

Time poor, health poor? Travel-related time poverty and resident health in a greenfield master-planned estate

Larissa Nicholls, Kath Phelan and Cecily Maller

Centre for Urban Research, RMIT University

Abstract: Master-planned estates (MPEs) on edges of cities are a major source of new housing in Australia. Concerns about limited local services and amenities and negative impacts on resident health have contributed to changes in design of some MPEs. A master-planned estate in the south-east growth corridor of Melbourne was designed with aims for a 'healthy and engaged community'. Longitudinal research methods to evaluate outcomes included 76 interviews and a survey (568 responses) conducted at three time points over the first four years of the estate's development. Both methods included future residents and those already living at Selandra Rise to enhance insights into the impacts of residential environment. Many residents moved to the MPE from more central parts of Melbourne, attracted by the combination of a more affordable new detached home in an estate with parks, exercise opportunities and community facilities. Most residents were young working couples and few worked locally. Many spent more than two hours per day commuting and had unpredictable travel times. Residents reported prioritising home and family time over using the estate's health and wellbeing features. We conclude that provisions for health and wellbeing *within* the MPE are insufficient when *broader* locational and connectivity disadvantages are not addressed. To equitably achieve health aims, greenfield housing development needs better integrated *regional* planning, including efficient road and public transport, and more immediate opportunities for local employment.

Introduction

Greenfield master-planned estates (MPEs) are a major source of new housing for Australian cities. These housing developments can provide home buyers and renters with opportunities to acquire a (usually free-standing) home for substantially less cost than in suburbs located closer to the city centre. Young couples and first home buyers are often drawn to the promise of affordable housing and attractive lifestyles offered by developers (Bosman, 2003, Walters and Rosenblatt, 2008, Cheshire *et al.*, 2010). Entering into a new life stage on the purchase of their first home, young families in growth areas are particularly vulnerable to financial and other stresses (Richards, 1990). With the birth of a child they can experience reduced incomes and higher living costs, and have limited access to services and support networks (Richards, 1990, Williams and Pocock, 2010). Previous research has highlighted that young families in new communities and women in particular, are susceptible to social isolation, loneliness, boredom, disconnection from community and exclusion from employment (Richards, 1990, Johnson, 1997, Williams and Pocock, 2010). References to 'dormitory suburbs' indicate concerns that residents of outer urban residential developments have to travel to other areas for employment, social activities and local services and have little time for social participation in their neighbourhood (Pocock *et al.*, 2012) and reliance on private car ownership for transport and long travel distances in outer urban areas have also been highlighted (Yigitcanlar *et al.*, 2007).

MPE designs and resident access to services and amenities vary more than is sometimes acknowledged with features other than housing such as shopping centres, parks and community facilities now often incorporated. Governments and planners encourage this approach and its assistance with some of the challenges of infrastructure and service provision in new residential areas (Johnson, 2010). Concerns that 'obesogenic' built environments encourage inactivity have attracted government attention (Garrard, 2009) including the Parliamentary Inquiry into Environmental Design and Public Health in Victoria (LCEPRC, 2012). Urban planning policies generally include health as one of the many areas with which they are concerned. Broad statements about good health outcomes reflect current public sector approaches to urban planning which is rarely proscriptive, either in policy or specific plans. In Melbourne, the Metropolitan Planning Authority (MPA) works with growth area

councils to develop Precinct Structure Plans (PSPs) to guide physical growth. As demonstrated in relation to planning and transport legislation, (Lowe et al., 2013) cross sectoral approaches to preparing and implementing these plans which might include a focus on health outcomes are rare. Nonetheless guidelines which advocate linking healthy outcomes and approaches to planning communities abound. For example, The Planning Institute of Australia (PIA) published its *Healthy Places and Spaces: National Guide* in 2009 (Bajracharya and Khan, 2011), the culmination of a collaboration between PIA and VicHealth through the Planning for Health and Wellbeing Project to enhance the capacity of planners to create better urban environments.

Despite this advocacy and policy attention to issues of local service provision and access to exercise opportunities, new housing and population growth in greenfield locations tends not to be matched by proportional increases in employment opportunities (BITRE, 2011, OSISDC, 2012, DIRD, 2015). Structure plans include goals for local employment, designate future employment areas and project job numbers, but these are typically long term predictions (GAA, 2010). Over the last 10 years average work commuting times for residents of Australia's major cities have increased (DIRD, 2015, Hetherington, 2015) and road congestion is expected to increase travel times further in future years (Infrastructure Australia, 2015). The average one-way commute time in Melbourne is approaching 35 minutes (BITRE, 2013). However, in outer areas many residents' commutes are much longer than average with one in four Australians commuting more than one hour each way (Kelly and Donegan, 2015). There is a growing body of work that links long commutes to poor health outcomes. In the US, longer commutes have been linked with reduced time spend exercising, preparing food and sleeping (Christian, 2012) and decreased fitness, increased weight, and higher blood pressure, blood sugar and cholesterol (Hoehner *et al.*, 2012). In contrast, positive health outcomes have been linked to shorter commutes or those that involve physical activity such as using public transport, walking and cycling (DOT, 2007, Rissel *et al.*, 2012).

