Healthy Travel and Child Socialisation:
Policy Implications for Social and Cultural Change

by

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Submitted in accordance with the requirements for the degree of
Doctor of Philosophy

University of Leeds
Institute for Transport Studies

August, 2007

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Acknowledgements

I am grateful to the Engineering and Physical Sciences Research Council for providing funding from the Doctoral Training Account, 2001 which made this research possible.

Special thanks to all those who contributed time and effort to the project particularly my supervisors, Miles Tight and Paul Firmin for their guidance and maintaining my motivation throughout. Thanks also to Poppy Salmon and others who provided secretarial support.

Without the support of staff and pupils in participating schools the research could not have gone ahead. The eight 'study' schools were: *Weetwood* Primary, Weetwood, Leeds; *Ireland Wood Primary*, Ireland Wood, Leeds; *St. John's CE Primary*, Bradford; *Mt. Pellon J & I,* Halifax; *All Saints CE (VA) J & I*, Salterhebble, Halifax; *Salterhebble J & I,* Salterhebble, Halifax; *Sowerby Village CE (VE) Primary*, Sowerby; *Riverside Junior*, Hebden Bridge.

In addition, seven schools in the Huddersfield area also assisted: *Brockholes CE (C) J & I; Golcar J & I N; Moldgreen Community Primary; Crosland Moor Junior*; *Almondbury Junior*; *Rastrick Preparatory*; *Rosemeade Independent School.*

The schools in the pilot study were: *Ashlands Primary*, Ilkley; *Bowling Park Primary,* Bowling, Bradford; *Burley Oaks Primary*, Burley-in-Wharfedale, Ilkley; *Foxhill Primary,* Mountain, Bradford; *Lightcliffe Primary*, Lightcliffe, Halifax; *St. John's Primary,* Clifton, Brighouse; *St. Chads Primary*, Hove Edge, Brighouse; *Thornton Grammar School*, Thornton, Bradford.

Abstract

The way people travel has a substantial impact on health. Over reliance on car transportation has personal as well as social health effects. This thesis reports research designed to investigate the role of cultural factors on children's travel. It examined the home and the school in a project that had theoretical and practical objectives. Theoretically the research sought to ascertain if there is transmission of parental attitudes, norms and patterns of travel behaviour to children. A practical objective was to determine if school travel initiatives are effective in reducing car dependency for school journeys.

The primary argument is that children learn about travel modes in the same way as other aspects of culture, through agents of socialisation: the family, school, media and peer groups. The findings were used to develop a social theory of travel mode behaviour, 'travel socialisation'. This focuses on behaviour in the context of the culture in which people live, examining the role of every day life on travel.

A secondary argument is that to remove 'car dependency' involves changing the social and cultural emphasis on cars as a mode of transport. There is a need to tackle this from a social policy approach rather than just a 'travel demand' management perspective. The policy implications of the findings address how children, as the next generation of adults, should be socialised to avoid future dependency on car transportation. These include measures aimed at families, employers and everyone who shares the community.

A 'mixed methods' research design utilised qualitative and quantitative data and the main conclusions were strengthened by methodological triangulation. A 'comparative methods' approach was used in the design and analysis of the research instruments. Key variables were 'number of cars in household' and 'type of school attended'. Primary school children completed travel diaries, pictorial questionnaires and some participated in focus groups. Parents and key persons in schools completed a questionnaire and some were interviewed. A documentary analysis of the governmental school travel plan promotional literature was undertaken.

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Glossary

All Fields Postcode Directory (AFPD)

A list of post-codes and their map co-ordinates for street names in Britain. These are accessed through the 'Lookup Tables', on the Census website. From the postcodes the 'Easting' and 'Northing' map co-ordinates are available. These are inputted into the computer program, MapInfo which produced an estimate of the distance travelled to school for each pupil in the study schools. See http://www.mapinfo.co.uk

Car Culture Attitudinal Scale

The questionnaires for children in Years 5 and 6 and parents contained an attitudinal section in which respondents indicated their feelings towards transport modes. Four categories were derived from the scale and these were used to describe the strength of *feelings* towards transport modes. The categories were: the Car Cultured, the Active Dependents, the Multimodal and the Car Free. Fifty six children in 13 focus groups were selected according to attitudinal category.

Indices of Deprivation (ID 2000)

The Indices of Deprivation[1] (ID 2000), are mainly derived from Census data and obtained from school postcode. English districts are ranked between '1' and '8,414'. Rank 1 is the most deprived. Ward level data from six indices are used: income, employment, health deprivation, housing, education, skills/training and geographical access to services. Ten percent of districts rated 841 or lower are 'very deprived.' [2] Two schools in the research are 'very deprived' with a third rated just above, 841. See, National Statistics, 'Neighbourhood Statistics' http://neighbourhood.statistics.gov.uk/ .

Research Instruments:

Diary Set: completed by pupils in Years 5 and 6 in the eight 'study' schools. Diary sets comprised a three part questionnaire: a One week Travel Diary (TD), an Out of School, Sports & Exercise Diary (SED) and a travel and exercise questionnaire.

