

# Car ownership and social exclusion in Australia

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## **Abstract**

This paper will outline possible questions, frameworks and methods for exploring the issue of car ownership and social exclusion in Australia. The research is in its formative stage, so I will be seeking feedback and discussion of the ideas presented.

European research demonstrates that transport disadvantage, commonly characterised by a lack of access to a private car or appropriate public transport, has negative impacts on social inclusion and wellbeing.

Recent research by Currie and Senbergs in outer urban Melbourne identified low income households in areas that had zero or very low walk access to local activities and limited public transport. Within these parameters, 16,357 households were found not to have a car. It is hypothesised that these households will be experiencing mobility barriers. However, a greater number (20,831) were running two or more cars, the cost of which represents as much as 50 per cent or more of total household income. There may be significant financial stress in these households.

These results raise interesting questions for potential exploration in the proposed PhD study.

## **Introduction**

This paper provides an overview of research that has been conducted in Australia, the USA and UK concerning issues facing low income households in areas of poor public transport provision. It also considers the benefits and costs of car ownership and use for this group. The research is described as a foundation for considering the question

*What is the relationship between car ownership, low income and social exclusion in Australia?*

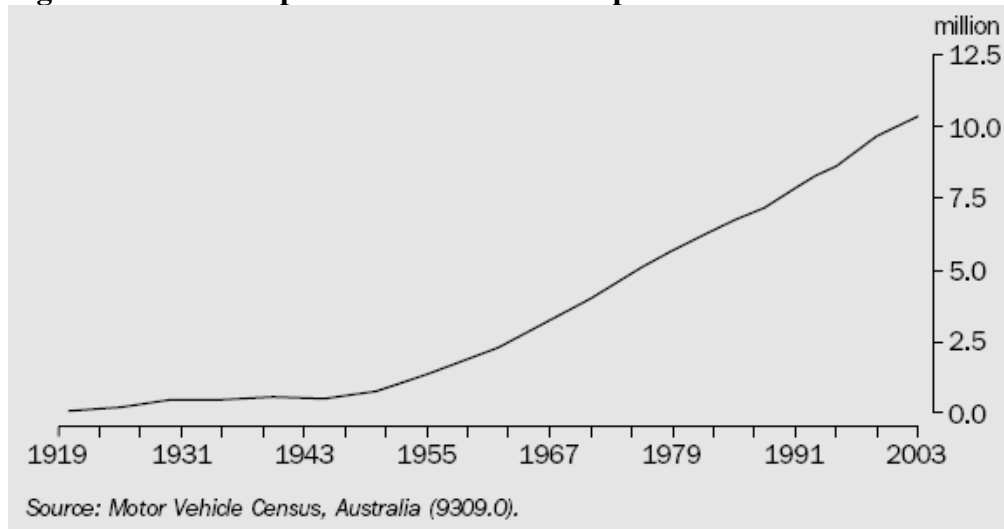
The paper also outlines possible questions, frameworks and methods for exploring the issue of car ownership and social exclusion in Australia. The research is in its formative stage, so I am seeking feedback on the ideas presented.

## **Background**

### **Growth in car ownership and use**

Australians are undertaking urban travel significantly more than they did 50 years ago, with annual passenger kilometres growing from about 20 billion in 1950, to over 180 billion in 2000 (Australian Bureau of Statistics, 2005). The overwhelming majority of this increased travel is in cars. Figure 1 below represents the immense growth in private car ownership that has increased from 76,000 registered cars or station wagons in 1919 to 10.4 million in 2003 (Australian Bureau of Statistics, 2005).

**Figure 1 Growth in private vehicle ownership 1919 to 2003**



(Australian Bureau of Statistics, 2004)

The ratio of Australians owning a car has increased from 398 vehicles per 1,000 residents in 1971 to 675 in 2004 (Australian Bureau of Statistics, 2004 p.5). Australia has the fifth highest number of motor vehicles per capita of all OECD nations (OECD, 2005 p.120).

### **Benefits of car use**

There are significant benefits of car ownership and use. Some identified in the literature include unprecedented mobility, flexibility, independence, increased sense of personal safety and access to markets.

