ITS New Zealand

Asia Pacific Leaders Forum

Ministry of Transport
TE MANATŪ WAKA

WAKA KOTAHI
NZ TRANSPORT AGENCY

Contents

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New Zealand's transport system

New Zealand is a small country of approximately 5 million with a strong foundation for developing and testing new transport technologies.

Transport challenges

- Geographically isolated
- 21% of GHG emissions are from transport sector
- Old fleet
- Second-hand imports
- Limited capacity for on-shore manufacturing

Transport opportunities

- Reputation for innovation
- Supportive regulatory framework
- Fair, democratic government
- World-class research institutes and universities
- High proportion of renewable electricity

21%
Of GHG emissions in NZ are transport related

37%
Of New Zealander's use public transport

320
People died on the roads in NZ last year

Our strategy: Transport outcomes framework

The Transport Outcomes Framework helps the New Zealand government set priorities for the system and measure progress.

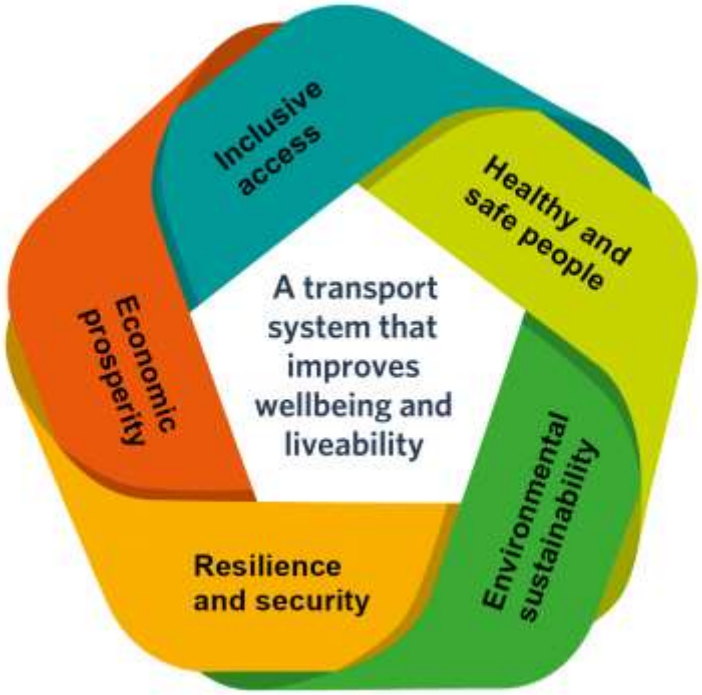
Inclusive access — Enabling all people to participate in society

Healthy and safe people — Protecting people from transport-related harm

Environmental sustainability — Transitioning to net zero carbon emissions and protecting ecosystems

Resilience and security — Anticipating and adapting to threats

Economic prosperity — Supporting the economy through local, regional and international connections



Transport technology in New Zealand

Some examples of transport technology developments in New Zealand include:

Drone technology *there are a number of companies testing or operating in NZ including:*

Dawn Aerospace – Innovative technology for satellite propulsion, Aeronavics - Industrial drones for agriculture

Ohmio *Self-driving vehicles*

In 2019, HMI technologies introduced the Ohmio autonomous shuttle which is currently being tested in Christchurch and other parts of New Zealand

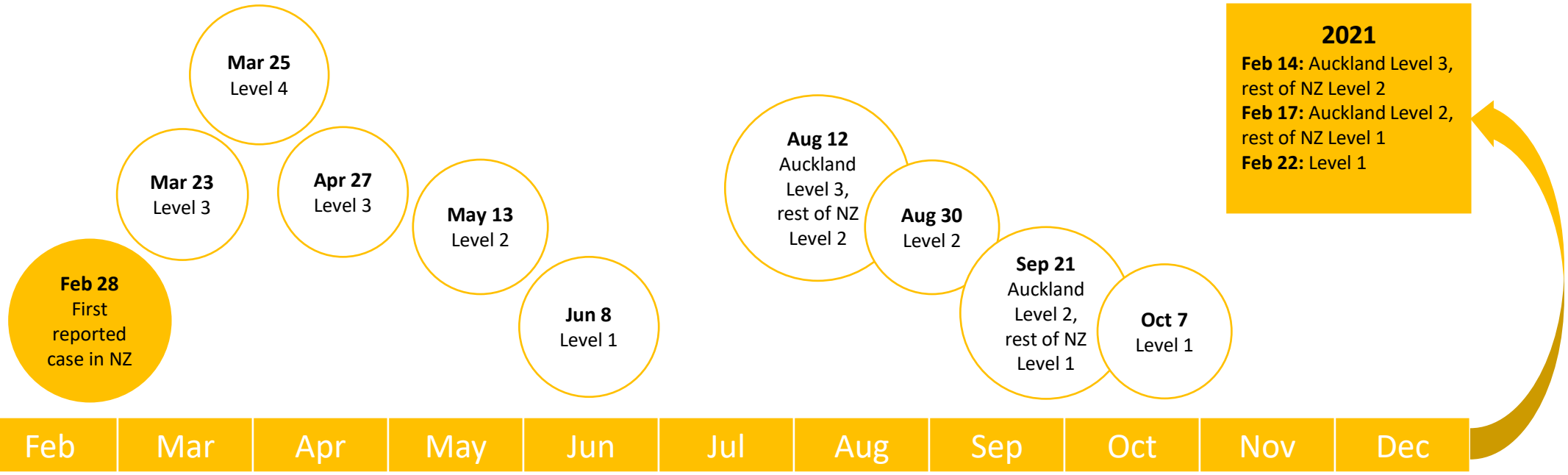
Micro-mobility

New Zealand has a high uptake of e-scooters with e-bikes more popular among older people.



