Te Kāwanatanga o Aotearoa   New Zealand Government

Transport
Knowledge Hub

THE NEW ZEALAND

TRANSPORT EVIDENCE BASE STRATEGY

TEBS
Progress Report
December 2020

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INTRODUCTION

The Transport Evidence Base Strategy (TEBS) creates an environment to ensure data, information, research and evaluation play a key role in evidence-based decision-making.

Good, evidence-based decisions also enhance the delivery of services provided by both the public and private sectors to support the delivery of transport outcomes and improve wellbeing and liveability in New Zealand.

Preparation of an annual report on progress of implementing the TEBS is the responsibility of the Ministry of Transport. This, the second TEBS Annual Progress Report, provides an update on progress in implementing the TEBS.

The report will provide an overview on implementation of the TEBS:

1. Domain Plan:
   1.1. Overarching recommended initiatives
   1.2. High priority data initiatives
2. Research Strategy:
   2.1. Overarching recommended initiatives
   2.2. Research priorities
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   3.1. Overarching recommended initiatives

DOMAIN PLAN RECOMMENDED INITIATIVES

IMPROVE ACCESS	IMPROVE GOVERNANCE	INVEST IN THE RIGHT ACTIVITIES	FACILITATE COLLABORATION	DEVELOP CAPACITY AND CAPABILITY
Existing data and information is discoverable, accessible and reusable, and its value is maximised at agency level	Data and information is collected, managed, and shared in a consistent manner and able to be used	We are able to close priority data and information gaps where the collection of new data or additional data is required	There is an increase in the number of cross-government and public-private data-sharing partnerships	The sector has the necessary skills and capabilities to collect, analyse and disseminate data and information products

The Domain Plan identified 5 overarching initiatives and 24 high-priority initiatives to fill the most important data and information gaps[1]. Progress on implementing these is described in Table 1 below.

TABLE 1: DOMAIN PLAN OVERARCHING RECOMMENDED ACTIVITIES

Enabler	Initiative	Current Status
Improve access	Improve access, reuse and sharing of data and information through the open release of government data	In progress - development of *Transport Sector Open Data Strategy* to improve availability and reuse of transport sector data. Ministry of Transport: • Completed open data inventory and updated website – includes reference to more than 200 datasets on Ministry website with key statistics on annual crash statistics, road deaths, vehicle fleet, freight, household travel, public transport, and walking & cycling. • Published COVID-19 Transport Key Indicators Dashboard, on website[2] • Transport Outcome Framework Indicator data published on website[3] Waka Kotahi NZ Transport Agency (Waka Kotahi):

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[1] These are the top 23 high-priority initiatives originally identified from the Domain Plan Full List of Recommended Initiatives: https://www.transport.govt.nz/assets/Uploads/Report/Transport-Domain-Plan-full-list-of-recommendatioons.pdf
[2] https://www.transport.govt.nz/documents-and-publications
[3] https://www.transport.govt.nz/area-of-interest/strategy-and-direction/transport-outcomes-framework/

		- Increased number of open datasets on Open Data[4] platform, additions include: - Traffic Road Event Information System (TREIS) - Traffic monitoring system daily traffic counts - State Highway Traffic Monitoring Sites - National Pavement Conditions - Arataki - potential impacts of covid-19 data tables - National Land Transport Fund allocations - Released an open data visualisation platform (Qlik Analytics Platform) to complement the existing open data platform of Waka Kotahi - Published Waka Kotahi framework and processes for opening data[5] KiwiRail: - Added TLA attribute to datasets to improve ease of filtering, and published rail datasets on Open Data Portal[6] as OGC Web Feature Services. Maritime NZ - Completed open data maturity assessment - Undertook spatial data stocktake, which included identifying possibilities in open spatial data
Improve governance	Adoption of common transport data standards, practices and inventories to improve collection, management, interoperability and sharing of data	Asset Management Data Standard (AMDS) - collaboration between Waka Kotahi NZ Transport Agency and the Road Efficiency Group (REG) to improve the management of land transport infrastructure asset information that supports best decisions about New Zealand's land transport assets – our roads, highways, bridges, cycleways and what sits on and under them. Refer https://www.nzta.govt.nz/roads-and-rail/asset-management-data-standard/

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[4] https://opendata-nzta.opendata.arcgis.com/
[5] https://www.data.govt.nz/blog/a/
[6] http://data-kiwirail.opendata.arcgis.com/datasets

		• In progress - development of a *Transport Sector Data Inventory* to improve availability, management, reuse and sharing of transport sector data. • In progress – The *One Network Framework* evolves the *One Network Road Classification* into a systems-wide, multi-modal classification framework that aligns with the Government's transport outcomes areas, the GPS, Road to Zero and the Local Government Act's four well-beings.

