Roundabout

Magazine of the IPENZ Transportation Group

Issue 154 December 2017

The Rules Are Changing - Have Your Say



Also in this edition:

Distracted walking - Bike share graveyard - New AT CEO - New N/RLTP policy
 Uber travel study - Flying taxis - Vision Zero - Traffic economics

Roundabout Issue 154 December 2017

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"On the bright side anyone who missed the early-leaving 9:44 train can catch the 9:48 instead." Page 14

"Let's not beat around the bush." "-Dxford St is horrible Page 26

"I was on the self-driving bus that crashed. Here's what happened." Page 24

"This transport issue isn't an irritation, it is a serious health matter."
Page 18

Roundabout is the magazine of the IPENZ Transportation Group, published quarterly. It features topical articles and other relevant tidbits from the traffic engineering and transport planning world, as well as details on the latest happenings in the NZ transportation scene.

All contributions, including articles, letters to the editor, amusing traffic related images and anecdotes are welcome. Opinions expressed in Roundabout are not necessarily the opinion of the IPENZ Transportation Group or the editor, except the editorial of course. There is no charge for publishing vacancies for transportation professionals, as this is considered an industry-supporting initiative.

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

or c/o Auckland Transport, Private Bag 92250, Auckland 1142

Roundabout is published around the 15th of March, June, September and December each year, and contributions are due by the 10th of each publication month.

A monthly Mini-Roundabout email update is circulated on the 15th of in-between months and contributions are due by the 12th of each month.

If somehow you have come to be reading Roundabout but aren't yet a member of the IPENZ Transportation Group, you are most welcome to join. Just fill in an application form, available from the Group website: http://ipenz.org.nz/ipenztg/files/TGApp.pdf

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Editorial



As we come to the end of another busy and eventful year, it is traditional to look back at the events of the last twelve months and make some wise comments about how we knew it would turn out this way.

Who am I to buck tradition?

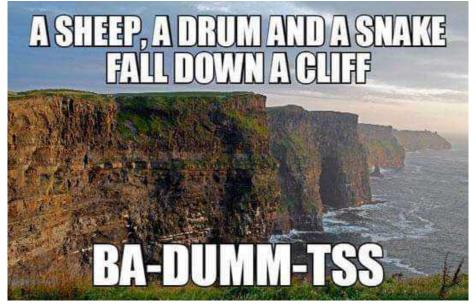
Also I have no idea what will happen over the coming year, so it is futile to look forward and try to predict the year ahead.

The event of 2017 was no doubt the conference in Hamilton, which exceeded everyone's expectations (including those of the main organiser Alan Gregory). The Hobbiton dinner was outstanding. The presentations and vibe was really great. Other things happened but my memory is fuzzy.

What else happened this year? Once again we didn't get flying cars. So a bit of a fizzer.

What else happened this year? I can't really remember. Something about an election and a slight change of political direction. But we're not entirely sure what that is. Yet.

And once again we didn't get flying cars. So a bit of a fizzer.



I had the privilege recently of providing a keynote speech at the Australasian Transport Research Forum conference held in Auckland. I got less than 24 hours' notice of this, was given a bunch of slides I wasn't allowed to change and was given no guidance as to the key messages I was to convey. Also, I wasn't told it was the keynote speech until I got there.

As we come to the end of Whilst this is a true story, I was happy to step in and another busy and eventful help out the original keynote speakers, my current boss year, it is traditional to look (who had to leave the country urgently) and old boss back at the events of the last (who became very ill the day before).

I wasn't told I was giving the keynote speech at the conference until I got there.

I thoroughly recommend approaching important presentations in this way. You get no time to worry about perfecting your delivery, you just have go with first instincts. You speak off the top of your head and your comments are more genuine. And it helps that people may have low expectations of you.

One very important thing that happened this year was I finally found out the difference between a carpark and a car park. Ready?

Carpark - is the collective noun, so the area where cars are parked.

Car park - is an individual parking space

I didn't know that. How have I come this far in the profession without knowing that?

Another interesting thing I did recently was have a go at updating our Group Rules, as part of reflecting our changing membership and activities. The need to update the Rules has been growing, as the National Committee is increasingly unable to follow the obligations they entail (as they were based on some quite formal procedures from Engineering NZ (nee

IPENZ) back in the day) and they no longer reflect how we manage ourselves as a Group.

We are free to decide how we want to change our Rules and manage ourselves (Engineering NZ has said its up to us) but we need to vote on everything at the AGM to be held at our Queenstown conference next year.

There will be some material sent out to members in coming months so that everyone gets a chance to consider the changes, and I'd encourage you to have a look, let us know what you think, but more importantly vote (in person or by proxy) at the AGM. See page 6 for details.

I hope you have a relaxing festive season and come back next year refreshed and ready to do some great AGM voting!

Daniel Newcombe Roundabout Editor @newcombe_dan

Chairman's Message



weeks to Christmas and a lot had happened in the last few months.

With our new political

leadership I am hoping to see much more movement into a more sustainable transport future, these are exciting time for the transport profession although frustratingly slow for some with the NLTP about to be thrown into turmoil with a revised policy statement and new funding priorities.

Based on a recent communication from the Transport Minister we should expect to see a significant increase in funding for public transport, walking and cycling, regional growth and rail. What this means exactly we will have to wait see, but as transport professionals we have the opportunity to influence and shape the future of transport in New Zealand to something accessible and sustainable I hope.

One of the key discussions is the need for an overarching NZ transport strategy, we nearly had this back in 2007 but it was overtaken by the GPS as it is considered to be more flexible, it's also conveniently easy to change to suit political aspirations. An overall 30 year strategy would give us a target to plan for rather than band aid solutions and warnings that if nothing is done things will be bad.



Autonomous vehicles will keep appearing in all transport futures, but are we ready to relinquish control? I had the opportunity to borrow a vehicle with adaptive cruise control, that's one which

Only three senses vehicles ahead and adjusts speed to maintain a set distance in between. It's designed as a cruise tool but I thought I would give it a test last week driving on the Southern Motorway.

> With a max speed set as 100km/h I entered peak hour traffic... It takes a lot of nerve to trust the system but it actually works, sort of, making a verv nerve-wracking and uncomfortable trip when the system does not detect a car in front it accelerates up to its maximum speed and then brakes when it detect something blocking its path. If this vehicle is going slowly it becomes an emergency stop. It does set off again when the blockage clears but very slowly.

> Scary stuff when you see brake lights ahead and your car is still accelerating...

> Needs work about some anticipation but with connected infrastructure vehicles and current technology but the generation of vehicles are almost there.

> Conveniently this segways into the subject of connectivity, there is no that vehicle to vehicle technology alone can provide for the future needs of transport, there are too many variables.

> We really need to see more smart roads that can communicate conditions ahead to local road users and to a system that monitor and reports on conditions to people who have not started their journey. Reliance on private industry to

develop systems, mobile applications and vehicles to deal with this is likely to lead to divergent non compatible technologies. VHS vs Betamax anyone from the 80s?

I see an overarching need to take control and specify parameters where technologies can communicate irrespective platform or origin. Any takers for running with that one?

Final word on technology, this is one of three free EV rapid charging recently stations installed Tauranga City Council, it is solar powered and right in the CBD. I think it's a step forward.

Irrespective of our technologies as transport professionals and users, we have to keep one thing in perspective. Transport is about people. Keep the human element in the fore when you are thinking about planning, designing and modifying the public realm.

Our duty of care is to enhance the overall experience as well as traditional benefits of safety and efficiency.

Car drivers are pedestrians when the get out, somehow that seems to get lost when we are faced with urban congestion and decide to add lanes to keep vehicles moving faster, relegating pedestrians to narrow ribbons of concrete either side of a torrent of moving metal.

"...You can't cure congestion through adding lanes, it's like trying to cure obesity through wearing bigger pants...'

I may have said that before. If we start with the end in mind then everything we do should follow a plan and aim for that goal.

Once again please support your local branch and keep ideas, articles and suggestions flowing to Daniel.

Have a safe and Merry Christmas and I will see you all next year.



Alan Gregory **National Committee Chair**

Signals NZ User Group Mini Workshop – 20 February 2018

A one-day SNUG "Mini" Workshop has been confirmed for Tuesday 20 February at Novotel, Auckland Airport. The Mini Workshop will be an interactive day to discuss signals-related issues that the committee has been working on, including the following topics:

- Detection
- Standards consistency
- Compliance with signals / education of the public
- Cycle signal infrastructure
- Pedestrian signal infrastructure
- Training requirements
- Signals and traffic management
- SCATS update

In addition, we will be holding our AGM at the Mini Workshop.



The cost for the Mini Workshop is expected to be \$89 (including GST) and the programme will run from about 8.30am to 5pm, with coffee beforehand and drinks to follow. Registration details will be sent through in the next month, but if you have any queries in the meantime you can email Sam at samantha.mccarthy@tdg.co.nz

The standard 2-3 day SNUG Workshop will be held in Hamilton in October/November 2018.





LinSig training courses in Australia

JCT is running **LinSig courses** in Australia in July 2018 as follows:

23 & 24 July 2018 - Brisbane: Two Day LinSig Junctions and Networks Computer workshop AU\$1680

26 & 27 July 2018 - Auckland: Two Day LinSig Junctions and Networks Computer workshop NZ\$1860

30 & 31 July 2018 - Perth: Two Day LinSig Junctions and Networks Computer workshop AU\$1680

A draft programme can be found here and you can book using this form here

If you have any questions, please contact Emma Davey emma.davey@jctconsultancy.co.uk

Keep up to date with IPENZ Transportation Group happenings:

www.ipenz.org.nz/ipenztg www.twitter.com/ipenztg www.facebook.com/ipenztg









Draft revised Group Rules for member consideration

The National Committee intends to revise and update the Group's Rules at the next AGM and invites you to review the proposed revised text below and pass any comments to the Roundabout editor (at daniel.newcombe@at.govt.nz). A link to the existing Rules is HERE for reference. Further formal consultation with members will occur prior to the AGM at the Queenstown conference in March.

The main proposed Rule changes (full text below) involve:

- updating the Group name to the Transportation Group NZ, as part of our wider rebranding and recognising that IPENZ has changed it's name
- updating the Group purpose to be broader than the previous engineering focus, recognising our current range of interest areas
- removing distinction between members with or

without full membership of Engineering NZ (i.e. MIPENZ) as this is increasingly irrelevant for Group purposes

- removing requirement for Chair or Vice-Chair to be full member of IPENZ (though they must still have experience and be nominated from within the Group to be eligible)
- updating the way the National Committee can use coopted members to reflect the way it now operates
- confirming that the AGM is to be held at the conference, when we can get the greatest number of members together
- giving branches flexibility in how they establish themselves, given the difficulty many branches have in establishing a regular quorum
- other minor changes reflecting the way the Group currently operates.



TRANSPORTATION GROUP NEW ZEALAND RULES – UPDATED DRAFT DECEMBER 2017

RULES OF THE TRANSPORTATION GROUP NEW ZEALAND – DECEMBER 2017

- 1. SECTION 1 NAME AND DOMAIN OF ACTIVITY
- 1.1 The Transportation Group New Zealand ("the Group") is a Technical Interest Group of the Institution of Professional Engineers New Zealand Incorporated (IPENZ) trading as Engineering New Zealand.
- 1.2 The general purpose of the Group is to advance the technical knowledge related to the planning and management of land-based transportation facilities, networks and systems for the movement of people and goods.
- 1.3 Membership of the Group is open to those with a membership of Engineering New Zealand and other individuals or organisations with a professional interest in or who are directly involved in the transportation sector in New Zealand and associated territories.
- 1.4 The Group includes Sub-Groups focussed on transportation modelling (MUGS), traffic signals (SNUG), and traffic generation and parking (TDB).
- 1.5 The Group's activities shall be managed by a National Committee and co-ordinated at a local level by Branch Committees.

2. SECTION 2 - OBJECTIVES

- 2.1 The purpose of the Group shall include, but not be limited to:
- a. developing and sharing national and international advances in engineering and technological knowledge and technical expertise so as to assist in the professional development of members;
- b. contributing to the development and recognition of good practice, facilitating the planning and creation of better transportation networks and management practices;
- c. supporting Group members in their career development, through conferences, education, training, workshops, research and publications;
- d. providing opportunities for the sharing of ideas and creating a national network for members; and
- e. Providing an objective voice for the profession through providing informed commentary on public policy and other issues.

3. SECTION 3 - MEMBERSHIP

- 3.1 Any person who holds a formal qualification and/or experience in the domain of the Group, completes the required membership form and pays the annual subscription fee shall be entitled to become a Group member upon acceptance of their application by the National Committee.
- 3.2 Members need not hold a recognised engineering qualification but the Group recognises individual members' historical connections to Engineering New Zealand.
- 3.3 Completion of the membership form shall be considered as acceptance of the Rules of the Group.
- 3.4 Any member of the Group who has not paid the annual subscription fee within a period of time prescribed by the National Committee, may be removed from membership of the Group at the discretion of the National Committee.
- 3.5 Any member having held a continuous period of membership of the Group of not less than 25 years, and not working more than 20 hours per week on average, may apply for Retired membership. Any member granted Retired membership shall be required to pay 50% of the annual Group subscription fees.
- 3.6 Life membership, in recognition of outstanding work for and behalf of the Group, may be recommended by nominators (comprising four Group members, from at least two different Branches) and ratified by a vote at an Annual General Meeting. Any member granted Life membership shall not be required to pay the annual Group subscription fees.
- 3.7 Membership of the Group in itself does not confer the rights of Membership of Engineering New Zealand.

4. SECTION 4 - CHAIRPERSON AND NATIONAL COMMITTEE

- 4.1 The affairs of the Group shall be managed by a National Committee, which shall contain no less than seven members, consisting of:
- a. The Chairperson and Vice-Chairperson, each elected for a term of two years
- b. Each Branch Chairperson
- c. The immediate Past Chairperson who is willing and able to serve ex-officio for a term of two years; and
- d. Any co-opted members undertaking National Committee roles.
- 4.2 The National Committee, including the Chairperson and Vice-Chairperson, shall be elected pursuant to Rule 6.1.
- 4.3 Only individual persons and not organisations may be elected to the National Committee or as Chairperson.
- 4.4 The terms of tenure of the positions of Chairperson and National Committee members are from the Annual General Meeting or vote at which they are elected to the second Annual General Meeting after their election or until an election prior to this called by the National Committee.
- 4.5 The National Committee may choose to designate titles for positions within the National Committee to associate them with particular roles.
- 4.6 Members of the Group may be co-opted onto the National Committee of the Group by a two-thirds majority vote of the members of the National Committee.
- 4.7 The National Committee may form sub-committees to perform particular roles, and co-opt members to those sub-committees, provided that all decisions of a sub-committee are subject to ratification by the National Committee.
- 4.8 Decisions of the National Committee are made by majority vote of those present (including those present via teleconference, videoconference or similar methods), provided a quorum is present (see Rule 8.5).
- 4.9 The National Committee may fill a vacancy not filled at an election. Each member appointed to fill such vacancy shall hold office until the next Annual General Meeting.

5. SECTION 5 - ANNUAL GENERAL MEETING AND RECEIPT OF ANNUAL REPORT

- 5.1 The Annual General Meeting of the Group may be conducted in person, via electronic or other means, and shall be held the annual conference.
- 5.2 The Chairperson shall present an annual report on activities to the Annual General Meeting, and this will be distributed to all Group members at least one week prior.
- 5.3 The annual report shall cover activities of the Group and the use of funds by the Group.

6. SECTION 6 - ELECTION OF OFFICERS

- 6.1 The election of the Chairperson and Vice Chairperson shall occur at the Annual General Meeting, or failing that by postal or electronic ballot of all members as soon as possible thereafter.
- 6.2 Nominations shall be open for a period not exceeding eight weeks prior to the Annual General Meeting, and shall be closed two weeks before the Annual General Meeting.
- 6.3 Nominations must be made by an individual member of the Group who personally, is a member of the Group. Nominations shall be in writing on the prescribed form and shall bear the consent in writing of the member nominated to be valid.
- 6.4 Each candidate for nomination shall be invited to submit with the nomination paper with information relevant to consideration of the candidacy.
- 6.5 Candidates for election as Chairperson or Vice Chairperson are to have served at least one term on a Branch Committee.
- 6.6 The names of members nominated for Chairperson and Vice Chairperson shall be made available to each member of the Group not less than one week before the Annual General Meeting (after close of nominations).

7. SECTION 7 - INCOME AND EXPENDITURE

- 7.1 The National Committee shall determine membership subscriptions which shall be sufficient to cover the normal operating expenses of the Group.
- 7.2 Subscription income shall be expended only in furtherance of the objectives of the Group and in accordance with procedures specified by the Rules.
- 7.3 The Group may charge fees for specific activities for which the costs cannot be met from subscription income, provided that the fees charged and the spending of them is in accordance with the Rules.

