Walking, riding or driving to school: what influences parents' decision making?

Phase 2: Focus Group Discussion Report

Dr Jan Garrard

Prepared for the South Australian Department of Planning, Transport and Infrastructure

September 2016

CONTENTS

ACKNOWLEDGEMENTS
1 INTRODUCTION
2 METHODS
2.1 Study participants
2.2 Interview format
2.3 Data analysis 3
3 RESULTS AND DISCUSSION
3.1 Supports/advantages of active school travel
3.2 Barriers/disadvantages of active school travel17
3.3 Facilitators for active school travel
APPENDIX A: Information flyer inviting parents to participate in a focus group discussion
APPENDIX B: Focus group discussion format
REFERENCES

ACKNOWLEDGEMENTS

The author would like to thank the many parents of primary school children in South Australia who took the time to provide valuable information about parental supports and constraints on active travel to school through their participation in the focus group discussions. Thank you, also, to the five schools and their teachers who facilitated the focus group discussions.

Many thanks also, to staff from the South Australian Government Department of Planning, Transport and Infrastructure (DPTI) who provided valuable support and assistance throughout all stages of this project.

1 INTRODUCTION

This report comprises the second component of a three-stage project aimed at providing an evidence-based understanding of parental supports and barriers to primary school children's active travel choices for the school commute. The three phases are as follows.

Phase I comprised a review of research related to children's active school travel in Australia and comparable overseas locations, with a focus on the role of parents in determining the school travel mode of primary school children. The focus was on the personal, environmental, social/cultural, and policy/regulatory factors that facilitate and constrain parents/carers permitting their children to travel actively to school, either accompanied or independently.

Phase 2 (this report) used these review findings to develop and administer an in-depth qualitative study aimed at exploring (i) parents' perspectives on factors that influence how their children travel to school with a focus on motivations for, and constraints on active travel to school; and (ii) parents' suggestions for increasing primary school students' active travel to school.

Phase 3 will use the findings from Phases 1 and 2 to develop and conduct an online survey of parents of primary school age children in South Australia aimed at quantifying the key factors identified in Phases 1 and 2.

2 METHODS

2.1 Study participants

Staff from the Department of Planning, Transport and Infrastructure invited three primary schools in the Adelaide Metropolitan and Greater Adelaide areas to participate in the study. The three schools were located approximately 5 km north-west of the Adelaide CBD (School A), approximately 5km north-east of the Adelaide CBD (School B), and approximately 20 km south-east of the Adelaide CBD in the Adelaide Hills (School C). Parents of children attending the schools were invited by school staff (see Appendix A) to attend a group discussion at the school immediately after school commenced (one school) or immediately after school finished (two schools). A member of the school teaching staff was also present at two of the group discussions. A total of 17 parents participated in the group discussions, comprising 15 females and two males.

Basic demographic and school travel information was collected at the beginning of the discussion, using a brief, anonymous questionnaire. This information is summarised below for each school.

School A

School A is located about 5 km north-west of the Adelaide CBD and has approximately 300 students. English as an Additional Language or Dialect Program (EALD) students account for over half the student population, representing about 30 different language/cultural backgrounds, and about one third of families access school card assistance.

Among the six parents (all female) participating in the group discussion:

- two parents had one child each attending primary school (in Years 5 and 6);
- two parents had two children each attending primary school (in Years 3, 4, 6); and
- two parents had three children each attending primary school (in Years 1, 3, 5, 6).

Based on this data, there was considerable variation among the participating parents in the number of children attending primary school, and their year levels (and therefore ages).

Methods of travel to and from school also varied, with three families travelling by car only; two families travelling by car and walking; and one family walking and cycling. The parents with more than one child attending primary school appeared to be more likely to travel by car.

For the three families who walked or cycled, some of the children travelled alone, and some travelled with a parent.

School B

School B is located about 5 km north-east of the Adelaide CBD and has approximately 700 students. About 40% of students are from a Non-English Speaking Background and 15% access school card assistance. The school also caters for students with severe and multiple disabilities.

Among the eight parents (7 female, 1 male) participating in the group discussion:

- three parents had one child each attending primary school (all in Reception); and
- five parents had two children each attending primary school (in Years Reception, 1, 2, 3, 4).

As was the case for School A, most of the parents had more than one child attending primary school. In contrast to School A, most of the children were in the more junior year levels (aged approximately 5-10 years).

Methods of travel to and from school also varied, with five families travelling by car only; one family walking; one family travelling by car and bicycle; and one family using a combination of car, walk, cycle and scooter.

For the three families who walked or cycled, the children were all accompanied by a parent, probably reflecting their relatively young age.

School C

School C is located approximately 20 km south-east of the Adelaide CBD in the Adelaide Hills. The school has about 200 students from mainly English-speaking families with about a third of children having one or both parents born overseas. About 10% of families access school card assistance, and more than 60% travel to the school from outside the local area.

Among the three parents (2 female, 1 male) participating in the group discussion:

• two parents had one child each attending primary school (in Years 1 and 6); and

• one parent had two children attending primary school (in Reception and Year 2).

Two families travelled to school by car, and one walked or cycled; sometimes alone, sometimes with friends and sometimes with the parent.

In summary, across the three schools, there was considerable variation in family size, child year level (and therefore age), methods of travel to and from school, and accompanied and unaccompanied active travel to and from school. The schools also varied in size, location and traffic conditions en route to school and in the vicinity of the school.

2.2 Interview format

A semi-structured interview format was used to facilitate discussion about:

- methods of travel to and from school, and the advantages and disadvantages of different methods
- adult-accompanied and independent active travel to school advantages and disadvantages of both
- parents' suggestions for initiatives for increasing active travel to school.

The interview format is in Appendix B.

2.3 Data analysis

The three focus group discussions were audio tape-recorded with parents' permission. The discussions were transcribed verbatim for analysis, which took the form of thematic analysis of the verbal data. Three key themes were identified ('Supports/advantages of active school travel'; 'Barriers/disadvantages of active school travel'; and 'Facilitators for active school travel') with each theme comprising several sub-themes. Parents' responses were coded into the various themes and sub-themes, as summarised in Table 1. Table 1 also includes the frequency of parents' comments within each theme and sub-theme.

3 RESULTS AND DISCUSSION

Parents have a number of travel options to consider when choosing how their children travel to and from primary school. The main ones are:

- 1. Children travel alone (usually walking, cycling or scooting)
- 2. Children travel without adult supervision with friends or siblings (usually walking, cycling or scooting)
- 3. Adult-supervised group walking
- 4. Parent- or carer-accompanied walking, cycling or scooting
- 5. Parent- or carer-accompanied driving
- 6. Part-way walking (eg drive or bus to location near school, walk to school)
- 7. Public transport (usually public bus or school bus).

While each method has advantages and disadvantages for parents, schools and the wider community, the focus of this study is on parent-perceived advantages/supports and

disadvantages/barriers, as these are the main influences on parents' school travel mode choices.

It is also important to recognise that advantages/supports for parent-accompanied driving (Option 5. above) effectively act as disadvantages/barriers to active school travel by making driving a relatively easier choice than active travel. Research into the barriers to active school travel needs to acknowledge the complex interplay between the perceived advantages and disadvantages of active school travel and the perceived advantages and disadvantages of travel, particularly driving.

The following themes and sub-themes, derived from parents' responses in the focus group discussions, encompass the barriers/disadvantages and supports/advantages for the seven travel options listed above.

A final theme ('Facilitators for active school travel') refers to specific interventions aimed at increasing active school travel (eg Walk2School days, Bike Ed, improved road crossings near schools).

The numbers and percentages of parents' comments in each of these three broad themes and sub-themes are summarised in Table 1.

Theme	Sub-theme	Frequency (%)
Supports/advantages of active school travel		105(35% ¹)
	Positive attitude to active travel	26 (25% ²)
	Benefits for child	26 (25%)
	School factors (school size, location, distance, culture, policies, and traffic and social environment)	17 (16%)
	Disadvantages of car travel (that have the effect of supporting active travel)	13 (12%)
	Children having/acquiring the skills required for independent mobility	10 (10%)
	Benefits for parents	10 (10%)
	Flexible working hours and locations	2 (2%)
	Limited car availability	1 (%)
Barriers/disadvantages of active school travel		137 (45%)
	Traffic safety concerns	40 (29%)
	Convenience of car travel	29 (21%)
	Social safety concerns	17 (12%)
	Family structure and child characteristics (eg number and ages of children)	10 (7%)

Table 1: Summary of themes, sub-themes and frequencies

¹ Percent of total responses (N = 304).

² Percentages of sub-themes are based on the total number of responses within each theme.

	Social norms/judgements	9 (7%)
	Distance from home to school	8 (6%)
	Weather	7 (5%)
	Terrain	6 (4%)
	Driving culture/habits	5 (4%)
	School choice, size, location	4 (3%)
	Negative attitudes to walking/cycling (children/parents)	1 (1%)
	Other	1 (1%)
Facilitators for active school travel		62 (20%)
	Programs/activities (eg Bike Ed, W2S, R2S, school walking/cycling events)	18 (29%)
	Knowing where child is (eg school notification if child not at school, mobile phones)	15 (24%)
	Safety in numbers, traveling with others	11 (18%)
	Improve road safety, general driving culture	11 (18%)
	Transitioning to independent mobility and active school travel	7 (11%)
TOTAL		304 (100%)

3.1 Supports/advantages of active school travel

As noted above, parents have a number of travel options to consider when choosing how their children travel to and from primary school, with the key choices being:

- allowing children to travel actively and independently to/from school,
- accompanying children travelling actively to/from school, or
- driving children to/from school.

Supports/advantages of active school travel are those factors that make the first two options more appealing to parents and children than the third option (driving). These factors therefore include the advantages of active school travel, and the disadvantages of car travel. In this study, parents mentioned both sets of factors, though the main focus was on the perceived benefits of active school travel for both children (25%³ of comments) and parents (10%³ of comments).

Together with 'Benefits for child', '**Positive attitude to active school travel'** was the most frequently mentioned sub-theme within the overall theme of 'Supports/advantages of active school travel'.

³ Within the overall theme of "Supports/advantages of active school travel".

3.1.1 Positive attitude to active school travel

Comments expressing parents' and children's preference for walking or cycling to school comprised 25% of responses in Theme 1. Sometimes this was stated explicitly, for example:

"They love the walk to school, my kids."

"He's been wanting to walk or ride his bike."

