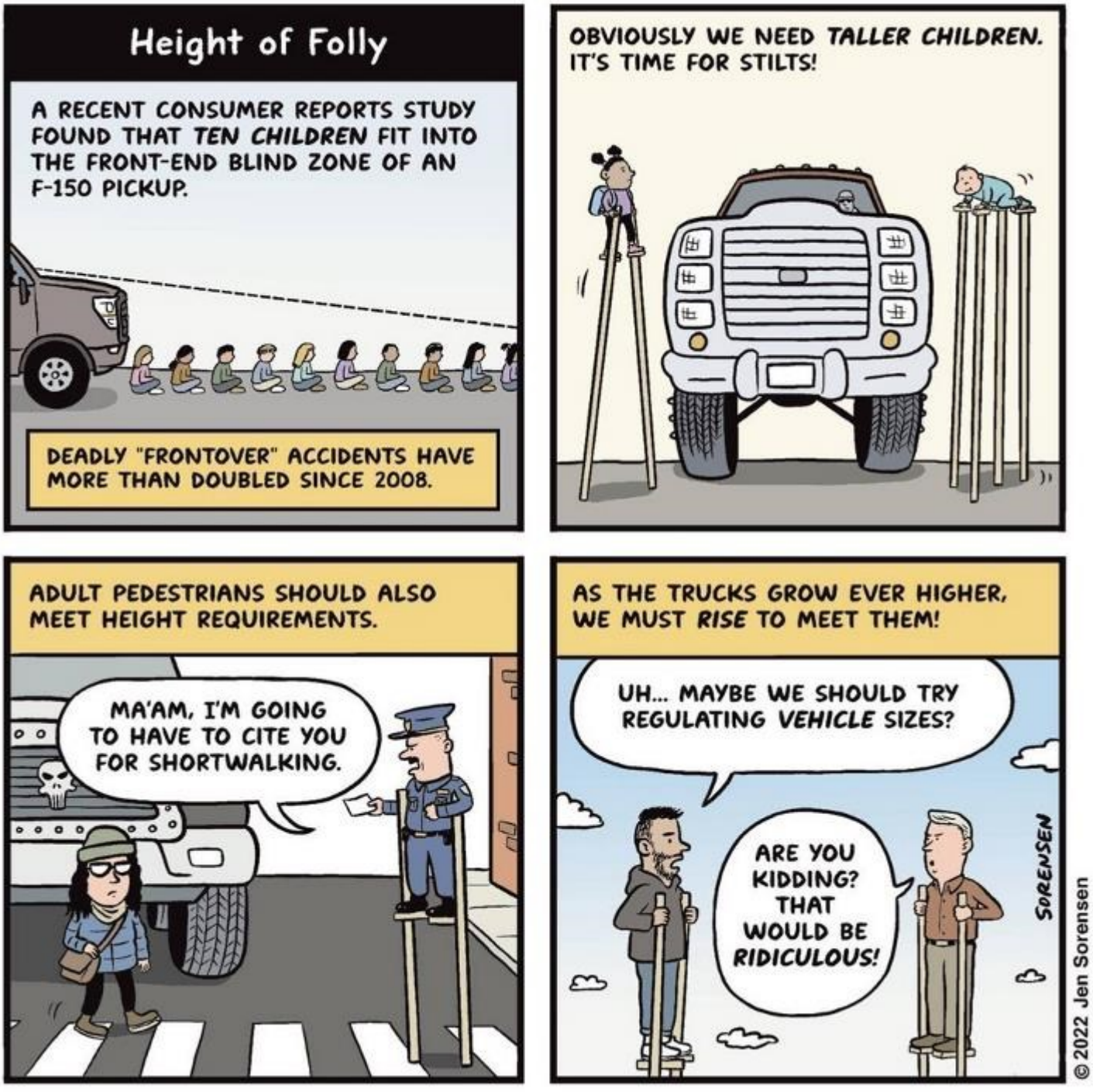
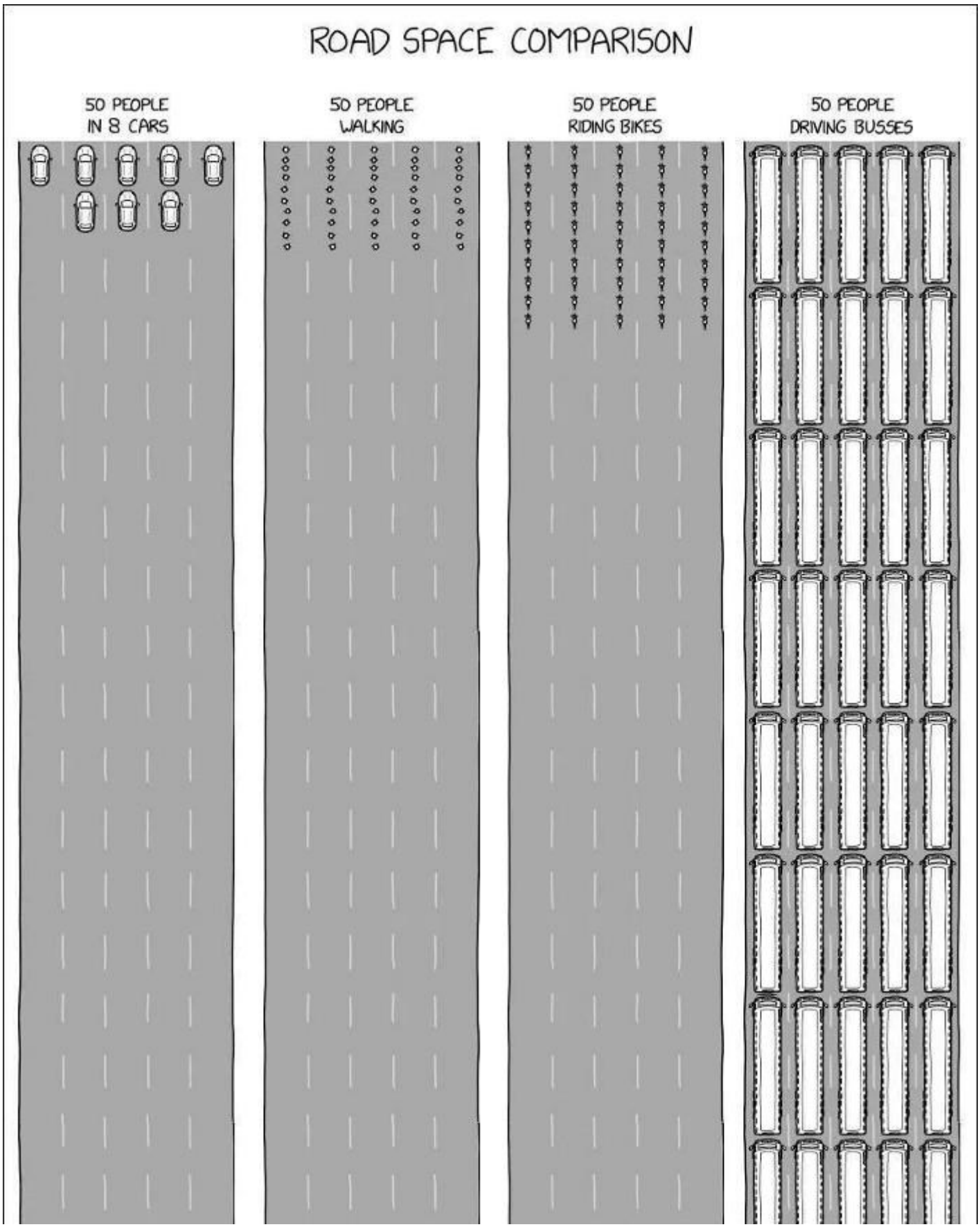
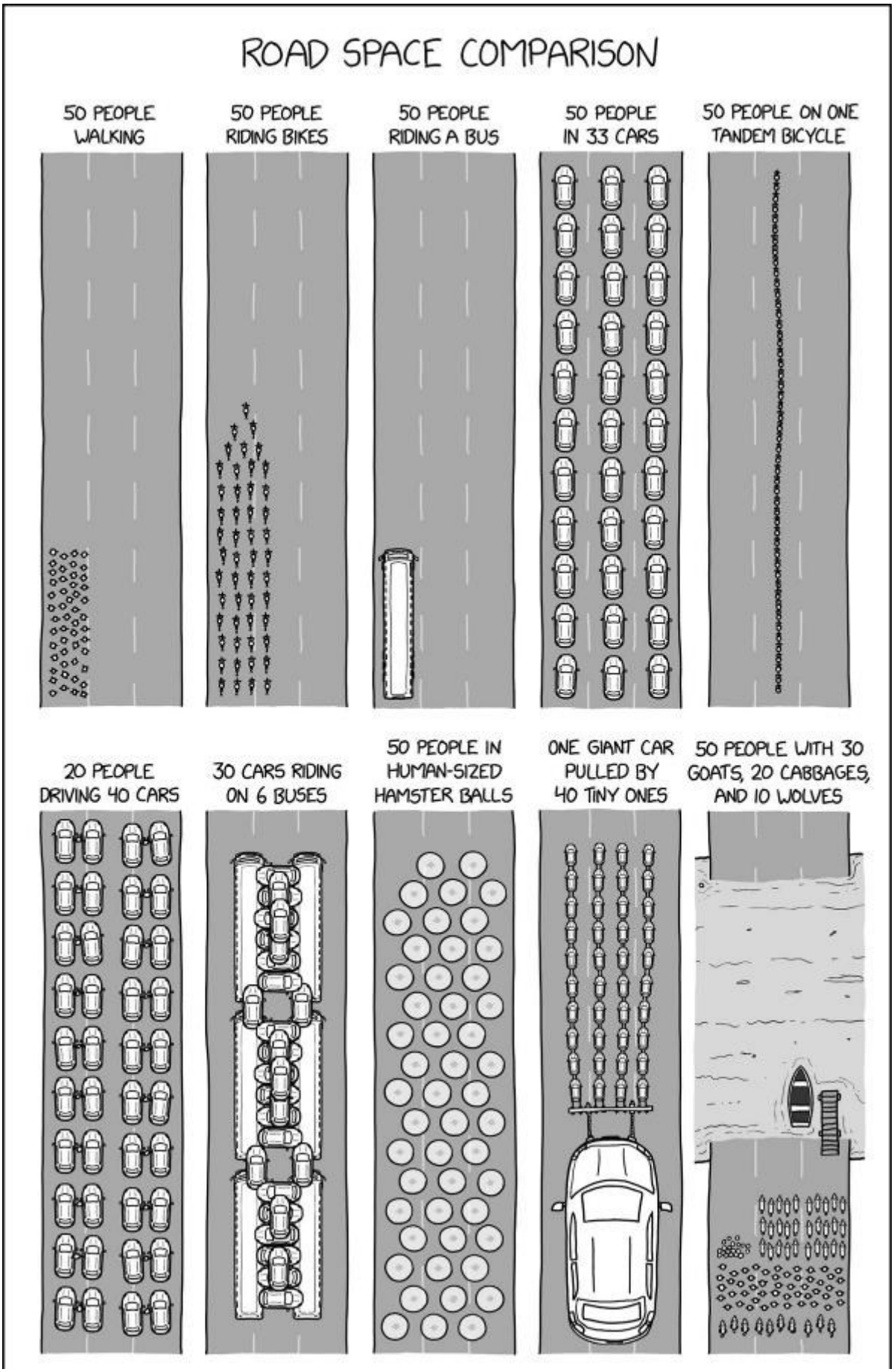



ROAD SPACE COMPARISON
50 PEOPLE IN 8 CARS
50 PEOPLE WALKING
50 PEOPLE RIDING BIKES
50 PEOPLE DRIVING BUSSES


ROAD SPACE COMPARISON
50 PEOPLE WALKING
50 PEOPLE RIDING BIKES
50 PEOPLE RIDING A BUS
50 PEOPLE IN 33 CARS
50 PEOPLE ON ONE TANDEM BICYCLE
20 PEOPLE DRIVING 40 CARS
30 CARS RIDING ON 6 BUSES
50 PEOPLE IN HUMAN-SIZED HAMSTER BALLS
ONE GIANT CAR PULLED BY 40 TINY ONES
50 PEOPLE WITH 30 GOATS, 20 CABBAGES, AND 10 WOLVES

Norway Wants People to Park Their EVs and Ride the Bus

Norway has been incredibly successful at introducing electric vehicles. In 2021, nearly two-thirds of all new vehicle purchases there were EVs, and combustion sales there are set to end just three years from now in 2025. But there's a new problem for the Scandinavian nation: it needs people to stop driving their EVs so much and get on buses and trains.

An electric car is still a car that takes up space on roads, has manufacturing and maintenance costs, and requires energy to move it around, which has to come from somewhere.

Electric vehicles, as people who don't necessarily have purely environmental interests at heart are keen to point out, don't totally negate the downsides of, well, vehicles. An electric car is still a car that takes up space on roads, has manufacturing and maintenance costs, and requires energy to move it around, which has to come from somewhere.

In Norway, the grid energy is pretty darned clean (92 percent comes from hydroelectric generation, the rest from a mix of wind and thermal renewables) but any car still creates emissions, like upcoming pollutant bombshell tire particulates.

So in a statement to Norway's public roads administration, Norwegian transport minister Jon-Ivar Nygard said, “Electric cars give us greener transport, but they also have a clear intermodal competition with public transport in urban areas. We must make it more attractive to travel by public transport, cycle, and walk.”

The way Norway's thinking of doing that is by removing or at least reducing some of the incentives toward buying and driving EVs. The current, very generous provision was set to run until at least the end of 2022 but with public transport usage having dropped during the coronavirus pandemic (as it has everywhere) there's now a need to try and get people out of their Teslas, particularly in urban areas.

In efficiency terms, for C02 and emissions in general, it is always going to be better to use mass transit than individual cars, no matter how green they are.

Norway's problem is that it gave such great incentives to buy EVs, going way back, that now people are choosing to drive their cars, powered from the cheap electricity off Norway's clean grid, rather than get on a bus or train.

Norway has a lot of toll roads. If you ever drive there then you have to register your car and add a bank card; then it works out the total and charges you.

If you drive a small diesel van, like I did when I went there for a World Rally Championship round in 2018, then you find the charges rack up pretty quickly. But if you're in an electric vehicle then the road tolls are substantially reduced. This may not be the case if the government decides to push public transit over personal transportation.

Now, it's not as if Norway wants everybody to sell the EVs they so kindly bought in place of gas cars. It's just that driving yourself when other options are available isn't the best way to cut down on emissions. That seems to be Norway's main goal—not boasting about battery-powered car sales—so time will tell what the country decides to do with its existing incentives.

Source: The drive.com

TGV, ooh la la: France unveils next generation of high-speed train

What's French for the future of European high-speed travel?

French national rail operator unveiled its new-look "TGV of the future" trains ordered from manufacturers Alstom recently.

At an event at La Rochelle West France, it was a look at what might be dubbed the "nemesis of low-cost air travel".

La Train à Grande Vitesse or TGV has been a regular fixture of the tourist route, traversing the French countryside. The TGV M is the latest generation of train, aims to attract more travellers out of the skies and onto the rails.

Blasting through the railways at 350 km/h they're due to carry their first passengers in 2024. Apart from shipping travellers around the country - it is clear that the TGV M has "intercontinental" ambitions.

State-owned rail operator SNCF (Société nationale des chemins de fer Français) placed an initial order for 100 units, later adding 15 new-age locomotives for international services.

It's clear that TGV has the ambition to go up against routes served by low-cost air carriers. Five years after placing the $2.7 billion order, the attitude towards air travel has changed in France.

Concerns over jet emissions prompted the French Government to ban airlines from operating routes where a rail or public transport route is available in under 150 minutes.

Coming into effect in April, The Guardian reported this had eliminated 12 per cent of short haul flights in favour of trains. The new high-speed carriages are likely to shrink the domestic air network further.

