



Perceived challenges and facilitators of active travel following implementation of the School Travel-Plan programme in New Zealand children and adolescents



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ABSTRACT

Promoting active travel modes has the potential to improve health outcomes, enhance social capital, and reduce traffic related congestion whilst also providing economic benefits. With this focus in mind, Auckland's transport agency developed a series of School Travel Plan (STP) initiatives in Auckland schools as part of the Travel Wise for Schools programme. The initiative incorporated educational and promotional campaigns to promote carpooling and active transport, combined with the Walking School Bus, cycle training for students, parking restrictions, building of traffic calming measures, and improvement of roads and footpaths. The aim of the present study was to explore the perceived challenges and facilitators of active travel to and from school following implementation of the STP Programme through qualitative feedback from children and adolescents. Focus groups consisting of 4–6 children and 6–12 adolescents were conducted in 10 primary schools and three high schools respectively. The challenges and facilitators for children and adolescents focused primarily on intrapersonal, and interpersonal factors. The themes emerged were similar but for different contexts. Under the child factors category five main themes emerged: peers, enjoyment, safety, parent behaviour and health and fitness. The main themes for adolescents were: peers/enjoyment, driving licence, safety and health & engagement. Overall, children and adolescents preferred active modes from passive ones, understood the benefits of active travel and provided valuable suggestions which formed the basis of future plan implementation.

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1. Introduction

Promoting a shift from passive to active travel has the potential to improve individual health and environmental outcomes long term. The concept of travel demand management (TDM) has existed since 1970s and measures have been proposed and implemented over the years (Gärling et al., 2002; Gärling and Schuitema, 2007; Ge et al., 2014; Meyer, 1999). TDM involves the implementation of a set of actions with the goal of making people aware of alternative travel options other than car (Meyer, 1999). The aim of TDM is to reduce traffic congestion. Accordingly, since 2005 school-based travel programmes including Safe Routes To School (SRTS) (Boarnet et al., 2005a, 2005b; Cooper and McMillan, 2010), and Travelwise-School Travel Plan (STP) programmes (Hinckson and Badland, 2011; Hinckson et al., 2011; Mammen et al., 2013) have been implemented to achieve these outcomes. These programmes have been successful in reducing pedestrian injury (DiMaggio and Li, 2013), and increasing walking and cycling to school in primary school children after a period of time (Boarnet et al., 2005a; Hinckson et al., 2011; Staunton et al., 2003). Since the implementation of the SRTS programme in New York City there has been a reduction of 33% in pedestrian injury among youth (DiMaggio and Li, 2013), an increase from 40.5% to 42.2% in walking and cycling to school in NZ children after three years of STP implementation, and an increase of 5.5 percentage points in the proportion of children walking and bicycling to school after five years of participating in a SRTS programme in 801 American schools (McDonald et al., 2014). While the results have been encouraging there are no studies examining the perceptions of children and adolescents regarding the challenges and facilitators to active travel during implementations of these programmes. The aim of the present study was to explore the perceived intrapersonal and interpersonal challenges and facilitators of active travel to and from school following implementation of the STP programme. Qualitative feedback was gained from New Zealand children and adolescents to better inform future programme implementation.

2. Methods

Focus group participants were recruited from 10 primary schools and three high schools. The schools were located in Auckland, New Zealand. In each focus group there was a mix of active and non-active travellers. The study protocol was approved by the Institution's ethics committee (AUTEC 05/227). Consent from the parents and assent from the children and adolescents were received. The participants were asked specific questions using a semi-structured process. Responses were audio recorded and transcribed verbatim. Key themes were drawn via thematic analysis (Attride-Stirling, 2001; Pope et al., 2000).

3. Results and discussion

There were 4–6 children (years 4–6, ages 8–10) per focus group from 10 primary schools (52 children) and 6–12 (total 26) adolescents from three high schools (years 9–12, ages 13–16). This was a convenience sample however, gender and travel mode were on the whole fairly represented (Table 1).

The participants were asked a variety of questions about the School Travel plan programme. The findings in this article relate to challenges and facilitators of active travel to and from school following programme implementation. The thematic analysis, revealed that challenges and facilitators emerged from the same themes. Challenges and facilitators were categorized into child and adolescent factors (Table 2). The themes emerged for children and adolescents were similar but for different contexts.

Under the Child factors category five main themes emerged: peers, enjoyment, safety, parent behaviour and health and fitness. The main facilitators for active travel to school for children were travelling with friends and having fun. Almost none of the children wanted to be driven to school, most children (96%) preferred active modes of travel.

3.1. Peers

The children on the Walking School Bus (WSB) commented that they enjoyed the opportunity to socialise with friends during the journey to school, it was a fun and exciting way to get to school, a means to catch up with friends, and make new friends. Conversely, not having a friend to walk with was identified as a challenge which in some cases prevented children from walking to school.

3.2. Enjoyment

The children enjoyed walking to school as part of the WSB because it gave them the opportunity to be with their friends, play games, talk about “things” that mattered to them such as “star wars and lego”, and arranged play dates. Convenience, speed of travel, and generally, being outdoors were also reasons given.

