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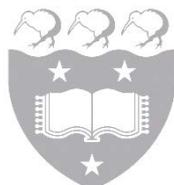
Accessible public transport for older people

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Funded by the Hope-Selwyn Foundation

SCHOLARSHIP IMPACT REPORT

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Thank You and Summary

I would like to thank the Hope-Selwyn Foundation for their generous funding of this project. This contribution has allowed me to pursue research this summer in the area of public transport access for older people. This is a growing area of research which will increase in importance as our population continues to age. The generous funding has allowed me to undertake a review of the scientific literature surrounding barriers to public transport use in other high income countries and interventions that have been attempted to improve this. Additionally, access to data from the CCS Disability Action Kiwi Transport Survey allowed me to conduct an analysis of current public transport usage trends amongst older people in New Zealand. I would also like to thank Bridget Burdett who enabled this access, Dr. Sandar Tin Tin for her help with the statistical analyses and my supervisor Professor Shanthi Ameratunga.

This work has provided essential background to a major inter-sectoral research symposium on 15 February involving Auckland Council, Auckland Transport, academics, researchers, policy makers and community members. I hope to also interact with CCS Disability Action over the coming months to help advocate for more accessible public transport systems in New Zealand.

Financial Input

In November 2016, the Hope-Selwyn Foundation pledged \$5,500 to be paid to support the study of public transport access for older people in New Zealand.

Research Activity

With an aging population in New Zealand, transport accessibility for older people, in particular public transport accessibility, is an emerging issue that has wide reaching health consequences both in terms of health care access and in terms of maintaining the social connections which are so important for mental well-being.

Statistics New Zealand has projected that, by 2061, 26 percent of the New Zealand Population will be aged over 65¹. Given this, it is clear that this population ought to be given significant voice in transport design policies. However, currently this group remains largely invisible in our transport system design.

To help draw attention to the issues facing older travellers I have reviewed the scientific literature surrounding public transport usage. Articles were reviewed from studies undertaken in urban areas of high income countries which had a focus on barriers to public transport access or interventions to promote transport access. Studies were included if they focused on people aged over 60. This age was selected as there was very little literature pertaining to those aged over 65, which, as the retirement age in New Zealand, could have been considered a more logical cut off point for a definition of older people. After an extensive search, seven studies were found that addressed access barriers²⁻⁸ and a further four which presented the results of interventions to increase access^{2,9-11}. The data from these studies were integrated to compile a coherent and comprehensive review of barriers to transport access for older people.

Additionally, I was granted access to the dataset collected by CCS Disability Action from their Kiwi Transport Survey¹². This survey collected information about transport usage from an opportunistic sample of New Zealanders of all ages. I analysed the data about public transport access from those aged over 65 who were living in urban areas. I examined transport usage among survey participants and considered their reported impairments, disabilities or functional limitations thereby providing an opportunity to make these results comparable and applicable to the general population. I also looked at which functional limitations were most likely to occur together and how many functional limitations people were likely to have.

Following this I investigated the frequency and ease of bus and train use as reported by older people compared with the younger participants in the study, then looked at whether there was a relationship between how often people travelled by bus and how easy they found it to do so.

Lastly, I analysed the relationship between public transport use and driving among survey participants.

In addition to the investigations noted above, I had intended to examine the impact of individual disabilities or functional limitations on public transport use. However, on exploring the data, it became obvious that the study sample was too small for such an analysis. Nonetheless, the preliminary analysis provided valuable insights into transport access in New Zealand. More specifically, based on my literature review and evaluation of this unique survey, I was able to provide the researchers and sponsors of this survey (CCS Disability Action) advice on how future iterations of this survey can be improved methodologically.

Research Output(s)

The review of the literature and the analysis of the data from the Kiwi Transport Survey provided several exciting insights into the reality of public transport access for older people both in New Zealand and overseas. The literature review demonstrated the range of barriers present for older people and brought to light some promising interventions that have been used overseas to overcome some of these barriers. Additionally, the data analysis highlighted the car dependence of older New Zealanders and affirmed the findings in the literature that compared with younger people, older people generally find public transport travel more difficult and use it less frequently.

Literature Review Findings

The studies reviewed used a variety of methodologies to assess barriers to transport use among people aged over 60 years. Taken collectively, these studies revealed a range of barriers which are categorised and presented schematically in Figure 1.