Given that long commutes are inevitable for many residents of greenfield developments and the evidence that long commutes are detrimental to health, this paper asks whether policies and projects that promise a healthy lifestyle on the urban fringe deliver for long commuters. The paper reports on a five year longitudinal study of an MPE in Melbourne. The research was conducted at Selandra Rise, a new MPE designed collaboratively by the developer (Stockland), the local council (City of Casey), PIA, the MPA (formerly Growth Areas Authority, GAA) and with input from the Victorian Health Promotion Foundation (VicHealth). The demonstration project aimed to create an affordable, liveable and healthy environment for residents and to provide 'a blueprint for development of healthier communities'.

The paper draws on a combination of quantitative and qualitative data from interviews and surveys with future and current residents of Selandra Rise. It explores future resident interest in a healthy lifestyle, resident experiences of transport and travel and the impact on participation in health-related activities. We hypothesise that, for Selandra Rise residents who work the greatest distances from home, long commutes compromise their use of local health and wellbeing infrastructure (e.g. exercise and social participation opportunities). The analysis and discussion highlight some risks associated with reliance on the inclusion of health and wellbeing infrastructure within new estates without strategies to address the transport and travel issues that residents may experience. Local health and wellbeing infrastructure is unlikely to be adequate to address concerns about resident health for those that experience long commutes.

The following section describes the study context and methodology. Following sections describe: the study participants and their interest in health initiatives at Selandra Rise; the travel-related issues experienced by residents; and links between travel and health for residents. The paper concludes with a discussion of implications.

Study context and methodology

Selandra Rise is located in Clyde North in Melbourne's south-east growth corridor, 52km from the city centre and approximately 6km from the nearest train station (Cranbourne East). The roads surrounding the estate have few bike lanes and include stretches without footpaths and as such opportunities for residents to walk, cycle or participate in other exercise without driving to other locations are largely limited to within or very nearby the estate. The M1 Monash Freeway is the main road route to city centre is accessible via an 8km stretch of local road. The estate is within the boundary of the Cranbourne East Precinct Structure Plan, completed in May 2010.

The first residents moved into Selandra Rise in November, 2011. Selandra Community Place, a community centre with exercise and social activities program, and a public high school opened soon

after. Other major features and services opened or started operating over the following years: Hilltop Park including outdoor exercise equipment (mid 2012); a drainage reserve with walking paths (early 2013) a retirement village (late 2013); Heritage Park including an off-leash dog park (mid 2014); a public bus to Cranbourne shopping centre and Cranbourne train station (July, 2014).

The research was based on a pre- and post- longitudinal mixed method study. Participants included future residents of the estate (pre) and current Selandra Rise residents (post). Both interviews and surveys occurred at three staggered time points and participant involvement ranged from one research activity through to all six major data collection activities. Seventy-six interviews were conducted with 64 individual participants between 2011 and 2015 using two interview cohorts. Interview participants were recruited by phone calls, letters and emails using the developer's customer databases, details from prior participation in the survey and researcher attendance at organised events for (future) residents. The only recruitment criterion was that potential participants had paid a deposit on land at Selandra Rise and intended to occupy the house. Interviews were conducted in participants' homes and covered a variety of topics related to residents' perceptions and experience of their neighbourhood, health and wellbeing, and daily routines - both before and after moving to Selandra Rise. The interviews were digitally recorded and transcribed by a professional transcription service. Qualitative analysis software was used to code responses by topic, to systematically analyse transcripts and to draw out key themes and patterns from the data.

The web-based survey software Qualtrics was used for the survey. Current and future residents were invited to complete the survey via email, a residents' Facebook page and information posted at Selandra Community Place. Paper surveys were hand delivered to residents' mailboxes. The survey ran in the October to December period of 2012 and 2013 and February to March 2015. Hardware store gift cards (AU\$500 and AU\$100) were offered each year as random prizes for taking part in the survey. The survey was completed 568 times by 433 individual respondents (88 pre- and 480 post-Selandra Rise responses). Approximately 25% of Selandra Rise households completed one or more surveys over the course of the study. The survey collected data about neighbourhood satisfaction, transport, food and financial security, physical and mental health, exercise, risk behaviours (smoking, alcohol and fast food consumption) and detailed participant demographics. While mainly closed questions, participants had opportunities to provide comments through open questions and text boxes. Further details about participation in each stage of the research are available in

Table 1.

