

Car Ownership and Low Income on the Urban Fringe – Benefit or Hindrance?

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ABSTRACT:

This paper addresses conflicting views about how owning or not owning a car affects disadvantage for low income groups. Contemporary research has suggested that a lack of access to a car is a major cause of transport disadvantage; however there is also a contrary view that high car ownership creates disadvantage and that car ownership is ‘forced’ upon this group. Recent research has also noted that home location and proximity to activities play an important role in mediating the relationship between transport and disadvantage. Resolving these viewpoints is a major focus of the paper.

The paper explores the factors affecting travel and disadvantage as they impact low income groups living in fringe urban Melbourne by contrasting low income no car ownership (LINCO) households (HH) and low income and high car ownership (LIHCO) HH. It is based on the results of a household travel survey covering 535 households selecting using a targeted random sample approach. Although random sampling was adopted the sample was modest and results need to be interpreted with caution.

The research has found that LINCO HH make significantly fewer trips and have greater difficulties with travel than LIHCO HH. However LINCO HH make logical financially sustainable home location decisions to balance mobility and accessibility with limited budgets. Though most acknowledged the limitations imposed by lacking a car, most also emphasised the advantages of not having to pay for a car and said that alternative options met all of their transport needs.

In contrast LIHCO HH are more concerned about home affordability and living in ‘greener’ areas than with transport. They emphasised the benefits of the increased mobility of owning cars and none of them regretted their home location decision. In this context it is difficult to see their car ownership as “forced” as their home location decision was quite deliberate. However a third did acknowledge that transport costs were a high proportion of their income and most adopted coping strategies to limit travel expenses such as trip linking and cost minimisation.

Analysis suggests that LINCO exhibit more dimensions of social exclusion, notably low income, unemployment and low social support however these findings may reflect the distinct socio-economic characteristics of LINCO/LIHCO households rather than car ownership influences.

Overall the paper finds that those with and without cars have different forms of disadvantage suggesting both sides of the argument are both right and wrong. LIHCO HH demonstrate clear vulnerabilities to higher future transport and housing costs which should be addressed by research and policy. LINCO HH in contrast demonstrate both financial and environmental sustainability which should be encouraged by transport and land use policy.

Keywords: car ownership, low income, social exclusion, transport disadvantage, travel survey

1. INTRODUCTION

There are conflicting views about how owning or not owning a car may disadvantage low income groups. Contemporary research concerning transport and social inclusion have tended to focus on the inequalities in travel resulting from lack of car access (e.g. Social Exclusion Unit 2003). This argument associates transport disadvantage with those without a car. However a range of research has suggested that car ownership itself can be a significant financial burden for low income families (e.g. Froud et al. 2002). The term 'Transport Poverty' (Gleeson and Randolph 2002) has been associated with low income groups on the urban fringe who have little option but to bear the high and rising costs of the car because there is no reasonable level of public transport service. In this and similar contexts the term 'forced car ownership' has been used (Jones 1987; Banister 1994) to describe the predicament of these low income groups

To this debate has been added the new suggestion that having no car on low income might be a benefit rather than a hindrance to low income groups living on the urban fringe (Currie and Senbergs 2007). This was based on an analysis of trip making in fringe urban Melbourne. It established that low income households without a car (Low Income No Car, LINCO) lived close to activity centres where walk access and public transport was good. This contrasts with low income households with high car ownership (LIHCO) who need a car for most journeys, lived in areas much further from activities and who had considerable proportions of their income tied up in car ownership (up to 50% of total income was suggested, Currie and Senbergs 2007). These findings suggest that LINCO households may have made a conscious decision to match travel and home location options to their budgets; in contrast, the home location decisions of LIHCO households position them for car dependence. The same study identified over 16,000 LINCO households and 20,000 LIHCO households on the urban fringe of Melbourne, suggesting that high car ownership may dominate disadvantage (Currie and Senbergs 2007). Clearly these issues are worthy of further research.

This paper explores the factors affecting travel and disadvantage as they impact low income groups living in fringe urban Melbourne. It contrasts factors affecting two fringe urban resident groups; those with low income and no car ownership (LINCO) and those with low income and high car ownership (LIHCO). A household travel survey is used to explore these issues. Areas explored for both LINCO and LIHCO households include:

- Realised travel rates
- Difficulties with travel
- Home location decision making and its relation to transport
- Transport coping strategies
- Perceived impacts of (high/no) car ownership on travel and activities
- Links with measures of social exclusion and well being

This paper is structured as follows. Section 2 outlines the methodology applied to the household travel survey. Section 3 describes the major findings of the survey. The final section summarises the aims and major findings of the research including a discussion of what the results imply about car ownership on low income. Opportunities for further research are also identified.