However the biggest asset the double decker trains have over aircraft is cabin space. The new generation increases capacity over the last generation of caboose by over a fifth, to 740 seats.

That's four easyJet A320 planes stuck together and a fraction of the emissions.

President of Alstom France, Jean-Baptiste Eyméoud who was at the unveiling said the TGV M was not focused on going faster but going further, more economically.

"With a 32 per cent reduction in CO2 emissions, the TGV M is fully in line with the SNCF Group's environmental commitments," said a statement.

As laudable as these sustainability credentials are, they were met with so much sang froid on Friday. It was the design elements and concepts which inspired a bit more Gallic passion.

Social areas such as the train bar and "passenger lounges" have been designed for a "serene and peaceful journey" with 5G internet real-time route and train speed information.

Modular cabins can be quickly converted to add more first class cabins on commuter routes or extra luggage and bicycle storage during the summer holidays.

The windows have also been enlarged for "panoramic views" of the French countryside.

The first call for the TGV M is the Velim, the Czech Republic for speed testing by the end of this year.
Source: NZ Herald

Concerns over jet emissions prompted the French Government to ban airlines from operating routes where a rail or public transport route is available in under 150 minutes.

Biomass future for Pacific Island Nations

Woodchip being prepared for export in Fiji (Source: FBC news)

Diesel is impressive.

Impressive in its abundance, energy density and liquid transportability. These unique features have made diesel ubiquitous to heavy transport and agricultural traction in the 20th and 21st centuries.

This powerful substance now does the work equivalent to having an additional 50 billion manual labourers on the planet. It powers the machinery that feeds 7.5 billion people worldwide. Every product in existence relies on diesel, at some stage of its journey, to reach the market.

Diesel's grip on our world is impressive indeed. Pacific Island Nations entered the diesel powered global economy without much say in the matter and today they pay the highest price for their participation.

As the price of diesel reaches all-time highs and continues to rise steadily, so do global temperatures and sea levels. Diesel's immense contribution to the climate crisis, which already disrupt life in the Pacific, makes it completely unviable as a future fuel.

This raises questions; when diesel duly departs, what will fill the void that it leaves behind?

And is this 'solution' practical, affordable or appropriate for the Pacific?

Mackwell Locomotive Co, a Christchurch based company, have developed a transport technology which can help with this predicament. They specialise in the design, development and construction of advanced-steam locomotives which run on biomass fuels.

This raises questions; when diesel duly departs, what will fill the void that it leaves behind? And is this 'solution' practical, affordable or appropriate for the Pacific?

Biomass is regenerative, transportable and carbon neutral as the next season's growth cycle absorbs the previous season's emissions. Local communities can purpose-grow biomass fuels for market or they can be sourced from industry waste streams. In the Pacific Region, wood-chip, coconut husk and sugarcane bagasse can all be easily sourced in bulk from the respective forestry, coconut and sugar industries.

Biomass fuels require minimal effort to produce. You simply grow, tend to and harvest the crop before processing it (e.g. through a chipper) for consumption. As a result, biomass fuels retain almost all of their energy and have an Energy-Return On Investment greater 25:1. This means for every unit of energy invested in producing the fuel, you will receive at least 25 units of profit energy back.

In comparison, liquid biofuels require intensive agricultural equipment, synthetic fertiliser and complex factories to grow, process and refine energy crops into a diesel equivalent. Thermodynamic losses throughout the process render liquid biofuels with an Energy-ROI of 2:1 or less.

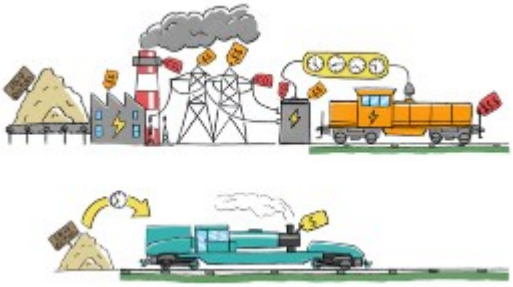
Low Energy-ROI fuels will require significant capital investment and fossil resources to scale-up. As they scale, intensive biofuel crops will displace food production across huge areas of fertile land. Liquid-biofuels are therefore unfit for todays world of rapidly unfolding food and energy crises.

Fiji exceeds the global average for biomass production capacity (Source: Tropik Wood Industries Ltd.)

It is the 'surplus' energy derived from high Energy-ROI sources that is useful. It powers society, maintaining infrastructure and paying for education, arts and healthcare. It enables communities to flourish and is vital to local industry, commerce and trade. Low Energy-ROI energy systems do not make biophysical or economic sense and cannot support a functional society.

The Energy-ROI of popular renewables is also limited, with solar-PV and wind generation falling below 10:1 and 20:1 before accounting for the extra energy cost of resource intensive battery storage.

Renewable systems are also proving difficult to scale up as they require significant investments of fossil fuels and rare earth minerals to establish, all of which need replacement at the end of their 20 to 30 year lifetimes.



Mackwell Boilers minimise material cost and thermodynamic losses

The Mackwell Locomotive Boiler is a highly efficient way to harness and convert high Energy-ROI solid-biofuels into traction.

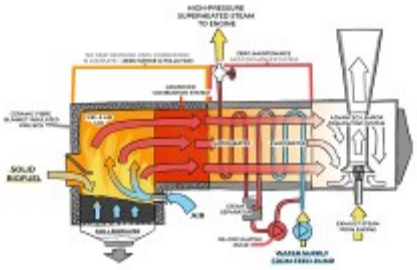
It's unique water-tube boiler has been completely reworked and redesigned, solving the major problems associated with the "iron horses" of the past.

Mackwell boilers are incredibly efficient, safe and pragmatic. They will reach full pressure in 20 minutes rather than 8 hours, cannot explode and utilise complete combustion which eliminates all spark and smoke emissions. They also respond incredibly well to rapid shifts in load demand, which makes generating off-grid electricity an option.

The 400hp test boiler

In the Pacific Region, Fiji's Sugar Industry, which produces large quantities of bagasse and operates a 300+km rail network, immediately comes to mind. As such, Mackwell Locomotive Co. have identified a strong business case for their ZeroLoco™ to decarbonise sugarcane transport. A proposition best summed up in their video, "Cane Trains Beyond Diesel".

The Advanced Steam Technology which powers Mackwell Locomotives is robust, efficient and simple-to-maintain. The 400hp boiler which Mackwell Locomotive Co. built in 2019 has been tested extensively over the past 3 years. This demonstrably successful boiler now forms the basis of the ZeroLoco™ 400 prototype.



The innovative Mackwell Boiler Design

In comparison to an equivalent 400hp diesel locomotive, the ZeroLoco will:

- Reduce fuel costs by 85%,
- Reduce CO2 emissions by 96%
- Reduce overall costs by 35%

These margins are expected to be even greater in Fiji, due to local variations in the price of diesel and wages.

Overall, ZeroLoco™ presents an opportunity the people of Fiji to trial an innovative zero-carbon locomotive. The technology is affordable, resilient and appropriate for the Pacific, promoting a circular economy, energy self-reliance and economic self-determination.

William Bowden is an employee of Mackwell Locomotive Company. He holds a PGDip in Science Communication and a BSC in Geography from the University of Otago.

Enquiries: william@mackwelloco.com

Institutional Barriers to Driverless Cars Deployment in Aotearoa New Zealand

Note: *This article is based on an ongoing PhD thesis on "The future of automated vehicles in Aotearoa New Zealand". This article's part of the thesis was funded by the Transportation Group of Engineering New Zealand through the Tertiary Study Grant, 2021.*

Technology has played a key role in transport innovation throughout history. As early as 1920's, autonomous vehicles (AVs) were envisioned as the 'future' of safer transport system (Fig 1). However, the rapid development of technologies in recent decades including 5G, GPS, and LiDAR had triggered the AV discourse again. Today, AVs are commonly presented as 'disruptive' technologies with ripple-effect implications on transportation and beyond.

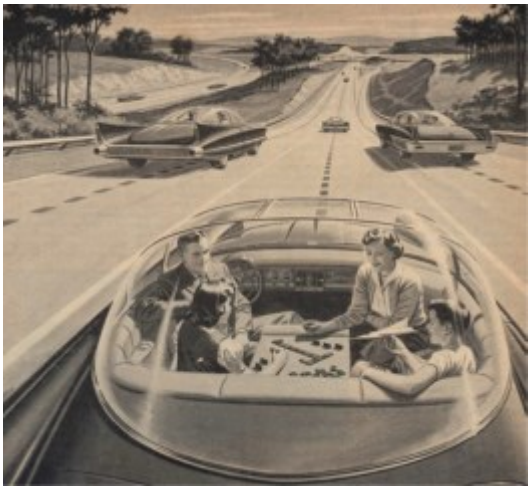


Figure 1: Future AV concept by 1953. (Source: Kröger, 2016).

In the context of New Zealand (NZ), there is no legal requirement for a driver to be present in a moving car, showing uniqueness of NZ to adopt AVs compared with countries overseas. For instance, Christchurch Airport had already adopted an AV shuttle in 2019 (Fig 2), whereas Auckland has been listed as a 'preparing city' for AVs deployment.

However, little is known about why AVs may not be seen operating on NZ public roads in the near future following the Ministry of Transport's recent announcement to put AVs regulation on hold (MOT, 2022). This article sought to explore the institutional barriers to AVs deployment in NZ covering regulatory, resource, and complex organizational structures.

AVs regulatory challenges include issues of certification, cybersecurity, as well as physical and digital infrastructure. In NZ, most of the land transport rules that regulators create are about human drivers (e.g., wearing seatbelts or driving intoxicated).

By contrast, AVs may be 'driverless', which may require reconfiguration of existing regulatory settings. In NZ, vehicles are typically certified through a safety assessment process known as Warrant of Fitness (WoF).

Figure 2: An Ohmio AV shuttle at Christchurch Airport (Source: Christchurch Airport, 2019)

However, the various Advanced Driver-Assistance Systems embedded in AVs may present uncertainties as to how pass or fail a WoF for AVs.

The capability to assess AVs security extends beyond the regulation phase and passing the WoF test. It requires constant monitoring while driving on the road, in which the NZ Police could play a crucial role in ensuring AVs safe performance and enforcement.

However, the Police has no establishment for a 'cyber force' that could constantly monitor AVs safe performance on public roads and potentially prevent cyberattacks on these vehicles and passengers.

Physical and digital infrastructure is essential to enable self-driving across NZ. However, the current state of the infrastructure is not fit-for-purpose. The narrow nature of some NZ roads like Wellington presents challenges to AVs operation. Without dedicated lanes for AVs, driving shuttles for instance on narrow roads with low speed could further exacerbate traffic congestion.

The installation and integration of digital infrastructure with AVs and traffic lights may be another impediment to AVs deployment in NZ. Regulators are currently working to understand what data needs to be consumed but also generated from AVs, as well as how the data can be governed from privacy and security perspectives.

Digital infrastructure provision may be further hampered until the government decides on the agreed vehicle communication standards, and how much or whether any government funding will be allocated in this area.

In terms of infrastructure investment, AVs received very little attention in the Government Policy Statement for land transport funding (GPS).

In the context of New Zealand (NZ), there is no legal requirement for a driver to be present in a moving car, showing uniqueness of NZ to adopt AVs compared with countries overseas.

However, allocating funding for AVs initiatives in the GPS could be challenged by the fact that there is significant demand on the transport system already.

Generally, government funding decisions support more investments in roads than in emerging technologies (such as AVs) because of the notion that roads are expected to last for generations whereas new technologies can quickly become obsolete. AVs investment may also be complicated by the change of governments and political cycle which could make funding short-term in nature, as each government may have different investment priorities for the transport system in the next 10 years.

While it is possible for the private sector to take a leading role and make investments in AVs, both private and public sector investment may be hindered due to the lack of clear policy and regulatory direction for AVs including crash liability and decisions on agreed communication standards for connected autonomous vehicles.

Since NZ government is taking a 'wait and see' approach to AVs regulation, the private sector may be hesitant to make significant investment in AVs in NZ due to the uncertainty of long-term pipeline of work (planning) for AVs coupled with capability challenges at the government level as aforementioned.

The development of an AV policy to enable their deployment may be stifled due to the complex government organisational structures involved in the AV space. This complexity emerges as AVs may have potential implications on a wide spectrum of areas including transport technology regulation, insurance liability, cybersecurity, privacy, climate change, urban development, employment risks and business development, road safety and social justice, as well as the related physical and digital infrastructure investment.

This may impact different pieces of government legislation and could hamper the policymaking and regulation processes due to the involvement and high interdependency between wide-ranging government organisations at the central and local levels.

To this day, scholars still argue about the lack of proper planning for AVs, and planners are commonly adopting a 'wait and see' approach to AVs regulation. However, exploring the institutional barriers to AVs deployment offers insights into where the opportunities lie to make a change but is also useful to understand the complexity of the governance process for AVs and the disruptive technologies of the future.

