

Interactions between residential relocation and commute patterns in Melbourne

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Abstract

Imbalances in the geographical distributions of jobs and housing are recognized as the main reason for increasing commuting distance and time, leading to urban congestion. Consequently, housing related decisions such as residential location choice and residential mobility is important in understanding commuting patterns. Exploring the motivation behind changes of residence and work location can assist in understanding the potential for non-infrastructure policies to reduce the negative impacts of travel. For example, if accessibility and proximity to workplace is important in residents' choice of home and workplace location, then reducing the burdens on residential mobility is likely to improve travel behaviour.

This paper summarises the results from the 2008 VIC State Supplementary Survey (SSS) - Residential and Workplace Mobility, and Implications for Travel, Vic., October 2008. Using this data, residential and workplace mobility of a sample of VIC residents, their demographic characteristics and reasons for location choice is investigated. Finally the commute mode and distance to their current suburb of employment is evaluated. The results indicated that accessibility reasons were the most commonly reported reasons for moving. Accordingly, those who moved house within the last three years commute shorter distances and have higher rates of public and active transport use compared to those who haven't moved.

1. Introduction

Suburbanisation and urban sprawl, along with the formation of urban networks and increased car ownership, has led to an increase of commuting flows (BITRE, 2015). In Australia, after the Second World War due to the suburbanization and changes in manufacturing technology commuting has increased significantly. According to Household, Income and Labour Dynamics in Australia (HILDA) survey, the median duration of a one way commuting trip was 24.0 minutes in 2012, while the average was 28.9 minutes (BITRE, 2016a).

In Victoria 76 per cent of workers spent 90 minutes or less travelling to work, that equates to 24 per cent commuting more than 90 minutes a day (BITRE, 2015). The performance of Victoria's transport system is strongly affected by journey-to-work travel patterns which are, in turn dependent on the relative distributions of population and employment. Understanding patterns of residential mobility as the main factor affecting spatial distribution of the population is vital to understand the state's transport system (ABS, 2009).

The reasons for where residents choose to live and work are important in understanding travel behaviour. More specifically how the proximity to workplace, transport facilities and central services affect these decisions is vital in considering the housing market as well as transportation policies. For example, if accessibility and proximity to workplace is important in residents' choice about where to live and work, then reducing the burdens on residential mobility is likely to improve travel behaviour.

This research aims to provide an understanding about the implications of residential mobility on travel behaviour. To do this, the reasons for move to the current area of a sample of

Melbourne residents are evaluated with a focus on the role of accessibility and travel preferences. Further, the commute mode and distance of people who have moved and non-movers is compared. It is assumed that generally people attempt to minimise their transport costs in their choice of home and workplace location. Consequently, it is expected that commute patterns and generally travel behaviour are improved after relocation. It is hoped that this information will provide a basis for a discussion of the possibility of improving travel behaviour by easing residential relocation. For example, reducing the burdens for residential mobility such as property transaction tax (stamp duty) may be an alternative policy to improve travel behaviour.

2. Context and Literature

Various negative aspects of commuting or journey-to-work times have been identified, including the monetary cost of congestion and journey delay, air pollution, stress and fatigue, and other health impacts (BITRE, 2016b). Consequently, work and residential location choice has attracted a lot of attention from the field of planning and transportation policy. Accessibility has long been identified as the central impact factor in urban theory of residential location choice. Alonso (1964) formalized the trade-off between housing and commuting costs in location choice; referred to as 'utility maximisation theory' suggesting that people will seek to minimise commuting costs by selecting a housing location, which provides greater accessibility to their workplace. This theory is also sometimes called the transportation and land cost 'trade-off' as it proposes that households literally trade-off commuting and housing costs against each other (Krizek, 2003). Even though this theory has been subject to a range of criticisms, many studies have concluded that work commute time has a negative influence on the residential utility. Or residential locations with easy access to employment are preferred by households (Chen et al., 2008).

One of the major interests in research regarding the urban form and travel behaviour is the notion of 'self-containment' (Cervero, 1989, Yigitcanlar et al., 2007). Travel self-containment is used to describe the spatial travel patterns of residents within a given locality. Empirically it is the proportion of trips within locality, relative to all trips made by residents (Healy and O'Connor, 2001). A high rate of travel self-containment indicates a set of land-use and transport conditions able to fulfil most of local residents' requirements without the need for multiple external journeys to dispersed destinations. Accordingly, many planners argue for locating housing and workplaces in the same area to reduce the demand for travel (Naess, 1995, Cervero, 1989)

Further, the jobs-housing balance has been considered as an effective solution to reduce commuting. Many studies carried out in the US have come to a range of conclusions about the extent to which jobs-housing balance influences travel compared to other urban structure variables. There is a general consensus that a balance of jobs and housing within an area can contribute to more sustainable travel in the form of shorter travel distances, although the mode of travel is more strongly influenced by the availability of public transport. Cervero (1989 & 1996) developed much of the early literature regarding jobs and housing balance, arguing that communities with effective balance between number of jobs and housing are associated with shorter commutes and low car dependency. Suburban workplaces with jobs-housing imbalance have low walk and cycle mode shares and are car dependent. Later in a study on San Francisco Bay Area, Cervero and Duncan (2006) showed that improving the proximity of employment to housing reduces travel substantially more than bringing retail and services closer to residential areas. This suggests that jobs-housing balance is a key factor in reducing travel distances.

