INFLUENCING SCHOOL JOURNEY TRANSPORTATION MODES OF PRIMARY SCHOOL CHILDREN IN UK SUBURBAN AREAS TOWARDS MORE ACTIVE, SUSTAINABLE MODES OF TRANSPORT

AOIFE CONNAUGHTON, BSc(Hons)

MSc URBAN DESIGN AND CITY PLANNING, MAJOR RESEARCH PROJECT
UNIVERSITY COLLEGE LONDON

FACULTY OF THE BUILT ENVIRONMENT

BARTLETT SCHOOL OF PLANNING

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Being a Major Research Project in Urban Design and City Planning submitted to the faculty of The Built Environment as part of the requirements for the award of the MSc Urban Design and City Planning at University College London, I declare that this project is entirely my own work and that ideas, data and images, as well as direct quotations, drawn from elsewhere are identified and referenced.

Signed_________________________________ Date_________________________________
ACKNOWLEDGEMENTS

Firstly I would like to thank my supervisor, John Dales, for his advice and support throughout the project.

I would like to thank all the professional participants of this project for meeting with me and sharing your knowledge. I also thank the two participating schools, Green Wrythe Primary School and Abbey Primary School; thank you for giving me the opportunity to come into your schools and meet with your pupils. A special thanks goes to the 189 children who participated in the group sessions in these schools, thank you for all the fabulous drawings that you did!

I would also like to extend my gratitude to my UDCP coursemates, who have encouraged, supported and inspired me throughout this year. It has been a pleasure learning with you all and I have many happy memories as a result. A special thanks goes to Michael Short for being a wonderful course director.

Finally I would like to thank my friends and family. An exceptional thanks goes to my parents who have always encouraged and supported me throughout my education.

ABSTRACT

Transportation choices can have significant and wide ranging impacts. Therefore, it is essential to make efforts to establish healthy, active and sustainable transport habits in children, which they will carry into adulthood. This project aims to investigate the rationale for school journey transportation mode choices in primary school children and propose a set of design tools to encourage more active and sustainable modes of transport.

Significant barriers currently exist to active, sustainable school travel for primary school children. One of the most significant barriers is parental concerns, which are largely related to traffic safety and “stranger danger”. This is problematic as it leads to a situation whereby parents drive their children to school due to fears of child traffic injury; this increases the traffic volume and hence the risk of injury for children still taking active modes of transport to school. Fears around “stranger danger” can be more complex and less grounded in reality.

By focusing on children’s aspirations for school journey travel, the tools developed in this project are designed to better encourage active, sustainable transport in children by responding to their desires. This approach plays a significant role in creating environments that are perceived to be physically fun and engaging by children. A combination of physical implementation, education and communication tools are outlined in this project.

This project will conclude that it is essential to engage children on the topic of their journeys to school in order to be able to better understand their aspirations and respond to these appropriately. To fully achieve the goals of active, sustainable transport to school it is imperative to provide a range of incremental, interrelated interventions that aim to induce behaviour change using targeted combinations of approaches that respond to the context of the school.
1.0 INTRODUCTION
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1.1 PROJECT RELEVANCE

Inactive modes of transport have a wide range of negative impacts, particularly for children, including: global warming, air pollution, health risks and social development. Hence it is essential to address the use of personal motor vehicles. In London 80% of passenger trips are made on roads (Roads Task Force, 2013); this is likely to grow with a projected London population of 10 million by 2029 (GLA, 2015).

Walking currently accounts for ⅓ of all trips made by children (DfT, 2016); this is a dramatic reduction from several decades ago (Panter et al, 2010). Passive modes of transport are linked to overall lower levels of physical activity, which is a contributing factor to childhood obesity. The benefits of active transport for children extend beyond physical health and include mental wellbeing and social development.

The main barriers to active transport in children are perceived parental concerns, which mostly revolve around traffic safety and “stranger danger”. Jackson (2003) argues that children, elderly and disabled people are most affected by vehicular hazards to pedestrians; hence children have been chosen as the focus of this project.

1.2 STUDY AREA

This project focuses on sustainable, active transport in suburban areas, which tend to have higher levels of car ownership. It is important to note that challenges to sustainable, active transport also exist in inner city and rural areas, however these challenges are different, for instance barriers in rural areas include: larger school catchment areas, insufficient public transport system and lack of pedestrian infrastructure.

The London Borough of Sutton has been chosen as a suburban area, with high levels of car ownership. Two schools within the borough have been selected as study areas: Green Wrythe Primary School and Abbey Primary School. These schools were selected based on their proximity to A-roads, green spaces, local amenities and public transport links.

1.3 CONTRIBUTION TO PRACTICE

High rates of driven trips to school persist in the UK and abroad, despite much academic and professional work aimed at reducing them.

This project will propose a framework of interconnected interventions. Physical design is just one aspect of the process and must be combined with soft, behavioural change strategies whereby there is communication with all relevant stakeholders incorporating training/education for children.

1.4 AIMS AND RESEARCH QUESTIONS

This project aims to investigate the rationale behind children’s transportation modes to school and propose solutions to encourage behaviours towards more active and sustainable forms of transport.

The research question for this project is:

What role can a better understanding of children’s aspirations for school travel play in promoting active, sustainable transport to school?

The project objectives are to:

- understand current issues and barriers to sustainable school travel
- understand children’s aspirations for school travel
- suggest a framework of tools to promote sustainable travel
2.0 LITERATURE REVIEW

In this chapter:

- 2.1 Active, sustainable transport
- 2.2 Environmental sustainability
- 2.3 Health risks
- 2.4 Perceptions of safety
  - 2.4.1 Traffic safety
  - 2.4.2 “Stranger danger”
- 2.5 Parental participation in the workforce
- 2.6 Existing solutions
2.1 ACTIVE, SUSTAINABLE TRANSPORT

The OECD (1996) defined sustainable transport as that which “does not endanger public health or ecosystems and meets needs for access consistent with (a) use of renewable resources below their rates of regeneration, and (b) use of non-renewable resources below the rates of development of renewable substitutes” (pp. 12). This definition encompasses a wide range of transportation modes, however this project focuses only on “human-powered” methods, i.e. walking, running, cycling, scooting and so on.

Transport is complex and intertwined with many other systems (Goldman and Gorham, 2006); hence travel decisions are complicated and multi-layered. It is widely accepted that the physical environment has significant impacts on transportation choices (Timperio et al., 2004). Saelens et al. (2003) claim that connectivity and proximity are the two main urban features that dictate transport choices. Pucher and Dijkstra (2003) argue that the more compact and mixed-use city form seen in many European countries better facilitates walking and cycling compared to sprawling urban areas seen in much of North America. Increased suburbanisation leads to polycentric patterns of development, which are less appropriate for active travel and are unable to support public transport systems due to low dwelling densities (Donaghy et al., 2004). Jackson (2003) argues that higher rates of pedestrian fatality are seen in sprawling urban areas.

Since the mid-20th century there has been a significant increase in car ownership in the developed West. More recently, the car is regarded as a major contributing factor to declining city centres, urban sprawl, climate change and air pollution (Green and Wegener, 1997). Higher levels of car ownership and use have led to steady decreases in active transport; this is particularly marked in school journeys (Moodie et al., 2009; Faulkner et al., 2009; Carver et al., 2010; Fyhri et al., 2011). This problem is not unique to the UK and is seen in many developed countries.

2.2 ENVIRONMENTAL SUSTAINABILITY

A key issue in debates on transportation surrounds negative environmental impacts from non-renewable energy use. This has largely been the case since the Brundtland Report (1987) and is reflected in many policy decisions.

Modern lifestyles and associated travel behaviours of more affluent societies are seen to have global, detrimental impacts on environmental quality (Donaghy et al., 2004). At the personal level motor vehicle use is the most significant contributing factor to air pollution and climate change. Hence, widespread reductions in personal vehicle use will have significant environmental benefits (Pucher and Dijkstra, 2003).

As far back as 1963, Smeed claimed that the majority of society agreed that something should be done to mitigate the harmful effects of motor vehicles, however there was little consensus on exactly how to achieve this. This is largely due to the fact that different groups of people have different priorities and hence a wide variety of opinions exist on tackling transport and environmental issues. However, it is unclear whether Smeed’s claim that most members of society felt this way, was founded in reality.

In recent years there has been increased interest in air pollution due to the environmental impacts as well as the harmful, associated health risks, including: cancer, asthma, emphysema, leukaemia, reduced fertility (Gaffney, 2008). This is particularly concerning for children as high exposure to pollutants can hinder lung development. Recent research has shown that higher levels of pollutants can be found inside vehicles than outside (Carrington, 2017). The benefits of walking and cycling have been shown to outweigh the negatives of breathing polluted air.
2.3 HEALTH RISKS

Physical inactivity is associated with a range of negative health consequences, including: obesity, cardiovascular disease and diabetes (Timperio et al., 2004; Public Health England, 2014). Weiler et al. (2010) claim that physical inactivity is the greatest challenge to health in developed countries.

Obesity is a major risk factor for other chronic diseases and this is particularly concerning with recent, gradual increases in childhood obesity. In 2015 28% of children aged 2-15yrs were obese or overweight (Health and Social Care Information Centre, 2015). It is imperative to tackle and prevent obesity in childhood, as obese children are likely to become obese adults and suffer additional adverse health consequences.