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

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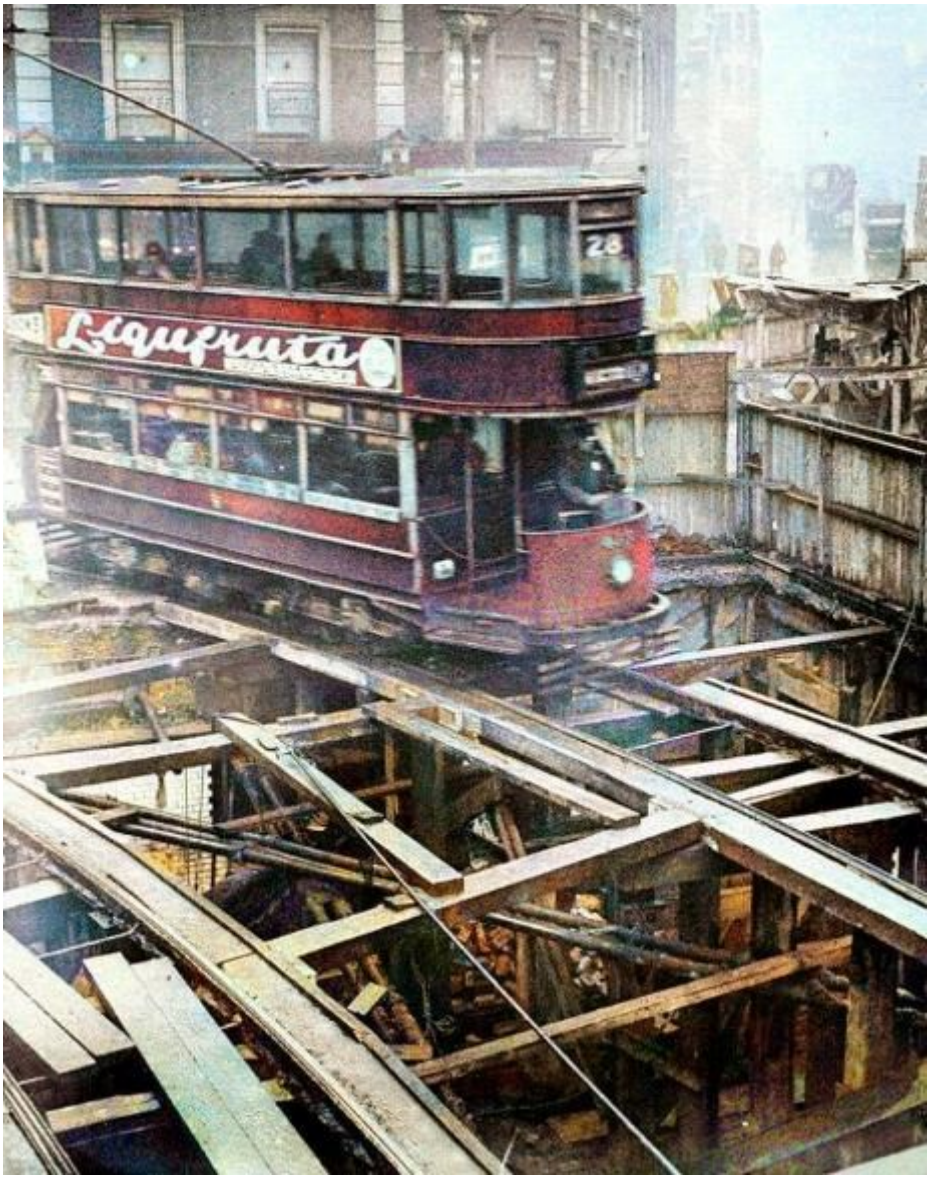
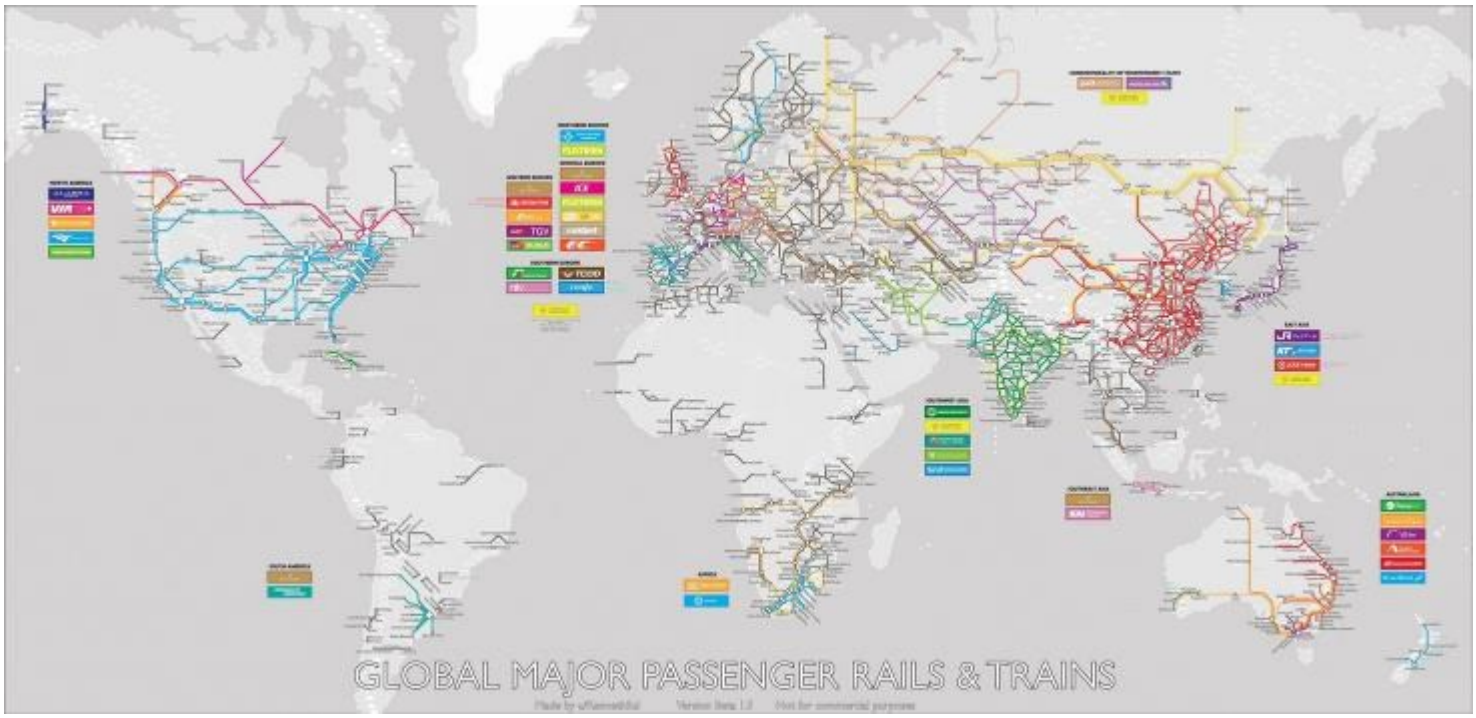
Speaking of technology, several US states now offer electronic license plates. This license plate is downloading an update.

The Piccadilly Line being constructed under the tram tracks, London, 1906.





Hāwera school asks for road closure to keep students safe

A street that effectively cuts through the middle of Hāwera's new school is to be closed during the day to protect students crossing it.

A section of Camberwell Rd divides Hāwera High School's existing campus from Bayly Park, a sportsground opposite, which is temporarily a part of the new Te Paepae o Aotea campus.

Principal Rachel Williams said there will be 1150 students from year 7 to year 13 at the school when it opens in February 2023.

The new school will replace both Hāwera High School, which closes on December 9, and Hāwera Intermediate, which has already closed.

Te Paepae o Aotea will be on the Hāwera High School site, but will use 16 prefab classrooms on Bayly Park to accommodate students until the old buildings are demolished and the new facili ties are built.

During the next few years, its campus will be on both sides of Camberwell Rd, with students crossing to get between classes.

"We've deliberately put the year 11-13 students at Bayly Park," Williams told the South Taranaki District Council's policy and strategy committee meeting recently.

But these students would go back and forth as their special classrooms like labs and workshops, are on the old school site.

"Older students should be able to look both ways, but that's not the way it is, and sometimes cars do fly through there, they go really fast."

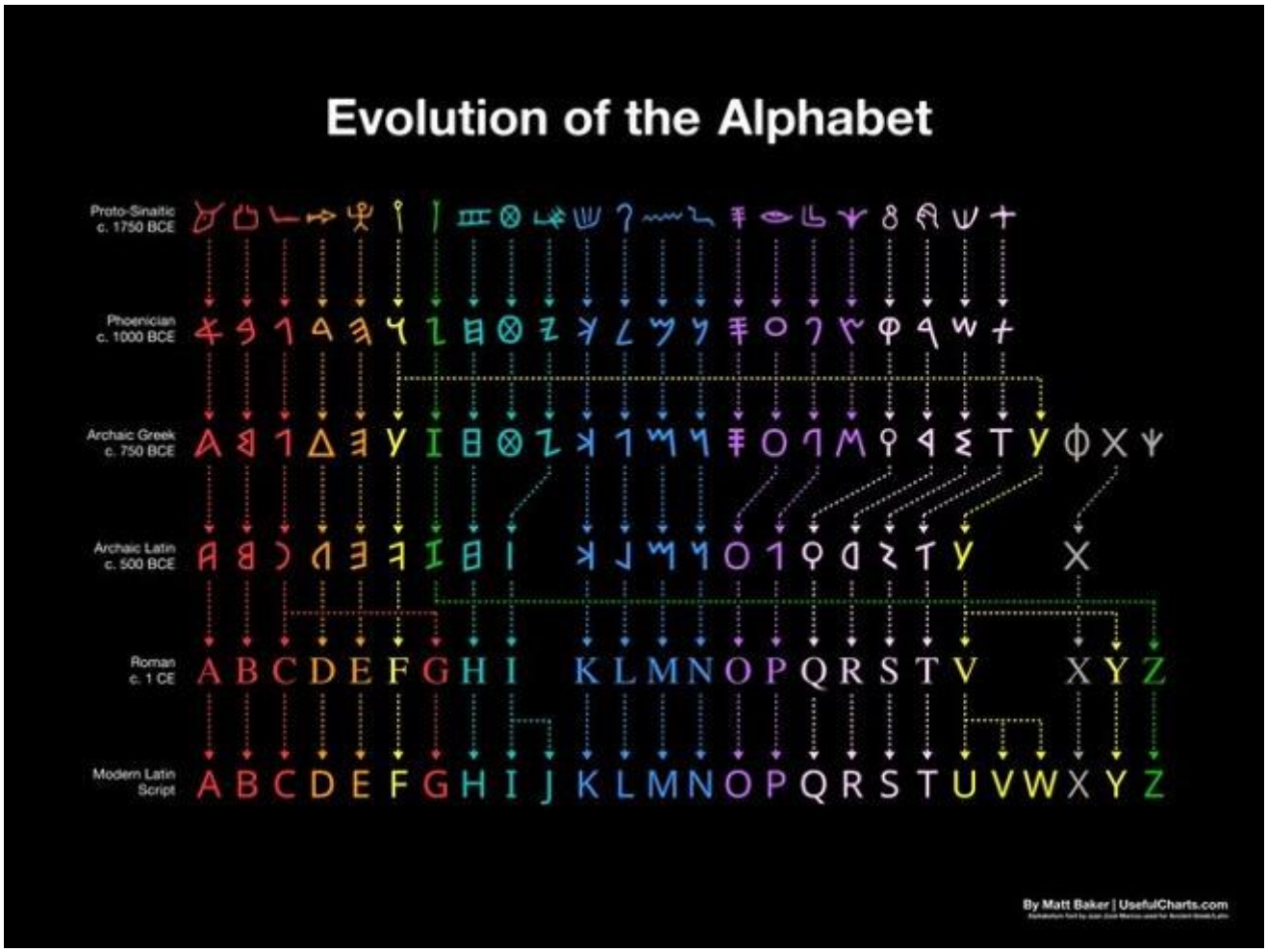
The school was also working out where teachers and students' cars would be parked, and how to manage drop-off and pick-up times.

Williams said she would ask the Ministry of Ed- ucation to pay for any barriers or signs required, so it would not be a cost to the council.

The committee agreed to close the section of the road outside the schools between 8.30am and 4pm on school days.

The move is to be reviewed every 12 months.
Source: Stuff

"Older students should be able to look both ways, but that's not the way it is, and sometimes cars do fly through there, they go really fast."



Safety Practitioners Group

TRANSPORTATION GROUP NEW ZEALAND

We are pleased to announce that a new sub-group of the Engineering New Zealand Transportation Group has been established called the Safety Practitioners Group.

This has evolved from identifying a gap in our industry technical interest groups for engineers and other practitioners who work in the road safety area.

With the greater emphasis on New Zealand's Road to Zero road safety strategy, this Safety Practitioners Group aims to facilitate links between local and central government and the wider industry and share the latest industry guidance, best practice and innovations with our members.

We are pleased to announce a new Safety Practitioners Group

We are dedicated to providing an industry led group for Safety Practitioners working within the transport profession in New Zealand.

Our objectives are:

- To support embedding safe system thinking across the design, operation and maintenance of the transport network.
- Promote the role of Safety Practitioners and the understanding of their role in the industry.
- Support those working in the transport profession to build capability in safety best practice.

We will achieve these objectives by:

- Providing a forum for discussion and to exchange best practice.
- Advocate for and influence best practice in safety and for good outcomes in safe systems audits and assessments.
- Provide a direct connection between central and local government with the industry.
- Represent our members as an industry stakeholder to assist central and local government in developing advice and industry guidance.
- Develop best practice examples and guidance to supplement national standards where gaps are identified.
- Proactively input into the development of professional recognition for Safety Practitioners.
- Respond as an industry voice on new policy and approaches to enhancing capability in safety auditing, assessments and advice.
- Be a rational voice promoting road safety and provide an advocacy role nationally.

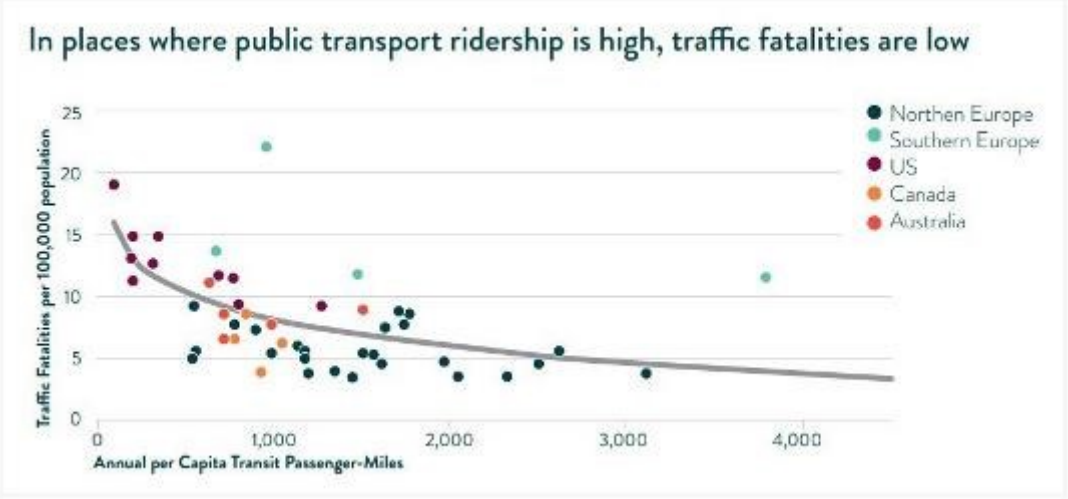
How we will work:

- Committee to provide direction, convene workshop style discussions and share information.
- Encourage members to attend the Transportation Group Conference and present papers on road safety topics.
- Membership is open to anyone with an interest in safety and has current membership with the Engineering NZ Transportation Group.
- Align with other industry organisations including Trafinz and the Australasian College of Road Safety NZ Chapter.

If you wish to join this sub-group, we ask existing members to email us to advise if they'd like to join the Safety Practitioners Group - Click here to join.

New members now have a choice to join this new sub-group via the form directly on the website.

If you have any further questions, you are more than welcome to contact Gemma Dioni or Melanie Muirson.



ITE Update

Did you know that, despite the name 'Institute of Transportation Engineers', ITE has many Transport Planner members?

In an attempt to attract more Planners to ITE, they are offering **a free membership** for the first year and half price off the second year.

ITE offers many benefit, such as heaps of Free Live and On-demand webinars through ITE's Learning Hub and access to ITE's Publications and Resources, such as the trip generation manual and ITE Informational Reports that are about an array of different transport topics.

So why no apply here: Transportation Planners Application - Institute of Transportation Engineers (ite.org).

Feel free to reach out to me with any ITE related questions: madi.salter@at.govt.nz. Stay safe out there!

Transportation Planning Professionals Special Offer

Join ITE through December 2023 for Free

Collaboration between planners and engineers leads to better outcomes for communities. With a variety of resources and a robust and highly involved membership of both planners and engineers, ITE is ideally situated to serve as a go-to organization for both!

