

Assessment of public responses to policies designed to internalise environmental and social externalities associated with the transport sector in New Zealand

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Outline

- The background (including brief methods) for the overall state of the environment perceptions research
- The 2006 transport, society and environment case study
 - Context
 - Results
 - Conclusions and policy implications

Background

The biennial environmental perceptions surveys

- Assesses peoples' perceptions of the state of the NZ environment – 11 natural resources, e.g., air, marine fisheries
- Built around the Pressure-State-Response (OECD) model of environmental reporting
- Postal questionnaire (PSR-based) collects views on perceptions of environment and its management
- 2,000 people aged 18 and over randomly selected from electoral roll
- Demographic variables include: age, gender, region, ethnicity, education, and employment sector
- Data analysed descriptively and, where applicable, the 2006 survey responses compared with 2004, 2002, 2000 surveys

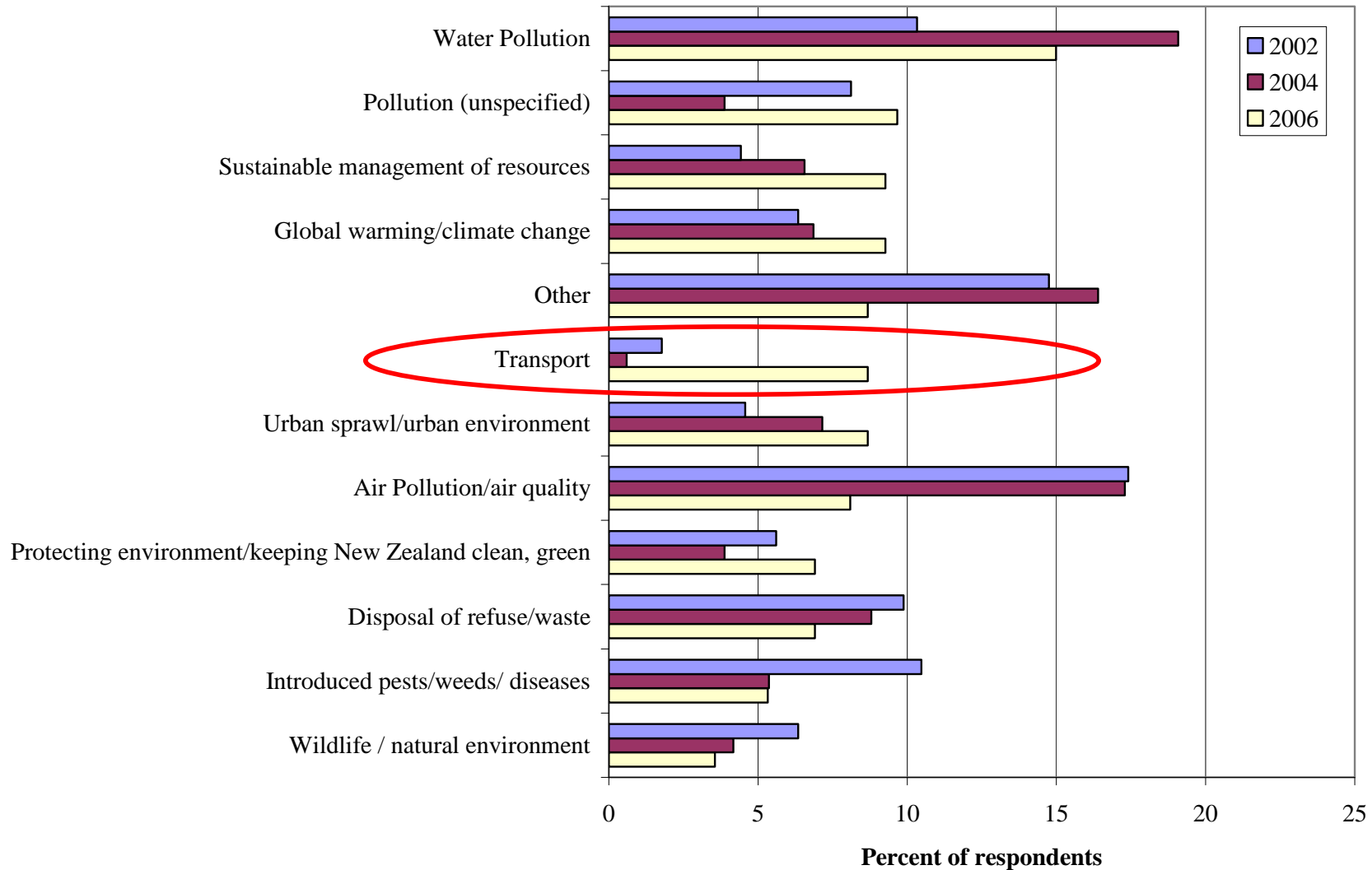
Case studies

- Each survey asks a set of questions focused on one topic:
 - 2000 natural hazards, and preparedness
 - 2002 coastal management and marine recreational fishing
 - 2004 freshwater management and recreational fishing
 - 2006 land transport and related externalities
- The data is analysed, nationally and in subgroups, e.g. regionally, by ethnic group.
- The 2006 transport case study provided the opportunity to evaluate TBL issues within a stressed, e.g., high fuel prices, increasing congestion, concern about health issues, transport context.

Transport, society and the environment in NZ:

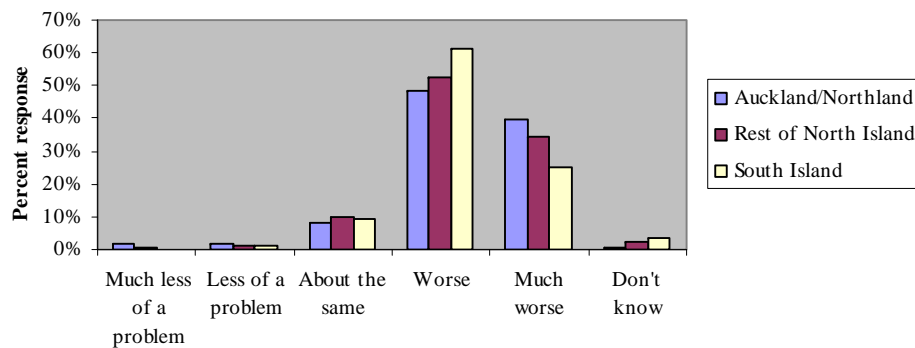
Some context

Most important environmental issue facing New Zealand: 2002-2006

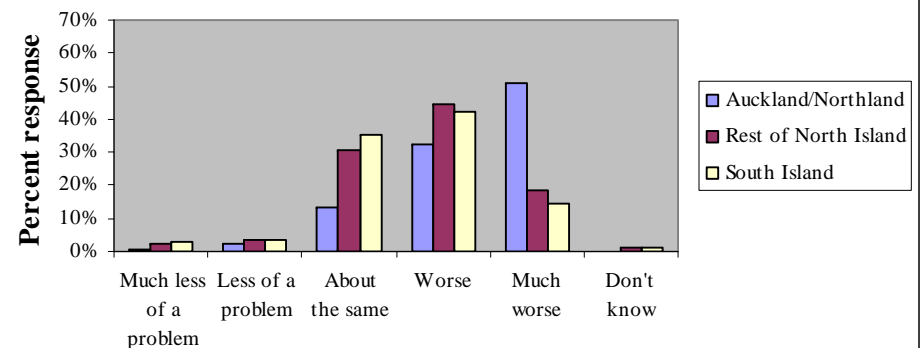


Perceptions of national and regional changes in traffic congestion, by regional response