Childhood obesity is strongly linked to deprivation; children in the most deprived areas are twice as likely to be obese compared with those in the least deprived areas (Town and Country Planning Association, 2014) (see figure 4). Whilst obesity is a significant health threat, physical activity can have benefits for health regardless of weight loss (Weiler et al., 2010).

Active transport to school is seen to establish healthy lifestyle habits (Timperio et al., 2004; Faulkner et al., 2009) as well as being a key opportunity for regular physical activity (Cooper et al., 2003). However, walking to school initiatives do not guarantee prevention of, or reductions in, levels of childhood obesity (Moodie et al., 2009). The benefits of physical activity in children extend beyond those related to physical health and include: motor development, cognitive improvement, psychosocial health and cardio-metabolic health (Health and Social Care Information Centre, 2015; Schoeppe et al., 2016; Panter et al., 2010).

2.4 PERCEPTIONS OF SAFETY

Appleyard (1980) states that "streets have become dangerous, unlivable environments, yet most people live on them" (pp 106). Saelens et al. (2003) claim that built environment professionals and policy experts have positioned walking and cycling as dangerous activities.

Public space is seen as more dangerous than the home, hence parental perceptions of the environment influence children’s travel (Timperio et al., 2004; Panter et al., 2010). The two main concerns from parents are traffic safety and "stranger danger" (Carver et al., 2006; Panter et al., 2010; Yeung et al., 2008; Moodie et al., 2009). These concerns result in restrictions on outdoor play, active transport and independence (Carver et al., 2010). In general children are seen to be poor at judging risks and so parents take responsibility to do so on their behalf (Stokes, 2009).
2.4.1 TRAFFIC SAFETY

An important aspect of this debate is that parental fears of traffic safety may actually perpetuate and reinforce the problem (Timperio et al., 2004). As parents begin to drive their children to school as a result of dangerous perceptions of traffic safety, the area surrounding the school becomes less safe, due to increased traffic volumes, for those children taking active forms of transport. Fyhri et al. (2011) describe this situation as a “paradox” (see figure 5). This problem is perfectly explained by comedian Al Murray:

“If people keep driving their kids to school to stop them getting hit by people driving their kids to school, we are going to end up with a generation of flat-footed, asthmatic children with no sense of direction”.

Timperio et al. (2006) claim that parental perceptions of the appropriateness of active travel for children is influenced by the presence of other children in the neighbourhood.

Shaw et al. (2013) state that in the period 1970-1990 UK traffic volumes nearly doubled but child fatalities on the road nearly halved. Clearly an absolute reduction in child fatalities is positive, however it is likely due to growing negative perceptions of traffic safety, leading to children taking less active modes of transport. Therefore, the reduction in fatalities does not necessarily indicate that traffic safety improved but rather that children were removed from the situation.

2.4.2 “STRANGER DANGER”

The term “stranger danger” is used widely in educating children on potential risks from strangers in public space, i.e. attack and abduction. Similar risks exist in all countries, however it appears that fears in the UK are greater than most. Stokes (2009) argues that extra-familial child abduction is the greatest fear of British parents. The media has played a significant contributing role in perceptions of child abduction, with several harrowing incidents being widely reported in recent decades, including that of Jamie Bulger, Sarah Payne and Madeleine McCann. This is reflected in Stokes’ findings, where actual rates of child murder by a stranger in Scotland had not changed in a 20-year period but perceived rates had worsened with 76% of respondents believing that there had been an increase, 38% of which believed the increase had been “dramatic”.

Anyone can be seen to pose a threat to children, even other children (Carver et al., 2006). This concern relates to bullying and is more prominent in parents of younger children. Other parental concerns include substance abuse, crime and inappropriate behaviours in older children, which may be seen to be influenced by strangers (Carver et al., 2010).
2.5 PARENTAL PARTICIPATION IN THE WORKFORCE

Parental daily modes of travel influence children’s transport to school (Panter et al., 2010); this becomes more pronounced as parents experience increased pressures from balancing home and work-life. This has become more noticeable with increased female participation in the workforce and has generated interest in the division of domestic and family responsibilities between male and female parents (Daly, 1996). New time pressures are created when all adult members of the household are engaged in employment (Fyhri et al., 2011; Moodie et al., 2009). Time pressures may be addressed by decreasing travel time by using a car as the primary mode of household travel.

Time pressures from increased employment responsibilities create a sense of scarcity of time among parents; this leads to feelings of guilt as parents feel they are unable to achieve quality “family time” (Daly, 2001). Everyday family activities, such as walking to school, can help to address this balance.

Carver et al. (2006) note that there is a positive relationship between a mother’s interaction with the neighbourhood and children’s independent mobility. Similarly, the mother’s primary mode of transport is more likely to influence children’s transport to school than the father’s. This is largely due to the fact that the caregiver role in the majority of households still falls to women.

2.6 EXISTING SOLUTIONS

Appleyard (1980) claims that the residential street is the appropriate setting for urban greening and higher levels of active transport. He argues that the street should be a healthy space with no noticeable noise or pollution from motor vehicles; this will bring associated benefits, such as a greater sense of community. “Home Zones”, introduced in the UK in the 1990s, are the most noteworthy attempt at achieving Appleyard’s vision, in which child-friendly spaces are provided in residential areas allowing social activities as well as motor traffic (Gill, 2006). Child pedestrians were originally envisioned to have priority in these spaces (Preston, 1995), however this proposal was not adopted into legislation.

Passive, traffic calming approaches to modify the road environment may be employed to reduce motor vehicle dominance for the benefit of children (Carver et al., 2008). The cognitive, perceptual and behavioural abilities of children can restrict their ability to effectively employ traffic safety skills they have been taught, therefore the focus should be put on altering the behaviours of adult drivers (Jacobsen et al., 2000).

The Road Task Force (2013) argues that road improvements should be made to existing assets (e.g. pavements, cycleways, street lighting, street furniture) before investing in new infrastructure to fulfill these purposes. Aldred (2015)’s survey on adult attitudes on child cycling revealed that cycling segregated from motor vehicle traffic was preferable. However, the majority of cycle infrastructure in the UK is unsegregated, and hence does not encourage cycling with children.

Whilst “Home Zones” and traffic calming reduce driver priority, other approaches, such as congestion charging and high gasoline taxes, aim to actively discourage driving on a larger scale (Pucher and Dijkstra, 2003). Congestion charging can have significant impacts on air pollution; since the London Congestion Charge Zone implementation 18yrs of life per 100,000 population have been gained. This is associated with reductions in respiratory illness as well as traffic collisions (Tonne et al. 2007).

Softer, behavioural change measures can also be undertaken to encourage greater levels of active, sustainable transport in children. Carver et al. (2008) highlight the success of the “Safe Routes to School” scheme in California, USA, which introduced physical environment improvements to encourage active transport along key routes to school, such as increased crossing points and wider footways. A 64% increase in walking and a 116% increase in cycling was seen following the scheme. Walking buses and walk-to-school days without physical interventions have also shown to be successful.

Yeung et al. (2008) argue that active travel can be a low-cost strategy for improving levels of physical activity across the population. However, to have significant impacts on modes of transportation, high levels of investment are generally required.

Regardless of the intervention, Steg and Vlek (2009) highlight a crucial point: interventions should be systematically reviewed to assess effectiveness. This rarely happens in the UK due to funding issues but it would extremely useful.
3.0 METHODOLOGY

In this chapter:
- 3.1 Research approach
- 3.2 Interviews
- 3.3 Group sessions
- 3.4 Ethical considerations
- 3.5 Challenges
3.1 RESEARCH APPROACH

A study area based approach has been adopted for this project; two school sites in Sutton were selected to help develop useable proposals in a real-life setting. A range of methods have been used to capture data on school travel, including interviews, group sessions and secondary information collection. Figure 11 outlines how the different sections of the project lead to the proposals.

3.2 INTERVIEWS

Interviews were employed as a key research method to gain information on best practice from professionals. Interviews were appropriate in this context as they allowed descriptions and interpretations of the physical and social worlds that people interact with (Ritchie et al., 2013).

Semi-structured interviews were used due to their informal, conversational nature (Valentine, 2005), which puts participants at ease and better facilitates information sharing (see appendix 1). This form of interviewing allows a greater degree of flexibility and so new issues and topics can be explored throughout the interview period (Wengraf, 2001). A targeted, illustrative sample of participants was selected in order to gain information on specific case study examples of good practice (see appendix 2).

Interviews were not audio-recorded as this technique is generally used to capture deeper meanings, expressions and opinions from participant responses (Ritchie et al., 2013). It was not felt necessary to analyse responses in such detail as the aim was to collect specific information rather than subjective opinions.

3.3 GROUP SESSIONS

Group sessions were run in two primary schools in the London Borough of Sutton: Green Wrythe Primary School and Abbey Primary School. The sessions were in-class and most similar to the traditional research method of focus groups as the aim was to share knowledge and discuss opinions on a given topic (Longhurst, 2016).

A range of activities were used to gain information on how the children travel to school, what they think of their journey to school, how they would like to travel to school and their awareness of their local area. Punch (2002) highlights that it is not always necessary to use “child-friendly” methods for research with children, it was felt to be appropriate for this project given the classroom setting and time limitations. A session plan can be found in appendix 3.