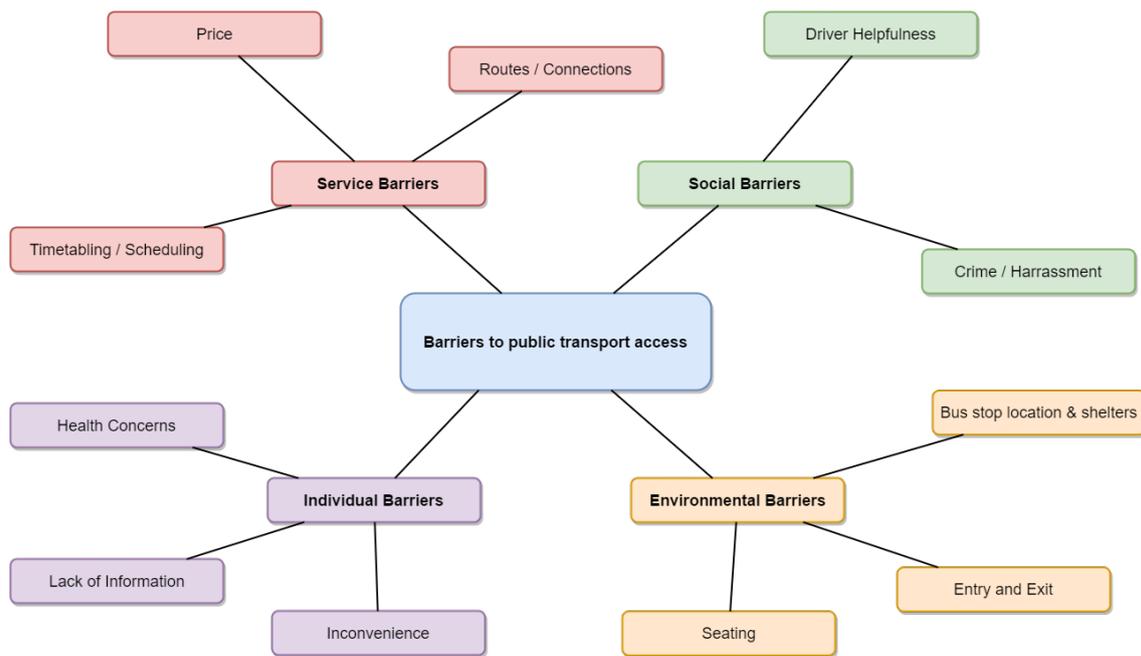


Figure 1 Public transport barriers identified in the literature search

Although variations in focus and methods employed in studies made it difficult to determine which barriers were the most important, the broad groupings evident in this review provide a useful framework when considering interventions to improve access. Some of these barriers are likely to be easier to resolve than others and likewise the extent to which each barrier is important is likely to vary depending on the public transport service provision in any given location. It follows that in order to determine which of these barriers should be prioritised for attention, context-specific studies may be required as the particular circumstances, topography and urban landscape, existing services and demographic considerations could vary between and within cities. It is also apparent that while some barriers may be largely pertinent for older people e.g. helpfulness of bus drivers, others such as difficulties with timetables and scheduling can affect all age groups.

The literature review brought to light some promising public transport interventions but also highlighted the difficulties associated with attempting to measure benefit in the public transport sphere. One policy intervention trialled by Broome et al. in Queensland Australia, showed particular promise by increasing public transport satisfaction and patronage amongst the elderly population⁹. The unique factor in this intervention was the choice to target multiple barriers to bus use simultaneously rather than solely focusing on one barrier. The authors of this study noted that people are frequently affected by more than one barrier and therefore that changing only one barrier is often insufficient to improve access.

Kiwi Transport Survey Findings

In general, older participants found it more difficult to travel by bus and train than young non-disabled participants; 83% of young participants found bus travel easy compared to 43% of older participants. They also travelled less frequently by bus and train. For example, 31% of the younger participants travelled by bus at least once a week but only 13% of older participants did.

Another important finding was that the ease of bus or train use was related to frequency of bus or train use. Around 60% of study participants who used buses weekly, monthly or even yearly rated bus use as easy compared to 30% of those who used buses less than once a year and 18 % of those who never used buses. Ease of using the buses was not significantly different for participants who used the buses weekly compared to those who used buses yearly. The same pattern was seen for train use.