Table 1 Summary of interview and survey participation

Year	Cohort 1 Interviews		Cohort 2 Interviews		Survey	
	Interviews	Participants	Interviews	Participants	Pre-SR responses	At-SR responses
2011/12	21	34	-	-	35	89
2013	14	21	22	29	31	185
2014/15	12	19	7*	10	22	206
Total	47	74	29	39	88	480

* Cohort 2 interviews in 2013 included retirement village residents - not re-interviewed in 2014/15

The following sections describe findings from study data relating to resident expectations and experiences relating to health, travel and transport at Selandra Rise.

Findings

Participants and the appeal of local facilities and a healthy lifestyle

Selandra Rise predominantly attracted young, employed participants who were buying their first home¹. Most households were couples with or without children and almost half were born in countries other than Australia. Over 80% of respondents had completed Year 12 or equivalent which is higher than average for Australia (55%) and the City of Casey (47%) (ABS, 2012). Just over half of

¹ Excluding residents of the self-contained Selandra Rise Retirement Village.

respondents reported having household income of more than \$1,500 per week which is higher than local (39%) and national averages (40%) (ABS, 2012). The prevalence of overweight and obesity in Selandra Rise respondents (51%) was similar to City of Casey (52%) and Victorian averages (50%). However with more than half of participants under 35 years of age and a bias towards female respondents the Selandra Rise overweight and obesity figures were high (DOH, 2014). Further details of survey participant characteristics are presented in

Table 2. Survey and interview participants mainly lived in the east and south-east of Melbourne before moving to Selandra Rise. Their pre-Selandra Rise suburbs ranged from a little to a lot closer to the Melbourne CBD although some had moved from newer housing estates in suburbs near Selandra Rise.

Table 2 Characteristics of survey respondents living at Selandra Rise

Characteristic	%	Characteristic	%
Gender		Education	
- Female	59%	- Completed Year 12	84%
- Male	41%	- Completed University degree	45%
Age		Origin	
- <35 years	57%	- Born outside Australia	47%
- 35-54 years	33%	- Speak a language other than English at home	35%
- >54 years	10%		
Household type		Occupancy status	
- Couple, no children	33%	- Mortgage	83%
- Couple, children	44%	- Owns home outright	8%
- Other	23%	- Renting/other	9%
Employment		Household income (annual)	
- Full-time	68%	- <32,000	4%
- Part-time/casual	16%	- 32-52,000	9%
- Other	16%	- 52-78,000	22%
		- 78-104,000	16%
		- 104-156,000	26%
		- >156,000	9%
		- Not stated	15%

Selandra Rise was promoted as having ‘everything you need to live a truly local life’ (Stockland Development 2010) and ‘a happier, healthier place to live’ (PIA, 2015). The marketing themes of local living and health resonated with participants. In an interview before moving to the estate Oliver described his and his partner’s expectations of life at Selandra Rise, ‘*We want a healthy neighbourhood, we want somewhere that promotes health*’. When future residents were asked about their decision to move to Selandra Rise and what they were looking forward to, parks were the most frequently mentioned feature (other than a new house). Participants viewed the future parks as important aesthetic features and as spaces for exercise, relaxation and interaction with other residents. Some participants anticipated that the combination of parks and other local facilities would enable them reduce car use and participate in exercise activities. Interview participant Lucy said:

‘It was going to be this little community where you could have ...you know sort of where people didn’t have to go everywhere for everything else, so yeah that was something that really sold me...’[At weekends] not even get in the car...not just shopping, but being able to go to a park or go for a run and not have to drive somewhere to do that.’

Health and living a local life were not central concerns for all participants but for most interviewees, the range of local amenities in the MPE plan distinguished it from others in the price range. These factors contributed to resident decisions to move to Selandra Rise.

Travel and transport issues and resident satisfaction at Selandra Rise

Most residents lived closer to their workplaces, family and social connections before they moved to Selandra Rise. They had good or reasonable access to public transport and some used it regularly. While participants were not strongly concerned about travel and transport prior to moving, they did

express expectations, and often confidence, about public buses and a new station close to the estate as part of the Cranbourne rail line extension. A number anticipated that Selandra Rise would be well connected:

'Connectivity, it was the second biggest reason for us to go south east because when you are looking at a budget of buying a piece of land you want to have your own space and then again you want to be connected to your workplace... It [Selandra Rise] is well connected with the train lines... And then the road, Monash is very well connected.' (Taj)