Children aged 7-11 years old were eligible to participate in the sessions. Five 30-minute sessions were run in Abbey Primary School on 13/07/2017 with classes Year 3-5. A further two hour-long sessions were run in Green Wrythe Primary School on 19/07/2017 with classes Year 5-6. Overall 189 children participated in the sessions, this is an appropriate sample size to draw initial conclusions. The differences in session length were as a result of the schools’ timetables and requirements; no extra research methods were used in the longer sessions.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>GROUP</th>
<th>AGE RANGE</th>
<th>NUMBER OF PARTICIPANTS</th>
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<tbody>
<tr>
<td>3</td>
<td>7-8</td>
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<td></td>
</tr>
<tr>
<td>4</td>
<td>8-9</td>
<td>53</td>
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</tr>
<tr>
<td>5</td>
<td>9-10</td>
<td>53</td>
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</tr>
<tr>
<td>6</td>
<td>10-11</td>
<td>24</td>
<td></td>
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<tr>
<td>TOTAL</td>
<td></td>
<td>189</td>
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</table>

Table 1- Breakdown of child participants by age group

Figure 10- Location of study schools
3.4 ETHICAL CONSIDERATIONS

The main ethical consideration for this project was the issue of interacting with children, who are a vulnerable user group. Morrow and Richards (1996) argue that children are considered to be vulnerable for several reasons: physical weakness, lack of knowledge and lack of social or economic power. It is important to adopt appropriate research techniques when dealing with children, however an overly protective approach may prevent children from being able to participate (Lansdown, 1994 in Morrow and Richards, 1996).

One of the key issues on researching children’s journeys to school is the risk of collecting detailed information on exact home locations and exact routes to school. This was dealt with by using methods such as “mind-mapping” (see appendix 3) rather than plotting homes on a map.

Interactions with children were always in groups and a teacher was present at all times. Questions posed to the groups were carefully planned to be as neutral as possible and avoid sensitive topics. Activities were approved by the school prior to the sessions.

Ethics approval was gained from the UCL Research Ethics Committee for this project. Clearance from the Disclosure and Barring Service was also gained as a requirement for running sessions in schools. Consent for participation was sought from all professionals, schools and parents of children in the classes for the sessions (see appendices 4-9).

3.5 CHALLENGES

The first challenge was gaining participation from both professionals and schools. Some schools showed initial interest and later withdrew from the project, this created significant pressure in gaining participation at a later stage in the process.

Another important consideration is the inherent power relations between researcher and participant; this can have significant impacts on responses (Baxter and Eyles, 1997). This was most relevant in the group sessions as the role of “teacher” was assumed by the researcher. In the classroom setting there is a general assumption that something is either right or wrong, therefore activities were designed to enable open-minded responses.

Punch (2002) claims that research with children differs from that with adults as the adult researcher generally perceives the children to occupy marginalised positions in adult society. Therefore, the way that children are perceived influences the way that their ideas and opinions are considered. There are also significant differences between children and adults, in their interactions with the world; this has significant impacts on responses. For instance children may have a more limited vocabulary and understanding of certain issues.

Finally, a key challenge of all research is the positionality of the researcher. There is an inherent bias in this research as the topic was chosen based on personal opinions and experiences. It is essential to be reflexive throughout the research process and consider all information, opinions and points of view as well as being aware of how participants construct the identity of the researcher (Sultana, 2007).
The following chapter looks at several exemplar case studies, which will be used to inform the toolbox (Chapter 6) based on strengths and weaknesses seen in the examples. The first part of this chapter considers physical interventions before moving on to educational, strategy based interventions.

In this chapter:

- 4.1 Healthy School Streets, Camden
- 4.2 New Park Road, Lambeth
- 4.3 Van Gogh Walk, Lambeth
- 4.4 “Mini Holland”, Waltham Forest
- 4.5 Walk Once a Week, Living Streets
- 4.6 Bikeability, Department for Transport
- 4.7 Evaluation
4.1 HEALTHY SCHOOL STREETS, CAMDEN

Across Camden there are issues of high traffic volumes, inconsiderate parking and excessive noise at school journey times (TfL, 2017). This puts children at risk and is a nuisance to local residents. Therefore the Healthy School Streets programme was developed as a response and has been trialed at St Joseph’s School on Macklin Street.

A road closure has been established twice-daily (weekdays only) on Macklin Street, using DfT compliant signage enforced by folding bollards; the scheme affects 200m of one-way road. The bollards are erected by school staff at the appropriate times. The existing road is narrow with no spaces for parking.

At the public consultation 80% of participants responded positively to the proposal; this area has very low car ownership, which may be a significant factor in this response. However, Ben Knowles from Camden Council stated that there was a small group of people strongly opposed to the scheme, who expressed negative opinions, including calling him a “cycling jihadi”.

<table>
<thead>
<tr>
<th>SCHOOL STREET INTERVENTION</th>
<th>TYPICAL COST</th>
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<td>HEALTHY SCHOOL STREET</td>
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<tr>
<td>SPEED TABLE, JUNCTION</td>
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<tr>
<td>SPEED BUMP</td>
<td>£12,000+</td>
</tr>
<tr>
<td>ROAD NARROWING</td>
<td>£6,000+</td>
</tr>
</tbody>
</table>

Table 2: Intervention cost comparison

There has been a dramatic fall in driven trips to school, despite the fact that it is still possible to drive within 50m of the school. The marginal increase in inconvenience for driving has nuded parents towards walking, scooting and cycling instead.

This scheme was run in conjunction with an intensive behavioural change programme, aiming to reduce motor travel use prior to the implementation of the street closure.
4.2 NEW PARK ROAD, LAMBETH

Sustrans developed a unique street design at Richard Atkins Primary School on New Park Road in the London Borough of Lambeth, costing £130,000. Previously this road was dominated by motor vehicles with high HGV use; it was used as a shortcut to avoid the nearby South-Circular road.

The design has narrowed the carriageway by providing several out-standing kerbs, which act as informal crossing points. Polythermal, coloured circles lie in the carriageway to indicate the informal crossings and animate the space in a child-friendly way. 14 cherry trees have been planted along the road and new cycle parking has been provided.

As a result of the re-design, several on-street parking spaces have been lost and a restricted parking zone has been established in combination with an HGV ban (excluding deliveries). However, this is poorly enforced and problems with illegal parking persist.

A number of challenges were faced throughout the design, consultation and implementation of this project. Feras Fathallah from Sustrans explained that convincing local people was a major challenge, however Sustrans have a comprehensive approach to community engagement.

Another issue that is common with most projects was a lack of a post-monitoring assessment, making it difficult to tell how successful it has been. However, from observation the scheme appears to be operating well with low traffic speeds and courteous behaviour from drivers to pedestrians. Zoe Spiliopoulou from Sustrans claims that the principles of this scheme could be well applied to other scenarios.
4.3 VAN GOGH WALK, LAMBETH

Van Gogh Walk has been transformed into a pedestrian dominated, community space through a resident-led project. This scheme is close to New Park Road and represents a higher cost and quality scheme carried out by the same local authority. The total scheme cost was £420,000; this was funded through section 106 contributions and a TIL grant.

A combination of hard and soft landscaping has been used to animate this space and create an area for play and leisure, enjoyed by adults and children. Part of the road is pedestrianised and where motor vehicles are permitted the road has been designed to slow drivers and indicate that they are guests in this pedestrian priority area.

Van Gogh Walk is minutes from Durand Primary School and so is heavily used during school journey times.
4.0 CASE STUDY REVIEW

4.4 “MINI HOLLAND”, WALTHAM FOREST

In 2014 the Mayor of London awarded “mini Holland” status to three outer London Boroughs: Kingston, Enfield and Waltham Forest. Each borough was given access to £30 million of TfL funding over a four year period.

Waltham Forest has focused on improving cycling safety as well as air quality and public health. There has been an increase in cycling in the borough with 17% of residents regularly cycling in 2016 compared to 12% in 2015.

The project is comprised of 13 connected schemes. Large-scale improvements and construction of cycling infrastructure have been completed in a number of locations across the borough. However, not all features meet the same design standards.

This case study has been included as an example of recent solutions to improve active transport experiences more widely in society. It is not specifically related to school travel.

<table>
<thead>
<tr>
<th>AREA</th>
<th>DESIGN FEATURES</th>
<th>IMAGE</th>
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<tbody>
<tr>
<td>CHURCH ROAD</td>
<td>• “Copenhagen” crossings&lt;br&gt;• Raised tables&lt;br&gt;• Pedestrian and cycle crossings&lt;br&gt;• Segregated cycle lanes</td>
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<tr>
<td>WALTHAMSTOW VILLAGE</td>
<td>• Road closures&lt;br&gt;• Carriageway narrowing&lt;br&gt;• Surface treatments</td>
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<td>RUCKHOLT ROAD</td>
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<tr>
<td>MARKHOUSE ROAD</td>
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<td>LEA BRIDGE ROAD</td>
<td>• “Copenhagen” crossings&lt;br&gt;• Segregated cycle lanes&lt;br&gt;• Roundabout redesign&lt;br&gt;• Floating bus stops&lt;br&gt;• Cycle parking&lt;br&gt;• Street lighting</td>
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<td>LEYTONSTONE TOWN CENTRE</td>
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Key:
- Lea Bridge Cycle Route
- Leyton to Chingford Cycle Route
- Bloomsbury to Walthamstow Quietway
- Leyton to Blackhorse Road Cycle Route
- Forest Road to Wood Street Cycle Route
4.4 WALK ONCE A WEEK, LIVING STREETS

Living Streets run a range of national schemes to encourage greater levels of walking. A key aim for Living Streets is to make walking fun for adults and children alike. One of the most successful and well known scheme is Walk Once a Week (WOW). In order to participate, schools must pay an annual subscription fee, which is generally covered by the school travel budget. This scheme is a much cheaper and less risky solution to physical interventions.

