Mode Shift to Micromobility

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REAAA
Driving Progress

make
everyday
better.

$2 of fuel to cross the Cook Strait…

ElectricAir founder Gary Freedman successfully made the first electric aircraft flight across Cook Strait on November 1, saying the "fuel" cost was just $2.

3 cent commute…

https://evsandbeyond.co.nz/e-aircraft-costs-2-to-cross-cook-strait/

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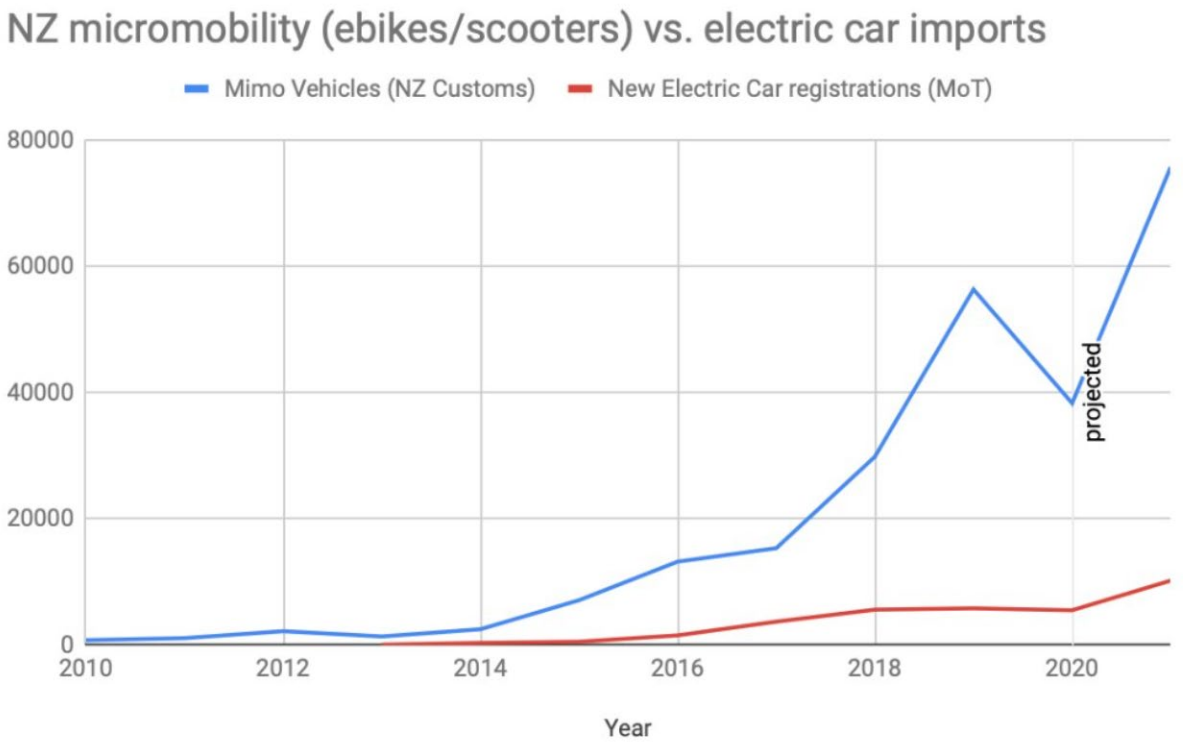
11-02-21 | THE NEW CAPITALISM

The Build Back Better Act wants you to buy an electric car. An electric bike? Not so much

The electric vehicle incentives in the Build Back Better Act show the dominance of car culture, even for people who are trying to transition to a cleaner economy.

