

TRANSPORT INTELLIGENCE DIGEST



Issue 15

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Introduction

Welcome to the 15th issue of the Transport Intelligence Digest.

This edition features a COVID-19 section for the first time. This recognises the significant amount of work currently underway to enhance the availability of high-quality data and research to improve our understanding of the impacts on the transport system, here and abroad. Access to timely, accurate and trusted data and research has been critical for decision makers as we move through the various alert levels. This will likely continue as recovery work gets underway and we plan for a new transport future.

We are pleased to share links to new COVID-research from New Zealand and abroad in this issue and will look to continue this in future releases. For later editions to identify COVID-19 related papers, we'll use a new keyword: COVID-19.

We welcome contributions from anyone who reads this Digest. We ask you to indicate which of the 5 transport outcomes your contribution would fall under. The contribution should be a recent release. Contributions don't have to be about research: we have a section devoted to statistical releases and we're happy to receive contributions for that area as well.

Happy reading

Transport Knowledge Hub

Disclaimer:

This Digest references a wide range of third party articles. Reference to these articles does not constitute endorsement by the Ministry.

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Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first identified in December 2019 in Wuhan, China, and since spread globally, resulting in an ongoing pandemic. As at June 2020, New Zealand had over 1,500 cases. 22 people died from the virus..

COVID-19 Transport Sector Key Indicators Dashboard

Ministry of Transport (June 2020)

Keywords: COVID-19, Data and statistics

The transport dashboard contains primarily key lag indicators using a wide range of data from the Ministry and other agencies. The impact of COVID-19 may not necessarily be evident immediately in the graphs. This is updated regularly and focuses on those indicators (or components of indicators) showing an increase or decrease, when compared to the previous year. The transport dashboard is supplementary to indicators captured in other COVID-19 dashboards, such as economic indicators.

<https://www.transport.govt.nz/mot-resources/covid-19-transport-indicators-dashboard/>

COVID-19 impacts on transport – Waka Kotahi

Waka Kotahi NZ Transport Agency (June 2020)

Keywords: COVID-19, Data and statistics

In April 2020, Waka Kotahi NZ Transport Agency, in conjunction with the Ministry of Transport, instigated a continuous weekly research project to look at the COVID-19 impacts on travel and attitudes to travel. The questionnaire, which is being carried out on our behalf by Ipsos, is a nationwide representative survey of New Zealanders, with a particular emphasis on the six key cities (Auckland, Tauranga, Hamilton, Wellington, Christchurch, & Dunedin). The study offers insights into how people respond in their transport choices, their perceptions and attitudes to different modes of transport and how they change under the different COVID-19 alert levels. We look at both their behaviour and attitudes to different modes of transport and, over time, how they change.

<https://www.nzta.govt.nz/resources/covid-19-impacts-on-transport/>

Global Survey on impact of COVID-19 on ports: IAPH-WPSP Port Economic Impact Barometer

International Association of Ports and Harbors; World Ports Sustainability Programme (IAPH-WPSP) (June 2020)

Keywords: COVID-19, Data and statistics

IAPH-WPSP produces a Port Economic Impact Barometer and gives a unique insight into the shifting impact of the contagion on ports in different regions of the world.

<https://sustainableworldports.org/global-survey-on-impact-of-COVID-19-on-ports-regional-differences-becoming-more-pronounced/>

International Travel Restriction and Border Closure: Estimate the Imported Cases of COVID-19 and Lock Down Policy in New Zealand

Massey University, in: *The Empirical Economics Letters* (June 2020)

Keywords: Aviation, COVID-19, Evaluation

This study estimates the number of COVID-19 infected cases that can be imported into New Zealand from international travellers to see if travel restriction, border closure or even national lock down is justified. We show that the potential imported cases are much higher than those tested and reported by the authorities, suggesting that it is difficult to control and monitor the spread of the virus, especially when community transmission happens. Our findings are thus support the decision of New Zealand government and the increasing number of countries to issue their lock down policy.

contact T.Ngo@massey.ac.nz for a copy of the paper

Quantifying the wellbeing costs of Covid-19

Dr Bryce Wilkinson, *The New Zealand Initiative* (April 2020)

Keywords: COVID-19, Modelling and forecasting, Strategy

In deciding whether to extend the current lockdown, the government must balance the likely benefits of reduced sickness and deaths against the cost of lost national income and jobs. To do so systematically requires an analytical framework that organises the available information. A preliminary model illustrating how this can be done was published in 2017 by five of New Zealand's leading epidemiologists and colleagues. This research note does not critique that model. Instead, it uses it to quantify the possible costs of morbidity and mortality due to Covid-19 as a starting point for further analysis and debate. The five New Zealand authors developed the model using parameters drawn from the experience of the 1918 flu epidemic. Some have since made a major contribution to the papers addressing the Covid-19 crisis published by the Ministry of Health in the last fortnight. Unfortunately, an updated version of the 2017 model does not appear to have been published. Nor do the recently released papers appear to express the potential morbidity and mortality implications of Covid-19 in terms comparable to costs. This research note takes the 2017 spreadsheet model as given and modifies it only to measure the morbidity and mortality rates indicated for Covid-19 in the papers.