Some caution should be taken when applying the results to the New Zealand population as a whole as the survey was not representative of all older New Zealanders. This is likely a consequence of the way in which the survey was distributed: through known disability support networks in addition to general notices. The implications of this sampling method are evident when comparing the proportion of people over 65 with a disability in the general population as estimated in the 2013 New Zealand Disability Survey¹³ (59%) compared with this study (94%). Notwithstanding this difference in overall proportions reporting disabilities, the rates of vision difficulties seen in the study population were similar to those in the general population (10% in the study vs. 11% nationwide) and the rates of hearing problems were under-represented (11% vs. 28% nationwide). In contrast, mobility problems e.g. difficulties with walking, lifting and bending were over-represented affecting 90% of the study participants.

Given these survey participant characteristics, the findings are likely to represent experiences of older people with disability more than older people in general. With this caveat, the study has a number of advantages over other information currently available. The two datasets generally available to explore questions such as the ones pursued in this project are the New Zealand Household Travel Survey¹⁴ (Ministry of Transport) and the New Zealand Disability Survey¹³ (Statistics New Zealand). The travel survey collects information about frequency of access but not ease of access and collects limited information on functional limitations. The National Disability Survey collects information on functional limitations but not on transport use or access. Consequently, the Kiwi Transport Survey covers two key areas that have had patchy coverage to date to shed light on accessible transport in New Zealand, a topic of increasing public health significance as our population ages.

Research Outcomes

This research has a variety of implications:

The Kiwi Transport Survey data analysis findings regarding driving status suggest that car dependency among older New Zealanders may be greater than that in other similar countries. The fact that drivers perceived public transport access to be easier than non-drivers did, may suggest that New Zealanders generally don't retire from driving until they are physically unable to drive at which point it may also be difficult to use public transport. In order to reduce car dependency of older people and promote public transport use, interventions such as driving cessation workshops, which target behavior change rather than systemic or environmental barriers, may be most useful.

The finding that using the bus even as infrequently as once a year correlated to a much better perception about how easy it was to use buses suggests a potential role for services to familiarize people with the bus service. Such a service would enable them to get onboard a few times which might, in turn, improve their perceptions of how easy it is to use and thus make bus travel a plausible option for them. Obviously, some caution must be taken here as it might be that people who do not use the bus often do so because it is not easy rather than thinking it is not easy because they don't do it often.

The finding that only 60% of weekly bus users find it to be easy to use suggests there are a large number of barriers to use of bus services in New Zealand which should be addressed. Unfortunately, the questionnaire did not ask about barriers so it is not possible to know exactly what these barriers are. However, the findings from the literature review have helped identify common barriers and this could provide the basis for future surveys to help identify the barriers that are the most important in the New Zealand context.

The identification of these barriers provides a platform from which future interventions in public transport can be targeted to meet the need of the users with regard to the constraints of the organizations providing public transport such as cost and legislative constraints. For example, infrequency of services is a barrier which is costly to address but which benefits all transport users and so may be an option for organizations with a larger budget which will provide measureable benefits, whereas bus driver helpfulness is less measureable and is more important to older people than to younger people but would offer a less costly way of improving transport access.

This project has also helped critique the kiwi transport survey questionnaire and data collection so that when the survey is repeated in the coming years it will be able to collect more relevant information on a larger scale so that better insights can be gained into the unique situation of New Zealand public transport. Future research should also consider the extent to which

transport and mobility experiences vary between people of different ethnic and socio-economic groups, and those with varying comorbidities.

Impact

To date this research has been presented to summer students and staff at the School of Population Health at the University of Auckland. Over the coming months I will be presenting this research to the sponsors, the Hope-Selwyn Foundation, and the owners of the dataset CCS Disability Action in the hopes that both these organisations will be able to derive some benefit from it within their own spheres and use it to inform their future actions.

Additionally, this work provided essential background for a major inter-sectoral research café (symposium) held on 15 February 2017 on Accessible Public Transport, convened by my supervisor, Professor Shanthy Ameratunga. The interactive forum provided an invaluable boost to research and advocacy initiatives in partnership with people with disability and older people, including the launch on 27 February of a national campaign on accessible transport for all New Zealanders. This work will contribute to the creation of constructive suggestions to help make this new public transport infrastructure more accessible for older people.

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