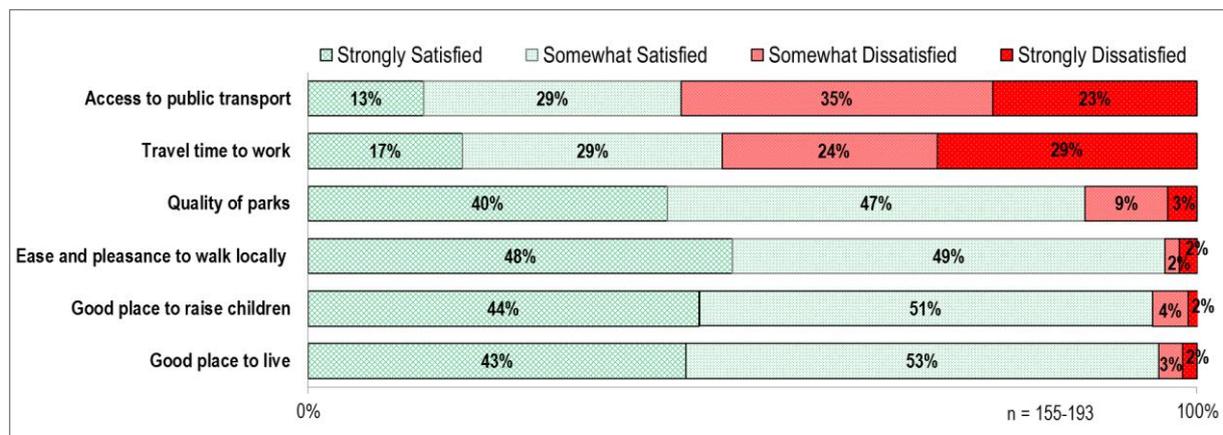
Before the public bus service to Cranbourne train station began operation towards the end of the study period, 90% of survey respondents living at Selandra Rise used cars as their main form of transport to work. This fell to 86% after the bus service began, 4% more than for those who had not yet moved to Selandra Rise and 9% higher than the Australian average (ABS, 2012). In 2015, 90% of survey respondents travelled to work four or more days per week and overall resident commute times and dissatisfaction had increased since 2013. Over 40% of respondents reported usual one-way travel times of 30-59 minutes but another 36% commuted for 60 minutes or more each way (compared to 18% of pre-Selandra Rise respondents). The survey's highest commute time category was '60+ minutes' but the last round of interviews revealed that some residents regularly commuted for over 90 minutes each way. In 2015, 53% of Selandra Rise survey respondents were dissatisfied with their travel time to work, 30% were 'very dissatisfied' while only 12% of pre-Selandra Rise residents gave this response. Strong dissatisfaction was ten times higher for residents with one-way travel times of 60 minutes or more compared to 30 minutes or less.

Interview and survey data indicated that very few participants found work closer to Selandra Rise during their participation in the study and some changed to jobs in more distant locations. Some interviewees mentioned that they had unsuccessfully searched for a job closer to home. During interviews, residents reported that as more estates developed and the population grew, commuting times became longer, more unpredictable and roads were more congested. Interview participants spoke of strategies to reduce time spent driving, some of which involved spending more time away from home. One couple would sometimes stop at a shopping centre on the way home from work and eat while waiting for the road congestion to ease. Dave, a tradesman, routinely left home at 5.40am to avoid slow morning traffic:

'I've saved a lot in fuel from not sitting in traffic... [when I arrive at the job site] I just sit in my car, eat breakfast, and do book work for 40 minutes... Sometimes have a nap. So that's just to beat traffic... Then in the afternoon you've just got to take it as it comes.'

Figure 1 contrasts travel-related dissatisfaction with satisfaction with some other aspects of the Selandra Rise neighbourhood such as being a 'good place to live' and a 'good place to raise children'. Overall resident satisfaction with Selandra Rise compared favourably with that of future residents satisfaction with their pre-Selandra Rise neighbourhood. However, strong satisfaction with Selandra Rise was slightly lower than pre-Selandra Rise neighbourhoods (43% vs 46%).

Figure 1 Resident satisfaction with their neighbourhood (2015)



Future residents' visits to the estate were typically at weekends when roads were less congested. Such visits would not have provided accurate experiences of weekday travel times and may have influenced future residents' apparent lack of concern about possible travel issues after they moved.

Residents did not identify transport or travel to work as major factors in their decisions to purchase a home in the estate (Weidmann and Kelly, 2011). Once they were living at Selandra Rise, residents expressed concerns about travel and transport in interviews and the survey but, despite these concerns, overall satisfaction with the estate remained high. Given transport and travel's minor influence on residents' perspectives, understanding the relationship between reported travel problems with health outcomes is particularly important in an estate specifically designed and marketed to have positive health benefits. The following section looks at resident engagement with local health initiatives and the impact of long commutes.

Travel and health-related outcomes for residents

Previous research has shown that self-reported difficulties with transport are associated with time poverty, particularly for employed people (Currie *et al.*, 2010) and work commute times affect engagement in health-related activities (Christian, 2012). Policies which support local access to health activities seek to address some of these issues.