However, an even distribution of jobs-housing in a locality does not necessarily mean the available jobs match the workers within that locality. In other words, the association between jobs-housing balance and self-containment means very little when people can't afford to live

close to work. Restricted housing production, especially in fast-growing cities, has in many instances raised housing prices, displacing workers and increasing average commute distances (Cervero, 1995). Furthermore, Giuliano (1991) claimed work–housing balance does not by itself effectively promote travel self-containment. He argued for an additional spatial balance between home and travel to other destinations.

On the other hand, the recent debate on residential self-selection (RSS) in the travel field suggests the possibility that households endogenously self-select themselves into neighbourhoods that support their preferences for certain transport modes. For example, provided one’s travel preference is to use public transport, she/he will move to a location where this travel mode is catered for. Similarly, if one’s travel preference is to drive everywhere, she/he will live somewhere where driving is unconstrained (Cao et al., 2009). However, one can argue that the fact that people to some extent self-select into areas matching their transport needs in itself explains the importance of accessibility in residential location choice.

In recent years Australia’s urban policy makers have been reassessing the notion of local area self-containment and, more modestly, high travel self-containment as a key residential policy concern (Yigitcanlar et al., 2007). This is reflected in planning strategies such as plan Melbourne 2030 and the recently updated Melbourne at 5 million. Both seek to improve travel self-containment by concentrating new development around mixed-use multi-modal activity centres (DOI, 2002). Yigitcanlar et. al. (2007) conducted a pilot study to examine regional journey-to-work patterns and travel containment rates in master planned estates in Australia. Factors that influence self-containment patterns are estimated with a regression model. They concluded that self-containment decreases as the proportion of car-dependent work journeys increases. In other words, estates poorly connected to regional employment concentrations via the public transport system generate higher levels of external and automobile travel.

Shin and Inbakaran (2010) looked at demographics and transport choices of new households on Melbourne’s urban fringe using data from a survey of buyers. They examined car ownership and the journey to work of households on these new estates, and asked whether proximity to public transport is a factor in their choice of location. Survey results suggest that most households feel that poorer public transport and greater distances from work are outweighed by the benefits of urban-fringe housing estates, but that there is strong, if latent, demand for public transport from these households.

3. Data and Method

This paper summarises the results from the 2008 VIC State Supplementary Survey (SSS) - Residential and Workplace Mobility, and Implications for Travel, Vic., October 2008. This survey was conducted by the Australian Bureau of Statistics (ABS) on October 2008 on a sample of Victoria residents. The collected data was on a person basis. Overall 7,922 residents of Victoria aged 18 years and over were interviewed and the response rate was 93%. Output data is weighted to the official population estimates.

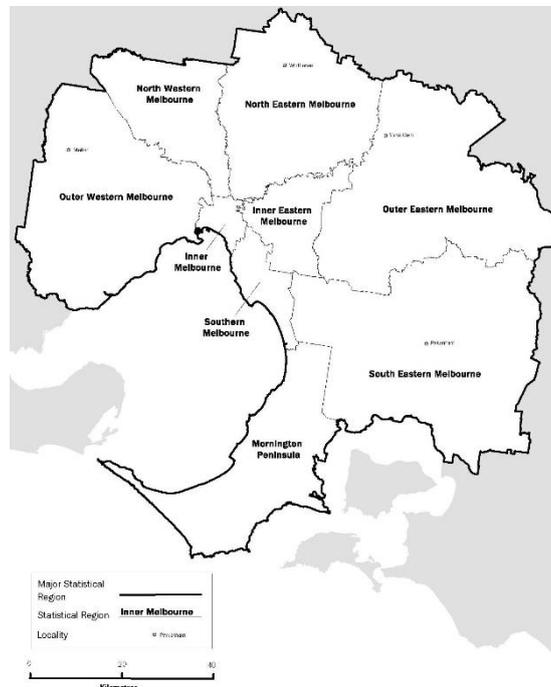
The data summarised comes from tables available for download from the ABS website (ABS, 2009). The survey measured the demographic characteristics of movers and non-movers; the reasons why people changed their usual residence; the reasons why people changed their current suburb of employment; and the modes of transport typically used to travel to the current suburb of employment.

The reference period mentioned throughout this report is the three years prior to October 2008. According to the survey, of the 3.9 million people aged 18 years and over living in Victoria, 1.1 million people (28%) had changed their usual residence. In comparison, 2.8 million people (72%) did not move their usual residence during the reference

period. Residents of the Melbourne Region had slightly higher rates of moving (29%) than those in the balance of Victoria (27%). The sample size is reduced where sub populations are involved e.g. employed people who changed job location and people attending school. In the following analysis, the sample is limited to the Melbourne Major Statistical Region (MSR) - the equivalent of the Melbourne Statistical Division (MSD) (Figure 1).

Originally the SSS data was collected to contribute to the development of an integrated transport and land use model to improve accuracy of demand estimates for new infrastructure and their likely land use impact, given the rapid population and job-growth (Hay, 2009). The goal was to inform policies designed to encourage greater population and job growth in certain locations. This paper however, uses the survey results to provide an understanding about factors affecting residential and workplace location choice with a focus on the role of transport and accessibility in those decisions. Further it compares commute patterns of house movers and non-movers and provides an understanding about the possible implications of residential relocation on the daily travel behaviour.