"We started walking to school a couple of years ago. He suddenly came home and said 'No more cars, we're walking'."

Other parents implied that they or their children would prefer to walk or cycle if possible, for example:

"They're devastated that I don't let them ride or walk."

"If your circumstances allow you, you're going to do it [walk] anyway."

"We're lucky, we're closer, we've got that option [to walk]."

Other parents expressed a preference for walking or cycling, whilst providing reasons why they currently drive, for example:

"It's not fair on the kids – they should be able to walk and ride. It's just because of all of the traffic."

"The dream is to bicycle, but....[major roads to cross]".

"Hopefully in the next year or so they'll walk." [children were currently aged 8 and 9 years]

As illustrated above, positive attitudes to active school travel included parents' and children's preferences for, and/or enjoyment of walking or cycling to school. This finding indicates that for many parents and children, active school travel is not constrained by an intrinsic dislike of walking and cycling, or an intrinsic enjoyment of driving; but rather, by a number of barriers to walking and cycling as described in Section 3.2.

Positive attitudes to active school travel were expressed by parents who use active school travel and also parents who drive to school, indicating that favourable attitudes do not necessarily predict actual behaviour. This 'disconnect' is well-recognised in behavioural psychology, in theories such as the Theory of Planned Behaviour, which states that in addition to an individual's attitude towards a behaviour, actual behaviours are also influenced by perceived behavioural control (which refers to an individual's perceived ease or difficulty of performing the particular behavior) (Ajzen, 1991). Social-ecological theories of behaviour also highlight the influence of environmental factors (including within the built environment, social environment, and policy/regulatory environment) on behaviour in addition to the influence of intra-personal factors such as attitudes to the behaviour (Sallis et al., 2006). Some of the perceived environmental barriers to active school travel are described below in Section 3.2.

3.1.2 Benefits for child

The benefits of active school travel for children were also mentioned frequently by parents (25% of responses in Theme 1). These benefits were wide-ranging, and spanned the physical, psychological and social domains of child health and wellbeing. Child benefits of active school travel mentioned by parents included:

- health and physical activity (particularly incidental, unstructured physical activity)
- an opportunity to reduce children's screen time
- child psychological wellbeing, including relaxation and being outdoors
- improved learning, 'settling' into class
- aids child development (independence, maturity, responsibility, resilience, trust and confidence)
- opportunity for child/parent communication
- opportunity to learn road safety through experience/practice
- improves children's situational and community awareness

These benefits are described in more detail below.

Active travel was widely seen as **healthy for children** as it provides an opportunity for physical activity. Several parents also mentioned a number of benefits of active travel that they felt were not achieved through the more structured forms of physical activity such as sport and exercise classes. As one parent noted:

"...we're not getting that incidental exercise. They're getting enough exercise [child has activities 4-5 times a week], but they're not getting the other stuff."

The additional benefits of active school travel as a form of incidental physical activity were said to include children getting exercise without realising it; providing frequent, regular opportunities to reduce children's sedentary behaviour, especially screen time; and having a break from highly structured activities. Examples of these responses are:

"Sport is very structured and you are told what to do. Run here, catch that...like someone's organised it, you turn up, participate and then your parents take you home."

"Get this kid out from behind the screen – let's get you moving. It's a huge issue these days."

"It's incidental – and it's quite often, and they don't see that it's something beneficial."

"Organised sport still happens, we all work and we all organise it, but kids are getting more obese because they are not getting that... incidental exercise."

Parents largely rejected the proposition that children get enough physical activity through organised sport and physical activity, and that as a consequence, active school travel was unnecessary. Parents' support for active school travel, including for children who were active in other ways, was due to the unique nature of incidental physical activity described above, and also the psychological, social and cognitive benefits of active school travel described below. However, some parents mentioned that not all parents would share this perspective, suggesting that other parents may consider that structured exercise provided sufficient physical activity for their children.

Additional child benefits of active school travel mentioned by parents included **child psychological wellbeing and improved learning**. Parents talked about walking being a more relaxing way of travelling to school than travelling by car, including through being outdoors and interacting with the environment; children arriving at school 'ready to learn'; and children gaining confidence through independent mobility, for example:

"...it's beneficial not only for the body but also the brain. It works off a bit of that energy in the morning, so by the time she's walked or scooted she's ready to sit down and chill out and learn."

"...they're chilled out when they get to school and they've had all that nice oxygen on the way in, so they're completely cool by the time we get there."

"...fresh air, relax, outside..."

"Knowing that I have trust in her was a huge confidence booster. 'I trust you, and I believe you can do this and get home by yourself.' The first time she came home by herself,her confidence jumped through the roof. A massive confidence boost."

"All the digital play – it's a sedentary lifestyle, and they're so structured. They need breathing out space for their brains, so their minds can just wander."

Related to children's psychological wellbeing, parents mentioned that active school travel has an important role in **assisting child development** in the form of developing independence, maturity, responsibility, resilience, trust, confidence, and life skills, for example:

"I want my kid to be out there moving and to have the independence and ability to get from point A to point B without me shepherding her around, 'cos if I'm doing that all the time, how's she going to learn?"

"He's much more independent now, he walks all around [suburb]."

"It's been a big change for us, and I think it's been really positive – that independence."

"They see it from a maturity thing – 'I'm older and becoming more mature'."

"Having the independence to walk to school yourself, like you have to get there on time, leave the house early, have his lunch done, be all packed up. Teaching that is a life skill."

"Learning [road safety] as you're doing it safety-wise. Instead of just sitting around hearing it at home or in the classroom."

Some parents also mentioned that walking to school with their child provides an **opportunity for child/parent communication** that is highly valued by busy parents, and

largely absent when driving (as driving is shorter, parent needs to concentrate on driving, and in-car distractions such as music and screen activities). Examples included:

"I get to hear about their day, and it's a good opportunity to hear about what they did and if they've got any issues with anything. We always talk on the way home, and other parents say 'How come you find out so much stuff from your kids?' And I say 'Because we walk.' If I'm driving, they're talking, but I'm concentrating on the traffic and going 'yeah, yeah, whatever.'"

"Walking to school together in the morning, things will come up that she hasn't had time to talk to me about, and frankly, I haven't had time to stop and listen and it's rare that it's just the two of us one-on-one, without her dad, without her brother, without work, without all of the chaos. To hear 'this is what's going on in my life, and this is important to me', and I hear a lot when we're walking to school. Doesn't happen in the car."

Parents also talked about active school travel improving **children's situational and community awareness**, for example:

"Becoming familiar with your community and your suburb, and when you're in the car, children aren't paying much attention to what street they are in, which way to turn, and the landmarks".

"Community awareness....they kind of know where to go for help - which houses are okay –if they know their community. There's that safety aspect and the community feel."

These parents' perspectives are consistent with research evidence on the health benefits to children of active travel to school (Larouche et al., 2014) including the emotional and wellbeing benefits (Ramanathan et al., 2014) as well as the cognitive and learning benefits (Åberg et al., 2009; Sibley and Etnier, 2003). In relation to student learning, a recent large Danish study (314 schools; 1024 classes; 19, 527 students aged 5-19 years) found that children who travelled to school actively (walking, cycling or scooting) (71.5% of students) had substantially higher powers of concentration compared with children who travelled to school inactively (by car, bus or train) (28.5% of students) (Egelund, 2013).

However, the level of awareness of these benefits may not be as high among the general parent population, with some parents in the focus group discussions commenting that other parents might not value incidental physical activity to the same extent. In terms of where their awareness of the value of incidental physical activity came from, one parent mentioned a teacher at the primary school talking about it in class, and another described learning about it in a university course she was undertaking. These parents' receptiveness to information about the value of incidental physical activity indicates the potential for schools to more systematically inform students and parents about the benefits of incidental physical activity and active travel to school.

3.1.3 School size, location, distance, culture, policies and traffic environment

The third most frequently mentioned support for active school travel referred to school factors, including **school size**, **location**, **culture**, **policies and traffic environment** (16% of responses in Theme 1). This theme included living within walking distance of the school, which is the converse of living "too far" from school being a barrier to active school travel, as discussed in Section 3.2.6. Similarly, *adverse* traffic environments around schools are discussed below under 'Barriers/disadvantages of active school travel'. In contrast, benign traffic environments are considered to support active school travel. Examples of comments on supportive school characteristics include:

"Most cars that are here are parents...it's not a through traffic area for a lot of other people, so people are looking out for kids."

"This is the blessing of a small school 'cos everyone knows everyone [referring to allowing child to walk to school independently]."

"We're fortunate that we don't live far from the school so we either ride our bikes, or scoot."

"People move to [suburb] to have more time to spend with their kids – It's different in the city where they don't have time."

"The local Council is very supportive of walking and cycling."

"I don't know how I'd feel about it if I wasn't in [suburb], 'cos I feel quite safe in this community."

Other parents talked about school culture in terms of whether or not schools have an inclusive approach to parental involvement in daily school life, with one parent describing a previous school that discouraged parents from entering the school grounds before and after school in order to relieve traffic congestion and parking problems around the school. Parents felt that an inclusive, welcoming school culture assisted active school travel by facilitating friendships among parents and children, and developing a sense of belonging to the school community and trust in others (eg to drive carefully in the vicinity of the school).

A school practice mentioned by a number of parents was whether or not schools notified parents if children had not arrived at school in the morning (and the school had not been notified by parents of their absence). Parents appreciated knowing this. When they allow their children to travel to school independently, they can be anxious about whether or not their child arrived safely. Knowing that they would be notified if their child did not arrive at school allowed them to relax (usually while at work) and not worry for an extended period. Not all schools do this, with parents speaking favourably about the schools that do.

In summary, school factors that were perceived to support active school travel were:

- smaller schools
- close to home
- with a culture of encouraging parental participation in school life
- located in suburbs with a 'village' feel to them

- where neighbours and parents know each other, parents keep an eye out for other children, traffic near the school is not excessive or fast, and the neighbourhood feels safe, and
- the school (with assistance from DPTI⁴) and local council support and encourage active school travel.

Many of these school factors are potentially modifiable, though some are beyond the control of individual schools (eg school size and school zones). Cross-sectorial policy action would be required to change these policies (ie across departments of education, transport, planning; and across local and state levels of government). However, in addition to macro-level policy change, which can be difficult and long-term, there may also be a role for local action. For example, schools can highlight the benefits of children attending local primary schools in terms of reduced travel time and increased opportunities for active travel to school. Schools can also facilitate social networks among school families, and adopt school policies that support active school travel (including modifications to the traffic environment surrounding the school) (see Section 4 for additional facilitators of active school travel).