2020: Impact of COVID-19 on transport in NZ

Timeline:



Alert Level:

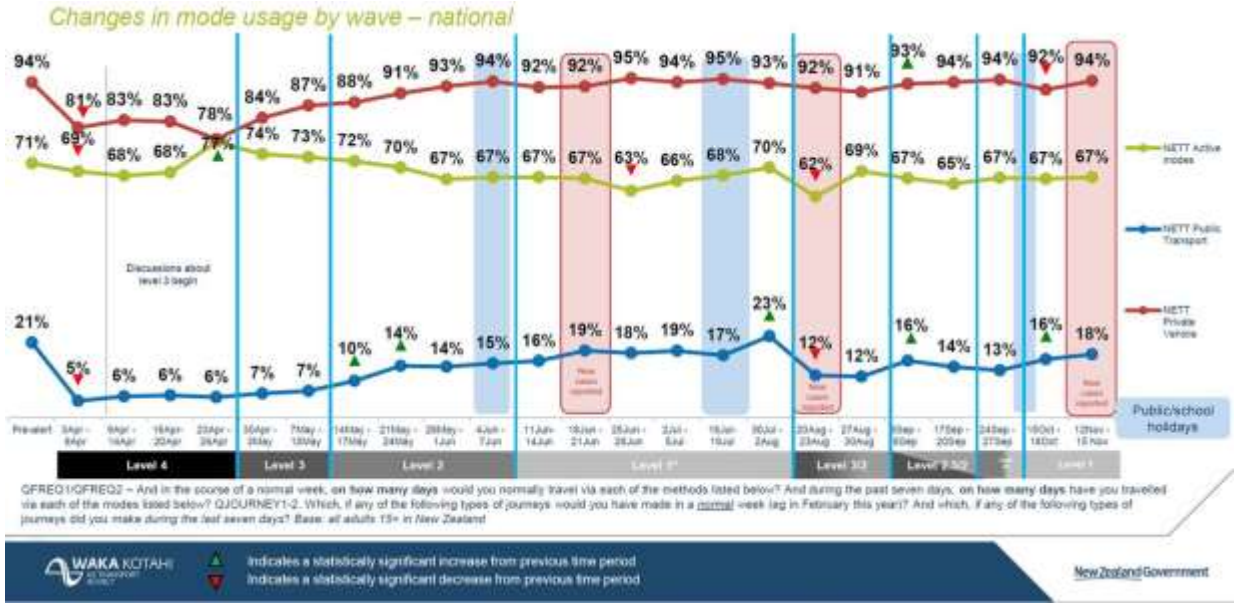
Level 1 - Prepare	Level 2 - Reduce	Level 3 - Restrict	Level 4 - Eliminate
Disease is contained	Disease is contained, but risks of community transmission growing	Heightened risk that disease is not contained	Likely that disease is not contained

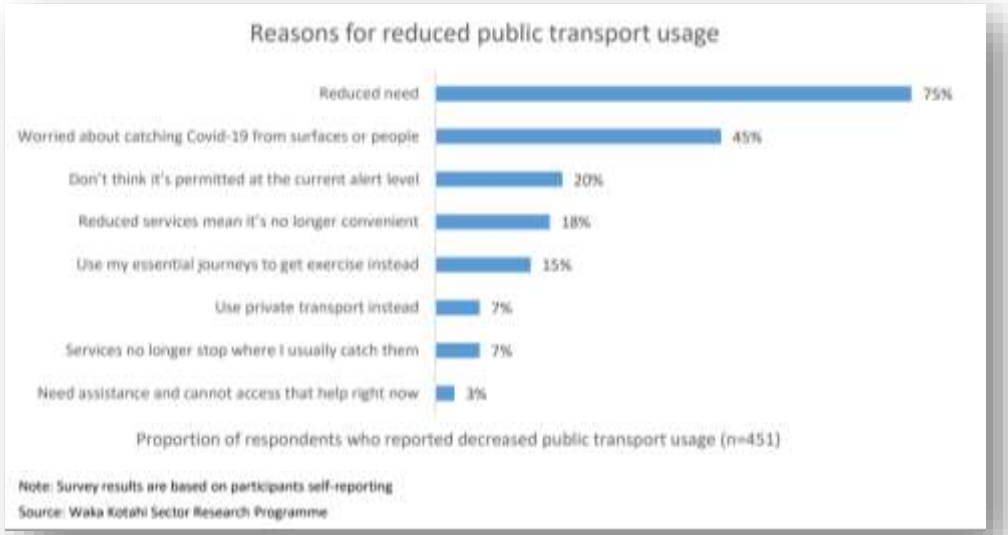
Transport implications:

Note that each increase in level builds on previous requirements rather than replacing them.