2. METHODOLOGY

A household travel survey was developed as part of an international research project exploring links between transport disadvantage, social exclusion and well being in Metropolitan Melbourne¹. Part of the survey explored issues of transport and access associated with LINCO and LIHCO households on the urban fringe. The development of the travel survey and the wider analysis in this project are described elsewhere (Currie et al. 2009). The household travel survey itself and the relevant issues explored in this paper are described here.

An in-home interview approach was adopted using a selection of respondents from a pool generated by a previous household travel survey called VISTA (Victorian Integrated Survey of Travel and Activity, Department of Infrastructure 2007). This approach enabled access to existing travel diary records and also provided a suitable sample frame for targeting of respondents. The sampling approach aimed at oversampling lower income households which were defined as households with incomes less than \$500/week (based on the 'Henderson poverty line'). People with and without transport were targeted and also those within and beyond walkable access distances (500m) to local activity centres. The frame also over sampled outer or fringe Melbourne suburbs. A special survey of young people (aged over 14 and below 18) was also included. In general one person was selected per identified household using a 'Kish grid' random sampling method (Kish 1965).

The interview survey was administered using a portable CAPI (computer assisted personal interview) system. The questionnaire covered issues of social exclusion, social and psychological well being and transport disadvantage in some depth (average interview length was 68 mins). Special quota identification was used to identify LINCO and LIHCO households who were administered an additional set of questions which are the major concern of this paper.

A total of 535 interviews were completed in the MMS which was administered between Sept 2nd and December 22nd 2008. The quota of outer suburban households² earning less than \$1,100 per week included 24 households defined as LINCO and 17 identified as LIHCO³. In each case samples were small hence the statistical reliability of the results must be treated with caution. Nevertheless some insightful results emerged.

3. RESULTS

3.1. Realised Travel and Travel Difficulties

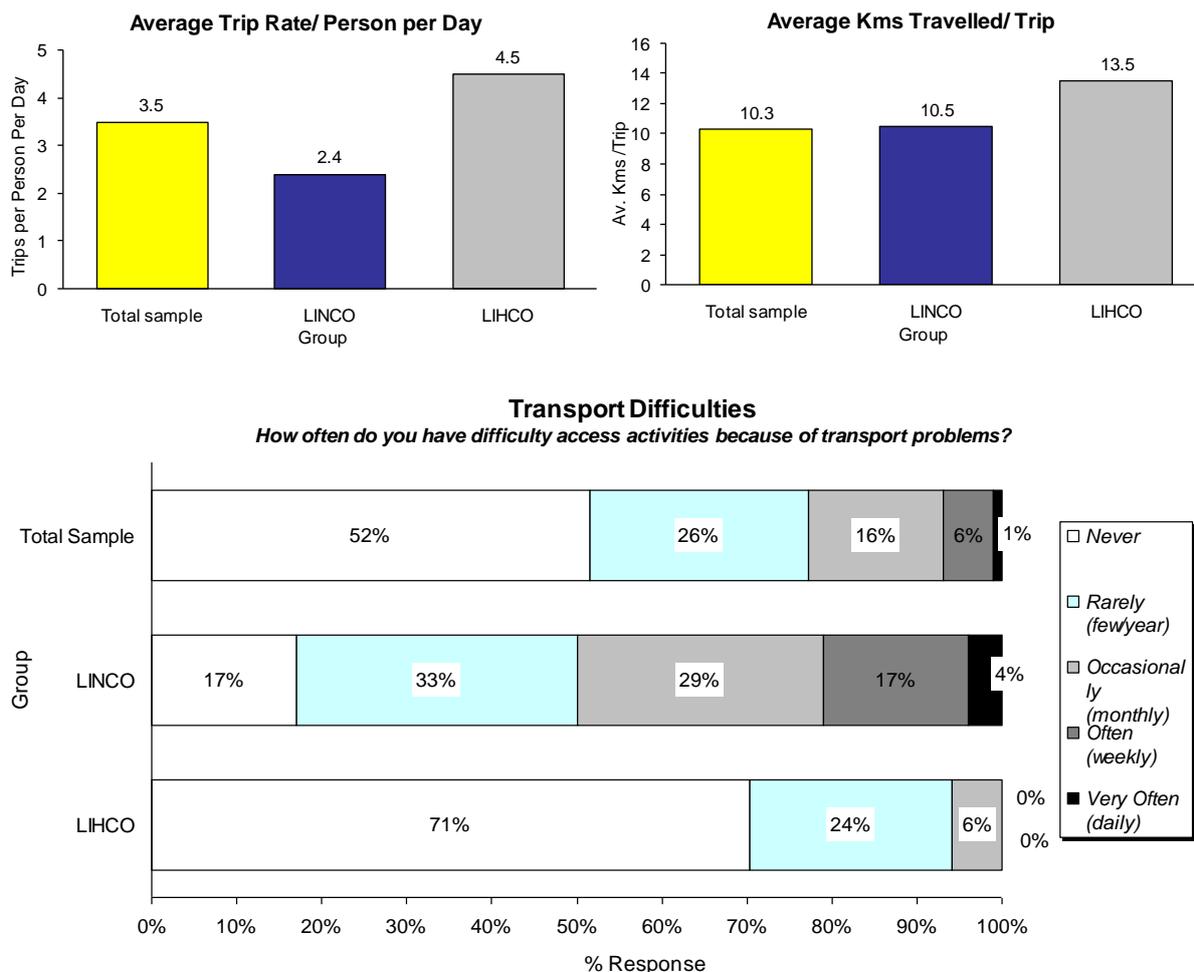
Figure 1 shows the results for realised daily trip rates from the survey and the results with respect to difficulties in travel. LINCO households in outer Melbourne make fewer trips over shorter distances whilst LIHCO households have much greater realised travel volume and trip distance coverage. To some extent these findings are as expected. Previous analysis (Currie and Senbergs 2007) had shown that most trips made by LINCO households were made by walking with public transport and getting lifts the other important modes. Travel by LIHCO households however were car dominated.