[Photos: Marc Bruxelle/iStock, John Matychuk/Unsplash]



Source: Oliver Bruce 2021

https://www.fastcompany.com/90692231/the-build-back-better-act-wants-you-to-buy-an-electric-car-an-electric-bike-not-so-much

Micromobility

E-Scooter

Powered Transport Devices (Waka Kotahi Determination)

E-Bike

Including e-cargo

E-Accessible

Powered Wheelchairs

E-Moped

Powered Transport Devices (Waka Kotahi Determination)

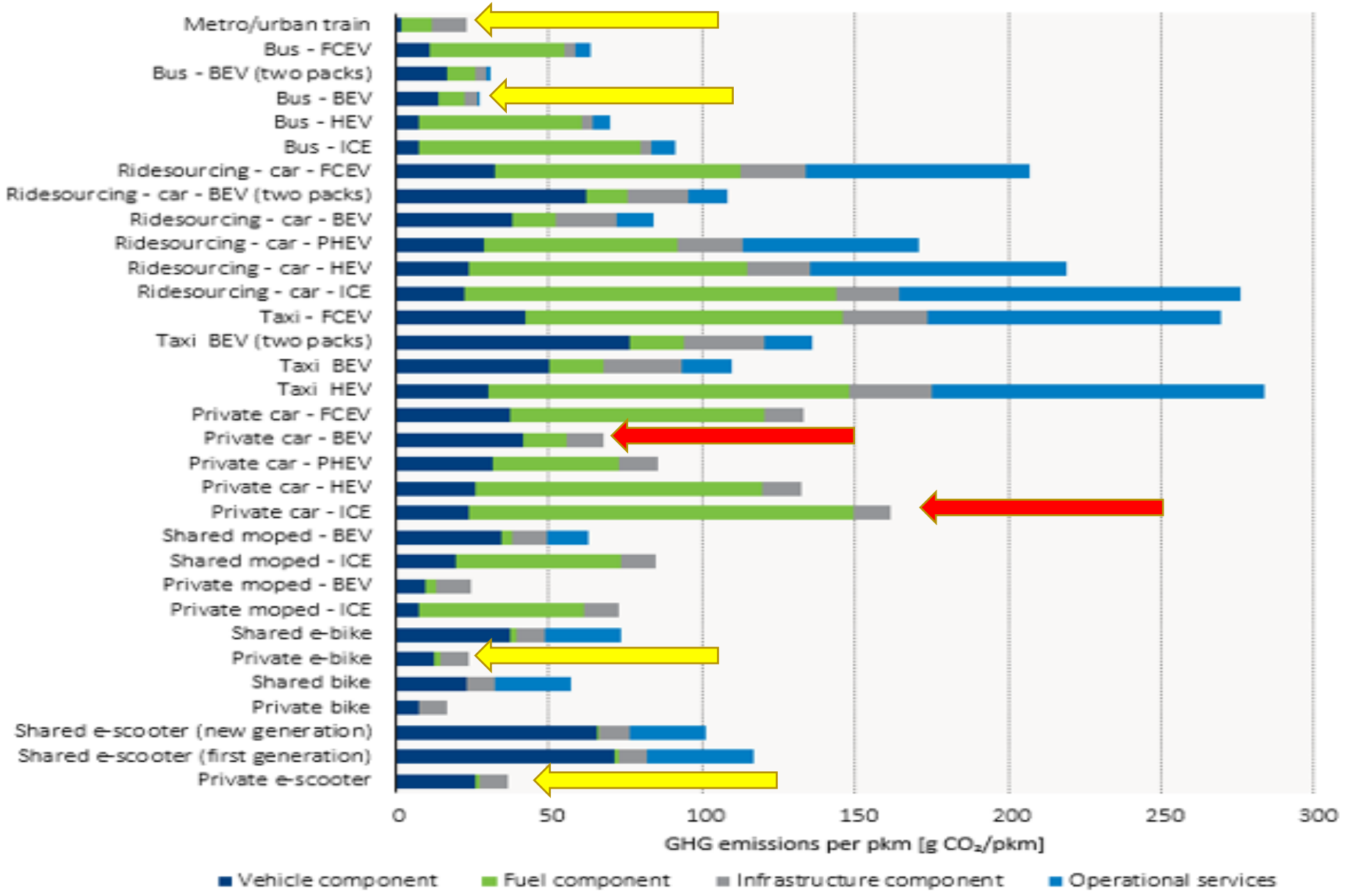
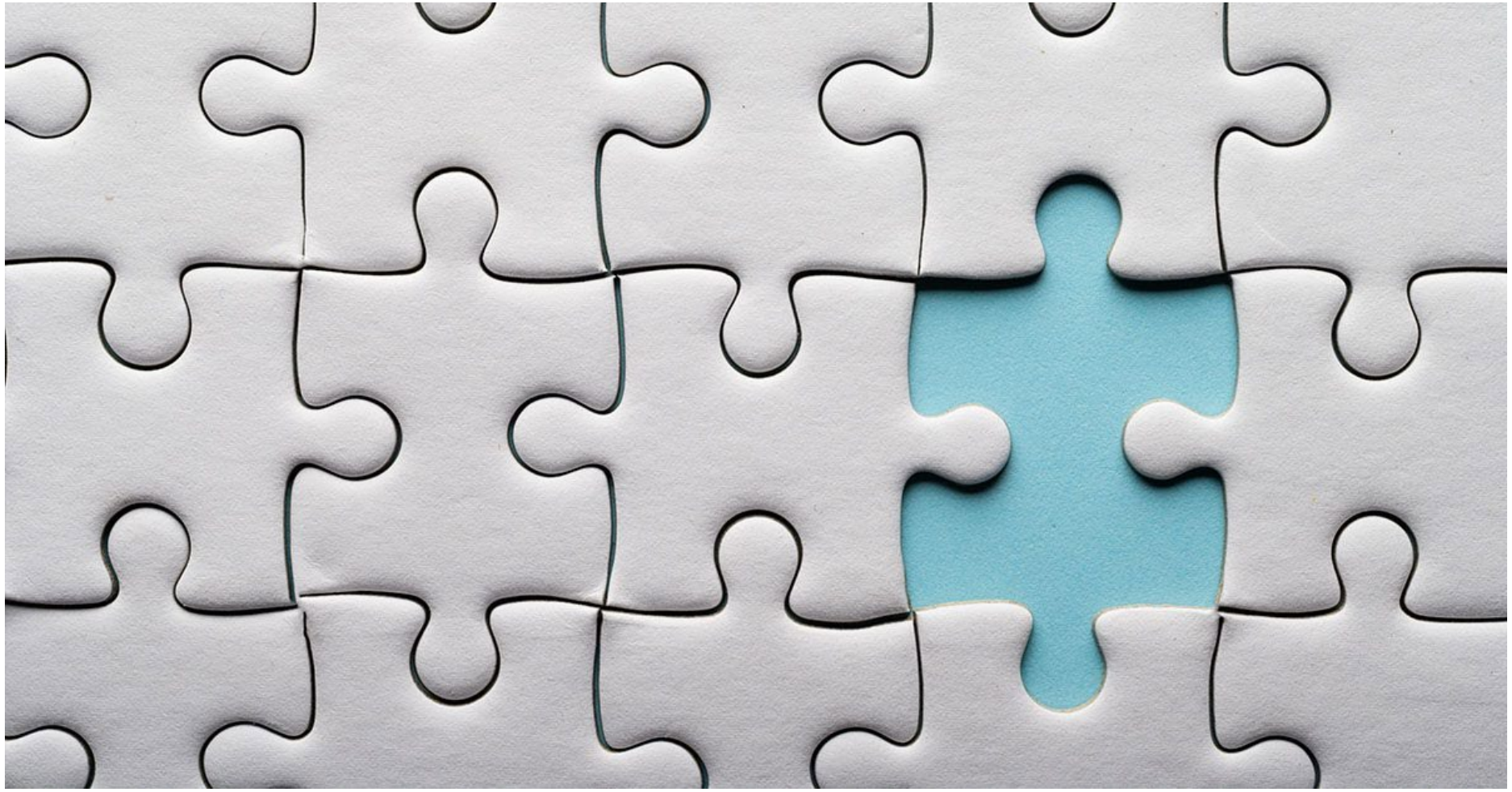