Figure 1. Study area map



Source: Australian Standard Geographical Classification, 2001

4. Results

4.1. Characteristics of movers and non-movers

While data was collected for all of VIC, the main focus of interest is on the Melbourne Metropolitan Area. Table 1 presents the main socio-demographic characteristics of people who moved their residence in the last 3 years. The main demographic characteristics identified in the survey were age, household type, tenancy, dwelling structure and residing in inner metropolitan suburbs. It is worth noting that many of these characteristics are correlated, for example young adults are more likely to be renting and living in medium density housing and close to their place of study. Place of birth and gender did not strongly influence the tendency to move.

Table 1: Selected characteristics of movers and non-movers (MELBOURNE MSR)

Demographic Characteristics	%	Movers	Non-movers	Total
Age groups				
18–34 years	%	49	51	100
35–54 years	%	25	75	100
55 years and over	%	10	90	100
Sex				
Male	%	29	71	100
Female	%	29	71	100
Country of birth				
Australia	%	27	73	100
Born outside Australia				
Main English-speaking countries	%	32	68	100
Other countries	%	31	69	100
Employment status				
Employed	%	31	69	100
Unemployed	%	51	49	100
Current tenure type				
Owner without a mortgage	%	9	91	100
Owner with a mortgage	%	25	75	100
Owner (with or without a mortgage)	%	17	83	100
Renter	%	63	37	100
Education (based on a very small count)*				
Attending full-time education	%	34	66	100
Not attending full-time education	%	38	62	100
Household type				
Person living alone	%	27	73	100
Couple only	%	31	69	100
Couple with children	%	21	79	100
Lone parent	%	23	77	100
All other households	%	50	50	100
Current dwelling structure				
Separate house	%	22	78	100
Semi-detached, terrace house, town house, etc.	%	43	57	100
Flat/unit/apartment	%	55	45	100
Location				
Inner Melbourne	%	56	44	100
Outer Western Melbourne	%	34	66	100
North Western Melbourne	%	23	77	100
North Eastern Melbourne	%	23	77	100
Inner Eastern Melbourne	%	29	71	100
Southern Melbourne	%	27	73	100
Outer Eastern Melbourne	%	23	77	100
South Easter Melbourne	%	22	78	100
Mornington Peninsula	%	22	78	100
Melbourne MSR Total	%	29	71	100

*Includes only people aged 18–24 years old.

The majority of moves were local; with over 40% of those who moved house either staying within the same suburb or within 5km of their previous suburb of residence. A further 8% moved over 50km and another 13% came from another interstate or overseas (Table 2).

Table 2: Proportion of movers by distance moved for VIC and Melbourne

Distance moved	Count	Percent
Moved within suburb	285900	25
Moved to different suburb: less than 5km	202300	18
Moved to different suburb: 5km to less than 20km	315400	28
Moved to different suburb: 20km to less than 50km	93700	8
Moved to different suburb: 50km or more	95300	8
Moved to state from interstate or overseas	143000	13
Total	1142000	100

4.2. Reasons for moving of all residents

A key focus of the survey was to try to compare the characteristics of the area figured in the location choices made with other important factors such as the dwelling itself or cost. The survey asked respondents for all reasons for choosing to move to their current residential location as well as the main reason. Within Melbourne, the most common responses given for reasons for moving, were 'live near family or friends', 'attractive neighbourhood' and 'getting closer to services/central locations' followed by 'cost' and 'access to work / job prospects'.

The ABS categorised reasons for moving into three main groups: accessibility, housing, and other (Table 3). Overall, accessibility was the main reason for relocation (61%); followed by other reasons (34%), and housing reasons (30%). This suggests the importance of transport related reasons in residential location choice. It also indicates that people prefer locations with better access to services and central locations or transport facilities in order to reduce their daily travel. Reasons for moving varied depending on the person's household type, their tenure, whether they were employed and their travel to work characteristics. These results are presented in the following sections.

Table 3: Reasons for moving, three years prior to October 2008, Victoria

Reasons for move	No. (000)	%
Accessibility reasons		
Work - better access or prospects	130.9	15.7
To live nearby family/friends	166.1	20.0
Close to school/university	84.1	10.1
Public transport	56.9	6.8
Other services/central location	150.7	18.1
Lifestyle	120.6	14.5
Total accessibility reasons*	504.2	60.6
Housing reasons		
Cost	147.1	17.7
Moved in or rented/purchased from family/friends	109.6	13.2
Total housing reasons*	248.1	29.8

Other reasons

Attractive neighbourhood	161.4	19.4
Feature of the dwelling/property	82.7	9.9
Other reason	62.7	7.5
Total other reasons*	282.0	33.9

*Components do not sum to total as more than one type of accessibility reason for moving in the last three years could have been chosen by the respondent.

