Ministry of Transport
TE MANATŪ WAKA

TRANSPORT INTELLIGENCE DIGEST

Issue 10

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Introduction

Hot on the heels of a hugely successful Transport Knowledge Conference – here is the 10th issue of the Transport Intelligence Digest.

We have a bumper edition this time with a large amount of overseas content – mostly coming from the ITF with a particular focus on the environment space. Please be aware that some links may require a copy/paste to your browser and are quite large documents to download.

We welcome contributions from anyone who reads this Digest. We ask you to indicate which of the knowledge themes your contribution would fall under. The contribution should be a recent release and freely available online. 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

Stephen

Transport Knowledge Hub

20 mph speed limits on roads

University College London, England (November 2018)
Contributed by: Sandy Fong, Ministry of Transport

Keywords: Data & statistics; Evaluation; Safety;

University College London, were commissioned by the Department for Transport to evaluate the effectiveness of 20mph (signed only) speed limits, based on twelve case study schemes in England and various comparator areas with a 30mph limit in place. The report noted that there is not enough evidence to conclude that there has been a significant change in collisions and casualties following the introduction of 20mph limits in residential areas.

https://www.gov.uk/government/publications/20-mph-speed-limits-on-roads

Air quality in New Zealand: Our air 2018

Ministry for the Environment / Statistics NZ (October 2018)
Contributed by: Drew Bingham, Ministry for the Environment

Keywords: Data & statistics; Environment

On 18 October 2018, Ministry for the Environment and Stats NZ jointly released Our Air 2018. The report provides important insights into the state of New Zealand's air, the pressures it is under, and the impacts that poor air quality can have. Various pollutants, including PM10, PM2.5, nitrogen dioxide, and sulphur dioxide from key emissions sources such as home heating, on-road vehicles, and industry are reported. It includes information on quality of life issues such as light pollution, noise pollution, and odours. The report also highlights important emerging issues such as emissions from ports and shipping, and ultrafine particles. It is supported by web pages for the different measures, for those interested in a more in-depth analysis, and the data service, where raw data used in the report can be downloaded.

https://www.mfe.govt.nz/air/state-of-our-air/environmental-reporting

Balancing Efficiency and Resilience in Multimodal Supply Chains

International Transport Forum (October 2018)
Contributed by: Tim Herbert, Ministry of Transport

Keywords: Resilience;

This report examines how efficiency and resilience can be balanced in the management of multimodal supply chains. It investigates the trade-off between supply chain resilience and efficiency, the approaches to sustainability in supply chain management, innovation and technological development, collaboration and alliances and risk mitigation. The report summarises findings from an ITF Roundtable held in April 2018.

https://www.itf-oecd.org/sites/default/files/docs/efficiency-resilience-multimodal-supply-chains_0.pdf

Cost-effectiveness of raising alcohol excise taxes to reduce the injury burden of road traffic crashes

University of Otago, Wellington (October 2018)
Contributed by: Anja Mizdrak, University of Otago, Wellington

Keywords: Data & statistics; Safety

This report is about the impact of raising alcohol taxes on road injuries. The authors found that increasing alcohol taxes could reduce road injuries, reduce costs to the health system, and reduce other costs (e.g. crime, vehicle damage).

Contact anja.mizdrak@otago.ac.nz for a copy of the report

Developing safe system road safety indicators for the UK

Parliamentary Advisory Council for Transport Safety, United Kingdom (October 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Data & statistics; Safety

This report urges the Government to adopt a set of road safety 'performance indicators', based on international good practice and tailored to UK needs. The Parliamentary Advisory Council for Transport Safety (PACTS) says the performance indicators would cover roads, vehicles, users and emergency services in order to focus scarce resources on the most effective actions. In the report, PACTS proposes a framework which recognises that the safety of the entire road system needs to be considered to reduce deaths and serious injuries – not simply driver behaviour. PACTS says adopting such a system would give practitioners the breadth of information they need to assess the performance of their road network.

http://www.pacts.org.uk/wp-content/uploads/sites/2/PactsReport_-Developing-Safe-System-Road-Safety-Indicators-for-the-UK_Sept18_WEB.pdf

Fuel prices and road accident outcomes in New Zealand

Australian National University and Macquarie University (December 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Evaluation; Safety

Recent years have seen a spike in New Zealand's road death toll, a phenomenon also seen in some other countries such as Australia. This paper analyses the short-run impact of fuel prices on road accident outcomes in New Zealand, including the numbers of road deaths, accidents, and injuries. Using data for the period 1989–2017, we find a negative relationship between fuel prices and key road-risk outcome variables, including the number of road deaths. There are similar results for models in levels and first differences. The number of serious injuries to cyclists tends to increase when fuel prices are high, however. Lower fuel prices appear to have contributed to New Zealand's recent uptick in road accidents, pushing against the long-term trend of improved road safety.

https://cama.crawford.anu.edu.au/sites/default/files/publication/cama_crawford_anu_edu_au/2018-11/57_2018_best_burke.pdf

Government Support Measures for Domestic Air Connectivity

International Transport Forum (December 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Aviation; Evaluation

This report reviews government support measures for domestic air connectivity in Australia, Canada, Japan, Norway, Sweden and the United States. It analyses different approaches to providing regional connectivity in terms of their effectiveness in reaching government policy goals as well as value-for-money considerations. The study was commissioned by the United Kingdom's Department for Transport, as part of the Department's evidence base gathering to support the upcoming UK Aviation Strategy in 2019.

https://www.itf-oecd.org/sites/default/files/docs/domestic-air-connectivity_0.pdf

How to make urban mobility clean and green

International Transport Forum (December 2018)
Contributed by: Bonita Gestro, Ministry of Transport

Keywords: Environment; Strategy

The most effective way to decarbonise urban passenger transport? The options include: shared vehicles, vehicles powered by clean electricity, and passenger transport integrated with existing public transport.