Figure 3 – Carbon Emissions per passenger km by transport mode (using NZ electricity generation)

International Transport Federation (ITF, 2020), Good to Go? Assessing the Environmental Performance of New Mobility (Corporate Partnership Board Report) published 17 September 2020

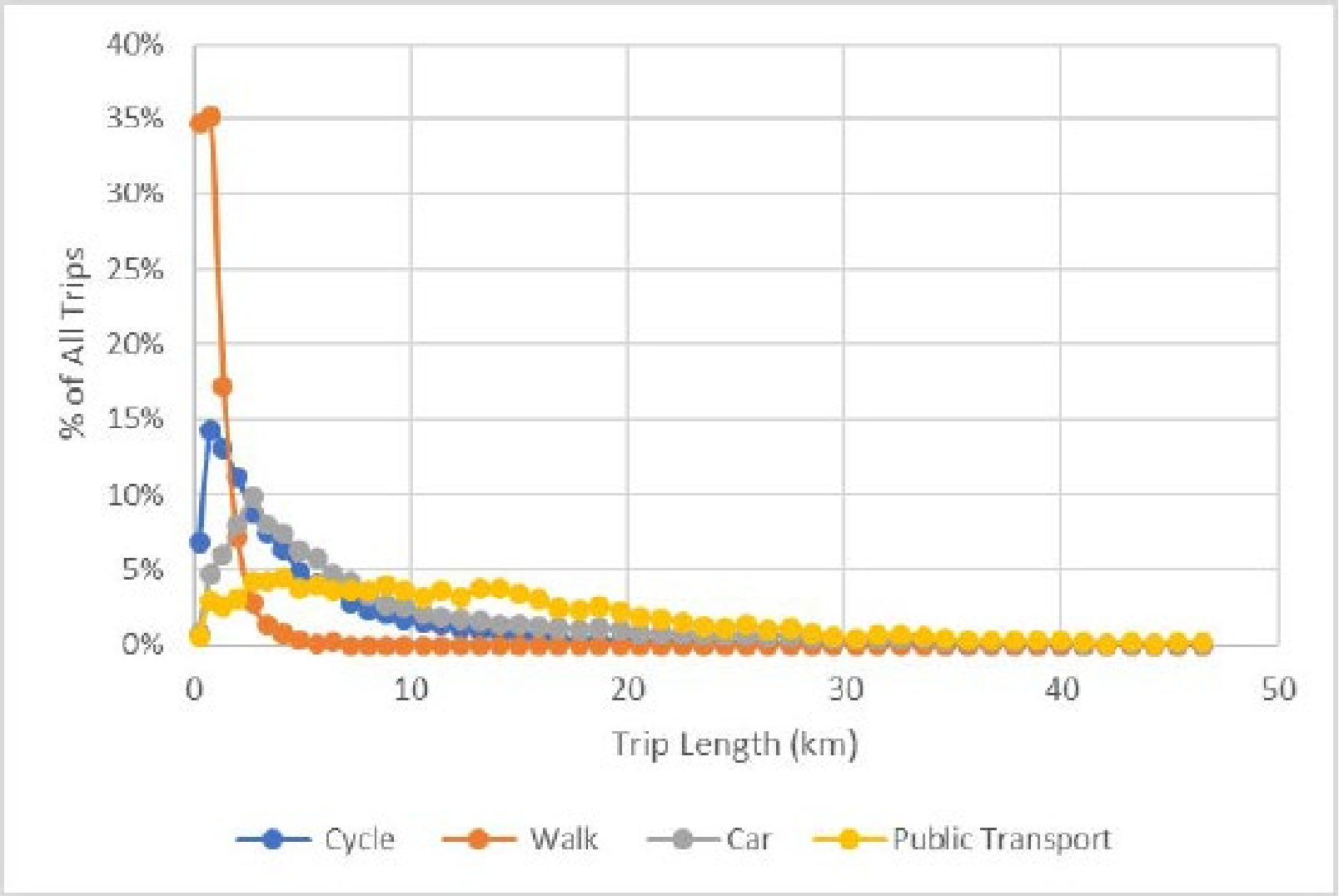
Will the growth in use of e-bikes be significant enough to change the way we plan & invest in our transport infrastructure?