3.1.4 Disadvantages of car travel (that support active school travel)

As mentioned above, and described in detail in Section 3.2.1, some disadvantages associated with car use are barriers to active school travel; for example, risk of injury, high traffic volumes and speeds, driver behaviour, and car-dominated public spaces that are unpleasant for people walking or cycling. However, some disadvantages of car travel experienced by parents (eg congestion, lack of parking around schools, driving as a stressful/unpleasant experience) may encourage some parents to walk or cycle instead. This theme refers to the latter factors.

Some of these comments were quite direct, for example:

"Congestion/parking - that's why we walk part way [from a nearby large shopping centre car park]."

"[child name] calls that the [named] Road car park [road leading to the school], because he goes zooming past them on his bike....we're lucky, we're closer, we've got that option."

"Parents getting cross with other parents might say to kids 'I'm not doing this – you can ride or walk rather than me having to bring you.""

"I often spend the 5 or 10 minutes driving around looking for a car park anyway! I'm often hopeful that I'll get a good parking spot, but it rarely happens!"

⁴ For example, in the form of traffic safety improvements near the school.

"People in Sydney [where parent lived before moving to Adelaide] don't drive, because if you do you will be in the car forever! So everyone sends their kids to the local school [and most parents and children walk to school]."

While issues such as lack of car parking near school might encourage some parents to use active transport instead; for others, the 'solution' is to provide more car parking and more efficient "kiss and go" zones. In one group, this led to a discussion about the environmental consequences of removing vegetation for additional car parking.

Some parents also talked more generally about high levels of car use leading to a loss of community liveability and sense of community, contributing to reduced feelings of community safety and, consequently, reduced children's independent mobility, for example:

"Drive to work, drive to school, drive home, go in our house, do our thing, we just don't get a chance to see our neighbours."

"I was working with a guy for 2 months, and he was one of my direct neighbours! I was horrified!"

"You're also talking about the loss of community."

Problems with traffic congestion and parking around schools were undoubtedly frustrating for a number of parents, and detracted from the convenience of driving children to and from school. Others reflected on the loss of community liveability associated with high levels of car use within neighbourhoods. However, the extent to which these driving conditions lead to parents and children walking or cycling instead is not known. It was a factor for some parents, but others continued to drive. Clearly, traffic congestion and difficulties with parking only lead to a shift to active travel if other circumstances and conditions make such a shift possible. It is also important to recognise that the conditions that make driving unappealing can also make walking and cycling unappealing (see Section 3.2).

For School C, part-way walking appeared to successfully address both of these concerns. At this relatively small⁵ school, increased enrolments had recently put pressure on car access and parking at the school. A drop-off point was established at a local shopping centre car park about 500 metres from the school; road crossings between the car park and school were improved through the installation of pedestrian refuges and kerb extensions to improve safety and ease of crossing; and school events were held to promote the part-way walk option, with many parents and children participating. Parents also reported feeling generally safe in this small community, which probably also contributed to uptake of the part-way walk to school option, particularly for children walking to school independently.

The key lessons from this success story are (a) the importance of multi-component interventions; and (b) the importance of tailoring interventions to meet the specific needs of

⁵ About 200 students.

each school. For example, the 'solution' for School C may not necessarily work for the other two schools in the study which were situated closer to the Adelaide CBD and surrounded by a number of busy roads. Nevertheless, other options may be appropriate for these two schools (eg roundabout design – see Section 3.2.1 for a discussion of 'good' and 'bad' roundabouts near School A).

3.1.5 Children having/acquiring the skills required for independent mobility

Most parents appeared to recognise that there are some risks associated with children's independent mobility (described under the theme of 'Barriers to active school travel' below). However, it emerged that parents react differently to these perceived risks, with some parents preferring to avoid the risks by driving their children to school, while others take measures to teach their children the skills required to enable them to move about safely and independently. An example of 'skills acquisition' as a support for independent active school travel is:

"I've done lots of stranger-danger stuff with him, making sure he knows if people come, what to do and how to react, what to say, not to be really afraid but to be quite assertive. I have a friend who's a psychologist who works in that area, and I got her to tell me what to say and do. And we did lots of practising. It took him quite a while to get the words right. And we identified whose cars he could get into, who was a safe person and who wasn't. It took a fair bit of coaching."

Interesting aspects of this parent's response are: (a) choosing to upskill her child rather than drive him instead; (b) accessing professional advice on how to teach her child these skills; and (c) spending time 'coaching' and practising with her child. The parent went on to add:

"We did this whole thing at work about putting in systems to keep people safe, and having learnt about safety from a risk management point of view, so it's not about stopping people doing things, it's all about educating them to be safe. ...it's about learning safe behaviours. Your child's learning his way into how to make good judgements to keep himself safe."

The following discussion illustrates differing parental perspectives on this issue:

Parent 1: "We've got these friends who don't let their kids do anything, and when they come to our place, [child's name] kind of steels the kids down the back to climb a tree or skateboard and they always fall off and their parents say, 'See that's why you don't let kids do these things!' Parent 2: "That's why you do!"

The importance of children demonstrating to their parents that they can travel safely independently was also evident in parents' responses, for example:

"We had a practice walk, and that was good and they behaved themselves."

"But it's also about knowing your child – if you thought that they were not capable about making those decisions..."

In summary, children's skills and capabilities for independent mobility included traffic safety skills and social safety skills. The perceived benefits comprised two elements, in that having the skills facilitated active school travel; but also, acquiring the skills was considered an important developmental and life skill for children to achieve.

For parents in this study, age was an important factor in allowing children independent mobility, but many parents considered child characteristics, skills and abilities to be more important than actual age. Helping children to acquire the skills to be independently mobile is therefore a potentially modifiable support for independent active school travel.

Schools, as well as parents, can be a source of this instruction/education. However, for school programs to impact on parents' decisions about independent mobility for their children, parents must be aware that their children are participating in the program, and be confident that the program has provided their children with the knowledge and skills required to travel independently. It is also important for parents to have direct parental involvement in reinforcing the knowledge and skills with their children; assisting children to practise the skills; and observing whether they are safely putting these skills into practice.

3.1.6 Benefits of active school travel for parents

As was the case for the perceived benefits for children, the perceived benefits of active school travel for parents included physical, psychological and social health and wellbeing. Important issues for several parents were the ability to fit some exercise into a busy day; combining exercise time with other valued activities such as interacting with their children; socialising with other parents; walking the dog; and enjoying the natural environment. Examples of this theme include:

"I have to walk double the distance so it's good for me!"

"I like it because it means I actually DO something first thing in the morning, get her to school, have that walk home, get some steps up, then go to work. I like it."

"And it's a really nice time, and we walk the dog together."

"I would for sure – I don't do any other exercise. And doing something with your children. It would cut down gym time!"

"It's a social thing – getting to know all the mothers. Meeting up with other parents – therapy – counselling sessions!"

"I get plenty of other exercise, so walking 800 meters isn't going to make much difference, so it's bonding, exploring the environment with kids."

"I have a busy day, my movement during the day is limited so at least I feel like I've walked."

"More time to spend with kids while walking. You can concentrate on the kids rather than concentrate on the drive. We all feel better when we're outside, we see trees, and we've got such a beautiful environment. It's hard not to feel good."

Another benefit of active school travel for parents that was not mentioned specifically as a benefit, but was nevertheless valued by a number of parents was the convenience of children being able to walk or cycle to and from school independently, thereby avoiding the need for parental accompaniment. This was particularly the case for families where both parents (or one parent in single-parent families) are in paid employment or have other commitments such as studying, or care of elderly parents.

For some parents, work or study commitments appeared to be the trigger for allowing children to walk home independently. This included parents who worked at home, and did not need to stop working to collect children from school. Other parents allowed their children to walk home and stay home alone for a short time until the parent returned home. Some of these parents were unable to leave work to reach school by home time, but could be home shortly after children arrived home by themselves. These parents avoided the costs of children spending a short time in out of school hours care programs (which reportedly charged a standard fee regardless of the time children spend in the program). One parent also stated that her child did not like attending the after-school program, and preferred to walk home by himself.

These discussions triggered questions and discussion among parents about the age at which it is appropriate to allow children to be home alone, and the legality of allowing children to be home by themselves; with parents expressing considerable uncertainty around both topics. There was, however, general agreement that the child's maturity and capabilities were crucial, rather than the child's actual age. Consistent with this perspective, the desire to allow children to walk home alone was a trigger for parents to teach their children how to be safe travelling home alone or being at home alone. A Canadian study also found that children were more likely to walk or cycle independently when parents reported discussing walking and cycling safety with their child (Mammen et al., 2012).

The convenience of allowing children to travel home alone when parents cannot leave work in time to pick up children after school may partly explain the finding that rates of active travel from school to home are often higher than rates of active school travel from home to school (Wen et al., 2009).

As was the case for parents' perceptions of the benefits of active school travel for children, the benefits of active school travel for parents were perceived to be broader than the physical health benefits of exercise, and included psychological and social health and wellbeing, as well as benefits for the whole family. It was several of these 'ancillary' benefits that contributed to parents valuing active school travel as a form of exercise in addition to, or instead of, other more structured forms of physical activity.

3.1.7 Flexible working hours and locations (eg work from home)

This factor was mentioned directly by only two parents; however, it was also implicit in several other parents' comments when discussing other issues. Examples include:

"I've got a lot of flexibility in my work, so my starting time can move a bit, I often don't get to work until 10ish." [Parent walks to school with child]

"Sometimes I could work from home. That sort of flexibility is important to make this happen. It's about workplaces encouraging people to do those sort of things."

A number of studies have reported that flexible working hours, locations, and conditions for parents support children's active travel to school (Mitra, 2013).

3.1.8 Limited car availability

One parent commented that lack of access to a car for the school trip meant that they sometimes walked to school:

"We are a one-car family, so sometimes when I don't have the car walking is the only option, it doesn't matter if it's raining or not because raining is more fun!"

Interestingly, this 'lack of choice' appeared to be viewed positively by this parent, including the 'fun' of walking in conditions that many other parents avoid (see Section 3.2.7). This cheerful acceptance of a 'forced' alternative to car travel challenges a commonly held view in car-oriented societies that lack of access to a car for all trips at all times is a major impediment to mobility.