<https://www.nzinitiative.org.nz/reports-and-media/reports/research-note-quantifying-the-wellbeing-costs-of-covid-19/>

Keeping Australians safe as they travel to work during the Pandemic

Institute for Sustainable Transport, Australia (May 2020)

Keywords: COVID-19, Modelling and forecasting, Strategy

The threat of COVID-19 has caused the largest shift in travel behaviour in living memory. As travel restrictions ease in Australia's largest cities, more people are expected to resume their commute. In our largest cities in particular, public transport plays the vital role of bringing hundreds of thousands of people into our CBDs. On a typical weekday, 60-80% of CBD workers arrive by public transport, mostly on crowded trains. Australia's Chief Medical Officer and his state-based colleagues have made it clear that one person per 4m² is the desired density of people to reduce the chance of infection. Public transport, especially as peak hour has densities exceeding this limit by a factor of 8. We have undertaken some exploratory modelling of how Australia's largest cities might meet the COVID-19 challenge of keeping public transport safe.

https://sensibletransport.org.au/wp-content/uploads/2020/05/Policy-Note_IST_COVID-19_20.05.20.pdf

The Smart Analytics Future: The importance of evidence-based decisions during Covid-19

WSP (June 2020)

Keywords: COVID-19, Data and statistics

The world's demand for data, information and knowledge to inform evidence-based decisions is growing exponentially. In 2020 the rapid rise of the Covid-19 pandemic has deeply challenged governments worldwide in their policy and investment responses. "Gut feel" remains a viable approach for decision makers even though we have so many global digital resources in people, process and technology at our disposal. We have the choice to better utilise our data to inform much more than we currently do. Where there are shortfalls in core system reliability the opportunity is to establish what data matters most, develop standards, and build or restore data quality so that we are future ready.

This white paper provides a brief overview of the devastating impact of Covid-19, the digital opportunities to respond to the pandemic and a proactive example of where WSP has responded to Covid-19 aiding our clients to achieve better, smarter outcomes for their customers through the use of data insights.

<https://www.wsp.com/en-NZ/campaigns/the-smart-analytics-future>

Transport use during the coronavirus (COVID-19) pandemic – Great Britain

Department for Transport (DfT), United Kingdom (June 2020)

Keywords: COVID-19, Data and statistics

To monitor the use of the transport system during the coronavirus (COVID-19) pandemic in Great Britain, the DfT provides statistics on transport use by mode, published every week on a Wednesday. From mid-March onwards, daily data updates are given on

1. road traffic in Great Britain (cars, light & heavy commercial vehicles)
2. rail passenger journeys in Great Britain
3. Transport for London (TfL) tube and bus routes
4. bus travel in Great Britain (excluding London)

As expected in line with New Zealand COVID-19 data trends, public transport use dramatically declined while other vehicle use declined but stabilised probably due to essential worker travel (e.g. for heavy goods vehicles). The latest data shows other vehicle use picking up but public transport data remains at very low patronage levels.

https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic?utm_source=c7bac88d-2b43-41fe-8972-c062d270d060&utm_medium=email&utm_campaign=govuk-notifications&utm_content=immediate

Variation in volumes and characteristics of trauma patients admitted to a level one trauma centre during national level 4 lockdown for COVID-19 in New Zealand

Christey, G., Amey, J., Campbell, A., & Smith, A. (2020). Variation in volumes and characteristics of trauma patients admitted to a level one trauma centre during national level 4 lockdown for COVID-19 in New Zealand. *NZ Med J*, 24, 81-8.

Keywords: COVID-19, Safety

The aims of this study were to describe the variation in volumes and types of injuries admitted to a level one trauma centre in New Zealand over two 14-day periods before and during the national level 4 lockdown for COVID-19; and highlight communities at risk of preventable injury that may impact negatively on hospital resources. This was a retrospective, descriptive study of prospectively collected data in the Midland Trauma Registry in New Zealand. Overall there was a reduction of 43% in all injury-related admissions with significant reductions seen in major injury (50% reduction), males (50% reduction) and children aged 0–14 years (48% reduction). Results for ethnicity and persons aged over 14 years were within 3% deviation of this overall 43% reduction. Injuries at home, particularly falls, predominate. Despite the significant reduction in admissions during level 4 lockdown, hospitals should continue to provide full services until resource limitations are unavoidable. Immediate messaging is recommended to reduce rates of injury on the farm and at home, specifically falls prevention. Ongoing attention of road users to road safety is essential to reduce the incidence of preventable major injury. These immediate measures can potentially reduce unnecessary pressure on hospital beds and resources during the pandemic.

<https://www.nzma.org.nz/journal-articles/variation-in-volumes-and-characteristics-of-trauma-patients-admitted-to-a-level-one-trauma-centre-during-national-level-4-lockdown-for-covid-19-in-new-zealand>

When to release the lockdown: A wellbeing framework for analysing costs and benefits

Centre for Economic Performance, United Kingdom (April 2020)

Keywords: COVID-19, Economics, Environment, Safety

In choosing when to end the lockdown in the UK, policy-makers have to balance the impact of the decision upon incomes, unemployment, mental health, public confidence and many other factors, as well as (of course) upon the number of deaths from COVID-19. To facilitate the decision it is helpful to forecast each factor using a single metric. We use as our metric the number of Wellbeing-Years resulting from each date of ending the lockdown. This new metric makes it possible to compare the impact of each factor in a way that is relevant to all public policy decisions. This occasional paper carries information on the impact for road deaths, commuting CO2 emissions and air quality when the UK leaves the lockdown.