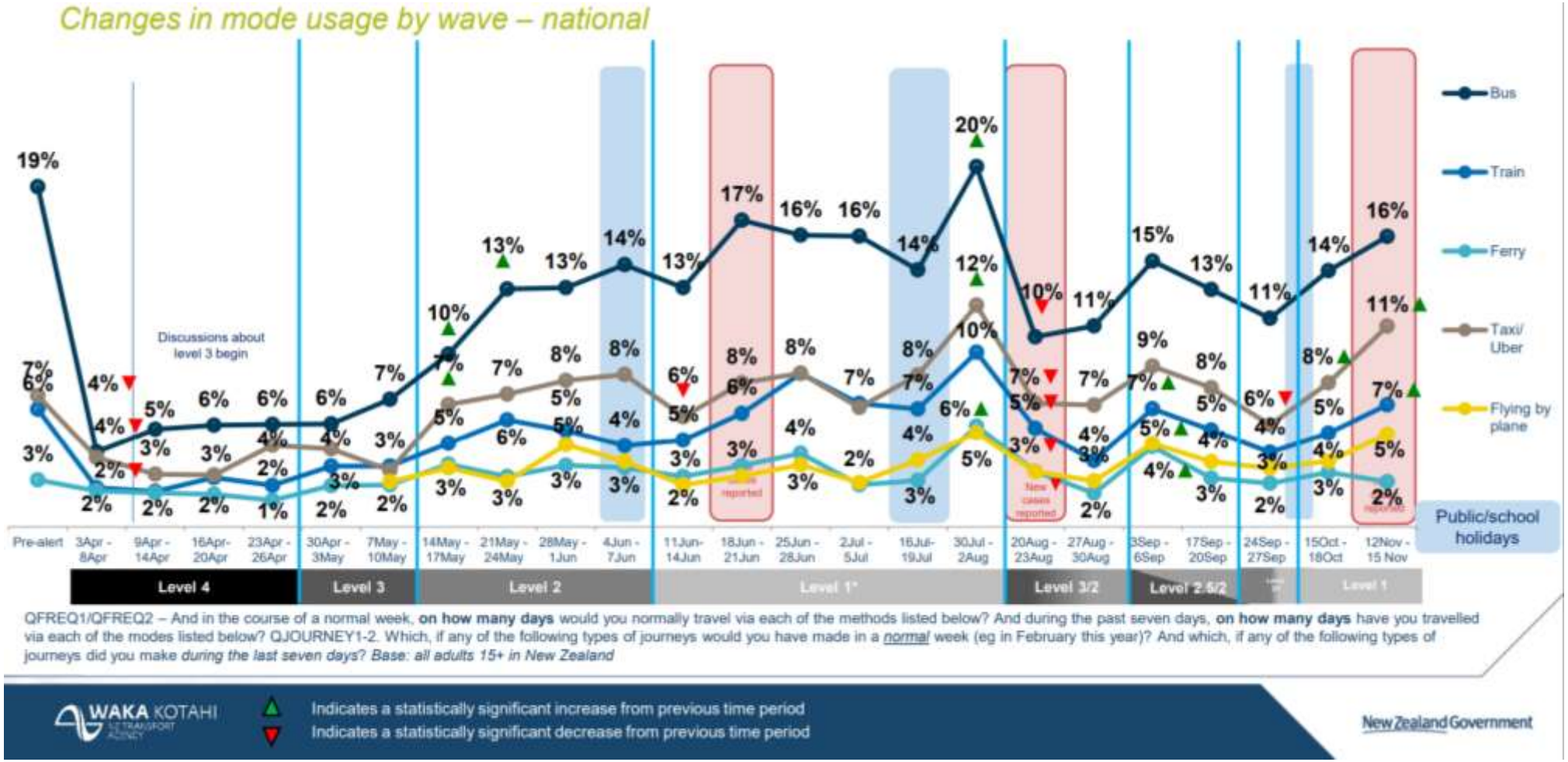
Level 1 - Prepare	Level 2 - Reduce	Level 3 - Restrict	Level 4 - Eliminate
Border entry measures to minimise risk of importing COVID-19 cases.	Physical distancing on public transport. Entry border measures maximised.	Travel is limited in areas with clusters or community transmission.	Transport is severely limited.