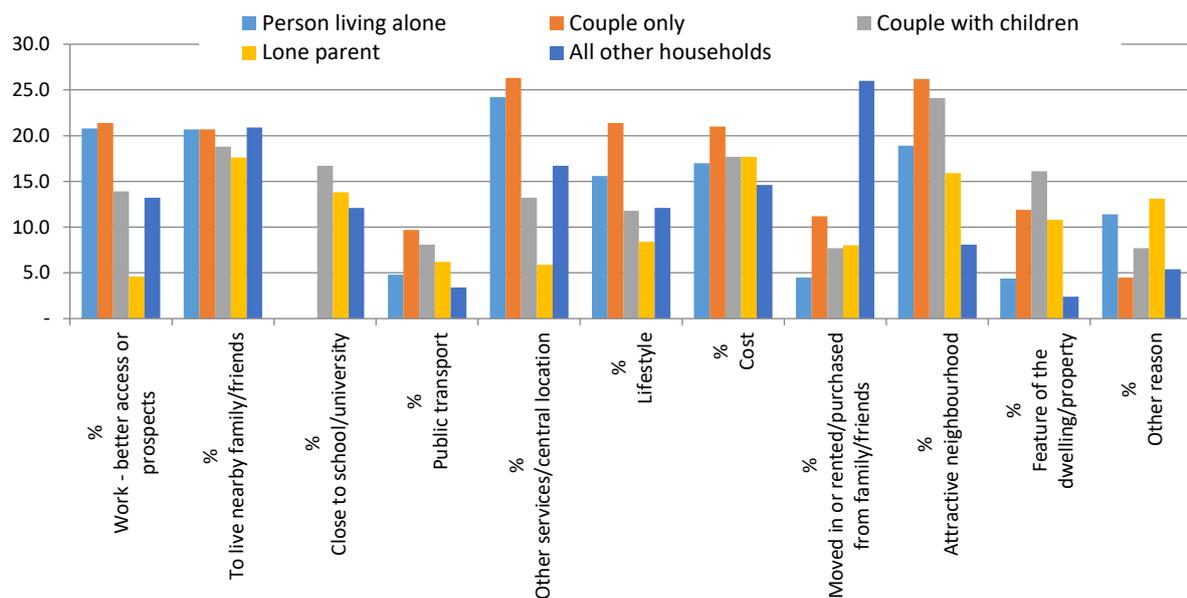
4.2.1 Reasons for moving house by household type

Figure 2 shows the proportion of people within each category of household type with their reasons for move. While all household types selected a range of reasons, there were some noticeable patterns. Persons living alone highlighted ‘access to other services/being in a central location’ (24%), ‘Better work prospects /access’ (21%) and ‘to live near family/friends’ (21%) as their reason for moving to their current area. Those in couple-only households were the most likely to nominate ‘access to other services/being in a central location’ (26%), ‘attractive neighbourhood’ (26%), ‘Better work prospects /access’ (22%).

For single-parent households the most important reasons were equally ‘cost’ and ‘to live near family/friends’ (17.5%). Couples with children nominated ‘attractive neighbourhood’ (19%) and ‘to live near family/friends’ (18%). Those in the ‘other household type’ category were most likely to have moved in order ‘to move in with family/ friends’ (23%) or ‘live near family/friends’ (21%). This is not surprising as this category includes group households and extended families. Cost was almost equally important for all household types.

It is worth noting that generally accessibility reasons had higher ranks for persons living alone and couples only, both of which don’t have dependents living with them. On the other hand, ‘features of dwelling/property’ and ‘attractive neighbourhood’ and ‘proximity to school/University’ was rated significantly higher by both single and couple parents. This implies that individuals with dependents and children prioritize housing reasons to accessibility reasons in their location choice.

Figure 2. Reasons for moving house by household type



4.2.2 Reasons for moving by current tenure type

87% of non-movers were owners and only 13% were renting their residence. Renters were significantly more mobile than owners, 63% of renters moved during the reference period compared to only 17% of owners.

The study of current and previous tenure type for movers indicates over half of the owners with a mortgage were renting their previous residence (56%). Majority of those are probably first home buyers that are known to compromise accessibility of their house location or commute distance to enter the housing market (Li et al., 2017).

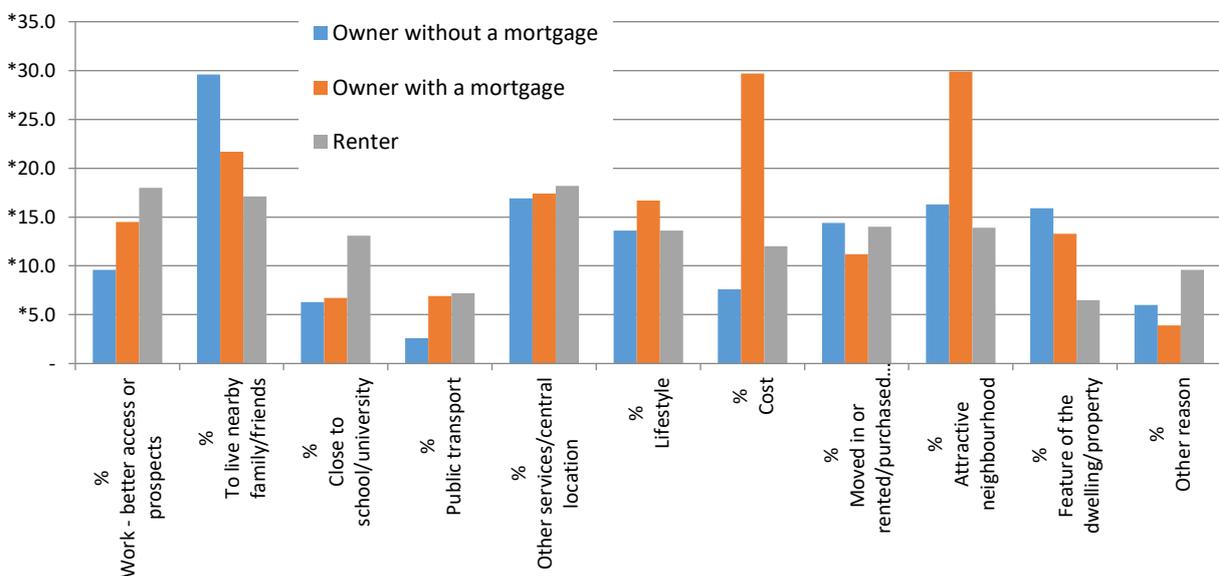
Table 4. Current tenure type by previous tenure type

Previous tenure type	Current tenure type		
	Owner without a mortgage	Owner with a mortgage	Renter
Owner without a mortgage	41.8	13.6	21.0
Owner with a mortgage	20.2	29.3	27.0
Renter	37.3	55.5	50.7
Total	100	100	100

Figure 3 shows the proportion of people with each tenure type who selected each reason. People with a mortgage had ‘attractive neighbourhood’ and ‘cost’ on the top of their list (29%) ahead of the other tenure types. This is followed by ‘to live nearby families and friends’ (23%) and ‘access to other services/central locations’ (17%).