<http://cep.lse.ac.uk/pubs/download/occasional/op049.pdf>



The transport system provides ways for people and products to move from one place to another. This enables people to access economic opportunities (e.g. work) and social opportunities (e.g. friends, family/whanau, and community services). Transport therefore plays an important role in social development. Access is also vital for economic activity, as recognised in the economic prosperity outcome.

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Beyond the bicycle: Seeing the context of the gender gap in cycling

Shaw, C., Russell, M., Keall, M., MacBride-Stewart, S., Wild, K., Reeves, D., ... & Woodward, A. (2020). *Journal of Transport & Health*, 18, 100871.

Keywords: Accessibility, Active modes, Environment, Travel & mobility

In most countries women cycle less than men. This is despite the clear environmental and health benefits of active commuting. Feminist critiques suggest this gender gap reflects societal roles and values, yet there has been little empirical research on the differences in men's and women's cycling in the context of total travel. Regression analyses were used to explore the travel mode and distance travelled of 49 965 participants in the nationally representative, continuous, cross-sectional New Zealand Household Travel Survey (2002–2014). Regular cyclists were people who cycled at least 10 days in the preceding month. We reported results by gender and cyclist status. Car was the dominant mode of travel for all groups. While fewer women regularly cycled (2%) compared to men (5%), women travelled less each day (12–17% less distance) and were more likely to use public transport and walk than men. These gender patterns were broadly replicated in people who were regular cyclists. Women made 17–47% more motorised trips of less than 5 km than men each day. Overall half of regular cyclists achieved 600 METS or above per week through travel related physical activity, compared to 11–15% of non-regular cyclists. Even after full model adjustment men had more than twice the odds (OR 2.58 (95%CI:2.29–2.92)) of cycling compared to women. Men are more likely to cycle than women in NZ and cyclists get more physical activity. Nonetheless, analysis across all travel (irrespective of regularity of cycling status) suggests that women use more diverse travel modes and generate lower greenhouse gas emissions than men. Better consideration of the social processes shaping travel is needed to create policy, institutions, programmes and infrastructure that achieve the long term goals of the transport system, such as increasing cycling and reducing greenhouse gas emissions.

<https://www.sciencedirect.com/science/article/pii/S221414052030075X?dgcid=author> (until July 18, then contact caroline.shaw@otago.ac.nz)

Development of key policy recommendations for active transport in New Zealand: A multi-sector and multidisciplinary endeavour

Mandic, S., Jackson, A., Lieswyn, J., Mindell, J. S., Bengoechea, E. G., Spence, J. C., ... & Hinckson, E. (2020). *Journal of Transport & Health*, 18, 100859.

Keywords: Accessibility, Active modes, Environment; Safety;

Despite national-level initiatives to encourage active transport (AT) in New Zealand since 2005, rates of AT have continued to decline in most parts of the country, with negative impacts on health and the environment. This article describes the development of key policy recommendations for increasing AT in New Zealand. The goal was to establish a cohesive set of priority recommendations to inform AT decision-making in central and local government, district health boards, public health units and regional sports trusts in New Zealand. Project description: The development of policy recommendations was a planned outcome of multi-sectoral discussions held at The Active Living and Environment Symposium (TALES; Dunedin, New Zealand; February 2019). A ten-member working group consisting of TALES symposium delegates working in academia, industry and non-governmental organisations led the development of the recommendations. Symposium delegates contributed their expertise to draft recommendations and reports prior to, during and after the symposium. Importance and feasibility of each recommended action were independently evaluated by working group members. The final set of 13 policy recommendations (and 39 associated actions) included: making a national-level commitment to change; establishing a nationally coordinated and funded programme of education and promotion of AT; making a commitment to design cities for people, not cars; and developing a regulatory system that encourages AT. The report aligns with the current New Zealand government's increased focus on wellbeing, walking, cycling, public transport and the Vision Zero approach. A final report was officially launched in April 2019 with presentations to stakeholders April-May 2019. Conclusions: This cross-sector effort resulted in a report with a set of recommendations designed to stimulate the development of a new AT strategy for New Zealand; prompt setting of targets and monitoring progress/outcomes; and inform New Zealand's response to the World Health Organization's Global Action Plan on Physical Activity 2018–2030.

<https://www.sciencedirect.com/science/article/pii/S2214140520300633#>

Differences in Parental Perceptions of Walking and Cycling to High School According to Distance

Mandic, S., Hopkins, D., Bengoechea, E. G., Flaherty, C., Coppell, K., Moore, A., ... & Spence, J. C. (2020). *Transportation research part F: traffic psychology and behaviour*, 71, 238-249.

Keywords: Active modes, Surveys

Parental perceptions towards different modes of transport correlate with adolescents' mode choice for school trips. Whether parental attitudes differ for walking versus cycling and/or home-to-school distance is unknown. We compared parental perceptions of walking versus cycling to school in adolescents in Dunedin, New Zealand and examined whether mode-specific barriers differ by distance to school. As distance to school increased, parents' social support decreased whereas personal, environmental and safety-related barriers increased for both modes, with less consistent findings for cycling. Overall, 68.2% of parents expected to participate in adolescents' walking/cycling to school decision-making.