For the WOW scheme children record how many times a week they have walked to school, either on a computerised system or on a wall chart. Steve Chambers from Living Streets mentioned that there is the potential for the information recorded on the computerised travel tracker system to be shared with central government in order to influence high level policy and budget decisions. However, the system does not currently allow for different stages of a journey to be recorded and so a more detailed form of surveying is needed.

Children who have walked once a week for a month receive a badge. Each of the badges is designed by children from participating schools, which helps children to engage with the scheme at multiple levels.

4.5 BIKEABILITY, DEPARTMENT FOR TRANSPORT

Bikeability is a national DfT scheme, which aims to educate and train people in good cycling practice. It is a newer form of cycling proficiency. The scheme is open to anyone but it is mostly focused on children and sessions are normally provided through schools for children in Year 5 and above.

The scheme has three different levels to suit varying abilities. Once a level has been completed, the trained Bikeability cyclist will receive a badge and certificate.

- **LEVEL 1:**
  - ride without help
  - use gears and breaks
  - share space with pedestrians and cyclists

- **LEVEL 2:**
  - on-road cycling
  - recognise hazards
  - show others what you are going to do

- **LEVEL 3:**
  - plan journeys
  - advanced road positioning
  - pass queuing traffic
  - understand drivers' blindspot
  - react to hazardous road surfaces

To date, 2,132,575 participants have taken part in the scheme. Whilst this scheme has proven to be very popular and enjoyable, anecdotal evidence from Paul Garside (London Borough of Sutton Council) indicates that it is not an effective method in modal shifts towards active means, instead children use the skills they have learnt for leisure purposes.
### 4.7 Evaluation

The following table comprises an evaluation of each of the case studies discussed in this chapter.

<table>
<thead>
<tr>
<th>Case Study</th>
<th>EVIDENCE OF MODAL CHANGE</th>
<th>EVIDENCE OF IMPACT ON MOTOR TRAFFIC</th>
<th>EVIDENCE OF PLAYABILITY AND FUN</th>
<th>EVIDENCE OF ENGAGEMENT WITH CHILDREN’S ASPIRATIONS FOR TRAVEL</th>
<th>SUMMARY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Healthy School Streets, Camden</strong></td>
<td>43% reduction in driven trips to school, January-July 2016</td>
<td>No significant impact on vehicle flow on surrounding roads, following the street closure</td>
<td>Nil</td>
<td>Nil</td>
<td>STRONG WEAK NO INFO</td>
</tr>
<tr>
<td><strong>New Park Road, Lambeth</strong></td>
<td>Nil</td>
<td>14% reduction in traffic volume; 27% reduction in speed and 30% reduction in HGV use following the road redesign</td>
<td>The coloured circles in the carriageway animate the space in a child-friendly way but do not provide opportunities for play</td>
<td>Children were engaged in the process but this did not specifically relate to their aspirations for school travel</td>
<td>WEAK STRONG WEAK</td>
</tr>
<tr>
<td><strong>Van Gogh Walk, Lambeth</strong></td>
<td>Nil</td>
<td>Pedestrianisation of a section of the road prohibits motor vehicles and pedestrian priority is assumed along the remainder of the road</td>
<td>Play facilities are included and the layout of the street encourages informal play</td>
<td>Nil</td>
<td>WEAK NO INFO</td>
</tr>
<tr>
<td><strong>“Mini Holland”, Waltham Forest</strong></td>
<td>5% increase in cycling across the borough 2015-2016; but this is not specific to children</td>
<td>Certain sections of the scheme are likely to impact motor traffic</td>
<td>Nil</td>
<td>Nil</td>
<td>STRONG WEAK NO INFO</td>
</tr>
<tr>
<td><strong>Walk Once a Week, Living Streets</strong></td>
<td>60,000 children participated in the scheme in 2016; but it is unclear how many of these already walked to school</td>
<td>School journeys have been gamified through this scheme with clear rewards in the form of badges</td>
<td>Nil</td>
<td>Nil</td>
<td>STRONG WEAK NO INFO</td>
</tr>
<tr>
<td><strong>Bikeability, Department for Transport</strong></td>
<td>Annecdotal evidence suggests that the impact on modes of travel to school is negligible</td>
<td>Annecdotal evidence suggests that the training sessions are designed to be fun and engaging</td>
<td>Nil</td>
<td>Nil</td>
<td>STRONG WEAK NO INFO</td>
</tr>
</tbody>
</table>

Table 4: Evaluation criteria for each of the case studies
This chapter covers two levels of analysis: a broad overview of the study area and individual findings from the two schools. The findings will help to inform the toolbox.

In this chapter:

- 5.1 Local context
- 5.2 School contexts
  - 5.2.1 School Site 1: Green Wrythe Primary School
  - 5.2.2 School Site 2: Abbey Primary School
- 5.3 Findings from schools
5.0 STUDY AREA

5.1 LOCAL CONTEXT

Two schools have been chosen as the study areas for this project: Green Wrythe Primary School and Abbey Primary School. They are both located in the northern section of the London Borough of Sutton.

The London Borough of Sutton has a population of 190,146 (UK Census Data, 2011), with an average population density of 42 persons per hectare, compared to the outer London average of 36 persons per hectare (London Borough of Sutton, 2011). However, the borough density varies considerably between wards; in the more affluent southern part of the borough there are lower densities.

---

**Table 4- London Borough of Sutton key facts**

<table>
<thead>
<tr>
<th>LONDON BOROUGH OF SUTTON</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>POPULATION</td>
<td>190,146</td>
<td></td>
</tr>
<tr>
<td>HOUSEHOLDS</td>
<td>78,174</td>
<td></td>
</tr>
<tr>
<td>AVERAGE HOUSEHOLD SIZE</td>
<td>2.4 PERSONS</td>
<td></td>
</tr>
<tr>
<td>POPULATION DENSITY</td>
<td>42 PERSONS/HA</td>
<td></td>
</tr>
<tr>
<td>REGISTERED VEHICLES</td>
<td>59,871</td>
<td></td>
</tr>
<tr>
<td>VEHICLES PER HOUSEHOLD</td>
<td>1.2</td>
<td></td>
</tr>
</tbody>
</table>

---

**Green Wrythe Primary School**
- Pupils - 282
- Boys : Girls - 5 : 4
- Mean distance travelled to school - 1.25km
  - 25% travel < 0.35km
  - 25% travel > 1.77km

**Abbey Primary School**
- Pupils - 452
- Boys : Girls - 1 : 1
- Mean distance travelled to school - 1.07km
  - 25% travel < 0.29km
  - 25% travel > 1.63km
A good public transport network operates throughout the borough, connecting to surrounding boroughs and central London. However, low PETAL ratings are seen in areas outside of town centres.

Sutton town centre is the eighth largest town centre in London, providing a range of retail, employment and leisure activities for residents and visitors.

The majority of the working age population are economically active, at a higher rate than the London average. High levels of car ownership are observed in the study area. 50% of trips in outer London are made by car (Road Task Force, 2013).

Some of the key transport policy goals that will influence the study area are outlined in the Local Implementation Plan 2011-2031 (London Borough of Sutton, 2011), Sustainable Transport Strategy (London Borough of Sutton, 2015) and the South London Sub-Regional Transport Plan (TfL, 2014). Strong focus is placed on reducing public transport crowding; improving access to, from and within key places; improving connectivity; reducing highway congestion; supporting economic development; improving safety and; reducing transport’s contribution to climate change. However, there is little mention of school journey travel or user aspirations.

Paul Garside from Sutton Council explained that the borough has suffered from funding cuts, as seen across the country. As a result there is no longer a dedicated STP Officer in the council and this role is shared between two existing members of staff. The funding for STPs has been significantly reduced; prior to 2010 £30-40,000 was provided but this has been reduced to only £6,000. It has become increasingly important to have a dedicated STP champion in every school in order to achieve sustainable travel goals.
5.2 SCHOOL CONTEXTS

5.2.1 SCHOOL SITE 1: GREEN WRYTHE PRIMARY SCHOOL

Green Wrythe Primary School is located in the Wandle Valley ward. This ward has a higher population density than the borough average and a lower proportion of households with access to private vehicles.

Figure 51- Key features near school site 1
5.0 STUDY AREA

WANDLE VALLEY WARD

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>POPULATION</td>
<td>11,630</td>
</tr>
<tr>
<td>HOUSEHOLDS</td>
<td>4,730</td>
</tr>
<tr>
<td>AVERAGE HOUSEHOLD SIZE</td>
<td>2.5 PERSONS</td>
</tr>
<tr>
<td>POPULATION DENSITY</td>
<td>56.6 PERSONS/HA</td>
</tr>
<tr>
<td>REGISTERED VEHICLES</td>
<td>3,362</td>
</tr>
<tr>
<td>VEHICLES PER HOUSEHOLD</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Table 6: Wandle Valley ward key facts

The school is on Green Wrythe Lane and lies opposite Poulter Park. Immediately outside the school is a set of automated traffic signals, with a long stretch of guard railing either side. There is some on-street parking, with spaces straddling the kerb. The school lies directly south of the A217, near the large Rosehill roundabout.
5.2.2 SCHOOL SITE 2: ABBEY PRIMARY SCHOOL

Abbey Primary School is located in the St Helier ward. This ward has significantly higher population density than the borough average and a lower proportion of households with access to private vehicles.