8. SECTION 8 - MEETINGS

- 8.1 Meetings of the National Committee and meetings of the Group shall be held as required.
- 8.2 Special General Meetings of the Group may be called by the National Committee on its own initiative, or at the written request of ten members.
- 8.3 Notice of an Annual General Meeting or a Special General Meeting, and the nature of the business to be transacted, shall be circulated to each member by post or via electronic means to the address provided by the member, to be received not less than fourteen days before such meeting.
- 8.4 The Chairperson of the Group, when present (including those present via teleconference, videoconference or similar methods), shall preside at each Group meeting and in his or her absence, the Vice-Chairperson shall preside. If the Chairperson or Vice-Chairperson is absent or otherwise unable to attend to matters pertaining to the Group, then the members of the National Committee present shall appoint an interim Chairperson from among their members for the period of time required to attend to business matters.
- 8.5 A quorum for the National Committee shall be not less than two thirds of the total Committee including the Chairperson or Vice-Chairperson. For a Special General Meeting, the quorum shall be not less than ten members. There shall be no quorum for the Annual General Meeting of the Group.
- 8.6 Each member of the Group actually and rightfully present at any general meeting has the right to exercise one vote on any motion before such meeting, and each National Committee member has the right to exercise one vote at National Committee meetings. Voting shall be by the voices, except that any such member present may require a show of hands and any ten percent of such members present may require a secret ballot.

9. SECTION 9 - BRANCHES

- 9.1 The National Committee may create Branches as subsidiary bodies to co-ordinate Group activities at a local level, and shall decide the geographic boundaries that define each Branch, and the branch name for each Branch so created.
- 9.2 The affairs of the Branch shall be managed by a Chairperson elected by members of that Branch. The election of Branch

Committees shall follow the process defined in the Rules or an approved alternative process.

9.3 The Chairperson of each Branch shall prepare a report on their activities to the Annual General Meeting of the Group.

10. SECTION 10 - SUB-GROUPS

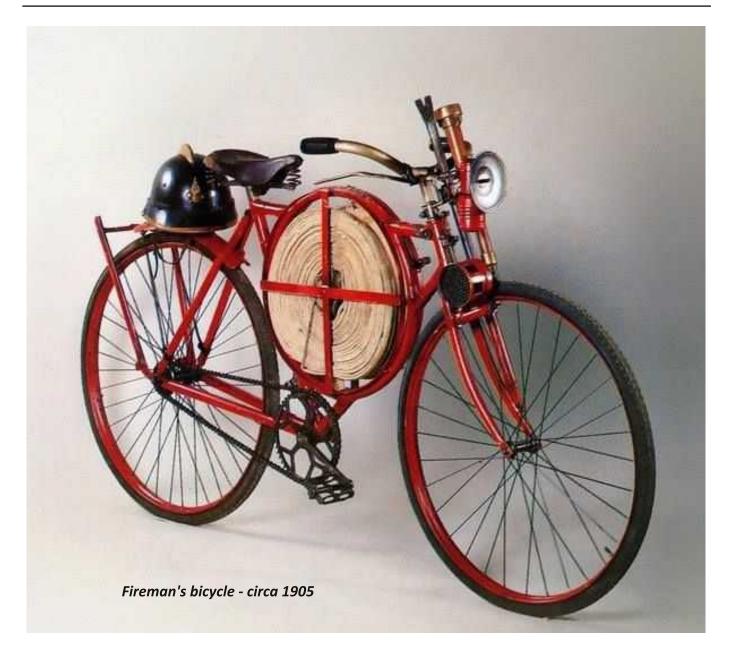
- 10.1 The National Committee may form or approve the formation of Sub-groups which contribute to the specialist components of objectives of the Group.
- 10.2 All members of the Sub-group shall be required to be members of the Group, other than exceptions agreed upon by the National Committee.
- 10.3 The affairs of the Sub-group shall be managed by a Chairperson elected by members of that Sub-group. The election of Sub-group committees shall follow the process defined in the Rules or or an approved alternative process.
- 10.4 Except with the approval of the National Committee, Sub-groups are not permitted to charge annual subscription fees.
- 10.5 The Chairperson of each Sub-group shall prepare a report on their activities for the Annual General Meeting of the Group.

11. SECTION 11 -- ALTERATION OF RULES

- 11.1 An alteration to the Rules of the Group may be recommended by a two thirds majority vote of members present at either an Annual General Meeting or a Special General Meeting of the Group and that alteration shall become effective at the conclusion of that meeting.
- 11.2 No alteration, rescission or substitution which would alter the charitable nature of the Group shall be permitted.

12. SECTION 12 - DISSOLUTION OF THE GROUP

- 12.1 The National Committee may dissolve the Group provided that at least one of the following criteria is satisfied:
- a. the members of the Group request the dissolution, as determined by a 75% majority of those present at a Special General Meeting called for the purpose of discussing a motion for dissolution;
- b. the National Committee is of the view that the Group is non-viable as evidenced by poor financial performance, lack of activity, or failure to form a National Committee for an extended period of time.
- 12.2 In expending any unspent Group funds, in so far as is reasonably possible, the National Committee must follow any direction previously given by the Group for the use ofthe funds. No member of the Group shall in any way benefit from such distribution of the unspent Group funds, which shall be distributed for charitable purposes within New Zealand.



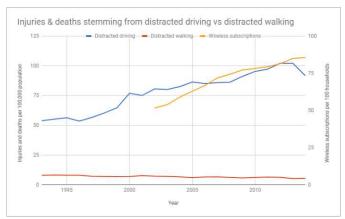
"Distracted walking" is a distraction from the real issue

Data clearly shows that distracted driving is the genuine public safety threat. But Canadian lawmakers still traffic in victim-blaming. Laws to penalize the act of "distracted walking" are rearing their ugly heads across North America and elsewhere.

Honolulu started the trend this summer by making it illegal to look at your phone while crossing the street, which local legislators in other cities took as inspiration.

The next domino to fall might be the Canadian province of Ontario, where Yvan Baker of the Etobicoke Centre provincial electoral district has proposed legislation cutely named "Phones Down, Heads Up."

The problem with these laws is that they don't target a genuine public safety threat. And Mike Boos of the Waterloo-based Tri-Cities Transport Action Group has the numbers to prove it.



Boos crunched data from the Ontario Ministry of Transportation, and the results plainly show that the rise in mobile connectivity tracks with an increase in distracted driving crashes. There is no sign that distracted walking is a significant or growing factor in collisions, Boos writes:

Contrary to claims by MPP Baker, collisions stemming from distracted walking are actually decreasing in Ontario!

How is it possible that, in spite of frequent sightings of people looking at their phones, distracted walking collisions are relatively infrequent? Some research suggests people slow down their walking when they're looking at their devices, enabling them to avoid obstacles and not walk into trouble inadvertently. This compensation for risk isn't foolproof, but it does a lot to mitigate the effects of being distracted.

The Region of Waterloo, Canada, annual collision report indicates that pedestrians have been 'inattentive' in about 15% of collisions over the past five years, though that doesn't mean they were found to be at fault in all such cases (or that they were looking at phones — it could just mean they didn't look both ways). Indeed, in only 14% of collisions was a pedestrian crossing without the right-of-way.

By contrast, in only 23% of collisions with pedestrians was the driver found to be driving properly. If a driver makes an mistake and speeds into your path, it's not clear how having your cellphone tucked away will change the outcome.

If the goal is to save lives, reducing or mitigating the effects of driver error seems like a much more effective place to start.

Regardless of what has greater impact, MPP Baker indicates that if just one life were saved by his bill, he'd feel it was worth it. The deterring power of fines is brought into question when we look back at that first chart and recall that Ontario introduced its first distracted driving law back in 2009.

If there's any evidence of lives saved by that legislation, it's not in the numbers — injuries and deaths keep climbing until sometime around 2012.

And if self-preservation isn't sufficient motivation to pay close attention to the task of crossing the street, what's the remote risk of a \$50 fine?

People walking already have a clear incentive to pay attention around cars — self preservation. The harm of legislation like Baker's is that it will add a new pretext to stop, harass, and fine people on foot without making anyone safer.

Source: Streetblog







Cynthia Gillespie

Chief of Strategy and Development of Auckland Transport. She spent 3 years with KPMG working closely with government agencies on shaping strategic frameworks that delivered government objectives, synthesizing emerging trends and identifying long term opportunities.

Cynthia will outline the challenges Auckland faces in being a linear city, bounded by two coasts and with a range of geographic constraints, alongside the significant ongoing population and employment growth.



Julie Woods

As if going blind at the age of 31 wasn't enough, Julie Woods got to have another bite at the extraordinary change cherry when she became a single blind parent in 2001.

Why not! what was the first thing Julie thought as she awoke in ED after being hit by a bus on her morning walk in 2016? and more....

There's no doubt about it – Julie's an extraordinary change expert.



21 – 23 March 2018 Millennium Hotel Queenstown

IPENZ Transportation Group Conference 2018

Rod Cameron

Rod was part of the team who created the Stronger Christchurch Infrastructure Rebuild Team, an alliance rebuilding the pipes, roads and bridges within the city.

Now Rod is sharing the Learning Legacy in NZ and Europe, and with Duncan Gibb (former SCIRT GM), is creating a 'Framework for Action' to describe how to get things done in rebuild and recovery following a disaster. They also believe that the framework has application in normal business.



Visit ipenztgconference.co.nz to read more

Thanks to our sponsors





FORUM 8



Registration open now

Kaikoura Earthquake Transport Links Re-Building Forum

March 2018



May 2017



The magnitude 7.8 Kaikoura earthquake struck just after midnight on 14th November 2016 causing widespread damage, disruption to communities and severing key road and rail connections.

Nine months after the earthquake the Main North Line was reopened. Since then, KiwiRail has moved more than 16,000 tonnes of freight between Picton and Christchurch, already reducing the number of trucks on the alternative inland route.

The amount that has been achieved within a single year is staggering with more than 1300 staff people involved, more than 100 landslides and slips cleared, and repairs to hundreds of sites including bridges and tunnels.

Key drivers for this work have been: reinstating the rail and road links between Picton and Christchurch, and reconnecting communities.

A half day afternoon forum is planned to be held in Wellington in March 2018. The forum will celebrate human and showcase the technical requirements, challenges and achievements that have enabled the rebuilding and reopening of State Highway 1, and the Main North Railway Line, following the enormous damage caused by the November 2016 Kaikoura Earthquake.

Key sessions will include:

- The importance of the link between Picton and Christchurch
- Building a Partnership that Works (North Canterbury Transport Infrastructure Recovery, NCTIR)
- Managing Relationships with key stakeholders
- Technical Talks, covering bridges, slopes, road and rail (the damage, assessments, safety implications, considerations for the future, working across disciplines, preparing transport corridors.)
- · Archaeology, RMA, Assurance and Resilience, and Health and Safety.
- Panel discussions.

The sessions will be followed by an opportunity for networking and refreshments. The forum will include speakers from NZTA, KiwiRail, NCTIR, contractors and consultants who have worked on the rebuild project. The forum has been organised by Engineering New Zealand Wellington Branch; RTSA; and the Engineering New Zealand Transportation Group Central Region.

Location: Wellington (venue TBC) Time: 1:00 pm – 6:00 pm

Admission cost per person: \$80 + GST (TBC)

Register your interest here <u> http://engineeringnewzealand.cmail19.com/t/t-</u> I-kubyky-nuhutcdk-h/





TRANSPORTATION

Auckland parents bend road rules to get children to school safely

Desperate Auckland parents have banded together to keep their children safe on the way to and from school, by establishing unofficial pedestrian crossings on busy roads.

For the past 18 months, mother-of-three Jackie Gulik (pictured) and her 20-strong roster of "safe crossing" volunteers have been manning two intersections outside Hauraki School on the North Shore.

The parents have taken to wearing high-visibility vests and using road cones to help guide groups of primary school-aged children safely across Walter Street and Waitematā Rd.

The morning and afternoon crossing initiative is illegal, according to police and Auckland Transport (AT). However, until AT installs zebra crossings, Gulik and her crew of mums will continue.

"Our frustration is every day that Auckland Transport is dragging the chain on this, there are more near misses happening," Gulik said. For nearly two years, Gulik has been trying to initiate change but she said progress with AT has been slow.

"We have been making do as best we can, but we need AT to prioritise safe crossings."





Hauraki is a suburb undergoing large-scale development and the school roll is predicted to increase by 200 pupils in the next year, to 700, meaning traffic down Jutland Rd, outside the school, is steadily increasing.

The school has very few out-of-zone pupils, most live within 2 kilometres of the school gate, and junior school pupils and new families to the area are keen to adopt the school's Travelwise initiatives, which encourage walking and cycling, Gulik said.

Gulik has approached the Devonport-Takapuna Local Board regarding the need for pedestrian crossings and signage around slowing down. Gulik's son took drone footage of children trying to cross the roads after school, which has been shared with AT.

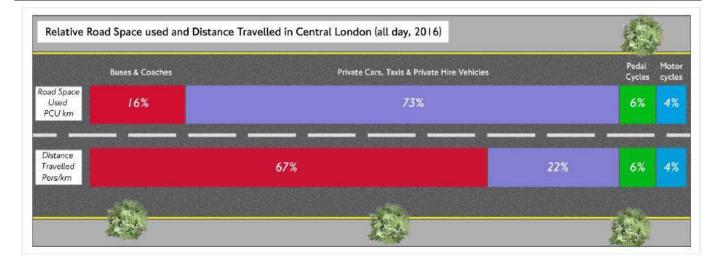
In addition, residents have complained about, and photographed, poor parking outside several schools in the region. Illegal parking outside Windy Ridge School

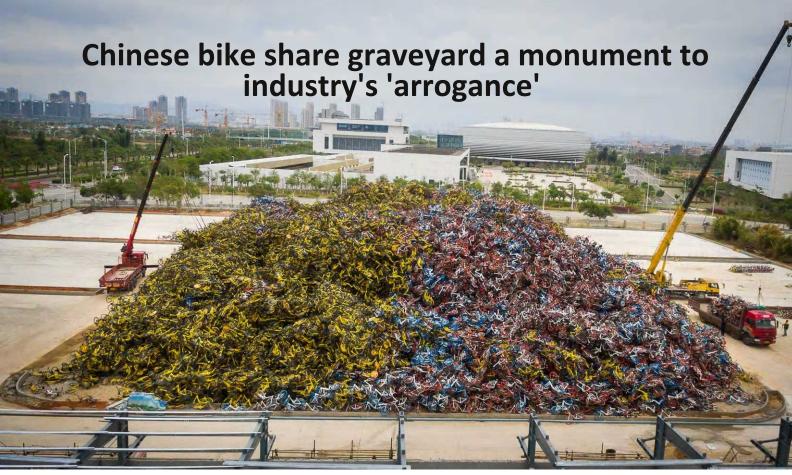
creates a safety hazard that principal Brenda McPherson said she has to deal with daily.

Parents have called for the removal of slip lanes to help pupils get to Milford Primary School safely. In his July report, Devonport-Takapuna Local Board deputy chairman George Wood raised the issue of lack of pedestrian crossings along East Coast Rd and Forrest Hill Rd.

"Due to a lack of a safe means of getting to school, many of these pupils are driven to school by their parents. This is not a satisfactory situation," Wood said in his report.

Source: Stuff





At first glance the photos vaguely resemble a painting. On closer inspection it might be a giant sculpture or some other art project. But in reality it is a mangled pile of bicycles covering an area roughly the size of a football pitch, and so high that cranes are needed to reach the top; cast-offs from the boom and bust of China's bike sharing industry.

Just two days after China's number three bike sharing company went bankrupt, a photographer in the southeastern city of Xiamen captured a bicycle graveyard where thousands have been laid to rest. The pile clearly contains thousands of bikes from each of the top three companies, Mobike, Ofo and the now-defunct Bluegogo.

Once hailed as "Uber for bikes", China's cycle hire startups allowed users to unlock GPS-enabled bikes with their smartphone, and drop them off anywhere without the need to park it at a dock.

Bluegogo's bankruptcy in November sparked questions about the future of dockless bike sharing in China, amid concerns there are too many bikes and insufficient demand. In an open letter apologising for his missteps,



Bluegogo's chief executive said he had been "filled with arrogance".



Customers are charged just a few cents per 30 minute ride, but competing companies have flooded cities with bikes to ensure cycles are always available. The top two firms have each raised more than \$1.5bn in funding.

Shanghai currently has 1.5m shared bikes on the streets, and despite its population being three times greater than London, that number far outstrips the 11,000 Santander Cycles peppered throughout the UK capital.

The large number of cycles on Chinese streets have led to scenes of clogged sidewalks no longer fit for pedestrians and piles of mangled bikes that have been illegally parked.

But the scene in Xiamen appears to be one of the largest amalgamations of discarded bicycles, with trucks unloading bikes from around the city.

Source: Guardian

After Tokyo Commuter Train Leaves 20 Seconds Early, Company Apologizes



Passengers on a morning train on the Tokyo region's Tsukuba Express line might not have noticed anything was amiss recently. But when their train left Minami-Nagareyama station, it did so 20 seconds ahead of schedule — and when the company noticed, it issued an apology to customers.

The train was traveling northbound on the line that connects Tokyo's Akihabara station with Tsukuba to the northeast — a trip that takes less than an hour. After passengers had boarded, the crew didn't check the time, resulting in the slightly early departure "around" 9:44 a.m., the company said.

The train had arrived at the station on time, at 40 seconds past 9:43 a.m. It was supposed to leave one minute later, at 9:44:40 — but instead, it left at 9:44:20.