#### *Unprecedented mobility*

Car ownership is associated with greater mobility in Australia (The Transport Research Centre, 1996), the UK and the USA (Clifton and Lucas, 2004). Analysis of the 1994 Victorian Travel and Activity Survey (The Transport Research Centre, 1996) identified that households with a car, made more than double the number of trips made by households without a car (p.5) and that around 37% of households without cars did not travel on the survey day, compared to around 17% of households with one car and around 7% with two cars (p.16).

#### *Flexibility*

“I could just jump in the car and go if I wanted to”

This quote from a Scottish study of factors effecting car use choice (reported in Stradling, 2003 p.103) sums up the attitude many people have toward their transport needs. Other psychological beliefs people hold about car ownership and use include that a car provides them with greater independence and personal security. Associated with this is the cultural and symbolic status held by car ownership in Australian society (Davison, 2004).

#### *Access to markets*

A number of Australian authors (Dodson et al., 2006, O'Connor and Healy, 2002) identify the way in which labour markets have concentrated in cities. A core of highly valued services employment is located in the central city and manufacturing and production have been pushed outward. The implications of this include labour being priced out of inner-city housing and increasing difficulty for people to access employment areas (Dodson et al., 2006 p.436). The impact of this has been greater for already disadvantaged groups (Dodson et al., 2006 p.436).

In the USA patterns are different and access to labour markets has deteriorated in inner-city areas (Clifton and Lucas, 2004 p.30), which are now characterised by high concentrations of disadvantage (Giuliano and Dargay, 2006 p.121).

Examples of the importance of transport disadvantage as a barrier to employment include;

Unemployed jobseekers in the UK who had a driver's licence were around twice as likely to get a job than their unlicensed counterparts (Stafford et al., 1999).

In Australia, lack of access to private or public transport was found (following having a criminal record) to be the second highest barrier to social and economic participation in a study of job seekers facing multiple barriers to employment (Perkins, forthcoming p.32). It was found to affect 17% of participants in the research. This varied from 28% in non-metropolitan areas to just 6% in inner-metropolitan areas (p.32). These findings are echoed in UK research where lack of transport has been identified as a barrier to employment for 40% of job seekers (Social Exclusion Unit, 2003 p.2).

Associated with this, is the role of vehicles in access to other means of production, for example a large service centre in a remote Indigenous community in the Northern Territory. The weekly arrival of the school truck to a very remote outstation community;

“brought supplies of food from family in town, mail, medical supplies from the clinic, various forms of cheques and payments and a constant stream of *djurra* [a Yolgnu Matha term for paperwork] that needed attention”

(Fogarty, 2005 p.1)

In this example the truck becomes a means to “transcend a localised social reproduction” (Fogarty, 2005 p.2), suggesting a role for the vehicle in the development of social and utilitarian networks and means of production outside those already in operation.

### *Negative impacts of not owning a car*

Some other impacts of non car owning identified in UK research include:

- Higher priced shopping at walk accessible local shops (SEU, 2003)
- Almost one-third (31 percent) of people without a car compared to 17 percent of people with a car reported difficulties accessing their local hospital (SEU, 2003 p.2)
- Added pressure for mothers of walking to shops and services with young children (Bostock, 2001)
- Foregoing one's own needs, in order to use available lifts to meet the needs of children (Bostock, 2001).

### **Are cars therefore essential to participation?**

The European Foundation define social exclusion as

“the process through which individuals or groups are wholly or partially excluded from full participation in the society in which they live”

(cited in deHaan and Maxwell, 1998 p.2).

There is an implicit assumption inherent in much of the research that cars are essential to participation in OECD nations. For example:

“... the concept of low income families struggling to afford access to *cars, which are essential to access life opportunities* [emphasis added], is quite common in the Australian literature” (Currie and Senbergs, 2007a p.2),

and from the UK / USA;

“...lack of access to a car is in itself one of the key defining factors in people's disadvantage.” (Clifton and Lucas, 2004 p.22).

However, the notion that car ownership could be a panacea to transport disadvantage is problematic for a number of reasons including the following.