Figure 58- Key features school site 2
ST HELIER WARD

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>POPULATION</td>
<td>11,949</td>
</tr>
<tr>
<td>HOUSEHOLDS</td>
<td>4,595</td>
</tr>
<tr>
<td>AVERAGE HOUSEHOLD SIZE</td>
<td>2.6 PERSONS</td>
</tr>
<tr>
<td>POPULATION DENSITY</td>
<td>79.7 PERSONS/HA</td>
</tr>
<tr>
<td>REGISTERED VEHICLES</td>
<td>3,076</td>
</tr>
<tr>
<td>VEHICLES PER HOUSEHOLD</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Table 7: St Helier ward key facts

The school sits on Glastonbury Road near the A217 and Rosehill roundabout, which experiences high traffic flow and is difficult to navigate as a pedestrian. A railway line runs perpendicular to Glastonbury Road, acting as a significant barrier. The school is situated in the St Helier housing estate and hence is surrounded by residential uses. Most houses on the road have off-street parking, however much of the carriageway remains occupied by parked vehicles.
5.2 FINDINGS FROM SCHOOLS

The two main modes of transport in both schools were walking (50.8%) and driving (40.7%). No children travelled to school via train; Green Wrythe Primary School is not directly near any train station but Abbey Primary School is only 10 minutes walk from St Helier station.

<table>
<thead>
<tr>
<th>GREEN WRYTHE PRIMARY SCHOOL</th>
<th>ABBEY PRIMARY SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEAR 5</td>
<td>YEAR 6</td>
</tr>
<tr>
<td>WALK</td>
<td>8</td>
</tr>
<tr>
<td>CYCLE</td>
<td>0</td>
</tr>
<tr>
<td>SCOOT</td>
<td>1</td>
</tr>
<tr>
<td>CAR</td>
<td>13</td>
</tr>
<tr>
<td>BUS</td>
<td>1</td>
</tr>
<tr>
<td>TRAIN</td>
<td>0</td>
</tr>
<tr>
<td>OTHER</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 8: Summary of modes of transport to school on the survey day

Across the 189 children who participated in the study, only one had cycled to school on the day of the session. Several children in each class indicated that they sometimes take more active modes of transport to school. One of the main reasons that they did not always travel via these methods was due to weather, however the sessions were carried out in the summer term and the weather was dry on both days. Other reasons included having extra time (e.g. when a parent isn’t working) and having after school activities that would be unreachable by cycling or scooting.

Through discussion the children highlighted features of their journeys to school that they liked and disliked. The positive features were largely related to opportunities for play and socialising.

“I always pick up [name] on my way to school and we walk together with my Auntie and sometimes we play games”
- Year 4 pupil, Abbey Primary School

“I like seeing my cousin going to school because he always says hello to me”
- Year 5 pupil, Green Wrythe Primary School

“I like having more time to talk to my sister”
- Year 5 pupil, Green Wrythe Primary School

Conversely the negative aspects were more commonly associated with long journeys and vehicle traffic. Children who travelled via inactive modes tended to express more negative opinions.

“I think there should be less traffic, to make my journey quicker”
- Year 5 pupil, Abbey Primary School

“There is not enough parking [at the school] and my Dad gets stressed”
- Year 5 pupil, Green Wrythe Primary School

“I have to wake up at 6am and then I get tired”
- Year 6 pupil, Green Wrythe Primary School

“I come to school on my scooter when it is sunny or not raining”
- Year 3 pupil, Abbey Primary School

“We used to always go in the car but this year we have started walking sometimes and I walked to school today because my Dad had to go to work in my Mum’s car”
- Year 4 pupil, Abbey Primary School

“When my Mum doesn’t have to get my little brother ready in the morning and we have more time and so we sometimes walk- but we are usually still late”
- Year 5 pupil, Green Wrythe Primary School

“If I need to be somewhere after school I can’t take my bike as it would get in the way”
- Year 5 pupil, Green Wrythe Primary School
When asked how they would like to travel to school the most frequently given answer was walking (17%) with half of these answers indicating that they would like to walk with friends. This was followed by cycling (15.9%) and then by driving (13.2%). Several children in Abbey Primary School stated that they would like to cycle to school but they either did not currently own a bicycle or were unable to ride. Nearly half (43.9%) illustrated that they want to travel to school by active modes of transport.

The children were encouraged to be creative in their preferred mode of transport to school, in order to uncover meaning in their school journey aspirations. This produced some unusual results, such as parachuting (4.8%) and . However, this enabled an insight into what the children perceived to be “fun” and “cool”. For instance 6.3% indicated that they would like to travel by a range of motor vehicles (e.g. Lamborghini and private jet). Whilst this is unrealistic, it demonstrates that even at a young age there is a status symbol associated with modes of travel. Similarly several pupils (7.9%) indicated that they would like to travel by some form of animal (e.g. horse riding), which shows that whether or not this is an activity that the children currently participate in, it is something that think would be enjoyable.

### Table 9- Summary of preferred modes of transport to school

<table>
<thead>
<tr>
<th>GREEN WRYTHE PRIMARY SCHOOL</th>
<th>ABBEY PRIMARY SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEAR 5</td>
<td>YEAR 6</td>
</tr>
<tr>
<td><strong>WALK</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>WALK W/ FRIENDS</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>CYCLE</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>SCOOT</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>SKATE-BOARD</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>ROLLER-BALDE</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>SWIM</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>DANCE</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>DRIVE</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>MULTI-VEHICLE</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>SEGWAY</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>TRAIN</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>BUS</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>FLY</strong></td>
<td>5</td>
</tr>
<tr>
<td><strong>FLYING CARPET</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>BOAT</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>PARA-CHUTE</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>ANIMAL</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>TIME MACHINE</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>UNKNOWN</strong></td>
<td>1</td>
</tr>
</tbody>
</table>

![Figure 65- Response from Year 5 pupil in Green Wrythe Primary School](image)

![Figure 66- Response from Year 5 pupil in Abbey Primary School](image)

![Figure 67- Response from Year 6 pupil in Green Wrythe Primary School](image)

![Figure 68- Response from Year 4 pupil in Abbey Primary School](image)

![Figure 69- Response from Year 4 pupil in Abbey Primary School](image)

![Figure 70- Response from Year 3 pupil in Abbey Primary School](image)
When asked to draw their route to school including any significant features, the majority of children (55.0%) included traffic infrastructure (e.g. traffic lights, road junction, bridge, etc.), which indicates an understanding of their local area and location of potential risks. Children who took active modes of travel to school tended to include more detail, showing local parks, shops, significant buildings and topography.

This was a useful technique in understanding children’s aspirations for school journey travel as it revealed much about aspects of the built environment that are already perceived to be positive or negative and what certain areas are used for. This helped to identify the types of areas that are appropriate for different tools (see chapter 7).
This chapter comprises a unique toolbox that has been developed for this project, based on relevant literature, exemplar case studies and primary data collection in schools. The tools operate at a number of levels and are designed to address specific issues associated with inactive modes of transport to school. Both physical design interventions and softer, strategy-based initiatives are outlined in the toolbox.

In this chapter:
• 6.1 The framework
• 6.2 The toolbox
6.1 THE FRAMEWORK

The tools are organised into three categories: physical intervention, education and communication. These are interconnected categories and should be carried out simultaneously, with incremental, progressive changes. Physical interventions aim to tackle physical barriers to active transport and improve safety. Both education and communication aim to address social and perceived barriers to active transport. Communication is also concerned with cultural attitudes towards active transport and aims to foster positive relationships between the school and local community. In all categories, attempts are made to make the most of children’s willingness to find fun in everyday spaces and activities.

6.2 THE TOOLBOX

The table opposite forms the toolbox of this project. Some tools overlap with various aims but they have been categorised under the aim which is most significant.