CO2 emissions from urban mobility will increase 26% by 2050. Population growth, economic development and continued urbanisation will lead to strongly increasing demand for urban transport. This growth will more than cancel out any CO2 emissions reductions made possible by new low- and zero-carbon technologies. Projections see total motorised mobility in cities almost double (+94%) between 2015 and 2050. This growth will cause a 26% increase in CO2 emissions from urban mobility by 2050.

https://www.itf-oecd.org/urban-mobility-clean-green

How transport CO2 reduction pledges fall short

International Transport Forum (November 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Environment; Strategy

Climate change cannot be stopped without decarbonising transport. Yet current transport CO2 reduction commitments are not enough to meet the goals of the Paris Agreement. The transport sector is responsible for 23% of energy-related CO2 emissions. The sector remains dependent on oil for 92% of its energy demand. Despite its importance for halting climate change, efforts to decarbonise transport have been limited and insufficient. Two important factors are holding back effective measures. First, the difficulty of setting policies that influence the behaviour of billions of individuals in effective ways. Second, the complexity of tracking emissions of countless moving vehicles fuelled by different energy sources makes it difficult to assess the impact of specific decarbonisation measures.

https://www.itf-oecd.org/sites/default/files/docs/cop24-ndcs.pdf

Is Low-Carbon Road Freight Possible?

International Transport Forum (December 2018)
Contributed by: Tim Herbert, Ministry of Transport

Keywords: Environment; Freight & trade

Road freight is a backbone of the economy, irreplaceable for moving goods; howeverut it burns 17 million barrels of oil per day and is growing. What levers can bring down road transport's CO2 emissions? Road freight is the fastest-growing CO2 emitter. Moving goods by road consumes about 50% of all diesel produced. Fully 80% of the global net increase in diesel use since 2000 come from road freight. And road freight activity is set to more than double from 2015 to 2050. This will offset any expected efficiency gains and lead to an increase in emissions by 2050, not a reduction. Trucks are in fact the fastest growing source of global oil demand. They account for 40% of the expected increase in oil demand to 2050 and 15% of the increase in global CO2 emissions. Trucks will even surpass passenger cars as the major oil consumers.

https://www.itf-oecd.org/sites/default/files/docs/cop24-road-freight.pdf

Modelling route choice of Dutch cyclists using smartphone data

Journal of Transport and Land Use, (October 2018)
Contributed by: Dr Glen Koorey, ViaStrada Ltd

Keywords: Active modes; Travel & mobility

This paper analyses the GPS traces recorded by cyclists in the framework of the Mobile Mobility Panel throughout the Netherlands. The objective of this paper is to analyse bicycle route choice via network attributes and trip length over a sequence of trips by approximately 280 bicycle users, who were asked to register their trips by means of a specific smartphone application. Approximately 3,500 bike trips were recorded throughout the Netherlands over a four-week period in 2014. The bike trips have been matched to a specific bicycle network built and updated by a Dutch cyclists' union. Route choice models were estimated, using both the binomial logit model and the mixed multinomial logit model with Path-size logit model formulation. The chosen alternatives were part of the choice set for the mixed multinomial logit model. Also, the shortest route was generated for each origin-destination pair.

The results show that trip lengths and trip distribution over time reveal a population sample much used to cycling, frequently and over long distances. Furthermore, when considering the composition of chosen routes in terms of link type, the usage of cycleway links is frequent. For repeated trips, the shortest route option tends to be chosen more; frequent cyclists, on systematic trips, tend to optimize their trip and prefer the shortest routes. This is even truer for males and for non-leisure trips. The estimated probabilities for both multinomial and binomial models show that the binomial model tends to overestimate the probabilities of choosing the shortest route. This result is stronger in non-leisure trips, where people tend to choose a more personalized route, instead of the shortest. This research contributes to the generation of a more efficient distribution of bicycle trips over the network. Future research can more specifically address the intrapersonal variation in route—destination choice given the availability of longitudinal data.

https://www.jtlu.org/index.php/jtlu/article/view/1143

On Course Towards Carbon-neutral Shipping?

International Transport Forum (November 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Environment; Maritime; Strategy

The first-ever CO2 emissions targets for international shipping were adopted by the International Maritime Organisation in April 2018. Which measures will make the strategy work? If no drastic action is taken, CO2 emissions from international shipping could increase between 50% and 250% by 2050. In order to reverse this trajectory, the 174 member states of the International Maritime Organisation (IMO) adopted an "Initial IMO Strategy on reduction of Greenhouse Gas emissions from ships" (or "Initial Strategy" for short) in April 2018. The Initial Strategy's declared aim is to phase out greenhouse gas (GHG) emissions from shipping "as soon as possible in this century". More specifically, the strategy also sets specific emission targets for the shipping sector.

https://www.itf-oecd.org/sites/default/files/docs/cop24-carbon-neutral-shipping.pdf

Reductions in carbon dioxide emissions from an intervention to promote cycling and walking: A case study from New Zealand