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[1] ID 2000 was the index available during fieldwork. The updated, ID 2004, has extra indices.
[2] Telephone communication with Dr. R. Lynch, Office of the Deputy Prime Minister in 2003.

Parents' Travel and Exercise Questionnaire (PTEQ): in the research a 'parent' was defined by the author as: a household member *"who brings a 9 to 11 year old child/ren to school (or has done so in the past)"* hence they were a sample of people mainly women, involved in the 'school run'.[3] The PTEQ had several additional questions to the children's TEQ.

SalterSTS: a two page questionnaire almost identical to the school travel survey but had an attitudinal section to measure feelings towards transport modes. SalterSTS was only used at Salterhebble school in June 2004 (Years 5 and 6), following low response to diary sets. SalterSTS enabled vital data needed for the evaluation of school travel initiatives to be collected (see 'Study Schools' below).

School Travel Survey (STS): a two page questionnaire designed for younger pupils, 7 to 9 year olds (Years 3 and 4) attending the six schools included in the evaluation of school travel initiatives.

Travel and Exercise Questionnaire (TEQ): a shortened version of the diary set, completed at home by pupils in Years 5 and 6 attending the seven KMC schools. It collected data about mode of travel and contained a travel and exercise section. The questions were identical to those included with diary sets to enable comparison and amalgamation of data.

Vignette Travel Questionnaire: pictorial questionnaire completed by pupils in Years 5 and 6 in the eight study schools. A 'vignette' as used here is a set of photographs to replace verbal descriptions and aid understanding. It contains seven large photographs of transport modes and ten smaller photographs showing different 'types of people'.

Schools in the Research:

Kirklees Metropolitan Council (KMC) Schools: seven primary schools located in the KMC district of Huddersfield. Five are state schools and two are private schools. The pupils who completed a TEQ questionnaire were aged 9 to 11 years (Years 5 and 6)

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[3] At the time of the research, 72% of parents escorted a child both to and from school, 11% either to *or* from, 15% have escorted in the past, (2% missing).

hereafter entitled the 'KMC Children'. None of the schools had a travel initiative. Questionnaires were completed in November, December or February of 2003/4.

Study Schools: eight state primary/junior schools located in Bradford, Leeds, Halifax, Hebden Bridge and Sowerby village. The pupils involved were aged 7 to 11 (Years 3 to 6). Of the eight schools, six were included in an evaluation of school travel initiatives: three had initiatives and three were comparisons. The two schools not in the evaluation (the 'Shadow' schools) are in areas of economic deprivation, recruited to broaden the socioeconomic range of the sample. Questionnaires were completed in the spring/summer of 2003.

School Travel Plan (STP) and Travel Initiatives:

STP: *"A school travel plan is a document setting out a package of measures for reducing the number of car trips made to a school or a group of schools by parents and staff and for improving safety on the school journey"* (DfT 2002). In 2002, few schools in England had written plans but some had a travel initiative in operation.

Walking Bus (WB): a group of children who walk to school along a set route, collecting other children along the way at 'bus stops', escorted by several adult volunteers, one of whom is at the front 'the driver' and one is at the back 'the conductor' (Mackett, Lucas, Paskins et al 2003a). For safety, the walkers wear reflective vests.

Yellow Bus (YB): school pupils are collected near to home and taken to/from school in a dedicated school bus which is painted yellow. The concept originated in the USA.

Sociological Definitions:

Culture: the culture of a society is the way of life of its members; the collection of ideas and habits which they learn, share and transmit from generation to generation. Culture defines accepted ways of behaving for members of a particular society.

Norms: every culture contains a large number of guidelines that direct conduct in particular situations. Norms define appropriate and acceptable behaviour in specific situations. Norms are enforced by positive and negative sanctions, that is rewards and punishments. Many norms can be seen as a reflection of values.

Values: a value is a belief that something is good and desirable. It defines what is important, worthwhile and worth striving for. Like norms, values vary from society to society. Sociological definitions from Haralambos, Holborn and Heald (2000: 3/5).

Chapter One

Introduction

1.1 Transport and Health

The way people travel has a substantial impact on health. This is reflected in burgeoning academic and governmental literature. The negative effects may be local, national and international. They may be direct or indirect and follow the lifecycle of vehicles: at production, usage and disposal. Over reliance on car transportation has personal as well as social health effects. In 2004, 34, 351 people were killed or seriously injured on British roads (National Statistics 2005a). The use of the physically active modes (walking, cycling) which provide an opportunity for regular exercise, has decreased. Environmental problems include: noise, congestion, visual intrusion and air pollution. Vehicle emissions increase the levels of greenhouse gas in the atmosphere contributing to global warming which has widespread consequences (Wickham 2001).