For those who own their property outright the most important feature of the area was that it was ‘near family/friends’ (29%) followed by ‘accessibility to other services/central locations’ (17%) and ‘attractive neighbourhood’ (17%). Renters gave a much greater range of reasons, with ‘work prospects/access’ and ‘access to other services/a central location’ both at 18%, followed by ‘to live near family/friends’ at 17%. Both renters and owners-with mortgage were about three times more likely to choose proximity to public transport than those who own outright.

Figure 3. Reasons for moving house by tenure type



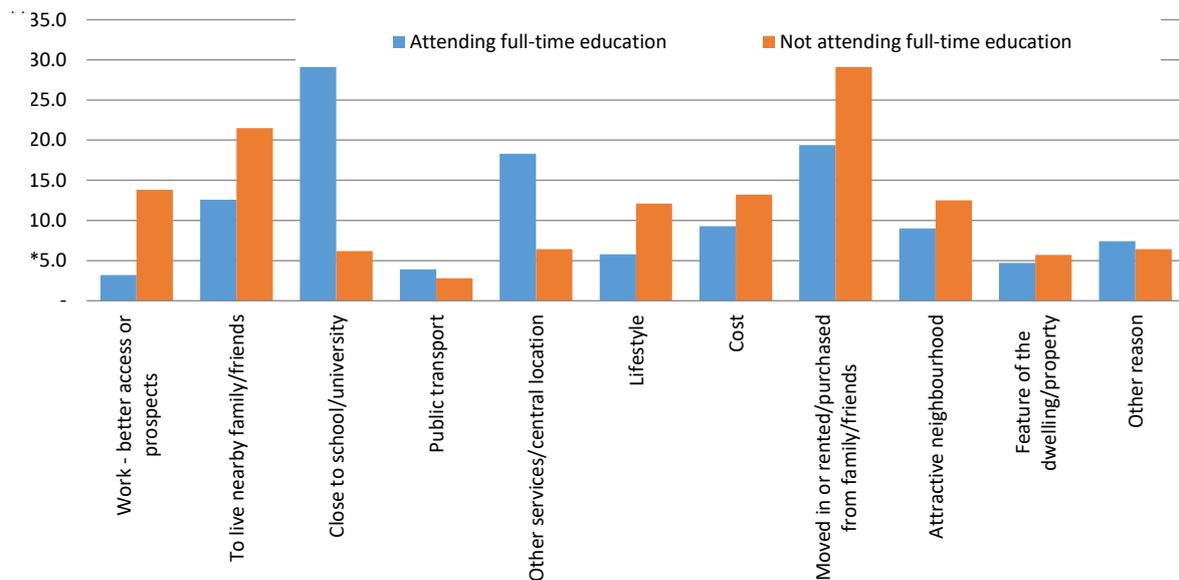
Generally accessibility reasons have a larger share for renters (63%) compared to owners (57%). Amongst renters, better access or prospect to work and access to central locations had the highest ranks. In contrast, cost and attractive neighbourhood was most cited by owners with a mortgage. This implies that when relocation costs are lower, e.g. renters, they tend to move to get closer to work or areas with higher accessibility. Moreover, given that a big proportion of owners with mortgage are first home buyers, this can suggest the transport and accessibility compromises made by them to enter the housing market.

4.2.3 Reasons for moving house by educational attendance

Of the full-time students who moved in Melbourne, 59% moved to their usual residence due to accessibility reasons and 28% moved for housing reasons (Figure 4). For students, proximity to school or university was considered as an accessibility factor in the survey. In particular, 31% reported their reason for moving ‘to be close to school or university’. They were also slightly more likely to choose their residential location because it was near public transport – 4% versus 2% for non-students.

Non-students are mainly those in the workforce who are employed. This group were much more likely to choose a location because it was near family and friends (22%) or their place of employment (14%). In general, accessibility was more important to full-time students (60%) than non-students (49%).