Invest in the right activities	Incorporate priority data and information initiatives in government transport agency future work programmes	Activities include: • LINZ Key Datasets for Resilience and Climate Change[7] – road and rail identified as 2 of 12 key datasets for emergency management and local government. LINZ is working closely with Waka Kotahi and KiwiRail to develop and implement an improvement plan[8] for each dataset. • Ministry of Transport and Waka Kotahi represented on the Stats NZ Data Investment Plan Working Group. Purpose of this project is to develop an aligned national Data Investment Plan (DIP) that provides a system view of data investment priorities over a 10-year period and prioritise investment in key datasets that demonstrate strategic importance to government.
Facilitate collaboration	Advance cross-government and public-private data sharing partnerships	• Enhanced working relationship between Ministry of Transport and Waka Kotahi to facilitate coordination and collaboration on data related activities and sharing of key datasets. This includes use of platforms to co-create analytics using shared data assets. Currently under discussion – sharing Household Travel Survey data and jointly working on enriching it. Awaiting data sharing agreement between Waka Kotahi and Ministry of Transport.
Develop capacity and capability	Develop a coordinated approach to building data capability across the government transport agencies[9]	Activities include: • Waka Kotahi: Green Light Hackathon[10] held 15-17 November 2019 with more than 100 attendees tasked to use technology and innovative thinking to reimagine the public transport experience in the face of planned and unplanned disruptions. • Maritime NZ: Created and recruited for a permanent geospatial analyst

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[7] https://www.linz.govt.nz/data/linz-data/resilience-and-climate-change/key-datasets-for-resilience-and-climate-change
[8] https://www.linz.govt.nz/sites/default/files/media/doc/key_datasets_for_resilience_and_climate_change_-_priority_data_improvement_plan_2020_21.pdf
[9] 'Data capability' refers to the range of skills, processes and tools required to effectively work with and use data as per the Stats NZ Data Strategy and Roadmap.
[10] https://www.nzta.govt.nz/innovations/future-journeys/hackathons/green-light/

TABLE 2: DOMAIN PLAN HIGH-PRIORITY DATA INITIATIVES

Recommended initiative		Current Progress
	Economic prosperity: *Encouraging economic activity via local, regional, and international connections, with efficient movements of people and products*	
R3.2	Develop an agreed approach and set of indicators for monitoring freight efficiency	In progress: • Waka Kotahi research project *Valuing freight transport time and reliability*[11] published June 2020 • Ministry of Transport *Domestic Travel Costs and Charge (DTCC)* project (includes road, rail and coastal shipping) - in progress

R3.9 E	Improve collection and access to data about the movement of freight. This includes:
	
	• repeat and enhance the National Freight Demand Study (R3.9)
	• domestic air freight (R3.10)
	• Cook Strait freight and rail operators (R3.12 and R1.12)
	• unrecorded light and urban freight (R3.5 and R3.7)
		Partial progress:
		
		• The Ministry of Transport
		   › Published the third *National Freight Demand Study*[12] in October 2019.
		   › Movement of rail freight data published quarterly here[13]
		• KiwiRail freight and Cook Strait data provided to Ministry of Transport for COVID-19 Transport Sector Key Indicators Dashboard[14] reporting

R6.2 E	Improve information on the cost of providing, operating and maintaining the transport network. This includes access to: - data on the rail network (R6.8) - developing a transport infrastructure performance benchmarking tool or framework (R4.4).	In progress: • Rail Network - KiwiRail Open Data Portal[15] includes data on the rail network - NZ Railway Network, level crossings, KM markers, electrified network, bridges, tunnels, stations (passenger stops), yards, other operational and minor places. • REG has developed Road Controlling Authority Reports to help decision-makers understand transport value using metrics, ratings and scores on service performance and outcomes.