The literature review:



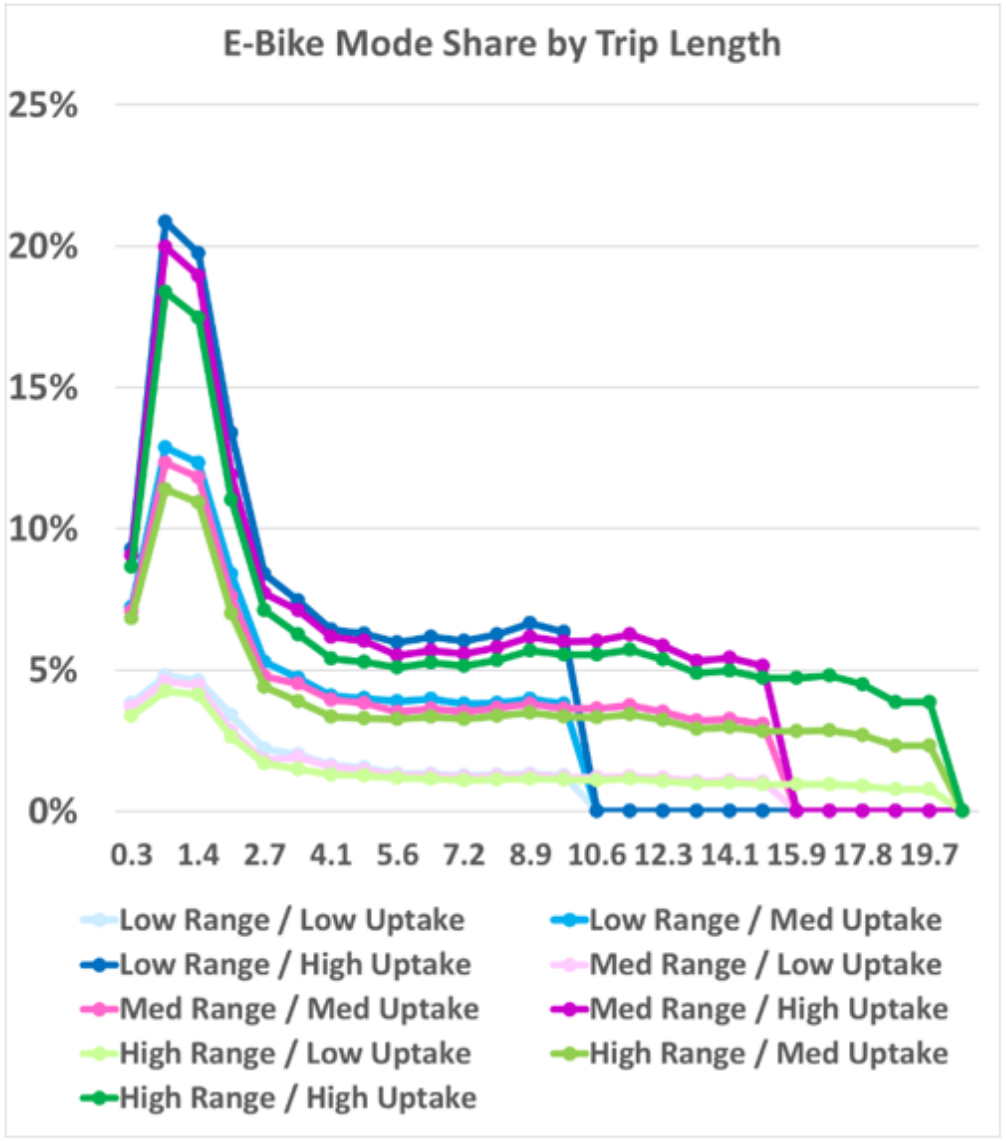
The market for micromobility trips

Figure 5.4 Distribution of the existing 'market' of trips for each major mode, by trip length



Factors in mode shift

- Trip range for micromobility modes
- Preferences between micromobility modes
- Uptake (% of people who'd consider micromobility for a trip)
- Current mode