1.2 Children's Travel, Health Concerns

The PhD research began in January 2002. Concerns about children's travel had prompted governmental attention because an over reliance on car transportation impacts negatively on their health, safety and well-being. There are also long-term social implications of children's travel behaviour. The trend for children's travel follows the rest of the population – car use is rising and in 2002, 70% of children's trips were by car (Mackett 2002). As the next generation of travellers, car dependent children are more likely to become car dependent adults, not in the habit of walking for transport or using other travel modes. There is growing conviction amongst researchers of physical activity and young people that, *"children's physical activity patterns track into adult life"* (Kuh and Cooper 1992, Armstrong 1995, Roberts 1996). Insufficient amounts of physical activity can increase the risk of serious disease in adulthood. In addition, rising levels of clinical obesity in the population were noted in the Annual Report of the Chief Medical Officer, Department of Health (DH 2002) and children were a particular concern. In the age group 6-15 years, there had been a 3.5% increase in only five years between 1996 and 2001. The proportion 'overweight' also rose by 7% during this period. As well as the personal health problems for individuals, there is

also a financial implication. The costs to the NHS and industry owing to absence due to ill-health were estimated at £2.5 billion in DH (2002).

Globally, levels of obesity are increasing for children and adults. Estimates of prevalence in 2005 are provided by the World Health Organization.[1]. The UK rate 22.5%, is lower than several countries: US 40%, New Zealand 27%, Australia 24%. However, in comparison with Europe, the figure is very high - for instance, France is 7.25%, Denmark 9% and Sweden 11%. The cause of the rise is multi-factorial and poor diet is a contributory factor. But a decline in energy expenditure through physical activity is central (Cavill 2001). Although a comparison of health survey findings from 1997 to 2002 showed no evidence of short-term, major changes in children's activity levels, there is indirect evidence that children's energy expenditure has been declining for several decades (DH 2004a). The contemporary threats to overall activity levels are described: children have less 'licence' to act independently away from home, and at a later age (see Hillman, Adams and Whitelegg 1990); the decline in percentage of primary children walking to school (see DfES 2003); the rise in childhood obesity; greater access to sedentary pursuits such as TV and computers. Advice is provided in DH (2004a), on the daily amounts of exercise for children and young people. They should achieve a total of at least 60 minutes a day. This should be of at least moderate intensity physical activity, and can be continuous or intermittent activity throughout the day. A variety of activity is important and walking to and from school is one of several forms of exercise in a profile of recommended activities. These include organised sports and games, a delivery round, exercise classes and recreational activities such as dancing (p.23).

The future health implications of obesity are acknowledged in the DH White Paper, Choosing Health: Making healthy choices easier (DH 2004b). Effective action on diet and exercise is necessary because very serious health problems are being stored for the future. If not addressed effectively now, there is an increased risk factor for children:

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[1] World Health Organization Global InfoBase Online : Reports 'Age-standardized estimates for Obesity by country for ages 15 + for 2005. See http://who.int/ncd_surveillance/infobase/web/InfoBasePolicyMaker/reports/Reporter.aspx?id=3 (2007). On a global scale, measuring overweight and obesity in children younger than 15 is challenging because there is no standard definition of childhood obesity applied worldwide.

heart disease, cancer, stroke, type 2 diabetes, hypertension high cholesterol and other health problems. In 2002, cases of type 2 diabetes were reported for the first time. This is a disease normally linked with middle and older age. A number of ways of tackling poor diet and insufficient exercise are given in DH (2004b). One of these is walking to and from school and brief details of the Government's 'Travelling to School Initiative' (DfES 2003) are given.

1.2.1 Health Benefits of Walking

Sallis, Frank, Saelens and Kraft (2004) reviewed the research on the physical benefits of walking for adults. The findings suggest that *"people's utilitarian active travel"* has similar health benefits to the more traditional exercise undertaken in leisure time. Cavill (2001) discusses the health value of walking and how walking for transport should be encouraged. Tudor-Locke, Ainsworth and Popkin (2001) conclude that little is known about the health outcomes for children who walk to school. Recent research by Mackett, Lucas and Paskins et al (2005) addresses this and makes a significant contribution to knowledge. The researchers report that walking can provide significant volumes of activity in its own right. A sample of 195 children participated in the research that involved the wearing of motion sensors for four days. These measure calories used by body function. Diaries were kept to record types of activity and a finding was that 10 to 13 year olds who walk to/from school consumed more calories than during any other activities they engaged in with one exception. This was a two hour lesson of physical education/games at school. However walking to/from school in itself may not contribute enough to fulfil a child's *total* physical activity needs. An interesting finding is the positive link between those who walk to activities and a tendency to be more active once they arrive, in comparison with car travellers. The researchers raise issues about the direction of the causality. It is not clear whether walking has made the children healthier, therefore more active, or the reverse of this, taking part more actively, makes them keener to walk. A third independent factor is raised. Parental behaviour could make children more active in events as well as influence choice of travel mode for the journey. However it is unclear from this finding if the influence of parents stems from a genetic contribution or a psychological factor, such as greater encouragement. The effects *of both* may operate on children. More research on the exact nature of the parental contribution is required. Kuh and Cooper (1992) report a study of the effect of 'early influences' on adult levels of a

broad range of physical activities, including walking. The longitudinal study collected prospective data from a national sample of 3,500 British children born in 1944; at childhood, adolescence and age 36. The findings suggest the importance of developing skills and habits in childhood and adolescence as well as encouraging healthier exercise habits in adults who previously lacked either opportunity or motivation.