University of Otago, Wellington (December 2018)
Contributed by: Ralph Samuelson, Ministry of Transport

Keywords: Active modes; Environment;

This paper looked at two cities in New Zealand that had invested in improved cycling and walking infrastructure, Hastings and New Plymouth, and compared them with two cities that did not, Masterton and Whanganui. It concluded that the two cities that had invested had seen a small—about 1%--reduction in VKTs and greenhouse gas emissions compared to the two cities that had not invested. The paper claims be the first study to have shown, using independent and objectively measured data, that the establishment of cycling and walking infrastructure is associated with reduced transport carbon dioxide emissions within a short space of time, even though the reductions found were modest.

https://authors.elsevier.com/c/1Xxux_UzsnGJYJ

Spatial characteristics of bicycle–motor vehicle crashes in Christchurch, New Zealand: A case-control approach

Journal of Transport and Land Use, (October 2018)
Contributed by: Dr Glen Koorey, ViaStrada Ltd

Keywords: Active modes; Safety

This paper aims to examine the risk of bicycle-motor vehicle crashes occurring on a network-wide level in Christchurch, New Zealand, based on the spatial characteristics present in the road environment. To achieve this, logistic regression was undertaken with a binary dependent variable (crash/non-crash) using a case-control strategy, with case sites being locations of reported crashes, while control sites were sampled from the road network in proportion to where people cycle. Due to the uncertainty of cycling flows in Christchurch, four logistic regression models were undertaken based on different route selection preferences.

The results identified that the odds of a crash increased across all four models due to the presence of driveways or intersections, identifying that these characteristics are associated with an increase in crash risk. All of the models identified that the risk of a crash decreases with the presence of on-road cycle lanes, while crash risk due to the presence of specific planning zones or road classification varied across all of the models.

https://www.jtlu.org/index.php/jtlu/article/view/1147

The social costs of ride-hailing may be larger than previously thought

The Economist, USA (November 2018)
Contributed by: Ralph Samuelson, Ministry of Transport

Keywords: Accessibility; Economics; Safety;

Ride-hailing services such as Uber are in some ways an economist's ideal, using pricing to match supply and demand, and thereby producing benefits for both consumers and drivers. However, this article cited two studies indicating that there is also a downside. First, contrary to expectations, many of the ride-sharing rides displace trips that otherwise would have been made by active modes or public transport, resulting in a net increase in traffic, congestion, and fuel use. Second, the additional traffic that ride-sharing services produce also result in more traffic fatalities, more than 900 a year in the United States.

https://www.economist.com/finance-and-economics/2018/11/03/the-social-costs-of-ride-hailing-may-be-larger-than-previously-thought

The Social Impacts of Road Pricing

International Transport Forum (October 2018)
Contributed by: Joanne Leung, Ministry of Transport

Keywords: Congestion; Economics; Revenue & finance

This report assesses how road pricing impacts are distributed amongst citizens. It specifically examines how the reallocation of road space can improve the wellbeing of the community at large, looks at the relationship between road tolling and public transport pricing, and explores how simulation models can help develop measures to minimise negative impacts of road pricing. It also reviews current road pricing schemes in Sweden and Singapore. The report summarises the findings of an ITF Roundtable held in Auckland, New Zealand, in December 2017 that brought together 18 experts from eight countries.

https://www.itf-oecd.org/sites/default/files/docs/social-impacts-road-pricing.pdf

Towards Road Freight Decarbonisation: Trends, Measures and Policies

International Transport Forum (December 2018)
Contributed by: Bonita Gestro, Ministry of Transport

Keywords: Environment; Freight & trade;

This report identifies proven measures that decrease road freight's CO2 emissions. Goods transport by road consumes around 50% of all diesel fuel and accounts for 80% of the global net increase in diesel use since 2000. Projections see road freight activity at least doubling to 2050, offsetting efficiency gains and increasing road freight CO2 emissions. The report highlights policy areas that need adjustment for effective decarbonisation of road freight and points to fields where more robust evidence through further research is needed. It collects insights held at a workshop organised by the International Transport Forum in June 2018 in Paris and features the results of a survey among experts.

https://www.itf-oecd.org/sites/default/files/docs/towards-road-freight-decarbonisation_0.pdf

Women's Safety and Security A Public Transport Priority

International Transport Forum (October 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Safety; Security

This compendium assembles voices from the transport sector on the critical issue of safety for women in public transport and transport more generally. Surveys show that most women who use public transport feel exposed to physical or verbal aggression, sexual harassment and other forms of violence or unwelcome behaviour, leading to personal stress and physical harm. As women rely on public transport for access to employment, education and other public services, making it hard for them to be mobile also reinforces inequality.

This compendium concludes with a summary of the 2018 ITF Summit session "Safe and Secure Transport for Women", as well as the conclusions of the conference Women Mobilize Women, organised by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, which was organised as a part of the Pre-Summit's debates.

