

Mind the Gap: Views on transport accessibility among transport professionals  
and the public of New Zealand

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Abstract:

Accessibility is an important objective for transport policy, planning and practice. However, other objectives such as traffic efficiency and safety are currently given more emphasis by road controlling authorities and decision-makers in New Zealand's transport industry. The purpose of this research paper is to explore the views of transport professionals and the New Zealand public on transport accessibility in New Zealand, and to provide direction to improve the way that transport provides for participation by all people. Findings from two questionnaires are presented and discussed. The first was a survey of the views of a sample of transport professionals ( $n = 238$ ) of equity in transport decision-making. The second was a survey of the views of a sample of the New Zealand public ( $n = 2,952$ ) on relationships between transport accessibility and participation. In combination, the surveys shed light on gaps between our industry's perceptions on what we are delivering, and New Zealanders' views on how transport enables their participation. It is concluded that increased emphasis on transport accessibility would be welcomed by the public of New Zealand. Methods to prioritise accessibility improvements in policy, planning, design and construction are discussed.

## INTRODUCTION

Accessibility is the ability of people to participate in everyday life. Participation by people with physical, sensory or cognitive impairments in particular is known to be influenced in a dynamic way by the environment (Hammel et al., 2008). The purpose of this paper is to investigate the different needs, behaviour and experiences of transport among people who do and do not identify as having disability, and to contrast these perspectives with those of transport industry professionals in terms of their delivery of accessible infrastructure and transport services.

Participation is important for all people from a needs perspective, in terms of essential services such as health and provision of food, shelter and employment. Social engagement in its various forms is known to have a positive influence not only on physical health, but cognitive and mental health, with associated link with an individual's likelihood of ageing well (Stephens & Flick, 2010). Participation is supported by accessibility, and in particular, access to a multi-modal transport system that is safe, efficient, comfortable, dignified and convenient for all people.

Because of financial constraints as well as challenges in the built and natural environments, transport professionals rely on standards to outline what level of service ought to be provided for transport by different modes in different situations. Trade-offs are considered on a case by case basis, balancing objectives such as traffic efficiency, road safety, local natural and built environment constraints and roadspace allocation for different modes.

The Land Transport Management Act (2003) set out objectives that each project was required to consider:

*An approved organisation must, in preparing a land transport programme, take into account how each activity or activity class—*

- (a) assists economic development; and*
- (b) assists safety and personal security; and*
- (c) improves access and mobility; and*
- (d) protects and promotes public health; and*
- (e) ensures environmental sustainability. (LTMA, 2003)*

However, this section of the Act was repealed on 13 June 2013, by section 56 of the Land Transport Management Amendment Act 2013 (2013 No 35). Therefore, the requirement to consider how projects improve access and mobility was removed. The Act does not mention 'access and mobility', and instead objectives for transport are contained within the Government Policy Statement on Land Transport (GPS) and its amendments.

The current GPS sets national land transport objectives, including 'access to economic and social opportunities' and 'appropriate transport choice'. These objectives are set below strategic priorities of 'economic growth and productivity'; 'road safety' and 'value for money' (GPS, 2015). The New Zealand Transport Agency (NZTA) which provides a significant proportion of overall land transport funding must 'give effect' to the GPS in developing the National Land Transport Programme and when approving funding share for local authorities' transport investments. Although some aspects of access and mobility are considered across many different types of

investment in transport, the lack of any strategic priority around accessibility means that when assessing 'strategic fit', the strategic hierarchy based on political priorities can mean that there is minimal land transport investment targeted specifically at accessibility improvements.

Providing more inclusive environments, by removing barriers and by building accessible spaces in the first place, is likely to improve participation especially for those with chronic conditions affecting their independent mobility, including many people who identify as having a disability (Theis & Furner, 2011). Many aspects of neighbourhood design are known to influence health (Stevenson, Pearce, Blakely, Ivory, & Witten, 2009). Although there has been little connection between this research and New Zealand professional transport practice, Taylor and Jozefowicz (2012) found that people with disabilities report high rates of visiting friends and family, with larger differences between them and able-bodied people as the cost of the activity increases. As increasing numbers of cities look to be demonstrably 'age-friendly', accessibility is a concept that many are looking to better define so that environments can reflect the needs of all people (World Health Organization, 2007).