1.2.2 Air Pollution from Traffic

Children suffer the physical effects of increased air pollution from traffic. In 1997, Whitelegg described them as the equivalent of *"society's canaries"* explaining why they are more susceptible to the toxic effects of components from exhaust fumes such as benzene. Children are nearer the ground therefore closer to the fumes; they are more active and this increases the volume of air they breathe in. Per unit of body weight, they breathe in more air than adults. Because their tissues and organs are still developing, their bodies have a different ability to metabolise, detoxify and excrete toxicants (Whitelegg 1997, O'Brien 2003). Although technical and regulatory measures since 1990 have reduced some of the key air pollutants such as benzene, other pollutants have not decreased. Road transport related particulate matter, (PM10, PM2.5) is rising. This is a concern because of an association with adverse health effects, particularly respiratory disease in children. Furthermore, any improvements in air quality as a result of stringent measures since the 1990s, will be off-set by the increase in vehicular emissions because of traffic growth (Transport, Health, Environment Pan-European Programme (THE PEP 2004).

1.2.3 Safety Concerns

A safety concern is that as car travellers, children are less likely to develop the road sense needed as pedestrians or cyclists. The statistics in DH (1999a) showed that road traffic accidents were the biggest single cause of accidental death amongst children and young people in England. Almost 4,800 were injured as pedestrians or cyclists and 180 [2] died each year. Although the death rate for motor vehicle traffic accidents in England compared favourably with Europe, the childhood *pedestrian* death rates were amongst the highest in Europe (DH 1999, Section 7.3 and 7.5, Figure 7.3). Figure 7.3

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[2] In September 2006 (since submission of thesis), the DfT published an updated figure for deaths in *Gt. Britain.* Although there has been a fall, the figure is still high at 141 deaths per year (DfT 2007).

shows that Denmark had the lowest rate (0.44 per 100,000 population), whereas England was third highest of 14 European countries (1.22). Many of the accidents occurred close to home when children were playing or walking nearby. Pedestrian casualties peaked at about the age of 12 possibly reflecting the time when parents allow children more independence. They may not have had sufficient opportunity to practise their road safety skills and at this age become more susceptible to 'risk-taking and peer pressure' (Chinn, Elliott, Sentinella and Williams 2004). A target set in DETR (2000a) is to halve the number of child deaths and injuries by the end of the decade. This requires a broad range of proposed safety policies which are outlined in Chapter 2 of DETR (2000a).

Hillman, Adams and Whitelegg (1990) found that children had lost much of their childhood freedoms, independent mobility and choice because of a rise in road traffic. Safety fears had resulted in an increased need by parents to escort their children. The researchers concluded that children had been withdrawn from the threat of traffic danger rather than the reverse of this. A primary concern of the parents who did not allow independent travel, was danger from traffic. But the predominant reason for not allowing them to go out after dark, was fear of molestation. Roberts (1996) also considered parental decision making and children's car travel. He compared the death rate for children as pedestrians in 1992 with that of the death rate for children travelling in a vehicle. Using data from the National Travel Survey (NTS), he estimated the number of deaths per million miles for each of these and discovered that the rate for children as pedestrians is 50 times higher. He argues that, if safety is the key consideration by parents and given the higher risk, allowing their children to walk to school would not be a rational choice. Although the absolute risk is relatively small, he stresses that parents were likely to ignore promotional campaigns for walking such as the "National Walk to School Week" by the Pedestrian Association.[3] Chapter 6 presents the findings from an analysis of the governmental school travel plan (STP) health promotion literature that is disseminated to parents, schools and others. An advice document for local authorities DETR (2000c) outlines a number of practical measures to improve the quality and safety of the walking environment. However until these have become a physical reality, the actual danger, and the fear of traffic accidents

[3] The Pedestrian Association is now part of the 'Living Streets' organisation.

will remain for parents.

1.3 Health and Safety Issues, School Travel

In the last 20 years the number of primary school children (aged 5 to 10 years) in Gt Britain travelling to school by car has almost doubled from 22% to *"around 40%"* at the expense of the physically active modes and most journeys are less than two miles. The percentage walking was down from 68% of pupils to 53% during this period, Department for Education and Skills (DfES 2003).[4] The complex and inter-related reasons for an increase in car usage for school escort are given on the current Department for Transport (DfT) 'School Travel' webpage[5]. These include: rising car ownership, wider choice of schools, changes in where people live and pupil numbers, inadequate bus services and high fares in some areas, increased traffic and fear about road safety, increased fears about personal safety, including bullying and abduction, 'stranger danger', children carrying more equipment and books, parents under increasing time pressure. A statistic provided on the DfT webpage is that at peak time (8.50am), 18% of cars on the road in urban areas are taking children to school. Greater congestion around school entrances is hazardous to walkers and cyclists.