"We deeply apologize for the severe inconvenience imposed upon our customers," the Metropolitan Intercity Railway Company said.

In its online posting, the rail company says it didn't receive any complaints from passengers over the 20-second discrepancy. It added that the train's crew has been spoken to and taught to prevent recurrences.

On the bright side, anyone who missed the 9:44 a.m. Tsukuba Express train because of the 20-second premature departure would have had to wait just four minutes for the next northbound train, according to the line's timetable.

But even a small lapse in punctuality can be disruptive, in part because some people in Japan synchronize their phones or watches to the time shown in train stations, so they'll be sure to make their train.

A commentator writes: "It stands to reason, then, that at least a few people would miss a train if it left 20 seconds earlier than usual, and even if there's another coming in four minutes, adding four minutes to that leg of their commute might cause them to miss other transfers on the way to their destinations, with the effect snowballing enough that they end up being late for work or school."

Source: BBC News

Helpful transport links

Road asset and traffic volume data online

Free and easy access to road asset data for most councils in NZ - including traffic volumes, carriageway widths, lanes:

https://mobileroad.org/index.html

Can't find a place to park your bike?

Bikes Welcome website aimed at improving cycle parking at businesses has been launched: www.bikeswelcome.org

Urban Street Stormwater Guide

The National Association of City Transportation Officials (NACTO) has launched a "Urban Street Stormwater Guide" to illustrate "a vision of how cities can utilise one of their best assets – streets - to address resiliency and climate change while creating public spaces that are truly public, and nurturing streets that deliver social and economic value while protecting resources and reconnecting natural ecological processes".

Although case studies are exclusively American and the design information is presented only in US standard units, the illustrations and concepts are universal. Access to the online guide is free here:

https://nacto.org/publication/urban-street-stormwater-guide/



New roads and cycleways open in Canterbury



All four lanes of Canterbury's new Western Belfast Bypass are now open to traffic, the NZ Transport Agency says.

The Western Belfast Bypass is a new four-lane, 5km stretch of highway. Bypassing Belfast, it extends the Christchurch Northern Motorway (SH1) and connects into State Highway 1 (SH1) Johns Road, west of The Groynes entrance.

The project also includes three new bridges, off-road walking and cycling facilities and a new-look entrance to The Groynes recreation area (left).

Traffic has been switched onto the new bypass in stages from October 31 to allow the project team to complete the final parts of the project, such as carrying out surfacing work on the connections to existing roads.

The final lane opened to traffic in November. The project team will be back to lay the final low noise asphalt surface on the new bypass in late 2018. This settlement period helps ensure a high quality final asphalt surface.

The Western Belfast Bypass is one of the six sections of the Christchurch Western Corridor, a multi-million dollar project that will transform State Highway 1 between Belfast and Hornby, reducing congestion, providing better walking and cycling connections and boosting safety.

An open day was held on October 29. hundreds of people walked and cycled along the road before opening to traffic.

In other news, the Memorial Avenue/ Russley Road (SH1) overbridge, another key part of the Western Corridor also recently opened to motor traffic.

The Russley Rd bridge is part of NZTA's Christchurch Western Corridor programme, a \$300 million to \$350m project that involves upgrading the section of highway between Belfast and Hornby to two lanes in each direction.

Towering over the new bridge are the Warren and Mahoney-designed, 27 metre-tall arches (right), which symbolise the crossing of paths, the

Southern Alps, the braided rivers of the Canterbury Plains, and the excitement of travel.

Finally, the **Rapanui – Shag Rock Major Cycle Route** (MCR) opened earlier this month. From the Ferrymead Bridge, this route leads into the Central City via Linwood.

Rapanui – Shag Rock Cycleway will appeal to people accessing local destinations as well as weekend recreational cyclists heading to Sumner via the Christchurch Coastal Pathway(external link). There will be a connection to the Ōpāwaho River Route at Ferrymead.

The Central City end of the route between Fitzgerald Avenue and Linwood Park is almost complete while consultation for the remainder of the route was completed at the end of 2016. Construction on the next stage between Linwood Park and and Dyers Road is due to start soon.

The project involves the construction of 2,500 metres of new cycleway, shared paths, stormwater, kerb and channel, and carriageway improvements. Two existing signalised intersections will also be upgraded. A new signalised cycle and pedestrian crossing will be installed at Aldwins Road. Landscaping and lighting upgrades will also be completed.



More trains means more services for Aucklanders

More trains are on the way for Auckland meaning more frequent services and more seats for passengers. Auckland Transport has signed a contract for another 15 three-car electric trains.

AT chairman Dr Lester Levy says the trains are needed to meet the huge public demand. "We need to put on bigger trains to meet the demand and we need to be ready for when the tracks are electrified between Papakura and Pukekohe."

In the past year more than 20 million trips have been taken on Auckland's trains, an increase of 16 percent on the previous year. The trains will be built in Spain by Construcciones y Auxiliar de Ferrocarriles (CAF) and the first of them will be in service from 2019.

Outgoing Auckland Transport Chief Executive David Warburton says CAF is the Spanish company that built the 57 three-car electric units which currently operate in Auckland. Mr Warburton says, "With 15 more trains we will be able to operate six-car trains on most services on the Southern, Eastern and Western Lines. This will give passengers the confidence that they will have a comfortable trip and they won't have to worry about not getting a seat."

He says Auckland Transport is also planning to increase weekend frequency to every 20 minutes on the Southern, Eastern and Western Lines and weekend trains will operate every 30 minutes between Papakura and Pukekohe.

"We need to plan well in advance, we need to make sure that as more and more Aucklanders embrace trains, we have the infrastructure to give them the service they have become used to."

Mayor Phil Goff says, "Delivering a reliable and efficient public transport system is a priority. It will help relieve congestion, which is costing our city billions of dollars in lost productivity, lower our city's emissions profile and make Auckland a great place to live."

Dr Levy says buying these extra trains is also a big step in getting ready for the City Rail Link. "Once the CRL is open it will allow for train frequency to increase, and for that to happen we need more trains."

The \$133 million contract is funded by NZ Transport Agency and Auckland Council, the contract has a provision for further trains in the future.

Source: AT

Timeline and target dates

2010 (Oct) - Contract signed with Construcciones y Auxiliar de Ferrocarriles SA (CAF) for 57 trains.

2013 (Aug) - Wiri depot to service the trains opened. First electric trains arrive.

2014 (April) - First train in service on Onehunga line. Manukau line gets electric trains.

2014 (Sept) - Eastern Line services begin.

2015 (Jan) - Southern Line sevices progressively introduced.

2015 (May) - Western line services progressively introduced.

2015 (May) - Weekend services on all routes.

2015 (July) – All services using electric trains from Swanson to Papakura.

2017 (Nov) - Contract signed with CAF for 15 more three-car trains.

2019 - First additional trains arrive.

Auckland Transport changes CEOs



David Warburton (left) is leaving as AT's CEO after seven years in charge. Here is an excerpt from his last AT Business Report to staff and the AT Board:

"As this is the last Board meeting in my tenure as Chief Executive, I wish to take the opportunity to make some passing comments and acknowledgements. It is not possible, nor appropriate, to name individuals who have contributed so much to the organisation, and Auckland as a whole over the past seven years. Suffice to say the staff of this organisation, past and present, can be justifiably proud of where we have come from and what we have achieved.

Those who were not here when the organisation first came into being on 1 November 2010 will find it hard to imagine what things were like – over the space of 12 months the Auckland Local Government Reforms delivered the largest restructure in Australasian corporate history.

Eight organisations – each with their own distinct policies, procedures and cultures were brought together against a backdrop of community and political distrust of the "super city" and the effect on staff morale cannot be underestimated.

At that time people asked me what my biggest worries were: the first was that our staff would be paid correctly and secondly our suppliers. Everybody worked incredibly hard just to ensure the basics were done and the organisation didn't fall apart. I would particularly like to thank all members of the Executive Leadership Team(s) who I have worked with so closely over the past seven years.

Any CE role can be extremely isolating if you do not have the trust and confidence of those who you rely on daily. To each and every one of you my sincere thanks. Your loyalty and trust at all times has been greatly appreciated. I wish you all the very best. To the Board – again past and present – thank you for your governance. Since 2010 there have been many significant world class projects delivered by AT - HOP card, electric trains, City Rail Link.

However, these are just the consequences of the real achievement of AT, namely: the growth and professionalism of so many dedicated people who are committed to making Auckland an even better place. One does not want to sound "over the top", so suffice to say, the organisation is in extremely good heart and is very well positioned to continue to deliver on making Auckland a world class city. My best wishes and kind regards to all."

Auckland Transport has appointed Shane Ellison (below) as its new Chief Executive. Mr Ellison is a returning New Zealander with whakapapa linking him to the iwi of Ngai Tahu and Te Ati Awa. He has had more than 20 years of global experience in senior leadership roles across the transport and infrastructure sectors in complex commercial, political and organisational environments.

Since 2011, Mr Ellison has held a number of senior executive roles of increasing responsibility in Transdev Australasia, including being the senior executive responsible for the delivery of Transdev's operations across ferry, bus and light rail in New South Wales and Queensland. In these roles, Mr Ellison was instrumental in delivering exceptional customer experience, workplace safety and patronage outcomes.

Prior to 2011 Mr Ellison was located in Paris with Transdev where he was responsible for global corporate development and innovation, playing a key leadership role in large transport

infrastructure projects in North America, Europe, the Middle East and Australia.

"Mr Ellison was unanimously selected by both the panel and the AT Board for this role. It is good to have a returning Kiwi who will bring years of overseas experience to AT as well as familiarity with our city and culture," says Mayor Phil Goff.

"Auckland is facing rapid changes in the transport space and I am confident that Mr Ellison will work with Council to implement a transport strategy focused not only on reducing congestion but also on better public transport that is responsive to the needs of this city."

Mr Ellison says, "Being part of that, and part of an organisation that can help to shape and influence that change is incredibly exciting."

He says he will place a particular emphasis on organisational strategy, innovation and customer focus in the role. Mr Ellison joined Auckland Transport on 11 December for a handover from Mr Warburton.

Source: AT





Last year, Columbus, Ohio, won a \$50 million grant for high-tech transportation innovation, with a promise to help its most vulnerable families. Now some worry their needs are fading into the background.

Katrina Lewis could feel impatience radiating off the bus as she struggled to collapse the stroller. That was the rule on Columbus transit, the driver said, even with small children in tow.

That meant extracting her newborn and two-year-old from the big doublewide baby carrier as the four-year-old stood next to her. All the passengers seemed to stare as Lewis bent over the bulky stroller, baby gripped in one arm, crying. Her bad hip ached under the strain. She thought she heard someone on the back of the bus shout her name: Come on, Katrina!

That's it, Lewis thought. "I could not handle it that day," says the 37-year-old. She picked up the stroller, backed off the bus, and hauled her family, on foot, nearly a mile to the primary care center where the children had doctor's appointments that day. They were nearly half an hour late. "I should tell y'all to go home," Lewis remembers the receptionist telling her. Hours later, after they'd walked back home, she collapsed on the couch from the exhaustion.

Columbus, like so many American cities, is a hard place to raise children when you're poor. Transportation—and the lack of it—is a big reason why. The city's bus network is sparse, and there's no passenger rail of any kind. A bus ride can turn a 20-minute drive into a two-hour chore. Getting around is best done by car, if you can afford to keep one on the road.

This isn't just an irritation: It is a serious health problem, particularly for children and mothers. In Lewis' neighborhood of South Linden, infants are dying at more than four times the national rate. When families struggle this hard to make it to the doctor, prenatal conditions and congenital anomalies—which are responsible for about 14 percent of all infant deaths in Franklin County—can go undetected. Essential follow-ups get lost.

And there's another factor linking poor mobility with poor health. Juggling kids, jobs, and errands on shoddy transit causes daily anxiety and stress, along with other environmental frictions like unstable housing and crime. The stress can increase a mom's chances of preterm delivery—by far the most common infant killer in Columbus.

In June 2016, the city scored a \$50 million jackpot promising to transform Columbus' mobility landscape, beating 77 other cities for the Smart City Challenge. Funded by the U.S. Department of Transportation and Vulcan Inc., the competition called on leaders of midsized metros to use new technologies to improve mobility around the city and its quality of life. Part of the winning Columbus proposal was a vision of connecting low-income South Linden residents with better means of accessing medical care, jobs, and education. This was a novel model—a transit revamp aimed at saving lives, not just commute time. A central aim: reduce infant mortality by 40 percent by 2020, the city's existing goal.

Today, a year and a half later, there's money sitting in the bank, and the outlines of Smart Columbus are taking shape. The big question: Will vulnerable moms get the lift they need?



To answer that, let's begin on Cleveland Avenue, the diagonal north-south spine that connects South Linden to downtown Columbus and wealthy neighborhoods to the north. Block after block of vacant homes and businesses line the street; grocery stores, clinics, and auto shops have vanished to decades of disinvestment, population decline, and foreclosure. "It's mostly boarded up everything and anything," says Twinkle Schottke, the director of Moms2B, a support program for women at risk of unhealthy pregnancies, as we drive past.

The neighborhood looks like it could belong in any number of post-industrial, Rust Belt metros. But Columbus is actually booming: It's the fastest-growing metro in the Midwest, with a prestigious anchor university and an array of corporate headquarters drawing 10,000 new residents annually. In the past 15 years, the city has carefully seeded hundreds of millions in private investment and public tax dollars to remake downtrodden urban neighborhoods into alluring residences for newcomers.

By the city's own admission, those opportunities haven't reached poor, predominantly black neighborhoods like South Linden. Here, unemployment is triple the rest of Columbus, and incarceration rates are more than six times higher. There are more single mother households here than in 99 percent of all U.S. neighborhoods, yet there are no OB-GYN clinics. With a median household income of about \$21,000, relatively few households own cars.

"When you have kids of two or three different ages, it's everyone going everywhere except to the same place. It's getting to daycare, to schools, and then going to work," says Sharonda Avant, a 25-year-old mother of four.

She's sitting in a circle of ten other women at a recent Moms2B meeting. For the most part, these sessions cover healthy eating, safe sleeping advice, and behaviors that can put pregnancies at risk of unhealthy outcomes, such as smoking and drug use. But today, partly for my benefit and partly because it's a huge source of stress, the moms are talking about how much trouble they have getting around.

"I missed eleven appointments in the past year because of transportation," Avant says. Other mothers murmur in agreement.

Many of the moms are insured by Medicaid, which means they can arrange for non-emergency medical transportation vans to take them to health appointments and Moms2B sessions. But the system doesn't work well: Drivers show up late or hours early. They don't bring car seats or the extra space that was promised for kids. Sometimes they don't come back for the return trip. Lewis shares a story from another Moms2B session in October, when it took her an hour and multiple phone calls to get a van dispatcher to finally admit no one was coming to bring her home.

"They always forget us," Lewis remembers telling a Moms2B counselor, who eventually ordered a taxi. Schottke estimates her organization spends \$1,500 a month buying cab rides for her participants. "I just hate to think that this is the reason they don't show up again next week," she tells me.

Columbus' infant mortality crisis is one of the worst in the country. For every 1,000 babies that are born in Franklin County every year, nearly nine die before they turn one, compared to about six nationwide. Just eight neighborhoods, including South Linden, are responsible for nearly half of those deaths. The racial disparity is stark, with almost three times as many black babies dying as white ones. There are a web of contributing factors: smoking, poor nutrition, unsafe sleep habits, and a host of environmental determinants, including a lack of transportation to care. Nearly 23 percent of women who make prenatal appointments at Columbus' free clinics do not show up.

"I know people like to roll out grand plans. But my moms need help now."

Apart from unimaginable trauma and grief for families, infant mortality harms society in the coldest terms. According to data provided by Moms2B, a premature or low-birth weight infant costs Ohio taxpayers roughly \$38,000 in her first year of life, compared to \$4,000 annually for a healthy baby.

For years, infant mortality was a disturbing open secret in this city. But Columbus made it a focus of its Smart City Challenge bid. Working with data and guidance from CelebrateOne, the infant mortality task force the city established in 2014, officials called out South Linden as a high-stakes neighborhood that could benefit from transit investment to help residents get to jobs, education, and healthcare. Mayor Andrew Ginther promised in 2016 to use transportation to "change the life trajectory of those underserved neighborhoods." The proposal was lauded for its strong social bent. Media coverage, including my own, followed suit.

The neighborhood was not the sole focus of the proposal, and infant mortality was one of many challenges the city hoped to address. To reduce congestion, increase job access, and improve traffic safety, officials also pitched a suite of futuristic projects to be deployed across the city, including self-driving shuttles, bike- and car-sharing hubs, "smart" traffic signals that communicate with vehicles, and electric vehicle chargers.

Yet for researchers, advocates, and residents, the grant looked like a rare opportunity for South Linden to benefit. The proposal described how the grant would support the Central Ohio Transit Authority's existing plans to run new rapid buses down Cleveland Avenue at speeds 20 percent faster than the current service. It discussed sidewalk kiosks that could be used to add funds with cash or credit, call cars, and study timetables, and universal transit cards that could pay for any form of transit. Linden was also mentioned as a possible site for autonomous vehicles to serve as "first and last mile" connections.

And most promisingly for women like Lewis, the city said it would study mobility challenges specifically in South Linden, and work with private and public partners to offer something better.

