

Investigating social and spatial dimensions of mobility with children and young people in Blacktown, Western Sydney

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Abstract

There has been increasing attention paid to children and young people's mobility in Australian transport research in recent years but the majority of studies to date have been conceptually narrow and focused on primarily on transport modes for school travel. In contrast, this paper presents findings from a doctoral research project exploring more broadly some of the social and spatial dimensions of mobility of children and young people living in Blacktown, western Sydney; a large, diverse and growing urban region.

The study involved children, aged 9 to 12 years, and young people, aged 13 to 15 years, from government primary and high schools across five different localities in Blacktown local government area. The study applied a child-focused, mixed-method approach that included interactive classroom activities and discussion as well as individual drawings, travel and activity diaries and semi-structured interviews. Engaging the young participants in these activities produced a range of materials from which both quantitative and qualitative data was obtained.

Unlike the high levels of car-dependence found in studies of school travel, this research found some notable variations in mobility of children and young people to other activities in terms of their levels of independent mobility and active travel. These variations were particularly evident across age and gender and between the different locations. Comments from the children and young people about their mobility enriched the interpretation of the findings and underscored the value of considering social and spatial differences in transport policy and planning in order to better meet the diversity of needs within local communities.

1 Introduction

Understanding the everyday mobility of children and young people is important to urban and transport policy and planning for several reasons. Firstly, the safety of children and young people is of utmost concern in our society. Secondly as a group, children and young people's everyday mobility is constrained to the extent that, in the early years of life, until children develop the ability to negotiate their travel independently they must rely on adults to provide and supervise all their transportation. In later childhood and adolescence when young people are at a stage where they travel independently of adults, they are restricted to active travel modes (walking and cycling) or public transport services as they are unable to obtain their driver's licence until the age of 17 years. Thirdly, children and young people up to age 16 years make up a substantial proportion of urban passenger travel. In Sydney metropolitan area, for example, children and young people's travel accounts for as much as two thirds of non-work trips, combining social/recreational, serve passenger and educational and childcare related travel (Bureau of Transport Statistics, 2010).

Concern over the decline in the levels of physical activity among children and young people and of their increasing reliance on car travel for everyday travels, such as to school, has prompted an upsurge of research to better understand the nature of their everyday mobility. The resurgent interest in international and Australian transport research into the mobility of children and young people has largely concerned three interrelated aspects of mobility:

- car dependency (Barker, 2009; Baslington, 2009; Line, Chatterjee, & Lyons, 2009; Pendola & Gen, 2007)
- physically active mobility, or 'active travel' (Kirby & Inchley, 2009; McDonald, 2008; Yeung, Wearing, & Hills, 2008) and
- independent mobility (Brown, Mackett, Gong, Kitazawa, & Paskins, 2008; Fyhri & Hjorthol, 2009; Mikkelsen & Christensen, 2009; Milne, 2009; Thomsen, 2005).

Among these aspects, Australian studies of children and young people's travel over the past decade have primarily focussed on the relatively high rate of travel to school by car and the decline in levels of 'active travel' (walking and cycling) correlated with adverse effects on health (Garrard, 2009). A frequently-cited time-series analysis of school travel in Sydney from 1971 to 2003 by Hidde van der Ploeg and colleagues (2007) reported that walking to school by children 5 to 9 years declined from 57.7% in 1971 to 25.5% in 1999-2003. Over the same period the percentage of children aged 5-9 that were driven to school by car increased from 22.8% to 66.6%. Similarly walking to school amongst children aged 10-14 declined from 44.2% in 1971 to 21.1% in 2003 while car travel to school increased from 12.2% to 47.8% over the same period. The study also found there were no major differences between boys and girls (van der Ploeg et al., 2007). Similar time-series analyses of children's school travel have been undertaken in the United States, Canada, United Kingdom, Ireland, New Zealand as well as in some European and Asian countries, all showing a decline in active travel to school and increases in car travel over the past quarter century (Garrard, 2009; Lubans, Boreham, Kelly, & Foster, 2011).

Concern about childhood and youth health and wellbeing, has in turn, steered many transport studies towards identifying environmental determinants of levels of active travel among children and young people (de Vet, de Ridder, & de Wit, 2010; Ding & Gebel, 2012; Gebel et al., 2005). However, in a comprehensive review of the mainly quantitative transport and health studies about levels of active travel among children and young people, Jan Garrard (2009) concluded that 'correlates of children's active travel are complex, with a large number of inconsistent findings ... in most studies about 70 per cent of the variance in active travel rates remains unexplained' (Garrard, 2009). In another review of studies (Pont, Ziviani, Wadley, Bennett, & Abbott, 2009) investigating environmental factors that influence active versus car travel among children and young people aged 5 to 18 years found a mix of social,

economic and physical environmental factors had varying degrees of association with active travel.

The almost singular attention to the journey to school and on levels of active travel (walking and bicycle riding, including in combination with using public transport) compared to car travel in Australian transport studies concerning children and young people has meant that the substantial range and proportion of trips by children and young people to other places and activities has been rarely considered by transport policy makers and planners. This means that, for policy and practice, many questions remain unanswered about what factors influence the everyday mobility of children and young people and therefore what infrastructure and policy interventions could facilitate a shift in mode share from car travel to more active alternatives. In contrast, this study adopted a grounded approach to investigate the social and spatial dimensions of the everyday mobility of children and young people, including and beyond the journey to school.

Recognising the complexity of relationships between factors that might influence travel patterns has spurred a small stream of transport research which examines other social and spatial dimensions of children and young people's mobility. In a recent notable exception to studies concentrating on environmental determinants of children's and young people's travel, Anatoli Lightfoot and Leanne Johnson (2011) analysed travel behaviour of children aged 5 to 14 using data collected in the Sydney Household Travel Survey between 2001 and 2006 focussing on the relationship between travel patterns and social exclusion. Their study found that children and young people in socio-economically disadvantaged regions travelled significantly less for social and recreational purposes and that this was not related to car ownership nor dwelling structure. Although Lightfoot and Johnson's (2011) analysis categorised locations by socio-economic measures they did not seek to take into account spatial characteristics such as differences in the urban form or transport provision across these locations. Because urban travel is about movement of people between places it is necessary to take greater account of the social and the spatial dimensions of mobility if transport planning and provision is to contribute to the health, safety and wellbeing of children and young people in a more inclusive and age responsive way (Baslington, 2009).

1.1 Aim of the research

This study, therefore, aimed to contribute new knowledge towards a better understanding some of the social and spatial dimensions of mobility of children and young people in urban Australia by exploring their patterns of everyday travel to a range of activities, including and beyond the journey to school. The research was conducted with children and young people living in different localities of Blacktown, Western Sydney during the spring and summer months of October 2007 to March 2008. The research specifically investigated how the mobility of children and young people, as illuminated in their patterns of travel, may be differentiated socially, by age, gender and socio-economic status, as well as spatially, across localities distinguished by their urban environment and transport options.

1.2 Outline of this paper

In Section 2 outlines the child/youth-centred approach and qualitative methods applied in this research and the research sites in Blacktown, Western Sydney. Section 3 describes the travel patterns - where and how children and young people's travel to school and other activities - followed by a discussion in Section 4 and 5 of some of the social and spatial dimensions of transport that emerged from the analysis of these patterns.

The paper also considers some of the advantages and limitations of using child-focussed methods for transport research and potential implications for future research on children and young people's travel needs and transport use.