Figure 1 : Realised Travel and Travel Difficulties

¹ Australian Research Council Industry Linkage Program Project LP0669046 'Investigating Transport Disadvantage, Social Exclusion and Well-being in Metropolitan, Regional and Rural Victoria' Monash University in association with the University of Westminster (UK), University of Ulster (UK), Department of Infrastructure, Victoria, the Bus Association of Victoria and the Brotherhood of St Laurence. The chief investigators are Prof G Currie, Prof T Richardson, Prof P Smyth and Dr D Vella-Brodrick. The partner investigators are Prof J Hine, Dr K Lucas, Mr J Stanley, Dr J Morris, Mr R Kinnear and Dr J Stanley

² Outer suburban areas include the LGA's of : Cardinia, Casey, Frankston, Hume, Knox, Mornington Peninsula, Maroondah, Melton, Nillumbik, Whittlesea, Wyndham, Yarra Ranges. At their closest these areas lie some 20kms from Melbourne CBD and at their furthest they are some 110kms from the CBD

³ LIHCO in previous research was based on a definition of low income and owning 2 or more cars. This analysis explored a more 'extreme' version of low income and high car ownership i.e. with 3 or more cars being owned.



Source: VISTA survey analysis and Main Metropolitan Survey, Monash University

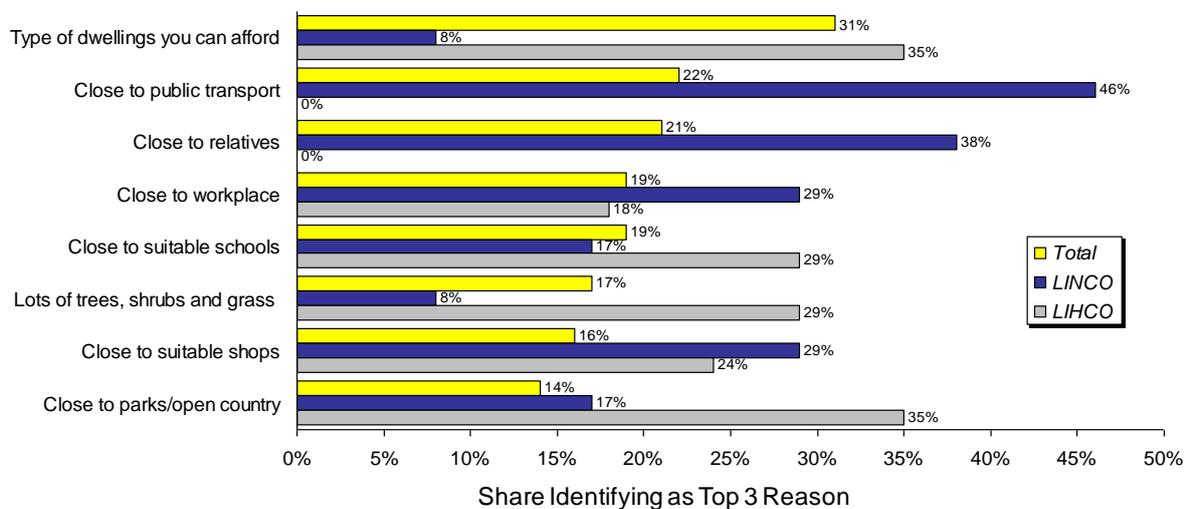
Figure 1 also shows that LINCO households report more travel difficulties than on average and also substantially more than LIHCO households. Overall these results suggests that having a car increases mobility and reduces difficulty in accessing locations. Without a car, low income households make less and more localised travel and experience more difficulties in accessing activities.