### **Unequal access to car ownership**

Car ownership is highly correlated to income in the UK (Hine and Mitchell, 2003), USA (Clifton and Lucas, 2004 p.22) and Australia (Wadhwa, 1986, Currie and Senbergs, 2007a). For example in metropolitan Melbourne in 2001, 27 percent of low income households (under \$500 per week) did not have a car, compared to just two percent of households with incomes over \$1000 per week (Currie and Senbergs, 2007a p.5).

Analysis of the ABS Household Expenditure Survey (HES) identifies that low income households pay proportionately much more for car ownership than high income households. While the percentage of household income spent on private transport costs, for all households is 11.7 percent, it is 21.8 percent for all households in the lowest income quintile (Australian Bureau of Statistics, 2006) and could therefore be predicted to be higher for car owning households.

## **Forced car ownership**

High car ownership in low income households, combined with a lack of alternatives such as good walk accessibility or public transport, suggest that some households may be 'forced' into car ownership and use. Currie and Senbergs (2007a) found 20,831 (23%) outer Melbourne households with income below \$500 per week running two or more cars. These households had zero or very low walk access to local activities and limited public transport. The cost of operating two or more cars represents as much as 50 per cent or more of total income for these households. Interestingly, there were 16,357 (17.8%) low income households without a car, fewer than those with two or more. This contrasts sharply with inner Melbourne, where 52% of low income households do not own a car, compared with only 7% owning two or more cars.

However, debate exists regarding the concept of 'forced' car ownership, with the authors themselves identifying that the term is value laden. Neither has the concept been empirically tested.

## **Disadvantages of car ownership**

Car ownership and use have negative impacts in personal, social and environmental domains. Significantly, the negative impacts of car use disproportionately impact on low income households and neighbourhoods.

For example;

- in the UK road accident fatalities of children in the lowest social class is five times the number in the highest social class (Social Exclusion Unit, 2003 p.17)
- in Australia, the transport sector currently produces 16% of all carbon dioxide emissions and is the fastest growing contributor to climate change (Mees, 2000 p.18) and in the USA exposure to air pollution is more prevalent in disadvantaged neighbourhoods (Clifton and Lucas, 2004 p.28).

## **The self perpetuating cycle of car use**

Increased car travel and investment in road infrastructure leads to public transport becoming a 'last resort'; people don't want to use it because they feel stigmatised (Victoria Transport Policy Institute, 2007) and/or unsafe (SEU, 2003). As people decrease their patronage, services deteriorate in frequency and quality to the point where they "no longer provide a viable transport alternative" (Clifton and Lucas, 2004 p.20). This is particularly problematic for 'captive riders' who do not have other transport alternatives and may potentially lead to 'forced' car ownership.

## **Questions raised by these findings**

So is the car friend or foe? The literature provides contradictory evidence. There are clearly benefits *and* costs associated with car ownership in low income households. This is the area I would like to explore in my PhD research. Some of the questions raised for me include;

- What are the differences in the activity and travel patterns of car owning and non car owning low income households in areas of limited public transport?

- What trade-offs, barriers and disadvantage do non-car owning low income households experience because of their transport disadvantage?
- What trade-offs, barriers and disadvantage do car owning low income households experience because of car ownership costs within a limited household budget?
- Is car ownership in some cases ‘forced’?
- What are the relationships between these factors and the causes and impacts of social exclusion?
- What are the patterns and trends across different household structures?
- What are the best strategies to improve transport options for low income households living in transport disadvantaged areas?

## Importance of the questions

There are a number of reasons why the exploration of the relationships between car ownership low income and social exclusion is important, including equity, hidden disadvantage and the need to develop transport diversity.

### *Equity*

Transport disadvantage has been shown to have disproportionate impacts on people who also experience other types of disadvantage and also to have a role in exacerbating their disadvantage. An unequal distribution of transport options is problematic because it is often the people with the poorest access to transport who are in the greatest need of the goods and social services they are unable to access due to their transport disadvantage (Clifton and Lucas, 2004 pp.28-29).

### *Hidden disadvantage*

As outlined above there is an implicit assumption in much transport research, that car ownership plays a major role in ameliorating transport disadvantage. This assumption is so entrenched that the UK Townsend Material Deprivation Score<sup>1</sup>, uses car ownership as a proxy for income and excludes car owning households from the category of ‘materially deprived’. In Australia the National Centre for Social and Economic Modelling (NATSEM), University of Canberra have also developed a multi-dimensional measure of disadvantage that includes “proportion of children aged 0 – 15 in household with no motor vehicle” as a social exclusion risk measure for children (Tanton et al., 2006).