Parents favoured walking compared to cycling to school with parental attitudes for both modes changing with increasing distance to school. The findings illustrate the importance of addressing parental concerns, considering the specificity of walking and cycling and taking into account distance to school in active transport to school initiatives.

<https://doi.org/10.1016/j.trf.2020.04.013>

The early days of shared micromobility: A social practices approach

Fitt, H., & Curl, A. The early days of shared micromobility: A social practices approach. Journal of Transport Geography, 86, 102779. (June 2020)

Keywords: Environment

Urban mobility may be entering a period of substantive changes as new transport technologies (facilitated by developments in electrification, automation, and web 2.0 technologies for distributed, real-time transactions) provide new possibilities for movement. The recent arrival of shared electric scooters in some cities has been the topic of much conversation, particularly in relation to appropriate spaces for e-scooter use, and the safety of e-scooter users and pedestrians. This paper, however, takes a wider look at the early days of shared micromobility in New Zealand cities. Mobility is intricately connected to the wider social and cultural configurations of daily life, including its power relations, equalities and inequalities, and the spatial relations between people, places and opportunities. This paper draws on an online survey completed by residents of four New Zealand cities in which shared electric scooters became available in late 2018 or early 2019. Using a social practices approach, it explores early changes in the materials, competencies, and meanings associated with urban mobility as a response to the electric scooter trial. It discusses the disruptive potential of these changes, both for urban transport and for wider social relations.

<https://www.sciencedirect.com/science/article/abs/pii/S096669232030106X?dgcid=coauthor>

The New Zealand public's readiness for connected- and autonomous-vehicles (including driverless), car and ridesharing schemes and the social impacts of these

Starkey, N. J., & Charlton, S. G, University of Waikato Waka Kotahi Research Report 663 (May 2020)

Keywords: Environment

This research was commissioned to provide Waka Kotahi and the Ministry of Transport with information about the New Zealand public's readiness to adopt four key mobility changes: autonomous vehicles, connected vehicle technology, carsharing, and ridesharing schemes. The research found that New Zealanders have a good knowledge of CAVs and app-based ridesharing, but few have heard about ridesharing and car sharing schemes. There are also widespread safety concerns alongside issues of availability, cost and convenience. However, comparisons with international data suggest that at the time of writing this report the New Zealand public was more aware and ready to use CAVs than some overseas jurisdictions.

<https://www.nzta.govt.nz/resources/research/reports/663>

Travel demand management: strategies and outcomes

Thomas, F., Carran-Fletcher, A., Joseph, C., & Philbin, S. (2020). *Waka Kotahi Research Report 661 (April 2020)*

Keywords: Travel & mobility

Travel demand management (TDM) is being implemented in numerous different ways throughout the world, to address congestions issues and encourage modal shift. This research outlines some of the many TDM strategies being used internationally to provide insights of potential value for the New Zealand context. This information is presented through six city case studies and 10 focus areas. The cities (Amsterdam, London, Singapore, Sydney, Seattle and Vancouver) were chosen to provide variety in approach. The focus areas analyse specific approaches to TDM through investigations of initiatives. The research identified seven critical insights: clearly defined and communicated TDM goals are important; the term TDM is used inconsistently; integration and prioritisation of TDM principles in wider policy maximises effectiveness; reliable alternative transport infrastructure and services are needed for modal shift; there are no TDM 'silver bullets'; major events or construction projects create opportunities to trial TDM strategies; persuasive technologies have benefits and challenges; and TDM policies need to account for emerging mobility trends and services. Rapid technological changes are providing opportunities and complexities for TDM strategies and areas of future study include issues of equity and accessibility, and the potential of future mobility technologies and choices.

<https://www.nzta.govt.nz/resources/research/reports/661>

Unlocking the Potential of Tactical Urbanism for Active Transport Promotion in Auckland

Declan Weir, *University of Auckland (2019)*

Keywords: Accessibility, Active modes

If we want more sustainable, healthy, friendly and fair cities then active transport is crucial. But it only thrives in urban areas with planned streets and infrastructure that make travel safe, comfortable and pleasant for users. In the past, Auckland's transport planning has focused on car traffic flows over the needs of active transport. This means the city's street network offers little safety, comfort or appeal for people who are not in cars. And so, Auckland has low rates of walking and cycling. However, the city now has a strong mandate for change. The climate crisis is creating a strategic will to promote walking and cycling. But the conventional tools and approaches that Auckland uses to plan have failed to create quick change. But there is a solution. Both overseas and in Auckland quick, cheap and light ideas for creating 'people-centric' streets are growing in popularity. These ideas are known as 'tactical urbanism' interventions. Tactical urbanism is low-cost, temporary changes to cities that change the way people move around and engage with public space. People can implement them quickly using low-cost materials while councils plan bigger, more complicated infrastructure. They can overcome the intransigence of conventional planning - delivering immediate improvements to walking and cycling networks. Some examples include painted crossings, street-surface art, kerb extensions and planter-box protected cycleways. Weir's research asks how we can support tactical urbanism to improve walking and cycling in Auckland. He contrasts the city with Burlington, Vermont which has used tactical urbanism successfully. There, the council found that people did not want to walk or bike because of poor infrastructure and safety concerns. So, it created an action plan for quick-build improvements that used low-cost materials.