3.2. Home Location Decisions

Figure 2 shows the results of stated factors which were considered priorities in deciding where to live. Very different rationales are shown for LINCO and LIHCO groups. Almost half of those without a car rated ‘close to public transport’ as the most important factor with ‘close to relatives’ and ‘close to shops/workplace’ as the next high rated factors. This supports the view that those without a car think carefully about mobility and accessibility in making home location decisions. Dwelling affordability was not prioritised for this group, possibly because half of LINCO households in this sample rent their dwellings.

All of the LIHCO households in this sample have a mortgage or own outright, explaining the emphasis on having a dwelling they could afford. But in contrast to LINCO, this group prioritised proximity to green spaces and in fact rated proximity to parks/open country as highly as they rated dwelling affordability.

Figure 2 : Factors Affecting Home Location Decisions

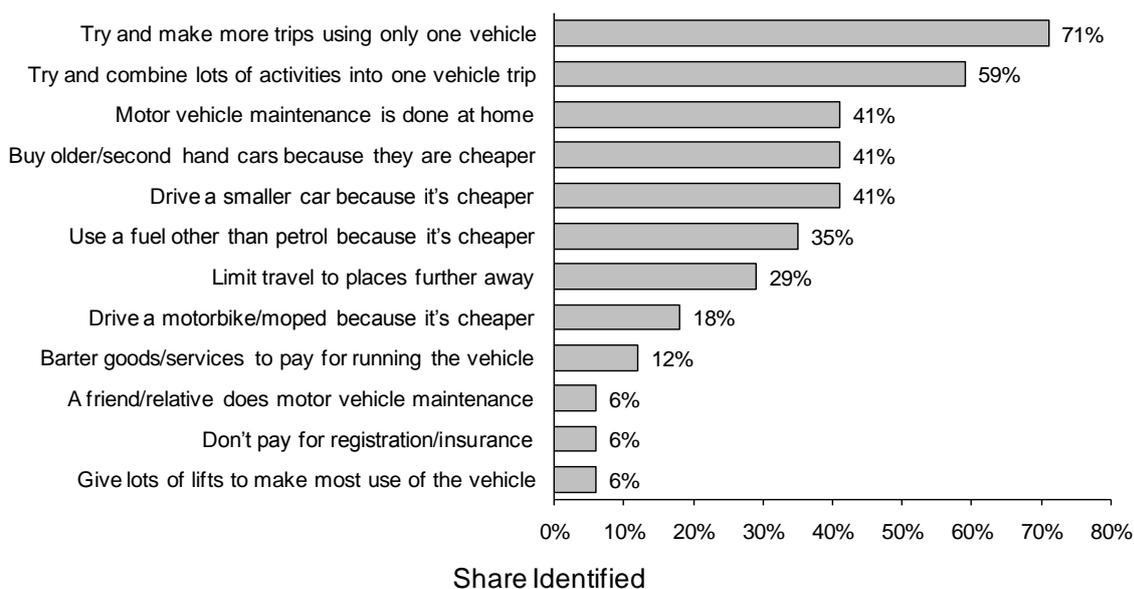


Source: Main Metropolitan Survey, Monash University

3.3. Coping Strategies

Amongst high car ownership households (LIHCO) 65% said they did not use all of their vehicles more than twice a week. The main reasons given were that vehicles were used only occasionally (such as recreational vehicles or racing bikes) or that they were being repaired or restored. This suggests that LIHCO households might have high car ownership but that they are not necessarily using these cars regularly. In two cases employers purchased one of those vehicles and paid for part of its running. Some 35% of respondents agreed that transport costs were a substantial portion of their income however most gave a neutral response to this question. LIHCO households identified a number of strategies aimed at reducing their travel costs (Figure 3).