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[11] https://www.nzta.govt.nz/assets/resources/research/reports/665/665-valuing-freight-transport-time-and-reliability.pdf
[12] https://www.transport.govt.nz/assets/Uploads/Report/NFDS3-Final-Report-Oct2019-Rev1.pdf
[13] https://www.transport.govt.nz/statistics-and-insights/freight-and-logistics/figs-rail/
[14] https://www.transport.govt.nz/documents-and-publications
[15] http://data-kiwirail.opendata.arcgis.com/datasets

R4.1 E	Research into the monetary and non-monetary returns on investment in transport infrastructure at a network level (this combines with recommended initiative R4.18)	In progress
		
		• Waka Kotahi research projects underway:
		  › *Capturing dynamic clustering and structural change impacts in cost-benefit analysis*
		  › *Cost-benefit appraisal methods for interrelated and interdependent projects/schemes*

R4.14	Integrate road assessment and maintenance management (RAMM) data and improve its access	Partial progress • NZTA National Road Centreline includes attributes from RAMM data (for use by Waka Kotahi and Ministry of Transport only). A version with limited attributes has been released publicly for non-commercial use. • REG has developed the Performance measures reporting tool (PMRT) to help asset managers better understand their network and tell their investment story.
R9.2 E	Improve economic modelling oversight (R9.2) and a set of baseline assumptions (R4.2)	Partial progress • Waka Kotahi research project published – *Urban transport modelling in New Zealand – data, practice and resourcing*[16] published September 2019.
🟢	Environmental sustainability: *Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality*	

R11.1	Research into transport emissions profiles	In progress
		
		• Waka Kotahi research project at *Testing New Zealand vehicles to measure real-world fuel use and exhaust emissions*[17] published July 2019.
		• Waka Kotahi research projects underway:
		  › *Determining the impact that Heavy Vehicles have on fleet harmful and GHG emissions through in-use vehicle emission monitoring and associated analysis*
		  › *Determining the edge effects of roads*
		  › *How effective are transport-related ecological interventions?*

R11.2	Develop environmental impact framework for maintaining or improving biodiversity, water quality and air quality	In progress • Waka Kotahi research *Understanding the value of meeting the requirements of environmental legislation*[18] published September 2019. • Waka Kotahi research project underway:

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[16] https://www.nzta.govt.nz/assets/resources/research/reports/659/659-urban-transport-modelling-in-new-zealand-data-practice-and-resourcing.pdf

[17] https://www.nzta.govt.nz/resources/research/reports/658

[18] www.nzta.govt.nz/resources/research/reports/640

		› *Establishing a national environmental aspect (activities) and impact register for the transport sector* › *Community exposure to unsealed road-dust emissions*
R1.1 E	Regularly publish vehicle fleet profiles, across <u>all modes</u> (includes R1.4, R1.8, R1.9, R1.10 and R1.11)	In progress • Ministry of Transport publish annual and quarterly fleet stats on their website. • Waka Kotahi publishes further data about the vehicle fleet. NOTE: data gap still exists for fleet (vehicle) composition (including number and fuel type) for rail, maritime, aviation.
R11.9	Improve environmental impact evaluation around run-off of vehicle pollutants on road	In progress • Waka Kotahi research projects underway: › *Determining the health risks and ecological impacts of particulate matter arising from vehicle brake and tyre wear and road surface dust – Stage 1*
	Healthy and safe people: *Protecting people from transport-related injuries and harmful pollution, and making active travel an attractive option*	
R10.1	Develop health and safety risk profiles and exposures that leads to transport-related harm	Requires further scoping / investigation - will be addressed in the TEBS Implementation Plan
R10.3	Review methods for updating the Value of Statistical Life (VOSL)	Completed • Ministry of Transport published the Social cost of road crashes and injuries 2019 in August 2020[19]. Work is underway to revise the methodology used to estimate VOSL along with other non-market transport impacts over the coming year, with an intention to replace the 1991 methodology. • Waka Kotahi research project underway: › *Economic Evaluation Manual (EEM) parameter values study*
R2.13	Gather additional information about pedestrian and active mode person travel (walking and cycling)	Partial progress Increase in walking and cycling data sources: • Wellington City Council cycle counters[20] • Auckland Transport monthly cycling monitoring data[21]