2 Methodology: Doing transport research *with* children and young people

Contemporary sociology of children and young people has since the early 1990s emphasised the importance of valuing children and young people's own views equally with those of adults (Christensen & O'Brien, 2003; Porter & Abane, 2008; Skelton, 2007). In line with this sociological position, the research sought to investigate the differences and similarities in mobility from the perspective of the children and young people themselves. Drawing from geographies of children and young people (Aitken, 2001; Barker, Kraftl, Horton, & Tucker, 2009; Holt, 2011; Horschelmann & van Blerk, 2011), a child/youth-focussed, mixed-methods study was designed that aimed to engage the children and young people in activities that were inclusive of different levels of ability, and in which they had an interest (Australian Research Alliance for Children and Youth & NSW Commission for Children and Young People, 2008).

2.1 The research sites in Blacktown, Western Sydney

Blacktown local government area (LGA) was selected as the site for the research because it has many of the characteristics, both social and spatial, that epitomise contemporary Australian urban environments.

Situated approximately 30 kilometres west of Sydney's Central Business District Blacktown LGA has fifth largest population among local government areas in Australia. The built environment of Blacktown shares many of variations found across the Sydney region, from colonial heritage buildings to new multistorey residential development. Alongside its characteristic low density suburbs of quarter acre blocks and social housing estates, there are new master-planned estates and gated communities, central retail shopping malls and residual market gardens. It is at the junction of two train lines, three motorways and two rapid bus transit ways (and a speedway).

Blacktown's population is socially and culturally diverse. Some of the most disadvantaged communities of Sydney live in the south west and outer west of Blacktown LGA, more affluent households in the north east, middle income communities in the south east and many newly-arrived migrant households in the central area. Blacktown has the highest proportion of Indigenous people in the Sydney metropolitan area at 2.4% (6,093 people) and about 30% of the population were born overseas in non-English speaking countries.

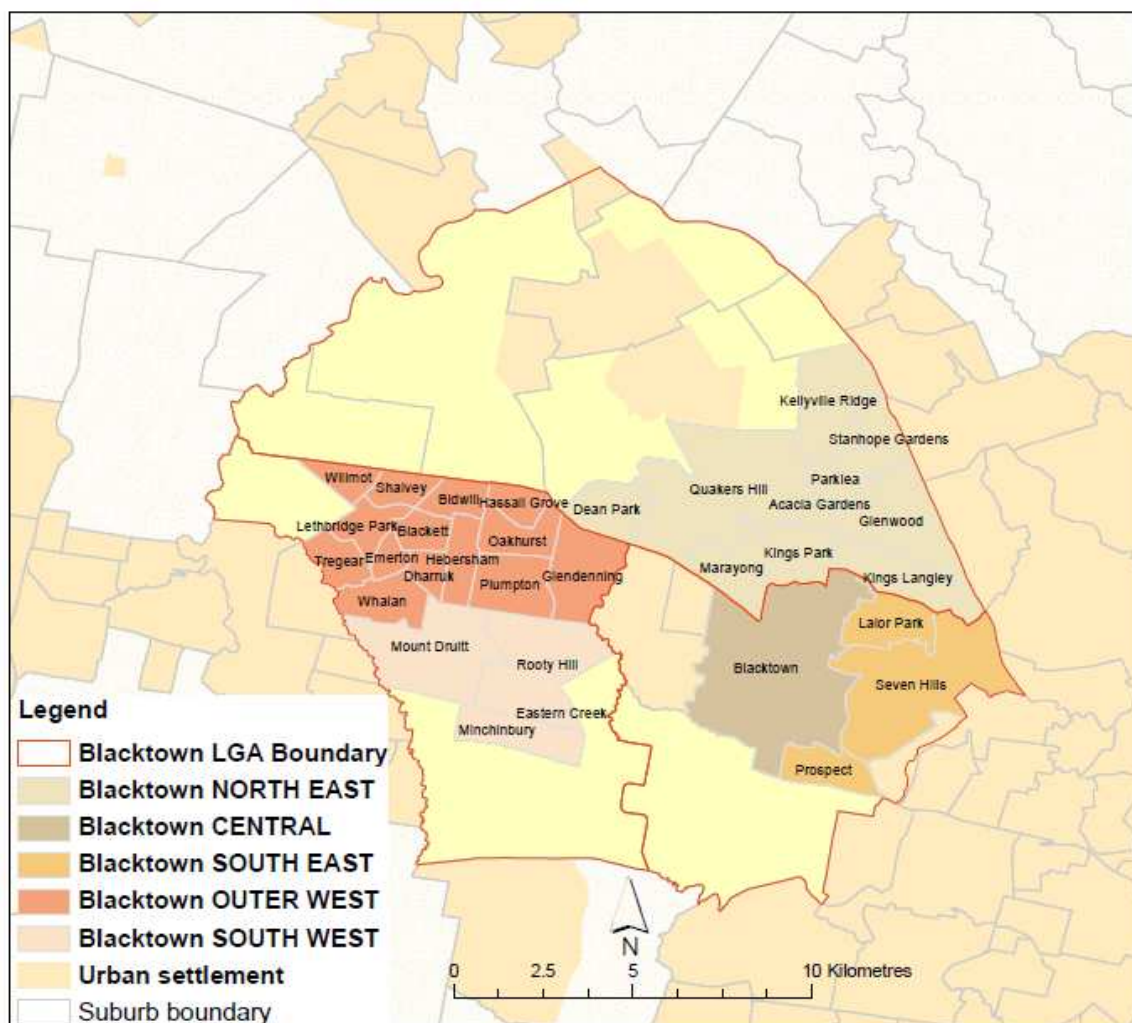
This combination of social, spatial and physical characteristics of Blacktown make it a highly suitable location for a study of the role of transport in the lives of children and young people's in contemporary urban Australia.

2.2 Research design

In order to better understand the travel and transport needs of children and young people in urban Australia, this study set out to explore with children and young people their everyday travel including, but also apart from, the trip to school across different localities in Blacktown, Western Sydney and within two different age groups: children aged 9 to 12 years and young people aged 14 to 15 years.

The research involved students in Years 5 and 6 from three government primary schools and young people in Year 9 from five high schools in the Blacktown local government area (LGA). Each high school was located within 500 metres of the primary school in five different localities, classified for the purposes of this research: Blacktown North East; Blacktown Central and Blacktown South East; Blacktown South West and Blacktown Outer West as shown in Figure 1.

Figure 1 Blacktown local government area showing suburbs and research localities



Ethics approval was obtained from the University of Western Sydney Human Research Ethics Committee and the New South Wales Department of Education School Education Research Approval Process. The required police-record check and a 'Working with Children' check were obtained.

2.3 Using 'child/youth-focussed' methods

Similar to other child/youth-centred research (Pearce et al., 2009), the methods used in this research sought to enable the children and young people to express their opinions and describe their travel experiences from their own perspective (Baslington, 2009; Fusco, Moola, Faulkner, Buliung, & Richichi, 2012). The activities included interactive classroom activities and discussion as well as individual drawings, travel and activity diaries and semi-structured interviews. By engaging in these activities, participants produced a range of materials from which both quantitative and qualitative data was recorded.

The data was collected between October 2007 and April 2008 over four to six class sessions of one to two hours duration in each school followed by short semi-structured individual interviews. Response rates for the study varied across the socio-economic spectrum, as is usually the case, however overall 61% of students and their parents gave their consent to have their class work analysed for the purpose of the study and 49% of students and their parents gave consent to be interviewed. In total 258 children and young people were involved across all the schools and 103 interviews were completed.

3 Children and young people’s patterns of everyday travel

The quantitative data generated by the children and young people in the study was similar to data collected in household travel surveys like the Sydney Household Travel Survey (HTS). The data produced information about the places children and young people travel (destinations), the number of participants who travel to a particular destination (number of trips) and how they travel (travel mode) to a particular destination. However, by using qualitative methods, a range of additional information about everyday mobility was produced.