The implications of this are significant. It means that car owning households are not defined as disadvantaged when this has not been proved, or sufficiently empirically tested. Further, such households are excluded from research samples exploring issues for disadvantaged households and geographic areas with higher levels of car owning households are excluded from classification as deprived areas. A cursory search of ISI

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<sup>1</sup> The Townsend Score includes four variables: unemployment (lack of material resources and insecurity), overcrowding (material living conditions), lack of owner occupied accommodation (a proxy indicator of wealth) and lack of car ownership (a proxy indicator of income). The Townsend Score is a summation of the standardised scores (z scores) for each variable (scores greater than zero indicate greater levels of material deprivation). This score is considered the best indicator of material deprivation currently available. <[http://www.devon.gov.uk/dris/commstat/csta\\_mnu.html](http://www.devon.gov.uk/dris/commstat/csta_mnu.html)>

Web of Knowledge found 18 significant UK and European medical studies using the Townsend Score as a sampling frame.

### *Transportation diversity*

Globally, the transport sector is growing rapidly and transport emissions of carbon dioxide are predicted to almost double between 2000 and 2030 (Woodcock et al., 2007 p.1078) With increasing concern about climate change and the contribution of the transport sector to greenhouse gas emissions, it is important that empirical research underpins the development of sustainable transport options, even for those with cars.

There is a growing movement away from framing transport issues as ‘car dependence’ and toward pursuing environments of ‘transportation diversity’. For example in Canada, the Victoria Transport Policy Institute (2007) undertakes significant research and policy development with a focus on the expansion of transport options. Similar work in Australia will benefit low income Australians currently experiencing transport disadvantage.

### *Policy implementation*

In 2006 the Victorian Government launched *Meeting our Transport Challenges* (Department of Infrastructure, 2006) which describes a plan to invest “\$10.5 billion over 10 years into improving transport infrastructure and services” (Department of Infrastructure, 2006 p.iv). *Meeting our Transport Challenges* claims to support the principals of *A Fairer Victoria*<sup>2</sup> and to this end will “ensure that improved access to jobs, education, recreation and health and community services is distributed across all communities, not just to people with cars” (Department of Infrastructure, 2006 p.24).

It is important that in operationalising this policy, the Government base their decision making on good quality empirical evidence about transport disadvantage and the transport needs of disadvantaged households.

## ***Proposed frameworks***

### **Car dependence**

Stradling (using examples from the United Kingdom) offers a concise framework for unpacking the concept of car dependence (Stradling, 2003). Stradling considers the three areas of car dependent *places*, car dependent *people* and car dependent *trips*.

#### *Car dependent places*

Car dependent places are characterised by high levels of car ownership and use, low density land development, road and urban designs that favour car traffic, for example car parking, signage and low levels of pedestrian amenity (Victoria Transport Policy Institute, 2007). Differences exist internationally and within nations between inner-urban municipalities and rural towns. Australian research has identified potentially car dependent places (poor walk accessibility and low public transport provision), in urban fringe and rural areas which are home to large numbers of low-income and disadvantaged households (Currie and Senbergs, 2007b).

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<sup>2</sup> *A Fairer Victoria* is the Victorian Government’s social policy statement

### *Car dependent people*

Stradling describes a number of variables that could be used to test the car dependence of individuals or households. These are the absolute measures of;

- number of trips made by car
- trip distance (kilometrage)
- trip duration (time) (p.102).

Relative measures could also be adopted, such as;

- Car use within mode mix (proportion)
- Car use within activity mix (extent to which activity needs are met by car use)
- Substitution (travel that *could* be undertaken in a different mode) (p.103).

Examples provided by Stradling from the UK National Travel Survey identify that Great Britain residents spent 62% of trips, 78% of miles and 60% of travel time, as a car driver or passenger (p.103), but less than 1% of drivers only used a car; almost universally, people use multiple modes (p.105).