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[19] https://www.transport.govt.nz/assets/Uploads/Report/SocialCostof-RoadCrashesandInjuries2019.pdf

[20] https://www.transportprojects.org.nz/cycle-data/

[21] https://at.govt.nz/cycling-walking/research-monitoring/monthly-cycle-monitoring/

		• Local Government Geospatial Alliance (LGGA) Tracks Project[22] – the LGGA along with Land Information New Zealand (LINZ), Walking Access Commission and Department of Conservation have been working together to develop a National Data Model for 'Walking and Cycling Tracks data'. Increase in research published on walking and cycling: • Waka Kotahi research *Attitudes and Perceptions of Walking and Cycling*[23] published September 2019. • Waka Kotahi research *Factors affecting cycling levels of service* published September 2019 • Waka Kotahi research *Developing methodologies for improving customer levels of service for walking* published September 2020 • Waka Kotahi research *Social impact assessment of mode shift* published September 2020
R10.6	Align injury classification definitions across different datasets	Requires further scoping / investigation - will be addressed in the TEBS Implementation Plan
	Inclusive access: *Enabling all people to participate in society through access to social and economic opportunities, such as work, education, and healthcare*	
R2.14	Improve information on and understanding of Māori[24] views and needs from use of, and involvement in, transport	Progress includes: • Inclusion of recognition of Māori values in the collection, management and use of data and information pertaining to Māori in the TEBS[25] based on the Ngā matapono of *Hei Arataki*, the Ministry of Transport's Māori Strategy. • New Transport Knowledge Hub - Māori Topic Hub • Waka Kotahi establishing a Maori data governance group
R2.4	Establish baseline information on 'accessibility'	In progress – early stages • Indicators developed for Ministry of Transport *Transport Outcome Framework* (TOF) includes set of indicators[26] for measuring inclusive access.

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[22] https://www.lgga.org/lgga-tracks-project

[23] https://www.nzta.govt.nz/assets/resources/understanding-attitudes-and-perceptions-of-cycling-and-walking/NZTA-Attitudes-to-cycling-and-walking-final-report-2019.pdf

[24] Inclusive of information on iwi, hapu and whanau

[25] Hei Arataki demonstrates the Ministry of Transport's commitment to recognising Māori values and culture in its role as the transport system leaders and provides a strategic framework to improve transport outcomes for Māori.

[26] https://www.transport.govt.nz/area-of-interest/strategy-and-direction/transport-outcomes-framework/

		• Access to essential services included in GPS 2018 Year 1 report[27] (page 10).

R2.8 E	Gather additional information on people's attitudes, preferences and perceptions about transport (including research on why people don't (or can't) travel (R2.7))	In progress.
		
		• Household Travel Survey:
		   › introduced question around reasons for not travelling on given travel day from 2018 onwards.
		• Waka Kotahi Customer Journey Monitor contains questions on people who could not undertake a beneficial land-transport journey in the past week.
		• Waka Kotahi research *Attitudes and Perceptions of Walking and Cycling*[28] published September 2019.
		• Waka Kotahi research *Social impact assessment of mode shift* published September 2020
		• *COVID-19 impacts on transport* – Ipsos, April 2020 - ongoing
		• Waka Kotahi research project underway:
		   › *Shift to non-traditional modes of travel*

R5.2	Integrate transport system and land use data for improved land use planning	Requires further scoping / investigation - will be addressed in the TEBS Implementation Plan
R2.6	Improve access to high-quality public transport patronage data	Partial progress • Auckland Transport, Environment Canterbury and Greater Wellington Regional Council PT data collated by Waka Kotahi and provided to Ministry of Transport for COVID-19 Transport Sector Key Indicators Dashboard[29] reporting. • The Waka Kotahi National Ticketing Programme continues. The Regional Integrated Ticketing System (RTIS) is now live in all 9 regions, and the National Ticketing Solution (NTS) procurement is underway.
R3.6 E	Develop geospatial capability to track freight and people movements This includes establishing data partnerships with freight operators (R3.6) and develop approach for collecting data on people movements (R1.14)	Partial progress • Government transport sector agencies have been working with Stats NZ commercial entity, Data Ventures, to test viability of telco data to improve understanding of people movements inter-regionally.
R2.1	Improve awareness of and access to information from the New Zealand Household Travel Survey (HTS)	Completed/ongoing progress