In the absence of a requirement for Road Controlling Authorities and transport planning organisations to consider access and mobility generally, or the needs of people with disabilities in particular, and with strategic priorities focussing on economic growth, productivity and road safety, the purpose of this study was to research whether more prominence for the objective of accessibility in particular is warranted. By asking transport professionals and members of the public to report on whether we are delivering accessible infrastructure, any gaps between industry and public perception can be identified. The main research questions are:

- 1) Do transport professionals consider that the industry delivers accessible transport?
- 2) Do the public of New Zealand consider that different transport modes are accessible to all people?
- 3) Are any differences 'reasonable' or should more be done?

## **METHODS**

The research involved two separate web surveys. The first was of transport professionals, and the second was of members of the public. The latter survey web link was made public but particularly targeted towards people who identify as having a disability, so that comparisons could be made between the two groups. Because disability identity has a strong positive correlation with age, the public survey was intentionally biased towards older New Zealanders.

The survey of transport professionals was sent to the 1200 members of the IPENZ Transportation Group on Wednesday 2<sup>nd</sup> September. It was closed on Wednesday 16<sup>th</sup> September with 231 responses (51 female; Mean age = 43.6 years, SD = 13.4 years).

The survey of the New Zealand public was sent to various email lists and shared on social media. It was opened on 21<sup>st</sup> September and closed on 26<sup>th</sup> October with 2,952 responses (1,805 female;

Mean age = 62.1 years, SD = 15.9 years).

## RESULTS: SURVEY OF TRANSPORT PROFESSIONALS

### Place of Work

The majority (57.9%) of respondents worked in consultancy. The remainder work in local government (including Auckland Transport, District, City and Regional Councils; 28.5%), the NZ Transport Agency (11.2%) or 'other' (Ministry of Transport or University; 2.3%). Respondents worked in a wide range of disciplines within transport, with over 30% working in the following areas at least 'sometimes (I work in this area most months)':

- Transport policy
- Transport research
- Strategic transport planning
- Traffic modelling
- Geometric design of roads
- Traffic engineering design
- Planning or design for walking
- Planning or design for cycling
- Public transport planning
- Transport programme planning
- Construction management

### Providing for different modes

Respondents were asked to rate how the transport industry provides for motor vehicles, cyclists and pedestrians. The main purpose of these questions was to find out whether transport professionals consider that fair provision is made for each mode. Public transport was excluded mainly because it is not available in all parts of New Zealand.

### *National and Local Transport Policy and Planning*

Most respondents (78.8%) agree that national transport policy includes adequate consideration of motor vehicles. 48.4% agree adequate provision is made for cyclists, and 32% agree adequate provision is made in national transport policy for pedestrians.

Results were similar regarding consideration of different modes in local and regional transport policy and planning. 78.9% agreed that local and national transport policy adequately considers motor vehicles, compared with 55.0% for cyclists and 45.6% for pedestrians. These results are summarised in Figure 1.

Some comments by respondents that reflected these statistics were:

- "A lot of over-providing for vehicles, and lack of overall planning and network optimisation."
- "Transport Policy is heavily weighted towards the movements of motor vehicles, rather than a better balance between all modes, including active modes."
- "The transport industry focusses very large amounts of energy and resources on providing for vehicle movements and the needs of motorists."

- “We are slowly moving away from vehicle based to more people based, but lack sound, credible data to inform decision making. “
- “It seems like regional/local transport policy differs hugely between regions.”