We want transportation planning professionals to experience what ITE has to offer. **If you join from now and into 2023, you will receive free membership through December 31, 2023. If you find value and want to stay, the next year is at 50% the price.**

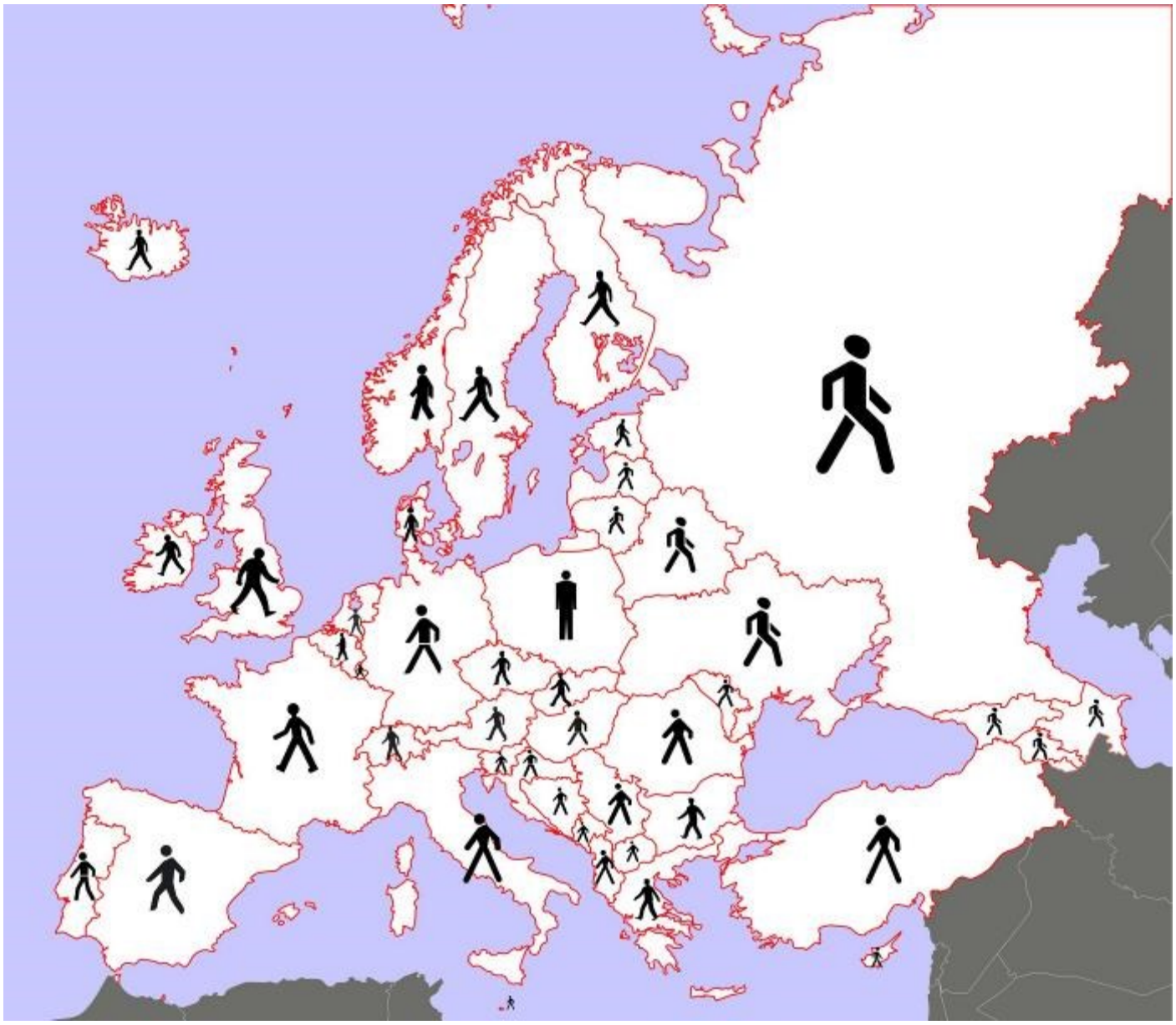
Eligibility: If you have at least one of the following, you can apply for the free membership: a planning degree, planning certification, and/or relevant current planning responsibility.

This offer does not apply to either current or prior members of ITE from the last 5 years.

How to Apply: Membership applications will be reviewed and approved if the eligibility criteria are met. Apply here today!


THANK
YOU
for
driving
carefully

Maryborough, Australia - birthplace of author P.L. Travers. There are MARY POPPINS traffic lights



$16m footpath opening adds to new vision for Auckland CBD

November saw the official opening of a long-awaited facelift for one of Queen Street's busiest stretches, with hopes it will help to revive the ailing city centre.

"People flock over here to celebrate our victories, it's also the place we come to march and protest. People are effectively at the centre of Queen Street."

Converting a car lane into an extended footpath, Auckland Council aims to see more feet on the ground.

The new Waihorotiu path, running from Mayoral Drive to Shortland Street, feels like a promise of things to come. Or is it a threat? Not everyone is convinced.

Two delivery workers said the "upgrade" had made their jobs a nightmare, with opportunistic drivers taking up space in the dwindling supply of loading zones.

Changes to the traffic network are working to reduce general traffic, congestion and pollution and showing that people have priority on Queen Street. We have done this by:

- *Optimising loading and servicing for businesses and essential services by converting all general car parking on the street to either P15 general loading, P5 GSV loading zones or Mobility Parking.*
- *Creating a peak hour bus lane (4pm-7pm), heading north, between Shortland St and Customs St.*
- *Converting parts of Fort Street, Vulcan Lane, and Lorne Street into pedestrian malls.*
- *Introducing a new type of vehicle-zone called an Essential Vehicle Area (EVA) on Queen Street between Wellesley and Wakefield Streets, which reduces general traffic using Queen Street as a through-route. Only buses, motorcycles, mopeds, bicycles, goods vehicles and emergency service vehicles are allowed to use the EVA.*

While the extra space had impressed some pedestrians, others were sceptical. "I used to live in Auckland for about 44 years," said one visitor. "I think Queen Street has gone backwards very badly."

He said the city centre was stuck in a rut. "For those of us that don't live in Auckland, the reputation of Queen Street isn't good these days."
But others celebrated the wider footpath. "I think it's really nice," said another visitor. "It looks wonderful."

For Auckland Council, the $16 million project was a vital step in realising a new vision for the city centre. Head of City Centre Programmes, Jenny Larking, said her intention was to put pedestrians first. "Aucklanders' histories are written here," she said.

"People flock over here to celebrate our victories, it's also the place we come to march and protest. People are effectively at the centre of Queen Street."

After a difficult couple of years, she said business owners had something to be excited about.

"We have a fantastic Christmas programme planned in partnership with our business community," she said. "We're hoping people will come and benefit the businesses and retailers here."

To minimise disruption, the project was completed in less than a year, without any digging. Project Manager James Buckley said the entire street was built on top of the existing road.

"We've been able to deliver almost a mile of street in about 10 months, which is unprecedented really," he said. “It's really been driven by [the desire] to reduce disruption for businesses in a really difficult time."

Larking said the development was already attracting new businesses to the city centre.

"Within the last few months, we've had some really exciting shops that have popped up on Queen Street," she said. "All of them are coming because they believe in Queen Street."

One of those shops was Studio Cavit Luxury, a new branch for an Australia-based furniture store. Owner Ian Cavit, an Aucklander who moved to Sydney fifteen years ago, said the city's new direction had lured him back.

"Having a look at what's been done not only around the viaduct but also with Britomart and now Commercial Bay and the lower part of Queen Street, I really think that Auckland is doing a terrific job in terms of bringing soul back into the city," he said.

Larking said the path would be put to the test when the City Rail Link kicked off in 2025. From there, she hoped Queen Street would keep evolving.

"What we have put down here will last for quite a number of years," she said. "When the right time comes, we'll be asking Aucklanders again what they want out of their Queen Street. It will continue to evolve."

She said Queen Street's future would be written by the people walking on it.
Source: RNZ

On-demand bus service to replace Timaru Link

The Timaru Link bus will run its last loop in February next year, with Environment Canterbury announcing its permanent replacement with the successfully trialled on-demand public transport service.

General Manager Public Transport, Stewart Gibbon said Environment Canterbury had found the Timaru Link was no longer sustainable.

"The Link represents the end of an era, as Timaru's last remaining fixed-route bus service. Our three other routes were replaced in June 2020 by the on-demand service," said Mr Gibbon.

"Now, with our community accustomed to using on-demand public transport, so few people are using the Link that it is clearly no longer sustainable as a service," he said.

"Depending on the arrival of our new vehicles, we expect that the Link's last day will be in early February 2023. By this point, there will be increased capacity and more accessible vehicles in the MyWay fleet, to assist customers that would benefit from this as they switch from the Link."

He said a new school service will also be introduced, following a similar path as the Link route.

Council undertook consultation with Link passengers in July to gain an understanding of how the Link service is used by current customers. Environment Canterbury found that 96 people use it regularly, with 20 of those people using it daily.

"Given the size of Timaru, with a population of 28,600, a very small number of people are still using the Timaru Link. We need to compare this to those using MyWay by Metro, which averages 600 boardings, or around 300 people, a day," said Mr Gibbon.

"Of the 59 people that responded to the consultation, 20 people use it every weekday, 28 customers use it two or three times a week, and the remainder use the service sporadically.

"We asked Link customers whether they had tried the MyWay by Metro service. Seven currently use MyWay, and 17 had tried it but have not continued with it," he said.

The remaining 33 customers said they had never tried MyWay by Metro.

Mr Gibbon said that all current customers have been offered information about the on-demand service, including vouchers to try the service for free, and were offered a personal travel planning tutorial to assist them to try MyWay.

"We are also working with community support agencies to make information available through their channels, including promotion of our booking on behalf services and the Total Mobility scheme for Timaru Link customers that would qualify for the programme," he said.

By February next year, three new super low-floor MyWay vehicles will be added to the fleet, replacing two older vehicles. Council says the new vehicles will increase the capacity of the service and cater for passengers with mobility needs, pushchairs, or simply with extra shopping in hand. Customers can also request a low-floor vehicle when booking.

"We, of course, have a financial responsibility to Timaru's ratepayers, and we simply can't continue to operate the Timaru Link for around 30 daily customers, excluding school students, over the 26 trips run each week. We will regularly offer information sessions and will continue to improve the MyWay service to encourage everyone to give it a go," said Mr Gibbon.

He said details of the new school route will be available on our Metro Timaru site before the beginning of the school year.

Since its successful introduction in Timaru, trials of on-demand public transport have begun in Hawkes Bay and Wellington, with another proposed for Tauranga.

The Link represents the end of an era, as Timaru's last remaining fixed-route bus service.

Low Emission Transport Fund projects announced

11 new transport projects including clever solutions for electric vehicle charging, ways to cut fuel costs in heavy freight, and the first ever marine project will get co-funding from the Government, Energy and Resources Minister Dr Megan Woods has announced recently.

"In total, the projects will receive $2.14 million from the Government's third round of The Low Emission Transport Fund so they can trial new ways of slashing emissions in the transport sector, in areas that were previously seen as hard to decarbonise," says Megan Woods.

The projects will receive funding so they can trial new ways of slashing emissions in the transport sector, in areas that were previously seen as hard to decarbonise.

"For example, Core Technology, was chosen to pilot electric outboard motors including 'handbag', 'briefcase', and 'carry-on' sized batteries for use on small watercraft so boat owners can test out what works best for them. The pilot will be based at marinas within the Northland and North Auckland areas.

"It's also great to see projects looking at saving money and waste at the same time by targeting inefficiencies in freight. Freight and transport management companies Findatruckload and iCOS LIVE, will partner to identify "empty legs" - when trucks return empty. This will allow them to increase revenue, and significantly reduce wasted fuel. It's a win win.

"The projects come in all shapes and sizes. At a more local level, Ngāti Whātua Ōrākei, ahi kā from Tāmaki Makaurau will run a car share service using a community app with chargers, three EV cars, and an EV van so whānau in the local community have accessible and affordable transport without needing to run an expensive private car.

"We are also happy to support work on one of the big reasons that stop prospective buyers from purchasing EVs - slow charging. For example Red Phase Technologies will work with Z Energy and Powerco to integrate a super high-speed charger at a Waiouru site, using technology that will reduce the impact on the grid.

"Jump Charging will build a portable skid-mounted 75kW DC rapid charging station that can be installed in locations that require temporary increases in EV charging demand such as special events or emergency situations.

Round 6 investment focus

This funding round seeks proposals for public EV destination charging infrastructure to support and accelerate wider deployment and market uptake of electric vehicles as a key part of New Zealand's move to low emission transport.

Up to $2.0 million will be available in Round 6. This round's focus is on two areas:

- New or additional charging infrastructure to address queuing or provide access to fast charging using an innovative business model. The project needs to demonstrate a clear pathway for a scalable deployment of destination chargers.
- Public destination chargers of between 25kW-50kW DC for community or neighbourhood charging, either standalone or as part of a network, where users will spend between 30 mins and 2 hours conducting other activities, for example at supermarkets and gyms.

Applicants may propose Projects which include charging infrastructure, electrical connection, site works, modest project management, and where necessary contribution to additional supply capacity where it provides public benefit.

These projects should:

- Support EV uptake and provide consumers with confidence in the availability of public electric vehicle charging infrastructure.
- Ensure charging infrastructure standards such as interoperability, connectivity and energy efficiency are adequately met.
- Provide the government and industry with information and guidance to better inform planning and optimal investment.
- Encourage new entrants and competition for provision of charging infrastructure and service providers.
- Enable innovation in new technology and business models.
- Demonstrate pathways to commercial viability and scalability.

Note, charging projects must be a minimum of $50,000 in total core project costs to qualify. Find more information on this in the RFP document.

Recipients will be required to share knowledge, reporting and data with EECA as part of the Funding Agreement which will set out how, when and with whom it will be shared.

Magazine of the Transportation Group NZ Issue 174 December

The great NZ slowdown: Why road speed limits are being cut

Simon Kingham is a Professor of Human Geography at the University of Canterbury.

It seems New Zealand is about to slow down, with proposals to reduce urban speed limits right across the country, as well as on state highways. And while there has been some resistance, the evidence suggests it's the right move.

The changes are part of Waka Kotahi's Road to Zero project, which tasked local councils with developing speed management plans to reduce transport-related deaths.

Generally, those plans will set 30 kilometre per hour limits around schools and 40km/h limits in many residential areas of Auckland, Wellington, Christchurch and Dunedin.

It seems NZ's speed limits are about to be reduced. And while there has been some resistance, the evidence suggests it's the right move.

There's no doubt speed is a major factor in the number of deaths and injuries on New Zealand roads. It causes more injuries than alcohol and drugs, and it's estimated that 87 per cent of current speed limits are incorrectly set.

But there's a counterargument that speed limits should only be reduced in "high-risk areas", with school environs being the most common example. Widespread speed limit reduction, the argument goes, will waste drivers' time and damage the economy.

But this assumes the only way speed limits affect society is through crash-related deaths and injuries, and through time lost travelling.

So it's important we recognise the other significant benefits that come from slowing traffic down.

Death and injury

The risk of injury or death if you are hit by a vehicle is substantially lower at speeds below 50km/h. At 40km/h, for example, the risk of dying drops from around 90 per cent to around 10 per cent. For injuries, greater reductions are seen at speeds of 20 or 30km/h.

Research in the UK found the introduction of 20 miles per hour (mp/h) zones resulted in a 42 per cent reduction in road casualties, and the reduction was greatest in younger children. There was also no evidence of more people moving to drive on adjacent streets with higher speed limits.

Recent research in Wales, a country with a population of 3.1 million that implemented a default urban speed limit of 30km/h, found the economic value of savings from lower accident rates to be in the region of NZ$180m in the first year alone. The total value is far greater if other benefits are included.

What statistics don't show is the reality of suffering road crash deaths and injuries cause. But survivors' stories, such as those recorded by transportation consultant [and former Transportation Group Chair] Jeanette Ward, also powerfully demonstrate how lower speeds can save lives.

Economics and emissions

But what of the argument that slowing drivers down and prolonging trips means the economy will suffer? There are two answers to this.

The first is that evidence shows lower speed limits in urban areas add virtually no time to journeys. You can see why in this simple simulation that compares traffic with different speed limits.

The second is that people don't always productively use the time saved by faster travel. In fact, research suggests people often choose to travel further, especially for their daily commute. Making journeys faster can also encourage people to travel more often. This is called induced demand and it adds to congestion.

Furthermore, there is a reasonably established relationship between the speed a vehicle travels and greenhouse gas emissions, with the lowest emissions being produced when a vehicle travels at around 55-80km/h.

However, this assumes a vehicle is moving smoothly, without stops and starts. Higher emissions are created when a vehicle has to repeatedly brake and accelerate. While individual driver behaviour can be a factor, the road environment and volume of traffic play a role too.

Research has actually found that in urban areas the optimum speed limit to minimise emissions for small petrol cars is 28.2km/h. For larger vehicles, diesel and SUVs, CO2 emissions are minimised with a maximum speed of 20km/h.

Pollution, noise and health

Nitrogen dioxide from traffic is estimated to cause 2000 deaths each year in New Zealand. Emissions are lowest with 20km/h speed limits.

The World Health Organization estimates traffic noise is the second-biggest environmental stressor on public health after air pollution. Lower speeds significantly reduce noise, with research finding that "in urban areas with speeds of between 30 and 60km/h, reducing speeds by 10mp/h would cut noise levels by up to 40 per cent".