The survey asked participants asked about their two main destinations, the frequency and length of the trips. Based on residents' responses to questions about their regular travel commitments, each respondent's weekly travel was classified as:

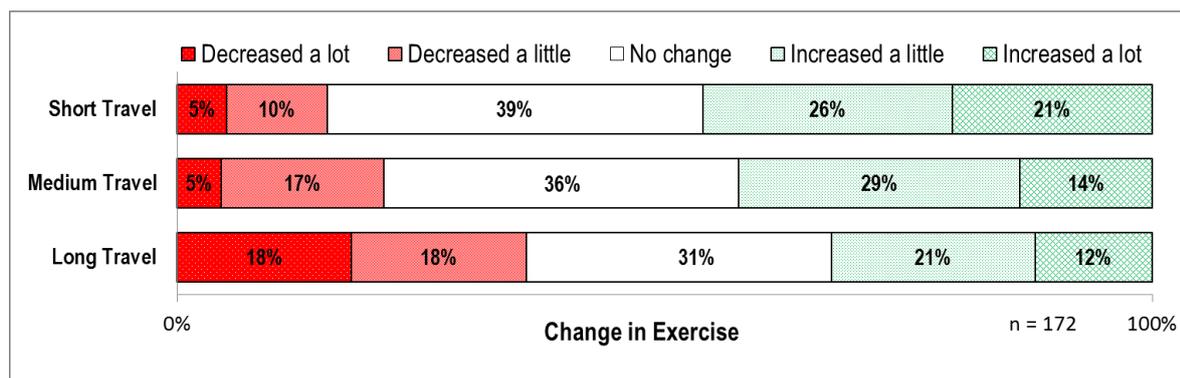
- Short - <30 minutes one-way for all trips performed more than once per week;
- Long - 60+ minutes each way for any trips taken four or more days per week; or,
- Medium - those with travel greater than Short and lesser than Long.

The survey also asked respondents about any change in the amount of exercise they did. Overall, more residents reported an increase than a decrease in exercise but Long travellers more often reported a decrease in exercise after moving to Selandra Rise (36%) compared to Short travellers (15%) and Medium travellers (17%). More Long travellers reported decreased exercise after moving than increased exercise (see

Figure 2). Kyle explained how the long commute, combined his ongoing further study commitments, affected his exercise routine and health:

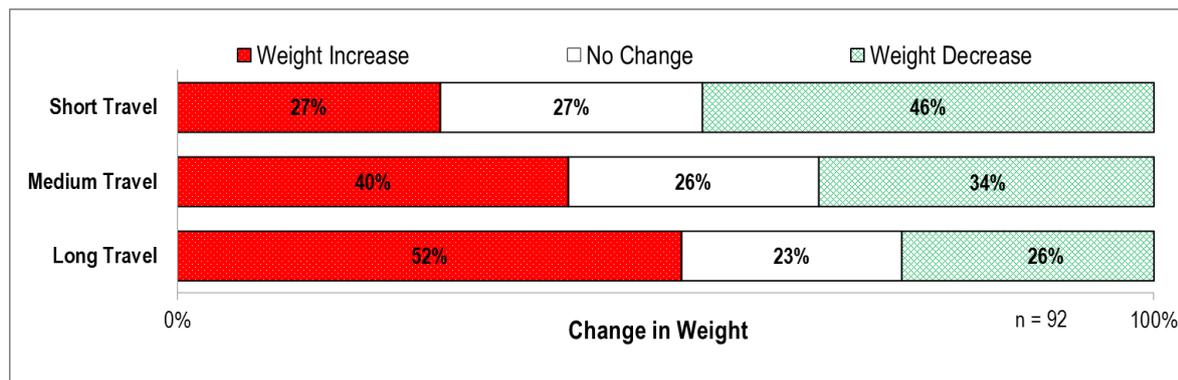
'I'd go in early so I'd go to the gym and then go to work... Then I changed jobs and I haven't been able to find the formula again, how to get exercise in my life whilst studying and commuting that long and doing work...I'm getting the pain back that was going away when I was lifting the weights. And, yeah, I've put on some weight.'

Figure 2 Travel time and change in exercise since moving to Selandra Rise



Ninety-two participants completed the survey at more than one time point and self-reported their weight each time. More residents gained weight (40%) than lost weight (35%) during their participation in the study. A larger proportion of Long travellers gained weight (52%) compared to just over one quarter of Short travellers (27%) (Figure 3). There was a weak but highly significant correlation between Long travel and kilograms gained over the course of the study (Spearman's, $r = .247$, $n = 92$, $p < .01$).

Figure 3 Travel time and direction of change in weight during study



Interviews illustrated that despite resident satisfaction with the estate and its parks, lack of time limited their family's use of the parks and exercise opportunities. Residents described travel time as a main contributor to lack of time. For example, Clarence's weekday routine involved first dropping his child at school in Dandenong and then travelling to work in Burwood:

'During weekdays, driving to work, coming back from work is a nightmare really...There are some worse days, it may take up to two hours ...In a month I would say we visit [the park] twice ... My son asks me to take him to park pretty much every day. He wants to go. I don't have time.'