The 2018 Summit programme featured a number of other sessions and stakeholder events dedicated to women in transport, including the Summit official side event "Safe and Inclusive Transport for Women and Girls", led by the Latin American Development Bank (CAF) and the World Bank, presentations and discussions on this topic at the Summit Open Stage Café, as well the Summit networking event "Women in Transport" organised by Bombardier Transportation.

https://www.itf-oecd.org/sites/default/files/docs/womens-safety-security_0.pdf

Australasian Pedestrian Selection Facility Tool

Austroads, Australia (November 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Data & statistics; Safety

Austroads has released an updated version of the Australasian Pedestrian Selection Facility Tool and supporting user guide. The 2.1 version of the tool include economic evaluation updates, design improvements and the addition of Safe and Appropriate Speeds (for New Zealand jurisdiction). Expected crash reduction factor values for platforms, zebra crossings on platforms and zebra crossings on platforms with kerb extensions have been updated to incorporate recent Australasian research into the safety of raised platforms.

https://austroads.com.au/network-operations/network-management/pedestrian-facility-selection-tool

Luxembourg to become first country to make all public transport free

The Guardian, United Kingdom (December 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Funding & expenditure; Public transport

While we wait for Auckland and Wellington to go public transport free, Luxembourg is set to become the first country in the world to make all its public transport free. Luxembourg has increasingly shown a progressive attitude to transport. This summer, the government brought in free transport for every child and young person under the age of 20. Secondary school students can use free shuttles between their institution and their home. Commuters need only pay €2 (£1.78) for up to two hours of travel, which in a country of just 999 square miles (2,590 square km) covers almost all journeys.

Now, from the start of 2020 all tickets will be abolished, saving on the collection of fares and the policing of ticket purchases.

https://www.theguardian.com/world/2018/dec/05/luxembourg-to-become-first-country-to-make-all-public-transport-free

Measuring low-stress connectivity in terms of bike-accessible jobs and potential bike-to-work trips: A case study evaluating alternative bike route alignments in northern Delaware

Journal of Transport and Land Use, (October 2018)
Contributed by: Dr Glen Koorey, ViaStrada Ltd

Keywords: Accessibility; Active modes;

When road segments with high traffic stress are excluded, the remaining network of low-stress roads and trails can be fragmented, lacking connections between many origin-destination pairs or requiring onerous detour. Low-stress connectivity is a measure of the degree to which origins (for this study, homes) and destinations (jobs) can be connected using only low-stress links and without excessive detour. Revision 2.0 to Level of Traffic Stress criteria is introduced and applied to the road and trail network of northern Delaware. A propensity model is proposed to reflect people's declining willingness to ride a bike with greater trip length and detour, accounting for the impact to health and other benefits of cycling. New connectivity measures are introduced that can be interpreted as the number of bike-accessible jobs and the potential number of bike-to-work trips, powerful measures for evaluating alternatives.

These connectivity measures are applied in a case study evaluating alternative alignments for a bike route between Wilmington and Newark, Delaware's two largest cities, separated by a distance of about 20 km through a largely suburban landscape. The case study explores the benefits of enhancing alternatives with branches that help connect to population and employment centres. We also find that the connectivity gain from constructing multiple alignments is greater than the sum of connectivity gains from individual alignments, indicating that complementarity between the alternatives, which are spaced roughly 5 km apart, overshadows any competition between them.

https://www.jtlu.org/index.php/jtlu/article/view/1159

Paths for Everyone

Sustrans, United Kingdom (November 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Active modes

This report is the first review of the National Cycling Network, along with a long-term plan to tackle safety and improve accessibility. The National Cycle Network was founded in 1995 with help from local communities, partners and a National Lottery grant. Every year more than 780 million journeys are made on the network which at 16,575-miles links towns, villages and cities across the country.

The 'Paths for Everyone' report shows that while more than half of UK population lives within a mile of the network, only 54% of its paths are safe for a 12-year-old to use unaccompanied by an adult.

https://www.sustrans.org.uk/sites/default/files/file_content_type/ncn_review_report_paths_for_everyone.pdf

Policy Priorities for Decarbonising Urban Passenger Transport

International Transport Forum (October 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Environment

This report identifies policy priorities, megatrends and pressing issues regarding the decarbonisation of urban passenger transport. It presents the results of an expert survey on important challenges in the area and summarises the findings of a workshop with 36 experts from 12 countries regarding strategies for the transition to carbon-neutral urban passenger transport. The policy priorities identified in the workshop will be used to inform the development of policy scenarios considered in the ITF's ongoing carbon emissions projection activities published in the biennial ITF Transport Outlook and to enhance the catalogue of effective mitigation measures as part of the DT initiative.

Consensus was reached on the necessity to operationalise all policy levers together to not only deliver on climate change goals, but also on the sustainable development goals for the urban passenger transport sector.

https://www.itf-oecd.org/sites/default/files/docs/policy-priorities-decarbonising-urban-passenger-transport_0.pdf

Regulatory Capacity Building

International Transport Forum (November 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Economics

This report reviews methods adopted in the United States and Canada for determining fairness and efficiency in rail markets and discusses their potential application in Mexico. It specifically examines how waybill and financial data are used in the economic regulation of railways and makes recommendations for establishing a data collection and analysis system suited to the Mexican railway system.

Mexico has transformed its loss-making national railway into profitable concessions that have invested in infrastructure and carry growing volumes of freight. Some of the provisions agreed in the concession titles regarding interconnection and competition on specific links have not, however, developed as expected. A new regulatory agency was established in 2016/17 to address this and establish the capacity for the government to intervene effectively where necessary. A top priority for the Agencia Reguladora del Transporte Ferroviario de México is to develop a data collection and analysis system to understand rail markets in relation to issues of potential abusive pricing and reasonable conditions of access.

https://www.itf-oecd.org/sites/default/files/docs/regulatory-capacity-building-rail-connectivity.pdf

Safer City Streets

International Transport Forum (November 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Data & statistics; Evaluation; Safety;

This document aims to support cities in setting road safety targets and to monitor progress in improving urban road safety. Pedestrians, cyclists and motorcyclists account for nearly 80% of urban traffic fatalities. Cities should thus intensify efforts to improve the safety of vulnerable road users. This document presents traffic safety indicators for different road user groups collected in 31 cities to facilitate the evaluation, monitoring and benchmarking of road safety outcomes. It places a particular attention on measuring the risk of fatality per unit distance travelled.