<https://www.walkingaccess.govt.nz/assets/Publication/Files/DWeir-WAC-Dissertation.pdf>



Transport supports economic activity by connecting businesses with their workers, customers, suppliers, and other businesses. This enables each community and region of New Zealand to take advantage of their unique strengths and resources.

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Comprehensive data provision is a step change for transport sector results and evidence

Road Efficiency Group, Waka Kotahi NZ Transport Agency (June 2020)

Keywords: Economics, Data and statistics

Data is vital to underpin the New Zealand transport sector's approach to consistent levels of service, asset management and investment decision making. The REG partnership (Road Efficiency Group) supports the sector to improve the quality of transport-related data for effective evidence-based decision making and help to lift investor confidence. New Road Controlling Authority Reports presenting a large volume of results and evidence are available as of 23 June 2020. The reports present data and evidence from each territorial authority, Waka Kotahi NZ Transport Agency data, as well as open source demographic and economic data. Individual reports of the 67 territorial authorities are available.

RCA Reports will help decision-makers to understand transport value using metrics, ratings and scores on service performance, outcomes and a range of targets. The performance results and evidence are presented in a single, easy-to-understand resource to support transport teams across the sector to have informed conversations with decision-makers and their communities.

<https://www.nzta.govt.nz/roads-and-rail/road-efficiency-group>

Stable inland transport infrastructure investment share of GDP in OECD

International Transport Forum (ITF) (July 2020)

Keywords: Infrastructure, International,

This paper covers OECD investments in inland transport infrastructure for 2018. The paper covers the latest trends and results for a range of countries, including New Zealand. The OECD gross fixed capital formation (investment) in inland transport infrastructure expressed as a percentage of the Gross Domestic Product (GDP) remained stable at 0.7% in 2018. The aggregate level has been constant since 2014, after declining from a peak of 0.9% in 2009.

<https://www.itf-oecd.org/sites/default/files/docs/stable-inland-transport-infrastructure-investment-share-gdp-oecd.pdf>



The transport system can benefit or harm people's health, depending on how it is designed, developed, and used. Minimising and managing the risks from natural and human-made hazards, anticipating and adapting to emerging threats, and recovering effectively from disruptive events.

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Waka Kotahi NZ Transport Agency National Resilience Programme Business Case

Waka Kotahi NZ Transport Agency (June 2020)

Keywords: Resilience

The Waka Kotahi NZ Transport Agency National Resilience Programme Business Case provides a national evidence base of resilience risks to land transport networks. Based from a national importance and impact perspective, this evidence base is the first time Waka Kotahi can confidently express a nationally consistent, objective and representative view of resilience risks. The evidence base identifies and rates nationally important risks from natural hazards (including climate change-related) in the New Zealand land transport system and addresses a range of system-wide resilience process issues. The Programme Business Case includes the risk prioritisation methodology and decision-making framework.

Prioritised geographic risks are those that have both a high likelihood of occurring and will result in significant consequence if they do occur. The analysis of geographic risks considers current and future hazards, the vulnerability of transport systems to these risks and the criticality of the system. Key data sets used included existing natural hazards data, network asset information and the One Network Road Classification (ONRC) system. The risks implied by the datasets were discussed and validated with Waka Kotahi transport system managers in each region. Ongoing work with the Programme Business Case's evidence base will ensure it can be kept up-to-date over the long-term. Work to present the current risk and future hazard risks in map form is underway.

www.nzta.govt.nz/national-resilience-programme-business-case



People and places will only be able to prosper long-term if the living systems that our society, economy, and wellbeing depend on are sustained in a healthy condition. Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality.

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Decarbonising Argentina's Transport System - Charting the Way Forward

International Transport Forum (ITF) (May 2020)

Keywords: Environment

This paper reviews opportunities for mitigating greenhouse gas emissions from Argentina's transport sector. It also identifies the main challenges for that objective, specifically in freight transport. Actions taken at different levels of government are assessed and the impact of policies focused on other priorities - such as lowering logistic costs - is discussed. The paper also highlights what data on transport emissions are available for Argentina and which tools government agencies use for examining them.

https://www.itf-oecd.org/sites/default/files/docs/decarbonising-argentina-transport-system_1.pdf

Decarbonising Australian and New Zealand road transport sectors

Austrroads (June 2020)

Keywords: Environment

Austrroads has published an issues paper that analyses the contribution of the road transport sector to generating greenhouse gas emissions in Australia and New Zealand and highlights the role that road transport network operations needs to play in supporting the state and national emissions reduction goals. The paper found that, left unabated, the transportation sector will continue to drive emissions growth in Australia and New Zealand and that business as usual is inconsistent with the ambition for net zero emissions by 2050 across Australia and New Zealand jurisdictions.