COVID-19 Impact on essential journeys





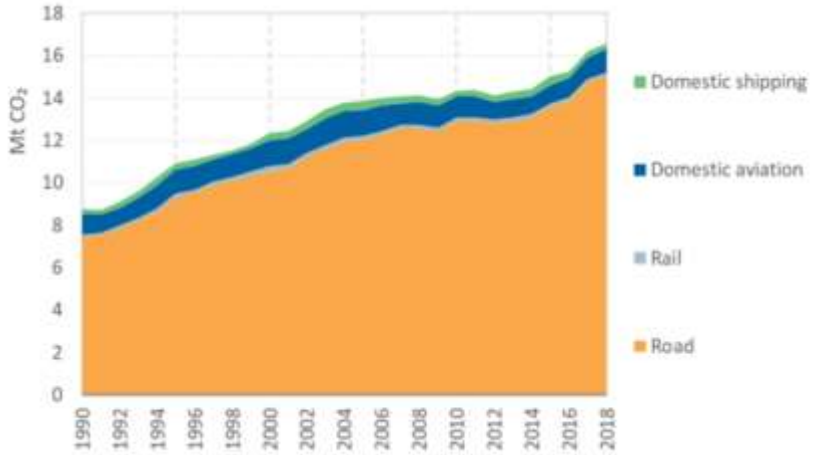
COVID-19 Impact on mode use



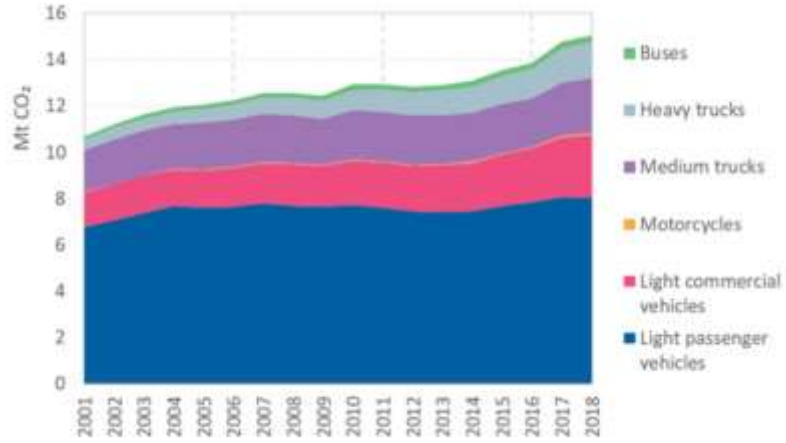
Reducing transport emissions

21%
Of GHG emissions in NZ are transport related

Transport emissions by type in New Zealand



Road transport emissions by type of vehicle in New Zealand

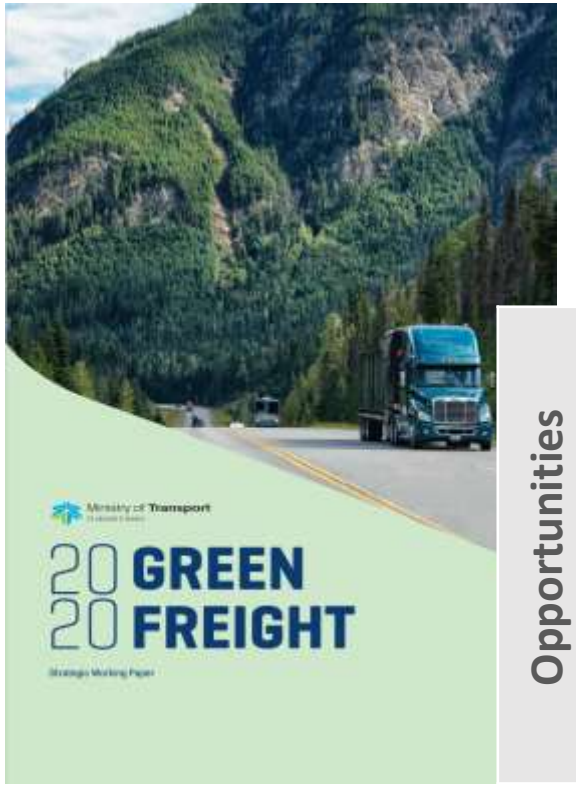


90%
Of ***transport*** emissions in NZ are from road vehicles

28%
Of ***road*** transport emissions in NZ are from heavy fleet vehicles

Reducing transport emissions: Green Freight

A strategic working paper was created in 2020 to help inform the Government's strategic approach to reducing greenhouse gas emissions from road freight in New Zealand the use of alternative green fuels.



	Fuels	Vehicles	Infrastructure
Opportunities	• NZ already has a high level of renewable electricity so electrification of trucks would lead to substantial GHG emissions reductions. • Potential for NZ to produce green hydrogen for transport. • Biofuels would have immediate impact on GHG emissions as they can be used in existing infrastructure.	• Electrification of light vehicle fleets is becoming more readily available. • Some funding is already in place to support early movers.	• Biofuels could be used with existing infrastructure.