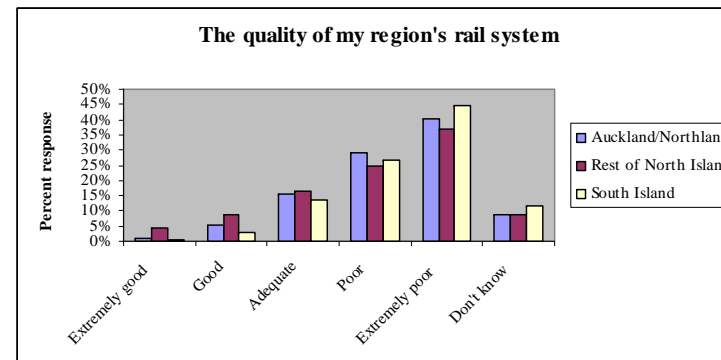
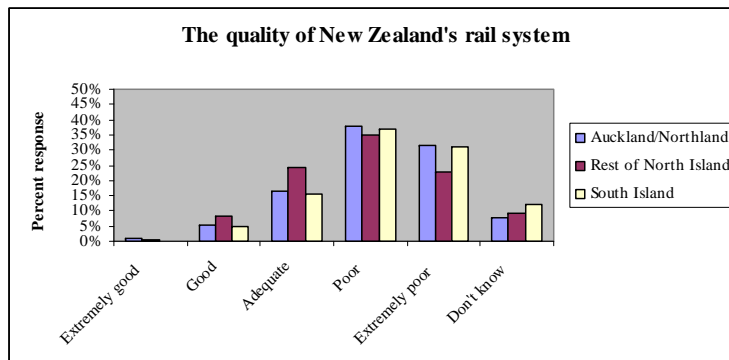
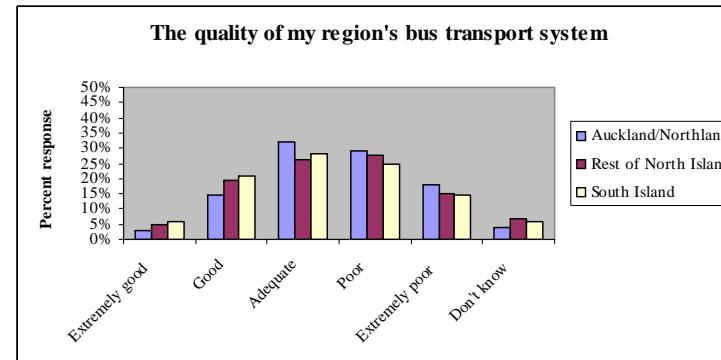
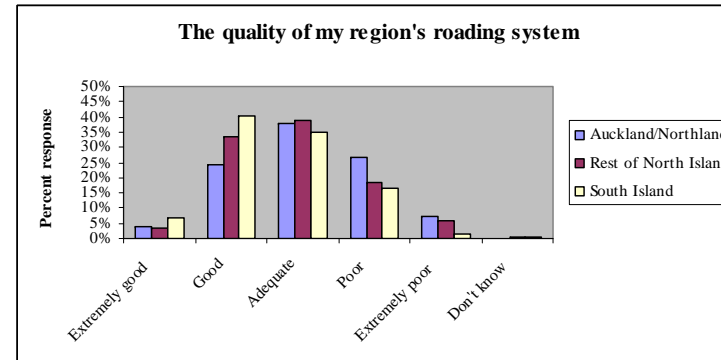
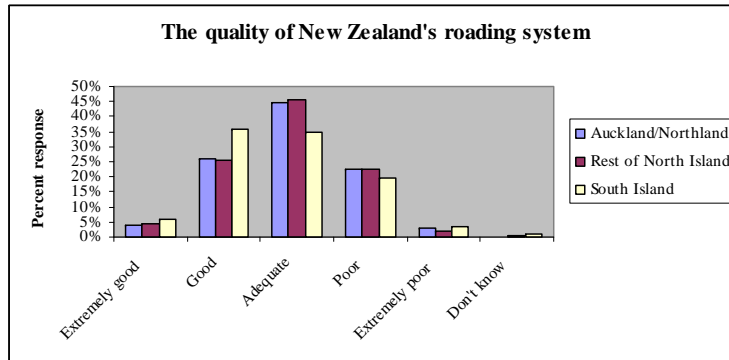
Traffic congestion trend for New Zealand



Trend in traffic congestion in my region



Perceptions of the quality of roading, bus and rail systems, analysed by regional responses