<https://austrroadsroadwatch.cmail20.com/t/i-l-xdhdua-yhlllhiyn-j/>

Electric vehicle uptake in Dunedin 2019

Stephenson, J., & Cook, F. (2020)

Keywords: Environment, Fleet, Vehicle technologies & standards

A study using the Ministry of Transport's fleet vehicle statistics found that Dunedin had the highest penetration of electric vehicles (EVs) of New Zealand's main cities at the end of 2018 (Dortans and Stephenson 2019). An update of their report is presented here with figures and insights from 2019 data. By the end of 2019, Dunedin still had the highest penetration of pure electric vehicles per 1000 residents (5.16), well ahead of Wellington (4.39). When considering both pure electric vehicles (e.g. Nissan Leaf, Tesla Model S) and plug-in hybrid electric vehicles (e.g. Mitsubishi Outlander, Toyota Prius), Dunedin is slightly ahead of Wellington (6.07 and 6.01 per 1000 residents respectively), similar to in 2018. Additionally, Dunedin continues to have the highest proportion (5.38 per 1000 residents) of electric vehicles registered for personal use, well ahead of Wellington (4.39) and Christchurch (4.19). Personal EV registrations in Dunedin are mostly pure electric vehicles with 4.60 registrations per 1000 residents compared to other cities at 3.6 or less. However, personal registrations of plug-in hybrids have increased markedly in 2019, at a rate nearly 40% greater than its closest rival, Wellington.

<http://hdl.handle.net/10523/10043>



New Zealand is a geologically active country, and we often experience wild or extreme weather. We therefore face ongoing natural hazard events (e.g. earthquakes and cyclones) that can cause serious damage to infrastructure and communities. Our transport system needs to anticipate both natural and human-made risks, and be prepared to recover from disruptive events

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A Conceptual Framework for Modelling Safe Walking and Cycling Routes to High Schools

Rahman, M. L., Moore, A., Smith, M., Lieswyn, J., & Mandic, S. (2020). *International journal of environmental research and public health*, 17(9), 3318.

Keywords: Active modes, Safety, Modelling and forecasting

Active transport to or from school presents an opportunity for adolescents to engage in daily physical activity. Multiple factors influence whether adolescents actively travel to/from school. Creating safe walking and cycling routes to school is a promising strategy to increase rates of active transport. This article presents a comprehensive conceptual framework for modelling safe walking and cycling routes to high schools. The framework has been developed based on several existing relevant frameworks including (a) ecological models, (b) the “Five Es” (engineering, education, enforcement, encouragement, and evaluation) framework of transport planning, and (c) a travel mode choice framework for school travel. The framework identifies built environment features (land use mix, pedestrian/cycling infrastructure, neighbourhood aesthetics, and accessibility to local facilities) and traffic safety factors (traffic volume and speed, safe road crossings, and quality of path surface) to be considered when modelling safe walking/cycling routes to high schools. Future research should test this framework using real-world data in different geographical settings and with a combination of tools for the assessment of both macro-scale and micro-scale built environment features. To be effective, the modelling and creation of safe routes to high schools should be complemented by other interventions, including education, enforcement, and encouragement in order to minimise safety concerns and promote active transport.

<https://www.mdpi.com/1660-4601/17/9/3318>

Best practice model for developing legislation

Morgan, G. D., & Littbarski, E. C. (2020) *Waka Kotahi Research Report 662*

Keywords: Modelling and forecasting, Safety

The aim of this research was to develop a model to guide the development of land transport regulation in the context of New Zealand's public safety regulatory environment. The research found legislation tends to reflect a particular moment in time. Regulatory failures often share common factors, from which we can learn. New Zealand's regulators tend to work within constraints that impede their ability to develop flexible regulation for rapidly changing conditions. The report proposes a systems model for regulatory design.

<https://www.nzta.govt.nz/resources/research/reports/662>

Bicycle Helmets 2020 – United Kingdom

Road Safety Trust, UK and Folksam, Sweden (June 2020)

Keywords: Safety

A range of new safety tests have been undertaken on popular UK cycle helmets, in a bid to inform purchasing decisions and ultimately improve rider safety. The Road Safety Trust funded Folksam, a Swedish insurance company, to expand their annual tests to include helmets available to UK consumers. The research covered 27 cycling helmets, 23 of which are available on the UK market. Five physical tests were conducted on the helmets available in the UK, including two shock absorption tests with straight perpendicular impact and three oblique impact tests. The tests were performed by Research Institutes of Sweden (RISE), which is accredited for testing and certification in accordance with the European standard. Computer simulations were subsequently carried out to evaluate the risk for concussion. Eight helmets were given the 'recommended' label, including the following four that are readily available on the UK market: Bell Super Air R MIPS, Bontrager Specter WaveCel, Scott Vivo Plus MIPS and Specialized S-Works Prevail II with ANGi MIPS.

<https://static1.squarespace.com/static/5d0a03b295f37b00018da721/t/5ed69dd223ccb508fbc5c34f/1591123417043/Bicycle+Helmets+2020+Report+FINAL+MAY+2020.pdf>

Examining women's perception of safety during waiting times at public transport terminals

Chowdhury, S., & van Wee, B. (2020). *Transport Policy*.

Keywords: Public transport, Safety

This study focuses on one of the aspects and that is to provide gender-based evidence of women's perception of waiting times and how it is related to their sense of personal safety. Unless female riders' needs are addressed, they will continue to be limited in their use of PT and be unable to receive the full benefits provided by an integrated system. This study focuses on the most vulnerable point in a PT journey, the waiting time at a station

<https://www.sciencedirect.com/science/article/pii/S0967070X19307000?dgcid=author>

Police motorcycle crash casualty reports and their linkage with hospital trauma admissions in the Midland Region of New Zealand, 2012-2016

Smith, A., Garvitch, J., & Christey, G. (2020). *Journal of road safety*, 31(2), 13-22.

