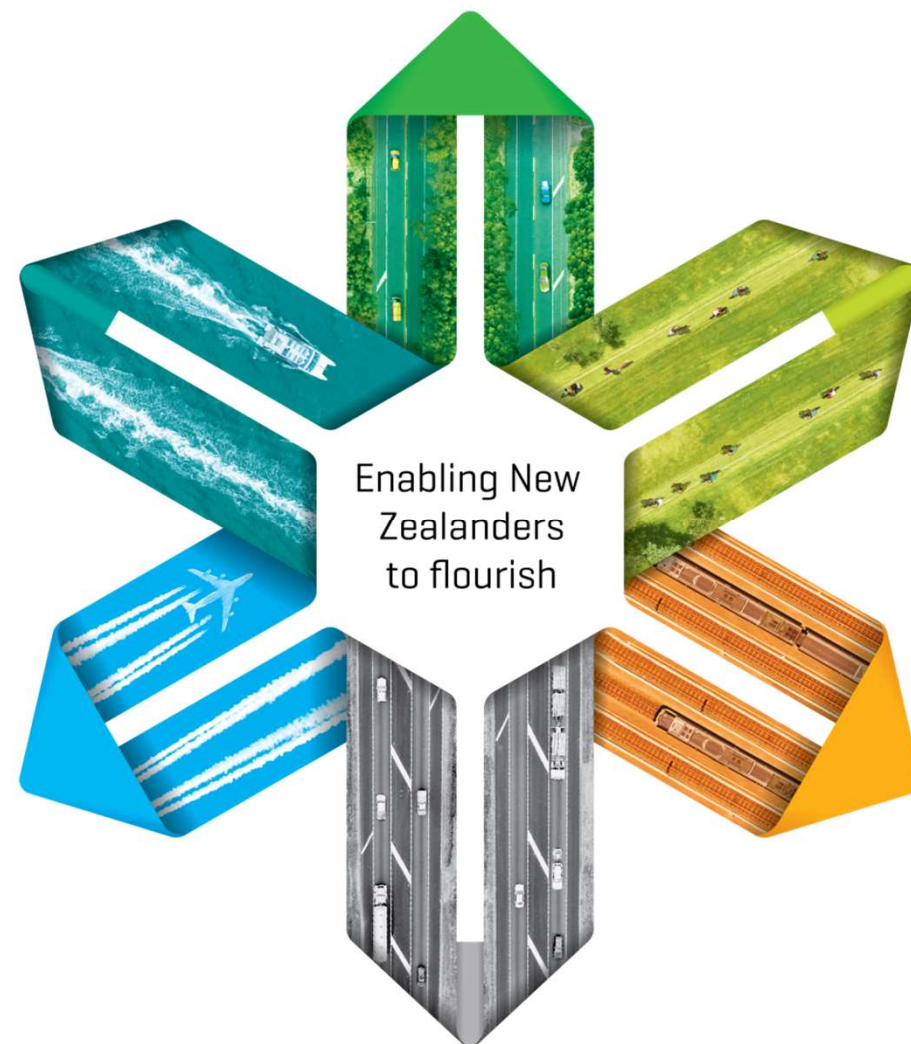


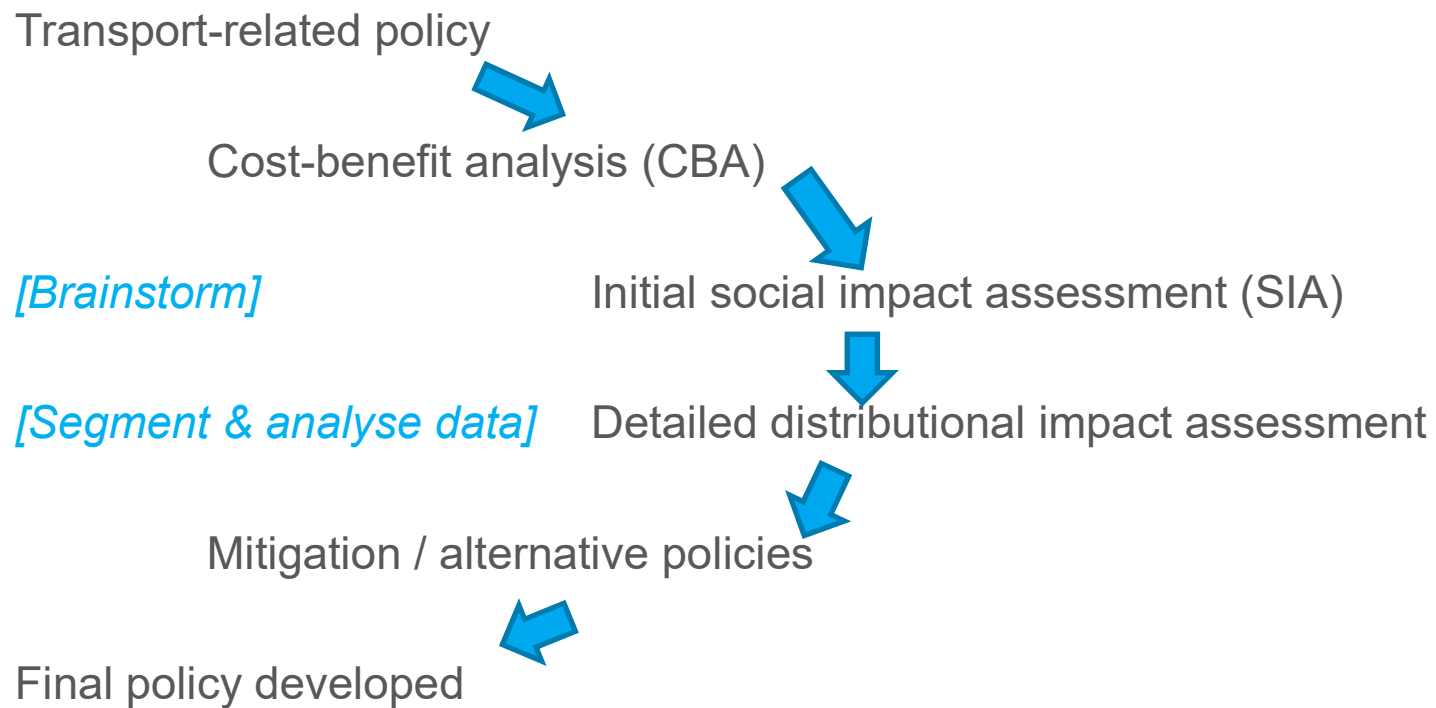
The Ministry of Transport's Framework for Social Impact Assessment

Geoff Parr & Philip Caruana
Ministry of Transport

Transport Knowledge Conference 2018



Social Impact Assessment



Transport Outcomes Framework

Inclusive access

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

Economic prosperity

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

Healthy and safe people

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

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.