3.3. Safety

The children saw the WSB as a facilitator to increasing safety. Children wanted to see more WSB initiated as they perceived that it was safer to walk to school as part of a WSB. Concerns raised by the children included; taunting from teenagers, uncontrolled dogs and cars reversing out of driveways while walking to and from school. Very few children cycled to school. NZ primary schools in general do not encourage cycling to school because of the risk of theft and traffic safety concerns. The danger of road traffic was raised as a challenge by the children. Despite STP targeting road safety issues, the area surrounding some schools experienced heavy traffic flows that probably could not be addressed solely by STP implementation.

3.4. Parents

Parents' knowledge and involvement were seen as both facilitators and challenges to active travel. Children asked for more parent availability so more WSB could be organised and with “wider” routes so more children could participate. The children suggested that people could meet at designated places to join onto the WSB and skits could be performed at the parents' assemblies to encourage parents' involvement. The children also raised the issue that parents needed to be educated about crossing the road safely and use the pedestrian crossing accordingly. It was commented that some parents' behaviour had not changed as consistently they seemed to break the rules by

Table 1
Travel mode of focus group participants.

	Children (%)	Adolescents (%)
Sex		
Female	na	58
Male	na	42
Mode		
W/WSB	56	27
Car	33	27
SB	6.0	27
Bike	4.0	4.0
Mix	6.0	19

na, not available; W, walk; WSB, Walking School Bus; SB, School Bus.

Table 2.

Sample quotes from children and adolescents relating to active travel to and from school.

Category	Theme	Quote
Child factors		
	Peers	C: "I would rather walk but no one who lives down my street walks. If I walked I would have to do it by myself." F: "It is fun to walk with my friends." F: "...it's much more fun talking to my friends and walking to school..." F: "I like to chat with my friends and you can see your friends more often in the morning."
	Enjoyment	F: "It is fun to walk with my friends." F: "...I like to bike because it is really fun." F: "Not many people walked before Travelwise. More people walk now because people are now thinking about walking to school. It is now cool to walk to school." F: "...it's much more fun talking to my friends and walking to school..." F: "I like biking because I go really fast and I get to school faster." F: "Sometimes you play a little bit of tag, like running to the back of the walking school bus and then back to the front. And sometimes you just like play I Spy or something."
	Safety	C: "I am scared of the dogs" C: "Sometimes I think I may get hit by a car because there is so much traffic." F: "More kids use the pedestrian crossing now because it is a safe place to cross." F: "The WSB has made a lot more people walk because parents think it's safer." F: "I feel much safer on the WSB." F: "I had to cross that road with a lot of cars on it, BB Rd, and now its gotten a lot more easier."
	Parent behaviour	C: "Parents don't use the crossing and driving out of the car park is dangerous....A mum with a pram up the road doesn't use the crossing." F: "It is important that parents know that they have to cross at the crossing." F: "Parents need to be encouraged to be involved in a WSB as we want another one. It is fun to do with friends."
	Health and Fitness	F: "I would prefer to walk to school because it would make me more healthy." F: "Walking keeps you fit and you get to meet friends along the way." F: "I just like to go on the WSB because it's healthier." F: "Because it keeps you fit." F: "I like riding a bike because it keeps you healthy." F: "I think that lots of people are now walking because on the news it mentions how children don't walk to school and are overweight and now I think they've changed to try to walk to school."
Adolescent factors		
	Peers and enjoyment	C: "...I'd prefer biking to school, I love biking but if I was to go to school on a bike it could be uncool....but outside school I like to bike places and walk to school." F: "It's pretty cool taking the bus with your friends and stuff and just hanging out with them on the way home...you get to spend the whole trip with them. That's pretty cool." F: "If someone was with me, if a group of us was walking, it would encourage me more because I don't like walking on my own because you hear the news really bad stuff."
	Driving licence	C: "I will be driving myself to school every day rather than going through public transport just because it's easier and you can take your own time." C: "It's the seniors, like Year 13 s, they've got like the freedom now, so they think it's cool to just drive themselves to school. But I still think, like the focus is changing. People don't see catching the bus as not cool, like they just see it as convenient, so, like, you know, I think that's a good change." C: "I went straight for my learners as soon as I could so I've had min for quite a few months now but most of my friends seem quite negative to get it, they think it's dangerous or scary and they shouldn't be allowed to drive on the road..."
	Safety	C: "...we don't have any people controlling behaviour and the bus drivers generally don't do anything about them." C: "It's quite scary because there are no seatbelts on buses so it can be quite dangerous..." C: "There's quite a lot of bullying going on, on our buses, like fights and food being chucked and people being strangled. I've been a victim of this as well." C: "Also the buses get overly crowded, they pack as many as will fit. There is no room to move at all and people are constantly pushing." C: "Cycling safety not promoted," C: "The numbers have probably dropped from last year because about four people's bikes were actually stolen last year and school doesn't have a very good system to lock up bikes." C: "People in cars are arrogant and angry with cyclists." C: "...one person in my cycling team got punched a few days ago from a random person in their car..." F: "More buses needed so that each student has a seat on the bus." F: "Seatbelts should be made compulsory on every bus to ensure safety." F: "Security officer are present on buses to control behaviour and make it safe for everyone." F: "If there were safer routes to go on the bike then I'd probably take the bike."
	Health and engagement	F: "It's easier to walk if you're close and it keeps you healthy." F: "Walking is quite nice cause you're out in the fresh air rather in the muggy car or bus." F: "Walking and cycling is quite good because you get more exercise." F: "...I get lots of time to talk and so sometimes when I get to school I get, I've been able to express lost so that when I get to school it's kind of...calmed down a little bit." F: "We could have something like a Nike Challenge, if you get something out of it then definitely everyone's going to go all out really."