Figure 4. Reasons for moving house by whether they study or not



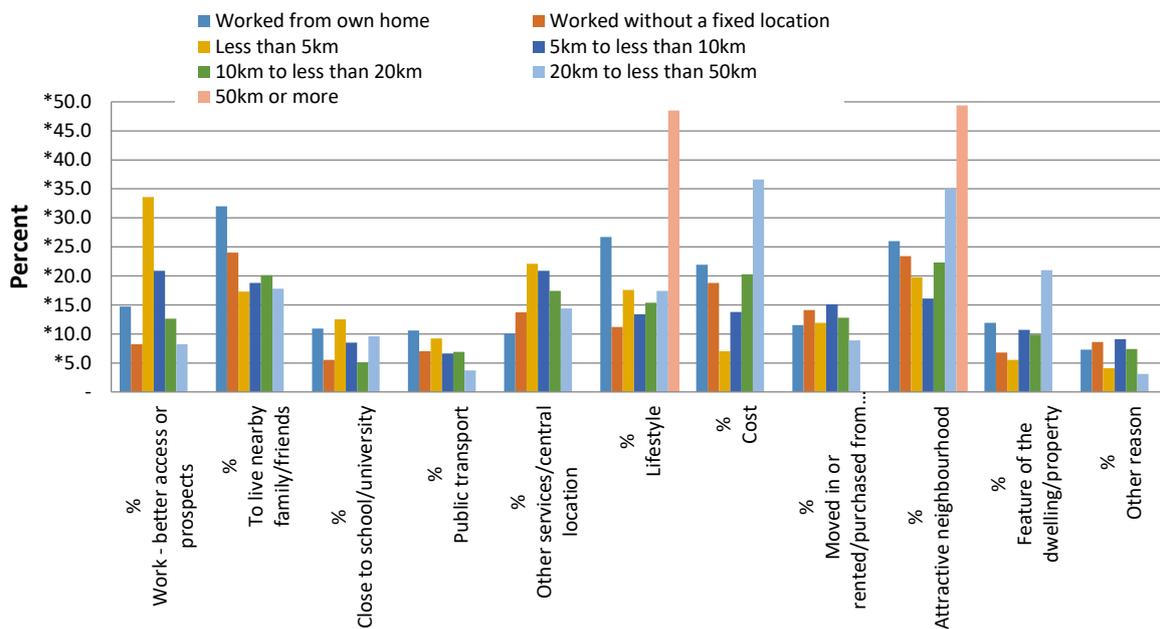
4.2.4 Reasons for moving house by distance to work

The reasons for relocation for employed people varied with the distance to work. Better work prospects/ access (34%), access to other services/central location (22%) and attractive neighbourhood (19%) were the most important reasons to those who travelled less than 5 km to work. For people who lived within a 20 to less than 50 km radius from their current suburb of employment (74,900 people), the more common reasons reported for moving were housing costs (37%) and an attractive neighbourhood (35%). ‘Attractive neighbourhood’ and ‘Lifestyle’ were much more important to those with the longest commute trip (49% and 48% respectively). For people working from home, ‘Living near family or friends’ (32%) and ‘lifestyle’ (27%) were the most common reasons for relocation. For those who had no fixed

work address, which is associated with particular occupations, 24% gave the reasons 'proximity to family and friends' and 'lifestyle' (Figure 5).

As distance between work and home increased better work access or prospect became less important. Conversely housing costs became a more prominent reason for moving. While work access or prospect cited by 34% of those who lived within a 5 km radius of their employment, cost was the main reason for only 7% of them. Further, 37% of employed movers who lived within 20 to 50 km from their current suburb of employment cited 'cost' as their reason for choosing their location, compared to 8% citing better work access or prospect. The importance of housing cost for long distance commuters suggests a trade-off between accessibility and affordability in location choice.

Figure 5. Reasons for moving house by commute distance

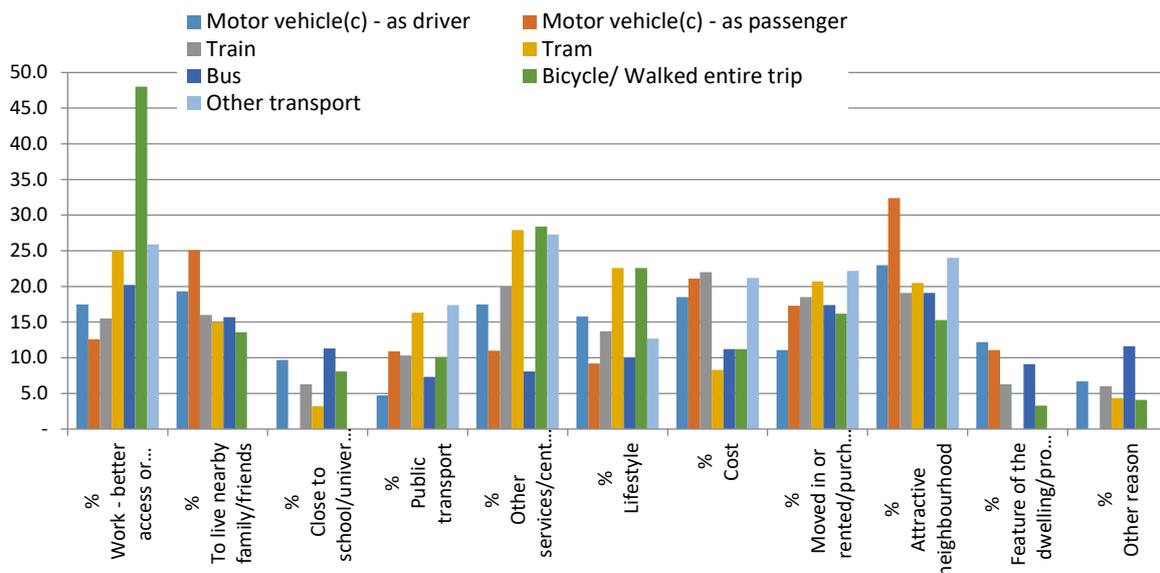


4.2.5 Reasons for moving house by commute mode

Regardless of the distance to their current place of employment, majority of employed movers in Melbourne typically drove a motor vehicle for at least part of their journey to work (68%). The next most common modes of transport were train (17%) and tram (11%). Of those who drove, 53% living less than 5 km and 87% living within a 20 to 50 km radius. For those who drive to work, the most common reasons given for moving to their residence were an attractive neighbourhood (23%) and living close to family and/or friends (19%). In contrast, movers commuting by train cited housing costs (22%) and proximity to services or a central location (20%) as a motivation for the move (Figure 6).