A transport system that improves wellbeing and liveability

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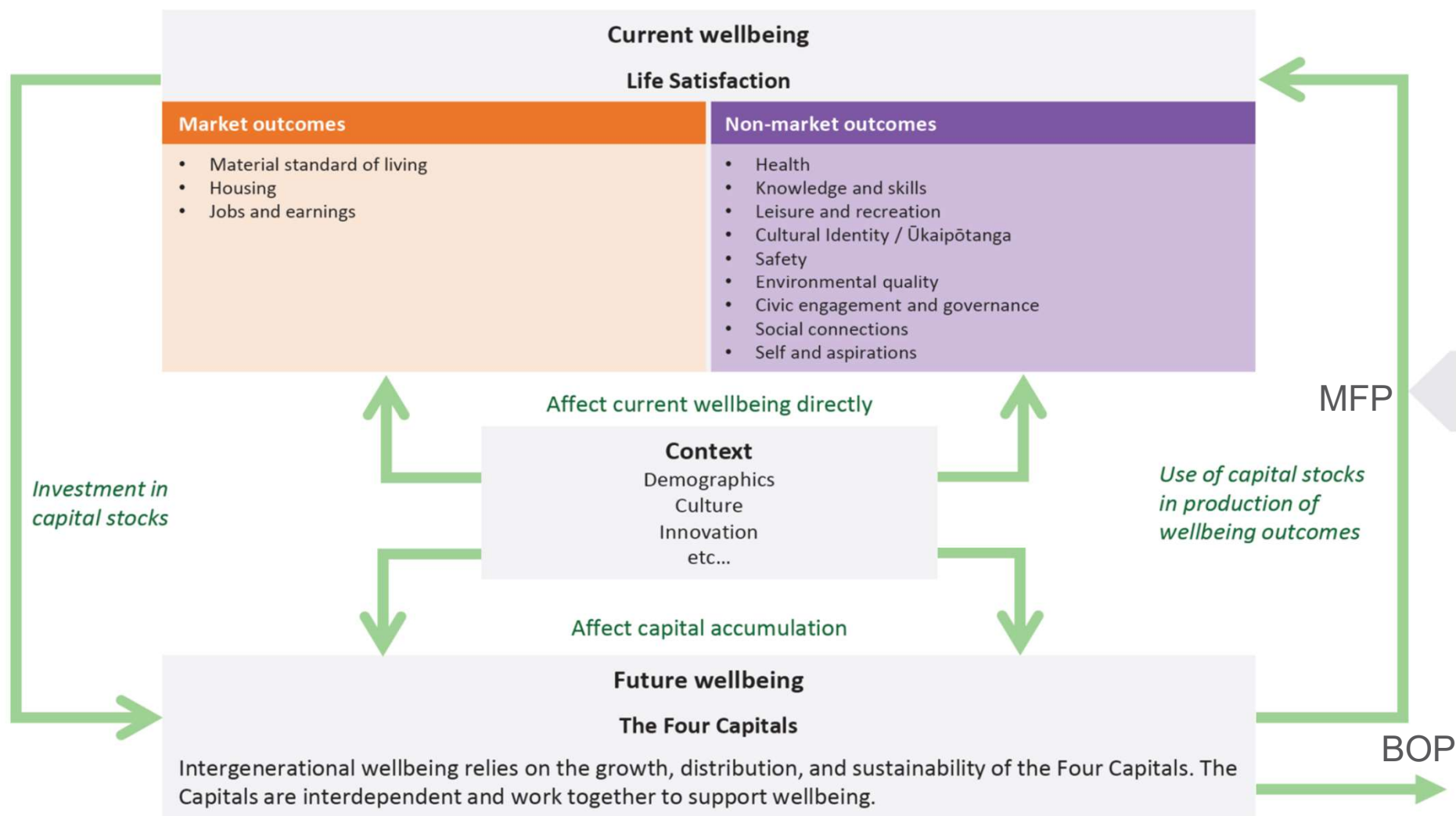
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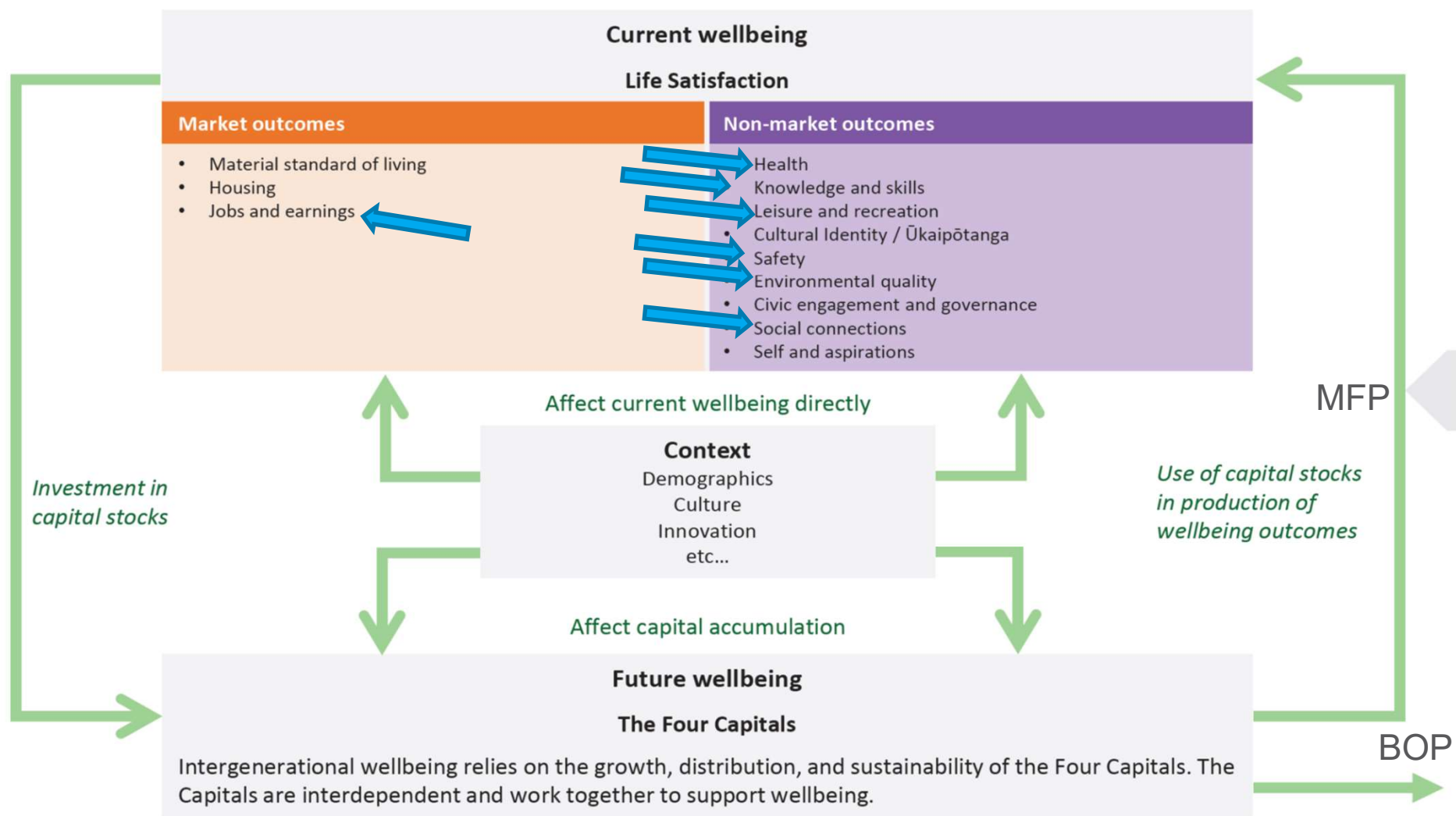