Keywords: Safety

Police records, held in the Crash Analysis System (CAS) by the New Zealand Transport Agency (NZTA), and hospital admission data held in the Midland Trauma System (MTS) trauma registry, were linked using probabilistic methods. A total of 1,331 casualties resulting from motorcycle crashes on roads in the Midland Region during 2012-2016 were recorded by police. During the same period, and occurring within the same geographical area, a total of 689 on-road motorcycle related crash casualties were admitted to hospital as trauma patients. Linkage of these two datasets revealed substantial under reporting to police of motorcycle crash casualties resulting in hospitalisation. Approximately 56% (386) of hospital trauma admission records could be linked with police CAS records with an additional 303 (44%) patient admission records which could not be linked to any police records. Linkage rates were significantly associated with crash severity as recorded by police, patient injury severity recorded in the trauma registry, patient age, rurality of crash location, and self-presentation to hospital. In particular, younger motorcyclists aged under 45 years were significantly more likely to self-present to hospital with the odds of linkage for self-presenters seventeen times lower than those who did not self-present. The merging of these two datasets has highlighted several sources of bias underlying reporting of motorcycle crashes to police. An understanding of these biases may help to inform policymakers when planning wider preventive strategies designed to reduce the burden of motorcycle crashes in New Zealand.

<https://acrs.org.au/files/papers/arsc/2020/Smith%20et%20al%20-%20Police%20motorcycle%20crash%20casualty%20reports%20and%20their%20linkage%20with%20hospital%20trauma%20admissions%20in%20the%20Midland%20Region%20of%20New%20Zealand.pdf>

Risks of driving when affected by cannabis, MDMA (ecstasy) and methamphetamine and the deterrence of such behaviour: a literature review

WJ Frith, *WSP Research and Innovation* (2020) *Waka Kotahi Research Report* 664

Keywords: Human behaviour, Safety

This literature review research report on the risks of driving under the influence of drugs and on enforcement of drug driving laws was carried out to inform policy development, including cost-benefit analysis of potential changes to roadside enforcement approaches. The report confirms that cannabis and other drugs lead to more dangerous driving, particularly in combination with alcohol. It shows however, that there is no clear relationship between the level of drugs consumed and the degree of risky driving. Also, although the principles on which deterrence efforts should be based are clear, the relative deterrent effects of various types of enforcement on drug use among drivers have not been clearly established.

<https://www.nzta.govt.nz/resources/research/reports/664>

Roads policing and its contribution to road safety

Parliamentary Advisory Council for Transport Safety (PACTS), United Kingdom (June 2020)

Keywords: Safety

This report links the failure to reduce road deaths over the past decade to the decline in the number of roads policing officers. The report criticises successive years of cutbacks in roads policing – despite ‘clear evidence’ over its effectiveness and public desire to see more police on the roads. PACTS calls on the Government to be ‘guided by the science’ and to make roads policing a national priority by expanding the number of specialist officers. Published ahead of a cross-Whitehall review of roads policing, the report points out that police numbers were cut by 22% in 2010-14 and a further 18% in 2015-19.

Meanwhile, during this time road casualty figures have flatlined. The report highlights international research confirming the effectiveness of roads policing in increasing compliance with traffic laws and reducing road casualties – cutting some collision types by around a quarter. A detailed analysis by PACTS of the ‘fatal four’ offences since 2010 shows that where enforcement has been increased, compliance has improved and casualties have dropped – but where cutbacks have affected enforcement, there has been little or no improvement. The report also highlights the importance of roads policing in combatting wider criminality.

<http://www.pacts.org.uk/wp-content/uploads/sites/2/Roads-Policing-Report-Final-merged.pdf>

EU figures in Transport 2019

European Union (EU), (2019)

Keywords: Data and statistics

Transport represents a crucial sector of the economy. This publication, covering data to 2017 (some 2018 data is provided), provides an overview of the most recent and most pertinent annual transport-related statistics in Europe. It covers the European Union and its Member States and, to the extent possible, the current EU candidate countries and the European Free Trade Association countries.

<https://op.europa.eu/en/publication-detail/-/publication/f0f3e1b7-ee2b-11e9-a32c-01aa75ed71a1/language-en>

Key Transport Statistics 2020 (2019 Data)

International Transport Forum (ITF) (May 2020)

Keywords: Data and statistics, International

Based on the International Transport Forum's quarterly transport statistics database this leaflet is published each year in May.

It provides the reader with preliminary 2019 data for more than a dozen selected indicators on three inland transport modes, for ITF member countries. It also presents graphs and a short analysis of the transport activity in the global economic context highlighting main changes over the previous year.

<https://www.itf-oecd.org/sites/default/files/docs/key-transport-statistics-2020.pdf>

Licensed cars by propulsion or fuel type: Great Britain and United Kingdom

Department of Transport, United Kingdom (May 2020)

Keywords: Data and statistics, Fleet

The number of diesel cars on Britain's roads has fallen for the first time in at least 25 years. Government statistics show there were 12.29 million diesels on the roads in 2019 – compared with 12.4 million a year earlier. This is the first decline since records began in 1994 – when there were just 1.6 million diesels licensed. Meanwhile there was a rise in the number of petrol cars - up from 18.5 million in 2018 to 18.8 million in 2019. There were also rises in the number of pure battery-electric cars (90,000), plug-in hybrid cars (145,000) and mild hybrid cars (514,000).