F, facilitators; C, Challenges.

parking close to the corners, on yellow lines and in driveways. Some parents parked on the pick-up/drop off zone before the bell rang to ensure parking. Other parents seemed to be impatient because they were not able to park close to the school. An example was given where parents stopped in the middle of the road, calling their child to run across the road to get into the car.

Health and fitness. Health and Fitness was seen as an important facilitator to active travel. Children commented that they preferred to walk or cycle to school, mainly because of the potential health and fitness benefits. When children were asked to compare whether

students walked to school at the time of the focus group compared to prior of the implementation of the STP, some thought that there was a change. Reasons offered for the change were: better weather conditions, the Walk to School programme, media coverage of low physical activity, and higher levels of obesity in children. The children who walked stated they enjoyed walking because they liked fresh air and exercise.

Under the Adolescent factors category five themes emerged: peers & enjoyment, driving licence, safety and health & engagement.

3.5. Peers and enjoyment

School bus patronage was a common mode of travel to and from school for high school students. The students commented that it was “cool” or “fun” catching the bus “with friends” and “hanging out”. Students also agreed that it was convenient and quicker than using the car. The fare was viewed as inexpensive and was not an issue. The students also suggested, a follow-on concept from the walking school bus, “walk with a buddy” to encourage walking. Overall, high school students seemed to favour bus usage to commute to school over any other mode of transport.

3.6. Driving licence

While independent walking or bussing might have been the primary mode of transport for senior high school students, driving became the preferred option, once they received a driving licence. When high school students were asked whether they would continue using the bus once they turned 15/16, some admitted that they would prefer to drive themselves to school than use the bus. The main reasons for the future shift were: easiness, convenience, and independence. These students spoke favourably of carpooling. For high school students who travelled to school by car, convenience, laziness, injury and bad weather were the main reasons given for not actively commuting to school.

3.7. Safety

Students were greatly concerned with safety of the buses. Most buses did not have seat belts and those that did, wear was not endorsed. Students also commented that buses got overcrowded and standing in the bus, regardless of the yellow line that marked the floor where standing should not be allowed, was not uncommon. The students commented that the drivers seemed to have no authority controlling bad behaviour on the bus. There was an overwhelming agreement that more buses needed to be provided so that each student had a seat on the bus. The students felt that many of the concerns would be alleviated and they would feel safer. *Cycling safety.* Some high school students favoured cycling over any other mode of transport especially when the commute was short. In one high school where the STP was not fully implemented yet, students noticed that cycling or cycling safety was not promoted and that bike racks were limited and not appropriate for use. For that reason students noticed that cycling had declined in their school. Those who cycled found it intimidating as they perceived people in cars to be arrogant and angry with cyclists. While high school students were open to the idea of cycling, low security measures at school for storing their bikes prevented them from riding to school. Security cameras, fake security cameras, sensors, fenced shed, secure bike racks were offered as suggestions. However, high school students commented that they felt safe as the number of students actively commuted to school had increased. Overall, students agreed that it was generally safer to walk/cycle to school.

3.8. Health and engagement

For high school students walking was seen as a good way to exercise, enjoy the fresh air, stay healthy and an opportunity to talk to friends about important personal issues. It was observed that since the STP programme, more students walked during the breaks and there were more sport teams available and generally, more people playing sport. High school students suggested that initiatives like the “Nike Challenge” should be present in schools to establish a norm and motivate people to exercise. The expositions were seen by high school students as effective ways to communicate messages like active commuting and sustainable transport in a fun and engaging way. Highlights from the “expo” were the opportunity to talk to bus drivers, to voice concerns and suggestions for change, free bags for cyclists, competitions with awards, and rewards. Students saw the programme as a way to reduce carbon emissions, reduce traffic congestion, provide a safer environment for cyclists and pedestrians, save money on petrol, keep people active and reduce the obesity epidemic. The students felt that the programme was worthwhile and was “working” because it had changed students’ attitudes towards bussing and cycling.

4. Conclusion

There are no other qualitative studies describing the challenges and facilitators to active travel following implementation of a school-based travel programme from the children's and adolescents' perspective, and therefore, comparison of results is difficult. The themes emerged for children and adolescents were similar but for different contexts. Children and adolescents enjoyed travelling with friends as part of the walking school bus for children and school bus for adolescents. The children and adolescents offered several suggestions for increasing safety and involvement in the programme. Overall, the STP programme was described as worthwhile with the potential to change behaviour long term.

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