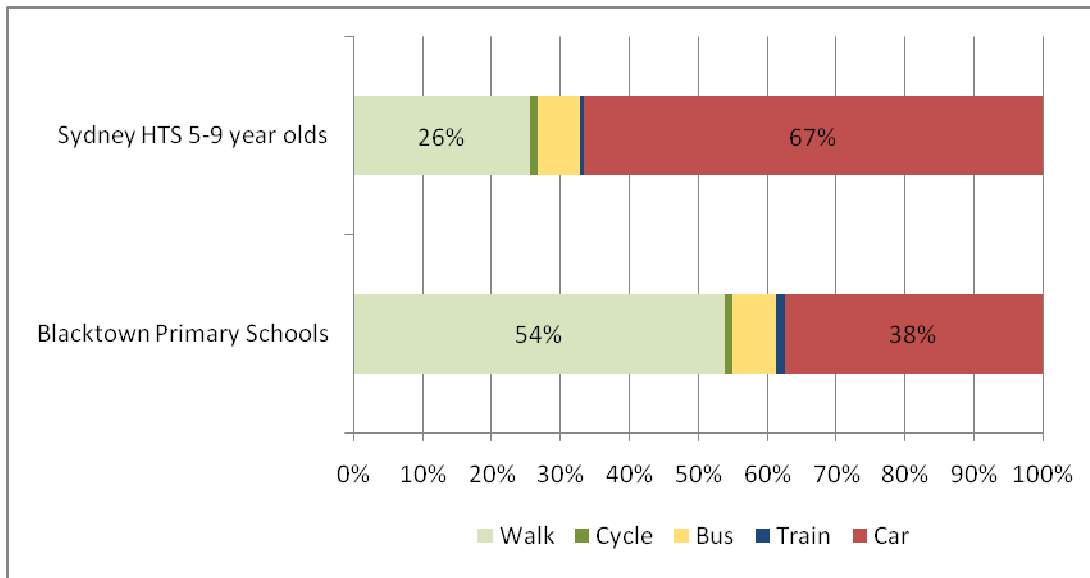
Allowing the children and young people to describe the places they travel to in their own words, as opposed to choosing from a set of predetermined trip purpose categories, revealed a greater diversity of travel, that would normally be otherwise classified homogenously as ‘social and recreational travel’ under the Sydney HTS.

3.1 School travel mode

Given the substantial part that school travel plays in children’s everyday lives as well as in the relevant literature, questions about mode choice for the trip to school were incorporated into this exploration into the role of transport in the lives of children and young people.

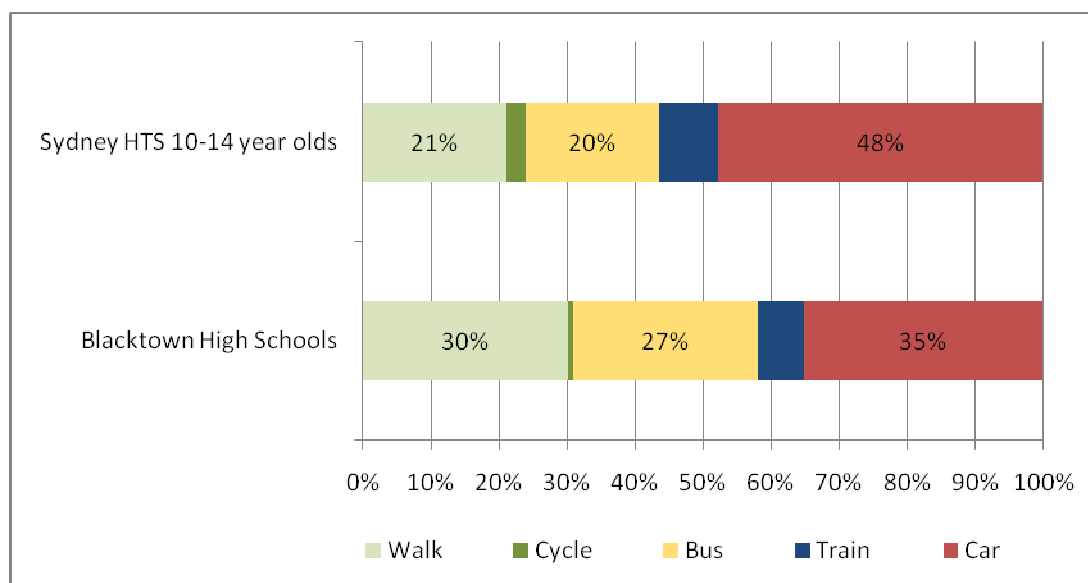
Rates of walking to school in the Blacktown schools in this study, on average, were higher than the rates reported from the Sydney HTS for the period 1999 to 2003 used in van der Ploeg’s (2007) study. The average proportion of students walking to school for the Blacktown primary school students was 54% compared to 26% for children aged 5-9 years in the HTS data and the proportion for the Blacktown high school students was 30% compared to 21% for children aged 10-14 years in the HTS data (van der Ploeg et al., 2007) shown in **Figure 1** and **Figure 2** below.

Figure 2 Children’s school travel by mode, Blacktown study participants and Sydney HTS



Source: Sydney Household Travel Survey data cited in van der Ploeg et al. 2007; Blacktown Primary schools data from study participant records.

Figure 3 Young people’s school travel by mode, Blacktown study participants and Sydney HTS



Source: Sydney Household Travel Survey data cited in van der Ploeg et al. 2007; Blacktown High schools data from study participant records.

3.2 Travel to non-school activities

After discussion of the results of the journey to school data the children and young people were then asked to consider the other places they usually travel to around their local area and beyond. They were given an A3 sheet of blank paper coloured pencils and felt pens and asked to draw and/or write the places they usually travel to, in response to the question:

‘Where do you usually go and how do you usually travel there?’

Time constraints in some cases limited the information that was produced and created a substantial variation between classes in their responses. Nevertheless there were 113 students whose drawings were available for analysis by the consent of the student and their parent. The children’s and young people’s drawings generated 361 records of places that the participants usually travel apart from school.

The analysis of the records of the children and young people’s everyday travel showed firstly, that there was a wide variety of activities that they undertake on a regular basis that require travel apart from the journey to school. **Table 1** shows the number and proportion of activities undertaken by children and young people as recorded in their drawings.

The most frequently recorded activities for children and young people in Blacktown beyond the trip to school were for shopping, constituting 27% of the total number of recorded activities followed by socialising with their peers (12%) outdoor recreation (11%) and participating in sport (8%).

Table 1 Participant drawings - recorded frequency of everyday travel by activity type

Activity	Number of records	% of total records
Shopping	116	27%
Socialising with peers	52	12%
Outdoor recreation	47	11%
Sport – to participate	33	8%