Quantified impacts

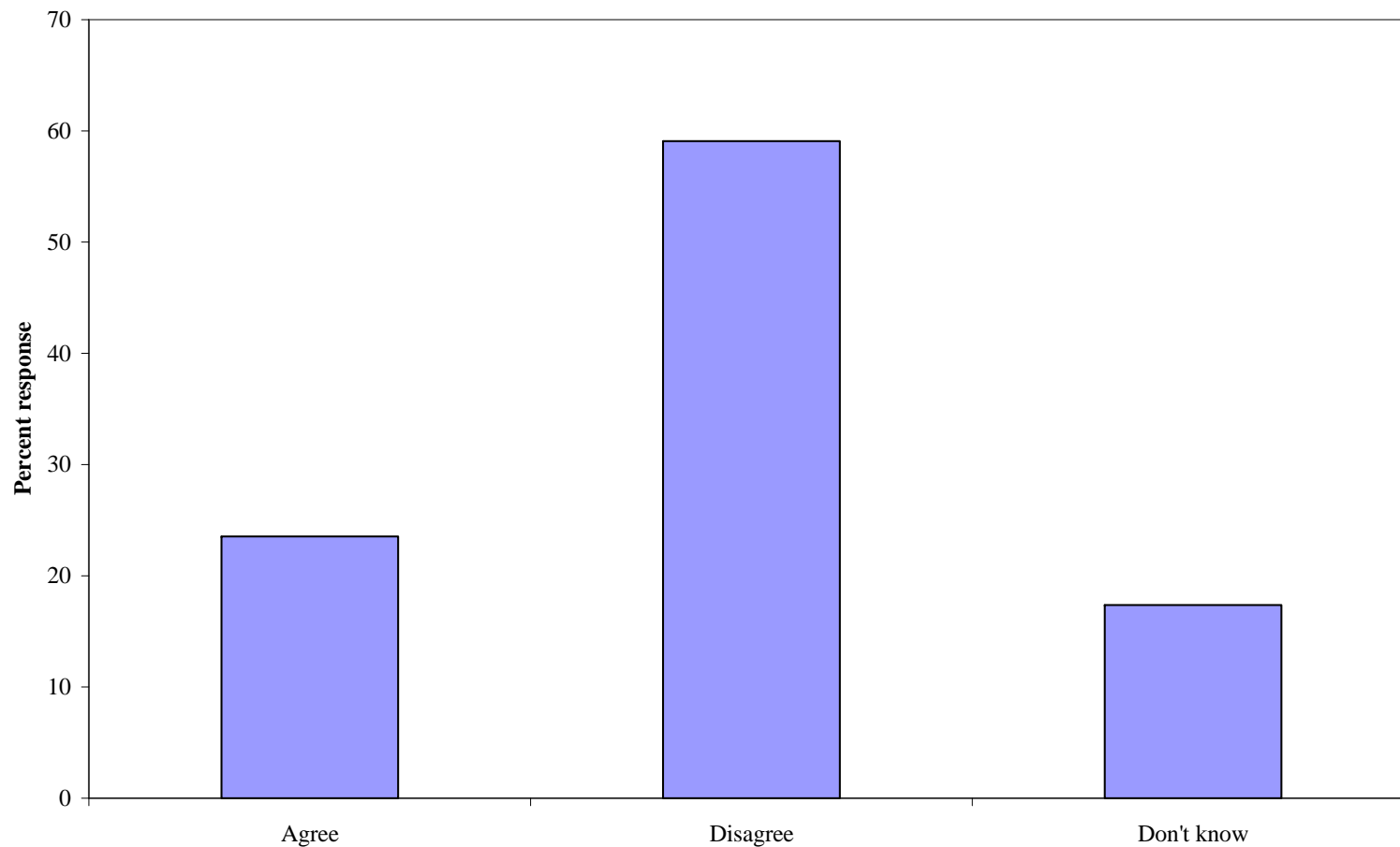
- Road users have major impacts on society and the environment (e.g., air pollution, noise pollution, water pollution and habitat loss): cost about \$1.2 billion per year and not covered directly by road users (Booz Allen Hamilton, 2005)
- Around 40% of NZ's GHG emissions come from road transport
- Around 400 road deaths per year and c.400 people over age of 30 thought to die prematurely each year because of air pollution from vehicles
- For most people the cost of running a vehicle is \$5-10,000 per year