The tools outlined below will be applied to the study areas in the following chapter to demonstrate their applicability.
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>AIM</th>
<th>TOOL(S)</th>
<th>EXPLANATION</th>
<th>CASE STUDY/LITERATURE /PRIMARY RESEARCH</th>
<th>EXAMPLE IMAGE</th>
</tr>
</thead>
</table>
| PHYSICAL INTERVENTION | To make being in the public realm more inviting. | • Wide, clear footpaths  
• Appropriate street lighting  
• Sociable street furniture  
• Urban greening | People are more willing to spend time in attractive places; therefore this encourages active forms of transport as a means of enjoyment | • Van Gogh Walk, Lambeth  
• Appleyard (1980)  
• Road Task Force (2013) | |
| | To make active, sustainable modes of transport more attractive and fun. | • Pedestrian priority crossing points  
• Fully segregated cycle lanes  
• Dedicated child cycle/scoot lanes  
• Networked pedestrian and cycle routes  
• Spaces for play along routes | It is necessary to have appropriate, child-friendly infrastructure to facilitate active journeys to school. Existing assets should be improved on first. These changes will improve the perceptions of safety. | • “Mini Holland”, Waltham Forest  
• New Park Road, Lambeth  
• Preston (1995)  
• Jacobsen et al. (2000)  
• Gill (2006)  
• Yeung et al., (2008)  
• Aldred (2015)  
• Schoeppe et al. (2016)  
• School findings | |
| | To encourage at least one active stage in a trip. | • Walking bus  
• Integrated public transport system  
• Shuttle bus to local transport hubs | Not all children will be able to travel the entire journey to school via active means. | • Park & Stride, Living Streets  
• Green and Wegener (1997)  
• Carver et al. (2008)  
• Interview findings | N/a |
| | To make active modes of transport more convenient by reducing vehicle dominance. | • Traffic calming  
• Longer pedestrian phases on traffic lights  
• Pedestrian priority crossing points  
• Parking restrictions  
• Parklets | It is essential to alter driver behaviours and allow children to take greater priority. This will impact perceived and actual safety. | • New Park Road, Lambeth  
• Van Gogh Walk, Lambeth  
• Jacobsen et al. (2000)  
• Pucher and Dijkstra (2003)  
• Interview findings | |
| | To remove motor vehicle access (except for emergency and service vehicles). | • Street closure | Removal of vehicles will only be feasible in locations with low existing flows and low car ownership. | • Healthy School Streets, Camden  
• Interview findings | |
| | To remove the need for driving. | • Smaller school catchment areas | This is only feasible for new schools. Denser urban environments encourage higher levels of active transport as amenities are nearer. | • Donaghy et al. (2004)  
• Pucher and Dijkstra (2003) | N/a |
| EDUCATION | To make children aware of their interactions with public space and traffic. | • Training for a range of active modes of transport  
• Workshops with children and parents | It is essential for children to understand how to use different forms of transport. This will improve safety and sense of independence. | • Bikeability, Department for Transport  
• School findings | N/a |
| --- | --- | --- | --- | --- | --- |
| To make children aware of the benefits of active, sustainable transport. | • Curriculum based activities and workshops | Children are more likely to be able to encourage their parents to change modes of transport than professionals; they should understand the relevant issues and benefits. | • STARS, Transport for London  
• School findings | N/a |
| To make active, sustainable modes of transport fun. | • Gamification of school journey  
• Rewards scheme | In order to sustain active, sustainable transport to school throughout the seasons it is essential for it to be enjoyable. | • WOW, Living Streets  
• School findings | N/a |
| COMMUNICATION | To enable open dialogue between all relevant stakeholders (i.e. parents, local residents and local businesses). | • Online discussion forum between school, parents, local residents, local businesses and local authority  
• Regular newsletters | It is necessary for all people likely to be affected by the interventions to be updated and to be able to have a say. | • Interview findings | N/a |
| To engage local people. | • Volunteering opportunities for accompanied travel to school | Partnerships between local people and schools can create a more welcoming community atmosphere and hence a better sense of safety. | • Interview findings | N/a |
| To inform professionals of the successes and failings of any intervention. | • Mandatory pre- and post-monitoring periods  
• Local and national database of all school travel projects | This will ensure that professionals can learn from past schemes, with data that is easily comparable. | • Steg and Vlek (2009) | N/a |

Table 10: Toolbox
This chapter applies the tools from the preceding chapter to the two school sites. The application of the tools demonstrates that, based on specific contexts, tools may need to be adapted and in some instances the tools will not be appropriate. This chapter illustrates how the bespoke combination of tools will deal with specific school travel issues, leading to overall changes in travel behaviour for school journey trips.

Funding cuts to schools and local authorities have implications for the types of interventions that are feasible for schools to adopt. Whilst this project does not provide any real costing for the interventions proposed, the following sections will outline low and high cost solutions.

In this chapter:

- 7.1 Physical intervention
  - 7.1.1 Public realm improvements
  - 7.1.2 Traffic calming
  - 7.1.3 Parking restrictions
  - 7.1.4 Active, sustainable transport infrastructure
  - 7.1.5 Catchment areas

- 7.2 Education
  - 7.2.1 Training programmes
  - 7.2.2 Curriculum activities

- 7.3 Communication
  - 7.3.1 Stakeholder engagement
  - 7.3.2 Monitoring periods

- 7.4 Phasing

7.0 PROPOSALS
7.1 PHYSICAL INTERVENTION

7.1.1 PUBLIC REALM IMPROVEMENTS

One of the first physical changes to the built environment in the area immediately surrounding the school is to improve visual attractiveness. The aim of this is to create a place that is enjoyable to be in and which fosters greater social interactions (e.g. between parents, between members of the school community and local residents). Small scale opportunities for play should be included to make the last section of the journey more fun and hence encourage active modes of transport (see section 7.1.4).

Methods to improve attractiveness could involve pupil participation, for instance planting flowers as an educational activity; or a design competition for a school mural or street painting. More formal methods include re-paving the road, removing street clutter, urban greening, providing appropriate street furniture and so on. However, these proposals will take longer to implement and cause more disruption.

7.1.2 TRAFFIC CALMING

The second stage is concerned with altering driver behaviours in order to improve safety and make active travel more convenient. The design of the road should force the driver to travel at slow speeds and yield to crossing pedestrians. This will be achieved by narrowing the carriageway and creating a non-linear path or a path that is lined by street furniture, which will visually narrow the road. Crossing points with child pedestrian priority should be included and clearly signed for drivers to yield to crossing pedestrians; the crossing points should also be obviously marked and raised to the level of the footway. Child pedestrian priority should be established through legislation outside all schools, in accordance with Preston (1995)'s proposals. Any existing automatic traffic signals should be altered to have a longer pedestrian phase.

A large scale, formal approach, as shown for school site 1 (see page 51), should be combined with the first stage of public realm improvements. A less formal approach, as shown for school site 2 (see page 52), employs a range of strategies. Existing car parking spaces will be turned into “parklets” with small plantings and spaces for play and well as cycle/scooter parking. Parklets will also make parking by the school more difficult. New pedestrian crossing points will be indicated by street painting based on designs from the children.
7.0 PROPOSALS

SCHOOL SITE 1: GREEN WRYTHE PRIMARY SCHOOL

- Pedestrian priority crossing points in a child pedestrian priority area
- Carriageway narrowing and footway extension to create one-way traffic flow in the NW direction
- Urban greening: enhancement of biodiversity in Poulter Park and along Green Wrythe Lane
- Play facilities at entrance to school road as continuation of those at strategic nodes
- High quality street furniture to encourage static activities as well as through movement; meeting social needs of parents and children

Figure 77: School site 1 initial public realm improvements
SCHOOL SITE 2: ABBEY PRIMARY SCHOOL

**Planters to replace parking spaces by school**

**On street play facilities to replace parking spaces by school**

**Additional play facilities at strategic nodes along routes to school, making use of existing open spaces (e.g. green verge by roundabout on Love Lane)**

**Informal crossing points by school, making use of existing speed humps for raised tables with road painting designed by children from the school**

Figure 78: School site 2 initial public realm improvements
7.1.3 PARKING RESTRICTIONS

The third stage should concentrate on reducing parking availability by the school. A restricted parking zone may be implemented and parking spaces removed; this must be properly enforced with penalties or fines.

This will be particularly important for school site 2 as there is much on-street parking, making crossing movements difficult for children who are less visible to drivers. A no-parking-zone should be established for 100m outside the school; several members of school staff should be dedicated to enforcing this. Residents must obtain a parking permit for a small annual fee.

7.1.4 ACTIVE, SUSTAINABLE TRANSPORT INFRASTRUCTURE

The previous sections establish a strong basis for encouraging active transport. At this stage it is important to develop networks of paths dedicated to active travel for children based on the catchment area, concentrations of pupil’s home locations and available green spaces. These paths will include “active lanes”; these are similar to cycle lanes but permit any active travel for children only. Parents may accompany children in “active lanes” on the adjacent footpath. The “active lanes” will be fully segregated from traffic with a raised kerb.

Features with an element of fun and opportunities to play should be included at strategic nodes along the network, e.g. something to climb or walk on or simply a space that enables play, such as Van Gogh Walk. The networks should be planned at a strategic level, considering all local schools; the map opposite demonstrates the network for the two schools.

Efforts should be made to integrate the active travel infrastructure with existing public transport networks. This will better enable parents to drop their children to school via active means before continuing to work via public transport. By clearly signaling the links between these two modes of transport, active journeys to school will be made to seem more convenient.

Figure 79- Indicative image of active lanes and simple play facilities at strategic node by school site 1

Figure 80- Active lanes network and strategic nodes for play facilities, making use of existing spaces and infrastructure

Key:
- Active lane
- Strategic node for play spaces

Figure 81- Indicative image of repurposed cycle lane into an active lane by school site 2; an on road, adult cycle lane should be implemented as well
7.0 PROPOSALS

7.1.5 CATCHMENT AREAS

For any new primary schools being planned, it is imperative to acknowledge school travel when determining the catchment area. Clearly this process must consider a range of different factors, which may vary based on location. However, in the suburban context, walking should be used as one of the determining factors with 30 minutes of walking as the approximate outer limit of the catchment area.

7.2 EDUCATION

7.2.1 TRAINING PROGRAMMES

Based on the positive acceptance and uptake of the DfT Bikeability scheme in the UK, more training schemes should be developed to cover a range of active transports including: scooting, rollerblading, skateboarding. Much of the training will be similar to that for cycling and so the sessions can be run in conjunction if there is little uptake for certain modes.

The programmes should follow the same three level structure as the Bikeability scheme, allowing children to gradually improve skills and independence. The “active lanes” network will be an ideal place for beginners to learn. The training programmes will cater for all ages of primary school children.