Lower speed limits have also been shown to reduce health inequalities. One of the UK's most eminent experts, Oxford University's Professor Danny Dorling, said a 30km/h speed limit was "the most effective thing a local authority can do to reduce health inequalities".

This is particularly important, given rates of road injury and death in New Zealand disproportionately affect Māori, younger people and low-income communities.

A range of other benefits from reducing speed limits is identified by Paul Tranter and Rod Tolley in their book Slow Cities.

These include more physical activity from walking and cycling, time saved from not having to earn the money necessary to own and operate a car, and broader economic benefits for individuals and businesses.

Overall, reduced speed limits in urban areas would not only reduce injuries and deaths but would also make our towns and cities better places to live.

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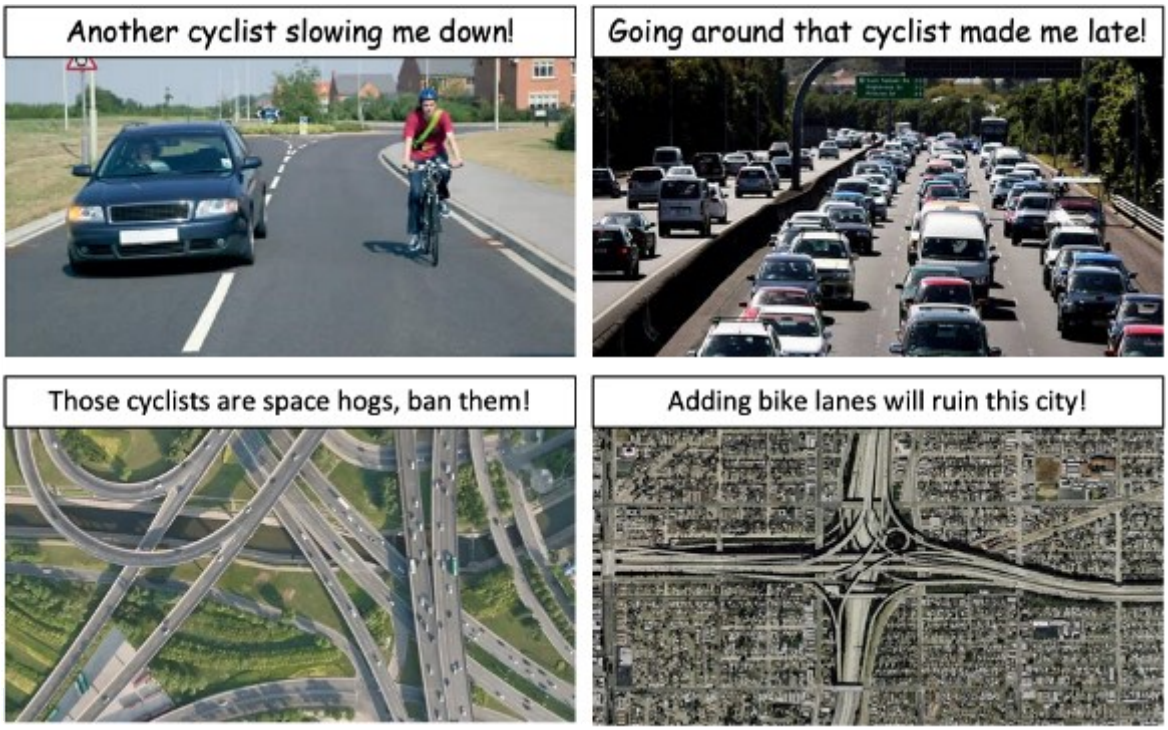

Manaaki Tāngata

Transportation Group Conference 2023

Transportation 2023 is Aotearoa New Zealand's premier forum for the transportation planning, safety, engineering and design community. The conference is intended to stimulate debate and provide problem-solving and thought-leadership amongst peers within the transportation sector and related professions.

We want to welcome you, our manuhiri, to Tauranga for an excellent three days of education, connection, and discussion. Secure your earlybird registration now alongside your onsite conference accommodation at Trinity Wharf Tauranga.

We are expecting a great turnout that will provide vital networking opportunities and great important conversations that will help shape the future of transport.

Register here

Conference website

At the Transportaion Conference 2023 we will share and discuss all of the ways that we care for people and our communities by working to improve health and wellbeing. To do this we will explore how transport contributes to the four dimensions of the Te Whare Tapa Whā model.

With several exciting projects underway in the Bay of Plenty, there will be no shortage of subjects for the conference technical tours. Our theme of Manaaki Tāngata will provide an interconnected lense between the tranport system and the wellbeing and health of Aotearoa New Zealands tangata whenua.

TRANSPORTATION GROUP NEW ZEALAND

Stantec

aurecon

CSP

beam

3M

SIDRA SOLUTIONS

Manaaki Tāngata
Caring for the People

Networking Functions

Join us on Tuesday March 28, for pre-conference networking at the Barrel Room. Located at 26 Wharf Street, the Barrell Room will provide the perfect setting for getting excited with your colleagues about the days ahead. This is a self paying event.

Our other great networking functions include the Welcome Function on the Water and the Conference dinner at the Papamoa Surf Club. Both will provide opportunities for networking with like-minded individuals. Get your registration in and secure your spot at both these amazing functions.

Cultural Tour to Otamataha Pā

On Wednesday at 5pm, before the Welcome Function, join Buddy Mikaere on a cultural tour to Otamataha Pā. This cultural tour will provide informative insights on the history of Tauranga.

Programme Update

View the online agenda here

Keep an eye on our conference website to see programme updates. Our programme boasts lots of interesting and relevant presentations. Our second call for abstracts has closed and you can be sure of some great conversations and learning.

Sponsorship opportunities

Book your sponsorship here

This is our invitation to you, to be a part of this vital journey by sponsoring the Transportation Group Conference in 2023. Reshaping transport is vital to the future of New Zealand so we can all live happy healthy and connected lives.

"If the four walls of the whare are strong and well, then the people are strong and well"

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Creating Safer Streets, Age Friendly Ōtautahi

Recently, the Transportation Group ran Creating Safer Streets, Age Friendly Ōtautahi at Tūranga.

This interactive workshop was focussed on understanding the lived experience of people young and old, and specifically considered this lived experience when designing a central Christchurch street.

Inclusive, all age designs were evaluated by how well they achieved the principles of safe system assessments, the pedestrian level of service tool, as well as key principles of crime prevention through environmental design (CPTED).

Kenn Beer introduced principles of a safe system assessment through the lens of 8-80 design, Tracy Fleming introduced the Pedestrian level of service framework and assessment tool, and Megan Walker introduced the use of CPTED as an important design tool.

We had planners, urban designers, engineers, plan-gineers, and community advocates that joined in this important korero about making our city more exclusive for everyone – for those who are aging, those who are considering aging, for our rangitahi; the next generation and for those who identify as disabled.

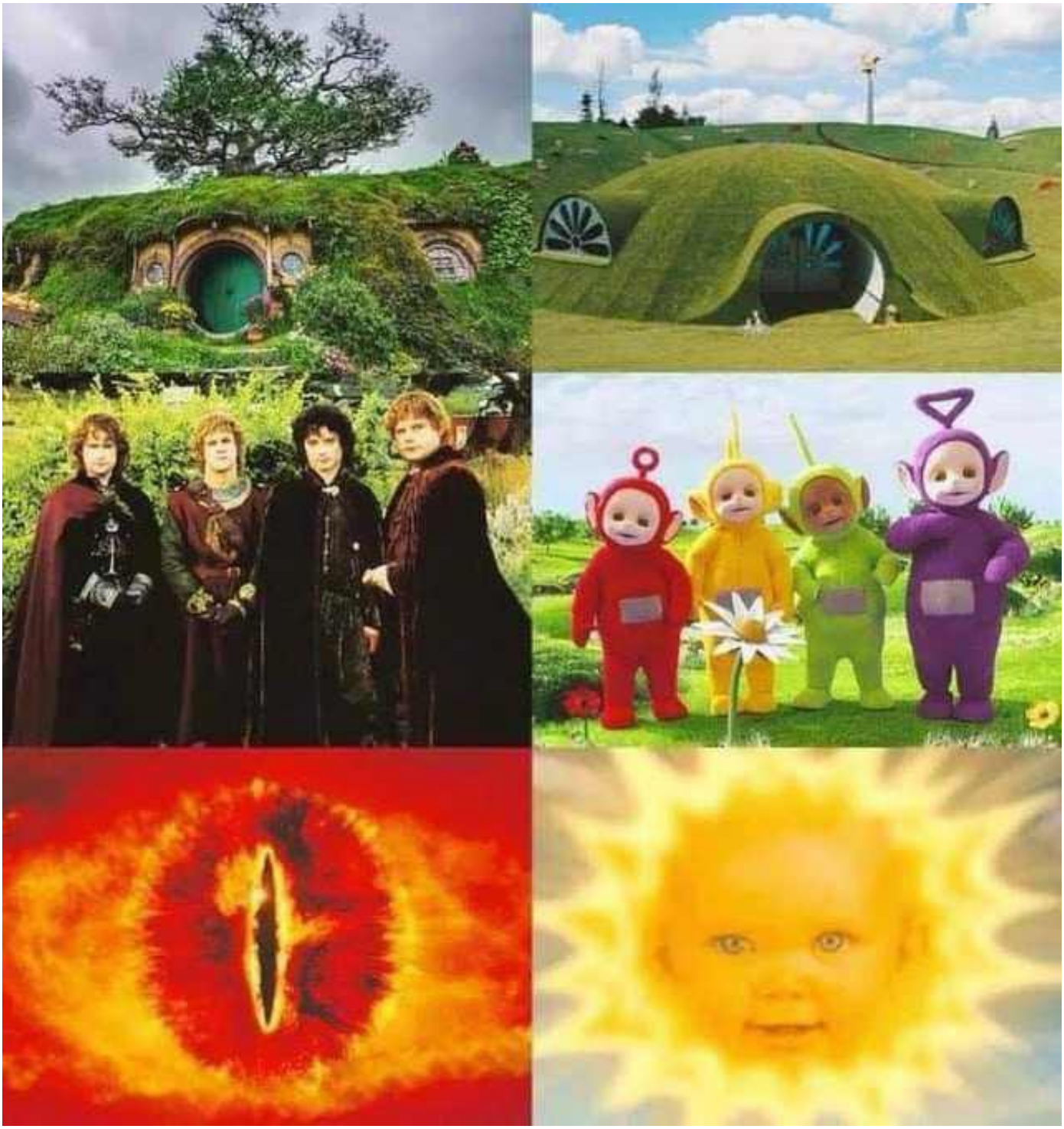
Sponsored by Christchurch City Council, the event was a team effort by Tracy, Daisy and Lizzie from Abley, Megan from Boffa Miskell, Kenn from Safe Systems Solutions, Sahan and Mike from Stantec, Daeniel from Jacobs, and Nick from ViaStrada.

Special thanks to the Abley team for the creation of a super engaging workshop and the running of it from Daisy.

This event followed the 2021 event Age Friendly Ōtautahi, a conference of diverse groups: decision makers, architects, urban designers, planners, engineers, people in public health, as well as community advocates/group advocates to discuss designing for an Age Friendly City.

This photo of a disassembled 1988 VW Golf CL was taken by artist Hans Hansen and shows 6843 parts.

Hmmm....



UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha

Special Topics in Pavement Engineering

Prof. Dr. Ir. André A. A. Molenaar
Emeritus professor in Pavement Engineering Delft University of Technology, Delft, the Netherlands

Introduction
In this graduate course a number of topics which are relevant for the New Zealand pavement community will be discussed. Special emphasis will be placed on the following topics:

- Design of pavements with thin surfaces such as sealcoats.
- Re-use, recycling of construction demolition materials.
- Characterization of asphalt mixtures.
- Variability in pavement life caused by construction.
- Deflection tests, remaining life analyses and design of maintenance strategies

In order to be able to fully understand the topics to be discussed, a good knowledge of the stress conditions in pavements is required as well as a good knowledge on material behavior. Therefore also lectures on these subjects will be given.

Block Dates:
Block 1: 7,8, and 9 of March 2023
Block 2: 28, 29 and 30 of March 2023

Course Content
Topic 1: How do pavements fail
The course will start with a discussion session with the students on how pavements will fail and how they look like if they are failed. The students will be asked to comment on the pictures of failed pavements and to present their ideas about the reasons for those failures.
Time needed: 1 hour
Total time: 1 hour

Topic 2: Behavior of soils and granular materials
Then we will discuss the design of pavements, mainly consisting of granular layers and covered with only a thin surfacing being either a seal coat or a thin asphalt layer. After a short introduction on this topic a presentation will be given on the behavior of soils and unbound materials. Ample attention will be given to the stress dependent nature of granular materials and soils and it will be discussed how this stress dependent behavior and its dependency on moisture content and degree of compaction can be modelled. Relationships between this stress dependent behavior and the results one gets from simple, practical tests such as the CBR test will be discussed. Equations to predict stress dependent behavior will be presented as well as equations that allow soil moisture profiles to be estimated.
Time needed: 3 hours
Total time: 4 hours

Topic 3: Refresher stresses and strains
Using an advanced program like CIRCLY for the analysis of stresses, strains and displacements in multi-layered pavement systems, as the students will have to do during the course, doesn't make sense if the user doesn't have sufficient knowledge of these basic structural mechanics principles as well as failure models based on them. Therefore a 1 hour refresher course on this subject will be given.
Time needed: 1 hour

Topic 4: Introduction to CIRCLY
For the analysis of stresses and strains in pavements, a computer program is needed which allows this nonlinear, stress dependent behavior into account. The best way to do this is to use a finite element program but linear elastic multi-layer programs like CIRCLY or BISAR can also be used for such purposes be it that the granular layers are divided into sublayers. Since CIRCLY is the program that is used in New Zealand, an introduction on how to use this program will be given. This introduction will be given by prof. Saleh.
Time needed: 1 hour
Total time: 6 hours

Topic 5: Workshop on stress dependent analyses
In this workshop the students have to use CIRCLY in combination with the information on the stress dependent behavior of granular materials, to analyze the stress conditions in the unbound layers of a pavement with a thin surfacing. By means of an iteration process they have to determine the stiffness modulus to be used for the unbound layers and they have to determine whether or not shear failure is likely to occur.
Time needed: 2 hours
Total time: 8 hours

Topic 6: Overview of design of seals
It is not intended to give in depth lectures about designing seal coats. Nevertheless a short overview on what a seal coat is, its design, and the problems that may occur after several times of re-sealing will be given. Emphasis will be placed on the design on the granular layers below the thin surface course. Results of finite element analyses performed on pavements with a thin surfacing and granular base and sub-base layers will be presented showing that it is possible to design such pavements using advanced modelling techniques.
Time needed: 2 hour
Total time: 10 hours

Topic 7: Re-use, recycling of construction demolition materials; how to build good quality granular layers with them
Especially in urban areas, millions of tons of construction demolition materials are produced. One way to get rid of it is simply by dumping it as landfill. This is a not so smart solution because much of the demolition waste consist of precious material which can easily be used again when selective demolition and sorting techniques are used. In the 3 hours to be spent on this topic, it will be shown that high quality base courses can be built using mixtures of crushed concrete and masonry coming from demolished houses, buildings and structures. It will also be shown that adding only a few percentage cement results in high quality materials which can very well be used as base course and certainly as sub-base course in pavements for roads, airfields and harbor areas.
Time needed: 3 hours
Total time: 13 hours

Topic 8: Stabilized materials
A short introduction will be given about which type of stabilizing material should preferably be used for which type of material. This will be followed with a discussion on the complexities of testing such materials and why, because of that, the properties of cement

stabilized materials are commonly estimated from equations correlating e.g. compressive strength on one hand and the flexural strength and stiffness on the other.