Results: questions, responses and analysis

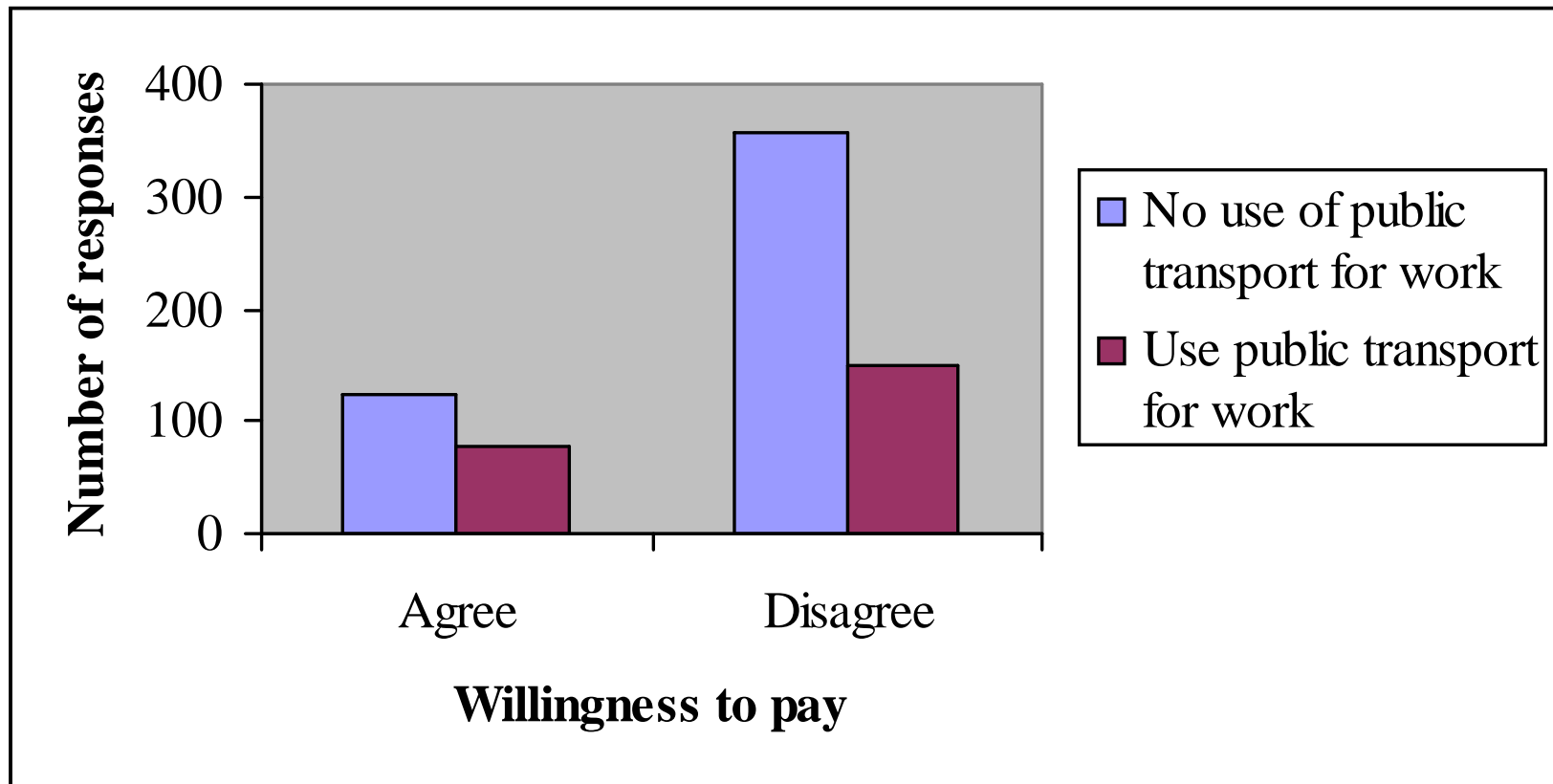
Context to overall Willingness to Pay question

‘Road users have major impacts on society and the environment, for example, air pollution, noise pollution, water pollution and habitat loss. It has been estimated that these impacts cost about \$1.2 billion per year and are not covered directly by road users. If each vehicle was charged their full share of these costs then this would be around \$600 per vehicle per year’.