School Site 1:

Key:
- 15 minute walk
- 30 minute walk

School Site 2:

Figure 82- Isochrone maps for school sites 1 and 2

Figure 83- Scootability levels structure

LEVEL 1:
- scoot without help
- scoot at an appropriate speed and distance from adults
- slow and stop safely

LEVEL 2:
- use “active lanes” with other users
- share space with all users, off-road
- recognise hazards

LEVEL 3:
- plan journeys
- show others what you are going to do
- react to hazardous road surfaces

Figure 83- Scootability levels structure
7.2.2 CURRICULUM ACTIVITIES

Training schemes may be expensive and hence unfeasible to run in some schools, however similar skills can be taught in PE lessons as an alternative.

It is important to integrate information on school journey travel into children’s learning in order to establish an understanding of the personal and global impacts of travel choices. Travel should be studied in geography when learning about global warming. Travel should also be studied in science when learning about the human body and healthy lifestyles. The topic of travel should be covered at various stages throughout primary school.

7.3 COMMUNICATION

7.3.1 STAKEHOLDER ENGAGEMENT

From the beginning of any changes it is essential to engage with all relevant stakeholders and allow opportunities for opinions to be voiced and discussed. In UK suburban primary schools the initial form of contact with parents, local residents and local businesses should be through regular (i.e. fortnightly or monthly) newsletters. The school should hold quarterly or biannual meetings in which suggestions, concerns, opinions and comments can be expressed about any changes in the local area; the school will take any appropriate action following this feedback. Additional meetings should be held when significant changes are proposed.

7.3.2 MONITORING PERIODS

It is also essential to maintain communication between schools and built environment professionals. Before and after any physical interventions are implemented, a monitoring period of at least one week must be carried out to assess modes of travel to school, traffic flow on school road, traffic speed on school road, traffic flow on surrounding roads, illegal parking, noise pollution, air pollution, accident rates. Questionnaires should be run with children, parents and local residents to gain information on perceptions of safety and opinions on sustainable, active travel. This information will be shared with the local authority and made publicly available in order to inform future school travel interventions.

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>METHOD</th>
<th>PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport modes of school travel</td>
<td>Hands up survey</td>
<td>1 week</td>
</tr>
<tr>
<td>Illegal parking</td>
<td>Traffic warden data</td>
<td>1 week</td>
</tr>
<tr>
<td>Traffic volume and speed</td>
<td>Double pneumatic road tube counter</td>
<td>1 week</td>
</tr>
<tr>
<td>Air pollution</td>
<td>Diffusion tubes</td>
<td>1 month</td>
</tr>
<tr>
<td>Noise pollution</td>
<td>Sound level metre</td>
<td>1 month</td>
</tr>
<tr>
<td>Accident rates</td>
<td>Police data (or CrashMap)</td>
<td>1 year</td>
</tr>
</tbody>
</table>

Table 11: Monitoring for pre- and post- implementation periods
7.4 Phasing

Below details a rough, indicative phasing for the interventions outlined above. Each phase is one school year.

**Phase 1**
- Initial stakeholder engagement
- Monitoring period 1
- Public realm improvements
- Curriculum activities
- Training programmes

**Phase 2**
- Traffic calming
- Parking restriction enforcement
- Active, sustainable transport infrastructure
- Curriculum activities
- Training programmes
- Stakeholder engagement

**Phase 3**
- Stakeholder engagement

Figure 85 - Indicative phasing diagram
8.0 CONCLUSIONS

In this chapter:

- 8.1 Active, sustainable transport to school
- 8.2 Reflections
- 8.3 Opportunities for future research
8.0 CONCLUSIONS

8.1 ACTIVE, SUSTAINABLE TRANSPORT TO SCHOOL

This project aimed to investigate the rationale behind children’s transportation modes to school and propose solutions to encourage behaviours towards more active and sustainable forms of transport. The schools chosen as study sites for this research are unique and do not represent all primary schools in UK suburban areas. These schools have been used to demonstrate how different tools could operate.

There is widespread acknowledgement that active modes of transport are declining. This is problematic for a number of reasons including: increased car use contributing to climate change; increased car use causing more congestion and greater risk of injury to pedestrians; decreased physical activity contributing to rising rates of childhood obesity; and inactive modes of transport reducing opportunities for informal social development in children. The two main concerns for parents on active transport to school are traffic safety and “stranger danger”. These concerns result in restrictions on active transport and outdoor play, overall leading to fewer everyday instances of children being unsupervised (Carver et al., 2010). Despite this, the findings of this project indicate that children want to travel in a way that they perceive to be “fun” or “cool”. Generally the children expressed an eagerness to take forms of transport that enable play or extra-curricular activities, which tend to include physical activity. Therefore an understanding of children’s aspirations for school travel can play a significant role in creating environments that are perceived as physically fun, hence encouraging physically active modes of travel based on children’s eagerness to engage in entertaining activities.

Through this project a bespoke toolbox has been developed, designed to address specific issues surrounding inactive travel to school. The tools are split into three categories: physical intervention, education and communication. These have been applied to the study areas to demonstrate how they should be selected and adapted to the context. This project argues that it is essential to provide a range of incremental, interrelated interventions that aim to induce behaviour change using targeted combinations of approaches that respond to the context of the school.

9.2 REFLECTIONS

It is important to note that some of the primary data collection is based on subjective measures, which contain inherent biases based on the researcher’s positionality and experiences. Clearly there is an underlying assumption in this project that sustainable transport should be promoted, however this belief is not held by all.

The case studies used to inform this project provided a valuable insight into existing practice in the UK. Only UK case studies were selected in order to have a comparable social and cultural context, however there are many examples of good practice from abroad and it may be interesting to contrast these with UK examples. Only a few case studies were selected; this is not a comprehensive list of school transport related projects.

Given the scope of this project it was unfeasible to test all the tools in a pilot study. This would be useful in order to assess the effectiveness of the tools in a real-life setting. The group sessions in the study schools acted as a pilot study for engagement with children on the topic of journeys to school. In order to use these methods effectively in understanding children’s school journey aspirations, it would be beneficial to have a more continuous period of engagement rather than one-off sessions. Smaller groups would also better facilitate in depth conversation on the topic. Discussion was helpful in these sessions, however the child-friendly activities were most useful in gaining an understanding of the children’s opinions and aspirations; this made the sessions more interactive and enjoyable. During the sessions it was crucial to encourage the children to use their natural creativity in order to uncover their instinctive willingness to find fun in everyday activities and to understand what is perceived to be fun.

Many schools and local authorities have experienced significant funding cuts in recent years and are unable to invest in expensive schemes. This project has not attempted to provide costs for any of the interventions suggested. This would be an important consideration in adopting any of the proposals. Collaboration with a relevant local authority would be a potential way to address this.

9.3 OPPORTUNITIES FOR FUTURE RESEARCH

This project has only considered primary school children in UK suburban areas. A possible area of further research would be to adapt the tools outlined to a range of different contexts within the UK. The social and cultural contexts in relation to active, sustainable transport to school may vary greatly across the nation.

A potential path for further research would be to compare parental opinions and aspirations with those of children and to consider how to use these to influence both school journey modes and household travel behaviours. It may be useful to explore the role of employment in everyday family life.

In conclusion, this project has developed new proposals to encourage active travel to school, through an understanding of children’s aspirations for school journeys. Promoting active, sustainable travel to school is complex as all transportation choices are ultimately determined by a range of different factors. It is essential to engage with children and consider their opinions when attempting to change their everyday behaviours. Therefore further research is essential in order to better understand the role that this could play in practice.
REFERENCES


Daly K T (1996) Spending Time with the Kids: Meanings of Family Time for Fathers, Family Relations, 45(4), 466-476


OECD (1996) Towards sustainable transportation, The Vancouver Conference


Roads Task Force (2013) The vision and direction for London’s streets and roads


APPENDICES

APPENDIX 1: SEMI-STRUCTURED INTERVIEW PLAN

- What was the main aim of this scheme (e.g., environmental, health, safety, etc.)?
- How does the scheme operate in practical terms?
- How successful is it proving to be?
- How has it been received?
- What problems has the scheme faced?
- Is there anything that could/should be changed in this approach?
- Are there any plans to apply this approach to other areas? Would this be possible?
- Has this scheme been run in conjunction with any other programmes?
APPENDIX 2: INTERVIEW LIST

<table>
<thead>
<tr>
<th>Date</th>
<th>Interviewee(s)</th>
<th>Organisation</th>
<th>Associated project</th>
</tr>
</thead>
<tbody>
<tr>
<td>26/05/17</td>
<td>Ben Knowles</td>
<td>London Borough of Camden Council</td>
<td>Healthy School Streets</td>
</tr>
<tr>
<td>07/06/17</td>
<td>Steve Chambers</td>
<td>Living Streets</td>
<td>WOW</td>
</tr>
<tr>
<td>30/06/17</td>
<td>Paul Garside</td>
<td>London Borough of Sutton Council</td>
<td>General</td>
</tr>
<tr>
<td>17/07/17</td>
<td>Feras Fathallah, Zoe Spilliopoulou</td>
<td>Sustrans</td>
<td>New Park Road</td>
</tr>
</tbody>
</table>