Furthermore it will be discussed how stabilized materials can effectively be used as capping layers.
Also the problem of reflective cracking in pavements with cement stabilized base and sub-base layers will be treated.
Time needed: 3 hours

Total time: 16 hours

Topic 9: Workshop cement treated layers
The students have to analyze the same pavement as was analyzed in the previous workshop on stress dependent behavior but now a cement treated layer is added. They have to analyze the effect of a cement stabilized base layer between the surface layer and the granular sub-base layer and the effect of a cement stabilization below the granular base course.
Time needed: 2 hours

Total time: 18 hours

Topic 10: Characteristics of the bituminous binder used for asphalt mixtures
In this lecture the determination of the rheological characteristics of the bituminous binder will be discussed. Attention will be paid to the importance of determining the stiffness master curve by means of testing. Also equations will be presented that allow the prediction of the bitumen stiffness in relation to loading time and temperature as well as type of bitumen.
Time needed: 2 hours

Total time: 20 hours

Topic 11: Characterization of the mechanical properties of asphalt mixtures
In this block ample attention will be paid to the stiffness, fatigue resistance and resistance to permanent deformation of asphalt mixtures in relation to the characteristics of the bituminous binder, the volumetric mixture composition, loading time and temperature.

It will be shown that the fatigue characteristics are dependent on the type of test and specimen size. It will be shown that laboratory fatigue testing results cannot straightforwardly be used for pavement life predictions and that all kind of corrections are needed in order to be able to do so. The nature and size of these corrections will be discussed.

With respect to the resistance to permanent deformation it will be shown that depending on the type of mixture, the stone skeleton or the bituminous mortar play the most important role in the resistance of the mixture to permanent deformation. Furthermore it will be shown that crack growth resistance and fatigue are highly related to the dependency of the asphalt mixture stiffness on loading time and temperature. Since testing is not always possible, the above mentioned characteristics are often estimated by using charts etc. Such estimation procedures will be presented.
Time needed: 4 hours

Total time: 24 hours

Topic 12: Production of asphalt mixtures, variations in mixture composition and bitumen characteristics caused by production and laying, effects of these variations on pavement life.
In this lecture the different ways in which hot mix asphalt mixtures are produced and laid will be discussed. Attention will be paid to the variations in the mixing and laying procedures causing variations in asphalt mixture quality. The effect of these variations on pavement life will be analyzed.
Time needed: 2 hours

Total time: 26 hours

Topic 13: Workshop on quantifying variations in asphalt mix production on pavement life
In this workshop the students have to analyze/ calculate the effects of variations in mixture composition on pavement life. They have to estimate how mechanical characteristics will change due to given changes in mixture composition, degree of compaction etc. They have to determine which type of variation causes the biggest variation in pavement life. Analyses have to be made using CIRCLY.
Time needed: 3 hours

Total time: 29 hours

Topic 14: Deflection measurements and remaining life analyses
In a set of lectures the students will be informed about how to perform an evaluation of the remaining life of pavements using a falling weight deflectometer. Attention will be paid to: setting up a measurement plan, statistical treatment of the data, importance of visual condition assessment, importance of determining the surface modulus from the deflection data, back calculation of layer moduli, determination of the maintenance strategy. This subject will be taught by means of a real life example being the pavement of a container terminal in Western Europe.
Time needed: 6 hours

Total time: 35 hours

Lecture notes and supporting literature
Lecture notes as well as relevant literature will be made available through the University website.
During the course, pdf copies of the power point presentations will also be made available to the students.

Examination
The examination for this course will be done in the following way: after completion of block 1 and block 2, each student will receive an assignment (so 2 assignments in total) dealing with a specific design problem. For each assignment they receive a score and the final score is determined by the weighted average. This final score is the examination result.

The weight for assignment 1 is 35% and the weight for assignment 2 is 65%.
The deadline for submitting assignment 1 is March 26, 2023 at 24:00h New Zealand time.
The deadline for submitting assignment 2 is April 29, 2023, at 24:00h New Zealand time.

The assignments should be sent by email to prof. Molenaar with a copy to prof. Saleh

Prof. Molenaar's email address is:
andreas.a.a.molenaar@gmail.com

Prof. Saleh's email address is:
mofreh.saleh@canterbury.ac.nz

These Futuristic Tram-Buses Will Be On London's Streets From 2023

While most of TfL's current 850-odd electric buses are charged overnight in a garage, the ieTram gets its juice using a pantograph

The future of the London bus is here. At least it will be in 2023, if you live between Crystal Palace and Orpington.

In its ongoing push towards a net zero emissions network, Transport for London (TfL) has announced the rollout of 20 new emission-free electric buses, on the 358 route between Crystal Palace and Orpington.

If you think the vehicles — created by the Spanish manufacturer Irizar e-mobility — look somewhat tram-like, you're not wrong: in fact the vehicle's official name is the ieTram, so called because, according to Irizar, it combines the "ease of access and internal configuration of a tram with the flexibility of a city bus."

While most of TfL's current 850-odd electric buses are charged overnight in a garage, the ieTram gets its juice using a pantograph — an arm-like structure, which gives a rapid, high-power charge to the bus through its roof.

There'll be one of these positioned at each end of the route, and with less than 10 minutes of charging, the vehicles are then ready to travel again, along what is one of the longest London bus routes.

The ieTram buses will be rolled out from 2023 (no exact date as yet), and a TfL spokesperson tells us if trials are successful, we can expect to see the vehicles on more routes in the future.

Pantograph tech has also been introduced to buses on the all-electric route 132, which runs between North Greenwich and Bexleyheath. In spring 2022, TfL also rolled out a line of eco-friendly double-decker buses on the 63 route, featuring USB ports and skylights.
Source: Londonist

A 132 bus is charged using one of the new pantographs, which will also be used on the new buses on the 358 route

Aucklander's views sought on Waitematā Harbour Connections

Following the recent announcement to plan the next phases of Auckland's expanding multi-modal and rapid transit transport network, Waka Kotahi NZ Transport Agency is undertaking a number of community events to gain local feedback on the most significant city-shaping project in coming decades.

Alongside the project team, Minister of Transport, Hon Michael Wood will be on the ground talking with interested locals to understand what they would like the network to look like and how they would use it.

Sharing information, talking and listening to the communities in Tāmaki Makaurau is a key part of the planning phase that will establish the future vision for this transformational transport programme.

View the community event dates.

Take the survey here

Waka Kotahi Transport Services General Manager, Brett Gliddon, says the existing Harbour Bridge is coming under increasing operational pressure, affecting the resilience of the bridge and the wider network. This needs to be supplemented by alternative connections within the next 25 years to help manage growth and provide more sustainable transport options for everyone.

"Waitematā Harbour Connections will provide for a fully multi-modal solution, investigating future options for people wanting to drive, walk, cycle, transport freight, take the bus or travel by light rail across the Waitematā Harbour, connecting people to transport options across the region and beyond" says Brett Gliddon.

Planning work will look at how all modes need to cross the harbour in the future, what new infrastructure is needed to cater for these modes, where it will go, and how we make the best use of our existing infrastructure including the Auckland Harbour Bridge to create a more resilient network.

Waitematā Harbour Connections is also a key part of expanding Auckland's future rapid transit network. Rapid transit, such as the existing Northern Busway, is already moving thousands of people every day around the region and this next stage will further improve transport choices, making Tāmaki Makaurau Auckland a better place to live now and for future generations.

Investing in high capacity, high quality, rapid transit is critical to developing a modern, connected city, providing people with faster, safer and more reliable trips and reducing carbon emissions. Rapid transit enables housing and business growth and is the catalyst for neighbourhood regeneration and people-friendly streets, unlocking the region's growth potential.

"We know that Aucklanders fully support more connections across the Waitematā Harbour. In recent research, eight out of 10 expressed the need for additional connections to be introduced, with a similar level of support expressed by people living in Waikato and Northland. This solidifies how crucial effective connections are for the city, and for the nation."

8 out of 10 Aucklanders expressed the need for additional connections, with a similar level of support expressed by people living in Waikato and Northland

"We're now engaging with the public to give them an opportunity to provide feedback on what this looks like for the future of Tāmaki Makaurau Auckland."

"Comprehensive community and stakeholder engagement is key to this project's success. We look forward to better understanding how we can ensure that this strategic connection can best serve generations to come" says Brett Gliddon.

Following this initial engagement, further information will be shared on the possible solutions with additional public feedback sought on specific options in early 2023 to help shape the project as it moves forward.

A recommendation following this planning and engagement work will be delivered mid next year (2023) to outline the way forward for the project.

More information is available here.

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TRANSPORTATION GROUP NEW ZEALAND

High-speed Sydney to Melbourne rail plan 'will never work': infrastructure tsar

One of the world's top infrastructure tsars says planners and the prime minister should forget high-speed rail between the eastern capitals and focus on faster trains around Sydney and other sprawling urban areas.

Sir David Higgins – the Australian-born chairman of London's Gatwick Airport and former chair of the UK's high-speed rail authority – predicted the Sydney to Melbourne route would "never really work" as high-speed rail.

"It's a logical route for airfares. High-speed rail doesn't really make sense commercially if it's more than two hours," he told he Herald and The Age, adding the Eurostar was successful because the London to Paris journey was about two hours.

As a first step, the Commonwealth is co-funding a $1 billion project with the NSW government to upgrade rail infrastructure north of Sydney, which they say will pave the way for eventual high-speed travel between Sydney, the Central Coast and Newcastle.

"That's the most commercially viable bit to start with," King said in September. "[That's] really where the proof of concept is."

King said the project's "time had come" and noted high-speed rail was replacing domestic air travel in other countries – this week the European Commission approved France's ban on short-haul domestic flights if there is a train that takes less than 2.5 hours.

Higgins – who joined Sydney Airport's board earlier this year – will address the Western Sydney Leadership Dialogue's Boomtown conference on Thursday, as will federal Infrastructure Minister Catherine King, who alongside Prime Minister Anthony Albanese is a key fast rail proponent. NSW Premier Dominic Perrottet will also speak.

Last month the federal government passed legislation to create a High-Speed Rail Authority that will advance plans which have been discussed for four decades but never realised.

Higgins said Australia was better off maximising train speeds within big population zones such as Campbelltown, Penrith and Liverpool to Sydney CBD, or between Brisbane and the Gold Coast.

While Sydney trains tend to "trundle along", London has suburban and regional trains that reach speeds of 160 kph, such as ThamesLink between Bedford and Brighton, or higher.

"It would be interesting to see what more you could get out of [your] existing network," he said. Those investments could later become full-scale high-speed rail from Sydney to Goulburn and Canberra, Higgins said, but "focus on getting your urban areas to work first".

Higgins said Australia was better off maximising train speeds within big population zones such as Campbelltown, Penrith and Liverpool to Sydney CBD, or between Brisbane and the Gold Coast.

NSW Cities and Infrastructure Minister Rob Stokes said the state government would slash travel times between Sydney and Parramatta to 20 minutes with the forthcoming Metro West line.

The Commonwealth had "expressed a lot of enthusiasm for high-speed rail and we're waiting for clear signals from them about what their plans are", Stokes said.

In 2018, months before the 2019 election, the NSW government identified four potential fast-rail corridors; from Sydney to Newcastle, Canberra, Orange/Parkes and Nowra. Then premier Gladys Berejiklian ordered a further review by expert Andrew McNaughton, but it was never released publicly.

"It's an ideological problem, which is: you're taking away the right of someone to get a windfall profit by getting a planning gain,"

The Greater Cities Commission also recently unveiled its draft "six cities" vision, a key pillar of which is better connectivity between Newcastle and the Central Coast, Illawarra and Sydney. Higgins, who lives in London but returns to Sydney often, will use his speech on Thursday to tell policymakers the masses of new infrastructure in the city's west must serve a social purpose.

"My worry is that here it seems to be growth by opportunity," he said. "It's a case of: here's a new railway station, let's pop up a 50-storey high rise. [But] how many people are going to live there, where's their community, where are their high streets, where are their parks, where do they get recreational facilities?

"You have to show people that in the end they are going to get some reward for density and disruption."

Higgins said governments and planners didn't pay enough attention to parks, citing Bicentennial Park at Olympic Park as a green space that should play a much greater role as the "lungs" for that part of Sydney.

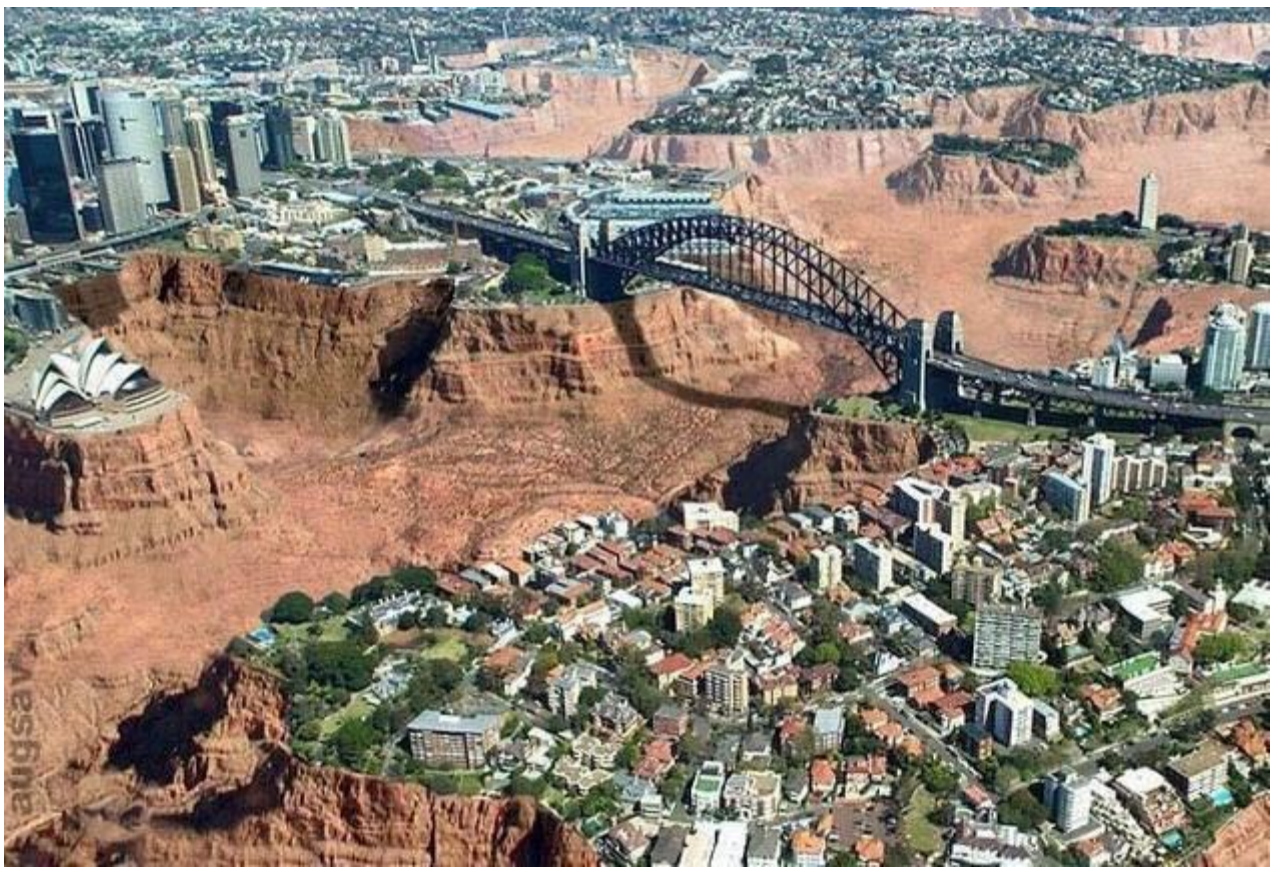
Higgins was also chief executive of London's 2012 Olympics delivery authority.

He criticised Australia's reluctance to finance major public infrastructure by taxing nearby landowners who benefit from increased land values, a system usually called "value capture".

"It's an ideological problem, which is: you're taking away the right of someone to get a windfall profit by getting a planning gain," he said. For example, high-speed rail would drastically increase property values in towns it passed through.