[27] https://www.transport.govt.nz/assets/Uploads/Report/access-gps-2018-year-1.pdf
[28] https://www.nzta.govt.nz/assets/resources/understanding-attitudes-and-perceptions-of-cycling-and-walking/NZTA-Attitudes-to-cycling-and-walking-final-report-2019.pdf
[29] https://www.transport.govt.nz/documents-and-publications

		• Waka Kotahi research project published – *Urban transport modelling in New Zealand – data, practice and resourcing*[30] published September 2019 endorsing the use of the HTS in New Zealand urban transport modelling updates for local government. • Presentation of HTS material at the Transport Knowledge Conference[31] in December 2019 and NZ Modelling User Group Conference 2020[32].
	Resilience and security: *Minimising and managing the risks from natural and human-made hazards, anticipating and adapting to emerging threats, and recovering effectively from disruptive events*	
R5.1	Develop sector definition of resilience	Complete/on-going progress • A Transport Strategic Resilience Framework has been agreed with transport agencies; the Framework includes a high level vision, outcomes etc. It has been endorsed by the Transport Sectors Leaders (TSL). • Waka Kotahi research project published – *Better measurement of the direct and indirect costs and benefits of resilience* published September 2020 • Waka Kotahi research project underway: › *Improving community resilience*
R11.10	Collect information on impacts of weather and environmental-related network outages	Requires further scoping / investigation - will be addressed in the TEBS Implementation Plan
R4.19	Improve information on the capacity and use of local roads	In progress • Waka Kotahi research project underway: › *Framework for evacuation routes*

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[30] https://www.nzta.govt.nz/assets/resources/research/reports/659/659-urban-transport-modelling-in-new-zealand-data-practice-and-resourcing.pdf

[31] https://www.knowledgehub.transport.govt.nz/conferences/

[32] https://www.transportationgroup.nz/nzmugs/

RESEARCH STRATEGY RECOMMENDED INITIATIVES

The Research Strategy identified 5 overarching recommended initiatives and 17 research priority areas. Progress by the government transport agencies on implementing these is described in Table 3 and Table 4 below. A full list of transport-related research published in New Zealand by other government, agencies, the private sector, academia and non-government organisations is detailed in the Transport Research Register available here[33].

TABLE 3: RESEARCH STRATEGY RECOMMENDED INITIATIVES

Enabler	Initiative	Current Status
Improve access	Adopt the New Zealand Research Information System (NRIS) for recording information about all publically funded transport-related research	In progress – research funded through the Waka Kotahi Sector Research Programme will be incorporated in Phase 2/3 of the NZRIS project. Other ways access, and information about newly published research, is improved include: • Transport Knowledge Hub (TKH): › Research Register – contains information on research projects currently underway or recently completed and is updated periodically. This includes all government, academic, and privately funded research in New Zealand. › Transport Intelligent Digest – quarterly publication with a summary of transport-related research, data articles and relevant releases from New Zealand and around the world. This is emailed to hub members and available online.

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[33] https://www.transport.govt.nz/assets/Uploads/Research/Transport-Research-Register.xlsx

		› Events, including: i. [Transport Knowledge Conference 2019](#) – theme *Transport's contribution to wellbeing and liveability*, attended by over 200 representatives from government, private sector, NGO's and academia. ii. TKH Webinar Series 2020 (replaces TKC2020 due to COVID-19) hosted by Topic Hubs – Aviation & Forecasting, Data, Economics, Environment, Health, Māori, Safety, and Urban. iii. Other seminars – TKH Topic Hubs held 15 seminars for hub members between July 2019 and December 2020. Presentations are available [online](#). • Waka Kotahi publishes a list of active research projects [here](#) and promotes recently published research via a subscriber email list (contact NZTAresearch@nzta.govt.nz). All research reports a published on the Waka Kotahi website ([here](#)) along with a short summary story of the research. A spreadsheet is also available listing all published research reports with key words and the abstract – links to each report's webpage is also included.
Improve governance	Implement Transport Knowledge Hub Decision Board to improve coordination of research initiatives	• Waka Kotahi, Ministry of Transport and Local Government NZ Research Governance Group established to consider and endorse proposed research topics to ensure alignment with transport outcomes and government research needs. This group is representative of senior managers from the three agencies.
Invest in the right activities	Establish process to prioritise and commission research initiatives	• Realignment of the Waka Kotahi Sector Research Programme with the Ministry of Transport's Transport Outcomes Framework (TOF) and research priorities identified in TEBS. Full lists of research projects [underway](#) and reports [published](#) are available on the Waka Kotahi website.