APPENDIX 3: SCHOOL GROUP SESSION PLAN

<table>
<thead>
<tr>
<th>Proposed session plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity</strong></td>
</tr>
<tr>
<td>-----------------</td>
</tr>
</tbody>
</table>
| Introduction    | Introduce self and project:  
|                 | - Name, student in UCL  
|                 | - Research on how kids get to school | N/a               | 2                 |
| What is urban design? | Brief overview of the discipline:  
|                 | - Explain architecture and town planning (who knows what an architect is? etc.); urban design sits somewhere in between  
|                 | - Urban design is the design of public spaces - this may not seem very exciting but think of how great this could be if you are creative! (bear this in mind when doing the design task later)  
|                 | - Urban design can have a big impact on our everyday lives (use examples to demonstrate, with clear before and after photographs) | Photographs of transport related urban design projects | 5                 |
| How do you travel to school? | Short hands-up question session:  
|                 | - Who travels by car? ...by foot? ...by bicycle? ...by bus? ...by train?  
|                 | - Does anyone use more than one type of transport to school?  
|                 | - Why do you travel this way to school?  
|                 | - Who would like to travel to school differently? What way would you like to travel to school? | N/a               | 5-10               |
| How would you like to travel to school? | Drawing activity:  
|                 | - On a small piece of paper draw a mode of transport that you think would be the best (or the most fun) to travel to school by  
|                 | - Use your imagination for this | Map of local area (?) | <5                 |
| What is your route to school? | Drawing activity for individual route to school:  
|                 | - Does not need to be a detailed map, a sketch showing where turns are taken and what important features/landmarks are passed by | Paper, pens, pencils | 5-10               |
| Designing for better journeys to school | Only if there is time (use for longer sessions)  
|                 | Individual or group task to come up with ideas to make journeys to school better and more fun (with focus on improving conditions for walking, cycling and scooting):  
|                 | - Brainstorm ideas (the weirder the better!)  
|                 | - Sketch out examples of the best (or most popular) idea; add as much detail as possible | Maps of area immediately surrounding the school, paper, pens, pencils | 15                 |
Information Sheet for School Participation in Research Studies

Title of Project:
Influencing School Journey Transportation Modes of Primary School Children in UK Suburban Areas towards Active, Sustainable Modes of Transport

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 11335/001

Name(s): Aoife Connaughton (MSc student at Bartlett School of Planning, UCL), John Dales (supervisor)
Contact Details: aoife.connaughton.16@ucl.ac.uk, j.dales@urbanmovement.co.uk

Invitation to participate:

I am a student at UCL studying MSc Urban Design and City Planning; I am currently researching how to encourage greater levels of active transport (e.g. walking and cycling) to school for primary school children. I am basing this project in Sutton as an example suburban area.

I would like to invite children ages 7-11 years old in your school to participate in this research project. Before consenting to participation in this study on behalf of your school, it is important to read the information provided below on why they study is being carried out and what participation will involve. Please feel free to contact me at any time if there is anything that is not clear or if you would like more information.

Details of project:

This project aims to investigate the rationale for school journey transportation mode choices in primary school children and propose a set of design tools and policy recommendations to encourage more sustainable, active modes of transport in Sutton.

Participation:

Your school has been chosen for this project as it is located in the London Borough of Sutton and is well placed for proposed improvements to the physical environment. Classes of children aged 7-11 years old will be invited to participate. Consent of participation must be gained from parents of children and the school should determine if it will be inappropriate for any individual child to participate based on personal circumstances, needs and/or requirements. I aim to make the session inclusive for all and I am happy to work with you to tailor the session to best fit the school’s learning outcomes.

I would like to run an in-class session to ask the children about their forms of transportation to school and reasons for this, as well as their opinions on their modes of travel. I will use interactive methods and group participation for this, in order to make the session as enjoyable and engaging as possible. I will not collect any information on their home addresses or exact routes to school. I will not collect any personal information, beyond using first names during the session.

I would also like to run a series of Urban Design related activities as part of the session, involving maps, drawing and model building. This will give the children an opportunity to explore what work is like in this profession.

Potential advantages and disadvantages:

Whilst there are no immediate benefits for children participating in the project, the one-off session is intended to be fun and informative. As well as finding out how the children travel to school, I aim to help them think about their local area more and through group idea-generation, propose some creative interventions for their school.

The output from my project will be a proposed series of design tools, interventions and policy recommendations that will be applicable to UK suburban locations; this is not a project to redesign the area surrounding your school. However, I will prepare indicative design plans based on this area in order to illustrate the proposals.

Depending on engagement with your school and the London Borough of Sutton council, there is a chance that this project may influence the local area but there is no guarantee that this will happen. This project is a postgraduate major research project and is not intended to be published or publically accessible.

Informed consent:

Please discuss the information above with others if you wish or ask us if there is anything that is not clear or if you would like more information.

It is up to you to decide whether your school can take part or not; choosing not to participate will not disadvantage your school in any way.

If you decide to consent to your school participating in the session, please complete the consent form attached.

Thank you for reading this information sheet and for considering taking part in this research.

Appended

Appended

Informed Consent Form for Participation in Research Studies

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: Influencing School Journey Transportation Modes of Primary School Children in UK Suburban Areas towards Active, Sustainable Modes of Transport

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 11335/001

Thank you for your interest in taking part in this research. Before you agree to take part, the person organising the research must explain the project to you.

If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Participant’s Statement

I ……………………………………………… On behalf of [school name] ………………………..

• have read the notes written above and the Information Sheet, and understand what the study involves.
• understand that if the school decide at any time that it no longer wishes to take part in this project, I can notify the researchers involved and withdraw immediately.
• agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.
• understand that consent must be obtained from parents prior to pupil participation in this study.

Signed: ……………………………………………… Date: ………………………
APPENDIX 6: PARENT INFORMATION SHEET

Information Sheet for Parents for Child Participation in Research Studies

Title of Project:
Influencing School Journey Transportation Modes of Primary School Children in UK Suburban Areas towards Active, Sustainable Modes of Transport

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 11335/001

Name(s): Aoife Connaughton (MSc student at Bartlett School of Planning, UCL), John Dales (supervisor)
Contact Details: aoife.connaughton.16@ucl.ac.uk, j.dales@urbanmovement.co.uk

Invitation to participate:
I am a student at UCL studying MSc Urban Design and City Planning; I am currently researching how to encourage greater levels of active transport (e.g. walking and cycling) to school for primary school children. I am basing this project in Sutton as an example suburban area.

I would like to invite children ages 7-11 years old in X school to participate in this research project. Before consenting to participation in this study on behalf of your child, it is important to read the information provided below on why they study is being carried out and what participation will involve. Please feel free to contact me at any time if there is anything that is not clear or if you would like more information.

Details of project:
This project aims to investigate the rationale for school journey transportation mode choices in primary school children and propose a set of design tools and policy recommendations to encourage more sustainable, active modes of transport in Sutton.

Participation:
As a pupil at X school aged between 7-11 years old, your child’s class has been chosen to participate in this project. X school has been chosen for this project as it is located in the London Borough of Sutton and is well placed for proposed improvements to the physical environment.

I will be running an in-class session on DD/MM/YY at hh:mm - hh:mm. I will ask the children about their forms of transportation to school but I will not collect any information on your home address or exact route to school. I will not collect any personal information on your child, beyond using their name during the session.

I will also run a series of Urban Design related activities, involving maps, drawing and model building. This will give the children an opportunity to explore what work is like in this profession.

Potential advantages and disadvantages:
Whilst there are no immediate benefits for children participating in the project, the one-off session is intended to be fun and informative. As well as finding out how the children travel to school, I aim to help them think about their local area more and through group idea-generation, propose some creative interventions for their school.

The output from my project will be a proposed series of design tools, interventions and policy recommendations, that will be applicable to UK suburban locations; this is not a project to redesign the area surrounding X school. However, I will prepare indicative design plans based on this area in order to illustrate the proposals.

Depending on engagement with and support from X school and London Borough of Sutton council, there is a chance that this project may influence the local area but there is no guarantee that this will happen. This project is a postgraduate major research project and is not intended to be published or publically accessible.

Informed consent:
Please discuss the information above with others if you wish or ask us if there is anything that is not clear or if you would like more information.

It is up to you to decide whether your child can take part or not; choosing not to participate will not disadvantage your child in any way. If you do decide for your child to take part you are still free to withdraw at any time and without giving a reason.

If you decide to consent to you child participating in the session, please complete the consent form attached.

Thank you for reading this information sheet and for considering taking part in this research.

APPENDIX 7: PARENT CONSENT FORM (ON BEHALF OF CHILD)

Informed Consent Form for Participation in Research Studies

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: Influencing School Journey Transportation Modes of Primary School Children in UK Suburban Areas towards Active, Sustainable Modes of Transport

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 11335/001

Thank you for your interest in taking part in this research. Before you agree to take part, the person organising the research must explain the project to you.

If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Participant’s Statement
I…...................................................... on behalf of my child

- have read the notes written above and the Information Sheet, and understand what the study involves.
- understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately.
- consent to the processing of my personal information for the purposes of this research study.
- agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.

Signed: ………………………………………………………………………………………………………………………………………………… Date: …………………………….
Informed Consent Form for Participation in Research Studies

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: Influencing School Journey Transportation Modes of Primary School Children in UK Suburban Areas towards Active, Sustainable Modes of Transport

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If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Participant’s Statement
I ………………………………………………………………………

• have read the notes written above and the Information Sheet, and understand what the study involves.
• understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately.
• agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.

I wish to remain anonymous/ I do not wish to remain anonymous [Delete as applicable]

Signed: …………………………………………………… Date: ……………………………