Higgins welcomed the additional flight capacity and competition from the forthcoming Western Sydney Airport, which is due to open in 2026 after decades of dithering.

"It's good it has finally developed," he said. "The biggest thing we could do is get more direct flights to the growing markets of Asia ... hopefully you get more diversity of carriers."
Source: SMH



Sydney after a dry spell

Active Modes Infrastructure Group (AMIG) Update

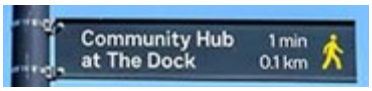
Did you know that it has been **ten years** since AMIG first started? The first meeting of the "National Cycling Signs and Markings Working Group" met on 23 Nov 2012, originally to discuss the potential for trialling sharrow markings. Two years later it had morphed into AMIG with an even wider mandate, and here we are!

Since our last update, the AMIG team held an online meeting on Sep 22nd and then over Nov 16-17 about 15 people made it to Hawkes Bay for some field trips and an in-person meeting (joined by some other colleagues online). Here's what got discussed:

- A gap in the current TCD rules means that there is no specific guidance on minimum sizes for **pedestrian markings**. Although often they will be scaled in proportion to an adjacent cycle symbol, further guidance on this would be useful. In a similar vein, there is no current Rule allowing the use of smaller than normal **signs on pedestrian and cycle paths** (e.g. GIVE WAY), so this also needs further improvement to the existing legislation and guidance.

- The growing number of cycleways around the country also requires an increase in the amount of maintenance for them; this leads to the question of what an appropriate **level of service for cycleway maintenance** is. Things to pin down include maximum sizes/volumes for detritus and other hazards; the frequency of sweeping and auditing; the size of potholes, cracks, kerblips; and other issues such as ponding, lighting, and vegetation. Further input from AMIG members will be used to help develop a consistent national specification.

- The national guidance for cycle wayfinding signs is nearly published, and the question also arises about having similarly consistent national guidance for **pedestrian wayfinding**. There are some good overseas examples of best practice, especially in using colour to identify specific routes. Further work to develop some NZ options will get underway.



We had several interesting presentations and queries by RCA reps at the November meeting. One raised the question of the **use of courtesy crossings** and public confusion around them. As highlighted in a Waka Kotahi webinar in September, the new PNG guidance says that courtesy crossings should only be installed in low-speed, low-volume situations, and should avoid giving either the pedestrian or the motorist any indication of a continuous path. There was also some confusion around the use of kea crossing flags at **school patrols on zebra crossings**, but the legislation is quite clear that you don't need them for permanent zebra crossings, only at part-time school crossing points.

Other topics discussed at the latest AMIG meetings included school patrols at dual crossings, updates to sharrow marking usage, temporary traffic management on paths and cycle lanes, and forthcoming CNG updates on rural cycling, path widths, cycleway lighting, and cycling on gradients. If you are interested in **incorporating cycleways through bus stops**, the Public Transport Design Guidance (*https://nzta.govt.nz/ptdg*) also now has advice on treatment options for this.

If you want to see more details about these from the minutes, check out Waka Kotahi's AMIG website: *https://nzta.govt.nz/walking-cycling-and-public-transport/active-modes-infrastructure-group/*

The online AMIG meetings return for 2023 in early Feb, with five expected throughout the year before another in-person meeting somewhere. As always, you can contact co-convenors Wayne Newman (RCA Forum; wayne@cresmere.co.nz) or Gerry Dance (Waka Kotahi; Gerry.Dance@nzta.govt.nz) for more info, or drop me a line if you wish me to raise any ideas or issues at AMIG on your behalf.

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

Among the successful projects are a pilot micromobility hub at Auckland's Panmure railway station, and the development of an 'On Demand' bus service for residents on Matakana Island in the Bay of Plenty, which is being designed in collaboration with Ngāi Te Rangi.

Successful councils as part of Transport Choices package to be announced soon

Councils from across Aotearoa recently applied for funding from the Transport Choices package 2022-24 to deliver permanent street change projects.

The $350m Transport Choices Fund is part of the Government's Climate Emergency Response Fund, with funding allocated to target four key areas:

- Progressing strategic cycle networks
- Creating walkable neighbourhoods
- Creating safe, green, and healthy school travel
- Making public transport more reliable and easier to use.

Transport Choices aims to demonstrate what's possible for communities across the country by quickly providing people with more transport options and making it easier for us all to travel in ways that are good for us and our environment.

Councils were asked to express their interest to participate in the Transport Choices package in August 2022. The expressions of interest were then assessed by a Waka Kotahi expert advisory group and recommendations were put forward to Ministers for approval in October 2022.

The successful councils will be announced soon, and the Transport Choices project team will then work with them in a two-stage process, Firstly to refine and scope their project proposals, and secondly to construct them. Stay tuned!

Hoe ki angitū Innovation Fund successful projects announced

Twenty-four projects across the motu have been approved for $4.2 million of support through the Waka Kotahi innovation fund, Hoe ki angitū, to develop solutions to some of New Zealand's big transport challenges.

Exploring innovative solutions for first-and last-mile challenges, and improving access to low-emission transport options for under-served communities were focuses for applicants in the first round of this new fund.

Among the successful projects are a pilot micromobility hub at Auckland's Panmure railway station, and the development of an 'On Demand' bus service for residents on Matakana Island in the Bay of Plenty, which is being designed in collaboration with Ngāi Te Rangi.

A full list of projects funded through round one of Hoe ki angitū is available on the Waka Kotahi website.

Each funding round focuses on a different set of challenges. The details for round two will be announced shortly. Sign up to receive direct email updates.

Safer Cities by Design

The 'Safer Cities by Design' paper, from the Helen Clark Foundation, in partnership with WSP New Zealand, discusses how better urban form can lead to safer and more vibrant city centres in Aotearoa New Zealand.

Written by Anne Cunningham, the paper recommends bringing together diverse perspectives and expertise to establish safe urban places that restore mana and mauri.

There are challenges to respond to with rising concern about public safety in our cities. Coordinated urban design interventions can help make us feel safer. These will become critically important as our cities become denser and there is more demand for public space.

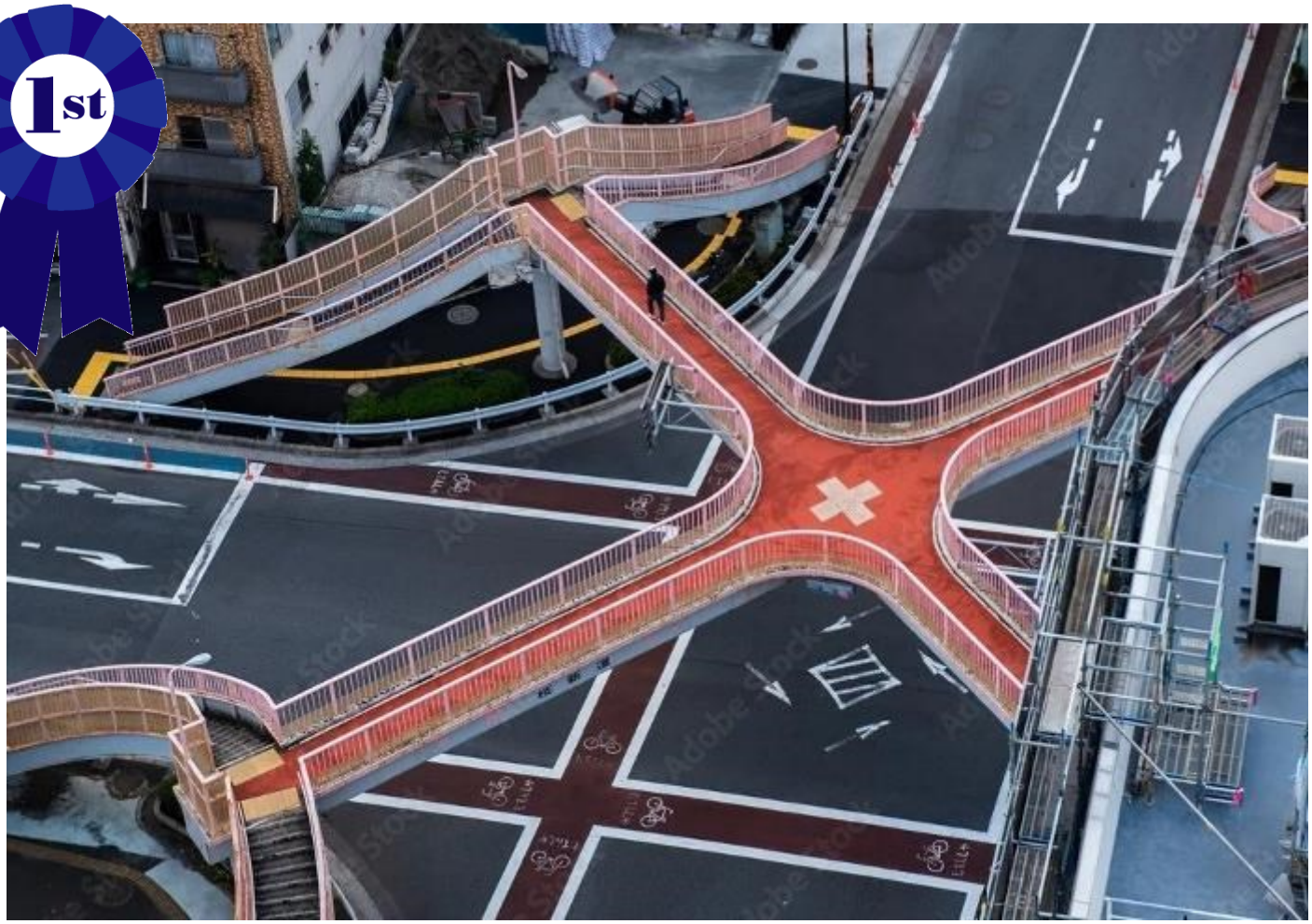
The paper finds that fears about potential crime can affect where people choose to live, and whether and how they use public places. Some groups, especially women, trans and nonbinary people, children, and older people, suffer disproportionately and will often modify and limit their use of urban streets, squares, parks, playgrounds, and public buildings because of safety concerns.

The paper explores how recent thinking on Crime Prevention through Environmental Design (CPTED) can contribute to safer cities and discusses the conditions necessary for this to succeed, so that urban public space is open to all who want and need to use it.

Read the full report

Pedestrian bridg-

Roundabout of the Month



Pedestrians choose healthy obstacles over boring pavements, study finds

Up to 78% of walkers would take a more challenging route featuring obstacles such as balancing beams, stepping stones and high steps, research has found. The findings suggest that providing 'Active Landscape' routes in urban areas could help tackle an 'inactivity pandemic' and improve health outcomes.

Millions of people in the UK are failing to meet recommended targets for physical activity. Exercising 'on the go' is key to changing this but while walking along a pavement is better than nothing it causes no significant increase in heart rate so only qualifies as mild exercise. Walking also fails to significantly improve balance or bone density, unless it includes jumping, balancing, and stepping down.

But would adults opt for such 'fun' routes if given the choice?

A University of Cambridge-led study published today in the journal *Landscape Research* suggests that with the right design, most would.

Previous research on 'healthy route choices' has focused on people's likelihood of walking instead of using transport. But this study examined how likely people are to pick a more challenging route over a conventional one and which design characteristics influenced their choices.

Lead author, Anna Boldina, from the University of Cambridge's Department of Architecture, said: "Even when the increase in level and extent of activity level is modest, when millions of people are using cityscapes every day, those differences can have a major positive impact on public health."

"Our findings show that pedestrians can be nudged into a wider range of physical activities through minor changes to the urban landscape. We want to help policy makers and designers to make modifications that will improve physical health and wellbeing."

Boldina began this research after moving from Coimbra in Portugal – where she found herself climbing hills and ancient walls – to London, which she found far less physically challenging.

Working with Dr Paul Hanel from the Department of Psychology at the University of Essex, and Professor Koen Steemers from Cambridge, Boldina invited almost 600 UK residents to compare photo-realistic images of challenging routes – variously incorporating stepping stones, balancing beams, and high steps – with conventional pavements.

Participants were shown images of challenging and conventional tarmac routes and asked which route they would choose. The researchers tested out a range of encouraging / discouraging parameters in different scenarios, including crossing water, shortcuts, unusual sculptures and the presence / absence of a handrail and other people. Participants were asked to score how challenging they thought the route would be from 1 (as easy as walking on level tarmac) to 7 (I would not be able to do it).

Eighty per cent of the study's participants opted for a challenging route in at least one of the scenarios, depending on perceived level of difficulty and design characteristics. Where a challenging option was shorter than a conventional route, this increased the likelihood of being chosen by 10%. The presence of handrails achieved a 12% rise.

Importance for health

The WHO and NHS recommend at least 150 minutes of 'moderate' or 75 minutes of 'vigorous' activity spread over a week, including a variety of activities aimed at enhancing bones, muscles, and agility to stay healthy. In addition, adults over 65 are advised to perform strength, flexibility, and balance exercises.

Boldina said: "The human body is a very complex machine that needs a lot of things to keep working effectively. Cycling and swimming are great for your heart and for your leg muscles but do very little for your bone density."

"To improve cardiovascular health, bone density and balance all at once, we need to add a wider range of exercises into our routine daily walks."

Psychology of choice

Co-author Dr Paul Hanel said: "Children don't need much encouragement to try out a balance beam but we wanted to see how adults would respond, and then identify design modifications which made them more likely to choose a challenging route."

"We found that while embarrassment, anxiety, caution and peer pressure can put some adults off, the vast majority of people can be persuaded to take a more challenging route by paying careful attention to design, safety, difficulty level, location and signage."

The proportion of participants who were willing to pick a more challenging route varied from 14% for a particular balance beam route to 78% for a route involving wide, low stepping stones and a log with a handrail.

The least intimidating routes were found to be those with wide, steady-looking balancing beams and wide steppingstones, especially with the presence of handrails.

The researchers suggest that routes that incorporate more difficult challenges, such as obstacle courses and narrow balancing beams, should be placed in areas more likely to be frequented by younger users.

The participants expressed a range of reasons for picking challenging routes. Unsurprisingly, the study found that challenging routes which also acted as short cuts appealed. Up to 55% of participants chose such routes.

The researchers also found that the design of pavements, lighting and flowerbeds, as well as signage helped to nudge participants to choose more challenging routes. Many participants (40%) said the sight of other people taking a challenging route encouraged them to do the same.

The participants who picked conventional routes often had concerns about safety but the introduction of safety measures, such as handrails, increased uptake of some routes. Handrails next to one steppingstones route increased uptake by 12%.

To test whether tendency to choose challenging routes was linked to demographic and personality factors, participants were asked to answer questions about their age, gender, habits, health, occupation, and personality traits (such as sensation seeking or general anxiety).

The researchers found that people of all levels of activity are equally likely to pick a challenging route. But for the most difficult routes, participants who regularly engaged in strength and balancing exercises were more likely to choose them.

Older participants were as supportive of the concept as younger ones but were less likely to opt for the more challenging routes for themselves. Nevertheless, across all age groups, only a small percentage of participants said they would avoid adventurous options completely.

The study applies the idea of "Choice Architecture" (making good choices easier and less beneficial choices harder) plus "Fun theory", a strategy whereby physical activity is made more exciting; as well as some of the key principles of persuasion: social proof, liking, authority, and consistency.

Future work

The researchers hope to run experiments in physical test sites to see how intentions convert into behaviour, and to measure how changes in habits improve health. In the meantime, Boldina continues to present her findings to policy makers.

Critics might question the affordability and cost effectiveness of introducing 'Active landscape routes' in the current economic environment.

In response, the researchers argue that installing stepping stones in a turfed area can be cheaper than laying and maintaining conventional tarmac pavements. They also point out that these measures could save governments far greater sums by reducing demand for health care related to lack of exercise.