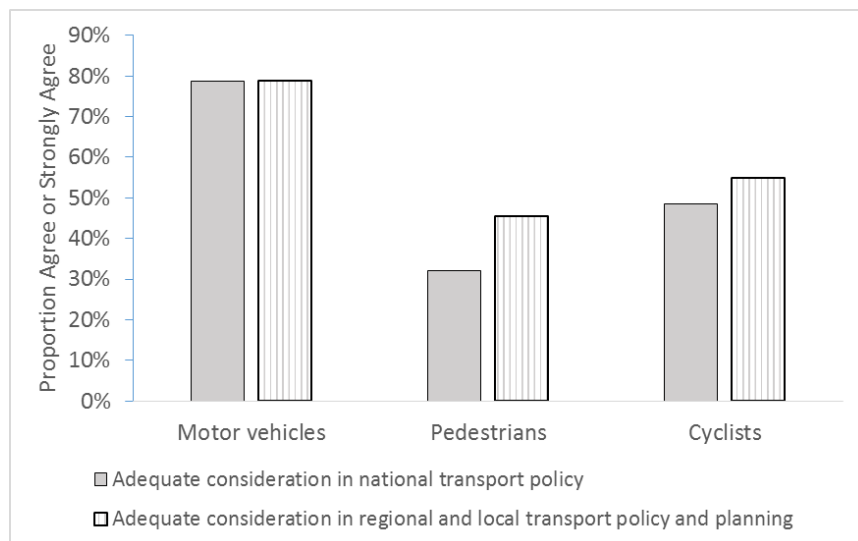


Figure 1 Consideration of motor vehicles, pedestrians and cyclists in transport policy and planning

### Design standards and data

Most respondents (74.0%) agree or strongly agree that design standards for motor vehicles accommodate all vehicles likely to use the network, however the proportion is lower when considering pedestrians (44.6%) and cyclists (38.9%). In terms of data, 64.5% agree or strongly agree that Road Controlling Authorities have good data about the number of vehicles using the road network, with much lower proportions agreeing about RCAs having good data about numbers of pedestrians (5.1%) and cyclists (15.8%). Just under half (49.7%) of respondents agree or strongly agree that RCAs have good data about the nature of vehicles using roads, compared with 6.7% for pedestrians and 11.6% for cyclists. These data are summarised in Figure 2 below. Some comments that reflect these statistics include:

- “We are slowly moving away from vehicle based to more people based, but lack sound, credible data to inform decision making. “
- “There is very little good data collected on current community walking patterns”
- “Design criteria and provision of infrastructure for mobility impaired needs to improve to reflect the growing older population”
- “Whilst there are reasonable design standards for pedestrians, these standards are often the first to be compromised in tight and constrained situations”
- “whereas data about motor vehicles is good, and closely related to demand, demand for cycling is strongly linked to availability of facilities, so simply counting cyclists is not going to give you a true picture the number of people who WANT to cycle.”
- “[cycling] provisions is (sic) based on faith and no robust assessment of usage.”

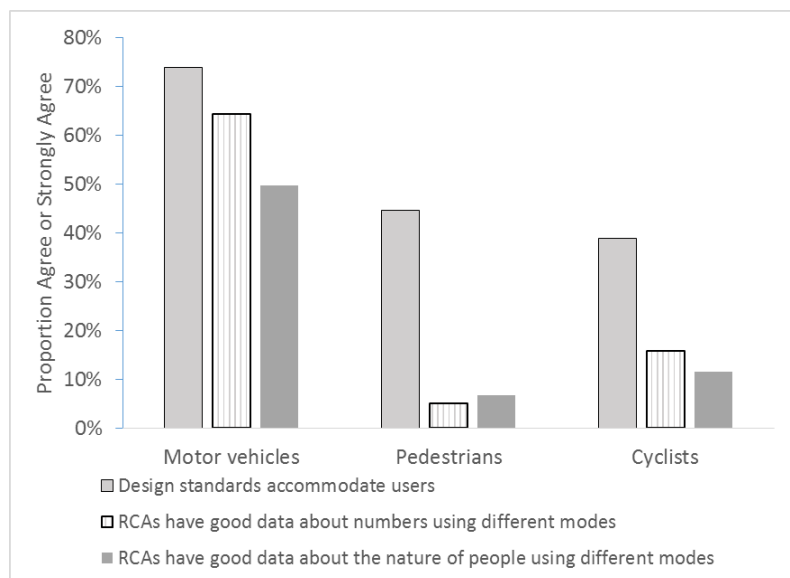


Figure 2 Design standards and data for motor vehicles, pedestrians and cyclists

### Upgrades and Consultation

In general, respondents did not agree that transport facilities are upgraded according to the needs of people who use them, with 38.5% agreeing or strongly agreeing that this is the case for motor vehicles, 18.6% for pedestrians and 19.5% for cyclists. Respondents do not agree that the transport industry does a good job of consultation with different users. For people who drive, 45.0% agree or strongly agree that the industry does a good job of consultation, compared with 14.9% for pedestrians and 32.1% for cyclists. These data are summarised in Figure 3 below.