Figure 3: Identified Coping Strategies (LIHCO Households)

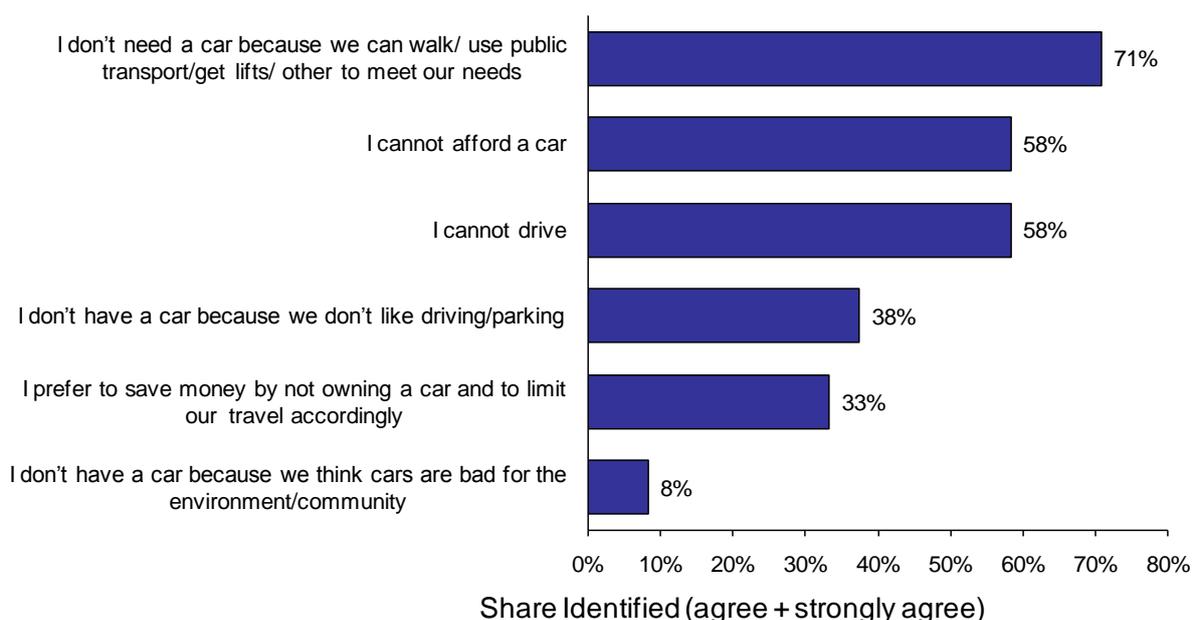


LIHCO households are clearly active in trying to reduce the costs of their travel. Trip linking dominated the approaches identified. There is evidence of targeting of cheaper private travel options

including alternative fuels (e.g. LPG) and smaller vehicles including motorbikes and mopeds. Reference to older/second hand cars is made which is consistent with the finding that LIHCO households tend to have older cars (Currie and Senbergs 2007). This is a potential concern because these might not necessarily be cheaper cars to operate. Almost a third said they limited travel to reduce costs.

Households without a car were asked to explain their reasons for this. Over two thirds said alternative travel options including walking met their travel needs. Over half could not afford a car or simply could not drive while over a third said they did not like to drive/park. Another third preferred to save money by not owning a car.

Figure 4 : Reasons for Having No Car (LINCO Households)