Micro-mobility

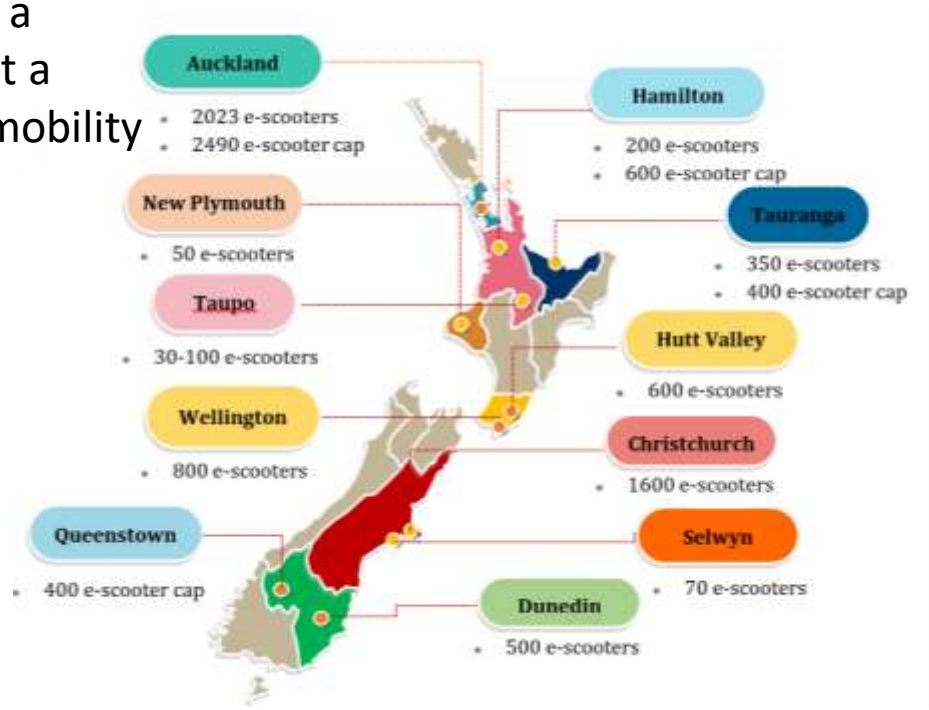
New Zealand has a number of e-scooter trials operating across the country. There is potential for e-scooters to provide greater access to different communities and for people of all ages and abilities. The government is currently reviewing regulation to ensure the safety of the devices.

In a 2019 report that looked at e-scooter users in Christchurch and Auckland (Kantar), 44% of e-scooter users made a trip that they wouldn't have otherwise made without a shared e-scooter, indicating the potential for micro-mobility to increase transport accessibility.

E-bikes – economic benefits of cycle lanes

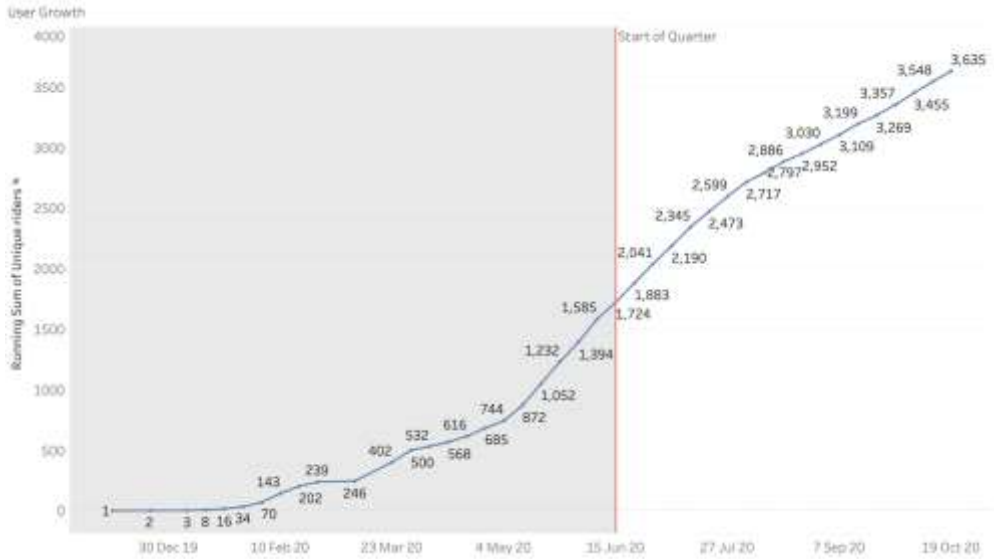
Stephen – do you have more information around E-bikes? E.g. uptake, benefits or concerns.