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Transitioning to net zero carbon emissions, and maintaining or improving biodiversity, water quality, and air quality.







Start with a CBA



Add all discounted costs

Add all discounted benefits

Divide benefits by costs

$B / C = \text{benefit / cost ratio (BCR)} = \text{a number}$

$BCR > 1$

$BCR = 1$

$BCR < 1$

CBA versus SIA / DIA



CBA is an *aggregate* analysis

Ignores impacts on different groups of people

➡ Segment the population to see how impacts are *distributed*

That's a Distributional Impact Assessment (DIA)

Equity implications move this towards a Social Impact Assessment (SIA)

Segmenting the population

Who is impacted? Segment the data by

- Region; urban / rural, meshblock, etc (spatial)
- Income group, age group, ethnicity, gender, disability status
- Family size, single parent, car/non-car household, number of cars
- Individuals, households, whanau, communities

Focus on vulnerable groups

Segmenting is only possible if disaggregated data is available

Impacts and outcomes



Impacts correspond to:

- Transport outcomes (Transport Outcomes Framework)
- Wellbeing outcomes (Living Standards Framework)

Common ground:

- Access...to work, education, healthcare, recreation, social connections
- Safety...security, resilience, health (accidents)
- Environment...air quality, noise, amenity
- Health...active transport modes, obesity, safety

Equity criteria: accessibility

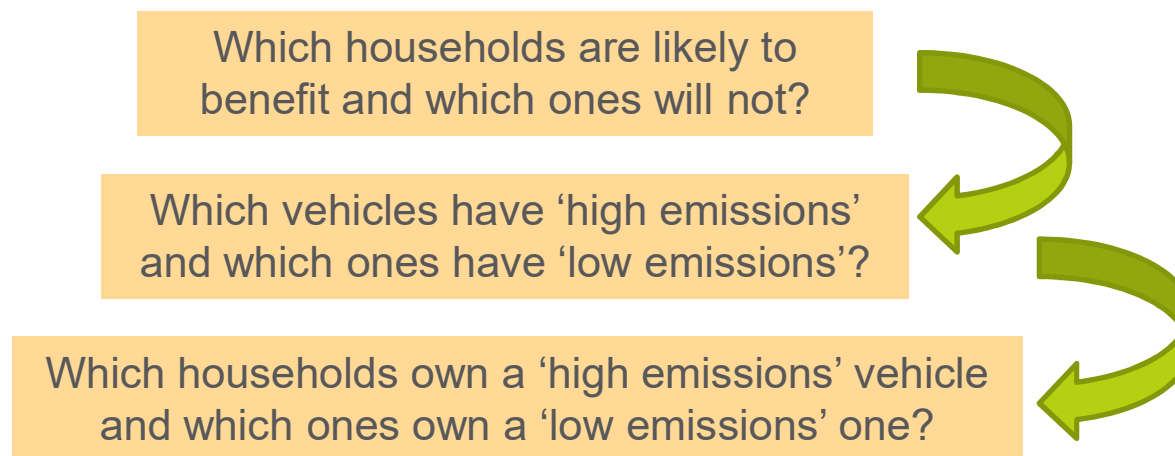


Evaluate distributional impacts on accessibility via:

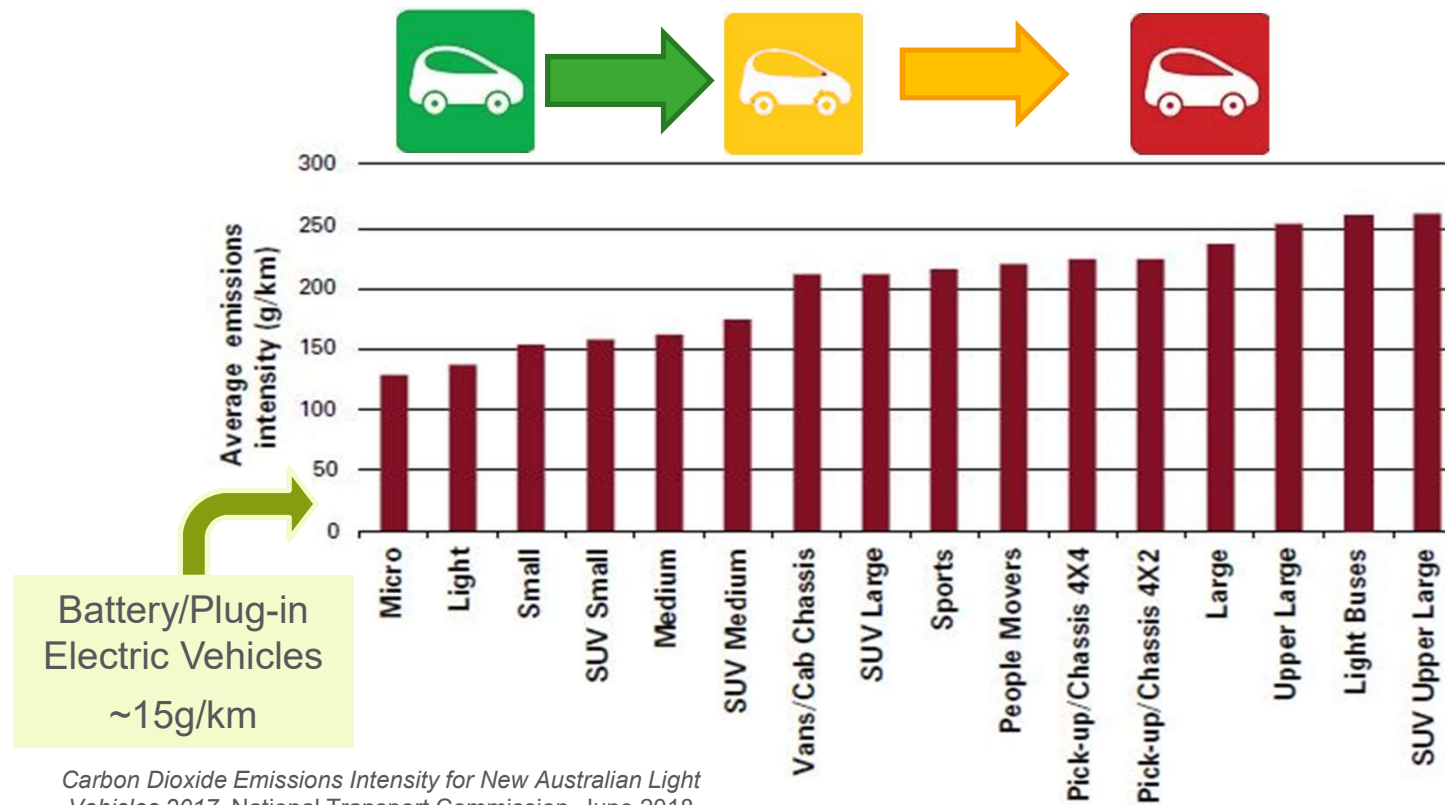
- setting *minimum standards* of accessibility to key destinations,
- prioritising disadvantaged groups,
- reducing inequality of opportunities, and
- mitigating transport externalities: pollution, noise, safety

Case Study: Policy Impacting Vehicle Price

- What if 'high emissions' vehicles imported in NZ are made more expensive?
- In order to encourage a shift towards 'low emissions' vehicles.