After moving to Selandra Rise, interview participants with long commutes often described intentions to move closer to their workplace when it became financially viable to do so. Survey respondents reported similar ambitions: while they liked the design, facilities and friendliness they experienced at the estate, many residents hoped to live somewhere other than Selandra Rise in the longer term. In the final year of the survey, a new question asked respondents about their intentions relating to moving. Thirty seven per cent of Long travellers agreed with the statement 'I would like to move to a different suburb within the next five years', as did 30% of Short travellers. Over a third of Long travellers indicated that they wanted to move but could not afford to compared to 26% of Short travellers. The greatest difference between Long and Short travellers was in response to the statement 'I would like to move closer to central Melbourne', at 59% and 11% respectively. These figures indicate that those who do not need to regularly travel long distances are mostly happy to live at or in the vicinity of Selandra Rise in the longer term. However for those with long commutes, regardless of their satisfaction with the Selandra Rise estate, they express a preference to live closer to the central Melbourne even if this is not financial viable.

The interview and survey findings suggest residents believe that living in a different *location* may be better for their family. This is distinct from the desire to move for the purposes of obtaining a larger or more satisfactory home (survey participants were more highly satisfied with their new home than any other aspect of the estate). While the data does not show that these residents were explicitly looking for alternative locations which could benefit their own and/or their family's health, the stress and time involved in long commutes were likely to be a contributing factor.

Discussion and Implications

The issues of transport and time poverty and the financial and social implications for outer urban residents are well established (e.g. Dodson and Sipe, 2008, Currie *et al.*, 2010, Pocock *et al.*, 2012). Most studies use population data to explore the links between commuting and exercise/health. This paper has drawn on a longitudinal mixed-methods study of residents of a defined geographic area, an outer urban master-planned estate specifically designed and built to enable a healthy lifestyle for residents.

The co-ordinated design of Selandra Rise was a positive step towards improving resident access to amenities, services and opportunities for exercise and social activities in an outer urban residential estate. However the findings in this paper suggest that attention to local provision of amenities and services is unlikely to achieve aims relating to exercise and health for all residents without addressing the transport and travel issues. On the whole, residents were highly satisfied with the estate but travel issues and long commutes were areas of high dissatisfaction. We acknowledge that people can enjoy

aspects of commuting (e.g. as a “temporary respite from the demands of the other” (Bull, 2004)) or use time spent travelling in productive ways (e.g. Basmajian (2010)). However, there was little to suggest that Selandra Rise residents with medium-long commutes considered the time involved to be well spent. In fact, those with long commutes were more likely to indicate that they hoped to move elsewhere in the near future (data not included) despite their satisfaction with the estate. Residents usually had a restricted time budget on which medium and long commutes had a significant impact. Time poverty reduced the time available for other activities – directly health-related or otherwise. Residents that had frequent long commutes were more likely to report reduced exercise after moving to the estate and weight gain than those with shorter and more infrequent travel commitments. Our findings are in line with (Maher, 1994) who stressed that the disadvantages of particular residential areas do not apply universally to the residents but are instead differentially distributed and dependent on lifestyle, household structure, location of employment and different capacities to overcome distance.

The Selandra Rise case study has highlighted that provision of internal amenities and promotion of opportunities for a healthy lifestyle is a strong selling point to residents but may have unintended outcomes for health. Could or should future residents of Selandra Rise have anticipated the travel challenges of living in this location? The literature on housing preferences shows that travel to work is just one of many variables households consider when deciding where to live and proximity to work may be less influential in housing preferences than other priorities (Weidmann and Kelly, 2011). The attraction of a healthier lifestyle in a location with affordable, new, detached homes may have inadvertently encouraged some home buyers to move to a location where they would experience unavoidable long commutes and possible poorer long-term health outcomes. Trade-offs between priorities are inevitable when choosing a new home, however the eventual length and unpredictability of commute times, and their impacts, would have been difficult for future residents to predict prior to the rapid transition from predominantly farmland to an area with many estates at various stages of construction. The local roads carried little traffic at the time that many residents made their purchasing decision but became increasingly congested at peak times. Similarly, the ongoing lack or inadequacy of public transport options in these areas is beyond predictability for residents, particularly for those with faith in authorities and planning. In effect, ‘healthy lifestyle’ estates on the edges of cities may attract residents who intend to participate in opportunities for health but find it difficult to do so because their jobs are far away and/or travel options are limited or inefficient.

So how does planning contribute to these issues and resolution?