But as Columbus makes its bid for a tech-powered transformation, Jason Reece fears that the equity goals could fade into the background. Reece is a professor of urban planning at the Ohio State University whose research helped inform some of the grant planning, and who has studied health inequities in South Linden in depth.

If Columbus wants to lift up vulnerable families through transportation, he says, it needs to invest in programs aimed narrowly at vulnerable families. "Technology doesn't necessarily trickle down to serve those folks who are most in need," he says. "You have to put the people you're going to focus on in the forefront."

Proof lies in other cities that have looked to tech as a salve for social problems. Philadelphia's attempt to train 500,000 low-literacy workers via smartphone was deemed "empty rhetoric." Pittsburgh recently declared itself an "inclusive innovation" city, with the aim to diversify its tech workforce, but a lack of rigor has failed to move that dial very far, as my colleague Brentin Mock recently reported. Meanwhile, in boomtowns like Seattle and San Jose, high-tech prosperity has been accompanied by displacement and affordable housing challenges.

Since it won the grant competition in June 2016, Columbus has worked with private partners to leverage the \$50 million winnings to raise additional capital. By now, it has nearly \$500 million in its Smart City bank—with the goal of reaching \$1 billion.



Barb Bennett, left, president/COO of Vulcan Inc, and U.S. Transportation Secretary Anthony Foxx, center, present the Smart City Challenge award to Columbus, Ohio Mayor Andrew Ginther

The city has taken some baby steps towards its social promise. This summer, Columbus asked Sidewalk Labs, the urban innovation subsidiary of Alphabet, to develop a way to streamline the Medicaid shuttle service. After a handful of focus groups with Moms2B participants, Sidewalk Labs produced a recommendation: Build a cellphone-based platform that would allow moms to communicate via SMS with medical care providers and shuttle drivers when they needed rides to the doctor, and automatically arrange pick-ups through traditional van contractors or newer ride-hailing services like Uber or Lyft.

"Until we start talking about racism as a risk factor, those infant mortality numbers are never going to drop."

Maybe that's not as sexy as a fleet of robot cars, but an easy-to-access blend of paratransit and ride-hailing seems like the kind of real-world solution that would serve women like Lewis pretty well. "I don't know why all the [Medicaid] vans can't already work that way all the time," she says. Sidewalk Labs' vision suggests that they could, if the resources were available, and at some point, it seems they were planning to try. Corinna Li, who leads mobility research at Sidewalk Labs, says the intention for Columbus was to do a pilot in Linden.

Schottke, who helped coordinate the focus groups, says she couldn't wait to see something tested. "I know people like to roll out grand plans," she says. "But my moms need help now."

For now, however, receiving Sidewalk Labs' recommendation is as far as the city plans to go, says Brandi Braun, Columbus' deputy innovation director. There is no plan for a pilot. None of the Smart City ideas have a start date, says Braun; no specific investments are finalized. She says that city is still working through project management guidelines and other preliminary tasks. She also notes that the state is looking into its own "smart" revamp for the Medicaid vans, and the city wants to avoid redundancy.

But when I ask her if new and expectant moms in Linden were truly a target population of the grant, as so much of the publicity of Columbus' victory implied, Braun hesitates. None of the Smart City projects were ever going to singlehandedly solve for infant mortality, she says. That health crisis and the families most affected by it "are one piece of the puzzle," she says. Broader-based investments—such as the bus upgrade along Cleveland Avenue that's set for 2018, and universal fare cards that Braun says will eventually move forward—are supposed to indirectly serve this population.

Perhaps they will. Such area-wide mobility upgrades could assist residents in disinvested parts of Columbus simply by making it easier for them to get to the richer ones. "There are lots of resources in our suburbs that are hard for residents in the inner city to access," Patrice Brady, a senior planner at CelebrateOne, the infant mortality task force, told me when I first reported on Columbus' Smart City plans last year. "There's not frequent service to get there, and even once you get to the end of the line, how do you get to the OB-GYN? If there were a Car2Go, or a way to access Uber, that would help me as a pregnant woman."

But Reece worries that such benefits might not materialize so easily. "We need to be hyper-focused on the needs [of this population]," he says. "This is the piece I'm going to be keeping my eye on: Are we really doing what we said we'd be doing? Are these efforts really serving people on the ground?"

Others in Columbus see a bait-and-switch afoot. Jonathan Beard, a longtime community developer at the Columbus Compact Corporation, says that the city has a history of using social equity as a guise for redevelopment projects that push out existing citizens. He points to a host of unkept promises in the historically black and now-gentrifying King-Lincoln district, and the recent demolition of a public housing project that had been a point of pride for Columbus' black community and listed on the National Register of Historic Places.

In Beard's view, the Smart City proposal could be an urban renewal scheme in the worst sense of the term: South Linden's position between booming downtown Columbus and wealthier suburbs to the north could make it an strategic target for investments destined more for gentrifiers. "Columbus is all about real estate," he says. "They move black folk around this city like you move a pawn around the chess board."

Braun affirms that South Linden was selected because of its immense social challenges, as well as its proximity to COTA's new bus rapid transit line. And Brady adds that the city's work on infant mortality, and on closing its racial gap, goes beyond the Smart City grant: CelebrateOne trains community health workers and runs educational campaigns.

Still, questions persist about the city's approach. Jessica Roach, the executive director of R.O.O.T.T., a local reproductive justice organization, argues that Columbus is ignoring the bedrock reasons why transportation—as well as quality housing, education, and nutrition—are so much harder to access in black communities than in white ones. Helping moms get to prenatal health appointments is undoubtedly important, she says, but "until we start talking about racism as a risk factor, those infant mortality numbers are never going to drop."

Like so many neighborhoods in America, South Linden looks the way it does today due to a legacy of exclusion and disinvestment: Racial real-estate covenants and redlining kept homes and wealth out of the hands of black Columbus families in the first half of the 20th century. Entire blocks were razed to make way for an highway in the 1960s.

Racism guided those policies, and racism help build the environments now sickening black families. Medical science increasingly backs that argument up: Researchers now reject genetic explanations for the enormous disparities between white and black pregnancy outcomes, as well as the idea that race is simply a proxy for income—for even wealthy black women fare worse, health-wise, than white counterparts.

The clearest explanation is environmental stress. Some scientists have compared the levels of cortisol hormones found in some black American women to what it's like to live with PTSD. Constant activation of the stress-response system "can disrupt almost all of the body's processes," increasing the risk for heart disease, obesity, diabetes,

depression, and cognitive impairment, states the American Psychological Association. That stress also increases the odds of pregnancies that end in preterm births and low birth weights, the leading causes of infant mortality.

"In the broad discussion of these things, it's really the social determinants of health that are driving things," Greg Moody, the director of Ohio's Office of Health Transformation, told the Plain-Dealer in 2015. "The actual clinical healthcare is a very small portion of what keeps a person or a family well."

Low-income black women know that they've been dealt the worst hand in American society, says Roach. They have racism, sexism, and the effects of poverty to contend with. No wifi-equipped streetlight or self-driving car is going to solve that. The city acknowledges this. But Roach says she'd like to see more women like Lewis guiding the conversation on public health issues like infant mortality. What distinguishes R.O.O.T.T., which trains doulas and leads anxiety-relief workshops, is its belief that the population that needs help also knows what's best for themselves, Roach says. "At our organization, we start from a very simple place: Trust black women."

Lewis tells me she wants the same things that everyone wants: a stable house, a steady job, and for her kids to be healthy and successful. That's why she's earning a degree in health information technology online, while her partner, Walt Johnson, works closing shifts at Wendy's. She might eventually want her own car, she tells me, although she doesn't drive. For now, she'd settle for a Lyft ride.

With Columbus sitting on a half-billion dollars pegged to transformative transportation, that doesn't seem like a lot to ask. And yet, Lewis and so many Columbus moms are still struggling with the bus, and with those balky Medicaid shuttles. "Shouldn't it be somebody's job to make sure that everybody's accommodated?" Lewis wonders.

Columbus won the Smart City Challenge because of its strong social promise, and its potential to be a blueprint for other cities seeking tech solutions to deeply human problems. It is not an easy charge. Faster bus service, as Columbus had already planned for, is a good start. But a true smart city commitment might start with Lewis' suggestion: Make sure its most vulnerable residents can get around.

Counting on mobile phones and sensors to execute that promise may take more than grant money and good intentions. It would require more forthright engagement and targeted investments. Maybe then Columbus could have neighborhoods that fit its citizens—streets that connect instead of divide, services that relieve stress instead of creating it.

After the Moms2B meeting, I go grocery shopping with Lewis and Johnson. She and Johnson carry eight bags of groceries outside to the corner, where they wait 20 minutes for the bus to come. There are no seats; they stand for the ride home. A smart city sounds nice to Lewis. It also sounds far from where she lives. "My thing is, someone should get on the bus and ride with us," she says, "and see what the struggles of everyday people are." Source: CityLab

BIKE TO THE FUTURE



Aotearoa Bike Challenge returns this February

We are pleased to announce that the Aotearoa Bike Challenge will return for its second year this February and it will be bigger and better than ever.

The Aotearoa Bike Challenge is a month-long workplace challenge, that encourages Kiwis to make everyday trips by bike, offering tailored guidance and tips and the chance to win some great prizes along the way.

The challenge follows a successful first year, which saw more than 14,000 people from over 1,000 organisations taking part, including almost 4,000 new riders. Participants collectively made more than 150,000 trips by bike, and cycled nearly 2 million kilometres.

Registrations for both workplaces and individuals are now open, and if you sign up before 18 December you'll be in to win a Christmas hamper! (if you've taken part in previous challenges all you need to do is sign into your account to be in to win).

Remember; the challenge isn't just for workplaces, why not encourage your friends and family can take part as well - it's a great way to make a positive start to the new year.

To find out more and register at www.aotearoa.bike

Wellington City Council launches Bikethere.org.nz

If you're keen to get on your bike but aren't sure how to get started, Wellington City Council's new website, Bike there, can provide the inspiration you need.

Whether you're buying your first bike or thinking you'd like to ride to work, you can sign up to receive tips and information to help you along the way.

Visit the website http://bikethere.org.nz/

MOTAT Changing gear exhibition now open

The Museum of Transport and Technology (MOTAT)'s new exhibition, Changing Gear is now open.

Changing Gear, explores the fascinating history of cycling in New Zealand and the growth of cycling across the country. Showcasing some of the innovations in the world of bikes, from the high tech to the quirky.

With plenty of interactive and digital experiences such as playing digital dress ups in cycling clothes throughout the ages, and experiencing the thrill of riding a BMX - there will be heaps of hands on activities to spin your wheels!

Find out more HERE.

Old Wellington



Kelburne cable tram

Willis St circa 1910

Lambton Quay and The Terrace



Self-driving shuttle bus in crash on first day

A self-driving shuttle bus in Las Vegas was involved in a crash on its first day of service. The vehicle - carrying "several" passengers - was hit by a lorry driving at slow speed.

Nobody was injured in the incident which city officials say was the fault of the human driver of the lorry. The man was subsequently given a ticket by police. The shuttle is the first of its kind to be used on public roads in the US.



The collision comes a day after Waymo - owned by Google's parent company Alphabet - announced it is launching a fully self-driving fleet of taxis in Phoenix, Arizona.

The Las Vegas shuttle, designed to ferry passengers to the famous strip, uses a system developed by Navya, a French company also testing its technology in London.

The shuttle carries up to 15 people and has a maximum speed of 50km/h, but typically travels at around 25km/h.

A spokesman for the City of Las Vegas said the crash was a "fender bender" - a minor collision - and that the shuttle would likely be back out on the road soon after some routine diagnostics tests.

"A delivery truck was coming out of an alley," public information officer Jace Radke said.

"The shuttle did what it was supposed to do and stopped. Unfortunately the human element, the driver of the truck, didn't stop."

Self-driving technology has been involved in crashes before, but almost all reported incidents have been due to human error.

Earlier this year an autonomous vehicle being tested by ride-sharing company Uber in Arizona rolled over after another driver on the road failed to give way.

Source: BBC News

"I was on the self-driving bus that crashed in Vegas. Here's what really happened."

This was going to be a pretty ordinary story about the technology that allows the Las Vegas self-driving shuttle bus to cruise around the old Fremont street district of the city. But then we had a fender-bender just an hour into our ride in the shuttle and things changed.

The downtown Las Vegas self-driving shuttle isn't exactly new. They've had these buses plying the strip for a while this year, with no incidents. The new shuttle is set to run a 0.6-mile loop course north of the Strip in the old downtown area. It's a joint project put together by the City of Las Vegas, AAA, the Regional Transportation Commission of Southern Nevada, and the Keolis North America company, which runs mass transit in Las Vegas.

The shuttle bus itself is a Navya Arma, an autonomous and electric French vehicle that's already in use in several European cities. The Vegas self-driving shuttle will hold about 12 people, including an attendant from Keolis. The attendant is kind of like an elevator operator – they don't really need to be there, but they will make people feel more comfortable about using the new tech.

So what really happened? I went to take a ride and get some photos. The bus drives very conservatively. If it senses a person walking across the street ahead, it stops. If there's traffic on the street when it's at a stop, it waits for the road to clear. It goes along at about 20

mph, and it's a really gentle ride. The self-driving shuttle does exactly what it's supposed to do.

On our ride, we encountered a medium-large articulated delivery truck stopped in the street. The driver was trying to back his trailer into an alleyway on the left. The shuttle bus very obediently stopped a reasonable distance from the truck and waited for it to move. That's where things went wrong.

What the autonomous shuttle bus didn't expect was that the truck would back up towards it. As the driver was swinging the trailer into the alley, the tractor portion of the truck was coming right at us — very slowly. We had plenty of time to watch it happen. I was taking pictures.

The driver of the truck was probably watching where his trailer was going, and didn't notice where we were. The so-called "crash" happened in super slow motion, and merely dented the plastic panels on the front of the shuttle. It was no big deal, although the Keolis attendant was understandably upset.

This collision, like 90 percent of traffic incidents on our roads, was the result of human error. The truck driver got a ticket from the Las Vegas police. We could see his mirrors the whole time and he should have seen us. But I don't want to be too harsh on the guy — driving a big truck in Las Vegas is a tough job, and he's only human. His error could have happened to anyone.

On the other side, the shuttle did exactly what it was programmed to do, and that's a critical point. The self-driving program didn't account for the vehicle in front unexpectedly backing up. We had about 20 feet of empty street behind us (I looked) and most human drivers would have thrown the car into reverse and used some of that space to get away from the truck. Or at least leaned on the horn and made our presence harder to miss. The shuttle didn't have those responses in its program.

My suggestion to Navya and Keolis is that if the shuttle doesn't have cameras and LIDAR facing backwards, it would be good to enable the shuttle to reverse if something's coming toward it. And a horn for the attendant would be a good feature, too.

But here's the key thing about autonomous cars: we humans will learn from this accident and we can add those features and make all future shuttle buses better. In a very short while, any self-driving shuttle will know what to do in this kind of situation. Cars like the 2018

Audi A8, which flawlessly steers itself through traffic iams.

So there you have it. As usual, the reality is not as sensational as most of the news out there would have you believe. This item? Just another checklist in the history of self-driving cars. Next time you're in Vegas, give the self-driving shuttle a chance.

Source: digitaltrends.com



World's first solar road explains why we may not get more

It seems like a no-brainer: we have solar panels. We have millions of miles of road. Why not cover those roads with solar panels and fix our energy problems for good? Well, France just tried that. Turns out that solar roads aren't the miracle you'd think they are.

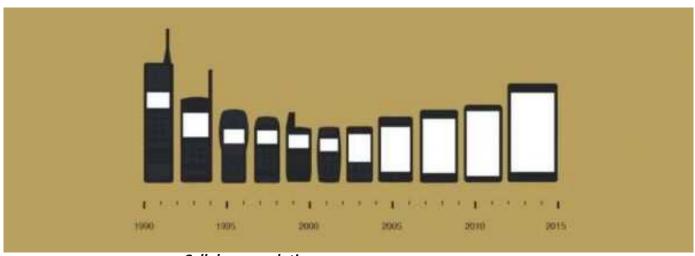
The new test road, called Wattway, makes up a single lane that stretches 1 km through the village of Tourouvre-au-Perche in France's Normandy region. Over its two-year test period, it's expected to be used by roughly 2,000 drivers every day. The cutting-edge roadway cost €5 million.

So what about its energy-generation stats? It's covered in 2,880 photovoltaic panels, which are projected to produce 280 megawatt hours (MWh) of energy each year and an electrical output of 767 kilowatt hours (kWh) per day. How much electricity is that, you ask? It's enough to power...wait for it...the streetlights.



You might be surprised to learn that Wattway's big claim to fame is how inexpensive it is compared to alternative plans. Each panel is extra thin and designed to be installed on top of roads that already exist, so it saves money in construction costs. Still, that €5 million price tag is just for the initial cost — it doesn't include future maintenance, and how well the solar panels will withstand the pounding of thousands of cars each day is an open question.

Source: Curiosity



Cellphone evolution

TfL is pedestrianising Oxford Street. But what's it doing with all those buses?

Street is horrible.