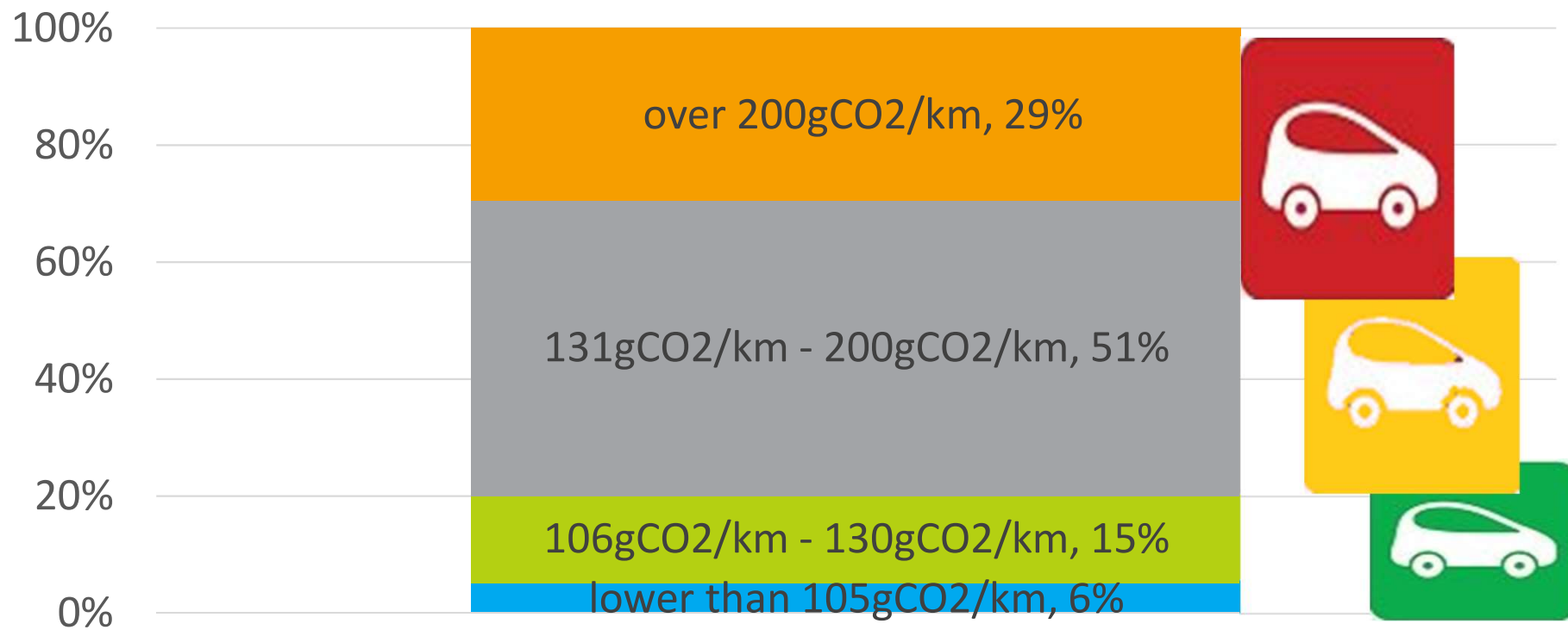


Low and high emissions vehicles



Carbon Dioxide Emissions Intensity for New Australian Light Vehicles 2017, National Transport Commission, June 2018