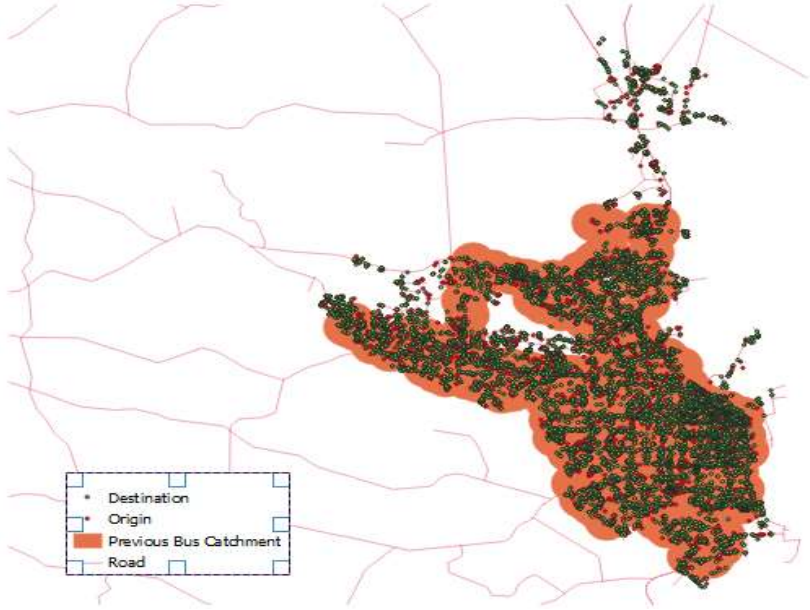
E-scooters in New Zealand Cities



New services: MyWay Timaru

Timaru (a small town in the south island) conducted a six month corner-to-corner shuttle service trial in 2020. Three of the seven vehicles were wheelchair accessible and all had bike racks. Users booked a trip via an app or by phone and the vehicle picked them up at virtual corner stops.





The increase in popularity of the service over time shows promise for future deployment in other small towns in New Zealand to increase public transport accessibility.

The service improved access range as shown by the previous bus catchment (in orange) and the new virtual stops (shown as dots).

AT On-Demand Trial

Lee to provide some more info. To decide whether worth including or not.

Drone developments

New Zealand's vision is to enable a thriving, innovative, and safe drone sector. With a long-term objective to integrate drones into New Zealand's civil aviation system and ultimately within the wider transport system.

The government is taking a partnership approach with a number of companies developing drone technologies and employing many different use cases in New Zealand. For example, Kea Aerospace are developing solar-powered high-altitude pseudo-satellite for purposes of imaging, carrying sensor payloads for other customers and offering high-resolution data – better than current satellites.

Autonomous vehicle developments

New Zealand presents a great opportunity for autonomous vehicle trials due to our open regulatory framework and willingness to adopt new technology.

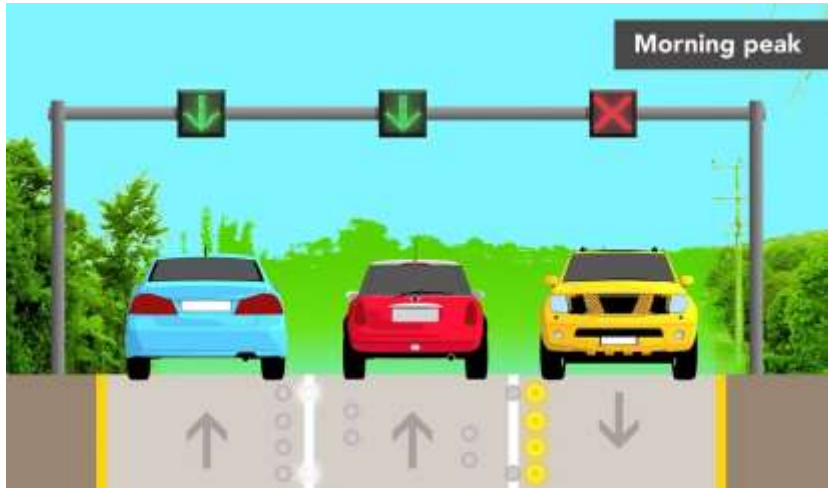
Ohmio autonomous shuttles

- Trials began in 2019

Feasibility study: integrating autonomous shuttles into the public transport network in Queenstown and Wellington

- September 2021

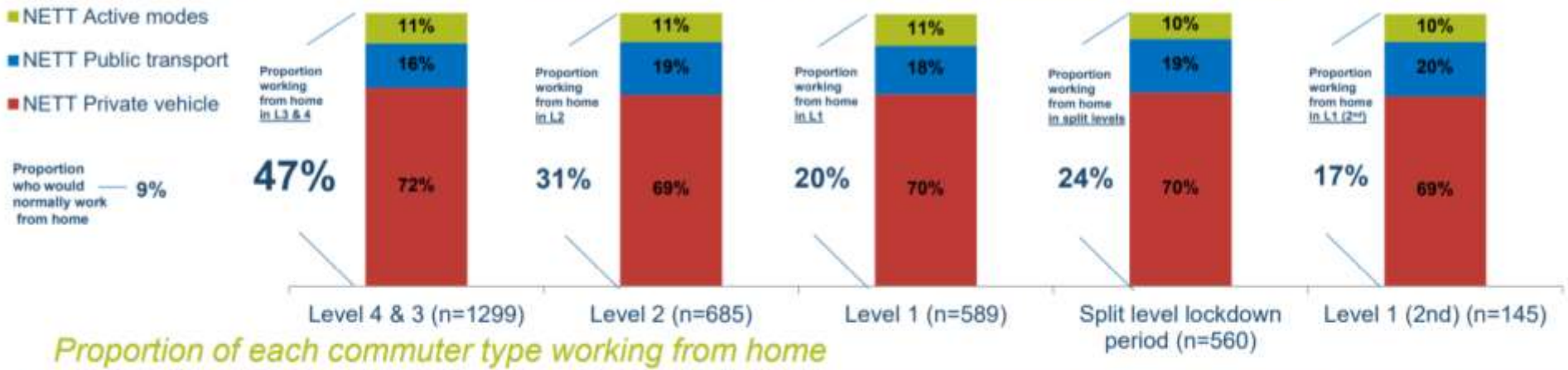
Role of Network Optimisation



Thank You & Stay Safe

COVID-19 Impact on working from home

Proportion of commuters working from home who would normally travel by each mode



Proportion of each commuter type working from home

Proportion WFH by level	47%	31%	20%	24%	17%
Within active mode commuters	53%	31% ▼	17% ▼	18%	12%
Within private vehicle commuters	43%	25% ▼	13% ▼	16% ▲	11% ▼
Within public transport commuters	62%	42% ▼	24% ▼	36% ▲	19% ▼