Auckland, included in this study, featured prominently in the analysis. Using 2011 to 2015 data, Auckland sat around mid-table in deaths per 100,000 residential population, and had the worst risk of fatality per unit distance travelled for motorcyclists, but was one of lowest for deaths per 10,000 vehicles registered and did well with vehicle occupant/cycle helmet wearing rates.

https://www.itf-oecd.org/sites/default/files/docs/safer-city-streets-global-benchmarking-urban-road-safety.pdf

Shaping the Future of Argentina's Container Ports

International Transport Forum (October 2018)
Contributed by: Tim Herbert, Ministry of Transport

Keywords: Economics; Freight & trade; Infrastructure

Argentina currently has an opportunity to redesign its containerised freight transport system. The three concessions for the terminals at the port of Buenos Aires (Puerto Nuevo) will expire in 2020, which raises a number of fundamental choices for the country. A Roundtable organised by the International Transport Forum examined options for the future development of Puerto Nuovo specifically and ports located in cities more generally. The experts find that Argentina should strategically assess the long-term location options for container ports. The expiration of the existing terminal concessions requires a policy response that could include expansion of container operations in Puerto Nuovo to meet growing demand in the short and possibly the medium term.

https://www.itf-oecd.org/sites/default/files/docs/accessibilty-planning-sustainable-mobility.pdf

The Impact of Alliances in Container Shipping

International Transport Forum (November 2018)
Contributed by: Tim Herbert, Ministry of Transport

Keywords: Economics; Freight & trade;

This report assesses the impact of alliances on the maritime transport chain and its main stakeholders. Alliances have become a dominant feature of container shipping, with around 95% of the major East-West container trades covered by carriers that form part of three global alliances. The report discusses the impacts on competition and asks whether alliances bring benefits, and for whom. Finally, it presents policy options for governments based on the findings.

https://www.itf-oecd.org/sites/default/files/docs/impact-alliances-container-shipping.pdf

Surface Access to Airports: The Case of Mexico City's New International Airport

International Transport Forum (October 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Accessibility; Infrastructure;

This report reviews policies and planning controls for surface access at a selection of comparable airports in cities of OECD countries. It offers input for the Mexican Federal Government's plans for infrastructure investments that will serve passengers, the airport workforce and the public by ensuring convenient, reliable airport journeys; supporting business travel for a productive Mexican economy; and by maintaining within acceptable bounds the airport's impact on road congestion and related air pollution.

The quality of surface access links, by road – including bus and bus rapid transport (BRT) systems – rail and metro will be critical to the success of the New International Airport of Mexico City. This applies to how successful the airport will be in attracting passengers and achieving acceptable environmental outcomes beyond the airport perimeter. The Federal Government is currently developing plans for investment in surface access to serve passengers and the people who will work at the airport. This report seeks to inform the decisions to be made through a review of policies and planning controls applied to surface access at a selection of comparable airports in other OECD cities. The work was undertaken in co-operation with Mexico's Ministry of Communications and Transport and the Airport Group of Mexico City.

https://www.itf-oecd.org/sites/default/files/docs/surface-access-airports.pdf

Vehicle registration and driver licensing comparison highlights harmonisation progress

Austroads, Australia (December 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Safety; Strategy

Austroads has published a comparison of driver licensing and vehicle registration practices by Australian states and territories and New Zealand which highlights the considerable progress made in harmonisation of registration and licensing regimes. The report was developed on behalf of all Australian and New Zealand registration and licensing agencies and includes: an outline of the road safety imperative in Australia and New Zealand; a description of the key practices associated with the vehicle and driver licence pathways; and a focus on the major areas of difference between in the jurisdictions.

https://austroads.com.au/publications/registration-and-licensing/ap-r593-18/media/AP-R593-18_Australia_and_New_Zealand_Vehicle_Registration_and_Driver_Licensing_Overview_2017-18.pdf

Acute Sleep Deprivation and Risk of Motor Vehicle Crash Involvement

AAA Foundation for Traffic Safety, USA (November 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Data & statistics; Safety

This drowsy driving study quantifies a driver's relative risk of being involved in a crash in relation to the number of hours that they slept in the past 24 hours. The results of this study indicate that drivers who usually sleep for less than 5 hours daily, drivers who have slept for less than 7 hours in the past 24 hours, and drivers who have slept for 1 or more hours less than their usual amount of sleep in the past 24 hours have significantly elevated crash rates.

http://aaafoundation.org/wp-content/uploads/2017/12/AcuteSleepDeprivationCrashRisk.pdf

Bicycling in changing urban regions

Journal of Transport and Land Use, (October 2018)
Contributed by: Dr Glen Koorey, ViaStrada Ltd

Keywords: Active modes;

As communities around the globe contemplate the future of their transport portfolio, bicycling's role has increasingly cropped up as a key discussion point. Up until a few years ago, bicycling's value was largely fuelled by a loyal advocacy base. Its potential was littered with unsupported claims and bicycling struggled to obtain legitimate status, even as, or precisely because of its status as a 'fringe mode.'