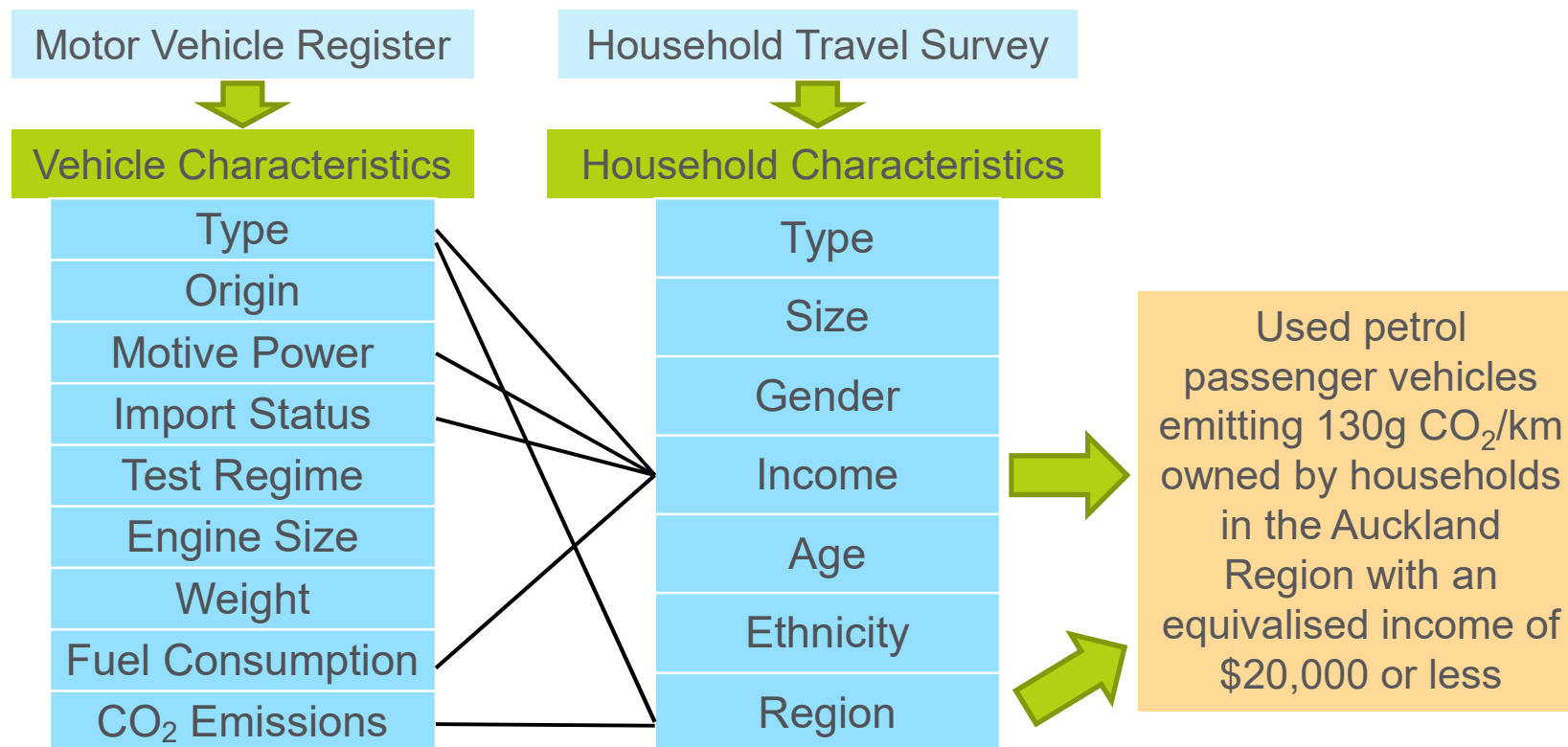
New Zealand's Vehicle Fleet



Share of Vehicles by Emissions Band

Motor Vehicle Register, NZTA, 2017

Vehicle Ownership & Households Characteristics



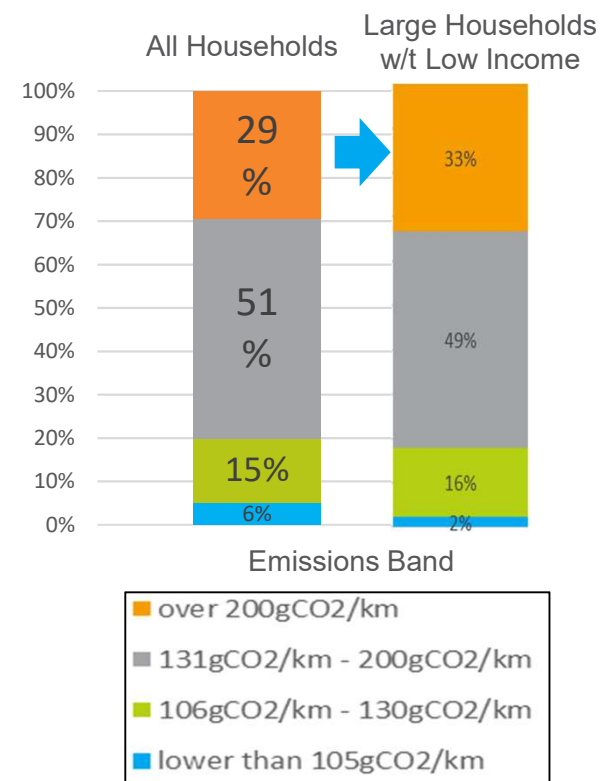
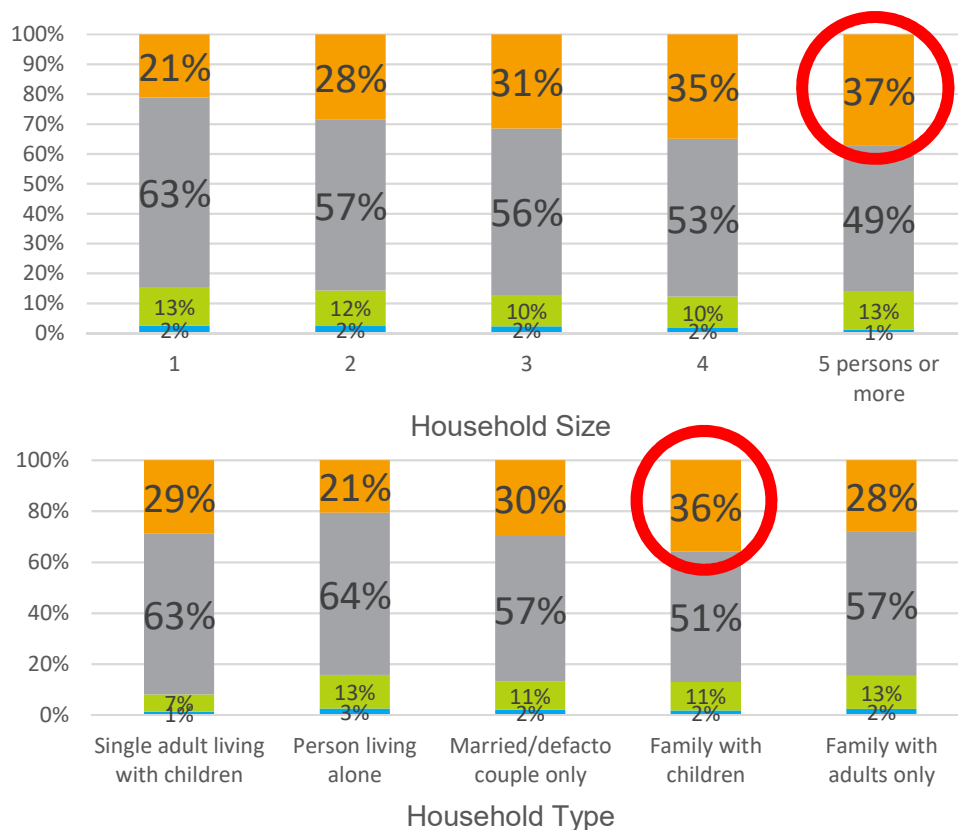
Population Segmentation & Vulnerable Households

Household type	Equivalised Household Income	Ethnicity	Age
Person living alone	\$20,000 or less	Maori	All persons are 65 or over
Single adult living with children	\$20,001 - \$30,000	Pasifika	At least one person is 65 or over
Married couple only	\$30,001 - \$50,000	European	All persons are under 65
Family with adults only	\$50,001 - \$70,000	Asian	
Family with children	\$70,001 - \$100,000	Other Ethnicity	
	\$100,001 - \$150,000		
	\$150,001 or more		

Vulnerable Households can have different characteristics

Vehicle Ownership & Emissions Bands

Share of Vehicles matched with Sample Households



Policy Design

- Policy to encourage a shift towards the importation of low emissions vehicles should still be implemented. IF the benefits outweigh the costs.
- With knowledge on who are the impacted vulnerable households....
 - > the policymaker can take supporting or mitigation measures.
- So that these vulnerable households, are:
 - included in the policy and take their share of the benefits; or
 - Supported so that they continue to have access to affordable transportation.

Questions?



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