Some comments reflecting these statistics included:

- “Footpath upgrades generally happen as part of asset renewal program not user needs”
- “Upgrades generally triggered by path condition or non compliance with standards for width, rather than by consideration of the needs of users.”
- “From my experience renewals of infrastructure is largely based upon the state of the current asset, not the needs of the community, and is not well supported with data / input from community.”
- “The [cycling] focus to date had been on building new infrastructure for cyclists and very little is being done as part of normal renewals and maintenance that considers the needs of cyclists”

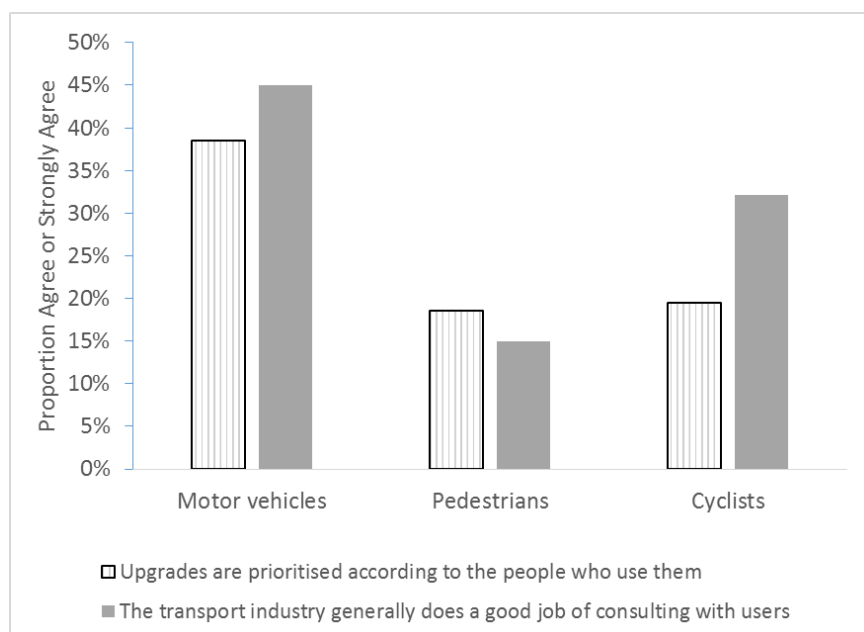


Figure 3 Prioritisation and consultation for users of motor vehicles, pedestrians and cyclists

### Transport professionals' reflections on their own decision-making

While the majority of respondents (84.1%) agree or strongly agree that they try to consider the needs of all people in their work, there is variety in respondents' perception of the extent to which their decisions consider different people. Most respondents (65.8%) agree or strongly agree that they adequately consider people with mobility impairment in their work, and while 56.1% consider those with vision impairment, only 7.0% consider people with a cognitive condition such as alzheimers or dyslexia. Overall, 52.9% agree that they have a good understanding of human diversity and behaviour. These results are summarised in the Figure 4 below.

Several respondents stated that their role did not require them to consider different types of users. There was also a theme from comments that transport professionals consider that understanding human diversity is a design issue, and not related to other parts of transport decision-making such as strategy and policy:

- "I don't do any design - so not considering the form of any road users for my work"
- "Strategic transport planning / modelling in which I was mainly involved with in NZ did not consider this level of detail but I agree there should be adequate design standards and strategies to address these issues."
- "We rely on national standards to consider these issues"
- "I am rarely involved directly in transport facility design and as a result seldom make decisions / recommendations that are addressed at people with vision or mobility impairment or conditions like alzheimers or dyslexia."
- "While I would like to think I'm aware of differing needs within humanity, I cannot honestly say that consideration of diversity of need is part of my work at this time. It appears to be an area which is not well represented in policy and therefore could fail to trickle down to implementation."
- "Questions not relevant to my situation"
- "The policy approaches backed up by industry standards (e.g. bus standards) and funding work well, but they are poorly integrated across the whole journey (e.g. bus standards

supported by foot path design, curb crossings, signaled crossings, building accessibility standards).”