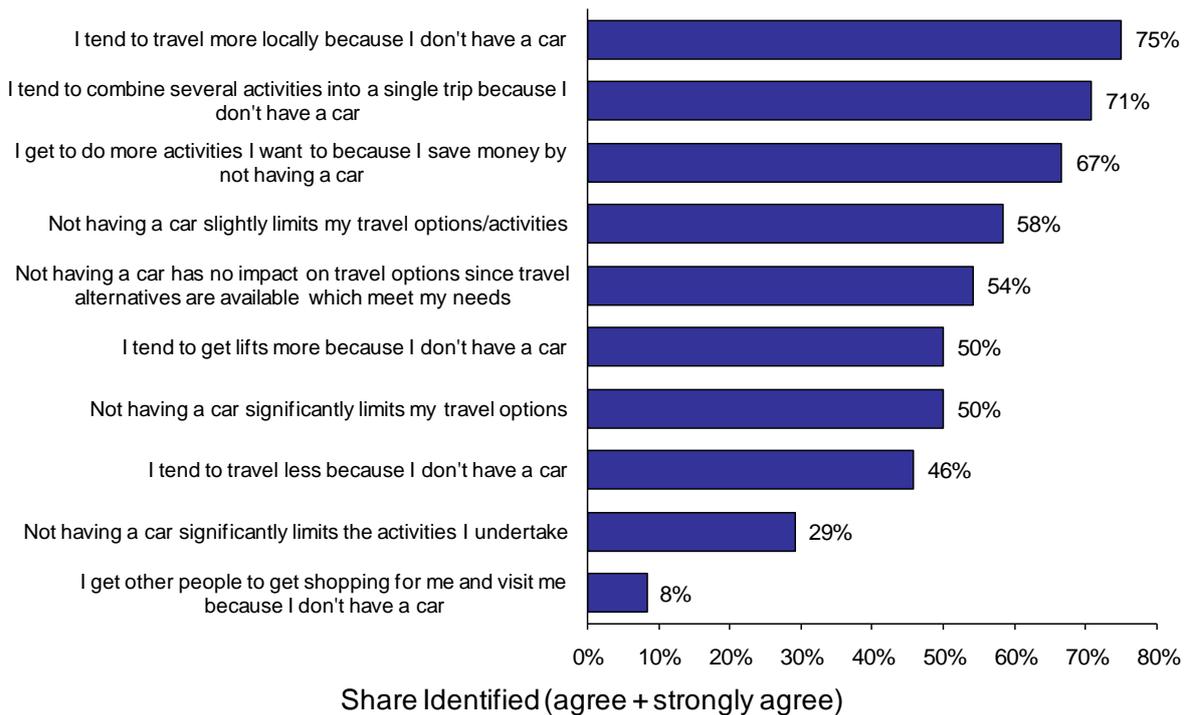
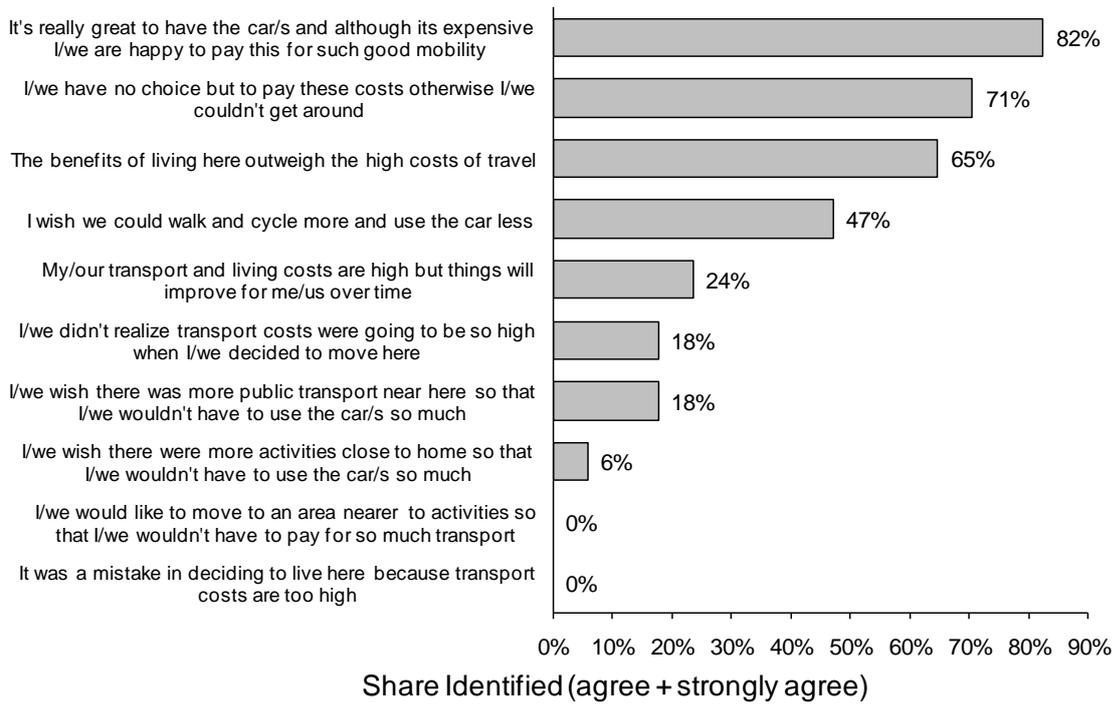