The policy relating to school travel has changed considerably in the UK since 1996 with much being done to develop initiatives (Davis 2000). It is a key area targeted in the Department for Environment, Transport and the Regions (DETR) White Paper, A New Deal for Transport: Better for everyone, (1998 Section 5:29/30 p.145) and the Government's Ten Year plan for transport (DETR 2000b). Point 1.1 of DH (2000a) states, *"establishing a habit of physical activity early in life helps to foster an active lifestyle in adulthood."* The school journey is highlighted as an *"important opportunity for establishing the routines and habits of walking and cycling..."*. It is noted that a decline in physical activity among children and young people reflects the decline in the number of pupils walking and cycling to school (1.5, p.4). However, the school journey is only one of many and Hillman et al (1990) stress that school journeys represent only a minority of all children's travel. They also point out that traffic

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[4] A more recent statistic from the 2005 NTS shows a further decrease in walking from 53% to 49% (DfT 2006).

[5] DfT 'School Travel' Webpage 1, http://www.dft.gov.uk/pgr/sustainable/schooltravel?page=1 (2007).

accidents on the journey to school only account for approximately one in ten of children's serious and fatal injuries from traffic accidents. By implication, 90% of accidents involving serious and fatal injuries to children, occur at other times and during journeys elsewhere. A point to make is that *traffic speed* has a bearing on the degree of injury. The slower moving traffic around schools in urban areas will be reflected in less severe casualties for school journeys. More recently, Mackett (2002) compared children's travel by 'trip purpose' using NTS data for the years 1985/86 and 1997/99. As a proportion of *all* journeys, school trips are decreasing and account for less than one fifth of trips, *"Most travel by children is to other activities"* (p.30). A concern raised by Mackett (2002) is that if policy prescriptions only focus on educational travel, they will have little impact. For this reason he questions the statement made in DETR (1998) the document which signalled the introduction of school travel plans, *"Not walking or cycling to school means that children get much less exercise and builds in car dependency at an early stage in a child's development"* (Section 5.29). However, the journey to school may provide daily opportunity for children to gain road safety skills. Some children learn these during participation in travel initiatives such as walking buses. But it cannot be said that a walk journey to school offers this to all because the proximity of homes to primary schools means that the walking distance for many children is short. Those who reside close to school may not have to negotiate busy roads. Travelling by school bus can also remove this opportunity, particularly if passengers are collected close to home and are dropped at the school gates.

This chapter has described the direct and indirect, health, safety and other impacts of an over reliance on car transportation, for children and adults. These have financial and social costs with immediate or long term effects. The meaning given to the title of the thesis, 'healthy travel' is broad and refers to all the dimensions of health that have been discussed. However, designing research which encompassed all dimensions would have produced an unwieldy project because of the different literatures and methodologies involved. Giving consideration to the time and space limitations of a PhD project, the author chose to concentrate on one health aspect, the use of the physically active transport modes (walking, cycling) by children. Chapter 2 provides details of this in relation to the aim and objectives of the research, as shown below. The health focus of the research was incorporated within the broader focus of the

author's study that investigated the role of cultural factors on children's travel and 'car dependency'. In 2002 a limited number of studies had researched this topic resulting in a dearth of knowledge to direct action or provide a spotlight for potential policy.

1.4 Aim and Objectives of Research

Aim: To study the role of cultural factors (the home and the school) on children's travel, and of children's travel mode on their physical activity and exercise behaviour.

Objectives:

- To determine if there are identifiable 'socialisation processes' operating within households that are influential on children's attitudes, norms, and of travel mode on their physical activity and exercise behaviour.
- To determine if an educational interventionist policy, a School Travel Plan/ travel initiative, acts as a 'counter socialising agent' and is effective in bringing about behavioural changes to increase physical activity/exercise and reduce car dependency in a sample of primary school pupils.

The research questions set to enable the objectives to be met, were:

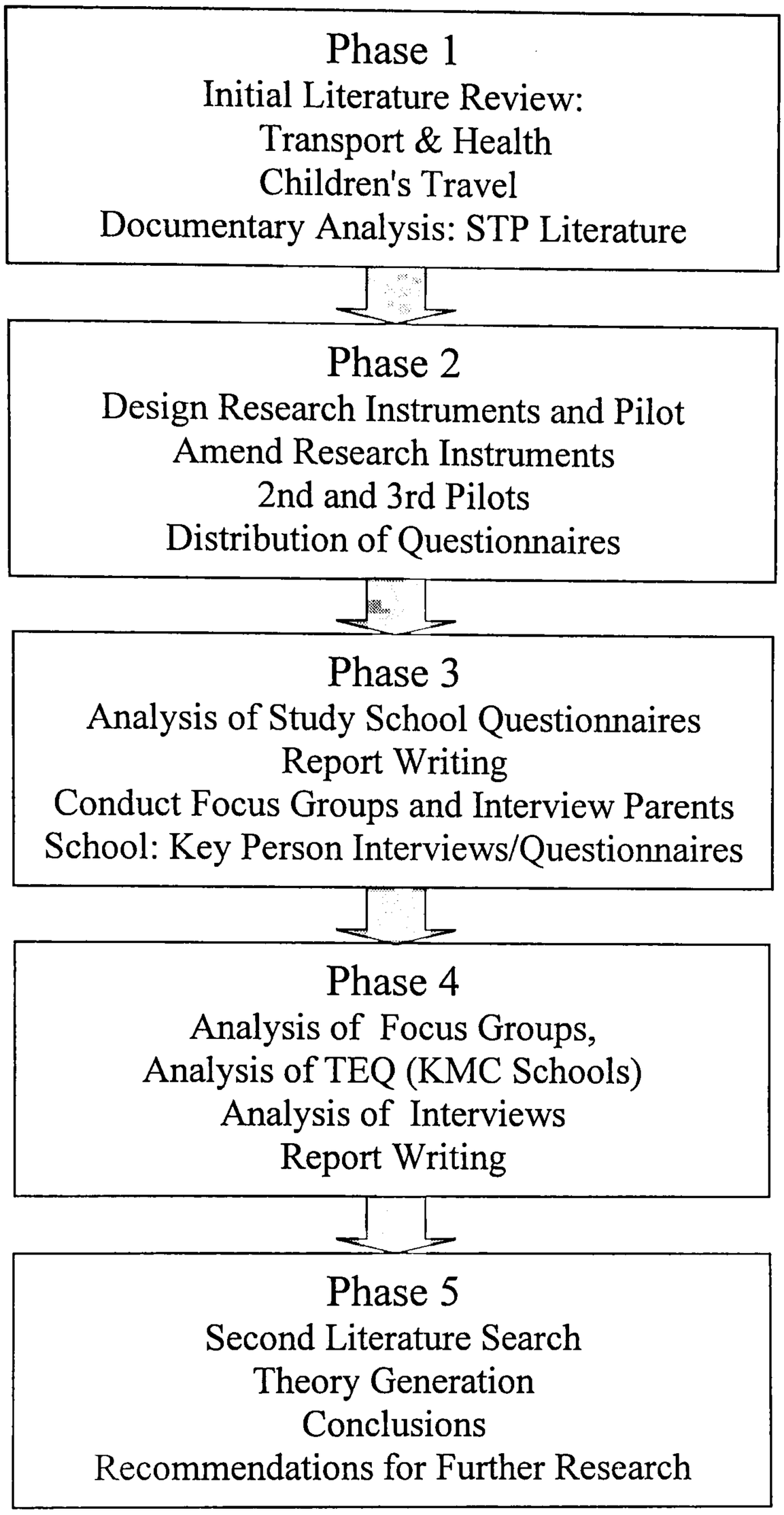
- How are attitudes, norms and patterns of travel mode behaviour passed on in households?
- Are there differences in attitudes, norms, travel mode and exercise behaviour between pupils involved and not involved in a School Travel Plan?

The literature review of school travel initiatives uncovered several evaluation studies which measured, inter alia, 'behavioural change' and the findings are discussed in Chapter 6. The second objective addressed if 'the school' acts as a 'counter socialising agent' and the findings relating to this are also discussed in Chapter 6. To fulfil the aim and objectives of the research, a 'mixed methods' approach was chosen for the research design and this is described in detail in the Methodology, Chapter 3.

1.5 The Structure of the Research

Figure 1.1 is a diagram showing the structure of the research to provide an overview. A discussion of the ordering of the fieldwork, which elaborates on the diagram, is provided in the Methodology, section 3.7. This is, by necessity, positioned after the details regarding the research instruments to aid understanding for readers.

Figure 1.1 **The Structure of the Research**



1.6 Thesis Structure, Literature Review

An initial literature review was undertaken to identify work on transport and health, children's travel and school travel initiatives, necessary for deciding the methodology and design of research instruments. Once the data collection period ended, separate reports on the findings for each research instrument were written. The conclusions therein became the fundamental building blocks for deciding the central thesis and making the decision to proceed with the theoretical framework. Following this, a second search for literature took place in 2005 structured around the research results.

This made the hunt through the voluminous literature on 'socialisation' a manageable task. The reviewed literature is positioned after the 'Discussion' section in the chapters prior to the Conclusions section. The dispersal and positioning is justified on the grounds that the research was in part exploratory and negotiated within a 'theory building' inductive framework. It also aids the reading of the thesis by placing diverse topics into logical sequence, framed by a discussion of pertinent findings which reflect the chronological ordering of most activities. The Conclusions section begins with a summary of the key findings from the author's work and those of other researchers discussed in the literature review. Following this there are answers to the specific research questions and objectives. An example from Chapter 4 Conclusion, is: Children's Travel Socialisation, What is the Role of Parents on Travel Experience? The content of the final sections are vital to the discussion in Chapter 9 of the new perspective developed in the thesis, 'travel socialisation', a social theory of travel mode behaviour.

1.6.1 Thesis Structure, Content of Chapters

In Chapter 2 the previous research on car dependency in children is reviewed. Chapter 3 provides a detailed account of all aspects of the research methodology. Chapters 4 to 8 are dedicated to reporting the findings. These are demarcated according to the four socialising agents introduced in Chapter 2, section 2.7: the family, the school, the media and peer groups. In each chapter the data for parents and children are presented simultaneously to maintain the ordering and aid comparison of findings. The prominent role of parents on children's knowledge and learning about transport modes is reported in Chapters 4 and 5. Children's school travel data and the outcome of the evaluation are reported and discussed in Chapter 6. During the collection of data, the role of the media was highlighted. In Chapter 7, three aspects of media influence are reported along with the role of peers on children's travel socialisation. The final set of findings in Chapter 8 are related to the impact of multiple influences on children. Chapter 9 begins with an overview explaining how well the research has met the aim and objectives. A summary of the key findings is given before the main conclusions are presented. There is a discussion of the author's theory of travel mode behaviour. The policy implications address how children, as the next generation of travellers, should be socialised to avoid car dependency. The contribution of the research design is highlighted and further research, indicated by the findings, is outlined at the end.