This challenge to the commonly held perspective that limited access to private motor vehicle use is invariably negative is supported by comments from a parent who recently moved to Adelaide from Sydney (see Section 3.1.4). This parent described general acceptance among Sydney parents that because driving to school is difficult, walking to the local primary school is 'normal' and widely accepted:

"People in Sydney don't drive, because if you do you will be in the car forever! So everyone sends their kids to the local school [and walk to school].

Lack of access to a car can therefore be supportive of active school travel, and is generally associated with higher rates of active school travel (Emond and Handy, 2012). Lack of access to a car is commonly viewed negatively, but findings from this qualitative study suggest that limited travel mode choice (ie lack of access to a car) is not necessarily viewed negatively when opportunities for alternative, appealing travel modes (eg walking) are available.

Several recent theoretical perspectives from behavioural economics support this interpretation. In the book *"The paradox of choice: why more is less"*, Schwartz (2004) argues that greater choice does not necessarily lead to better choices and hence greater satisfaction and happiness. In *"Misbehaving: the making of behavioural economics"*, Thaler (2015) describes how people's day-to-day decision-making and behaviour can often be 'irrational' in terms of logical assessments of relative costs and benefits of choices (such as travel modes); and Thaler and Sunstein (2008) in *"Nudge: improving decisions about health, wealth, and happiness"* describe methods for 'nudging' people into making choices that are better for themselves and the wider community without mandating for these 'better choices'.

The second major theme examined in this study is that of disadvantages and barriers to active school travel. These are described in the following section.

3.2 Barriers/disadvantages of active school travel

Barriers to active school travel can be broadly grouped into two categories: (a) disadvantages and difficulties associated with active school travel; and (b) advantages and ease of car travel that make car travel an easier choice than active travel.

'Traffic safety concerns' was the most frequently mentioned sub-theme within the overall theme of 'Barriers/disadvantages of active school travel', comprising 29% of comments within this theme (see Table 1).

3.2.1 Traffic safety concerns

The most frequently mentioned disadvantage/difficulty associated with active school travel was concern about unsafe traffic conditions. Comments were about:

 Traffic in general, with parents expressing concerns about traffic en route to school as well as at school. Adverse traffic conditions at school were a barrier even for families who lived close to school:

"It's not that far at all but it's just the traffic...at the school corner."

"We don't live very far from the school, but the reason I don't like him to walk is just the traffic, on [named] Road....the traffic in that last bit at the school."

"I can't let her ride a bike because we have to cross a few very busy streets, and it's crazy in the morning."

"...it's going over two major roads". [Reason for driving]

"...because there's no safe path from our place to the school, there's no safe option, particularly with their age, and you can't control what other people do."

"I have trouble with the speed limits round here. There's children walking along the school road, the 25km/h speed limit only starts halfway there...there's people tearing down – you see close calls."

"...encourage more people to walk and ride, but it's not going to happen until people are ensured of a safer environment in which to let their kids loose."

Specific road infrastructure. Many of these comments referred to infrastructure designed to improve traffic safety (eg roundabouts, school crossings), but which many parents still considered to be unsafe. In some cases the road infrastructure was difficult to negotiate by foot or bicycle, especially with more than one child. In other cases, driver behaviour negated intended safety benefits. Examples include:

"The school crossing's dangerous. There's flags and there's always a teacher manning it, but there's people – they start to cross while there are still people crossing, people will still fly through, even though it's illegal."

Parent 1: "You've got to get your kid to walk on the roundabout and check four different directions at once." Parent 2: "I don't know how you do it with three kids to cross the road."

"I won't let my kids ride 'cos I did it once and I got screamed at by someone driving pastat the roundabout – that's a shocker! The roundabout has no safe route to cross."

"...people will still, they'll go at 50km/h until it says 25 km/h and there's children moving around – the 25 km/h zone is too short."

"Safety. Bikes on footpaths is a bit better, [but] she doesn't like riding on the footpath....cracks, driveways, they have to really look out for driveways."

"The drop-off zone shouldn't be there because it goes around the corner, it's bloody dangerous, they queue around the corner, it's an accident waiting to happen, it will happen one day."

"That pedestrian crossing on [named] Road – I've seen cars that have gone through that – or not stopped in time, with all the trucks that go along those roads, how much warning they have that there are schools along that road. A warning prior to getting to the crossing."

"...because the cars fly around, and there's heaps of parked cars, weaving in and out. I think it is dangerous, for young children – and older children. I almost saw a child get run over by a car one morning."

Driver behaviour and attitudes:

"...parents and drivers that ignore the speed limits around schools."

"They have SAPOL stationed there sometimes, and it doesn't make any difference. It doesn't matter how many times you put it out in the newsletters, people don't care, they're in a hurry, and they want to get to where they're going."

"That's hard, it really is. That roundabout's a nightmare, because people are in such a hurry."

"...people do not slow down for that roundabout – they belt through to get across to [named] Road."

"Attitude...people can't work out what a kiss and drop area means. Parking in the kiss and drop section, they're 20 minutes early, so could have parked 50 metres up, but they choose not to, and it's all backed up – that day when it was raining – what a nightmare! It was so dangerous."

"it's busy, it's chaotic, and people are trying to rush.... sometimes they're going quite fast and not looking out for kids."

"I don't think drivers see cyclists as much as they see pedestrians, because they're going that bit quicker."

"I didn't even know it's 25 km/h and I've been driving down here all this year and I didn't know! It's not well-signed and there's no flashing lights, and they're flying through here, - needs better signage. 40 km/hr around schools during those times whether there's children there or not, and putting in cameras."

"If you know you are going to school you look out for kids, but other drivers.... if they're obnoxious, they say that pedestrians have to look out for us. But if the pedestrian is only 9 or 10 years old the pedestrian doesn't know all of the road rules."

As indicated in the comments above, parents' concerns about traffic safety were multiple and wide-ranging. Traffic safety *at* school was mentioned more frequently than traffic safety *en route* to school (for Schools A and B only), suggesting that 'safe routes' to school may only be effective in increasing active school travel if traffic conditions *at* school are also addressed.

It is interesting to note in the comments above that measures specifically designed to improve road safety (roundabouts, school crossings, 25km/h speed zones, cycling on footpaths, etc) are often not perceived to be safe by parents, due to (a) poor design (eg roundabouts that don't slow traffic sufficiently for children/parents to cross safely; 25km/h zones that are too short; cycling on footpaths hazardous due to cars reversing at speed out of driveways); and (b) driver attitudes and behaviours (drivers in a hurry, impatient, not looking out for child pedestrians and cyclists, and who can't be 'controlled').

It is also often assumed that accompanying children walking or cycling to school addresses road safety concerns, but parents described adverse traffic conditions and driver behaviour that was hazardous for parents accompanying children (especially those with more than one child and with pre-school age children), and also unpleasant, with the unpleasantness of the traffic negating many of the perceived benefits of walking or cycling (eg enjoyment of walking – see Section 3.1.1).

These parents are tapping into the loss of community liveability that is often associated with public spaces that are car-dominated and consequently unpleasant for pedestrians and cyclists. In their review of the benefits of active transport, Forsyth et al (2009) proposed that among the key benefits of non-motorised transport (ie health, transport efficiency, environment and community liveability), community liveability "appears to be the strongest policy argument for non-motorised travel [NMT]" (Forsyth et al., 2009).

"Car-free zones", which have been implemented in some areas in the UK as part of the UK "Living Streets" program (https://www.livingstreets.org.uk/what-we-do/stories/car-freezones-clear-the-way-for-the-walk-to-school) are a means of addressing both the hazards and the unpleasantness of traffic congestion around schools, though they are not suited to all schools, and may be unpopular with some parents. Other initiatives include voluntary "park and walk" areas such as the one that was successfully implemented in School C (See Section 3.1.4), and area-wide 30km/hr zones across residential areas that also include schools (see Literature Review for further details).

3.2.2 Convenience of car travel

The second most frequently mentioned barrier/disadvantage of active school travel referred to the convenience of car travel that makes car travel an easier choice than active travel.

Car travel was considered more convenient than walking or cycling because it was quicker for busy parents who often had multiple commitments including work, study, caring for other children and elderly parents, and taking children to after-school activities; for example:

"It's quicker."

"It's easier 'cos parents are on their way to work, and just drop them off."

"Would depend on the day, after-school commitments, [child has four after-school commitments each week]. Need to get home, have a snack and head off, sometimes to the other side of town."

"A lot of mums are time-poor, we're studying, working, have to get back to the house, walk the dog, get grandpa off to the hospital for 10 o'clock and it's 9 o'clock now."

One parent noted, however, that the perceived time advantage of car travel may not always be experienced in practice:

"We have walked, but it tends to take us too long. We never have enough time. Generally it's a time issue for us, but that said, I often spend the 5 or 10 minutes driving around looking for a car park anyway! I'm often hopeful that I'll get a good parking spot, but it rarely happens!" Having to get up earlier in the morning in order to walk to school was also mentioned by some parents:

"It'd mean I'd have to get up earlier in the morning."

Many of the 'convenience' advantages of car travel described above (particularly those associated with time constraints for busy parents) apply to parent-accompanied travel to school rather than children's independent travel to school. In terms of the two-step school travel mode selection process proposed by Faulkner et al. (2010) (ie an initial decision on whether or not to accompany the child to school; followed by mode choice based on parents' perceptions of the easiest and most convenient way to travel) these 'convenience of car travel' constraints on active travel to school mainly apply when parents consider children's independent travel inappropriate, principally for the reasons outlined above under '3.2.1 Traffic safety concerns', but also if the child is considered to be too young, or to not have the skills to walk or cycle to school independently (see Section 3.1.5).

Social safety concerns (the third most frequently mentioned barrier to active school travel, described below) also represent an important barrier to children's independent mobility.

The convenience of car travel is therefore frequently a 'contingent' constraint on active school travel, which arises when parents rule out independent mobility, often due to traffic safety and social safety concerns. That is, the convenience of car travel becomes important when parents are deciding between parent-accompanied active school travel and parental chauffeuring, although the need for trip-chaining (eg taking children to off-site after-school activities) also favours car travel.

3.2.3 Social safety concerns

The research literature identifies both traffic safety and social safety concerns as key barriers to children's independent mobility and active school travel; however, the relative importance of these two factors varies across studies.

In this study, parents mentioned traffic safety issues (40 responses) more frequently than social safety issues (17 responses); though this apparent difference should be interpreted cautiously due to the qualitative nature of the study.