Facilitate collaboration	Develop a co-ordinated transport research community inclusive of researchers, funders and government agencies	• The 2nd Transport Research Colloquium was held on 6th December 2019. This was attended by more than 60 people representing the academic, public and private sector research community. In 2020,this event was virtually as a result of COVID-19. • Published report *Academic Research and Policymaking for Transport: Insights from Aotearoa New Zealand* by Debbie Hopkins, Associate Professor in Human Geography, University of Oxford in December 2019. Available on the Ministry of Transport website here[34].

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[34] https://www.transport.govt.nz/assets/Uploads/Report/AcademicResearchPolicymakingForTransport.pdf

| **Develop capacity and capability** | Promote participation in international research programmes and provide support for post-graduate transport researchers | International connections:

• Ministry of Transport representative on the executive board of the Australasian Transport Research Forum (ATRF).
• Waka Kotahi funding:
   o Austroads for ongoing development of a range of projects which contribute to improving road transport in Australia and New Zealand. Information on current projects is available here
   o Australasian Centre for Rail Innovation (ACRI) - research undertaken on rail safety, further information available here.
• The Ministry of Transport is a member of the ITF Transport Research Centre and is actively involved in the development of ITF's multi-year work programme. Due to global travel restrictions, ITF has cancelled their Annual Summit in 2020. However, they have increased the use of virtual meetings, including hosting roundtable events and working group meetings. This practice has made a range of meetings more accessible to New Zealand. In addition to virtual seminars and information sessions, the Ministry of Transport has, or will be, involved in the following ITF projects:
   › A Working Group project on *Drone Standards and Acceptability* (2019-20) – the Working Group Report will be finalised by late 2020/early 2021
   › A roundtable project on Accessibility and Transport Appraisal (2019) – the Summary Report will be finalised by late 2020/early 2021A Working Group project on Strategic Infrastructure Planning (2019-20) – the Working Group Report will be finalised by late 2020/early 2021
   › A Working Group project on Urban travel transition and new mobility behaviour (2020-21) – the project will commence in late 2020.
• Other relevant OECD/ITF reports and discussion papers (see links below) published during 2019/20 include:
   › Roundtable report: *Zero Value of Time*
   › Discussion paper: Time Use and Values of Time and Reliability in the Netherlands |

› Discussion paper: [Automation and the Value of Time in Passenger Transport](#)
› Discussion paper: [Worthwhile Use of Travel Time and Applications in the United Kingdom](#)
› Discussion paper: [Mobility Practices, Value of Time and Transport Appraisal](#)

Support for transport researchers:

- In 2020, the Ministry of Transport awarded 6 graduate research scholarships. Visit the website [here](#)[35] for more detail.
- CILT Transport Research & Educational Trust (TRET) awards
- Waka Kotahi Research and Analytics 2020/21 summer internships:
  › The Geospatial Team to support various geospatial analysis functions across a variety of groups in Waka Kotahi such as Environmental, Safety, Investments, Data Collection, Project Planning and GeoSystems
  › with Advanced Analytics & Modelling team to build capability in network analytics and data enrichment
- The Waka Kotahi Sector Research Programme is piloting sponsorship of number of 2020/21 summer student research projects at the University of Otago (Wellington) and the University of Canterbury. The University of Otago research is focussed around the effects of Greenhouse Gas emissions and supports two students at the undergraduate level. The University of Canterbury research projects are linked to data science and supports up to four students at a post-graduate level.