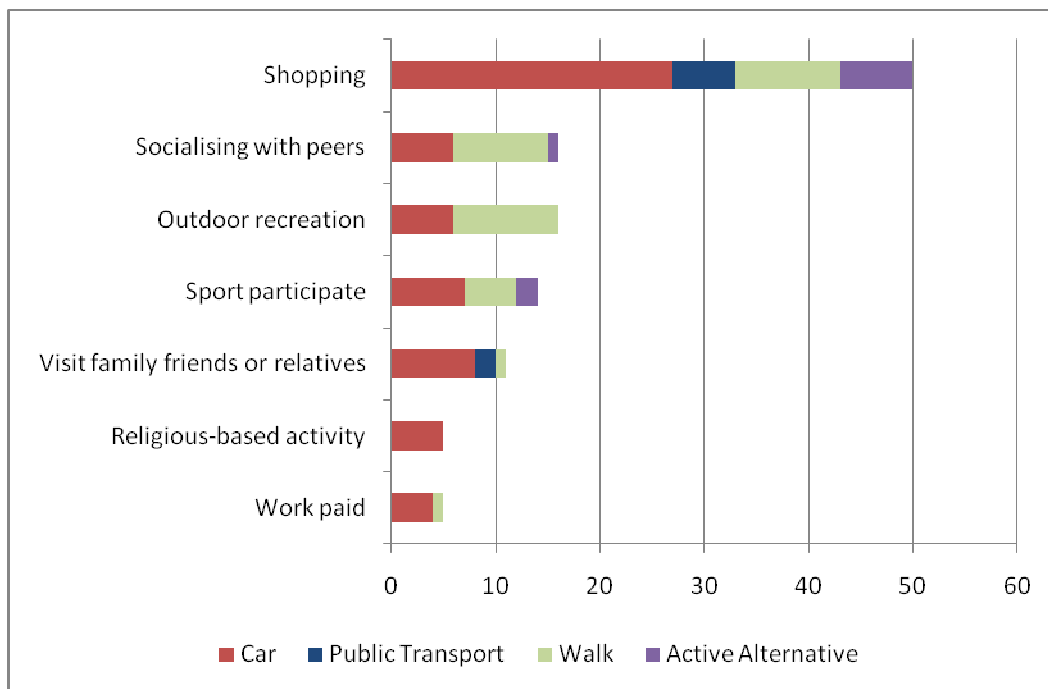
Visit family friends or relatives	20	5%
Religious activity	13	3%
Work - paid	12	3%
Other activities - each representing less than 3% of records	68	14.2%
TOTAL RECORDS	361	100.0%

These records show a great diversity of travel that suggests that non-school travel by children and young people is worthy of attention in transport policy and planning.

3.3 Travel mode to non-school activities

Not all records of activities included the mode of travel, an inconsistency arising from the semi-structured nature of using child/youth focussed methods. However, of those records that included travel mode the frequency of travel to various activities by mode is shown in Figure 4.

Figure 4 Blacktown study: Frequently recorded activities by travel mode



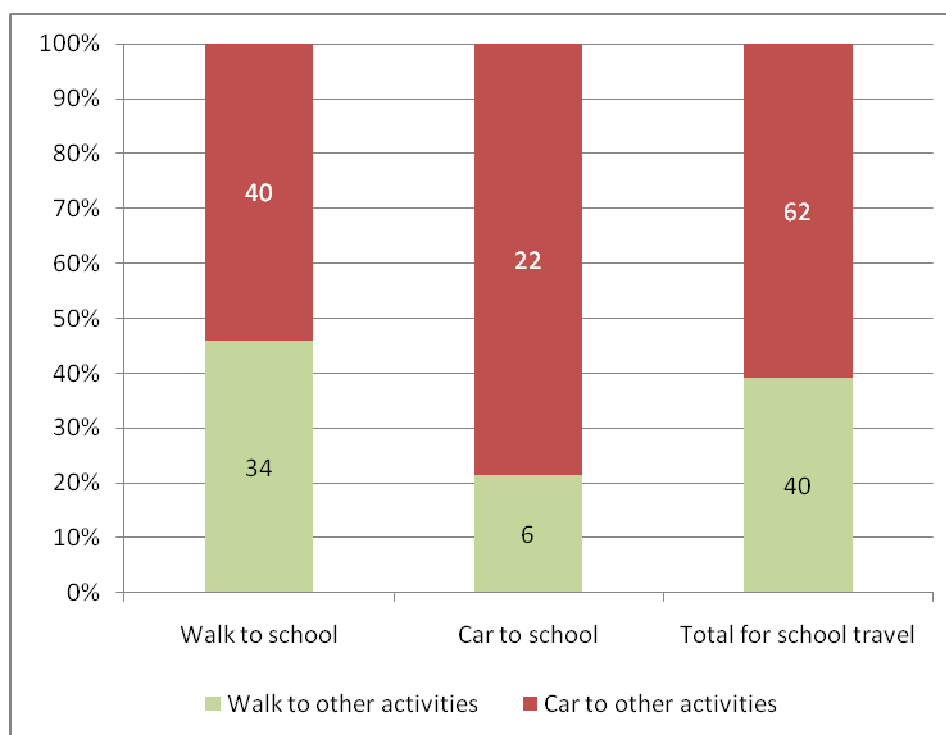
The advantage of seeking travel mode in semi-structured manner, allowed children and young people to record where they might use more than one type of transport mode to reach an activity. In this way it was possible to identify the types of activities, like shopping and socialising with peers, where there were 'active alternatives' available, meaning that the participants recorded travelling by car or by public transport or by walking. In this study the activities that were primarily accessed by car travel were religious-based activities, paid work and visiting family friends and relatives. The activities which had higher rates of recorded travel alternative modes to the car were shopping, socialising with peers and access outdoor recreation areas, such as local parks.

3.4 Travel mode to school compared to travel mode to non-school activities

The drawings data were matched with interview data which recorded both travel to school and to other activities. In this way it was possible to analyse school travel mode compared to travel mode to other activities. There was more than twice the number of recorded trips by car to other activities than trips to school by car. The ratio of car travel for other activities (62 records) compared to car travel for school (28 records) was 2.2, as shown in **Figure 5**.

As might be expected, the level of car travel to other activities was highest among participants who travelled by car to school. Four out of five trips (78%) to other activities by car were recorded by participants who travelled to school by car only. Nevertheless, more than half of recorded trips to other activities (55%) were by car for children and young people who walked to school only.

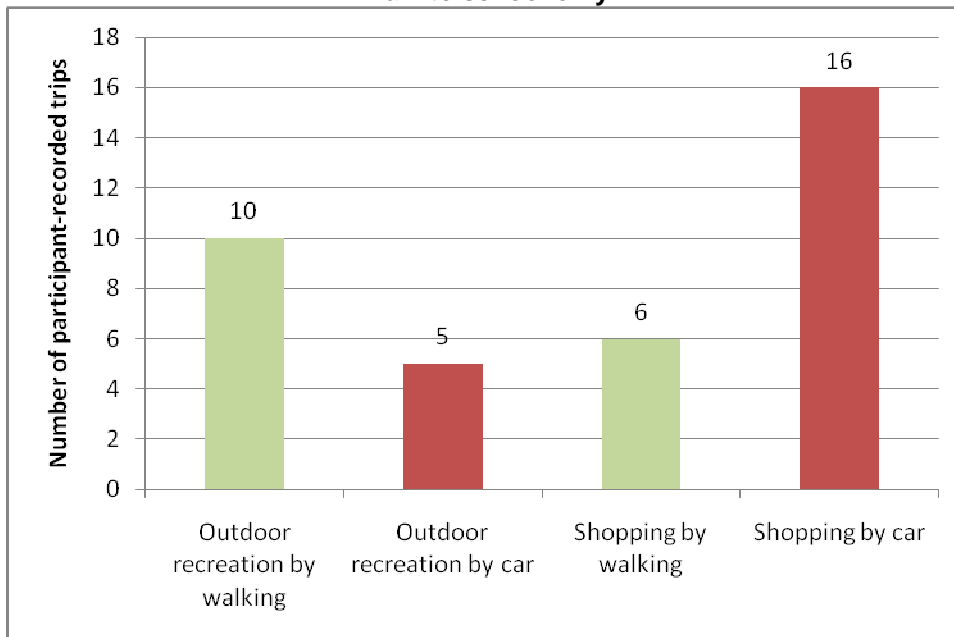
Figure 5 Travel mode to other activities by travel mode to school



Source: Blacktown study subset of participant records of 'usual travel',

Travel mode to other activities was then analysed to identify if there were differences in travel mode by the type of activity to which children and young people travel. The records showed that there was some variation in travel mode by type of activity accounting for travel mode to school. For example, of the participants who walked to school only, those who travelled to outdoor recreation, like going to the local park, did so more frequently by walking than by car, whereas those who travelled for shopping did so more frequently by car than walking (**Figure 6**).