Examples of social safety concerns expressed by parents included:

"I've had an argument with [child's] Dad who doesn't want him to walk to school, thinks he's too young, because he's on his own, he's concerned that he might be snatched." "Don't want them to walk due to predators that might be out there."

Interestingly, another parent felt that cycling was safer than walking in terms of avoiding harm from 'strangers':

"I won't let her walk by herself, but I'll let her ride by herself because she's quicker on the bike [laughter]."

This comment also highlights the complexity of these decisions for parents, as other parents considered cycling to be riskier than walking due to the hazards of children cycling in traffic and on the footpath (see Section 3.2.1).

A number of parents expressed a desire to allow their children a greater degree of independent mobility, frequently reflecting fondly on their own independence as children, but nevertheless felt unable to grant that level of independence to their children, for example:

"I'd love to be able to do that – let them go off and play like we did when we were kids. Mum would kick us out, and say don't come back till lunch time, and that's what we did. But I can't get my head around letting my kids [aged 7 and 9] even come down to the school from four houses up. You don't know who's lurking around. That's my head space."

Other parents commented on the rarity of child abduction by strangers, but its dramatic impact, enhanced by media attention:

"When I moved to high school a 12 year-old girl was kidnapped – it's rare but it sticks in people's heads. Rate has actually gone down, but the community perception is due to the media pushing it on you, so it's at the forefront of your mind, you normalise that – you say 'Oh shit, it's dangerous out there'. There was a shift in society, not because of the risks themselves, but because of the perceptions that other people had of those risks that generates that."

"But assaults happen to people. If you're bombarded with that sort of information it starts playing with your psyche, you've got a misperception of how dangerous it is."

When asked whether reassurances that the risk of harm is low helps parents to grant their children greater independent mobility, parents expressed differing perspectives. A parent who did not feel reassured focussed on the traumatic consequences of even a low risk event, while another felt that the reassurance was helpful:

Question: "Does reassurance that the risk is low help?"

Parent 1: "No, because the risk is there. And you don't want them gone." Parent2: "It does for me." [ie reassurance helps].

Parents were also asked whether they felt more comfortable about siblings or friends travelling together rather than their child travelling alone, but this suggestion elicited little support. Parents talked about the likelihood of siblings "leading each other astray" (in relation to traffic safety); the practical difficulties associated with trying to organise friends to walk to school together (children have to like each other; parents need to feel comfortable approaching other parents with this suggestion; concerns that the oldest child in the walking group might be held responsible for the safety of the younger children); and children being more distracted in groups (leading to increased risk of traffic injury). For example:

"Hard to organise walking with friends as everyone's busy, and you don't know how to start the conversation, maybe put someone off guard, or derail the friendship, because you are effectively putting your kid out there in the world on their own, and you are effectively saying "Hi, do you want to put your kid out there with mine...?"

This parent expressed concerns about possibly being held responsible for initiating independent travel behaviour that might be risky.

For the following parent, when the environment was perceived as dangerous, siblings travelling together appeared to compound the risk, as both children were at risk:

"It depends on your experiences, I think, some of the things I've seen in the next neighbourhood, I wouldn't want my kids....I've heard about things and I've seen things, and I just wouldn't want them to come in contact with..."

Some parents, however, expressed the view that they didn't want excessive 'stranger danger' concerns to prevent their children interacting with other people in the community, and that it was important to achieve a balance by teaching children about appropriate and inappropriate interactions:

"I don't want them to not talk to people, there's great people out there, I've talked to fantastic strangers. The thing I say to them is that I'm happy for you to talk to people you don't know, I want you to build relationships, but you do not go to anyone's house for a play date without walking home and telling me first and then I will come with you."

Parent 1: "You give kids a well-rounded social education by teaching kids to assess risks." Parent 2: [Teaching them about] "Being discerning." "So I choose the spaces where I think it's safe for them to do that. I'm giving them the experience of having their own control."

As with traffic safety concerns (see Section 3.2.1), a number of parents consider it important to educate children about the risks and how to deal with them, in order not to forgo the benefits of independent mobility and active school travel (see Section 3.1.1). However, other parents appear to have a more 'zero tolerance' to child safety risk, and prefer to avoid exposure to risk altogether.

As noted above, the relative importance of traffic safety concerns and social safety concerns varies between studies, indicating the influence of varying population and contextual factors in differing study settings. This was also apparent in this study where parents talked about feeling safe in their (Adelaide Hills) neighbourhood, which had a 'village' feel to it, while parents in the inner urban schools did not:

"But it is quite a safe area up here I think. You don't really hear about those things like abductions happening up here in the hills."

Another parent from the same school commented that children were more likely to get lost in the surrounding bush than be harmed by strangers:

"It's like a village on a hill, even though it's an Adelaide suburb, because it's enclosed by national park, there's a greater risk of them getting lost in the national park than anything else."

These comments indicate that parents' perceptions that a neighbourhood is socially 'safe' impact on their children's independent mobility and active school travel. These findings are consistent with the research literature on the determinants of children's independent mobility and active travel to school; with parents more likely to allow their children independent mobility when they perceive the neighbourhood to be safe (Faulkner et al., 2010).

In turn, high levels of car use can constrain the daily social interactions between neighbours and other community members that contribute to perceptions that the neighbourhood is safe. Litman and Doherty (2009) state that 'human-scale urban environments' that support cycling and walking and discourage car use can improve community cohesion (the quantity and quality of social interactions within a community) and increase community attachment, liveability and amenity (Litman, 2009; Litman and Doherty, 2009). Appleyard's original research, which found that heavy traffic is associated with reduced street-based activities and social interactions between neighbours (Appleyard, 2005; Appleyard and Lintell, 1980), has now been replicated in other settings (Bosselmann and MacDonald, 1999; Hart, 2008).

3.2.4 Family structure and child characteristics (eg number and ages of children)

Young child age is a well-established barrier to active school travel, and this was a factor for a number of parents in this study, for example:

"Our kids are too young to walk by themselves yet."

Some child characteristics also constrained adult-accompanied active school travel, for example:

"[child] tends to be tired at the end of the day."

Another constraint noted by a number of parents was walking or cycling with younger children (babies and pre-school children) while accompanying an older child to school:

"When I don't have the little one [father can ride to school with older daughter]."

"I don't know how you do it with three kids to cross the road."

Child gender was also cited, with a number of parents expressing more concern about boys than girls:

"...he's uncoordinated, he's quirky, he's at the age, and he's a boy."

"I don't trust my 10-year old boy 100% either. Because I've seen him..."

"It's the age thing too, especially with boys." [easily distracted]

These results are interesting in view of the research findings on child gender and active school travel and independent mobility. A number of studies (though not all) report higher rates of independent active school travel for boys than girls, which is often attributed to parents being more protective of girls than boys (Garrard et al., 2009). However, the parental perspectives described above suggest that some parents may be more concerned about boys' behaviour than girls', although these concerns may not necessarily lead to greater restrictions on boys' independent mobility. In addition, while girls might be considered to behave more safely around traffic, boys may be seen as less vulnerable to 'stranger danger'. These differences might help to explain inconsistent findings in the research literature on gender and active school travel.

3.2.5 Social norms/judgements

This sub-theme refers to the ways in which social norms and judgements might act to discourage parents from using active school travel.

Some parents referred to social norms of school travel, often in the context of how they have changed between when parents themselves were children (and active school travel was 'normal'), and currently, for example:

"If I'd said to my mother 'drop me off at high school', she would have laughed in my face. It was a given – you got yourself there."

"If you go back to my parents' generation, they did a lot of walking. You lived close to your grandparents, so you walked down the street to your grandparents, but now we don't really walk as a family...so the kids don't get the experience. They don't actually get exposed to practising walking safely."

The above parent's comment also refers to the frequently mentioned view that children need to "practise walking safely", and that many children don't have the opportunities to practise safe walking skills, and to gradually make the transition from walking with parents, to walking short distances locally by themselves, and subsequently walking independently to school (see Section 3.1.5).

Parents also referred to being criticised by other parents for 'putting their children at risk':

"I was cycling to school, trying to watch them all at the same time, and someone yelled out 'You're going to kill your kids!' That's nice, that's lovely. At that roundabout. That's so rude."

"Then I got complaints from the school, I had four mums telling me he's not safe, that he was by himself, and he wasn't safe crossing at the lights. All these mums said they spotted him. One day, I had about five people telling me."

Other comments referred to discussions among parents about appropriate levels of independent mobility for children - one of the processes involved in the social construction of behavioural norms (Cialdini et al. 1998):

"People are curious and ask about [child] walking by himself – how did it happen? What did I feel about it? What have I done? Aren't I worried about....it was more about stranger danger than road safety. I just think people are curious."

"He wouldn't be allowed to go home alone – someone has to be home. Do you guys let 10-year-olds be home alone?"

"My little girl's only 6, so not at this stage. I don't know at what age I'd probably let her walk to school, maybe 8 or 9 or something. 'What age is yours?'"

These comments illustrate the process of the construction and communication of social norms and expectations related to children's independent mobility and active school travel. These norms, expectations and subsequent judgements (in the event that norms are seen to be breached) exert an indirect, but potentially important influence on children's independent mobility and active school travel. Evidence for the influence of these social norms comes in the form of marked differences in social norms of independent and active travel across countries and over time (see Literature Review for further details).

3.2.6 Distance from school

Living too far away from school to walk or cycle is a well-established barrier to active school travel that was mentioned by a number of parents in this study.

Interestingly, it was not always distance per se that comprised the barrier, but also distance in combination with other factors such as walking or cycling to school with younger children, or lack of time. Examples include:

"...live a bit further away" [so drive].

"If I lived nearby it would. If I lived in walking distance I would walk."

"...but I can't walk the whole way there and back again with a 3-year-old. He doesn't like the pram, and it's a very slow process walking with him!"

"...it's too far to walk, especially in the mornings when we're usually running late."

"...we're about a kilometre away so it's too far to walk."

Some of these comments illustrate the perceptual as well as the 'quantitative' components of "too far to walk". That is, it can be considered "too far to walk" when parents are running late; or when walking with younger children ("too slow"). Also, 1km is generally not considered too far for a school-aged child to walk. For example, in England, 83% of primary school students walk to and from school for trips under 1 mile (1.6km). The perception that relatively short distances (eg 1km) can be considered too far to walk in some countries (but not others) is likely to be one of the consequences of living in a 'car culture', where driving tends to be the normative mode choice for most daily journeys regardless of trip purpose and distance. In contrast, in many countries with high levels of active transport, short local trips are normally walked or cycled in traffic-calmed neighbourhoods, and car use is reserved for longer, high-speed trips on motorways and arterial roads between cities, towns and neighbourhoods (Pucher and Buehler, 2012).