London's primary commercial artery is a solid wall of buses and taxis, all bathing in a sea of nitrogen oxides. Despite this, in an obvious sign that the only thing Londoners hate more than other people is themselves. it's still the busiest shopping street in Europe, receiving more than 4m visitors every week.

Dreamers have long talked about pedestrianising the street, but the city authorities have shied away from it on the grounds that it'd be quite hard. The difficulty is those buses: a couple of dozen routes serve Oxford Street for all or part of its length, and pedestrianisation would mean radical reforms to the West End's bus network.

Transport for London has now said, in effect: screw it. we're doing it anyway.



stage of the scheme intended to happen as soon December year. next That'll close most of the western half of the road.

between Oxford Circus and Orchard Street, to vehicles, creating what the mayor Sadiq Khan described as a "traffic-free pedestrian boulevard". The road surface will be raised, to match the pavements; there's talk of an 800m long work of public art to make the street pretty, too.

A year after that, the stretch east from Oxford Circus towards Tottenham Court Rd station should follow. The westernmost section, a couple of blocks from Orchard St to Marble Arch, is pencilled in for "post-2020" – that sounds vague enough that I suspect there's still a subtext of "maybe" there, but we shall see.

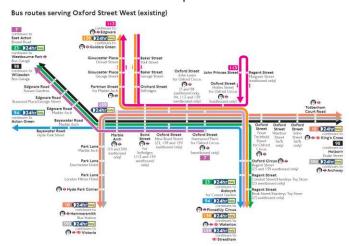
The scheme has been timed to coincide with the arrival of the Elizabeth line. The artist formally known as Crossrail will run beneath Oxford Street, with hugely expanded stations at Bond Street and Tottenham Court Road. That'll free up space on the Central line - which, in turn, will hopefully mean less demand for east-west travel by road.

All the same, though, there are those bus routes to contend with. TfL claimed in 2012 that they carry around 220,000 people down Oxford Street every day, and there's no easy alternative route - no roomy parallel street they can all simply be diverted down. So what exactly is the plan?

TfL has actually been quietly reforming its bus network in preparation for this scheme for some time. Earlier this year, two routes (6 & 13) were diverted south via

Let's not beat around the bush on this one: Oxford Park Lane and Hyde Park Corner. Several others (73, 137, 189) were curtailed, so that they terminate at either Oxford Circus or Marble Arch.

> But that still leaves nine different routes serving the affected section. Here's a map:



Dealing with those will mean, well, more of the same strategy. Five of the routes will be curtailed at Marble Arch. Two more (10 & 23) will be scrapped altogether, and replaced with a new route, currently unnumbered, which connects their western sections Hammersmith and Westbourne Park respectively – via Edgware Road. (The eastern sections of both routes consist of central London roads well served by other routes.)

That leaves just two routes – the 139 and the 390 – to be re-routed via a parallel route of Wigmore Street and Henrietta Place. The thinking is that such back streets might struggle with nine routes, but they can cope with two.

Here's a map of the final, reformed bus network:

Bus routes serving Oxford Street West area (proposed) BC 24hr buy 9 24hr 159 24hr 590 D24hr

This is only the western section, of course: the eastern half of Oxford Street will require similar efforts a year later. These reforms will also turn Marble Arch into quite the bus station.

But they should also make Oxford Street a much more pleasant place to be, on the whole, so: cool. Source: CityMetric

Transportation Engineering **Postgraduate Courses 2018** (provisional)



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

CIVIL758 - Traffic Systems Design (Mon 4-6pm, Tues 1-2 pm, 12 weeks)

CIVIL764 – Highway Safety Operations (14 - 16 March and 16-18 May)

CIVIL761 - Planning & Design of **Transport Facilities** (21-23 March & 9-11 May)

CIVIL770 - Transport Systems Economics (5 & 6 March, 16 & 17 April, and 21 & 22 May)

Semester 1 (Mar-Jun 2018)
Traffic signal timing analysis, gap acceptance parameters, intersection analysis of performance (priority, roundabouts, signals), introduction to transportation planning and modelling techniques, RMA and other requirements, computer modelling and simulation.

> Topics on the operation of two lane highways including highway capacity, LOS, passing/climbing lanes, & economic evaluation methods. Safer Journeys and Safe Systems, skid resistance, materials & roadside safety.

A range of topics on planning and design of transport facilities including fundamentals of traffic flow, modelling and simulation of transport facilities, macroscopic traffic models and traffic signal safety and operations.

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

Semester 2 (Jul-Oct 2018)

CIVIL759 – Highway & Transportation Design (Mon 11am-12noon, Tues 11am -1pm, 12 weeks)

CIVIL765 – Infrastructure Asset Management (8-10 August & 26-28 September)

CIVIL 771 – Planning & Managing Transport (23-24 July, 20-21 August & 8-9 October)

CIVIL 773 - Sustainable Transport: Planning and Design (new course) (2-3 August, 20-21 September & 18 -19 October)

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

Integration of planning and infrastructure asset management, resource management, institutional issues and legal requirements. The process of undertaking asset management plans and specific asset management techniques across all infrastructural assets.

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

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

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

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

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

Our Masters degree Brochure https://cdn.auckland.ac.nz/assets/engineering/for/futurepostgraduates/documents/Transportation final print.pdf Our Transportation Research Centre www.trc.net.nz

> 7 27

How Sweden Has Redesigned Streets To Route Around Bad Human Behaviour

how its implementation has changed the way cities there work.

If a car almost hits a pedestrian when the car is turning right on a red, whose fault is it? According to Matts-Åke Belin, Sweden's traffic safety strategist (who was recently in NZ), the blame is on whoever designed the intersection.

"Why should we put the whole responsibility on the individual road user, when we know they will talk on their phones, they will do lots of things that we might not be happy about?" Belin says "So let's try to build a more human-friendly system instead."

Belin is one of the creators of Vision Zero, a Swedish policy instigated in 1997 that has the aim of eliminating road deaths. But unlike almost every other scheme to make roads safer, Vision doesn't try to blame the victim or the perpetrator. Instead, it tries to design the system itself to be safer. And it's working. Since its beginning, Vision Zero has more than halved road deaths, to below three fatalities per 100,000. Compare that to the U.S., where the figure is 11.6 per 100,000

Most people in road safety, says Belin, are invested in changing human behaviour. But humans don't pay attention. We take shortcuts, we use our phones when we shouldn't. Vision Zero instead takes these foibles into account, and tries to design around them. It also recognizes that zero fatalities doesn't mean zero accidents.

"In Vision Zero, the accident is not the major problem." The problem is that people get killed or seriously

Vision Zero was created in Sweden - and you see can injured," says Belin. "And the reason that people get serious injuries is mainly because people have a certain threshold where we can tolerate external violence, kinetic energy. And we know quite well now how much violence we can tolerate."

> One way to reduce injury is to reduce speed, because being hit by a car going faster is way more deadly. Wherever cars and pedestrians or cyclists are forced to mix, the speed limits are set low, at 30 kmh. That reduces the risk of a fatal accident to 10%, instead of 80% when the limit is 50 kmh.

> Vision Zero isn't anti-car, either. Belin acknowledges that cars are still essential. "In our societies now, we are so dependent on road transport, we need to allow almost everyone to use this technology." We just need to control their use better.

> Sweden also has a different approach to enforcement. The country has, says Belin, one of the world's largest road camera networks, and yet it catches no-one, and earns no money from fines. But still, the cameras have raised speed-limit compliance from 50% to around 90%. The lack of revenue makes it clear that the cameras' purpose is safety, not to generate money. "So we nudge people to do the right thing," says Belin.

> The system seems so sensible and obvious, but like any new approach it had its share of opposition. The political economists viewed safety as a cost-benefit analysis, with fatalities being "a price that you have to pay for transport," and the road experts insisted on changing human behavior, not redesigning the system to accommodate human nature.

Source: Fast Company







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Entries open 13th November 2017 and close 5pm, 16th February 2018

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Fulton Hogan takes on learning with virtual reality

New Zealand civil engineering and resource company Fulton Hogan is pioneering new ways of using Virtual Reality (VR) to help team members upskill in realistic training scenarios without compromising safety.

Using the company's VR Boil Out app, developed together with Corvecto, Fulton Hogan employees have the opportunity to virtually perform the Boil Out procedure step-by-step, and see the potentially harmful consequences of any mistakes — all while in a safe environment.

The Boil Out procedure involves decontaminating bitumen sprayers and tankers once water has become present. The unintended mixing of water and bitumen can create a 'boil over' effect where bitumen can be sprayed with considerable force over a wide area, putting people's safety at risk.

Fulton Hogan Innovation Manager Chloe Smith says that VR training eliminates the risks of training in a 'live' situation and has also improved engagement during training, helping team members to retain crucial knowledge.

"Trainees don VR goggles as well as headphones, which makes the simulation highly immersive," Chloe says. "You actually feel like you are standing on top of the tank, looking down from a height. Along with this the sound effects are so realistic you really do feel like you are physically present in the scenario."

The risk factors are outlined clearly at the start of the training and when mistakes are made, trainees are virtually transported to a room where a screen outlines the errors they made and the steps they should have taken. They are then able to repeat the task, with knowledge of their previous mistakes, and improve

their performance.

Trainees are tracked throughout the process, recording all the decisions that were made, and how long they spent completing each task. This data is added to their training records for future reference.

"Our experience with VR for the 'boil over' training confirms what we have already learnt from our significant investment in virtual driver training — that our team members relate to the gamification of the technical learning and really get into it with an enthusiasm that is sometimes not there with traditional classroom training," Chloe says.

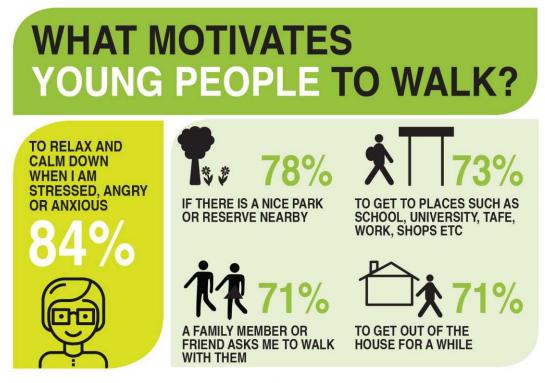
In 2015 the company, which has more than 3,000 vehicles on the road, purchased a pair of state-of-the-art simulators capable of re-creating a range of New Zealand driving conditions including night driving, sudden road obstructions and conditions including wind, rain, fog and snow.

The simulators are now transported around the country so that the company's 3,800 New Zealand-based employees, as well as school students and community partners, can broaden their on-road skills.

Fulton Hogan says VR technology has proven to be especially effective for training team members in potentially unsafe activities and the company is now exploring the use of VR training in other similar operational areas.

Fulton Hogan's VR training app was selected as a finalist in the Innovation in the Education, Training & Development category at the 2017 New Zealand Innovation Awards.

Source: Fulton Hogan



Survey of 1,089 people aged 15-20 - www.victoriawalks.org.au/young_people/



It's easy to get giddy about self-driving cars. Older people and preteens will become more independent and mobile. The scourge of drunken driving will disappear. People will be able to safely play video games while on the freeway to work.

But there is one problem autonomous driving is unlikely to solve: the columns of rush-hour gridlock that clog city streets and motorways. If decades of urban planning and economic research are any guide, the solution is unlikely to come from technology but from something similar to Uber's surge pricing: charging people more to use driverless cars at rush hour.

Not that technology companies aren't trying to find other solutions to congestion. Traffic is one of the few problems that fabulously wealthy people can't buy their way out of. This helps explain why Elon Musk, the founder of Tesla and SpaceX, wants to bore subterranean freeways under Los Angeles and build a hyperloop train half the length of California. Or why Larry Page, Google's co-founder, is interested in flying cars.

This is in addition to other, less revolutionary efforts, from companies like Sidewalk Labs, which is owned by Google's parent company and which aims to ease congestion by helping cities make better use of data. And of course there is the self-driving car, which, in addition to making roads safer, is supposed to help manage freeways by smoothing human flaws — like a tendency to engage in antsy braking and sudden lane changes — that make traffic worse.

These various technologies share a common theme. One way or another, they promise to expand the nation's roads — literally, in the case of Mr. Musk's tunnels, figuratively, in the case of flying cars, and efficiently, in the case of self-driving ones. While it is possible that one or all of these technologies will increase road capacity to the point at which no amount of traffic will fill them, history gives us reasons to be skeptical.

Decades' worth of studies show that whenever cities add roads, new drivers simply fill them up. This isn't because of new development or population growth — although that's part of the story — but because of a vicious cycle in which new roads bring new demand that no amount of further roads can satisfy.

This has been studied at rush hour, studied on individual motorway projects and studied with large data sets that encompass nearly every road in the United States. With remarkable consistency, the research finds the same thing: Whenever a road is built or an older road is widened, more people decide to drive more. Build more or widen further, and even more people decide to drive. Repeat to infinity.

Economists call this latent demand, which is a fancy way of saying there are always more people who want to drive somewhere than there is space for them to do it. So far anyway, nothing cities have done to increase capacity has ever sped things up.

The extent of this failure was chronicled in a 2011

paper called "The Fundamental Law of Road Congestion," by the economists Gilles Duranton, from the Wharton School of the University of Pennsylvania, and Matthew Turner, from Brown University.

The two went beyond road building to show that increases in public transport and changes in land use — basically, building apartments next to office buildings so that more people can walk or bike to work — also fail to cut traffic (or do so only a little).

This doesn't mean public transport and land planning are bad ideas, or that widening freeways is a bad idea. When roads are bigger, more people can get around. More people see family; more packages are delivered; more babies are lulled to sleep. It just means that none of those measures have done much to reduce commute times, and self-driving cars seem unlikely to either.

That's where charging people during busy times comes in. "Maybe autonomous cars will be different from other capacity expansions," Mr. Turner said. "But of the things we have observed so far, the only thing that really drives down travel times is pricing."

This is because the average person prefers the privacy and convenience of riding in a car. Only when the drive is far enough or the traffic is bad enough — or a taxi costs enough — will more people choose to bike, carpool, hop on a train or postpone a trip. This same pattern shows up in all kinds of places. You can see it in car-centric cities like Los Angeles and Houston, where yearslong, multibillion dollar lane-widening projects did little to speed commutes.

But you can also see it in New York — by far the most transit-friendly city in the United States. Ride-hailing services like Lyft and Uber have led to increased auto traffic, according to a February study from Schaller Consulting in Brooklyn, while subway trips dipped slightly in 2016 because of a fall in weekend usage.

Bruce Schaller, principal of Schaller Consulting, said if the growth in ride-hailing services continued, it would inevitably push the city toward some sort of congestion pricing system, an idea New York has floated and rejected. "There will be so many cars on the streets, and freight deliveries and buses and everyone else will be so slowed down, that people will get fed up and demand a solution," he said. "And we have a solution in pricing."

Things like matinee movies, red-eye airfares and happy hour drinks have accustomed Americans to the idea of variable pricing depending on time. But charging more for roads is toxic, at least in the United States.

Mayor Michael R. Bloomberg met abject failure with his attempt at congestion pricing in New York. Yet London, Singapore and Stockholm have all put in such systems effectively.

In the United States, the most common objection is that road pricing is regressive: Rich people get to drive alone while the masses huddle on a bus. Also, people just don't like paying for things that they are used to having free.

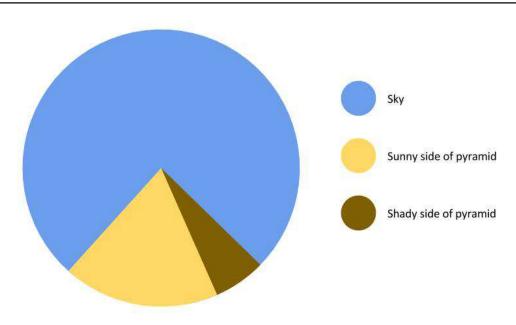
Economists are hoping that may change. Several states, including California, Texas and Minnesota, have added high-occupancy toll lanes with different pricing during rush hours.

"This idea of congestion pricing is not completely dismissed the way it once was," said Clifford Winston, an economist at the Brookings Institution.

Mr. Winston said the eventual introduction of self-driving cars would probably lessen consumer opposition to paying more to use roads during peak periods. Ride-hailing apps have taught consumers to accept surge pricing, and people are generally less resistant to paying for something new. The result would be something like variably priced lanes dedicated to fleets of robot vehicles.

If that happens, one of the hidden benefits of this revolutionary new technology will be that it got people to accept an idea that economists started talking about at least a century ago. And you get home a half-hour earlier.

Source: New York Times



Elon Musk's Tunnel Just Happens To Go From His House To His Office

It's been nearly a year since Elon Musk (right) proclaimed on Twitter that "Traffic is driving me nuts. Am going to build a tunnel boring machine and just start digging . . ." Since then, the founder of Tesla and SpaceX has actually starting doing just that.

After revealing The Boring Company in February, Musk released an animated video in May showing how the system would work. By late October, Musk had released a photo from inside a tunnel and announced that a second digging machine was being built.

L.A.'s notoriously gridlocked drivers will undoubtedly relish any plan to ease their traffic woes. But the tunnels being built by The Boring Company will also be a big time-saver for one commuter in particular: Musk himself.