3.3. Perceived Impacts

Figure 5 shows the perceived impacts which high and no car ownership options were considered to make on these groups. A strong majority of those with low incomes and high car ownership believed the mobility available through a car was worth the expense. They were also highly supportive of their home location, which is highly car dependent, because the benefits outweigh the costs of travel. Furthermore, only 18% didn't realize transport costs would be so high when they moved to their location. Despite the majority saying they have no choice but to pay their transport costs, these findings suggest the term 'forced car ownership' (Jones 1987; Banister 1994) is inappropriate given their conscious decision to live where they do and the strong support for the resulting mobility benefits of high car ownership. Furthermore there is little support for wanting to be nearer to activities; rather many of those interviewed expressed a desire for wider availability of transport alternatives to the car (public transport, walk and cycling). Some were hopeful that their circumstances would improve over time.

A high share of those without cars (LINCO) said they made more localised trips and combined several activities into a single trip whereas half tended to get more lifts. Interestingly two thirds agreed with the view that they get to undertake more activities because of the money they save by not having a car. Overall though the impacts were more ambiguous for this group with nearly equal proportions stating that having no car had no impact, a slight impact and a significant impact.

Figure 5 : Perceived Impact of Car Ownership Choice



Source: Main Metropolitan Survey, Monash University

3.4. Links to Well Being and Social Exclusion

Table 1 shows the measures of social exclusion adopted in the study. The measures of social exclusion are based previous literature (Burchardt et al. 2002) but have been reviewed and developed as part of the study (Currie et al. 2009; Stanley and Vella-Brodrick 2009).

Table 1: Car Ownership Groups and Social Exclusion Measures

Social Exclusion Measures	LINCO	LIHCO	Total sample
Average number of dimensions excluded	1.67	.71	.77
Component Dimensions			
• Lowest income**	67%	12%	23%
• Unemployed*	17%	6%	5%
• No political engagement	29%	29%	27%
• No regular activities**	25%	6%	6%
• Low social support	29%	18%	17%

*Chi-square significant to $p < .05$

**Chi-square significant to $p < .01$

Source: Main Metropolitan Survey, Monash University

These results suggests that LINCO households on average exhibit more dimensions of social exclusion than those with high car ownership and more than the overall average for the survey as a whole. Of the dimensions considered, income and unemployment were particularly high for this group. In contrast those with high car ownership (LIHCO) exhibited fewer dimensions of social exclusion particularly income, unemployment and social support.

These results confirm the view that poor car access is a major driver of transport disadvantage. However to some extent the results may be biased by the nature of the groups being measured and the approach to measurement. Previous research confirms that LIHCO groups have a number of characteristics which are associated with employment and as a result at least a modest income (Currie and Senbergs 2007). In general LIHCO can be typified as young families with children with a high share of home keepers and at least one employed person. A high share have mortgages yet to be paid off. Another way of looking at these groups is that they are new mortgagees and just starting off a family with high outgoing expenditures including housing and cars. From this perspective social exclusion using the measures above is less likely because there is income, employment and a degree of family social support.

LINCO households in contrast have the following characteristics.

“The strongest typology suggests older Australians living in a single person household with a high share of rented accommodation on a pension. The data is also suggestive of a sub group of unemployed young mothers with children living in rented flats.”

(Currie and Senbergs 2007)

Clearly pensions suggest unemployment and low income while living alone or as a single parent is suggestive of a need for social support. Again the measurement method seems to link the people who compose LINCO households to social exclusion. A critical unanswered question emerges ‘is it the type of people involved or their car ownership patterns which cause these patterns of social exclusion?’

Analysis also examined a range of ‘well being’ measures associated with each of these groups. They found no substantial difference in well being ratings between groups for a range of measures. Clearly in this case social exclusion and car ownership are not necessarily related to well-being.

4. DISCUSSION AND CONCLUSIONS

This paper explores the factors affecting travel and disadvantage as they impact low income groups living in fringe urban Melbourne by contrasting those with low income and no car ownership (LINCO) and those with low income and high car ownership (LIHCO). Contemporary research has suggested that lack of access to cars is a major cause of transport disadvantage however a contrary view that high car ownership creates vulnerability is also evident. Recent research has also noted that those on low incomes living in fringe areas without cars make access-oriented home location and transport decisions which may contrast with the choices of those with high car ownership.