This context has recently changed. Concomitant with—or perhaps prompted by—a rise in (public and policy attention for) bicycling, there has been a rise in research specifically on bicycling. In just a few years, bicycling's stock has risen to be a mode that is commanding attention in cities of all sizes. Furthermore, its role and value are informed by a burgeoning evidence base, increasingly in the form of peer-reviewed work. This evidence base allows, among other things, a more reflective appreciation for bicycling's position in transport systems and for bicycling to be better understood in different geographical contexts.

https://www.jtlu.org/index.php/jtlu/article/view/1459

Investigating cyclist interaction behaviour through a controlled laboratory experiment

Journal of Transport and Land Use, (October 2018)
Contributed by: Dr Glen Koorey, ViaStrada Ltd

Keywords: Active modes; Human behaviour; Infrastructure

This paper describes the experimental design, the resulting microscopic bicycle trajectories, and some preliminary results regarding one of the most common interaction situations: the bidirectional interaction. The preliminary results reveal how and to what extent cyclists interact in bidirectional cycling. It found that cyclists perform a clearly-visible evading (collision avoidance) manoeuvre when they have face-to-face encounters. During these manoeuvres, changes in speed and displacements in the lateral direction are observed. Cyclists start to deviate from their original path when they are around 30m from each other, and they strongly prefer passing on the right-hand side. Moreover, the expectation of gender differences in cycling behaviour reported in the literature is confirmed: the results show that women generally cycle more slowly than men and deviate more from their intended paths in face-to-face encounters. More observations will be available in the next stage of data analysis. These findings can be used to formulate improved microscopic bicycle traffic models for infrastructure design and policy development.

https://www.jtlu.org/index.php/jtlu/article/view/1155

On the methodologies and transferability of bicycle research: A perspective from outside academia

Journal of Transport and Land Use, (October 2018)
Contributed by: Dr Glen Koorey, ViaStrada Ltd

Keywords: Active modes; Health

Driven by an increasing concern about urban liveability, climate change, and healthy life styles, amongst others, researchers are aiming to better understand why people bicycle and what could induce them to cycle more. Given the importance of local conditions and culture, there is not just one general answer to those questions. Furthermore, there is an ongoing debate on which methodological approach delivers the most meaningful results. This commentary outlines the current position of bicycle research on the question of why people bicycle and proposes ways of moving forward.

https://www.jtlu.org/index.php/jtlu/article/view/1458

Shared Mobility Simulations for Dublin

International Transport Forum (October 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Congestion; Environment

This report examines how new shared mobility services could change mobility in Ireland's Greater Dublin Area. Simulations of eleven different shared transport scenarios show how such services could affect congestion, CO2 emissions and the use of public space. They also examine how such solutions might impact service quality, the cost of mobility, citizens' access to opportunities and their use of public transport. The findings provide decision makers with evidence to properly weigh opportunities and challenges created by new forms of shared transport. The work is part of a series of studies on shared mobility in different urban and metropolitan contexts.

Today's mobility in the Greater Dublin Area could be delivered with only 2% of the current number of private vehicles. A transport system consisting only of Shared Mobility services and the existing rail and light-rail transit (LRT) could allow this reduction. The total distance driven by all vehicles, emissions and congestion would be reduced by 38%, 31%, and by 37% respectively. If only 20% of private car trips were replaced with shared modes, vehicle kilometres driven would fall 23% and emissions by 22%. The impact on congestion would be far less strong in this scenario, with only a 7% reduction.

https://www.itf-oecd.org/sites/default/files/docs/shared-mobility-simulations-dublin.pdf

Stated choice model of transport modes including solar bike

Journal of Transport and Land Use, (October 2018)
Contributed by: Dr Glen Koorey, ViaStrada Ltd

Keywords: Active modes; Travel & mobility

In the Netherlands, e-bike ownership and use has rapidly increased over the last decade. A new type of e-bike, the solar bike, has recently been developed. The solar bike is an electric bike with solar panels in the front wheel that charges through sunlight. The aim of this study is to gain more insight in the factors affecting people's choice between different transport modes, including car, public transport, regular bike, e-bike and solar bike. Based on a stated choice experiment among 308 respondents, a mixed logit error components model for transport mode choice was estimated. The results show that the solar bike is preferred for medium-length trips during daylight and in good weather. Land-use attributes such as good bike lanes, secured bike parking, congested roads and paid parking also have a positive effect on choosing a solar bike over a car. In addition, a latent class model was estimated to segment respondents according to their base preferences for transport modes. Three segments were identified: a segment with a preference for the solar bike, a segment of car lovers and a segment with a preference for public transport and a regular bike. Chi-square and ANOVA tests show that solar bike affinity is related to being female, older, Dutch, and having a positive attitude toward e-bike, solar bike, innovation and the environment.

https://www.jtlu.org/index.php/jtlu/article/view/1149

The emperor has no clothes in driverless car debate

The Age, Melbourne, Australia (November 2018)
Contributed by: Bridget Burdett, Stantec Ltd

Keywords: Accessibility; Public transport; Travel & mobility; Vehicle technologies & standards