- “More guidance is needed in the areas beyond vision and mobility impairment.”

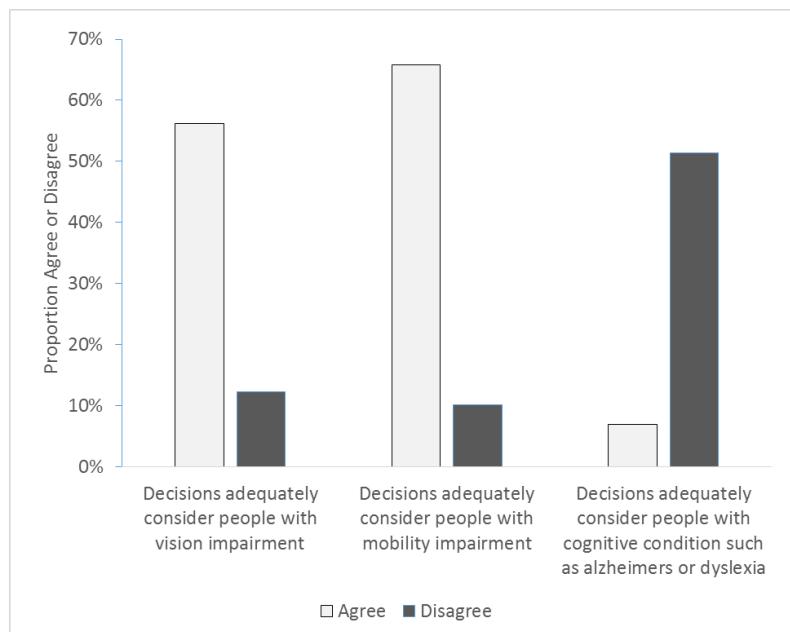


Figure 4 Respondents' views on the adequacy of their decisions for different people

## Results: New Zealand Public With and Without Disability

### Demographics

There were 2,952 respondents. Over half (1539 respondents; 57%) were aged over 65 years and 62% (1807 respondents) were female. 89% (2566 respondents) were from an urban area (including small towns) and the remaining 11% live in the country.

One third of respondents (883) were in paid employment, either fulltime or part-time. Over half (1622 respondents) were retired. Around 80% (2383 respondents) reported having a long-term disability. 7% (133 respondents) had a temporary disability, and 13% (371 respondents) reported having no disability. There was no significant difference in disability rates between urban and country areas; that is, the samples were representative across different parts of New Zealand [ $\chi^2(2735, 1) = 2.24, p = .13$ ].

### Summary statistics of accessibility by transport mode

Overall, most respondents considered that footpaths (74%), roads and parking areas (79%) are at least 'ok' in terms of being accessible for all people. 32% stated that buses and trains are generally not accessible, or not accessible at all. These results are summarised in Figure 5.