Figure 6 Travel mode to outdoor recreation and shopping by children and young people who walk to school only



Source: Blacktown study subset of participant records of 'usual travel'

Location of activities and their distance from the home were not always mentioned by the children and young people as a factor in choosing to walk or travel by car to other activities. Rather, there were activities, like shopping where some children and young people described that they had alternative transport options for their travel to 'choose' from depending on the circumstances.

In the case of 'going shopping' for example, decisions about where to go shopping, what to shop for and who they were going shopping with were stated by the children and young people as reasons for travelling either by car or by alternative active transport options as illustrated by these two young women when asked why they drive or walk to the shops:

Q: What makes the difference for you to drive or walk to the shops?

If we take the car it's because we're doing a big shop and it's easier.

Young female participant, 15 years, Blacktown South West [80]

Q where do you usually go?

Plumpton Marketplace once a week, and Mt Druitt sometimes.

Q: Who do you usually go with?

Mum or dad for shopping.

Q: And how do you get to Mt Druitt shops?

Sometimes I walk, sometimes I get driven.

Q: So what would be the difference between going to these different shopping centres?

I go to Plumpton marketplace for grocery shopping and Mt Druitt if I want to buy clothes or something for myself. And if I go there for clothes and Mum drives me then she'll do the groceries there.

Young Female participant, 15 years, Blacktown South West [57]

These quotes from the interviews suggest that while personal preferences for particular activities are part of the travel behaviour equation, they also suggest that the nature of the everyday mobility of children and young people is likely to vary along social dimensions and spatial distribution of activity spaces relative to available transport options.

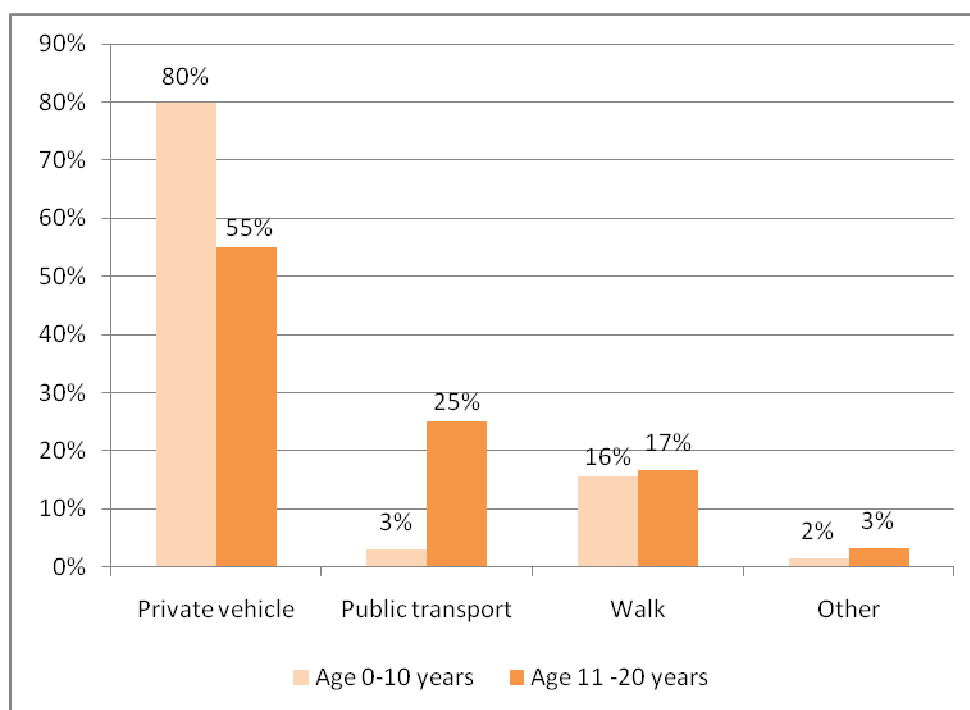
4 Social dimensions of the everyday mobility of children and young people

While age is commonly accounted for in transport planning and policy, to ensure safety of children and young people, it is, somewhat surprisingly, less frequently acknowledged in research literature as a determinant of independent mobility or mode use. In this study, the travel patterns showed that the types of modes of transport used by children and young people, and their spatial range, expand with age and increased competence. In addition, gender emerged in the analysis of travel patterns in this study as a possible influence on independent mobility and mode use.

4.1 Changing patterns of mode use by age

Patterns of mode use change over the life course. In Sydney, data from the 2007-08 Sydney HTS reveals that while children up to age 10 years had the highest rates of car travel (80%), young people, aged 11 to 20 years, had the lowest rates of car travel for all trips of any age group (55%). In 2007-08 one in four young people aged 11 to 20 years travelled by public transport on the average weekday, the highest proportion (25%) of trips by public transport of any age group (as shown in Figure 7) (Transport Data Centre 2009).

Figure 7 Sydney HTS 2007-08: Mode share by age of travellers on an average weekday

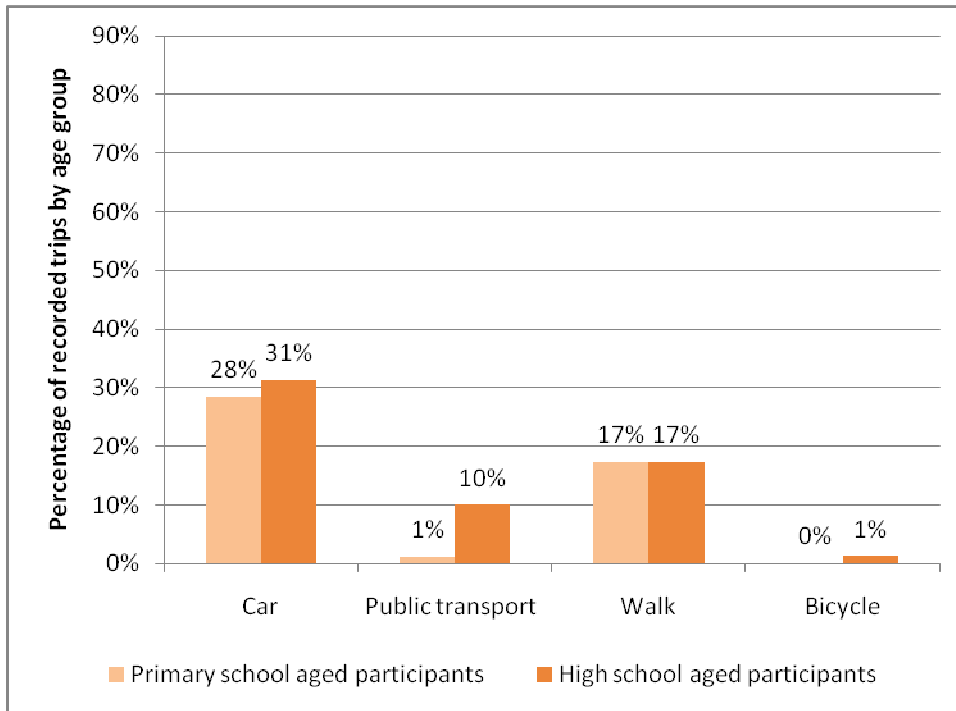


Source: Transport Data Centre 2009, *2007-08 Sydney Household Travel Survey* Notes: 'Mode' data uses unlinked trip legs except for walk trips. 'Other' includes ferry.

The difference across age groups in travel mode identified in the 2007-08 Sydney HTS was somewhat different among the Blacktown participants (Figure 8). The drop in the proportion of car travel among young people compared to children in the 2007-08 Sydney HTS was not consistent with travel by car by young people in the Blacktown study. On the other hand, the difference between age groups in the use of public transport and for walking in this study were similar to the 2007-08 Sydney HTS with a noticeably larger proportion of the group of

high school participants who used public transport to non-school activities compared to primary school aged participants and similar proportion of participants who walked across both age cohorts.