Reference:
A Boldina et al., 'Active Landscape and Choice Architecture: Encouraging the use of challenging city routes for fitness', Landscape Research (2022). DOI: 10.1080/01426397.2022.2142204
Source: University of Cambridge

To improve cardiovascular health, bone density and balance all at once, we need to add a wider range of exercises into our routine daily walks.

Transport photos of the month


MOON

City Rail Link update

Mission Accomplished - Tunnelling completed

Meet the big Tunnel Boring Machine (TBM) which has excavated the twin City Rail Link tunnels.

The TBM was named by public vote after Māori rights activist Dame Whina Cooper.

The machine completed the first tunnel just before Christmas 2021 and was then dismantled, returned to Maungawhau / Mount Eden Station and reassembled to excavate the second tunnel.

The TBM arrived on its second journey to the Te Waihorotiu Station (Aotea) construction site early evening 14 September 2022.

CRL Chief Executive Dr Sean Sweeney says now the tunnels are built, the next stage will commence - putting in the tunnels, all the tracks and railway systems needed to convert them to rail use.

The machine completed the first tunnel just before Christmas 2021 and was then dismantled, returned to Maungawhau / Mount Eden Station and reassembled to excavate the second tunnel.

Francois Dudouit, a project director for the Link Alliance, the consortia of companies building the CRL, says the swifter finishing of the second tunnel reflected operational improvements and efficiency gains.

He says :"I'm absolutely delighted at the performance of 2,000 people who have brought their very best to this important project."

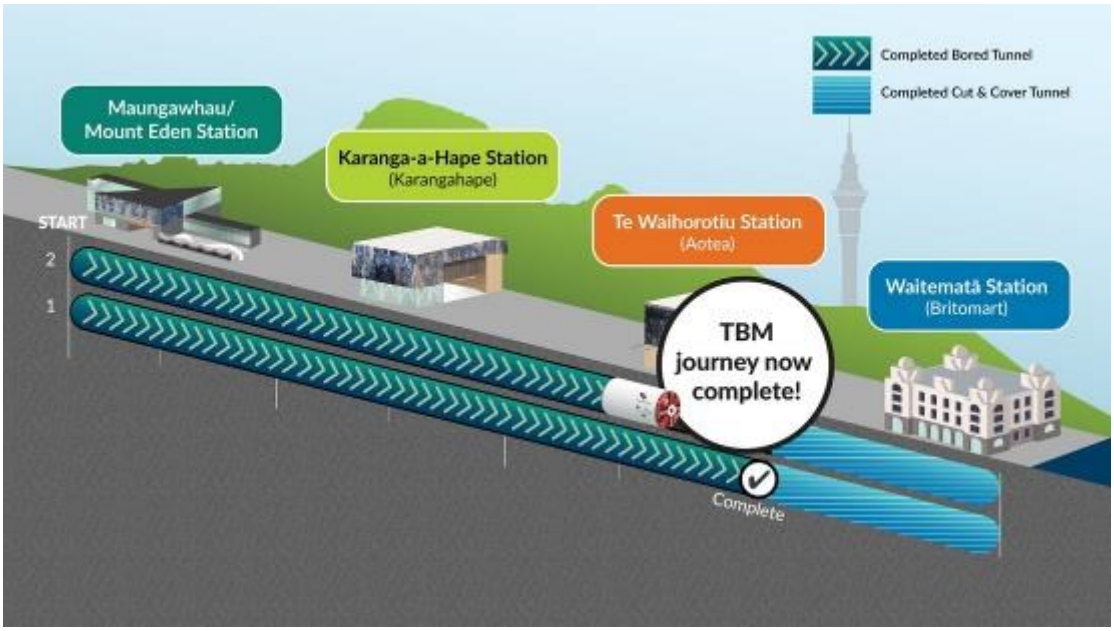
City Rail Link chief executive Dr Sean Sweeney said the major achievement of boring twin 3.45km tunnels up to 45m below ground of New Zealand's largest and busiest city was completed under the most challenging construction conditions.

"Building an underground rail network has never been attempted in New Zealand before," says Dr Sweeney.

"To have achieved what this team of 2,000 people have in the face of a global pandemic, multiple lockdowns, restricted Covid-working conditions and multiple other challenges is nothing short of extraordinary.

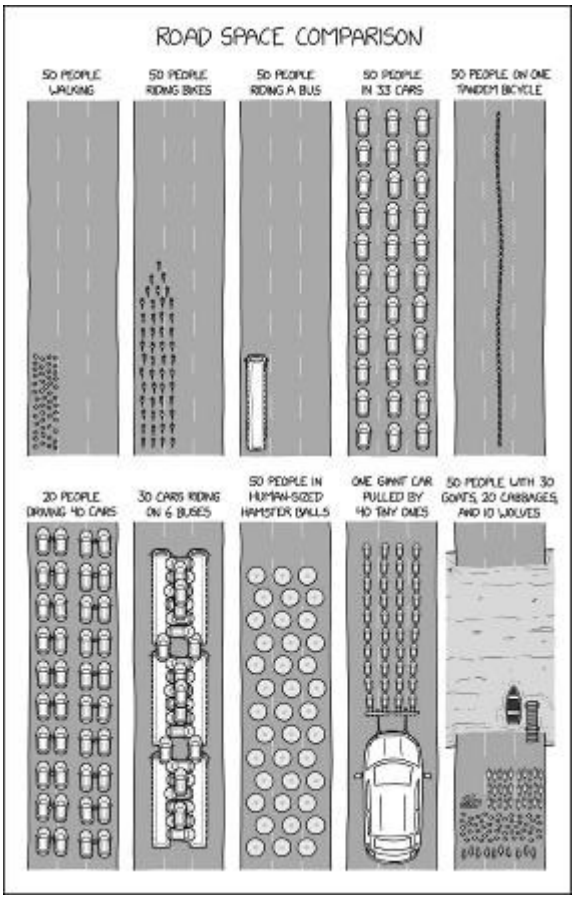
"There is so much more to do on the CRL project but the final breakthrough is an appropriate moment to pause and reflect on the extraordinary job our people have done in building these twin underground tunnels," he says.

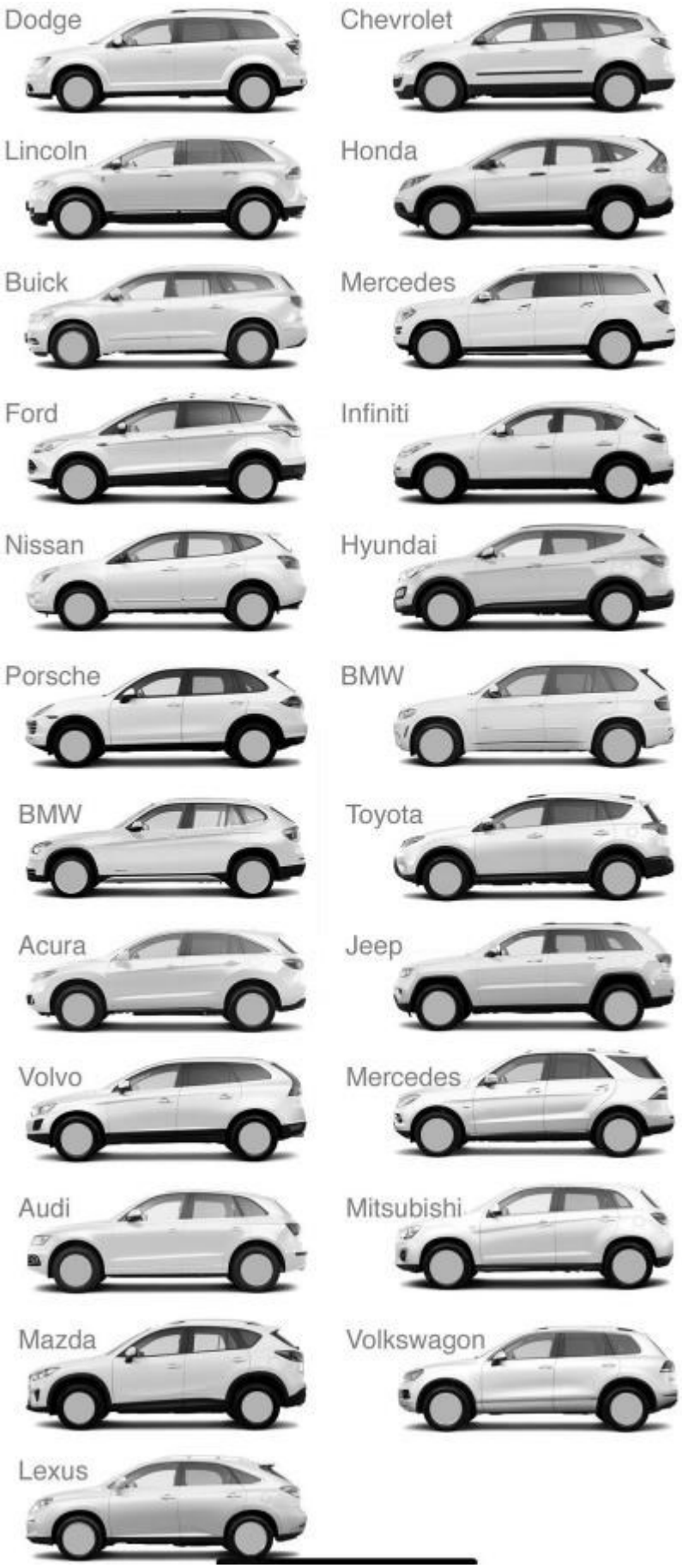
"These tunnels are the cornerstone of the country's first rapid transit rail network and will enable a transformational change in our biggest city."



Key achievements during the tunnel boring phase include:

- Completion of the tunnel-boring phase of the City Rail Link project, comprising two 3.45km tunnels
- The TBM travelled more than 3.5 kms, placed 1067 segment rings and removed 130,000 tonnes of spoil during the boring of the twin tunnels (each 1.6kms long from Maungawhau/ Mt Eden Station to Te Waihorotiu Station, formerly Aotea)
- More than 64,200 cu m of concrete used to build the City Rail Link tunnels – the equivalent of 25 Olympic-sized swimming pools
- The Dame Whina Cooper tunnel boring machine weighs 910 tonnes is 130m long and has a diameter of 7.15m
- It cost €7.15M, with shipping costing an additional €0.6 million (NZ$13.5M at the time) Francois Dudouit, project director for the Link Alliance, the consortia of companies building the CRL, says the swifter finishing of the second tunnel reflected operational improvements and efficiency gains.
- Now the tunnel boring is complete, Dame Whina Cooper will be dismantled and lifted above ground. It will then be transported to the port for shipping back to its manufacturer, Herrenknecht. Parts of it will be repurposed.






Except for
Evel Knievel
SANDWICH SHOP & CAF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halfords
halfords

Transportation Group National Committee

National Chairperson/Research Sub-committee: Bridget Doran bdoran@mrcagney.com

Vice Chairperson: John Lieswyn john@viastrada.nz

Immediate Past Chair: Jeanette Ward jeanette@abley.com

Auckland Branch Chair/Signal Network User Group: Matt Hoyle matthew.hoyle@mottmac.com

Membership Secretary: Stephanie Willcox stephanie.willcox@jacobs.com

Waikato/Bay of Plenty Branch Chair: Craig Richards craig.richards@beca.com

Central Branch Chair: Peter Cockrem peter@cockrem.com

Nelson/Marlborough branch: Clare Scott Clare.scott@wsp.com

Canterbury/West Coast Branch Chair: Stacey Lloyd Stacey.Lloyd@stantec.com

Southern Branch Chair: Aaron Isaacs Aaron.isaacs@stantec.com

Treasurer: Melanie Muirson Melanie.Muirson@stantec.com

Modelling User Group: Bevan Wilmshurst bevan.wilmshurst@stantec.com

Active Modes Infrastructure Group: Glen Koorey glen@viastrada.nz

TDB rep: Tony Brennand Tony.Brennand@nzta.govt.nz

Branch Administrators

Auckland: Chun-Lin Lee chun-lin.lee@stantec.com

Waikato/Bay of Plenty: Sarah Dove s.dove@harrisongrierson.com

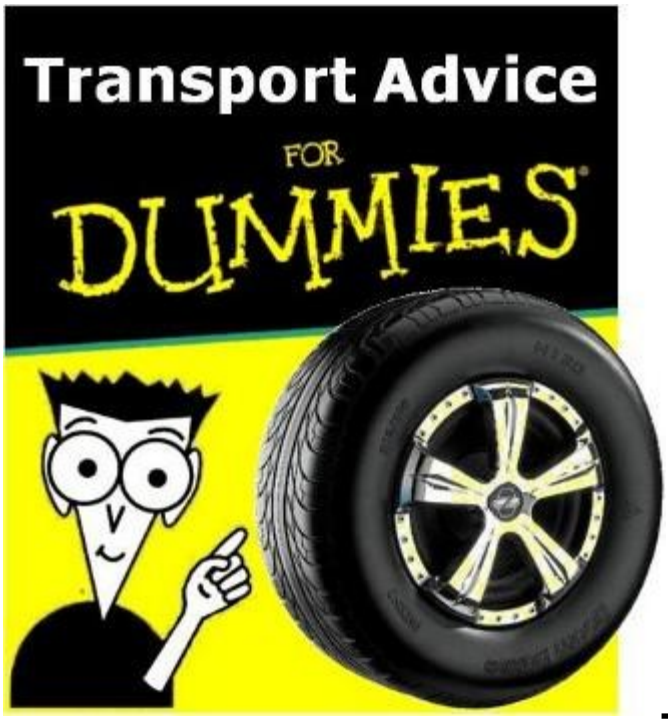
Central: Josephine Draper josephine.draper@abley.com

Canterbury/West Coast: Sahan Lalpe sahan.lalpe@stantec.com

Southern: TBA

Roundabout Editor: Daniel Newcombe daniel.newcombe@at.govt.nz

Find us on the web:
Transportationgroup.nz



A tongue-in-cheek column on transport matters by The Transport Guy. The contents do not represent the views of the Transportation Group, or anyone else for that matter. Follow the advice at your own risk. If you have a question for The Transport Guy, no matter how stupid, email it to transportfordummies@gmail.com and he'll do his best to answer.

Dear Transport Guy

This government has ruined our roads. Every day you hear about more and more pot-holes and some of them are so big that people damage their wheels.

The government has taken all the maintenance budget and wasted it on that Auckland cycle bridge and light rail.

Our roads are suffering from this ridiculous ideology!

Kevin, Ashburton

Dear Kept-In

Are you finished? Sorry, I thought I was listening to talkback radio. In terms of ideology, I wouldn't want the facts to get in the way of your rant. The reason for the pot-holes is the exceptionally wet winter and lack of fine enough spring to enable repairs.

The national road maintenance budget is higher than ever before, after being frozen during a time when *checks notes* no cycle bridge or light rail was being planned, just great big roads.

The Transport Guy

Dear Transport Guy

I am increasingly angry with people promoting electric cars as the solution to our sustainability. They are clearly ignoring the fact that NZ burns coal to top up our electricity supply AND the batteries that cars use cause huge environmental damage AND we have no way of recycling them!

Holly, Grey Lynn

Dear By Golly

I am perplexed by your new-found environmental concerns regarding electric cars, but apparent lack of concern with the current fossil fuel vehicle fleet. It *almost* feels like a fake concern which is purely an obstructive delaying tactic to undermine fundamental improvements to the transport system. But I could be wrong.

You are right, however. There are indeed unresolved issues with the transition to an electrified vehicle fleet. But unless your personal decision is to both stop using your fossil fuel car AND not get an electric one, I think those are crocodile tears you're shedding.

On the slim chance I'm wrong, can I suggest you choice to cycle instead? Not on an e-bike, of course.

The Transport Guy

I am perplexed by your new-found environmental concerns regarding electric cars, but apparent lack of concern with the current fossil fuel vehicle fleet.


Kids explain traffic engineering
“When you are doing your job, if you think about other people, you might end up with cool stuff”