The research has found that LINCO households make significantly fewer trips and have greater difficulties with travel than LIHCO households. However the home location decisions made by LINCO groups balance their mobility and accessibility needs to their limited budget or inability to drive by prioritising access to public transport and proximity to relatives, workplace and shops. Though many acknowledge that lacking a car limits their travel options, the majority believe they do not need a car because other transport modes meet their needs. Furthermore, two thirds believed that they get to do more activities because they save money by not having a car.

In contrast LIHCO households are more concerned about home affordability and living in ‘greener’ areas than with transport issues. The majority knew transport costs would be high and believe the benefits of their home location outweigh the costs of travel; furthermore not one believed it was a mistake to live where they do nor did they want to live closer to activities. It is difficult to see car ownership as ‘forced’ in this context even though most believe they have no choice but to pay these transport costs. Nevertheless the LIHCO group adopted a range of strategies to reduce transport costs and showed support for a range of alternatives to the car to broaden their mobility choices.

Analysis suggests that LINCO exhibit more dimensions of social exclusion, notably low income, unemployment and low social support compared to LIHCO households. However these findings may reflect the distinct socio-economic characteristics of LINCO/LIHCO households. LINCO households are typified by single pensioners and young one parent families. LIHCO households are young families with a mortgage. It is likely that the employment, income and social support associated with these socio-economic characteristics drive the difference in social exclusion and that car ownership issues are of secondary and potentially minor significance.

Although these findings do not fully resolve the conflicting viewpoints about whether owning a car or not owning a car contributes to disadvantage, they do contribute a greater understanding of this complex issue. Research confirms the view that not having a car creates disadvantage in transport however LINCO groups exhibit some sound clear logic in choosing locations to live which offer financially sustainable accessibility options. While they acknowledge the limitations imposed by lacking a car they also recognise the money-saving advantages of forgoing a car. In this sense LINCO may be disadvantaged but the response of these groups to their circumstances suggests active and effective coping strategies to balance their circumstances.

Does high car ownership on low income result in ‘transport poverty’ and ‘forced’ car ownership? Certainly evidence is consistent with high shares of expenditure devoted to transport for this group. However the strong support this group shows for the mobility provided suggests that car ownership is hardly ‘forced’. Rather balanced decisions between cheaper housing, remote home location and high-cost mobility have been made. Much like the LINCO group, those with high car ownership are both disadvantaged and advantaged by their circumstances these decisions were based on clear choices.

In general therefore both groups demonstrate aspects of disadvantage and conscious decision process to balance desired home location mobility. The debate is further informed when the distinct characteristics of LINCO/LIHCO groups are considered. LINCO households are young families starting out in life and to an extent disadvantage for this group is a transitory issue. This view is supported by the fact that some expect their situation will change over time (Figure 5). Nevertheless there are obvious vulnerabilities for this group as the costs of motoring are likely to increase as a result of more expensive oil prices and the potential impacts of climate change related taxes. The combined vulnerability of high mortgages and petrol prices have been identified elsewhere (Dodson and Sipe 2006). This LIHCO group is particularly vulnerable given their preference for older cheaper cars since these are more expensive to run. It is likely that expensive clean vehicle technologies will take longer to filter through to this group because of their preference for older cars. However there is evidence of the use of alternative cheaper fuels. Clearly the adoption of cleaner technologies will be price dependent for LIHCO households.

LINCO households in contrast demonstrate sustainability in both a financial and an environmental sense. In the long term this may be particularly telling as the costs and environmental impacts of transport increase. There are attractive policy benefits in encouraging the home location, mobility and accessibility preferences exhibited by low income households without a car. Critical amongst this would be land use planning measures to encourage low income housing around public transport nodes and activity centres.

An attractive area for both research and policy would be to identify ways in which the socio-economic groups exhibiting LIHCO behaviours might be encouraged to adopt home location, mobility and accessibility behaviours of their no car ownership peers. Research should also explore the vulnerabilities associated with high car ownership on low income to establish ways to address emerging issues. To some extent these vulnerabilities might well act to affect the mobility and accessibility choices being made since the price of housing as well as transport costs may be increased by higher fuel and environmental tax related charges. The nature and strength of these factors is clearly worthy of future research.

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