Figure 8 Blacktown study: Travel mode share to non-school activities by age group



4.2 The transition to independent mobility

The greater proportion of travel by public transport by young people compared to children marks a notable step change in the transition to independent mobility. The study revealed that this step change towards independent mobility coincides with the transition to high school. As well as the modes of transport that they can use the transition to independent mobility is evident in the range of places to which young people can travel and the distances which young people can travel independently.

Two interview questions that sought to uncover the degree of independence that children and young people had in terms of their mobility were:

Are there any places that you can go without an adult looking after you? How do you travel there?

Are there any places outside of your home that you can go to alone? How do you travel there?

The difference between these questions reflects slightly different degree of independence, to be able to travel in a group but without an accompanying adult and to be able to travel unaccompanied, that is entirely independently. This was an important difference as it turned out to show the variation between young women and young men in terms of their independence.

Because many studies of children’s mobility focus on younger age group, the transitions to independent mobility have not been obvious. What this research showed was that by the age of 14 or 15 years, the majority of young people across all five localities areas in Blacktown, both young men and young women, had a reasonable degree of independence over their

mobility, and some were able to go well beyond the boundaries of the LGA as reflected in these responses to the interview questions:

I can go anywhere in Blacktown.

Young man, 14 years, Blacktown South East [109]

Just about anywhere

Young woman, 14 years, Blacktown South East [104]

Yeah quite a lot, I go to work on my own, I travel a lot on my own.

Young woman, 14 years, Blacktown Central [21]

My parents pretty much let me go out. I can go wherever I want most of the time as long as I keep in touch with them, Stanhope or Castle Towers or Blacktown by myself.

Young woman, 14 years, Blacktown North East [253]

In contrast to the older participants, the children in the research tended to be limited in their independent mobility to places they could walk to around their immediate neighbourhood. The transition to independence of mobility, however, may start at an earlier age for boys rather than girls as was evident in the following interview extracts from participants in Blacktown South East public school.

Q: Are there places you can go alone or just with friends?

Just to Woolworths down the street. I have to tell my mum first and get permission.

Female 11 years, Blacktown South East [153]

Q: Are there places you are allowed to go alone?

Not really, not alone.

Q: Are there places you are allowed to go just with friends?

Yeah, to the park up the road.

Female, 11 years, Blacktown South East [154]

Yeah I go to Franklins or Woolworths, or sometimes I go to Westpoint just with my friends and that.

Young male, 11 years, Blacktown South East, [165]

4.3 Gender differences in independent mobility

Being in the company of friends was a common theme, and preference, for the participants when describing their independent mobility illustrated in these last two quotes. This was particularly relevant for young women who made distinctions between places they could go with friends in contrast to places they could go on their own. The need to be in the company of others is suggested in these two responses by young female participants from each of the two age groups:

Q: Are there places you can go without an adult going with you?

If I go with my friends I can go to Westpoint with my friends. Sometimes I walk down to McDonalds with my friends. I can go to the park with my friends.

Q: Which park do you like to go to?

William Lawson and the one near St Martin's Village. Sometimes I can go by myself when I take one of my dogs for a walk.

Young Female 11 years, Blacktown South East [158]

On the other hand the responses to these questions by the young male participants suggest a greater degree and range of independent mobility at a younger age. This is evident in the following interview extracts from two participants in Blacktown South East public school, the first from an 11 year old girl and the second from a boy of the same age, in the same locality:

Q: Are there places you are allowed to go alone?

Not really, not alone.

Q: Are there places you are allowed to go just with friends?

Yeah, to the park up the road.

Female, 11 years, Blacktown South East [154]

Q: Are there places you are allowed to go alone or with friends?

Yeah, I go to Franklins or Woolworths, or sometimes I go to Westpoint just with my friends and that.

Young male, 11 years, Blacktown South East, [165]

These two contrasting responses suggest that the influences of age and gender on mobility are interconnected. It is likely therefore that gender differences in use of travel modes also might exist. This was apparent in this excerpt from an interview with a young woman in Blacktown Outer West, who had a degree of independent mobility but was constrained to the places she could walk:

Q: Do you ever catch the bus by yourself?

Nup. I'm never allowed to catch a bus by myself.

Q: So the places you go by yourself with your friends, how do you get there?

Walk.

Young Female, 14 years, Blacktown Outer West [83]

5 Spatial dimensions of everyday mobility of children and young people

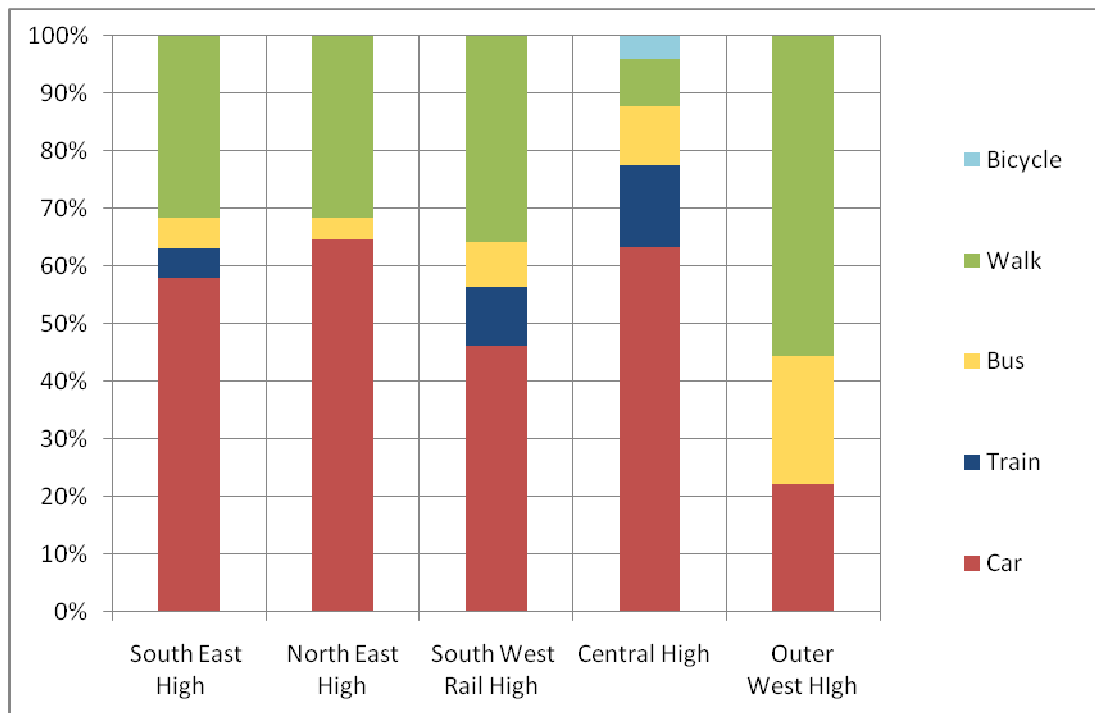
The constraints on mobility related to transport mode use, whether imposed by parents or by the structured provision of transport infrastructure and services, suggest that the degree of mobility afforded to children and young people is likely to be moderated by spatial factors. In other words the characteristics the neighbourhood, the distance to activity spaces and the availability, and perceived suitability, of transport options, including car travel. In the case of the young woman from Blacktown Outer West, cited above, not being able to travel on the bus by herself meant that her independent mobility is constrained to the places and activities that she could walk to, which in the Blacktown Outer West area, are literally few and far between.