An analysis of the project's path shows that it conveniently runs from the headquarters of SpaceX and then winds about 20 miles north, passing right by the enclave of Bel Air—where Musk owns a collection of five tightly clustered homes.

Should the tunnel project go according to the entrepreneur's plan, his trip between Bel Air and SpaceX, which in current traffic conditions easily takes more than an hour, would be shortened to as little as six minutes. His car (like many others) would enter the tunnel via a platform, which would lower it, elevator-style, into the tunnel. The platform, called a "skate," would then shoot through the tunnel, carrying the car at a speed of 130 mph.

In a statement, The Boring Co. said that the location of the tunnel has nothing to do with proximity to Musk's properties; its starting point near SpaceX was chosen because the company owns the land and could therefore start digging into it immediately.

The surface-level appeal of The Boring Company's tunnel is undeniable, and not only to Musk. It stretches from the 405-freeway off-ramp for the Los Angeles International Airport (and right on the other side of the

freeway from the SpaceX offices), to the intersection of the 101–another critical junction for commuters.

The stretch of the 405 freeway that runs through L.A. is the busiest interstate in the country, moving over 379,000 commuters at a crawl every day—and Musk



has put himself in a unique position of being able to do something about it. He envisions an entry point for cars every mile or so; cyclists and pedestrians could make use of the tunnel at those points, too, by entering a capsule that will zoom them along to their desired exit.

The fact that the tunnel project will be entirely privately funded (presumably with Musk's money, though The Boring Co. spokesperson, in the Los Angeles Times, didn't elaborate) certainly gives Musk the leeway to construct it exactly where it would benefit him most.

While the completion of the project is still contingent on city approval, it's Musk and his Boring Co., at the end of the day, who are making the decisions. But a billionaire's public transportation dreams are perhaps not the most viable or productive for the region.

Even though the tunnel seems to present an alternative to the jam-packed freeway above it, Musk's project runs the risk of repeating a version of the mistake made by widening the 405. What if the novelty of the tunnel, instead of limiting traffic, just encourages more people to get in their cars to travel, albeit at a higher speed?

The Los Angeles region would benefit more from a system that reduces, not induces, demand for private-car usage. A recent Los Angeles Times editorial advocated for more traffic tolls, while others argue that the region needs a stronger mass transit system to support the transition away from private cars.

But even if Musk is launching this endeavor out of a

sense of altruism, a belief that he alone can save L.A. from its traffic woes, he's off the mark. An idea, borne out of frustration, to "just start digging," is not urban planning.

Musk is bankrolling his way around a rigorous planning design and processes that could actually lead to comprehensive fix for the region, and his dream for a six-minute commute could hinder any more viable albeit less sexy – progress the city is aiming to make. Source: CityLab



2018/21 Regional/National Land Transport Programme - Policy Direction and Timing

The Minister of Transport, Hon. Phil Twyford, recently wrote to the Chairperson of each Regional Transport Committee, to the Transport Special Interest Group and to Local Government New Zealand outlining the Government's key transport policies and priorities.

In his letter, the Minister signalled the intention to amend the draft 2018-21 Government Policy Statement on Land Transport Funding (GPS) to reflect the Government's immediate priorities. The Minister undertook to make this revised draft available in early 2018, in order to provide the certainty needed to bring together the 2018/21 Regional and National Land Transport Programmes.

Central and local government collaboration in delivering a safe, efficient and connected transport system for New Zealand is critical. It's important that we collectively have sufficient time to reflect Government's priorities through Councils' Long Term Plans, and the 2018/21 Regional and National Land Transport Programmes.

We have made the following changes to the 2018/21 Regional Land Transport Programme and the National Land Transport Programme development timelines:

Regional Land Transport Programme submitted to the Transport Agency

Current timeline - 30 April 2018 Revised timeline - 30 June 2018

National Land Transport Programme adopted

Current timeline - 30 June 2018 Revised timeline - 31 August 2018

Those specific activities relating to maintenance services, passenger transport services and road safety

promotions (referred to as continuous programmes) are a significant component of Long Term Plans. In the past, we have given an indication of likely funding levels for these programmes as early as possible in the NLTP development process to provide certainty and continuity.

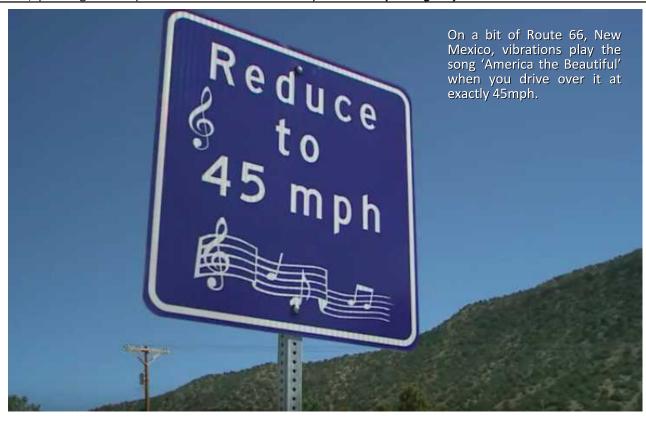
This practice will not change. Continuous programmes will follow the current timetable and still need to be submitted on 16 December 2017, so that the Transport Agency can assess and prioritise these programmes against the Government's policy direction to provide the clarity needed.

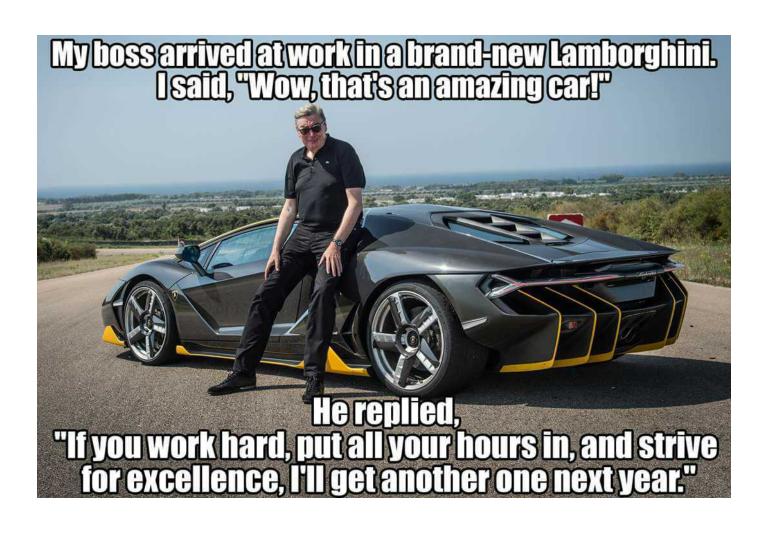
The current 2015-18 NLTP period will be extended by two months to 31 August 2018 to ensure activities in the current NLTP can continue to be approved.

The Minister also noted some of the government's priorities may require more fundamental changes to the scope of the GPS that cannot be immediately accommodated in this amendment. The Minister indicated it is likely the GPS will be amended again during the 2018-21 NLTP cycle. We will work closely with you to ensure a smooth process for responding to these later changes to the GPS.

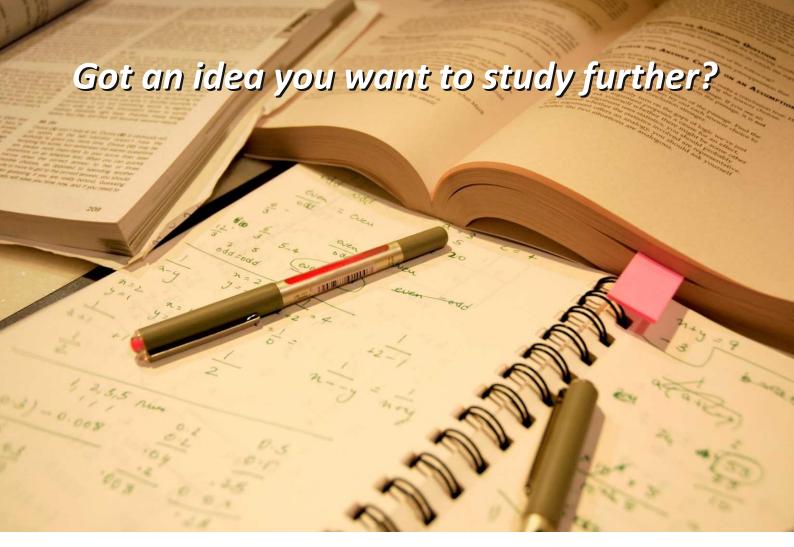
We encourage people to share this letter with your colleagues to ensure a wide understanding of the processes and timeframes. We look forward to continuing to work in the coming months in the development of the RLTP and NLTP. If you have any questions, please contact your Director Regional Relationships.

Fergus Gammie Chief Executive NZ Transport Agency









IPENZ Transportation Group Study Award 2018

Applications are now open for the IPENZ Transportation Group Study Award 2018

The IPENZ Transportation Group aims to advance the knowledge base and practice of the transportation profession in New Zealand. Each year the Group provides a Study Award worth up to \$8,000 for a Group member (or members) to undertake study in New Zealand or overseas, to learn about issues that are important and topical in the transportation area, and then to spread that useful and usable knowledge to peers.

If you believe you can help the profession learn more about important transportation issues, apply now for the Study Award. The essential requirements are that the study area is relevant to the interests of the Group, and that you document and disseminate your newfound knowledge to your Group peers.

The deadline for applications is Friday 9th February 2018. See following page for details. Enquiries or applications should be sent electronically to:

IPENZ Transportation Group Awards Co-ordinator Daniel Newcombe daniel.newcombe@at.govt.nz



IPENZ Transportation Group Study Award 2018

Purpose

To provide an opportunity for a member of the IPENZ Transportation Group to study, collect information or exchange ideas which will advance the knowledge base and practice of the transportation profession in NZ.

The topic may be any of relevance to the NZ transportation profession. Uses for the funding could include, amongst other possibilities:

- Onsite work experience
- A research project, including incurred costs (travel related to a study tour, etc.)
- A staff exchange within NZ or overseas

This award cannot be used for professional fees or tertiary course costs (there is a separate Study Grant for this). An applicant must supply a peer reviewer/mentor/supervisor to monitor and review the study, and the application is to include a statement from that person supporting the research and including a comment on the relevance and practical application of the outcomes.

Bi-monthly updates must be provided on progress. Upon completion of the study, a requirement of the award is the production of a paper to the IPENZ Transportation Group conference, an article suitable for inclusion in the Roundabout magazine and presentations to local IPENZ Transportation Group branches. Applications must supply supporting rationale for the funding sought. Where funding requirements are for less than the total amount available, the remainder may be offered to the next highest ranking applicant.

Assessment Criteria

Applications should describe the proposal in detail, with estimated costs and timing, and should also address the following selection criteria:

- Relevance of the proposed topic to the New Zealand transportation profession [30% weighting]
- Ability to provide useful and useable outputs (e.g. best practice guidelines that can be distributed nationally) [25% weighting]
- Methods proposed to document, peer review and share the results of the study (in addition to the above requirements) [30% weighting]
- Support from relevant third parties highlighting that the new knowledge or information will be useful to them (e.g. NZTA, councils, academics) [10% weighting]
- Evidence of relevant track record (i.e. experience in undertaking study or relevant work) [5% weighting]
- Timetable of proposed activity (i.e. results able to be realised within reasonable timeframe, desirably within 12 months of the award)
- Commitment of the individual and their current employer (if relevant) to the project

Assessment Process

- 1. The assessment panel will comprise of at least three people, being members of the IPENZ Transportation Group Research Subcommittee or other suitable members identified by the Awards Co-ordinator.
- 2. The maximum value of the award will be \$8,000, subject to an adequate application being received. Where the successful applicant requires less than \$8,000 the assessment panel reserves the right to offer the remaining amount to the next highest ranked applicant.
- 3. The award is to be taken up within 12 months of it being offered, unless agreed by the Awards Co-ordinator. Unless agreed otherwise, payment of the award is to be made 60% in advance and 40% on receipt of an adequate report, following the completion of the study or project.
- 4. An award in part may be made to one or more persons or Groups.
- 5. The assessment panel's decision is final and no correspondence will be entered into.

The deadline for applications is Friday 9th February 2018. The winner will be announced at the 2018 IPENZ Transportation Group conference in Queenstown and the finalists are encouraged to be present.

Enquiries or applications should be sent electronically to: IPENZ Transportation Group Awards Co-ordinator Daniel Newcombe at daniel.newcombe@at.govt.nz



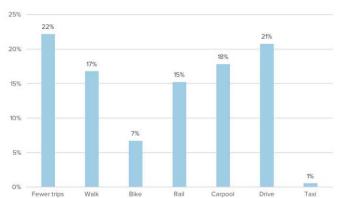
Uber usage leads to more trips in major cities

Ride-hailing services such as Uber have quickly gone from startups to billion-dollar companies and everyday parts of the urban transportation ecosystem, altering how we get around.

A new study, released today by University of California Davis transportation researcher Dr. Regina Clewlow, found that while widespread usage of these services may be decreasing the number of miles users drive themselves, it appears, overall, to increase the total miles driven in cities.

App users aren't just substituting trips, but adding additional ones. The finding raises thorny questions about future transportation policy.

Clewlow's research found that 49 to 61 percent of ridehailing trips "would not have been made at all, or made by walking, biking, or transit." It's a key factor in her



Respondents were asked, "If Uber or Lyft were unavailable, which transportation alternatives would you use for the trips that you make using Uber or Lyft?"

determination that "ride-hailing is currently likely to contribute to growth in vehicle miles traveled (VMT) in the major cities represented in this study."

"The implications of this data raises significant concern for travel behavior researchers, suggesting that as these services grow, vehicle miles traveled will grow, even if vehicle ownership declines," Clewlow told Curbed. "It's not about ownership, it's about total vehicle miles traveled."

The survey-based study, Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States, focused on seven major metro areas—Boston, Chicago, Los Angeles, New York, the San Francisco Bay Area, Seattle, and Washington, D.C.—and analyzed responses from more than 4,000 urban and suburban residents, who recorded their transportation and travel choices at various times between 2014 and 2016.

The study found that 21 percent of adults in these major cities used ride-hailing services, 24 percent of whom used them on a weekly or daily basis. The major reason riders gave for using these service was avoiding the hassle of parking (37 percent of respondents).

The analysis reinforced many assumptions and previous findings about the impacts of these services, also known as transportation network companies. They have had more challenges gaining traction in suburban markets, due to lack of density, and have been a huge benefit when it comes to reducing drunk driving.

But claims that ride-hailing services reduce personal vehicle ownership weren't nearly as clear. The study found that 91 percent of ride-hailing users have not made any changes with regards to whether or not they own a vehicle, and that "those who have reduced car ownership and personal driving have substituted those trips with increased ride-hailing usage."

A recent Reuters/Ipsos poll found that of the Americans who sold or traded vehicles in the last year, 9 percent turned to services like Uber for their transportation needs, and another 9 percent said they planned to do the same in the next year. But again, if these riders are merely pushing personal driving onto ride-hailing services, as Clewlow's study suggests, overall congestion and pollution aren't being reduced, merely shifted to other drivers.

Jeffrey Tumlin, principal of Nelson\Nygaard, a transportation and planning consulting firm, says that increased VMTs show there's a potential for significant negative economic impact on cities from these services, as people seek the comfort and convenience of a door-to-door ride via Uber and Lyft (which, as costs lower, become cost-competitive with other transit options). Streets become constrained and move fewer people.

"We have a big concern in cities that ubiquitous, cheap, door-to-door travel will result in reductions in bus ridership, walking, and biking," he says. "The results of that is our streets will move fewer and fewer people over time. It's arguable that we're already seeing that in New York and San Francisco."

Clewlow's study also found ride-hailing led to a 6 percent reduction in transit use.

"As compared with previous studies that have suggested shared mobility services complement transit services, we find that the substitutive versus complementary nature of ride-hailing varies greatly based on the type of transit service in question," the study concludes.

Overall, research found that ride-hailing attracts Americans away from bus service (a 6 percent reduction) and light rail services (a 3 percent reduction), while serving as a complementary mode for commuter rail services (a 3 percent net increase in use).

These findings support a recent University of Minnesota study that found ride-hailing increased utilization of subway and commuter rail while reducing the use of buses.

Source: CityLab

Obituary - Garth Vipond

Garth Vipond, a well known transport professional from (the former) Manukau City Council passed away peacefully on Monday 2 October 2017, aged 75, after a long period of ill health.

Garth was the much loved husband of Pauline, and father of Mark and the late Rachel.

Garth worked for the Manukau City Council, starting a year after its inception in 1965, right through to his retirement when it became part of Auckland Council in 2010.

He made a tremendous contribution towards transport planning for the city with a particular talent for getting Transit/NZTA/Transfund to agree to build or fund designs that they might not have otherwise done were it not for Garths advocacy, insights and evidence.

He contributed to the design of AMETI, Highbrook Drive, Te Irirangi Drive, and State Highway 20, as well the extension of Cavendish Drive and the Manukau Rail Link.

He had the ability, when most needed, to pull the right design rabbits out of the hat. He was a member of the New Zealand Planning Institute and often gave evidence at the Environment Court and hearings in support of projects.

He was a friendly and supportive role model for many young transport planners (including the editor of Roundabout) but could dissect any ill-conceived or rash schemes with a twinkle in his eye.