‘The full costs of vehicle use, including social and environmental costs, should be paid for by vehicle owners’



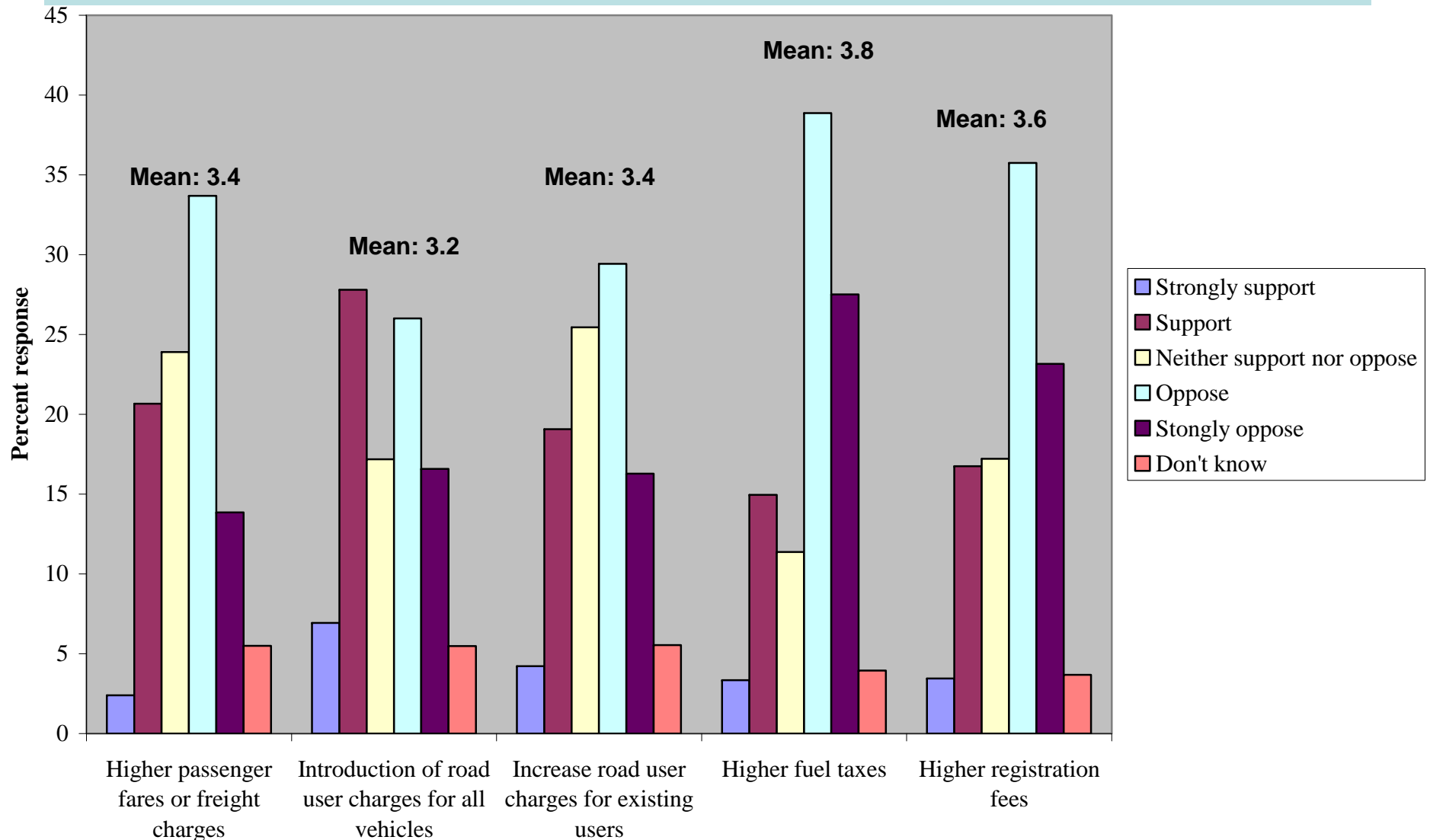
Comparison of those using public transport versus willingness to pay for the full costs of road use