5.1 Spatial variations in travel mode to out of school activities

There were notable differences between the five research localities in the rate of transport mode used for non-school activities, as shown in Figure 9. In Blacktown Outer West and Blacktown North East, the only public transport modes available are buses, whereas train was included in recorded travel in the three areas which were proximal to train stations: Blacktown Central, Blacktown South West Rail and Blacktown South East. What is apparent

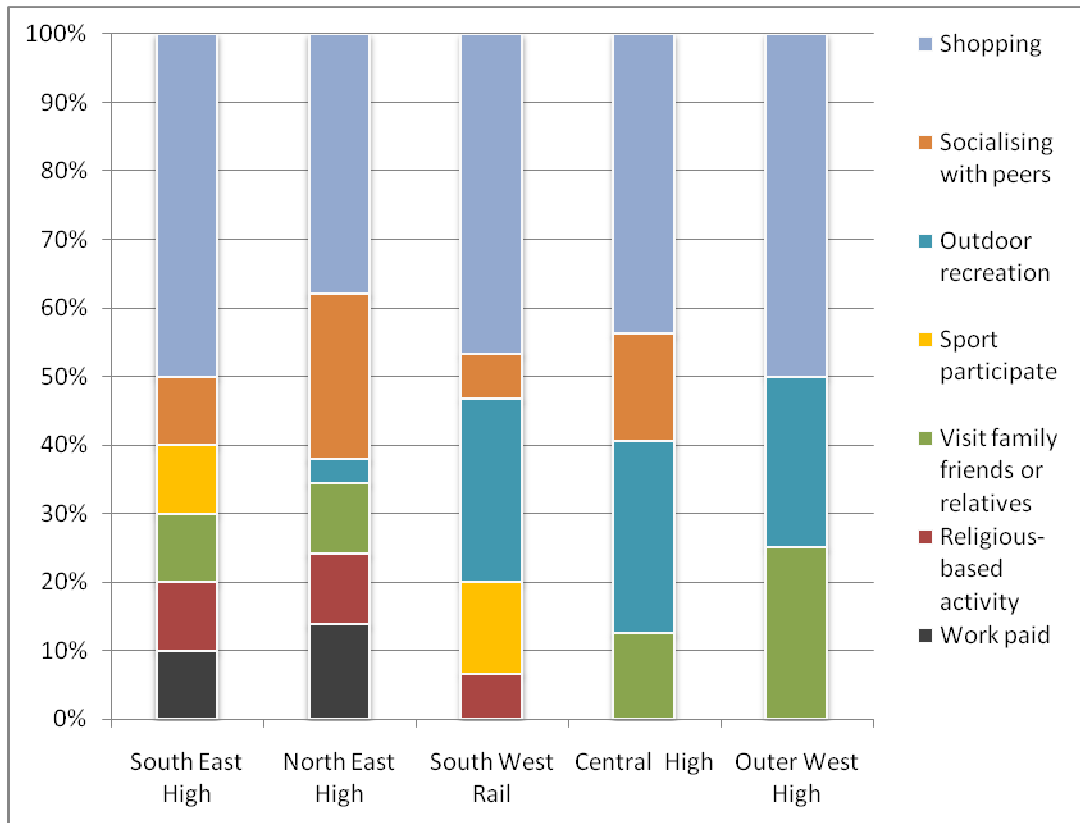
is that rates of car travel were very similar across three areas which were quite different in terms of the characteristics of their built environments. In Blacktown South East, Blacktown North East and Blacktown Central car travel accounted for around 60% of recorded travel in each locality. Yet Blacktown South East has gird patterned larger house blocks in contrast to Blacktown North East, which has many larger houses on smaller blocks arranged in curvilinear streets, while Blacktown Central, has higher density residential blocks and grid patterned streets, and lies at a busy transport interchange would be expected to have a lower proportion of trips by car.

Figure 9 Travel mode to non-school activities by locality



Most obvious from the records of travel mode by locality data is the relatively low rate of travel by car in Blacktown Outer West, an area of concentrated low income households and socially disadvantage communities. The spatial differences in transport mode use appears to have a flow on effect on the range of activities which children and young people from different localities are able to access, as reflected in the data shown in Figure 10. While the number of records is small for each type of activity, Figure 11 suggests that young people in Blacktown North East and South East travel to a wider range of activities than young people in Blacktown Central and Blacktown Outer West.

Figure 10 Proportion of travel to selected non-school activities by locality



Remembering that the data showed that activities like participating in sport, or religious-based activities or paid work were mostly accessed by car, it is not unexpected that, where transport options are limited, like in Blacktown Outer West, the range of activities accessed is also limited. It is, however, more difficult to explain why children and young people in Blacktown Central would have a limited range of mobility, except that the inner area has many newly-arrived migrant and low income households. This data would suggest that the socio-economic characteristics of households are interconnected with the range of activities and of transport options available in the localities to produce very different patterns of everyday mobility.

The difference between communities and localities in terms of the range of activities which children and young people are able to travel to is illustrated in the following two drawings produced by two young women. The first (Figure 11) drawn by a young woman in Blacktown North East shows a wide array of activities which she was able to participate in, not all of them are accessed by car. Whereas, the second drawing (Figure 12) by a young woman from Blacktown Outer West shows simply the neighbourhood park which she went to on a regular basis.

Figure 11 Drawing of everyday travel and destinations by young female participant, Blacktown North West

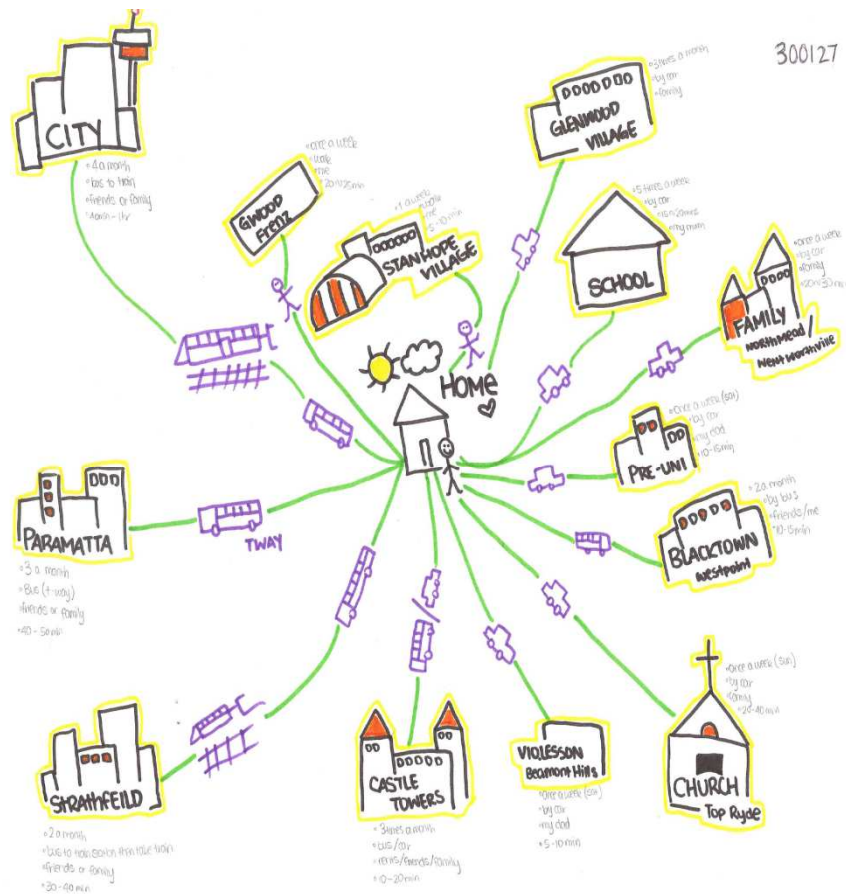


Figure 12 Drawing of everyday travel and destinations by young female participant, Blacktown Outer West.