Chapter Two

Car Dependency in Children,

Previous Research

2.1 Introduction

Chapter 1 described the health, safety and other impacts of an over reliance on car transportation, for children and adults. In this chapter the previous research on car dependency in children which directed the aim, objectives and the theoretical framework of the PhD research, is reviewed. The chapter begins with an overview of the findings and discusses the research issues, gaps and omissions of the previous work. The policy background on school travel plans is outlined and the theoretical framework of the author's research is described.

2.2 Previous Research, Overview of Findings

Four dimensions have been used by the researchers who have investigated the assimilation of 'car culture' or 'car dependency' in children:

- Children's Future Aspirations Regarding Cars
- Children's Preference for Travel Mode
- Children's Image Associations with Different Transport Modes
- Comparison of Parents' and Adolescents' Attitudes Towards Cars.

The literature on this topic is modest and only seven studies were found in an initial search in 2002 (see Lex 1995, Cahill, Ruben and Winn 1996, Dixey 1998, Hegarty 2001, Meaton and Kingham 1998, Kingham and Donohoe 2002, Sandqvist 2002). In some studies, this was not the main purpose for the research and was implied, rather than stated as an aim. With regard to 'future aspirations', the following question was asked: *"Do you want to learn to drive (own) a car when you are older?"* All three surveys revealed that over 75% of children wanted to learn to drive/own a car. The age ranges of the children surveyed were: 4 to 11, 9 to 12, 12 to 15 and the children came from a broad range of socioeconomic backgrounds. With regard to 'preference for travel mode', the findings on this dimension vary to provide inconclusive evidence that children have become car dependent. Cahill et al (1996) found that the car was the most popular mode although there were noticeable differences in proportions between

children in 'car owning' and 'non-car owning' households. If children have assimilated car culture, it would be expected that greater numbers prefer car travel. This was true for the children in three of the studies reviewed. Two others reveal cycling to be favourite although there is a gender split. Both Dixey (1998) and Hegarty (2001) report differences in the mode preferences of young people compared with the actual mode, for the journey to school. In Hegarty's study, the top preference was for car travel in the rural school, 45% of pupils. The car was also the top preference in the urban school, 33% of pupils, but 32% of the others preferred the school bus. One reason that may explain why the findings from the research on this dimension varied, is sample variation. Children in the participating schools were from primary and secondary, rural and urban schools. Differences in the travel distance and the age of the children can affect the results. Adolescents are allowed more freedom of mobility and are likely to have wider experience of travel than primary children. Another problem relating to the scope of the enquiry was that three studies asked about travel to school and three about children's travel in general. Dixey (1998) researched school journeys and the broad age category (7 to 11) prevents subset analysis. A question also arises regarding internal validity. Children's definitions of 'cycling' can differ from that of adults. The meanings children have cannot be determined from a questionnaire. That some children have a different understanding from adults is one of the topics discussed in Chapter 8. Another problem is that several of the findings regarding preferences for travel mode, as reported, are open to interpretation. They can be judged according to the highest percentage for each mode, for instance, in Hegarty's (2001) research, 45% of the pupils in the rural school preferred car travel to school. However, the remaining pupils, in total 55%, preferred a mode *other* than the car.

Meaton and Kingham (1998) investigated if children made the 'image associations' which are often attached to transport modes by adults (Marsh and Collett 1986, Darmon 1991, Clark 1998). Meaton and Kingham (1998) interviewed 140 children, boys and girls. Their ages were mixed (20 in each age group 5-11 years) and they were drawn from two different schools. Two sets of *show cards* were used. One of these consisted of nine different types of transport, (motor bike, family car, BMW, Porsche, Lada car, Landrover, cycle, train, bus) and the second, nine different types or groups of people (old lady, old man, family, sporty young man, commuter, biker, flash looking man, country looking woman, professional couple). Children were asked to match up

the two sets, putting the people with the transport mode 'they thought they would be most likely to use'. The potential for interviewer interaction is high with children especially the younger ones who may be easily prompted. Ideally an independent person, not au fait with the purpose of the research should have administered the cards to avoid potential bias. This may have been the case although it is not stated by Meaton and Kingham (1998). Statistical analysis was undertaken but this did not include analysis by car ownership. The findings of Meaton and Kingham (1998) suggest that children are absorbing the stereotypical social perceptions associated with different forms of transport, *"image association between modes of transport and different sections of society are evident in the minds of children as young as seven"* (p.15).