Selandra Rise is within the boundaries of the Cranbourne East Precinct Structure Plan (GAA, 2010). PSPs are physical land use plans which follow a standard format. While most references to health in the Cranbourne East PSP are to physical facilities, the plan’s vision states that this area “will be a place where people can enjoy healthy, quality lifestyles”. The plan draws on a long tradition in the urban planning field by asserting that the physical structure created by the plan will contribute “positively to the physical and social health and wellbeing of the community” (p.11). In addition, the Cranbourne East PSP’s first identified priority is transport, although all projects are road-based. Implementation of PSPs is complex (e.g. division of responsibilities and infrastructure funding challenges) and shortfalls in transport infrastructure and local job creation are common. The experiences of residents at Selandra Rise, and those with long commutes in particular, illustrate the gap between opaque planning goals and language and early residents experiences of living in these areas. Given that these Structure Plans are the main planning effort for these newly developing locations, they should be more realistic in their claims about public health outcomes and more transparent about timeframes for infrastructure provision.

Building new communities on the edge of cities is not a new endeavour in Melbourne. The low density form of predominantly residential development in new suburbs has dominated the city’s expanding edge since at least the end of World War II. Yet the findings from Selandra Rise suggest that state governments have been too slow to change their implementation of important infrastructure improvements in these locations, and particularly in relation to transport. In addition to the present study, previous research has shown that people with long commutes are less physically active (Christian, 2012, Hoehner *et al.*, 2012), are more likely to gain weight (Sugiyama *et al.*, 2013) or be obese (Lopez-Zetina *et al.*, 2006). For Selandra Rise residents to walk to the train station would take approximately one hour and Selandra Rise’s Long travellers had no transport options except driving until a new bus service started in July 2014.

At the local level, the City of Casey’s Municipal Public Health and Wellbeing Plan clearly articulates the need for public transport to address car dependency and its contribution to weight gain (City of Casey, 2013). In addition to the partner organisations behind Selandra Rise, both the City of Casey and residents advocated to the Victorian state government for the new bus route; it was not the result

of a transparent, demand-driven process where a defined population threshold was reached. Nor was it the product of a strategic state government approach to implementing non-car based travel alternatives to new communities from the time the first residents moved in. The Cranbourne East PSP “*anticipated* that new bus services will be progressively extended” and “it is *highly desirable* that these are able to be provided early” [authors’ emphasis] (GAA, 2010, p.7). While the Selandra Rise bus service provides a regular, quick connection to the Cranbourne train station and shopping precinct, few Selandra Rise residents use it for long commutes and driving remains the predominant travel method.

In addition to health, securing local employment opportunities was also an aim for the Selandra Rise development (PIA, 2015). The Cranbourne East PSP anticipates that just under 3,000 jobs will be created within its boundaries and up to 50,000 jobs in the region (GAA, 2010). The main mechanism the PSP proposes to generate jobs is the designation of land uses. This means these new jobs are likely to be slow to appear, and out of sync with residents’ aims to find suitable work closer to home.

Selandra Rise’s central goal of improving health and wellbeing outcomes is unlikely to be realised in the short and possibly even medium term under the current travel and local employment circumstances. Residents who travel long distances for work suited to their qualifications and experience may move out of the estate because of the impact of their commutes on their quality of life. The residents’ experiences highlight that economic development and job generation are still relatively unsophisticated and ineffective after decades of greenfield residential development. From the findings presented here, health and wellbeing infrastructure *within* the estate’s boundaries is insufficient to address these issues. Integrated planning to ensure delivery of employment opportunities and better connectivity and transport infrastructure *in the region* is also essential to enable healthy lifestyles. State and local governments need to address these aspects of residential development more urgently than ever before.

Acknowledgements

The research was supported by VicHealth with contributions from the City of Casey, Stockland and the MPA. We thank all the participants for their generous involvement.

References

- ABS, 2012. *Census of Population and Housing 2011*. Canberra: Australian Bureau of Statistics.
- Bajracharya, B. & Khan, S., 2011. Building active and healthy communities: An analysis of council initiatives. *State of Australian Cities Conference*. Melbourne.
- Basmajian, C., 2010. “Turn on the radio, bust out a song”: the experience of driving to work. *Transportation*, 37, 59–84
- Bull, M., 2004. Automobility and the power of sound. *Theory, Culture & Society*, 21, 243–259.
- BITRE, 2011. *Population growth, jobs growth and commuting flows in Melbourne, Report 125*. Bureau of Infrastructure Transport and Regional Economics, Canberra.
- BITRE, 2013. *Population growth, jobs growth and commuting flows - a comparison of Australia's four largest cities, Report 142*. Bureau of Infrastructure Transport and Regional Economics, Canberra.
- Bosman, C., 2003. Homes for everyone. *Journal of Australian Studies*, 27, 131-145.
- Cheshire, L., Walters, P. & Wickes, R., 2010. Privatisation, Security and Community: How Master Planned Estates are Changing Suburban Australia. *Urban Policy and Research*, 28, 359-373.
- Christian, T.J., 2012. Trade-offs between commuting time and health-related activities. *J Urban Health*, 89, 746-757.
- City of Casey, 2013. *Municipal public health and wellbeing plan 2013-2017*. Available from <http://www.casey.vic.gov.au/health-safety/health-promotion/health-wellbeing-plan> [Accessed 30/07/2015]
- Currie, G., Richardson, T., Smyth, P., Vella-Brodrick, D., Hine, J., Lucas, K., Stanley, J., Morris, J., Kinnear, R. & Stanley, J., 2010. Investigating links between transport disadvantage, social exclusion and well-being in Melbourne – Updated results. *Research in Transportation Economics*, 29, 287-295.
- DIRD, 2015. *State of Australian cities 2014-2015*. Department of Infrastructure and Regional Development, Canberra: Australian Government.
- Dodson, J. & Sipe, N., 2008. *Unsettling Suburbia: The new landscape of oil and mortgage vulnerability in Australian cities*. Urban Research Program, Griffith University.
- DOH, 2014. *City of Casey statistical profile*. Department of Health, Government of Victoria, Melbourne.