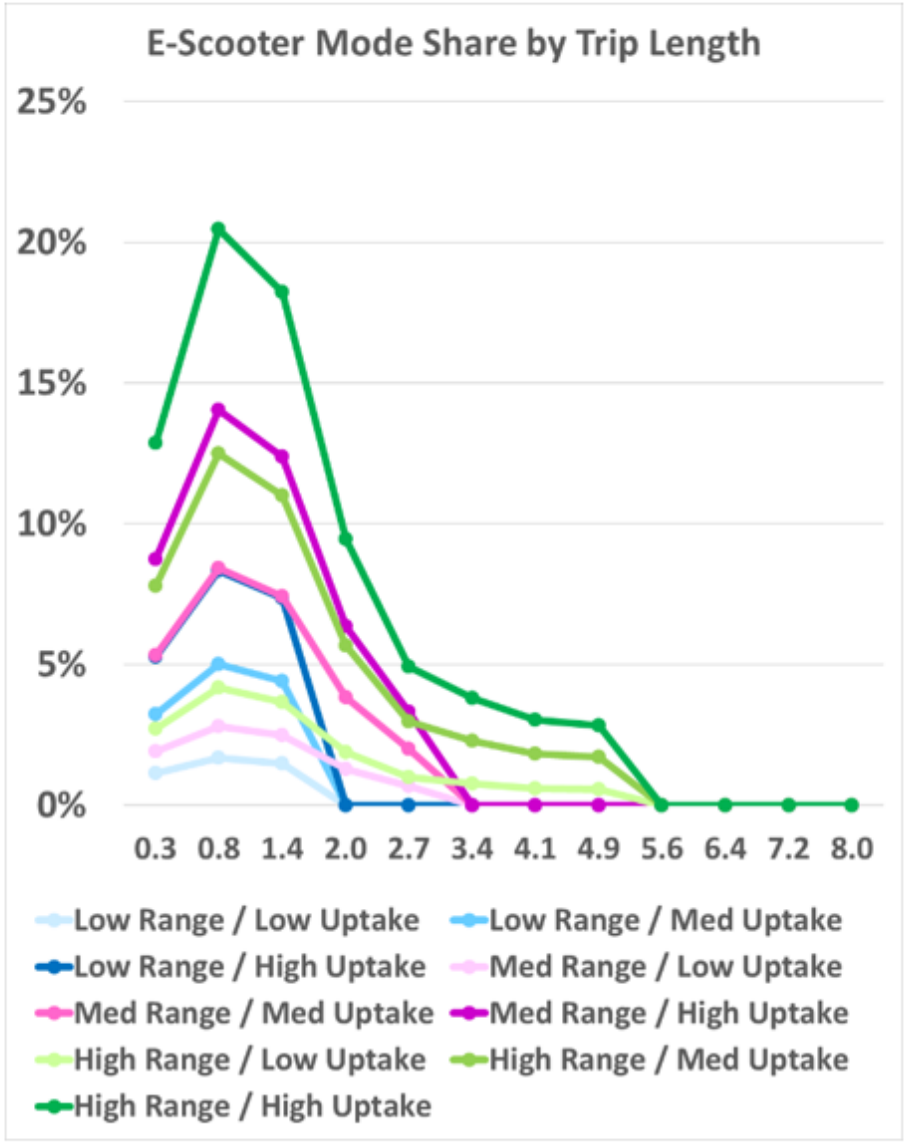


Figure 3 - Expected E-Scooter and E-Bike mode share by trip length, for various scenarios

Table 2 - Expected ranges of mode shift away from existing modes

Initial Mode	Mode Shift		
	To E-Scooter:	*To E-Bike:*	*To E-Accessible:*
Walk	3% - 15%	3% - 16%	< 0.2%
Cycle	0%	34% - 46%	0%
Car	0.2% – 1.2%	1.3% – 6.1%	< 0.1%
PT	1% - 3%	3% - 10%	< 0.3%

Forecast Mode Share for Micromobility

Overall, **e-scooter mode share will typically be between 1.0% - 5.7%**

e-bike mode share will typically be 4.9% - 8.1%

…depending on a range of context factors.

Up to **5.7%** mode share

Up to **8.1%** mode share

Factors Affecting Mode Shift to Micromobility

Proximity of routes to ‘attractive’ destinations.

Quality and safety of route infrastructure.