Context to exploring Options for paying for impacts

- ‘Suppose it had been decided that vehicle owners must pay full costs of road use including all of the environmental and social costs. Please indicate your views about the following payment methods. Note that ALL revenue collected would be used specifically for road building and maintenance and meeting environmental and social costs from road use’.
- Five options were given:
 - Higher fuel taxes
 - Higher registration fees
 - Higher passenger fares or freight charges
 - Increase road user charges for existing **users**
 - Introduction of road user charges for all vehicles
- Assessed on a five point Likert scale anchored by Strongly support (1) and Strongly oppose (5).

Acceptability of different payment methods used specifically for road building and maintenance and meeting environmental and social costs from road use



Context for exploring how to Target impacts

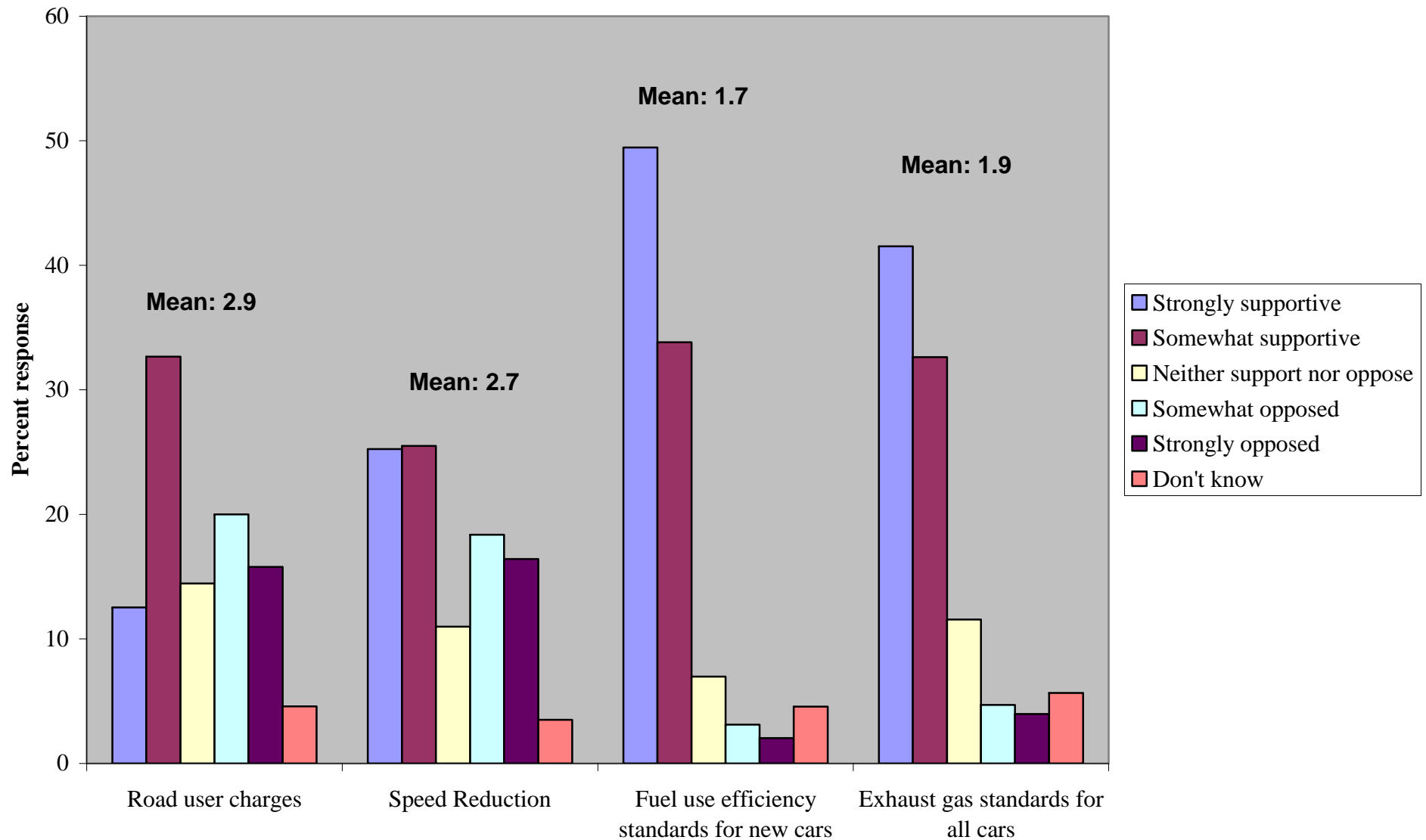
Respondents were given some factual material about major social and environmental issues, e.g., that 40% of New Zealand's greenhouse gas emissions come from road transport. The following table was then presented which incorporated an evaluation of some of the benefits and costs of four options for reducing these impacts.