3.2.7 Weather

Weather was mentioned as a barrier to active school travel, though frequently as an occasional reason for driving, rather than a regular, persistent barrier, for example:

"Weather is a factor. I don't want to walk to school when it's pouring. I did that as a kid. I don't want my kids to be soaked all day."

"We walk on mornings when it's sunny and nice."

"We drive ... we have walked a fair bit when the weather's good."

Weather is frequently identified as a constraint on active school travel in surveys asking parents about barriers to active school travel (Lu et al., 2014). However, findings from this study caution that poor weather is likely to be an occasional barrier, rather than a regular

constraint. This finding is also consistent with the enjoyment of walking being a major support for walking to school (see Section 3.1.1). If walking to school is unpleasant due to poor weather, then a major motivation for walking is absent, and parents may be more likely to drive instead.

3.2.8 Terrain

Hilly terrain was mentioned as a barrier to active school travel by a small number of parents, more frequently for cycling than for walking to school:

"This area is quite hilly and she's quite happy to ride home. When we're ridden to school I've pushed her all the way."

"It's a hard ride!"

"There's a really high hill, and going home would be awful."

Hilly terrain has been identified as a barrier to active transport, though more commonly for adults and cycling than for children walking or cycling to school (see Literature Review).

Potential ways to address this constraint include teaching children how to ride safely (and more easily) in hilly terrain, and advising parents on the types of bicycles more suited to hilly terrain (in terms of weight and gearing). Many children's bikes tend to have fairly standard specifications, not necessarily suited to utilitarian-style cycling in hilly areas. One parent from School C (in the Adelaide hills) mentioned that the Bike Ed program in the school had taught children how to ride safely in hilly terrain.

3.2.9 Driving culture/habits/attitudes

A number of traffic safety concerns were described in Section 3.2.1. These referred mainly to specific road conditions and driver behaviours that parents considered unsafe for children walking or cycling to school. This section refers to comments on a more pervasive driving 'culture' that presents a barrier to walking or cycling to school. While changing traffic infrastructure and conditions and driver behaviours that are hazardous to pedestrians and cyclists can address specific barriers in the short-to-medium term, the entrenched carcentric habits and attitudes that can make active school travel risky, unpleasant and unappealing may require different, longer-term initiatives.

Examples of parents' comments about general driving habits and attitudes included:

"Some parent are so...self-involved, they just do it without thinking about it, that's just what you do."

That is, self-centred driving is considered to be habitual and normal.

The following comment reflects the situation in countries such as Australia, that breaking some road rules is normal and expected, and it is the responsibility of the vulnerable road user to avoid the potential harm:

"Kids know that cars may not stop at crossings – we teach them that."

That is, children must be taught to expect that drivers will break the road rules, and it is parents' and children's responsibility to protect themselves from these forms of illegal driving. A similar reversed attribution of responsibility for child safety was expressed by the person who told a parent walking with her children that "*You're going to kill your kids*!" (see Section 3.2.5).

In contrast, people (especially children) in high active travel countries such as The Netherlands and Germany are protected by road safety systems that acknowledge that the greatest risk to vulnerable road users comes from motor vehicles and the way they are driven, and that motorists therefore have a high duty of care to avoid collisions with pedestrians and cyclists. In several European countries, the higher standards of duty-of-care for more vulnerable road users include the legal responsibility for car drivers to avoid collisions with cyclists and pedestrians. In these countries the onus is on drivers to prove nofault when in collisions with child pedestrians and cyclists.

Another aspect of driving culture/habits/attitudes is revealed in the following comments, which reflects the pervasive view that driving is 'normal', while walking and cycling require special planning:

"Have to plan to walk or ride, rather than just jumping in the car."

"...it's endemic of our culture. Indicative of our 'busy' culture. I have to construct it in my brain to be parent-child time, that I am dedicating myself to because I rush too much in other times. I'd have to set it aside and decide that that's what that's for. Wow, this is some beautiful unstructured time I can spend with my kids just walking."

This perspective is a reflection of the relative frequency of driving, walking and cycling, rather than the inherent levels of planning required to use these modes. In fact, it could be argued that driving requires considerably more planning than walking or cycling, in terms of the costs, equipment, storage and access requirements associated with motor vehicle ownership and use. In fact, in countries such as The Netherlands, were cycling is common, the 'habit' of cycling is a key determinant of cycling behaviour (de Bruijn et al., 2009). These cross-country differences indicate that habitual travel mode behaviours are potentially changeable, and, once established, become a key influence on travel mode choice.

However, given that walking and cycling in Australia are less established than driving, there may be a role for schools and other organisations to help parents plan and practice walking, cycling or scooting, so that active modes become as normal and easy as "jumping in the car".

3.2.10 School choice/size/location

School characteristics such as location (which influences school trip distance) support active school travel when they are favourable (eg short distance to school), but can act as a barrier when unfavourable (eg long distance to school). Parents' comments included both

perspectives. Supportive school factors were described in Section 3.1.3, while this section describes parents' references to these factors constraining active school travel; for example:

"People are living further away...like kids going to [school adjacent to primary school] ...are coming from [suburb] [12 km from school] for goodness sake."

"The school is so big, so the amount of kids coming in and out, it's definitely chaotic. And they've increased the number of kids exponentially over the last few years, and the number of pick-up cars has expanded accordingly."

The following parent contrasted conditions in Adelaide with those in Sydney, where she had lived until recently:

".... didn't drive much in Sydney, but came to Adelaide... People in Sydney don't drive, because if you do you will be in the car forever! So everyone sends their kids to the local school. In Sydney they have school zones, flashing lights, and everything's in walking distance, and most Sydney people walk. It's a different culture."

"...and they're crossing town to go to school to fulfil certain requirements... it's crazy!"

These parents are referring to the costs, benefits and trade-offs of school choice; in particular, the problems caused by a large number of parents driving long distances to schools. Private schools have traditionally had larger student catchment areas than public schools, requiring higher levels of motorised travel by private car or school bus. However, in recent years, public school amalgamations and closures, and changed school zoning policies in some states (that make it easier for children to attend a public school outside the neighbourhood zone where they live), are likely to have led to an increase in the average home-to-school trip distance for primary school students⁶.

These educational and travel costs, benefits and trade-offs operate interactively. School choice is generally considered 'a good thing', though there are also some costs involved, including increased car travel for parents and children, and congestion around schools. When car travel is quick and easy, the perceived benefits of attending a school outside the neighbourhood zone may outweigh the perceived costs of travelling further to and from school. However, when car travel is difficult (as in Sydney) parents may be more likely to send their children to the nearest public primary school, and to be more accepting of stricter school zones, because "everyone does it". This is an example of the way in which providing for car travel (eg through road widening, increased and cheap car parking) can lead to increased demand for and use of car travel (Litman, 2016).

However, when car travel is difficult; school zones are mandated; public schools are uniformly of high quality; and walking to school is an option; lack of choice of public primary

⁶ This has been documented in the UK

⁽http://www.sustrans.org.uk/sites/default/files/file_content_type/sustrans_key_great_britain_and_england_s tatistics_data_sheet_v4-18-08-14.pdf) and USA (National Center for Safe Routes to School, 2011), though comparable longitudinal data are not available for Australia.

schools may not be perceived by parents as a major negative. This is the situation in many countries with high levels of walking and cycling to school. As described in the Literature Review, in Switzerland and Japan, public school planning and policies are based on the requirement that children are able to walk to school. In addition, efforts are made to ensure that all public schools are of equal, high quality to ensure that schools don't compete with each other for students, and parents are happy for their children to attend their local school.

3.2.11 Other

There was one 'Other' comment, referring to being able to take the dog for a walk while walking to school:

"I'm quite keen on having a dog, and walking the dog to school, but you can't have a dog at the school, so what do we do with it then?"

While this was a comment from only one parent, it is indicative of the broader principle that 'multi-tasking' (in this instance walking the dog, while parents and children simultaneously exercise, socialise and enjoy the outdoors environment) can be appealing for busy parents. The greater the range of multi-tasking options available to parents that can be incorporated into active travel to school, the greater the likelihood of tipping the balance in favour of active travel.

3.3 Facilitators for active school travel

This theme overlaps somewhat with supports for active school travel. However, comments that were coded as 'facilitators for active school travel' tended to focus more on parents' reflections and suggestions for changes that can be made to support parents and children using active school travel.

Some of these responses were mentioned spontaneously by parents, while others were given in response to the question "Do you have any suggestions for things that could be done to increase active travel to school?"

3.3.1 Programs/activities (eg Bike Ed, Walk2School, Ride2School, school walking/cycling events)

The most frequently mentioned sub-theme was school-based programs and activities such as *Way2Go* Bike Ed, Walk2School Day, Ride2School Day, and other school walking or cycling events.

The impacts of these activities, in terms of increases in active school travel, were not necessarily seen to be direct, substantial or sustained, but seemed to act more as a trigger or support for active school travel when other circumstances and conditions made walking or cycling to school a possibility for families. Examples include:

"National walk to school day – the school really liked it, they really got behind it. All the classes had surveys, and got the kids thinking about it." "Bike Ed program. It made the parents think about riding, they got used to riding, including around the community. [Bike Ed] got them [children] riding on roads, up and down gutters, checked bikes – that was very successful.

"My kids love those sort of days. A lot of kids who experience it for the first time, and enjoy it that much, they say 'Can we do that again?' It has encouraged us to try and squeeze in a few more walking or riding to school days."

Other parents were more equivocal about possible longer-term impacts:

"It's more of a one-off. If your circumstances allow you, you're going to do it anyway."

Another parent reported that an after-school sports program at the school ('Keeping Kids Active') was valued because it avoided driving children to off-site after-school activities, and helped parents connect with other parents who might like to share walking to school with their children:

"After school sports at the school – as part of the 'Keeping kids active' – it's great, I don't have to take her anywhere, it's at 3.15, it's helpful on a number of fronts – it's forcing me to hang around, I'm talking to other parents, so starting that network of connections, 'Oh, that parent comes from the same spot, so that informal network of connections, maybe we could trial it one day a week'."