This is a think-piece article written by Professor Graham Currie, who is currently the Chair of Public Transport at the Institute of Transport Studies, Monash University in Australia. He puts that the hype about autonomous vehicles solving the world's mobility problems, at the expense of public transport, is a “gigantic load of nonsense”. The article focuses on Melbourne, a city that has significant congestion and infrastructure problems, has just hit a population of 5 million people and has a growth rate double that of most other urban centres. He says that driverless public transport vehicles dominate land-based passenger travel across the world today and probably will continue to do so for the next decade.

https://www.theage.com.au/national/the-emperor-has-no-clothes-in-driverless-car-debate-20181122-p50hpl.html?btis

The Cost of Reducing Greenhouse Gas Emissions

Journal of Economic Perspectives—Volume 32, Number 4 (November 2018)
Contributed by: Tim Herbert, Ministry of Transport

Keywords: Economics; Environment

Most countries, including the United States, have an array of greenhouse gas mitigation policies, which provide subsidies or restrictions typically aimed at specific technologies or sectors. Such climate policies range from automobile fuel economy standards, to gasoline taxes, to mandating that a certain amount of electricity in a state comes from renewables, to subsidizing solar and wind electrical generation, to mandates requiring the blending of biofuels into the surface transportation fuel supply, to supply-side restrictions on fossil fuel extraction. This paper reviews the costs of various technologies and actions aimed at reducing greenhouse gas emissions. The aim of this study is twofold. First, it seeks to provide an up-to-date summary of costs of actions that can be taken now using currently available technology. These costs focus on expenditures and emissions reductions over the life of a project compared to some business-as-usual benchmark—for example, replacing coal-fired electricity generation with wind, or weatherizing a home. These costs are referred ti as static because they are costs over the life of a specific project undertaken now, and they ignore spill overs. The second aim is to distinguish between dynamic and static costs and to argue that some actions taken today with seemingly high static costs can have low dynamic costs, and vice versa. This argument is made at a general level and through two case studies, of solar panels and of electric vehicles, technologies whose costs have fallen sharply. Under the right circumstances, dynamic effects will offer a justification for policies that have high costs according to a myopic calculation.

https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.32.4.53

Policy Directions for Establishing a Metropolitan Transport Authority for Korea's Capital Region

International Transport Forum (October 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Accessibility

This report identifies the characteristics of the metropolitan transport authorities (MTAs) in the Barcelona, London and Paris areas that make them effective, and makes recommendations for the establishment of a new MTA in Korea's capital region. It reviews governance arrangements and responsibilities for strategic planning, investment, data management, public transport services and the management of multi-modal transfer centres. Successfully managing mobility services in metropolitan areas is central to improving accessibility and to the well-being of their populations. The challenges faced include coordinating multiple government and non-government stakeholders, finding an institutional structure that meets the needs of both the urban-core and the larger commuting area, and striking a good balance between the powers of central government and local authorities. These challenges are particularly present in countries in the process of decentralisation. Successful MTAs give local authorities a prominent role in decision-making while maintaining a coherent larger scale vision in planning, policy-making and investment. Strong financial and technical capacity have proved critical.

https://www.itf-oecd.org/sites/default/files/docs/surface-access-airports.pdf

United States of America

2017 Fatal Motor Vehicle Crashes: Overview

US Department of Transportation, NHTSA (October 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Data & statistics; Safety;

This factsheet provides an overview of motor vehicle crash statistics in the United States for 2017. Over the past 40 years, there has been a general downward trend in traffic fatalities. Safety programmes such as those increasing seat belt use and reducing impaired driving have substantially lowered the traffic fatalities over the years. Vehicle improvements such as air bags and electronic stability control have also contributed greatly to the reduction of traffic fatalities.

There were 37,133 people killed in motor vehicle traffic crashes on U.S. roadways during 2017, a 1.8-percent decrease from 37,806 people killed in 2016. A noteworthy statistic is that alcohol-impaired-driving fatalities made up 29 percent of overall fatalities - the lowest percentage since 1982, when NHTSA started reporting alcohol data. Additionally compared with 2016, speeding-related fatalities declined by 5.6 percent.

https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812603

Europe

Rail fact sheet: Great Britain

Department for Transport, United Kingdom (October 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Accessibility; Safety; Travel & mobility

This factsheet provides an overview of key statistics on rail in Great Britain and the context of how rail fits in the wider transport system. The national rail statistics are for surface rail only, and do not include underground, light rail and tram systems. Across Great Britain the number of journeys (right) and distance travelled (below) have more than doubled in the last 20 years. Over the same period, use of other transport modes has declined. The number of rail journeys showed a small decline in 2017/18.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/761352/rail-factsheet-2018.pdf

Reported road casualties in Great Britain: 2017 annual report

Department for Transport, Great Britain (September 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Data & statistics; Safety

This release gives an overview and commentary of reported road casualties in 2017. This is the first release of the headline accident and casualty figures for 2017, which were postponed from 28 June 2018 due to unavailability of data from the Metropolitan Police Service and Transport for London.

A total of 1,793 people were killed on roads in Great Britain during 2017 – meaning the number of road deaths has remained largely unchanged since 2010. The 2017 figure, published on 27 September by the Department for Transport, is one death more than in 2016 (1,792) – making it the highest annual figure since 2011.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/744077/reported-road-casualties-annual-report-2017.pdf

Australia

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Bi-annual road trauma data tables from the Australian Trauma Registry (July–December 2017)

Bureau of Infrastructure, Transport and Regional Economics (BITRE) (October 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Data & statistics; Safety

This Excel sheet provides the first national summary tables of severe injury cases (admitted patients with an Injury Severity Score > 12) added to the Australian Trauma Registry between 1 July 2017 and 31 December 2017. Separate tables are presented for on-road transport, off-road transport, unknown transport and non-transport cases.