Likely effects of implementing each option:	Option 1: New and/or increased road user charges, based on distance travelled and size of vehicle	Option 2: Open road speed limit reduction from 100 to 90 kph	Option 3: Fuel use efficiency standards for new cars	Option 4: Exhaust gas quality standards for all cars
Less Green House Gas emissions	✓	✓	✓	X
Less other pollutants	✓	✓	✓	✓
Fewer and less severe accidents	✓	✓	X	X
Reduced vehicle running costs	X	✓	✓	X

The question

- Respondents were then **asked** ‘based on the table and its **evaluations** what do you think about each of the four options?’
- The four options were:
 - Fuel use efficiency standards for new cars
 - Exhaust gas standards for all cars
 - Speed reduction
 - Road user charges
- Assessed on a five point Likert scale anchored by Strongly support (1) and Strongly oppose (5).

Support for targeting impacts













Influences on support for targeting the four options

	Option 1:	Option 2:	Option 3:	Option 4:
	Road user charges	Speed limit reduction from 100 to 90 kph	Fuel use efficiency standards for new cars	Exhaust gas quality standards for all cars
More supportive	Females* Bike riders** Public transport user** Degree****	Females**** Age** Public transport user** Maori**	Age** Degree**	Age**** Bike riders***
Less supportive	Born in NZ** Other ethnicities**	Born in NZ**** Wealthy*** Other ethnicities**	Number of vehicles owned ** Born in NZ*** Wealthy* Maori*** Pacific** Asian***	Number of vehicles owned*** Born in NZ** Pacific*** Asian*

KEY: *: P<0.1; **: P<0.05; ***: P<0.01; ****: P<0.001

Ethnic categories used were: Maori, NZ European, Pacific Island, Asian, Other

Summary of key results

Question and options:	Yes (Support)				No (oppose)
1. Full costs should be paid for by vehicle owners (Yes or no)					
Mean Likert score:	1	2	3	4	5
2. Options for paying for impacts:					
<input type="radio"/> Higher fuel taxes	_____ 				
<input type="radio"/> Higher registration fees	_____ 				
<input type="radio"/> Higher passenger fares or freight charges	_____ 				
<input type="radio"/> Increase road user charges for existing users	_____ 				
<input type="radio"/> Introduction of road user charges for all vehicles	_____ 				
3. Targeting specific impacts:					
<input type="radio"/> Road user charges	_____ 				
<input type="radio"/> Speed reduction	_____ 				
<input type="radio"/> Exhaust emission standards for all cars	_____ 				
<input type="radio"/> Fuel use efficiency standards for new cars	_____ 				

Conclusions and policy implications

- Most people opposed to paying directly for the social and environmental problems caused by land transport.
- However, more targeted responses received a much higher level of support, although not necessarily those which would have the greatest overall environmental and social benefit.
- Notably, female respondents more likely to support road user charges and speed reduction, the latter perhaps consistent with generally held perceptions that women are safer drivers.
- Both these options considered to lead to 'fewer and less severe accidents'.
- From a policy and marketing perspective it might be possible to use this information in designing a robust public discussion on policy directions in these areas, e.g., using the facts that women are safer drivers, women support these options and men need to catch up might be a strategy that could be sold to decision markers.

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