Proximity to public transport was reported as a reason for moving by 17% of the movers who travel by train to their suburb of employment and 4.7% of the movers who drive to work. The lower proportions for access to public transport can be due to the high public transport provision in Melbourne that most people assume it for granted when making a decision to move.

Figure 6. Reasons for moving house by commute mode



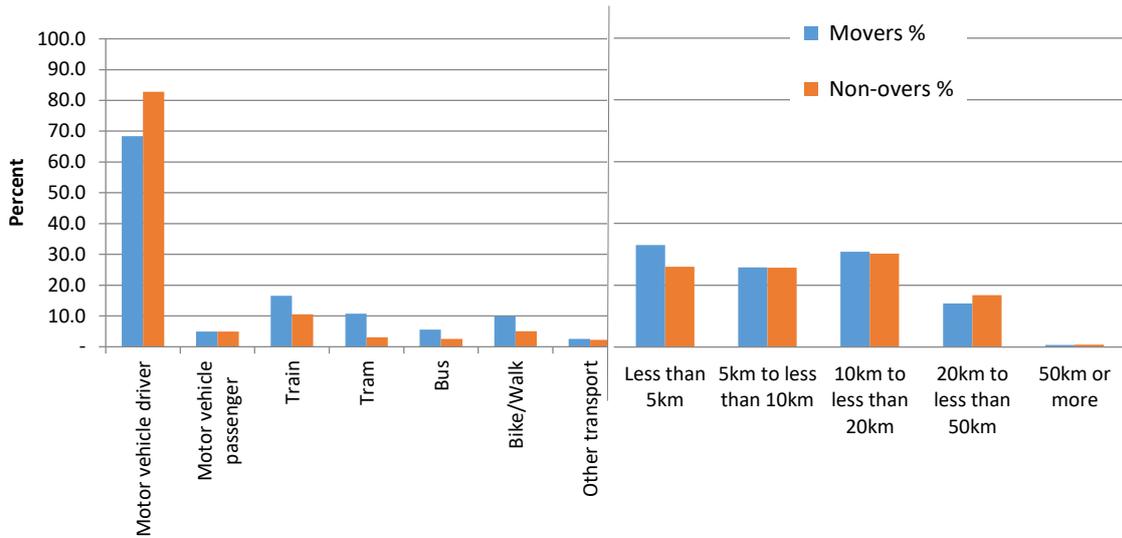
Of those people who reported access to or better work prospect as the major reason to move, 48% go to work by bike or walk, which also contains most of the people living within 5km from their workplace. The next group with highest walking/ biking rates (28%) was those who stated proximity to services and central locations as the main reason for move. This suggests the self-selection theory that people self-select themselves to areas that most matches their preferences.

4.3. Commute distance and mode of transport for house movers and non-movers

For employed persons, there seems to be a relationship between residential relocation and commute patterns. Generally, those who moved commute shorter distances and have higher rates of public and active transport mode. Conversely, non-movers had higher rates of driving to work. This pattern of travel distance and mode use is maintained regardless of distance travelled to work, excluding those living over 50 km from their workplace. For example, of those who travel less than 5 km to work, 53% of movers drive as opposed to 73% of non-movers. Also, for movers, 34% live within 5km and 27% live within 5-10 km, in contrast to 25% of non-movers living within 5-10 and 26% within 5-10 km. Share of tram use amongst movers is 11% while it is almost 3% for non-movers. In the case of train patronage, 17% of movers commute to work by train compared to 10% of non-movers (Figure 7).

This consistent pattern for travel distance and mode for movers and non-movers confirms that individual's choice of location is significantly affected by proximity to work, services and public transport, and accessibility as a whole and that they seek for optimised location versus housing choices. Second, people with daily travel patterns make decisions to move in order to be closer to their workplace and/ or for a better access to public transport. Therefore, it seems that a residential relocation has the potential to improve individuals travel patterns, especially for long distance commuters.

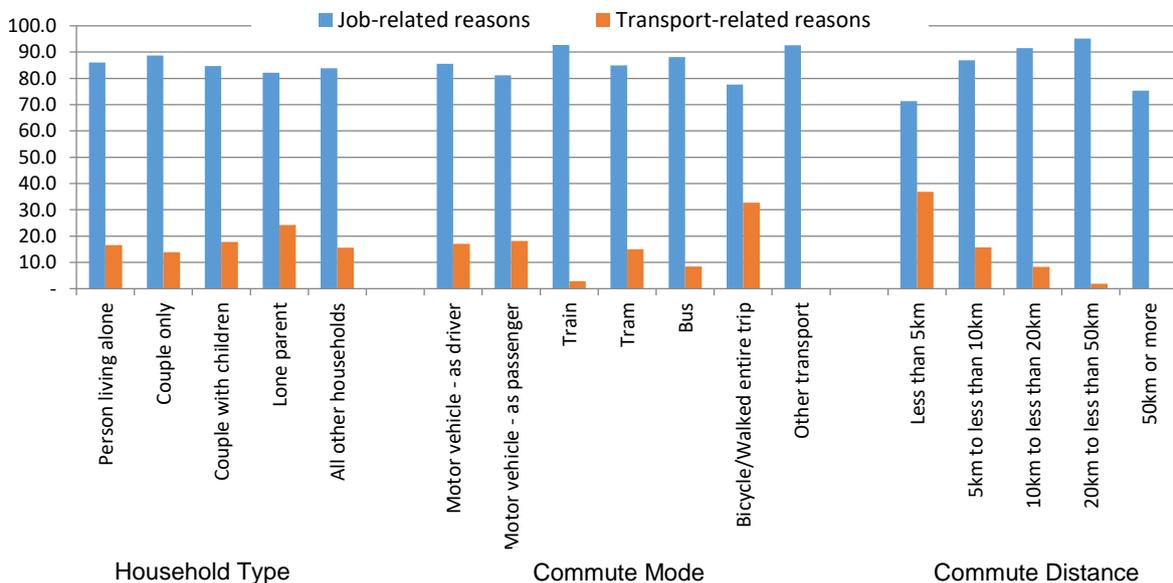
Figure 7. Travel mode and distance for movers vs. non-movers