6 Conclusion

This exploration of everyday mobility undertaken with children and young people in Blacktown, Western Sydney, reveals the wide array of travel children and young people undertake on a regular basis. The findings open up a number of avenues for future research and may help inform future transport policy.

Firstly, at the most basic level children's and young people's mobility is comprised of many different journeys to a wide range of activities. It is understandable that transport planning focuses on school travel as this may be the most frequent and least complex trip that children and young people need to make. There is also the right to an education that as a society we seek to uphold. But with evidence of the value of children and young people's participation in a range of social, sporting and cultural activities, and because these trips constitute a substantial proportion of urban travel, there are good reasons to consider how to better meet these social and recreational travel needs of children and young people by active transport rather than the car.

Secondly, independent mobility of children and young people is better understood as part of the transition to adulthood rather than a fixed state or condition. While cultural norms around independent mobility of children and young people may well have changed over time it is still largely an iterative process of negotiation between ensuring children and young people are protected from harm and enabling opportunities for them to develop the necessary abilities and confidence to be independently mobile.

Thirdly, the availability of transport options is an important aspect of the spatial context that will influence the everyday mobility of children and young people mobility. It is unlikely that social and spatial factors that influence the mobility are neatly identifiable. However, social and spatial factors are clearly important to understanding the nature of everyday mobility and the implications that it has for transport provision and use.

It is therefore, important to have an understanding of the nature of the travel and mobility of children and young people more broadly than simply travel to school or car dependency in order to plan transport services that will enable their transition to independent mobility and to better match public transport policies to their particular needs.

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Appendices

Table 2 Number of participants in each school by sex

School	Female	Male	Total number of participating students
Blacktown Central High	12	0	12
South East High	5	4	9
North East High	14	15	29
South West High	11	3	14
Outer West High	4	0	4
Blacktown Central Primary	9	5	14
North East Primary	5	10	15
South East Primary	6	10	16
TOTAL Participants	66	47	113
Percent	58%	42%	100%

References

- Aitken, S. C. (2001). *Geographies of young people: the morally contested spaces of identity*. London and New York: Routledge.
- Australian Research Alliance for Children and Youth, & NSW Commission for Children and Young People. (2008). *Involving children and young people in research*. Retrieved 23 February 2012, from www.aracy.org.au
- Barker, J. (2009). 'Driven to Distraction?': Children's Experiences of Car Travel. *Mobilities*, 4(1), 59 - 76.
- Barker, J., Kraftl, P., Horton, J., & Tucker, F. (2009). The Road Less Travelled - New Directions in Children's and Young People's Mobility. *Mobilities*, 4(1), 1 - 10.
- Baslington, H. (2009). Children's perceptions of and attitudes towards, transport modes: why a vehicle for change is long overdue. *Children's Geographies*, 7(3), 305-322.
- Brown, B., Mackett, R., Gong, Y., Kitazawa, K., & Paskins, J. (2008). Gender differences in children's pathways to independent mobility. *Children's Geographies* 6(4), 385-401.
- Bureau of Transport Statistics. (2010). 2008/09 Household Travel Survey Summary Report, 2010 Release. Sydney: Bureau of Transport Statistics, formerly Transport Data Centre, Transport NSW.
- Christensen, P., & O'Brien, M. (Eds.). (2003). *Children in the city: home, neighbourhood and community*. London: RoutledgeFalmer.
- de Vet, E., de Ridder, D. T. D., & de Wit, J. B. F. (2010). Environmental correlates of physical activity and dietary behaviours among young people: a systematic review of reviews. *Obesity Reviews*, 12(5), e130-e142.
- Ding, D., & Gebel, K. (2012). Built environment, physical activity, and obesity: What have we learned from reviewing the literature? *Health & Place*, 18(1), 100-105.
- Fusco, C., Moola, F., Faulkner, G., Buliung, R., & Richichi, V. (2012). Toward an understanding of children's perceptions of their transport geographies: (non)active school travel and visual representations of the built environment. *Journal of Transport Geography*, 20(1), 62-70.

- Fyhri, A., & Hjorthol, R. (2009). Children's independent mobility to school, friends and leisure activities
Journal of Transport Geography 17(5), 377-384. .
- Garrard, J. (2009). Active transport: children and young people. Melbourne: VicHealth, Government of Victoria.
- Gebel, K., King, L., Bauman, A., Vita, P., Gill, T., Rigby, A., et al. (2005). Creating healthy environments: A review of the links between the physical environment, physical activity and obesity. Sydney: NSW Health Department and NSW Centre for Overweight and Obesity.
- Holt, L. (Ed.). (2011). *Geographies of Children, Youth and Families*. Oxon, UK: Routledge.
- Horschelmann, K., & van Blerk, L. (2011). *Children, Youth and the City*. London: Routledge.
- Kirby, J., & Inchley, J. (2009). Active travel to school: views of 10-13 year old schoolchildren in Scotland. *Health Education* 109(2), 169-183.
- Lightfoot, A., & Johnson, L. (2011). *Investigating relationships between travel patterns and social exclusion of children in Sydney*. Paper presented at the Australasian Transport Research Forum 2011, 28 to 30 September, 2011, Adelaide, Australia. from <http://www.patrec.org/atrf.aspx>
- Line, T., Chatterjee, K., & Lyons, G. (2009). The travel behaviour intentions of young people in the context of climate change. *Journal of Transport Geography*, : doi:10.1016/j.jtrangeo.2009.05.001(doi:10.1016/j.jtrangeo.2009.05.001).
- Lubans, D. R., Boreham, C. A., Kelly, P., & Foster, C. E. (2011). The relationship between active travel to school and health-related fitness in children and adolescents: a systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, 8.
- McDonald, N. C. (2008). Critical factors for active transportation to school among low-income and minority students - Evidence from the 2001 national household travel survey. *American Journal of Preventive Medicine*, 34(4), 341-344.
- Mikkelsen, M. R., & Christensen, P. (2009). Is Children's Independent Mobility Really Independent? A Study of Children's Mobility Combining Ethnography and GPS/Mobile Phone Technologies. *Mobilities*, 4(1), 37 - 58.
- Milne, S. (2009). Moving Into and Through the Public World: Children's Perspectives on their Encounters with Adults. *Mobilities*, 4(1), 103 - 118.
- Pendola, R., & Gen, S. (2007). BMI, auto use, and the urban environment in San Francisco. *Health & Place*, 13(2), 551-556.
- Pont, K., Ziviani, J., Wadley, D., Bennett, S., & Abbott, R. (2009). Environmental correlates of children's active transportation: A systematic literature review. *Health & Place*, 15(3), 849-862.
- Porter, G., & Abane, A. (2008). Increasing children's participation in African transport planning: reflections on methodological issues in a child-centred research project. *Children's Geographies*, 6(2), 151-167.
- Skelton, T. (2007). Children, Young People, UNICEF and Participation. *Children's Geographies*, 5(1-2), 165-181.
- Thomsen, T. U. (2005). Parents' construction of traffic safety: children's independent mobility at risk? In T. U. Thomsen, L. D. Nielsen & H. Gudmundsson (Eds.), *Social perspectives on mobility*. Hampshire, England: Ashgate.
- van der Ploeg, H. P., Merom, D., Corpuz, G., & Bauman, A. E. (2007). Trends in Australian children traveling to school 1971-2003: Burning petrol or carbohydrates? *Preventive Medicine*, 46(1), 60-62.
- Yeung, J., Wearing, S., & Hills, A. P. (2008). Child transport practices and perceived barriers in active commuting to school. *Transportation Research Part A: Policy and Practice*, 42(6), 895-900.