Another parent reported that her child was motivated to walk to school by his classroom teacher:

"He was in [teacher's] *class at the time – did something about exercise and travel. I thought it would wear off but it hasn't."*

The opportunity for part-way walking to school was mentioned by another parent:

"More of those [park and walk] walks that we do on special days. I think this did lead to more parents now doing it because they saw that it was the back way and there was only one road to cross. That did start a lot of kids walking."

"School has encouraged part-way walking to school...there's just one tricky crossing where [DPTI staff] helped with a pedestrian refuge and it's a lot safer."

The above two comments bring together the positive influence of a combination of school support, DPTI support, a successful school-wide 'come and try it event', and road safety improvements.

Another school walking event changed a parent's perceptions of children's ability to walk longer distances:

"Walk to [community activity centre] was really good – I was amazed that they could do it!"

The provision of improved, secure bicycle storage at school was also considered to support riding to school, as some students have good bikes that they need to keep secure and sheltered from rain.

There was some discussion about whether Bike Ed contributed to increased cycling to school, with parents having differing opinions ("*It depends on kids and families*"), and a suggestion that when children improve their bike skills (through Bike Ed) they might ride to school instead of walking.

Another factor that was seen as supportive of active school travel was a local council's 'Better by Bike' plan, which included recommendations for improved bike facilities in the municipality.

These diverse responses from parents about wide-ranging activities that can stimulate and support active school travel highlight the importance of multi-pronged strategies, often tailored for individual schools' needs, for increasing active school travel.

3.3.2 Keeping track of children's movements

When parents allow their children independent mobility, they nevertheless wish to keep track of where their children are, and to know whether they have arrived safely at their destination, such as school. This seems to be less of an issue for independent travel from school to home, as parents are either at home when children arrive, or arrive home shortly after their children.

Not all schools notify parents if their children have not arrived; but when schools do have this policy, parents find it reassuring:

"With [child aged 10], I need to know that he is at school."

"School notifies parents if kids don't turn up. Parents find it reassuring."

Some parents have purchased basic mobile phones for their children so they can text parents when they arrive at school, but other parents did not support this idea. Some parents had concerns about the cost, children possibly losing the phone, not wanting children to have a mobile phone until they are older, and not wanting to be constantly checking children's whereabouts because they wanted children themselves to learn responsible behaviour. Examples include:

"I'd say 'Text me when you get there'."

"I don't want him to have a phone until he's in high school."

"I thought of getting one of the 'old people' phones – just the buttons and nothing fun to do on it."

3.3.3 Improve road safety, general driving culture

As a follow-up question to discussions about traffic safety, parents were asked "What can be done to improve driver behaviour?"

Parents expressed some frustration about driver behaviour and the potential to change drivers' attitudes and behaviours to make active school travel safer, for example:

"That's a question for another long day! Get the Police Commissioner, need council here."

"What really frustrates me is that these drivers have got children in their cars, the kids who are walking and cycling are kids themselves, it's like their kids are more important than anyone else's. If you could change that to 'Let's look out for all the kids' – that would be great."

"Safer environment around the school is most people's concern."

Another parent commented that 'looking out for others' was an element of establishing 'an inclusive community':

"Creating an inclusive school community [where] you know those kids. One of the advantages of a small school."

Another parent felt that the problem was mainly associated with non-school traffic:

"Can you trust drivers around here to keep an eye out for children walking and cycling? Within the school vicinity, yes. There's not really people speeding fast. Cars coming off the freeway are a problem."

Another parent felt that driver attitudes and behaviours that create adverse traffic conditions that constrain active school travel are reflective of wider community attitudes and behaviours, suggesting, by implication, that the general driving culture needs to change:

"Not an easy thing to do, and no quick fix. It doesn't just happen at schools - It happens everywhere, in various environments. It happens at uni too – drivers go absolutely bonkers fighting over car parks, not looking out for walkers. It's not like this school's an isolated case."

The following parent had several suggestions for improving traffic safety:

"Safety on the roads. School zones, crossings. We need flashing lights on the crossing. Staff car park. Drivers don't see zig-zags on the roads. But a barrier in the middle of [named] Street so they can't do U-turns, because you have no idea of the U-turns that go on in that corner!"

Parents also commented favourably on some changes in road safety rules and infrastructure improvements that increased safety around schools:

"With the new riding on the footpath, that's been good – it's a great idea."

"Because of the traffic island it's quite safe to walk into the school."

As noted in Section 3.2.1, addressing parents' concerns about road safety will require a combination of school-specific measures and more general road safety improvements designed to change driver attitudes and behaviours in general, in ways that would spill over into safer driving around schools.

3.3.4 Safety in numbers, traveling with others

Most of the comments in the section were parents' responses to a follow-up question:

"Do you think that if more kids did it [active travel to school], more parents would be comfortable about their own kids doing it?"

This question was interpreted in two ways by parents:

- a) Is independent mobility and active travel to school for children more acceptable for parents when other children are seen to be doing it; that is, when independent active school travel is a more common, normative, socially acceptable behaviour?
- b) Is independent mobility for children more acceptable for parents when children walk or cycle with siblings or friends?

Most parents appeared to respond to the second interpretation of the question, with their responses having much in common with the social safety issues described in Section 3.2.2, although the following response could apply to both interpretations:

"Absolutely. I think so."

Other responses were primarily about children walking or cycling together:

"She's got a little friend who lives half-way, so she might be able to walk with other friends, that's something I'd have to organise with other parents. Making them a bit safer, rather than just being on her own."

"A friend has moved nearby and I've been ditched as he likes to walk with her."

"...a lot of kids do walk down that way without their parents."

"It makes it better 'cos there's safety in numbers....sometimes. If there's a couple of them together, they're safer.

While generally supportive of 'safety in numbers', some parents expressed concerns about children's behaviour while travelling with other children (as also described under 'Barriers/disadvantages of active school travel' in Section 3.2.3):

"Sometimes it works in reverse because they get a bit sillier, when they're all together sometimes."

"When kids walk together they might take more risks....because they are chatting to each other."

Parents and children walking together in groups was also mentioned:

"Within a small radius of our place there's a number of kids at the school, and that would depend on availability, there would be no problem with us trusting those people, they're close friends of ours. It's just who's going to put their hand up to actually do it. This was done by the school a few years ago, a day to stimulate this, and some parents did look at it. It has to be kind of organic – it has to grow, you can't force it." "The people who live opposite us also walk home sometimes and it's nice to have little collective groups."

"It's a nice thought. We sort of do that anyway- say when you are held up and contact another parent to wait for/pick up your child. It develops over time – getting to know other kids and parents in their year level."

Based on these responses, there appears to be some support from parents for measures aimed at facilitating group walking or cycling to school (both with and without adult supervision). There appears to be a role for schools to facilitate this, including indirectly by fostering social connections among school families (see Section 3.1.3 for a description of 'socially inclusive' schools). The latter, indirect approach, may assist the 'organic' development of these connections, as described above.

While most parents did not respond directly to Question (a) above, there is some evidence from other sources suggesting that strategies that lead to an increase in active school travel among some parents and children can, via social influence, lead to other parents and children adopting the behaviour (refer to Literature Review). This form of positive 'social contagion' can occur through direct observation and related social discourses that effectively convey the message that "active school travel is a good way to travel to school and lots of people are doing it".

The concept of promoting behaviour change through the use of 'social influence' strategies is supported by behaviour change theories such as the Theory of Planned Behaviour (Ajzen, 1991), Social Learning Theory (Bandura, 1986), and Community-Based Social Marketing (McKenzie-Mohr, 2011).

3.3.5 Transitioning to independent mobility and active school travel

Increasing children's independent mobility is one of the developmental goals of childhood. In this study, parents talked about how they facilitate this process in the context of independent and active travel to school. Processes included walking or cycling with children to help them acquire and practise safe walking and cycling skills; gradually allowing 'practice' sessions (eg walking to school alone) while parents monitor children's behaviour; to finally allowing regular independent travel when parents are satisfied children can safely and consistently travel without adult supervision. The following comments illustrate this step-wise process:

"I started off doing it with him."

"Okay, let's give you lessons on how to walk to school, which the 10-year-old wasn't happy about let me tell you! We made him walk in front, and we drove along behind. 'You get out here, and cross at the traffic lights on your own'. And I videoed him, so he could see himself."

"Build it up gradually, like letting her ride home by herself."

"Crossing safely is about how you cross and where you cross. I hide in the bushes and watch – I'm going to get arrested one day!"

"Yes, he got to school 'cos he confirmed, and the following week we thought we'd try it again."

"I used to walk with him the whole way, but now I'm at work, I walk with him to make sure he crosses the main road safely, then he walks the rest of the way. He's also got other kids involved in walking."

"How long would you leave them? Sometimes 20 minutes. But we've noticed that actually they're safe."

These parents are describing how they teach their children independent mobility (sometimes using some creative teaching and learning methods!). Not all parents would have these skills and opportunities, and there is clearly a role for schools and other organisations to assist parents and children to develop these skills. Practising safe walking and cycling skills, initially with parents, and subsequently independently is important. When parents and children experience positive outcomes from these experiences, parents feel more comfortable about permitting independent active travel to or from school on a more regular basis.

A recent study of 'parental fear' funded by the Victorian Health Promotion Foundation (VicHealth) has developed guidelines for parents: "*How to help your kids get around safely on their own*" (https://www.vichealth.vic.gov.au/media-and-

resources/publications/parental-fear). The guide lists stage-specific suggestions to assist parents to guide their children through a three-step process of increasing independence covering dependent, pre-independent and independent mobility.

4 CONCLUDING COMMENTS

This in-depth, qualitative study of parental barriers to active travel to school involved 17 parents from three South Australian primary schools of varying sizes and in different locations. Study participants also varied in relation to the number, ages, and year levels of their children, and how they currently travel to and from school.

Parents have a number of travel options to consider when choosing how their children travel to and from primary school, with the key choices being:

- allowing children to travel actively and independently to/from school
- accompanying children travelling actively to/from school, or
- driving children to/from school.

Parents who used all three travel options participated in the group discussions, providing diversity among the participants. This diversity was reflected in the richness and diversity of their responses, though some issues did elicit fairly consistent responses among parents. Qualitative studies such as this one cannot quantify parents' responses, but the strength of this method is that it allows previously unrecognised issues to emerge, and provides insights into complex issues that are not readily obtained through more commonly used quantitative methods such as surveys.