In this six month period there were at least 1350 cases on-road severe injury—more than 2 cases for every road fatality. On-road severe injury cases represent 7 to 8 per cent of on-road hospitalised injury cases. These tables were produced under a joint funding agreement between the Australian Government Department of Health and the Department of Infrastructure, Regional Development and Cities.

https://bitre.gov.au/publications/ongoing/files/Bi-annual_Electronic_Report_July-December_2017.xlsx

Progress in Australian Regions Yearbook 2018

Bureau of Infrastructure, Transport and Regional Economics (BITRE) (November 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Data & statistics; Safety

The Progress in Australian Regions—Yearbook (5th edition) is a statistical resource that measures progress in a region against social, economic, environmental and governance indicators. The Yearbook brings together information about Australia's regions from a range of different sources and presents that data in a consistent format over time. This report comes at a time when Statistics NZ are working on a high-level set of indicators across several areas, and there is opportunity to compare with Australia's. For transport – there's an exclusive section. But there are other transport-related measures mentioned elsewhere (e.g. road fatalities).

https://bitre.gov.au/publications/2018/regional-yearbook-2018.aspx

Trainline 6

Bureau of Infrastructure, Transport and Regional Economics (BITRE) (November 2018)
Contributed by: Stephen Evans, Ministry of Transport

Keywords: Data & statistics; Safety

Trainline is a compendium of Australia's railways. The compendium provides insights, analysis, and an understanding of the railway industry. Australia's railways are evolving, with changes both outside and within the industry. These changes include logistics, commodity flows, technology, urban patronage, and regional passenger services. The publication presents an overview and data on railway transport tasks performed; characteristics of the railways and train operators' rolling stock that runs; and aspects of railway performance, including safety, environment and reliability.

https://bitre.gov.au/publications/2018/files/train_006.pdf

HubKnowledge

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Sharing transport data, information, research, evidence, knowledge and ideas

There's been a number of Hub events from September through to early December:

- The **5th Transport Knowledge Conference 2018** on Thursday 15 November was a huge success – with a record attendance of over 240 delegates able to enjoy viewing high calibre presentations
    - Presentations from the conference can be viewed here
- On Wednesday 14 November 2018, The Ministry of Transport and the Transport Knowledge Hub held the **1st Transport Research Colloquium** in Wellington. The purpose of the Transport Research Colloquium is to connect research and policy communities by providing an opportunity to meet and share insights on transport topics of contemporary importance to New Zealand.
    - Presentations from the Colloquium can be view here
- In September, Geoff Parr and Philip Caruana from the Ministry of Transport presented on the **Social Impact Assessment Framework**, being developed by the Ministry for transport-related policy interventions.
    - Their presentation can be viewed here
- Joint CASANZ TSIG and NZ Transport and Environment Knowledge Hub-Emissions Group (TEKH-EG) Workshop: An all-day workshop was held on Thursday 6 Dec with the theme of the event being **"Rising to the challenge – Managing both health and climate change impacts of transport emissions"**.
    - Presentations from this workshop can be viewed here

General websites

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 Domain Plan: http://www.transport.govt.nz/research/transport-domain-plan/

The Transport Research Strategy 2016-2020: http://www.transport.govt.nz/research/transport-research-strategy/

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

Stocktake of Information and Data Sources:
http://www.transport.govt.nz/assets/Uploads/Research/Documents/Domain-Plan-Stocktake-March-2017.pdf

Transport Knowledge Hub events

December 2018

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Webpage: http://www.transport.govt.nz/research/transport-knowledge-hub/
Email: knowledgehub@transport.govt.nz

Recent and upcoming events

Conferences

Event	Registration & details	Key Dates
2nd International Symposium Active Living and Environment *University of Otago, Dunedin* 13 to 15 February 2019	Registration: Open – refer to webpage Webpage: https://www.otago.ac.nz/active-living-2019/index.html	Registrations open – Open now
Engineering NZ Transportation Group conference 2019 *Te Papa, Wellington* 3 to 6 March 2019	Registration: Open – refer to webpage Webpage: https://www.tgconference.co.nz/	Registrations open – Open now
T-Tech19 *TBC, Christchurch* 6 to 7 May 2019	Registration: TBA Webpage: https://itsnz.org/t-tech19-conference	Submissions close – 22 Jan 2019 Status notification to authors – 5 Feb 2019 Re-submission for presentations – 4 Mar 2019 Speaker registration deadline – 8 Mar 2019
24th International Clean Air and Environment conference (CASANZ19) *Queenstown* 16 to 18 September 2019	Registration: from 3 April 2019 Webpage: https://www.casanz2019.com/	Abstracts close - 31 March 2019 Full papers or 2 page extended abstract and posters due - 19 May, 2019
Trafinz Conference 2019 *Claudelands, Hamilton* 10 to 13 November 2019	Registration: TBA Webpage: https://www.trafinzconference.co.nz/	
Transport Knowledge Conference 2019 TBC	Registration: TBA Webpage: TBA	

Transport Knowledge Hub

Government Economics Network (GEN) Conference 2019 *Te Papa, Wellington* 6 December 2019	Registration: TBA Webpage: https://gen.org.nz/gen-2019-annual-conference/	

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