QWORK1A/QWORK2A: And prior to any public health alert or lockdown, where did you mainly work? And where do you *currently* work? By QMODE1_1 How would you normally make each of the following types of journeys listed below? – travelling to work

Base: all adults 15+ in New Zealand who normally commute by each of the modes mentioned for work

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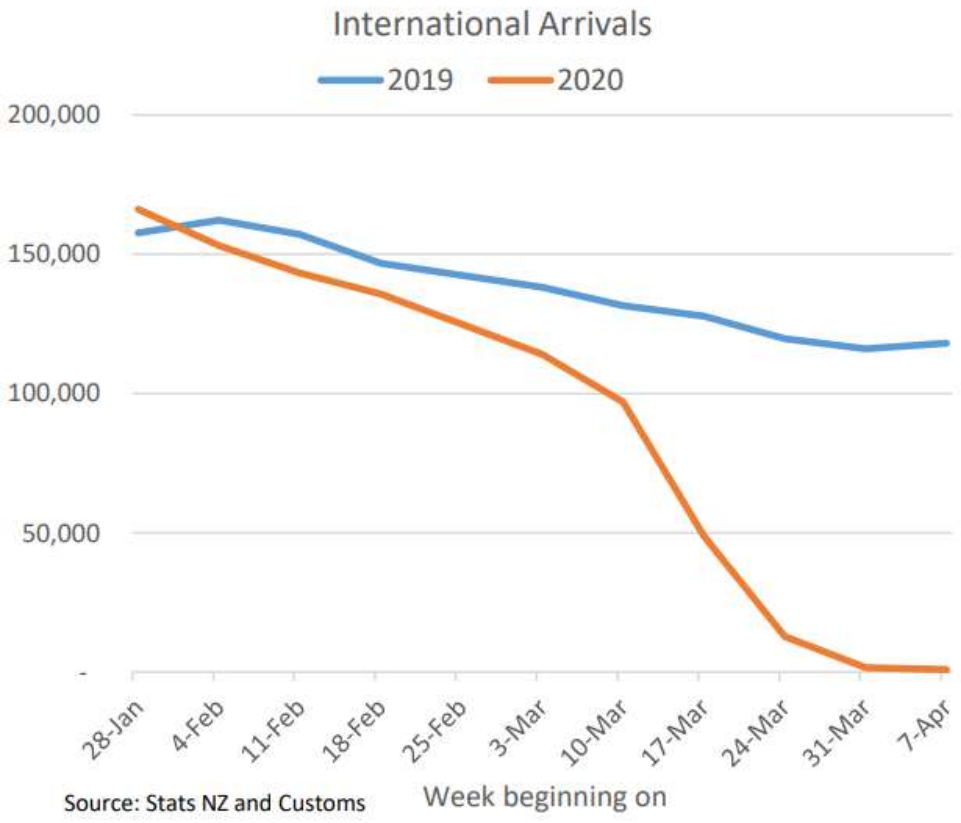
▲ Indicates a statistically significant increase from previous time period