This was certainly the case in this study. For a behaviour as seemingly simple as travelling to and from school, school travel mode choices involve complex choices from among several options, with each option having its own set of advantages, disadvantages, costs, benefits, barriers and supports. In addition, many of these factors interact. While identifying these multiple factors and their interactions is challenging, it is also important that they are recognised because this detailed information provides multiple options for interventions aimed at achieving a shift from motorised to active travel to and from school.

There appear to be few 'magic bullets' for achieving this shift, though establishing safe routes to school and safe traffic conditions at school appear to be consistently important, and may possibly underpin the effectiveness of other measures such as behaviour change programs. For example, it is likely that schools will only embrace strong and consistent support for active school travel if school leadership teams, teachers, and parents are confident that it is safe to *promote* active travel to school, because it *is* safe.

Another key finding from this study is (most) parents' and children's underlying preferences for active travel to school over driving to school. Children's preferences for active travel are well-established in the research literature, but parents' preferences are not; possibly because parents' preferences for school travel mode are usually inferred from their actual behaviour. What this study has identified is that, for some parents, underlying preferences for active travel are over-ridden by a number of barriers and constraints that contribute to making car travel an easier choice than active travel.

This study has identified a number of possible options for addressing these barriers and constraints. In addition to improving traffic safety, providing children with the knowledge, skills and practice required to move about safely in public spaces appears to be important. If these programs and initiatives are school-based, parental involvement is crucial, because parents need to be confident that children have acquired the necessary skills and can consistently put them into practice.

There also appears to be potential to more consistently and intensively promote the multiple benefits of active school travel to parents. Such promotion/motivation is likely to find fertile ground among parents, in view of their generally positive attitudes to active school travel. The unique wide-ranging benefits of active school travel as a form of incidental physical activity also appeals to parents in the form of the psychological, social, developmental and learning benefits of active school travel in addition to the physical health benefits. Parents' perceptions of these multiple benefits are consistent with research findings in this area, so their promotion is strongly supported by research evidence.

As noted above, this in-depth qualitative study has identified some emergent issues in terms of parental barriers to active travel to school; and assisted in understanding the complex interplay of factors that support and constrain active school travel. However, this study cannot quantify these factors, or measure their prevalence in the wider population of South Australian parents of primary school age children.

The third phase of this study is designed to build on this qualitative study. Phase 3, in the form of an online survey, will use the findings from this study, together with the literature

review conducted in Phase 1, to examine the prevalence and importance of these factors for the wider population of parents of primary school age children in South Australia.

APPENDIX A

Example of an information flyer inviting parents to participate in a focus group discussion



APPENDIX B

Focus group discussion format

- 1. I'd like to start off by asking how your children usually travel to and from primary school, and why you choose this method.
- 2. I'd like to look now at the different ways that children can travel to and from school:

Let's look first at children walking or cycling to school by themselves or with siblings or friends.

- a. How do you feel about allowing your child to walk or cycle to school without an adult? Is it something you currently allow, or would consider?
- Explore supports, barriers, what would need to change for you to allow it? (include "what do other people think about children walking or cycling to school by themselves?")
- c. Traffic safety is often a concern. What specific things are parents concerned about? Eg, child skills/abilities, traffic speed/volume, walking/cycling infrastructure, traffic en route to school or at school, driver attitudes and behaviours, eg, can you trust drivers to look out for children walking and cycling?
- d. Would it make any difference if your child walked or cycled with other children (ie with siblings or friends)?
- e. Do you think walking in groups would make any difference, eg, parents taking it in turn to walk with groups of children?
- f. More children seem to be allowed to walk home from school independently, than walk *to* school. Why do you think this is the case?
- 3. I'd like to ask some questions now about parent-accompanied travel to school; that is, either walking or cycling to school with your child, or, alternatively, driving them:
 - a. What do you see as the advantages of walking or cycling to school with your child?
 - b. What do you see as the disadvantages of walking or cycling to school with your child?
 - c. What do you see as the advantages of driving your child to school?
 - d. What do you see as the disadvantages of driving your child to school?
- 4. Do you think active travel to school is a good way for children to get daily exercise? Do you think some parents might think that it's not 'real' exercise, or perhaps think that their children get enough exercise through other activities such as sport? (This might come up under 3(a)).
- 5. What about walking or cycling to school as exercise for parents? Do you think parents see walking or cycling to school with their child as a good way to get some exercise

themselves? Or time to spend interacting with their children? (This might come up under 3(a)).

I'd like to ask some general questions now about methods of travel to school.

- 6. In the past, many more children walked or cycled to school. You might have done so yourselves, and your parents probably did. What do you think has changed?
- 7. In Australia, most children who travel actively to school walk rather than ride a bicycle. Why do you think few children cycle to school?
- 8. How far do you think is "too far" for children to walk or cycle to school?
- 9. **Finally**, do you have any suggestions for things that could be done to increase active travel to school?
- 10. Is there anything else you'd like to say?

THANK YOU!

REFERENCES

- Åberg, M.A.I., Pedersen, N.L., Torén, K., Svartengren, M., Bäckstrand, B., Johnsson, T., Cooper-Kuhn, C.M., Åberg, N.D., Nilsson, M., et al., 2009. Cardiovascular fitness is associated with cognition in young adulthood. *Proceedings of the National Academy of Sciences* 106:20906-209011.
- Ajzen, I., 1991. The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 50:179-211.
- Appleyard, B.S., 2005. *Livable streets for schoolchildren: How Safe Routes to School programs can improve street and community livability for children*, National Centre for Bicycling and Walking Forum. National Centre for Bicycling and Walking, Montana.
- Appleyard, D., Lintell, M., 1980. The environmental quality of city streets: the residents' viewpoint. *Journal of the American Insitute of Planners* 38:84-101.
- Bandura, A., 1986. Social foundations of thought and action: a social cognitive theory. Prentice Hall, Englewood Cliffs, NJ.
- Bosselmann, P., MacDonald, E., 1999. Livable streets revisited. *Journal of the American Planning Association* 65.
- De Bruijn, G., Kremers, S.P.J., Singh, A., vandenPutte, B., vanMechelen, W., 2009. Adult active transportation: adding habit strength to the theory of planned behaviour. American Journal of Preventive Medicine 36:189-94.
- Cialdini, R. B., & Trost, M. R., 1998. Social influence: social norms, conformity, and compliance. In D.
 T. Gilbert, S. T. Fiske & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 2, pp. 151-192).
 Boston: McGraw-Hill.
- Egelund, N., 2013. *Food's influence on learning experiences from the Danish Mass Experiment 2012*. Department of Education, Aarhus University.
- Emond, C. R., & Handy, S. L., 2012. Factors associated with bicycling to high school: insights from Davis, CA. *Journal of Transport Geography*, 20(1), 71-79. doi: http://dx.doi.org/10.1016/j.jtrangeo.2011.07.008
- Faulkner, G., Richichi, V., Buliung, R., Fusco, C., Moola, F., 2010. What's "quickest and easiest?": parental decision making about school trip mode. *International Journal of Behavioral Nutrition and Physical Activity* 7:62.
- Forsyth, A., Krizek, K.J., Rodríguez, D.A., 2009. Chapter 3. Non-motorised travel research and contemporary planning initiatives. *Progress in Planning* 71:170-83.
- Garrard, J., Crawford, S., & Godbold, T. (2009). *Evaluation of the Ride2School Program: final report*. Melbourne: Deakin University.
- Hart, J., 2008. Driven to excess: impacts of motor vehicle traffic on residentail quality of life in Bristol, UK. MSc in Transport Planning at the University of the West of England, Bristol.
- Larouche, R., Saunders, T.J., Faulkner, G., Colley, R., Tremblay, M., 2014. Associations between active school transport and physical activity, body composition, and cardiovascular fitness: a systematic review of 68 studies. *Journal of Physical Activity and Health* 11:206-27.
- Litman, T., 2009. *Community cohesion as a transport planning objective*. Victoria Transport Policy Institute, Canada.

- Litman, T., 2016. *Generated Traffic and Induced Travel: Implications for Transport Planning*, Victoria Transport Policy Institute, Canada.
- Litman, T.A., Doherty, E., 2009. *Transportation cost and benefit analysis: techniques, estimates and implications, 2nd ed*. Victorian Transport Policy Institute, Canada.
- Mammen, G., Faulkner, G., Buliung, R., & Lay, J. (2012). Understanding the drive to escort: a crosssectional analysis examining parental attitudes towards children's school travel and independent mobility. *BMC Public Health*, 12, 862-862. doi: 10.1186/1471-2458-12-862
- McKenzie-Mohr, D., 2011. *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing*. Third edition. New Society Publishers., Canada.
- Mitra, R. (2013). Independent mobility and mode choice for school transportation: a review and framework for future research. *Transport Reviews*, *33*(1), 21-43. doi: 10.1080/01441647.2012.743490.
- National Center for Safe Routes to School, 2011. *How children get to school: school travel patterns from 1969 to 2009*: National Center for Safe Routes to School.
- Pucher, J., Buehler, R., 2012. Promoting cycling for daily travel: conclusions and lessons from across the globe. In J. Pucher, Buehler, R. (Ed.), *City cycling.* Cambridge, Massachusetts: The MIT Press.
- Ramanathan, S., O'Brien, C., Faulkner, G., Stone, M., 2014. Happiness in motion: emotions, wellbeing, and active school travel. *The Journal of School Health* 84:516-23.
- Sallis, J.F., Cervero, R.B., Ascher, W., Henderson, K.A., Kraft, M.K., Kerr, J., 2006. An ecological approach to creating active living communities. *Annual Reviews of Public Health* 27:297-322.
- Schwartz, B., 2004. The paradox of choice: why more is less. ECCO, New York.
- Sibley, B., Etnier, J., 2003. The relationship between physical activity and cognition in children: a meta-analysis. *Pediatric Exercise Science* 15:243-56.
- Thaler, R., 2015. Misbehaving: the making of behavioural economics. New York: Norton.
- Thaler, R., & Sunstein, C., 2008. *Nudge: improving decisions about health wealth and happiness.* New Haven: Yale University Press.
- Wen, L. M., Fry, D., Merom, D., Rissel, C., Dirkis, H., & Balafas, A., 2008. Increasing active travel to school: Are we on the right track? A cluster randomised controlled trial from Sydney, Australia. *Preventive Medicine* 47(6), 612-618.