The Garth "seal of approval" always meant you had a pretty robust piece of work. He forged great working relationships with elected representatives, who trusted his advice on which schemes and options should be progressed or discarded.

He will be sadly missed but always remembered, especially when traveling through Manukau and the many projects he contributed to.



Garth would have enjoyed this image: Vespa racing on the roof of the Fiat factory in Turin, Italy

Thank you, Webster's American English Dictionary!

I was recently reading The Death and life of Great American Cities by Jane Jacobs, 1961. In case you've not heard of it, this is a massively influential foundation of a major change which took effect in town planning through the 1970s, and later, right up to the present. The New York Times Book Review called this book "perhaps the most influential single work in the history of town planning – a work of literature".



And what's most amazing is that Jane Jacobs wasn't a professional planner. In an age when "professional" equalled "middle-class male", officials sneered at her as a "housewife". But she won, with the poorer areas of New York, where she lived, being the battleground.

It started with community opposition to a proposed new arterial road through a park, but then snowballed and ran and ran for many years, in the process spawning similar movements throughout the Western world's cities.

The "rational comprehensive" planning of this time was a Brave New World of free-flowing freeways, high-rise 'palaces in the sky', and the demolition and replacement of older 'substandard' urban areas.

The urban planning and engineering professions were very close – many individuals held dual professional body membership. The 'classic' transport planning theory of a 'road hierarchy' between 'arterial' throughtraffic roads and 'local' property access roads (with a 'collector' road category or three between them) – still a bedrock of much transport planning today – was also very strong.

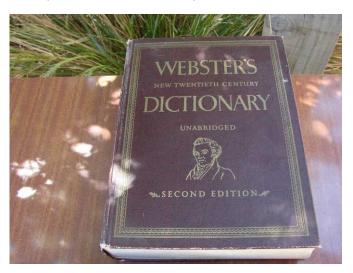
Jane Jacobs spoke for 'substandard' area local residents, and focused on social support networks rather than infrastructure. Her ideas have been taken up over later decades by architects and urban designers, on what makes for a socially rich, economically-prosperous and crime-deterring city.

The so-called 'dead' areas, according to Jacobs, were actually full of life, much of it on foot, in the streets. The growth over the successive decades of "communicative" planning (listening to people in an ongoing dialogue – far more than today's "engagement") and "social planning" (i.e. it's not primarily about the infrastructure), and "community development", has been credited to this book.

Part way through there was a word I'd never come across before reading this book:

"[a certain planning theorist] thinks that the realistic way to get pedestrian streets where these may be desirable in a heavily used downtown is to bollix up the use of the street for cars — largely by bollixing up the signal system — to the point that "only a driver with a hole in his head would pick such a route after he had tried it a time or two", and also by forbidding parking and standing.

After such a street has reached the point that it is being used only by trucks making or picking up deliveries there, and by few other vehicles, its status as a pedestrian street can be formalised without much jolt to anybody and without the necessity to compensate by throwing heavy flow and burdensome parking upon some other street. The necessary changes in habits will already have been absorbed, by attrition"



My Webster's American English dictionary tells me that "bollix" comes from a Middle English word, and before that an Anglo-Saxon word. Its literal meaning is not printable in a family magazine like 'Roundabout', but figuratively it means "to make a muddle of; bungle; botch (usually with 'up')".

This is truly radical, and strikes at the heard of many of our current planning exercises, including today's topical Network Operating Plans, Let's Get Welly Moving (submissions on the draft options of which will have closed just as 'Roundabout' hits the device screens), ATAP and others.

What she is saying is that to help one form of transport you need to stuff things up for another form of transport. Not nice in a world where we would like to think our transport plans have 'something for everyone'.

Ah, but then Jane Jacobs was 'just a housewife'. If anyone is still stuck in 1960s sexist thinking on this, Auckland Council's City Centre Design Unit has drawn up a business case for walking, 'Counting Walking to Make Walking Count'. This has applied the numerate economics usually reserved for valuing car-commute journey time savings to walking.

The economic costs of having to wait to cross the road at CBD signals has been added up, across the whole Auckland CBD, to tell Auckland Council how much all this impacts on the CBD's economy – and it is big. Put another way, it seems there is a big economic cost to not b****ing up the CBD motor traffic as suggested by Jane Jacobs.

Our signal co-ordination systems generally aim to smooth rather than b***** up network-wide traffic flow. If (as of course is blindingly obvious) this means delays imposed on people walking around the CBD, there seems to be a case for bringing together the type of valuation of walking suggested by Jane Jacobs and the Auckland Council study, with conventional traffic modelling, and consider whether in fact the b*****ing up CBD traffic delivers overall economic gains, through improved walkability?

Meanwhile, in Wellington, the Let's Get Welly Moving initiative, at time of writing, has proposed four options for solving this type of issue in Wellington CBD. At their heart are different levels of road building (including, in some of them, 'a Basin Reserve Flyover by any other name').

B*****ing up CBD traffic does not seem to be among the options, but maybe it would have helped to reduce the overall amount of traffic entering the CBD by developing rail services instead of road space in the Kapiti Coast and Hutt/ Wairarapa corridors? This also seems to be missing and yet, had it been seriously considered, would this not have made b****ing up traffic more attractive through its being less painful?

Other problems arise from fudging difficult choices between different forms of transport.

Whilst classic road hierarchy theory (think the 1963 Traffic in Towns report) suggests buses should use the middle 'collector' road category (which, interestingly, gets them out of the way of the mass volumes of car movements on the arterial system), this is not where best practice public transport planning theory places it.

The latter is based on 'right of way' (giving journey time advantage over the car) and includes some public transport services which do use the arterials roads. The best example in New Zealand would be Auckland's Northern Busway, which is largely accountable for a staggering over 50% of people crossing the Harbour Bridge being by bus. And this classic road hierarchy

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theory hasn't even started to look at the role of rail as a mass mover of people, either on a strategic, longdistance basis or for local movement.

If you wonder why cycling dominates Dutch or Danish cities, whilst having underwhelming uptake in New Zealand, Australia and elsewhere, look no further than the origins of planning for cycling in those respective countries.

In the Netherlands it started with major public anger over numbers of children being killed on the roads – the 1960s Stop de Kindermoord campaign – whereas in New Zealand we followed an Australian road safety approach, based on the 1977 Geelong Bike Plan 'four E's' (the classic road safety 'three E's' engineering, education and enforcement, plus encouragement).

The Dutch were willing to b***** up classic road hierarchies if necessary, while we weren't. Both countries had their 'cycle route network' theories, but the Dutch at the time created 'filtered permeability' road networks very unconnected and difficult to move through by car, yet easy and connected by bike and foot. I suspect the Dutch had read Jane Jacobs.

We are at something of a turning point, with a new government and new transport options for our capital city. It would seem an appropriate time to make choices a bit more fundamental than whether X or Y street frontage in[choose your city] is going to lose its on-street parking to make way for a 'separated' cycleway.

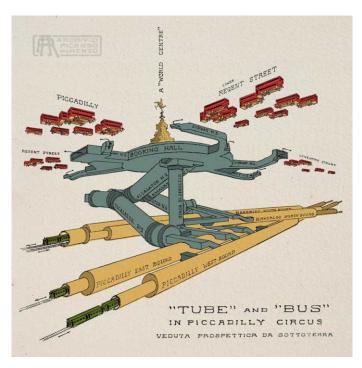
Roger Boulter, Boulter Consulting roger@boulter.co.nz

An Australian study has found that houses on streets with rude names, such as Butt Street, Wanke Road and Fanny Street, are significantly cheaper than those on streets with non-rude names.

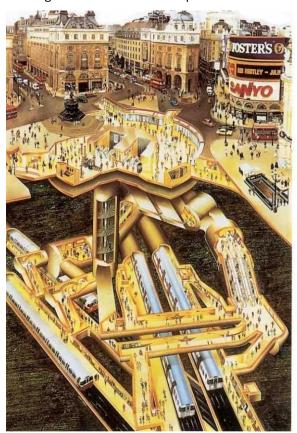


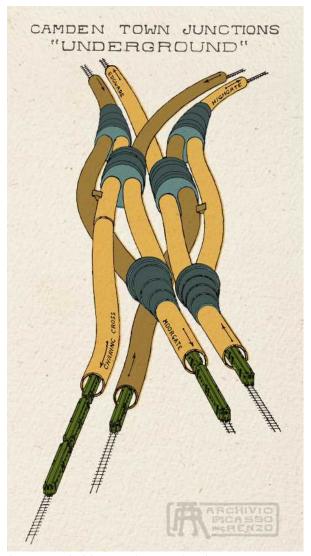
London's hidden tunnels revealed

London is a fascinating, infuriating, terrifying, beautiful place. As curious visitors we attempt to make sense of it and the way it works so that we can better assert our own place within it. It is often said that London is an infrastructural palimpsest: layer upon layer of networks and systems. But that really isn't the case. London, like any urban form is a complex, woven fabric of infrastructure — each system maddeningly intertwined with others.



Ancient, hidden rivers don't just flow under the modern railways — today they flow above them on aqueducts and in pipes. Crossrail ducks beneath some Underground lines and rises up above others.





The remarkable London Hydraulic Power Company's pipes squeeze in and out and through and down between systems that came before them. Above ground road, rail and power infrastructure networks criss-cross each other, often obscuring what could be seen before. A two-dimensional map, while often brilliant and beautiful in its own right, is never quite enough to explain what is going on in this city. We need more.

To make sense of this jam-packed, twisting, stacked-up city, or indeed the objects that exist within, we have to look at the spaces, places and things in three dimensions. And that is where the remarkable world of the cutaway comes into its own.

The cutaway diagram has its roots in the Renaissance, where illustrators sought to explain subterranean mining through printed works. Those simple drawings became ever more complex as our technology and our places became harder to explain. It was in the 20th century that cutaways became most popular, as demand for education and explanation of transport networks and technology rose.

London, having such an incredible array of transport infrastructure — much of it below ground — has therefore yielded a remarkable quantity of cutaway diagrams.

Active Modes Infrastructure Group (AMIG) update

Last time in Roundabout, I introduced you to the Active Modes Infrastructure Group (AMIG), convened by the RCA Forum and the Transport Agency to consider developments in walking/cycling signs and markings, rules, and best-practice design and guidelines.

Since then, AMIG has met once more in Christchurch on 16th October, ahead of the Asia-Pacific Cycle Congress. As well as a good look around some of the latest cycling infrastructure that the city has to offer, a very busy programme of topics were covered by the 14 or so attendees, including:

• The tricky issue of waste collection and new separated cycleways has been discussed in various circles lately. Work is underway to come up with some consistent strategies for where to locate waste collection bins so that collection trucks can easily access them.

The preferred option is to have bin spaces nearest to the road, avoiding the need for the collection arm to extend across a live cycleway.



• Although AMIG's remit covers all active modes, there has been a lot of focus on cycling due to the current investment focus in this space.

A separate Shared Footpaths Working Group has not been able to effectively deal with technical matters related to this area, so AMIG members agreed to proactively raise more walking-related issues as part of future AMIG meetings.



- The group agreed that there is a need for a standard contra-flow cycling warning / information sign for drivers and recommended that the example shown be referred to the TCD Steering Group for consideration.
- Some treatments for cycling on rural roads were discussed, including hold rails and marked waiting zones before a narrow bridge, and the most appropriate options for

improving narrow roads (including shoulder widening, speed limits and removing centrelines).

• Excellent draft local guidance about Bollards on Cycle Tracks was reviewed by AMIG. Key issues commonly noted are their unnecessary use in many places and poor placement or delineation.



The draft guidance will be refined further for adoption at a future meeting.

• Various other minor planning/design issues were discussed regarding advanced stop boxes, cycle lane buffers, and shared path markings and intersections. Ultimately, advice on these will appear in national documents like NZTA's Cycling Network Guidance. Further design guidance is also being prepared for cycleway separators and cycle path pavement levels of service.

For more details, you can also check out the group's webpage, including links to recent meeting minutes and a summary of all key policy decisions made: http://rcaforum.org.nz/working-groups/active-modes-infrastructure

The next AMIG meeting will probably be about mid-February 2018; Hastings has been mooted as a possible venue for this gathering. A reminder that any other NZTA/RCA staff who wish to get involved with AMIG meetings (or at least be on the mailing list) should contact co-convenors Wayne Newman (RCA Forum) or Gerry Dance (NZTA).

Transportation Group members are also welcome to contact me about any ideas or issues regarding walking or cycling treatments and I will raise them on your behalf at AMIG.

Glen Koorey, ViaStrada Ltd (glen@viastrada.nz, ph.027-739-6905)



The world's first bicycle ambulance



It took just a few years for Uber to completely transform society's notion of hailing a taxi. Now, another transportation disruption is on the horizon — and this time it flies.

Lilium Aviation, based in Munich, Germany, is working on an electric aircraft that can be hailed with an app to zip passengers or cargo across congested cities in minutes, where driving short distances by car can take hours. A recent injection of \$90 million in funding should help the company — which held a successful unmanned test in April 2017 — reach its goal of a manned test flight in 2019 and fully functioning flying taxis by 2025.

"We want to establish and build a new means of transportation," Daniel Wiegand, the co-founder and CEO of Lilium says in a press video the day of the test flight. The most obvious innovation is how the aircraft flies.

Lilium's wings have 12 flaps, each one carrying three electric jet engines. On takeoff and landing, the flaps tilt into a vertical position, so that the air pushes down to the ground, lifting the plane up. Once airborne, the flaps tilt into a horizontal position to accelerate the plane forward so that it flies like a fixed-wing aircraft.

"This way achieves much higher speeds than cars and higher speeds than a helicopter," says Wiegand in the video.

Lilium has plans for two planes, a two-seater and a five-seater, that each fly at a maximum speed of 300 kilometers (186 miles) per hour and can travel 300 kilometers on a single charge to the electric battery. In about 15 minutes, an aircraft could travel from Mountain View, California, to downtown San Francisco — a trip that, in heavy traffic, can take an hour and a half.

Large metropolitan areas like San Francisco that hug an

ocean or a river could be the best place to start testing Lilium, says Kara Kockleman, professor in engineering at the University of Texas, Austin, and an expert in self-driving, automated and connected vehicles. These places have bridges, and bridges are notorious bottlenecks, she says.

"Bridges cost 10 times as much per lane mile to build, and they are expensive to maintain," she says. As a result, "they're not as large as you would like them to be generally, and that's where you get a lot of the queueing and that's where you get a lot of the time delays in the Bay Area, in Seattle, in Manhattan."

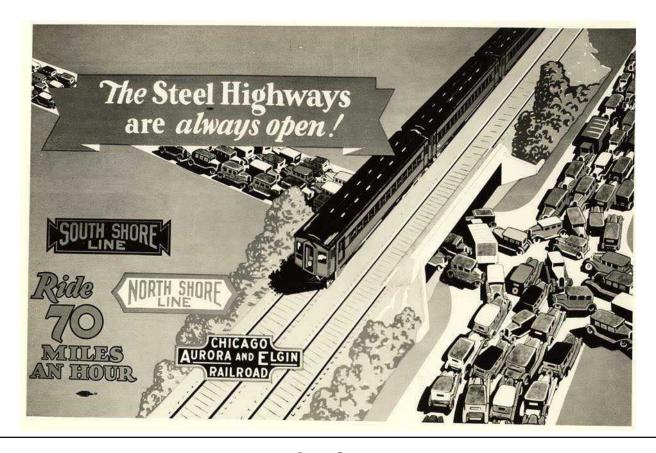
Moving traffic to the skies could reduce some of the congestion and wear and tear on bridges, but it introduces other challenges. To execute their vision, Lilium will need to work with the Federal Aviation Administration in the United States, and similar organizations in other countries, to establish the necessary air traffic control measures for flying above city streets.

Having to fly above roads would require that they fly more slowly, says Kockelman. Property owners may not like the presence of the aircraft flying so close to their buildings, and just one accident or crash could cause lots of property damage as well as injure or kill people below.

"That might threaten the entire industry in terms of regulations," says Kockelman.

The company also will need to work with businesses to build out a network of small, inexpensive landing pads they envision scattered around a city, where passengers will arrive and depart. Retrofitting rooftops to support air traffic is no small matter, says Kockelman. What's more, sending more transportation to the air, moves the traffic bottleneck to the elevators that take passengers from ground level to rooftops.

Source: FastCompany



No more platform No 2s: UK train toilets to stop emptying on to tracks

The final flush on UK train toilets that empty their their contracts by the end of the decade. contents directly on to Britain's tracks will be pulled in 2019, rail bosses and ministers have promised.

A combination of new trains and retrofitting old stock with modern, holding-tank toilets will end the dumping of raw sewage on the railways.

Mark Carne, the chief executive of Network Rail, said he was proud to have secured a pledge that will clean up the tracks and protect rail workers.

Carne said he had learned from direct - and rather messy - personal experience what happens to the contents of passenger toilets flushed from trains. He said: "You quickly learn to turn your back and close your mouth when you're trackside and a train is passing. As I know first hand."

The introduction of modern fleets has meant almost 1,000 fewer train carriages flush out waste now than in 2015, but around 500 carriages still have toilets that empty directly on to the tracks, with lines in the West Country and in East Anglia particularly affected.