▼ Indicates a statistically significant decrease from previous time period

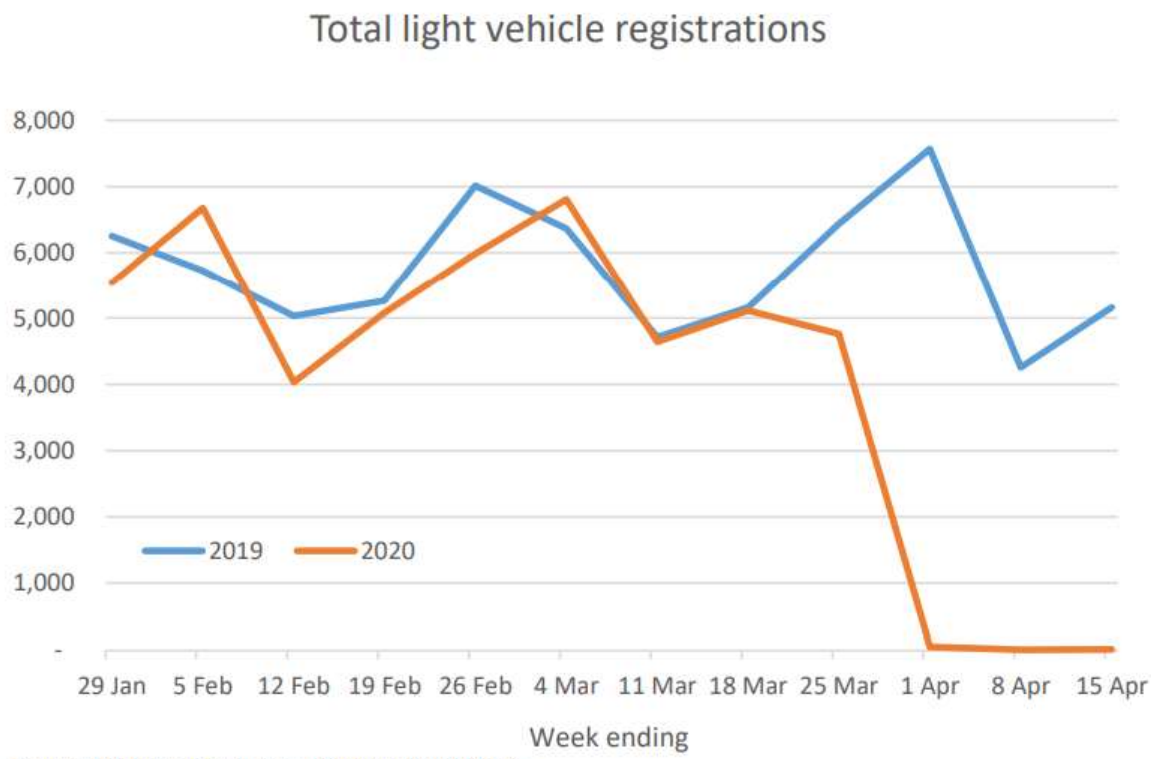
New Zealand Government

COVID-19 Impact cont.

Not sure if it's worth including these charts or not but have put them here in case we want to.



Source: Stats NZ and Customs

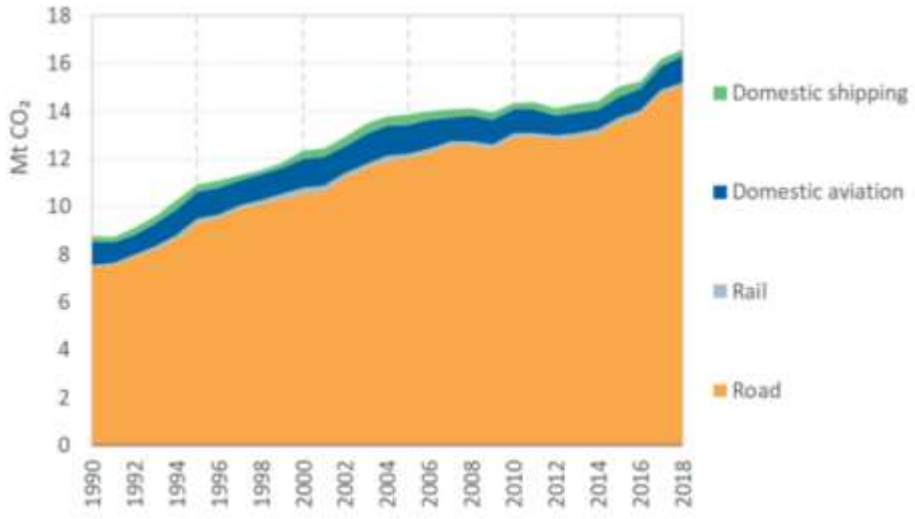


Source: Ministry of Transport and Waka Kotahi MVR

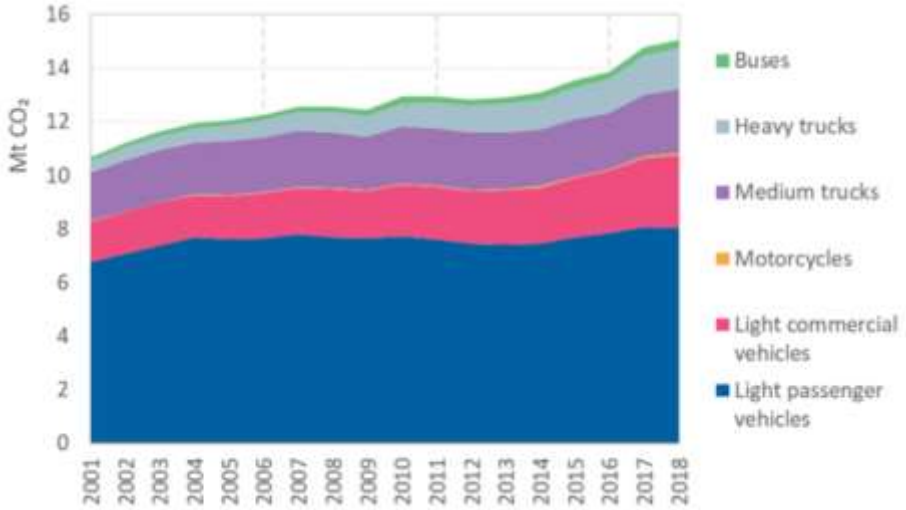
Choose between this slide or the following

Reducing transport emissions

Transport emissions by type in New Zealand



Road transport emissions by type of vehicle in New Zealand



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