4.4. Workplace relocation

The second important part of this survey investigated the work location change and how it relates to access to and travel to work. Since the focus was on changing employment location and the commute patterns, the questions on job location change were only asked of those who had a fixed place of work. Of the 510,500 people who lived in Melbourne and changed their current suburb of employment, majority (83%) lived within 20 km from their workplace and over a quarter (27%) lived within 5 km. ABS grouped the relocation reasons into ‘job related’ and ‘travel related’ for the following output. Job related reasons refer to those such as transferred by employer, type of work available and availability of jobs. Transport related reasons on the other hand refer to proximity to home and proximity to public transport. Overall, Job related reasons were more often reported as a factor in choosing their current suburb of employment in Melbourne (85%). Transport related reasons were cited by 17% of people in choosing their current suburb of employment.

Figure 8. Selected characteristics for workplace relocation



Choice of employment location varied with household type, commute distance and mode. Travel related reasons were more likely to be chosen by those living within less than 5 km from their employment place (36.9%) and walked or cycled the entire trip (32.7%). Generally, people who commute with public or active transport and those living closer to their workplace are more likely to cite transport related reasons for changing their suburb of employment (Figure 8). Similar to the case with residential relocation, the importance of travel reasons is decreasing as the distance between house and employment location increase. One interesting point is that, although a small proportion, some people actually change jobs to get closer to their residence or public transport, which confirms the importance of accessibility in residential and even employment relocation choice. This further implies the role of residential mobility in improving commute patterns.

5. Conclusion and discussion

In the current study a sample of the Melbourne population was analysed to verify the main reasons for their relocation. Further the extent to which the reasons for moving house depended on the person's socio-demographic characteristics and attitudes is evaluated. Overall, accessibility was the main reason for relocation (61%); followed by other reasons (34%), and housing reasons (30%). This suggests the importance of accessibility and transport related reasons in residential location choice.

Accessibility reasons had higher importance for persons living alone and couples, both of which don't have dependents living with them. On the other hand, features of a property, attractive neighbourhood and proximity to school or university were rated significantly higher by both single and couple parents. This implies that individuals with children or other dependents prioritize housing reasons, such as the number of bedrooms, to accessibility in their location choice. Renters were significantly more mobile than owners. This is obvious since relocation costs are far less for renters compared to owners.

There was a consistent pattern between commute distance and the reasons for moving. As the distance between work and home increased better work access or prospects became less important. Conversely housing costs became a more prominent reason for moving, implying the trade-off between housing affordability and commuting made by individuals in the process of location choice. Better access or prospects of work was very important to those who walked or cycled to work (47%) and those who lived less than 5 km from work (33%). Cost did not rate very highly for short distance commuters. By contrast, those with the longest commute trip were most likely to have chosen their home location because of an attractive neighbourhood (49%), lifestyle (48%) or cost (37%). Proximity to work and services were not as important for this group.

For work relocation of employed people while job-related reasons were the major reason for moving (85%), 17% rated travel related reasons. It is worth noting that for both residential and workplace movers, transport related reasons were significantly more important for those living closer to their employment place compared to long distance commuters, suggesting the self-selection theory that people self-select themselves to areas that most matches their preferences.

Finally, the study of commute mode and distance for employed movers and non-movers indicated that generally movers have improved commute patterns compared to non-movers. Overall, those who moved house within the last three years commute shorter distances and have higher rates of public and active transport use compared to those who haven't moved. For example, in average movers drive to work 16.5% less than non-movers and use public transport 7% more. Moreover, for those living within 5 km from work, 25% of movers walk or cycle to work compared to only 15% of non-movers.

Therefore it is possible to state that generally movers experience improved travel patterns followed by relocation. In fact this seems reasonable given the importance of accessibility and transport factors in reasons for moving.

These results raise the question whether residential mobility can result in reduced commuting and better travel behaviour. It is hoped that this information will provide a basis for a discussion of the possibility of improving travel behaviour by considering alternative housing market policies towards easing residential relocation and reducing the burdens for moving, such as property transaction tax (stamp duty).

It should be noted that, data used in this study was limited and only available at group-level (or aggregated) data. Therefore most of the material presented here was only available in the form of simple two-way cross-tabulations and it was not possible to investigate the correlations and interactions between variables. Studies of individual house movers with measurements of attitudes towards accessibility and travel factors as well as transport patterns before and after relocation would give more deterministic results into travel consequences of residential relocation. For example, more insight could be gained from data on whether the distance between home and work declined after a move and how this relates to the reasons for move.

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