Stradling reports analysis by Farrington (1998) that found 11% of Scottish drivers had structural car dependence (could not see any other viable option) and 9% had 'full conscious car dependence' where they could see alternatives but chose not to use them (p.109).

### *Car dependent trips*

A study by the NFO System Three Social Research and Napier University Transport Research Institute collected data about participation in 'lifestyle maintenance' activities and how often they were done by car. Results identified that supermarket shopping was the most car dependent activity (72% 'always' did it by car), followed by going away for the weekend (67%) and taking children to leisure activities (59%) (Stradling, 2003p.107). It was also identified that car users did all activities except town centre shopping more often than non-car users which Stradling claims could support an argument that car use facilitates social inclusion (Stradling, 2003 p.106) .

These categorisations may provide a useful framework for development of inquiry into this field.

## **Social exclusion**

Maxwell and de Haan describe the arenas and elements of social exclusion (1998) outlined in table 1 below.

**Table 1: Arenas and elements of social exclusion**

<b>Key arenas</b>	<b>Elements</b>
Rights	human legal/civic democratic
Resources	human and social capital labour markets product markets state provision common property resources

Relationships	family network wider support networks voluntary organisations
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(deHaan and Maxwell, 1998 p.3)

These arenas and elements may provide a useful framework for categorisation of the experiences of car owning and non car owning low income households.

### ***Proposed methodology***

This methodology is in the very first phases of development and is presented here in order to seek feedback on some very initial ideas about potential ways to explore the issues raised from the literature review.

1. Identify areas of high socio-economic disadvantage but low walk accessibility and poor public transport provision using the 'Needs Gap' approach developed by Currie and Senbergs (2007b)
2. Access the VISTA data for these areas. VISTA is the Victorian Integrated Survey of Travel and Activity. VISTA is collecting one-day travel diary information from 16125 responding Melbourne and (selected) regional households between April 2007 and June 2008 (Department of Infrastructure, 2007). It will be able to be interrogated to identify differences in travel behaviour between different income and car owning / non car owning groups, with a focus on destination types and trip purpose.
3. The ABS Household Expenditure Survey provides information on household spending including detailed travel and vehicle expenditure. It is available to a statistical subdivision level – which closely equates to Local Government Area boundaries. From this we can identify variation in spending patterns between households and begin to identify spending trade-offs. The HES does not record car ownership so we will need to define these questions according to an amount spent on car costs not ownership per se.
4. Present this data to a small group of potentially effected people in the study area to get their ideas and feedback about research directions.
5. Once general ideas are identified about differences between car owning and non car owning low income households (for example we may find that non car owning households shop close to home and spend more on groceries than car owning households), I would like to undertake some intensive exploration with a small number of people.
6. I propose a small sample of different household types in both the low income car owning and low income non car owning groups within the transport disadvantaged areas (sample selection will be influenced by the findings of steps 1 to 4).
7. I would like to track their travel for a week (using GPS or a travel diary) and then undertake an in-depth interview, using similar questions to those developed by Peter Jones in the Household Activity Travel simulator (HATS), including questions about their travel and the reasons for their current pattern (such as routines, variation, constraints, interpersonal linkages, preferences and perceptions) (Jones, 1980 p.7). The patterns could also be explored visually using timelines (see for example Deacon, 2006 pp.102-103).
8. This will provide rich case study data for exploration and will also assist us to identify areas for examination to be developed in to a standardised survey tool that

can be administered to a much larger sample, for example by post (sample selection will be influenced by the findings of steps 1 to 4).

## **Conclusion**

This paper has outlined some of the benefits and costs associated with car ownership and use, in particular for disadvantaged households in areas of poor public transport provision. It has also identified the links between these issues and social exclusion. Research has identified that people on low incomes who do not have cars may be experiencing transport disadvantage. The proposition that people on low incomes who have cars may also be experiencing disadvantage arising from their car ownership has not been empirically tested. This paper has outlined frameworks and a possible methodology for exploring these issues. The feedback I seek from the CAITR delegates includes;

- Are there hidden implicit assumptions which may impact on the research proposed?
- Is there research / researchers I should know of?
- Are there better data sources than those proposed?
- Are there better methods for exploring these issues?
- Are there better questions?
- What are people's general thoughts and responses?

## **Acknowledgement**

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