Speaking at Swindon station, where the contents of a recently flushed train toilet were clearly visible on the tracks, Carne said: "It's disgusting. I've been out there with the track workers and you see it coming, like a plume of steam. It's totally unacceptable and I'm pleased we've got government agreement."

All rail franchise holders will be required by the Department for Transport to operate trains with retention tanks, to be emptied in rail depots, as part of

The move will be welcomed by most passengers and rail workers, although it may adversely affect some of the flora and fauna. Tomato plants were growing on the tracks at Swindon, and have been spotted flourishing across the network, particularly in Essex on lines from Liverpool Street.

According to industry sources, the plants are believed to be the fruit of passengers ingesting cheese and tomato sandwiches before using the onboard facilities.

Unions have long campaigned for cleaner tracks. A spokesperson for the RMT union said: "We want to see a firm schedule that forces the train operating companies to stop this foul and disgusting practice, which leaves our members out on the railways regularly sprayed with human sewage. We're not interested in halfhearted pledges - we want cast-iron guarantees."

A spokesman for the Rail Delivery Group, which represents train operators, said: "Rail companies take this issue very seriously and understand that it can be very unpleasant for workers on the tracks. We are investing to improve trains including the thousands of brand new carriages coming into service by 2021, which have modern toilets that don't deposit waste on tracks."

While all timetabled passenger services will have modern toilets by the end of the decade, charter and heritage services - or "steam specials" - remain exempt.

Source: Guardian



CHRISTCHURCH NEW ZEALAND

Transportation Engineering Postgraduate Courses 2018

Dept of Civil & Natural Resources Engineering **University of Canterbury**



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

- Certificate of Proficiency (COP) ~ for individual one-off courses (great for CPD!)
- Postgraduate Certificate in Engineering (PGCertEng) ~ typically four courses
- Master of Engineering Studies (MEngSt) ~ typically eight courses
- Master of Engineering in Transportation (MET) ~ up to six courses plus research project or thesis Please see the website of the University of Canterbury for fees per course in 2018: http://www.canterbury.ac.nz/courseinfo/MyGetCourses.aspx?course=&year=2018

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

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

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

COURSE Semester 1

ENTR 401: Fundamentals of Transport Engineering (Self-study course, with 1-day

tutorial)

ENTR615: Transport Network Modelling

(Block dates: 5-6 Mar, 7-8 May)

of Sustainable Transport

(Block dates: 19-20 Mar, 21-22 May)

Semester 2

Traffic Management and Monitoring

(Block dates: 23-24 Jul, 17-18

Sep)

ENTR604: Road Asset Management

(Block dates: 30-31 Jul, 01-02

ENTR617: Traffic Network Modelling & Optimization

(Block dates: 13-14 Aug, 24-25

ENTR616: Transport Planning and Modelling

(Block dates: 20-21 Aug, 15-16

DESCRIPTION (see flyers on website for more details)

Bridging course for non-transportation students: Transportation planning; Road link theory & design; Intersection analysis & design; Traffic studies; Accident reduction; Sustainable transport planning & design; Intro to pavement design. Course coordinator: Dr Kun Xie

Advanced concepts of macro-, meso-, micro-scopic traffic models; Applications of Bayesian estimation techniques for real-time traffic monitoring; Microscopic simulation package (AIMSUN); Model calibration and validation using heuristic optimization techniques. Course coordinator: Assoc. Prof. Dong Ngoduy

ENTR614: Planning & Design Pedestrian planning & design; Planning & design for cycling: Audits/reviews of walking & cycling; Planning & design of bus public transport facilities; Travel behaviour change & travel plans. Course coordinator: Dr Diana Kusumastuti

> Introduction to control theory; Implementation of control theory in traffic control; Large-scale urban network modelling and control; Application of microscopic simulation AIMSUN, Macroscopic or Network Fundamental Diagram; Introduction to motorway control: ramp metering, variable speed limit; Coordinated urban network control, traffic signal design (TRANSYT), traffic state estimation. Course coordinator: Dr Mehdi Keyvan-Ekbatani

Road asset management concepts, levels and functions; Data requirements; Evaluation of functional and structural performance; Intervention criteria; Deterioration models; Rehabilitation and maintenance strategies and priorities. Course coordinator: Assoc. Prof. Mofreh Saleh

Principles of transport network modelling: user equilibrium and system optimum; Basic concept of linear programming and optimization; Traffic Network Assignment package (SATURN); Optimal signal control designs in SATURN. Course coordinator: Assoc. Prof. Dong Ngoduy

Urban transport planning models; Geographic information systems; Travel demand modelling and prediction; Project appraisal; Transport modelling.

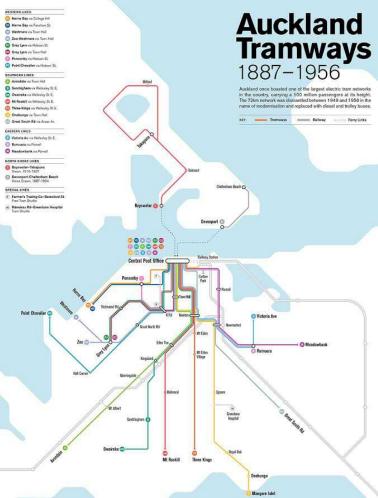
Course coordinator: Dr Diana Kusumastuti

Note: Other relevant courses at the University of Canterbury, University of Auckland or elsewhere may also be suitable for credit to a PGCertEng, MEngSt or MET (contact Assoc. Prof. Saleh for approval). For more details contact:

Associate Professor Mofreh Saleh (Ph. 03 369 5118; Email: mofreh.saleh@canterbury.ac.nz) Or visit the website: www.met.canterbury.ac.nz

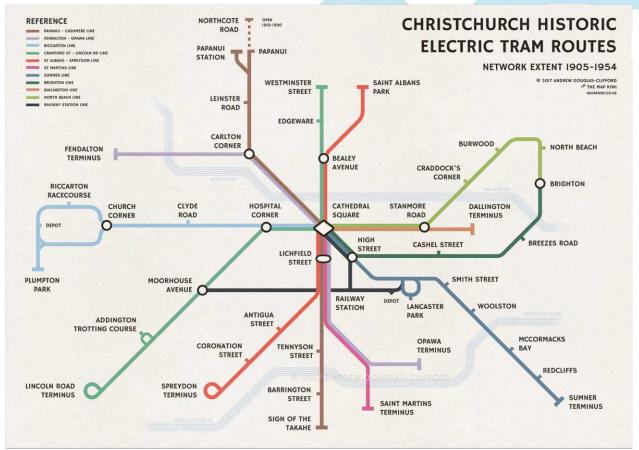


No photos this edition. Just some stylish diagrams of the tram routes that used to cover Auckland and Christchurch. A hint of the future? Normal photo service will resume next edition. Taken a photo of something interesting? Send photos to: daniel.newcombe@at.govt.nz











Branch updates



Auckland/Northland Branch

We will be hosting the Auckland/Northland Branch AGM in early February 2018. In early 2018, we will be inviting applications from members interested in joining the Auckland/Northland Branch committee. Together with the AGM, we will be hosting a Welcome 2018 function for all our members. Dates and venue details for these events will be circulated in the new year.

The Auckland/Northland Branch Committee would like to wish all our members a safe and peaceful break over Christmas and New Year holiday period. Thanks for all your support this year and we look forward to working with you in 2018.

Waikato/Bay of Plenty Branch

The committee is working on events for the New Year and welcome any input from our members.

Central Branch

The Central Branch organised two lunch time seminars in the past month.

On November 3rd, Jake Roos, Director at Jake Roos Consulting Ltd presented to our branch members on how he used Lego bricks as a medium to explain and explore public projects. He demonstrated how Lego became an effective means to engage people, to increase their understanding and gather their views.



Kāpiti Coast District Council has used Lego to explain its LED streetlight programme, the implementation of a cycle hook turn at a major intersection upgrade and create a shared vision for the future Paraparaumu Town Centre. The latter project won an Award from the International Association of Public Participation.

All the projects were implemented by a variety of community groups, businesses and individual Lego enthusiasts from ages 5 to 78 working together. This breadth of involvement led to a greater public understanding of the subject matter than otherwise might have been achieved.

On December 7th, Paul Barker, Planning Manager Network Improvements from Wellington City Council

provided an update on the progress of Wellington city Urban Cycleways Programme to an enthusiastic crowd. Following a review by Morrison Low on behalf of the New Zealand Transport Agency in mid-2016 Wellington City Council has reset their programme and is in the midst of planning, engaging and delivering a \$37M programme by Mid-2019.



In Paul's presentation, he looked at where the Council had got to and what was to be delivered over the next 18 months. Paul also answered a number of questions from the audience including the challenges WCC had faced in delivering the programme and how he saw the cycleways programme would move forward under the new central government.

Upcoming events: Annual Quiz Night

Date: Tuesday 12th December 2017

Time: 6:00pm Arrive, 6:30pm Quiz commences

The Green Man pub, Function Room

25 Victoria St, Wellington

Cost: \$50 per team (4-6 members) or \$10 per person

The Central Branch of the Transportation Group invites you to pit your knowledge across a wide variety of topics against other transport engineering professionals. Come with a team prepared, or as a willing member to join in with other quiz-going enthusiasts. Included in your ticket is the first round of drinks, quiz entertainment, nibbles, and a contribution towards the subsidised refreshments.

Don't miss this opportunity to enjoy a networking night with colleagues and peers from the transport industry! Great quiz prizes on offer, alongside the usual bragging rights.

Kaikoura Earthquake Transport Links Re-Building Forum

The magnitude 7.8 Kaikoura earthquake struck just after midnight on 14th November 2016 causing widespread damage, disruption to local communities and severing key road and rail connections.

The amount that has been achieved within a single year is staggering with more than 1300 staff people involved, more than 100 landslides and slips cleared, and repairs to hundreds of sites including bridges and tunnels. Key drivers for this work have been: reinstating the rail and



Branch updates TRANSPORT



road links between Picton and Christchurch, and reconnecting communities.

A half day afternoon forum is planned to be held in Wellington in March 2018. The forum will celebrate and showcase the human and technical requirements, challenges and achievements that have enabled the rebuilding and reopening of State Highway 1, and the Main North Railway Line, following the enormous damage caused by the November 2016 Kaikoura Earthquake.

Key sessions will include:

- The importance of the link between Picton and Christchurch
- Building a Partnership that Works (North Canterbury Transport Infrastructure Recovery, NCTIR)
- Managing Relationships with key stakeholders
- Technical Talks, covering bridges, slopes, road and rail (the damage, assessments, safety implications, considerations for the future, working across disciplines, preparing transport corridors.)
- Archaeology, RMA, Assurance and Resilience, and Health and Safety.
- Panel discussions.

The sessions will be followed by an opportunity for networking and refreshments. The forum will include speakers from NZTA, KiwiRail, NCTIR, contractors and consultants who have worked on the rebuild project. The forum has been jointly organised by Engineering New Zealand Wellington Branch; RTSA; and the Engineering New Zealand Transportation Group Central Region.

We have sent out an email notification to all our branch members. Please register your interest through the link provided in the email (also see page 11).

Canterbury-West Coast Branch

We held a productive AGM on 22 November and had a record number of Committee volunteers - awesome! A 'local speakers from the Asia-Pacific Cycle Congress' event was held in conjunction where we heard from the following speakers:

Nicola Hopman – "Implementing Cycleways in the Rail

Axel Wilke - "Safe... But only if its efficient" Jeanette Ward – "Footpath cycling – A contentious issue"

Jeanette was very pleased to finally give this presentation in front of an audience for the first time as she was not able to present at the Congress itself due to her emergency appendectomy. No worries – she's all smiles now!

New branch committee for 2018

Cameron Bradley Grace Rvan Gemma Dioni Mike Tottman Ruth Hudson Jeanette Ward Nick Lovett Kerstin Rupp Amanda Klepper Jared White Shaun Bosher Glen Koorey

Southern Branch

The branch organised a trip to visit the launch site of the Kawarau Falls Bridge replacement, with the Kawarau Falls bridge being an essential link for the rapidly expanding Queenstown it was a great opportunity to witness history in the making.

The day was an early start for the majority of the group, who left Dunedin on a shuttle bus at 7am, once we in Queenstown we were joined Transportation Group members from Alexandria, Invercargill and Queenstown.



The group found the method of launching the bridge using "slipper pads" as the steel girders are fed out to each of the newly installed piers, particularly fascinating. It was inspiring to learn that the local Queenstown Lions Club members were involved in the launching of the bridge deck, a fantastic example of community connection to a large engineering project.

NZ Modelling User Group

As 2018 comes to a close the NZMUGs committee is focussing on three initiatives in the coming months. First and foremost John Pell our shiny new conference co-ordinator is into planning for our 2018 Conference, which will be in Auckland next year. While dates are yet to be confirmed, we will be looking at the usual late August or early September window.

We are also looking to make strides in developing forecasting guidelines in 2018, and are currently identifying the areas of greatest need, prior to scoping up a plan to deliver the first stage.

Lastly, but possibly most importantly we are embarking on a bit of a soul searching exercise, trying to answer the question "What is the future for NZMUGs?" Watch out for further communications on this prior to Christmas. A big thank you to the NZMUGs committee for your commitment and efforts in 2017, it is much appreciated.

Remember if you are a Transportation Group member, it is free to join NZMUGs. All you need to do is email techgroups@ipenz.org.nz and ask to sign up. Seasons greetings to you and yours, have a great holiday, drive safe, and we wish you all the best for 2018.



Roundabout of the month



Not a roundabout this month, but a drive-in theatre in South Bend, Indiana from the 1950s. Seen a better pic? Email daniel.newcombe@at.govt.nz



Caption competition

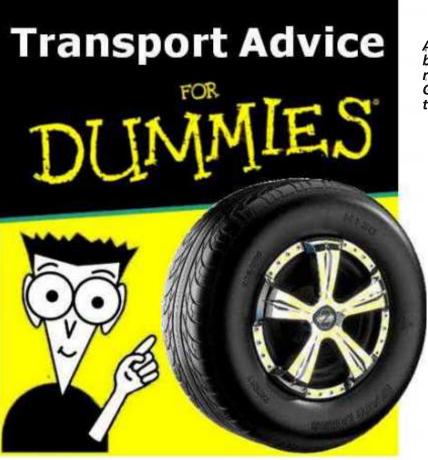


Taking a photo of yourself in a nice location by turning the camera around? This'll never catch on.

For this edition, the photo is the first selfie in space, by Buzz Aldrin from the Gemini 12 mission in 1966. A caption has been suggested. If you have a better suggestion, send it to daniel.newcombe@at.govt.nz



This is wrong on so many levels.



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

Dear Transport Guy

Once again is it Christmas and the media do some ridiculous stories about how fast Santa would have to fly to get to all the homes around the world in one day. This makes the kids sceptical. Can't they just accept it is a magical story?

Barry, Invercargill

Dear Barmy

Well done for noticing it is Christmas. You are quite right. We shouldn't try to explain how Santa gets around.

Just let them think it is Santa going really fast and leave it at that. When in reality we know he just sits at the North Pole and orders a whole lot of deliveries by Amazon.

~Transport Guy

Dear Transport Guy

We have started building lots of big motorways under the National government over the last nine years. If the new government stops this programme, what will happen to all these partial motorways?

Dave, Wellington

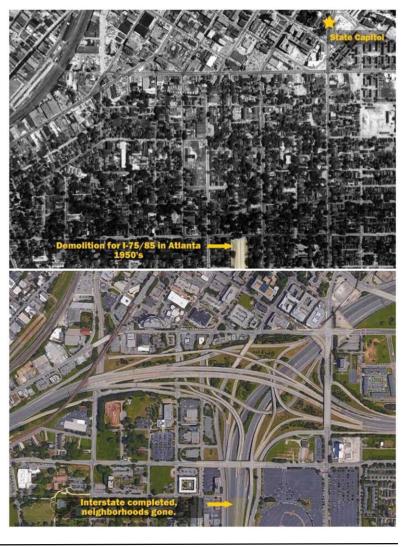
Dear Depraved

There are numerous examples around the world of partially completed motorway systems. Capetown has one, for example. They often are used for filming movies (you know that common scene where a car chase reaches the 'Road Closed' or 'Bridge Out' location and the hero goes barrelling through?).

"Once again this shows us how inherently useful motorways always are."

What this shows us is that these pieces of incomplete infrastructure can have a useful productive purpose, even if it wasn't the original one. Once again this shows us how forward thinking the previous government was and how inherently useful motorways always are.

~Transport Guy



Do you have a dumb question for Transport Guy? Email it to: transportfordummies@gmail.com and he'll do his best to answer...



Group Contact Details



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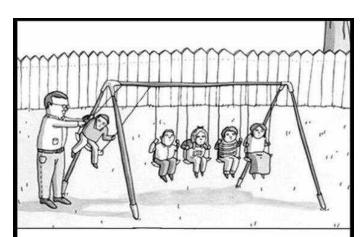
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Why science teachers should not be given playground duty.

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Burdett bridget.burdett@tdg.co.nz **Additional dogsbody:** John Lieswyn

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"Electric cars are too quiet, so a cat crossing the road can't hear them. The cars should play a noise that sounds like a dog barking."