<https://www.gov.uk/government/statistical-data-sets/veh02-licensed-cars>

HubKnowledge

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Update of events

Connecting the Dots to Transit-Oriented Development – Lessons for NZ from International Best Practice

Wednesday 29 July 2020, Ministry of Transport offices, 3 Queens Wharf, Wellington

The concept of transit oriented development (TOD) offers incredible promise: if you can tightly integrate transport and land use, focusing on density of development, a diversity of land uses, and high quality design of the public realm, you will improve patronage of public transport and generate huge place benefits for the community. While the theory is sound, realising it in practice is complex, requiring multi-party alignment, responsiveness to market factors, and a long-term view. Considering both New Zealand and international examples, Stantec's Tom Young and Darren Davis will explore the key process and design characteristics of successful TOD projects, and the comparative shortcomings and unintended consequences of TOD projects that fail to connect the dots.

Tickets sold out

IPSOS: behaviour change research

Tuesday 28 July 2020, Ministry of Transport offices, 3 Queens Wharf, Wellington

Detail to follow

Green Freight Project

Thursday 6 August 2020, Ministry of Transport offices, 3 Queens Wharf, Wellington

Detail to follow

Travel Demand Management: International Insights

TBC date – likely to be August sometime, *Ministry of Transport offices, 3 Queens Wharf, Wellington*

Travel Demand Management (TDM) is used in different capacities internationally, as a set of tools to help jurisdictions shape choices and achieve transport goals. In practice, TDM policies and practice vary widely, as do their outcomes. This is a research report completed for NZTA in 2019. The purpose of this research was to gain insight into some of the many practices being implemented under the umbrella of "TDM", and detail their success, or otherwise. The TDM practices of six international cities (Amsterdam, London, Singapore, Sydney, Seattle and Vancouver), chosen to provide variety in approach, were reviewed to identify different approaches and emerging trends. Across the cities, both strong similarities and divergences in practice were observed. Additional Focus Areas were also investigated to provide more in-depth investigations of particular TDM policies and initiatives. This paper presents some of the critical insights from the research, including the inconsistent use of the term "TDM", the role of major events or disruption in providing opportunities for behaviour change, the complexities of emerging mobility trends and services, policy integration, TDM trade-offs, and the contingent relationship with infrastructure and services.

General websites

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Transport Knowledge Hub webpage: <http://www.transport.govt.nz/research/transport-knowledge-hub/>

Presentations from previous Hub events: <http://www.transport.govt.nz/research/transport-knowledge-hub/transport-knowledge-presentations/>

The Transport Evidence Base Strategy (TEBS): <https://www.transport.govt.nz/mot-resources/transport-evidence-base-strategy/>

The Transport Research Register:
<http://www.transport.govt.nz/assets/Uploads/Research/Documents/Transport-Research-Register.xls>

Events calendar

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To view a full calendar of upcoming events please go [here](#)

Webpage: <http://www.transport.govt.nz/research/transport-knowledge-hub/>

Email: knowledgehub@transport.govt.nz

Upcoming Conferences

Event	Registration & details
2WalkandCycle Dunedin, 15 – 18 September 2020	Registration: Not yet open, to be announced Webpage: https://www.2walkandcycle.org.nz/ Abstracts: closed on 8 May 2020
MUGS conference 2020 21 September – 2 nd October 2020 (online event only)	Registration: TBC Webpage: https://www.transportationgroup.nz/nzmugs/ Abstracts: due by 31 July – see here for information
Trafinz 2020 Cordis Hotel, Auckland, Auckland, 24 – 27 November 2020	Registration: Not yet open, to be announced Webpage: https://www.trafinzconference.co.nz/ Abstracts: Not yet open

Upcoming events

Webinars

[Transport Modelling for Project Managers](#)

9 July 2020

This webinar is designed to equip practitioners who may not have specific technical experience in transport modelling with clear and practical guidance to help make informed decisions when procuring modelling services or communicating the associated processes

[Tactical Urbanism – Streets for People](#)

21 July 2020

Join us in this upcoming webinar to hear from leading practitioners on the latest actions in tactical urbanism and how they influence the rethink of public space to build cities that are more inclusive, safe and prosperous for all. Presented by Mike Lydon (Principal at Street Plans and co-author of the Tactical Urbanists' Guide), Claire Pascoe (Lead Advisor Urban Mobility, Waka Kotahi New Zealand Transport Agency) and Sara Stace (Associate Director Walking and Cycling Strategy, Transport for New South Wales).

[Trust in transport: improving the traveller experience with real-time planning and incentives](#)

22 July 2020

In this webinar, Moovit's Frank Kopas will discuss how agencies can utilize apps as rider engagement tools and gain insights to improve operational plans. Cubic's Robert Sprogis will provide an overview of how municipalities, transport agencies and operators, and large businesses can leverage rewards and incentives to manage travel behaviour...

[Vehicles and Technology - Future State 2030](#)

6 August 2020

This webinar outlines the results of forecasts undertaken to investigate the infiltration of certain features and technologies in new vehicles and the vehicle fleet by 2030. It also introduces the methodology and evidence base that underpins these forecasts.

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