Attractiveness of mode alternatives.

Maturity of network / transport culture.

Amenity and aesthetic value of routes.

Socio-economic factors.

Mode Shift to Micromobility: Whole Trips

Up to a **9% increase** in PT trips

Overall, ‘first mile last mile’ use of micromobility in conjunction with public transport is expected to **increase public transport trips by between 3% - 9%,** depending on a range of context factors, and **decrease car trips by 0.5% - 2%.**

Factors Affecting First Mile / Last Mile Use Of Micromobility

Presence / maturity of mobility as a service (MaaS) .

Quality of public transport provided.

Availability of shared micromobility.

Provision for micromobility parking at connection points.

Ability to take devices onboard public transport services.

Maturity of micromobility culture in the location of interest.

Inclusive access

Enabling all people to participate in society through access to social and economic opportunities, such as work, education, and healthcare.

Healthy and safe people

Protecting people from transport-related injuries and harmful pollution, and making active travel an attractive option.

Economic prosperity

Supporting economic activity via local, regional, and international connections, with efficient movements of people and products.

Environmental sustainability

Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality.

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.

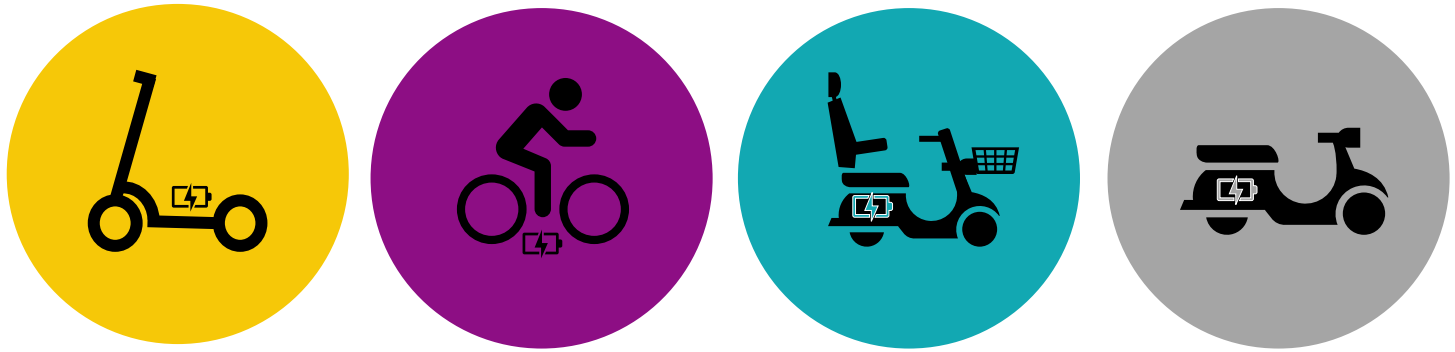
To maximise the overall contribution of micromobility to wellbeing and liveability, **21 interventions** have been developed for practitioners to consider when planning micromobility initiatives.

- Prioritise aesthetic, safe routes for investment
- Provide clear signage for parking areas, speed
- Introduce grant / subsidy schemes for purchase
- Forecast space required on public transport
- Plan for a micromobility role in resilience

“ More than 90% of trips won’t shift to micromobility.

But the demand for micromobility trips will be 3 to 5 times more than for push-bikes.

If transport infrastructure programmes takes 5-10 years to implement, start now.



Discussion is welcome.

A note to the audience

- This presentation is based on research report RR 674 – *Mode Shift to Micromobility*.
- While Waka Kotahi NZ Transport Agency provided investment, the research was undertaken independently, and the resulting findings should not be regarded as being the opinion, responsibility or policy of Waka Kotahi or indeed of any NZ Government agency.
- Waka Kotahi is established under the Land Transport Management Act 2003. The objective of Waka Kotahi is to undertake its functions in a way that contributes to an efficient, effective and safe land transport system in the public interest. Waka Kotahi funds innovative and relevant research that contributes to this objective.
- People using this research should apply and rely on their own skill and judgement and, if necessary, they should seek appropriate legal or other expertise regarding its use.

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