TABLE 4: PRIORITY RESEARCH TOPICS

Priority research topic		Current Progress[36][37]
COVID-19[38]		
	COVID-19 impacts on transport	Completed research: • *COVID-19 impacts on transport* – Ipsos, April 2020 - ongoing • *Research Note 002 COVID-19 transport behaviour change* – WSP Research, July 2020 Research underway: • *Leveraging transport disruption to influence changes - Mackie Research*
Overarching		
1.0	Transport's contribution to wellbeing and liveability	Completed research: • *Transport impacts on wellbeing and liveability* - Synergia Ltd, September 2020 Research underway:
2.0	The impact of new technology and innovations	Completed research: • *The New Zealand public's readiness for connected- and autonomous-vehicles (including driverless), car and ridesharing schemes and the social impacts of these* – *Waikato University, May 2020* Research underway: • *Feasibility study on commercial deployment of autonomous shuttles on New Zealand public roads as a complement or substitute to public transport – under procurement*
	Economic prosperity: *Encouraging economic activity via local, regional, and international connections, with efficient movements of people and products*	
3.1	Relationship between transport and the economy	Completed research:

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[35] https://www.transport.govt.nz/about-us/news/graduate-research-scholarship-recipients-announced/

[36] Note this includes Waka Kotahi Sector Research Programme research only. Research completed or funded by other organisations and funding providers is available in the Transport Research Register here: https://www.transport.govt.nz/assets/Uploads/Research/Transport-Research-Register.xlsx

[37] For further information on active projects, refer https://www.nzta.govt.nz/planning-and-investment/learning-and-resources/research-programme/active-research-projects/

[38] Added an additional recommended research topic in 2020

3.2	Transport-related economic costs and benefits	• *Valuing freight transport time and reliability* – Ian Wallis Associates Ltd, June 2020 • *Urban transport modelling in New Zealand – data, practice and resourcing* - Stantec New Zealand Ltd, September 2019 Research underway: • *Cost-benefit appraisal methods for interrelated and interdependent projects/schemes* - ECPC Limited • *Accessibility and its role and impact on labour and housing markets in main metropolitan areas in New Zealand – Auckland, Wellington and smaller metropolitan areas* - Infometircs • *Economic Evaluation Manual (EEM) parameter values study* - Research Economics • *Capturing dynamic clustering and structural change impacts in cost-benefit analysis* - NERA Economic Consulting
3.3	Return on transport investment	
Environmental sustainability: *Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality*		
4.1	Measurement of environmental emissions	Completed research: • *Testing New Zealand vehicles to measure real-world fuel use and exhaust emissions* – Emission Impossible Ltd, Mote Ltd, July 2019 • *Understanding the value of meeting the requirements of environmental legislation* - Tonkin + Taylor Ltd, and Covec, September 2019 Research underway: • *Determining the edge effects of roads* - Manaaki Whenua Landcare Research • *Understanding the national picture of supply and demand of aggregates for the land transport sector* - University of Auckland • *Determining the impact that Heavy Vehicles & light vehicles have on fleet harmful & GHG emissions through real-world vehicle emission monitoring data – Stage 1* - Pattle Delamore Partners (PDP) • *How effective are transport-related ecological interventions?* - Wildland Consulting • *Establishing a national environmental aspect (activities) and impacts register for the transport sector* - Beca • *Recycled and alternative materials* - Thinkstep Limited • *Health effects of air pollution in New Zealand (HAPiNZ)* - MfE
4.2	Measurement of environmental impacts	
4.3	Reduce transport related environmental impacts	
Healthy and safe people: *Protecting people from transport-related injuries and harmful pollution, and making active travel an attractive option*		
5.1	Peoples attitudes and perceptions on travel	Completed research:

5.2	Relationships between transport and harms	• *Risks of driving when affected by cannabis, MDMA (ecstasy) and methamphetamine and the deterrence of such behaviour: a literature review* – WSP Research and Innovation, May 2020 • *Human factor considerations for a licensing point system* - University of New South Wales, Australia, September 2019 • *A cross portfolio consideration of interventions impacting transport safety outcomes* – Navigatus Consulting Ltd, September 2020 Research underway: • *The relationship between transport and mental health* - University of Auckland
5.3	Relationship between transport and health	
	Inclusive access: *Enabling all people to participate in society through access to social and economic opportunities, such as work, education, and healthcare*	
6.1	Reasons for travel and transport and non-travel choices	Completed research: • *Best practice model for developing legislation* – University of Waikato, May 2020 • *Travel demand management: strategies and outcomes* – MRCagney, Traffic Planning Consultants, April 2020 • *Factors affecting cycling levels of service* - WSP Opus Research, September 2019 • *Developing methodologies for improving customer levels of service for walking* – Abley Ltd, September 2020 • *Social impact assessment of mode shift* - A Curl, University of Otago, A Watkins, University of Otago, C McKerchar, University of Otago, D Exeter, University of Auckland, A Macmillan, University of Otago, September 2020 Research underway: • *Leveraging transport disruption to influence changes* - Mackie Research • *Impacts of a public sector e-bike scheme* - Mackie Research • *Shift to non-traditional modes of travel* - Beca • *Latent demand for walking and cycling* – WSP Research
6.2	Relationship between transport and land use planning	
6.3	Improve understanding Māori views and needs	
	Resilience and security: *Minimising and managing the risks from natural and human-made hazards, anticipating and adapting to emerging threats, and recovering effectively from disruptive events*	
7.1	Interdependencies between transport and other infrastructure networks	Completed research: • *Better measurement of the direct and indirect costs and benefits of resilience* - Sapere Research Group Ltd, September 2020 Research underway: • *Improving community resilience* – Tonkin + Taylor • *Framework for evacuation routes* - Abley
7.2	Resilience to environmental changes	
7.3	Measurement of direct and indirect costs and benefits	

EVALUATION STRATEGY RECOMMENDED INITIATIVES

The Evaluation Strategy identified 5 overarching recommended initiatives required to enhance the availability and reuse of evaluation. The Ministry of Transport is taking a lead role in coordinating and collaborating with the sector to implement the Evaluation Strategy with a phased approach, with the initial focus being on building its internal capacity and capability. Progress on implementing these is described in Table 5 below.

TABLE 5: EVALUATION STRATEGY OVERARCHING RECOMMENDED ACTIVITIES

Enabler	Initiative	Current Status
Improve access	Publish Ministry of Transport's evaluation findings, and develop a common platform to host transport-related evaluation outputs.	Ministry of Transport: • In 2018 the Ministry of Transport commissioned Schiff Consulting to conduct an evaluation of New Zealand's graduated driver licensing system (GDLS). The final report was published in July 2019 and is available on the Ministry of Transport website here.
Improve governance	Develop a repository of measures and indicators commonly used in transport evaluation, and data sources	Waka Kotahi • Multiple workstreams underway to embed a benefits management approach with consistent application of the new land transport benefits framework and measures, including associated decision-making processes, centralised data sets, forecasting methodologies and benefits realisation reporting.

Invest in the right activities	Use the 3-step framework and the evaluation guiding principles to prioritise evaluation.	Ministry of Transport • Used the 3-step framework to prioritise evaluation activities for the 2020/21 to 2022/23 work programme.
Facilitate collaboration	Publish Ministry of Transport's work programme and provide platforms for evaluators to share knowledge, discuss challenges, and identify solutions	Ministry of Transport • Developed and published a 3-year evaluation programme (From 2021/21 to 2022/23) on the Ministry of Transport website here[39]. • Developed and published a monitoring and evaluation work programme for the Government Policy Statement on land transport (GPS) on the Ministry of Transport website here[40]. • Presented findings from the evaluation of New Zealand's graduated driver licensing system (GDLS) at the Transport Knowledge Conference 2019.
Develop capacity and capability	Incorporate evaluation concepts and processes into transport sector master classes/training and ensure templates and tools are made available to the sector	Ministry of Transport: • Provided training to internal staff to improve understanding of evaluation principles and processes. • Co-supervised an Auckland University Data Science student project that evaluated the impact of the reduction in levels of blood alcohol concentration in drivers on crashes.

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[39] https://www.transport.govt.nz//assets/Uploads/Report/Evaluation-programme-2020-21-to-2022-23.pdf

[40] https://www.transport.govt.nz/area-of-interest/strategy-and-direction/government-policy-statement-on-land-transport/