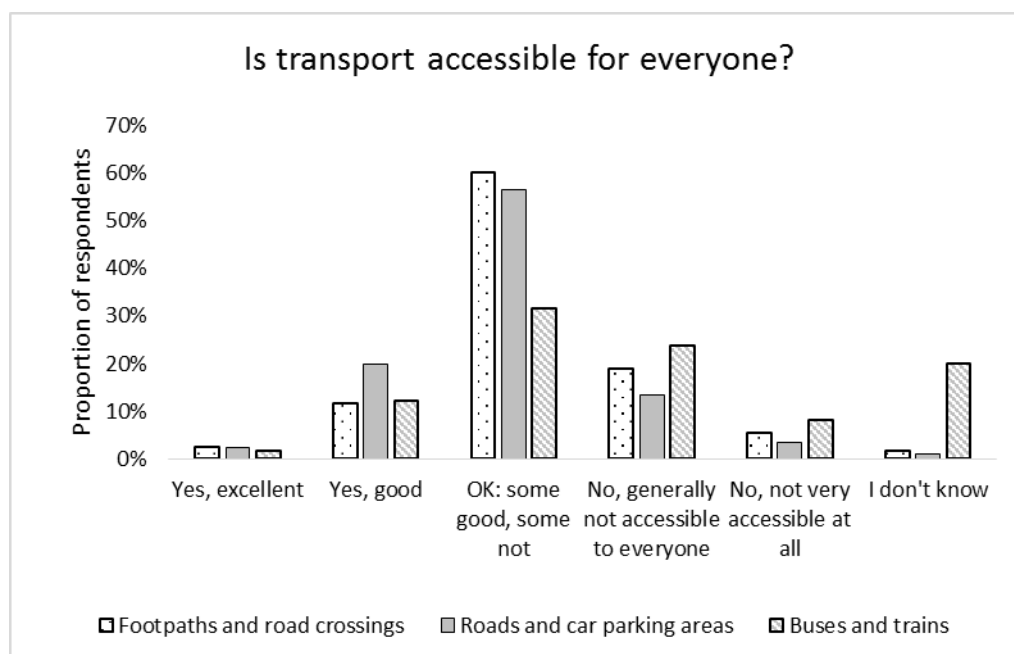


Figure 5 New Zealand public views on transport accessibility

## Analysis

Respondents were asked to report how easy it is for them to travel by different methods; how often they travel by different modes; and about their participation in different activities. Results were analysed using chi-square tests of independence, to determine any differences between people according to age (under and over 65 years); place of residence (urban or country); and disability status (long-term disability or no disability).

## Ease of transport

People aged under 65 years were significantly more likely to find walking with no mobility aid 'Easy' or 'Very easy' [ $X^2(1785, 1) = 6.07, p = .013$ ]. People with no disability were significantly more likely to find travel by walking [ $X^2(2358, 1) > 50, p < .001$ ] and driving [ $X^2(2332, 1) > 50, p < .001$ ] 'easy' or 'very easy', compared to people with disability.

## Amount of travel

People with disability were equally likely as people without disability to travel by any means at all on at least five days per week [ $X^2(2734, 1) = 0.34, p = .56$ ]. People aged over 65 years were as likely to report traveling at least five days per week as were people aged under 65 years [ $X^2(2734, 1) = 3.52, p = .06$ ].

## Participation

Overall, people with disability were less likely to report participation in normal everyday activities than people with no disability. People with disability were significantly less likely to be in paid employment [ $X^2(2256, 1) > 50, p < .001$ ]. This result was replicated for people of working age; those aged under 65 with disability were significantly less likely to participate in paid or voluntary employment or study compared with people aged under 65 with no disability [ $X^2(877, 1) = 18.71, p = .002$ ]. People with disability were also significantly less likely to go to a café, park, gym, church,

library at least once per week [ $X^2(2488, 1) = 15.62, p < .001$ ] compared with people with no disability. However, people with disability were no less likely to visit friends or family at least once per week [ $X^2(2727, 1) = .20, p = .65$ ].

There were no significant differences in participation between older and younger people. Older people were just as likely to go to a café, park, gym, church, library at least once per week as younger people [ $X^2(1366, 1) = 0.84, p = .36$ ]. People who find travel by car 'easy' or 'very easy' were significantly more likely to go grocery shopping at least once per week than people who find travel by car 'difficult' or 'very difficult' [ $X^2(1996, 1) > 50, p < .001$ ]. People who find car travel easy were also significantly more likely to visit a café, park, gym, church or library at least once per week [ $X^2(2506, 1) = 39.46, p < .001$ ].

## DISCUSSION

The main research questions for this study were:

- 1) Do transport professionals consider that the industry delivers accessible transport?
- 2) Do the public of New Zealand consider that different transport modes are accessible to all people?
- 3) Are any differences 'reasonable' or should more be done?