State of Australian Cities Conference 2015

- DOT, 2007. *Victorian integrated survey of travel and activity* [online]. Department of Transport, Government of Victoria. Available from: <http://economicdevelopment.vic.gov.au/transport/research-and-data/statistics/vista#reports> [Accessed 30/07/2015]
- GAA, 2010. *Cranbourne East Precinct Structure Plan*. Growth Areas Authority, State Government of Victoria, Melbourne.
- Garrard, J., 2009. *Taking action on obesogenic environments: Building a culture of active, connected communities*. National Preventative Health Taskforce, Department of Health, Canberra.
- Hetherington, D., 2015. *Paradise lost? The race to maintain Australian living standards*. Sydney, Australia: P. Capita.
- Hoehner, C.M., Barlow, C.E., Allen, P. & Schootman, M., 2012. Commuting distance, cardiorespiratory fitness, and metabolic risk. *Am J Prev Med*, 42, 571-8.
- Infrastructure Australia, 2015. *Australian infrastructure audit: Our infrastructure challenges*. Sydney: Australian Government.
- Johnson, L., 1997. The Oracles Of Delfin: Women And Suburban Developments. *Urban Policy and Research*, 15, 103-114.
- Johnson, L.C., 2010. Master Planned Estates: Pariah or Panacea? *Urban Policy and Research*, 28, 375-390.
- Kelly, J. & Donegan, P., 2015. *City limits: why Australia's cities are broken and how we can fix them* Melbourne: Melbourne University Press.
- LCEPRC, 2012. *Inquiry into environmental design and public health in Victoria - Final Report*. Legislative Council Environment and Planning References Committee, Melbourne: Parliament of Victoria.
- Lopez-Zetina, J., Lee, H. & Friis, R., 2006. The link between obesity and the built environment. Evidence from an ecological analysis of obesity and vehicle miles of travel in California. *Health Place*, 12, 656-64.
- Maher, C., 1994. Residential Mobility, Locational Disadvantage And Spatial Inequality In Australian Cities. *Urban Policy and Research*, 12, 185-191.
- OSISDC, 2012. *Inquiry into liveability options in outer suburban Melbourne*. Outer Suburban/Interface Services and Development Committee, Victorian Government, Melbourne.
- PIA, 2015. Planning Institute of Australia, Available from: <http://www.planning.org.au/viccontent/selandra-rise> [30/07/2015]
- Pocock, B., Skinner, N. & Williams, P., 2012. *Time Bomb : Work, Rest and Play in Australia Today*. University of New South Wales Press.
- Richards, L., 1990. *Nobody's Home - Dreams and Realities in a New Suburb* Melbourne: Oxford University Press.
- Rissel, C., Curac, N., Greenaway, M. & Bauman, A., 2012. Physical Activity Associated with Public Transport Use—A Review and Modelling of Potential Benefits. *International Journal of Environmental Research and Public Health*, 9, 2454-2478.
- Sugiyama, T., Ding, D. & Owen, N., 2013. Commuting by car: weight gain among physically active adults. *Am J Prev Med*, 44, 169-73.
- Walters, P. & Rosenblatt, T., 2008. Co-operation or Co-presence? The Comforting Ideal of Community in a Master Planned Estate. *Urban Policy and Research*, 26, 397 - 413.
- Weidmann, B. & Kelly, J., 2011. *What Matters Most? Housing Preferences Across the Australian Population*.
- Williams, P. & Pocock, B., 2010. Building 'community' for different stages of life: Physical and social infrastructure in master planned communities. *Community, Work and Family*, 13, 71-87.
- Yigitcanlar, T., Dodson, J., Gleeson, B. & Sipe, N., 2007. Travel Self-Containment in Master Planned Estates: Analysis of Recent Australian Trends. *Urban Policy and Research*, 25, 129-149.