Several findings of the survey of professionals suggest that industry people do not believe that we deliver accessible transport. Fewer than half consider that pedestrian design standards, for example, accommodate all people likely to use the facilities. Fewer than 20% consider that upgrades to pedestrian facilities are prioritised according to the needs of people using them, and this is a consequence of and probably an influencer of the lack of data concerning pedestrians that are available to industry. Only 6.7% of respondents agreed that RCAs have good data about people using footpaths. However, over 80% of respondents stated that they try to consider the needs of all people in their work. Several commenters suggested that these issues are not within the scope of their daily work, or that they rely on standards and higher-level policy to dictate the level to which they consider these issues.

Results from the survey of people with and without disability confirm that people who report having disability are more likely to report difficulties traveling when compared to people with no disability. People with disability were more likely to find walking difficult, as well as travelling by car as a driver or passenger. These effects transferred into the amount of travel; those who find travel difficult tend to travel less. This resulted in less participation in daily activities reported by people with disability. However, there is evidence that different activities are prioritised; the finding that there was no difference by disability on frequency of visiting friends and family suggests that even though some people find transport difficult, it does not affect some aspects of their social participation. There were no meaningful differences in reported participation based on how old people are; for people who find travel difficult, participation is reduced. Participation is most strongly influenced by disability, and whether or not people find travel by car difficult.

The question of whether the differences are 'reasonable' is one of equity and the relative importance of different transport objectives. These data strongly support anecdotal evidence that people with disability find transport difficult, despite the best efforts of transport professionals to deliver accessible environments.

## **RECOMMENDATIONS**

If more could be done by the transport industry, these results show that where there is mobility, there is participation; people will travel to participate when they find it relatively easy to do so. However, the insights into the practices of transport professionals suggest that many feel the issues are outside of their influence or control. It is therefore recommended that while the industry continues to advance 'best practice' in terms of accessible built environments, issues of access for people with disability should be tackled through cross-sector initiatives at local, regional and national levels. Involvement by health, social service, transport and non-government sectors (including community groups and advocates) is encouraged, to deliver real change so that every New Zealander can live a meaningful life.

Specific recommendations for local, regional and national professional transportation practice include:

- At a national level, positive outcomes for health and wellbeing are known to be linked to healthy participation, supported by accessible transportation networks. An ability to demonstrate high 'strategic fit' supporting investment across different ministerial portfolios is a high-level recommendation. In this way, a transport activity class supporting investment in rural transport options (such as community transport, for example) could be justified with high health strategic fit, for example. Programmes of work that are outside of the scope of the existing Public Transport Operating Model could be explored.
- At a regional level, evidence about inequity of participation according to peoples' age, disability status and access to a motor vehicle could be used to inform Regional Land Transport Plans, and as a tool in development of Regional Public Transport Plans to identify areas of relative disadvantage. As a minimum, information about ageing population structures and projections ought to be shared with Regional Transport Committees so that they can make informed decisions about regional priorities.
- City and District councils can use these findings to investigate inequity within their own communities according to community demographics. It is recommended that City and District Councils work with local disability sector representatives (and their own Community Development teams) in the short-term to provide their own local data about areas of greatest need. It is also recommended that street accessibility audits be used to prioritise maintenance spending toward areas of greatest need. Trained auditors can identify details such as kerb cut locations and suitability, and footpath conditions compared to best practice, and then provide councils with a prioritised list for routine improvements.

To provide real progress in equity of participation for all New Zealanders, it would be useful for

transport professionals to find out about initiatives in other sectors that have transport implications. The current National Science Challenges, for example, are not transport-specific but there are clear links between a research area such as Ageing Well, for example, and accessible transport infrastructure. It is important that we as an industry make an effort to engage with these kinds of programmes, so that any recommendations made are practically applicable within existing transport funding and operational programmes.

Over time, the importance of accessibility as a policy objective in transport may grow such that specific training is warranted. In road safety, for example, we have extensive training courses and separate groups within our national agencies developing road safety-specific policy. The Safe System approach could be readily adapted to address accessibility, where transport professionals could work with health, community and social sectors to improve participation outcomes. Clearly this level of investment would require changing political approaches. However, the ageing population and diversity of access to a traditional independent motor vehicle-based transportation may necessitate such changing thinking in coming years.

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