Kingham and Donohoe (2002) wanted to discover at what age children become aware of cars and transport problems. The researchers concluded that children aged four are aware of makes and models of car. By the age of six, most could identify the actual make and model of car their parents owned: *"Children as young as four are able to evaluate some cars as 'better' or 'more expensive' than others..."*. The authors concluded that this perception increases with age. Although the conclusions are interesting, not all of them are warranted because of the range and depth of the questions asked of some children. Half were aged seven or younger. *Seven* topics were covered during a *five* minute interview. A better approach with young children is to ask a limited number of questions at any one time and then return at a later date to expand the amount of data collected. The conclusion of the authors, *'that children can judge a car driver's status by type of car'* is a hypothesis, rather than a finding of the research. Another problem is that there is no corroboration of the details given about the parent's car. Young children could be inaccurate about this. In the author's research accuracy checks were undertaken on a key variable (number of cars in household) and children's data were compared with that of parents. On one dimension of car dependency, children's future aspirations, the consistency of children's responses were also checked (see Methodology chapter, section 3.21).

A study which made intra-familial and inter-familial comparisons of parental attitudes with adolescents was undertaken by Sandqvist (2002). Seventy one adolescents, mostly 13-15 year olds, in 57 families were recruited from one school. The sample

contained 37 children from 'non-car owning' families, 29 from 'one-car' and 5 from 'two car' households who lived in a high status, inner-city suburb in Stockholm. Public transport in the district was as good or better, than anywhere in Sweden and car ownership levels were lower. Parents and adolescents individually completed an identical attitudinal questionnaire as well as being interviewed. This contained 43 alternate, 'pro-car' and 'car critical' statements, coded 1, 2, or 3 according to agreement (precisely true, partly true, not true at all). The social class composition of the sample in the study is not given although implied by the numbers with a university education. Regarding mobility, the family car did not matter very much for the adolescents. Good public transport and living in a built up area meant that, regardless of car ownership, adolescents enjoyed extensive independent mobility by walking or public transport. However, regarding attitudes towards cars, a family car did matter '...particularly in relation to child-rearing' (p.18). Car owning adolescents felt a family car provided valuable experiences for children. Adolescents who had grown up with a family car saw this as an asset for children. In general, adolescents in car-owning households held more 'pro-car' attitudes than the 'car free'. A finding which may reflect the nature of the environment, i.e. living in a less 'car dependent' culture, is that adolescents did not view the car as essential to 'the good life', nor ascribe status value to car-ownership. This finding held for all adolescents, regardless of car-ownership. Because the study was set in Stockholm, it raises the issue of whether similar results would be achieved in a different country or in other parts of Sweden where public transport is not as good. The author also sought to make comparisons between parents and children based on their feelings towards transport modes. However the children in the author's research were younger and so a simpler attitudinal scale was used on the questionnaires. Nevertheless a problem arose because of the age group of the sample and details of this are described in the Methodology chapter, section 3.15.

The Lex (1995) report was based on a national sample of 1,519 motorists interviewed by MORI. However, the sample selected for the 'teenagers and car dependency section' consisted of only 123 motorists, the parents of 223 adolescents (approximately two adolescents in each of 123 households). A conclusion made for this sample, who were described as being the *"young drivers of tomorrow"'* is that, *"While they want their parents to buy 4 x 4 off roaders, large hatchbacks, luxury saloons and people carriers, their parents prefer small hatchbacks, runabouts and saloons"* (p. 63). However, the

logic behind the subsample selection is not reported. The adolescents are the offspring of motorists and cannot be said to be representative *of all* teenagers. It is not made known how representative their parents are in terms of place of residence in Britain, socioeconomic status or number of cars owned. It is also unclear if the adolescents were interviewed separately to parents, which may make a difference to responses.

2.3 Previous Research, Household Car Ownership

There is consistency in the findings of the surveys which undertook analysis by car ownership. Differences between 'car owning' and 'non-car owning' families were found on the dimensions, children's future aspirations, children's preferences and attitudes:

- fewer children in 'non-car' families wanted to learn to drive/own a car
- a greater number of children brought up without a car, prefer to walk, bus, or cycle
- parents and adolescents in car-owning households held more 'pro-car' attitudes than the 'car free'.

An outstanding question is *'Why?'* Children from all levels of car ownership are likely to be exposed to the influences of the media through advertising and other mediums. The adolescents who participated in Sandqvist's (2002) research all lived in the same neighbourhood and attended the same school. From this, it could be inferred that the reason for the differences in attitude emanate from the adolescent's home life: growing up in a car owning family, although the influence of peers was not investigated. An outstanding question is, if the home life of children is influential and socialisation processes are operating, by what mechanism? *How* is travel mode behaviour passed on to children? The adolescents in Sandqvist's study were of an independent age regarding mobility, therefore, is travel mode behaviour learned before they become independent?

2.4 Previous Research, Gaps and Omissions

Following the initial literature review in 2002, gaps were identified in the work of others which required additional research to provide answers to the outstanding questions. At the time the PhD project was conceived, no studies had researched:

- the extent of the influence of families on travel mode behaviour by focusing on the *processes/practices* of families i.e. travel mode lifestyle habits in car owning and non-car owning families;

- if there were differences in car dependency between children attending schools with a travel initiative and those without;
- the full range of dimensions of 'car culture' in any one study.

In the author's project, all dimensions of 'car dependence' were incorporated and data were collected on children's travel, not only the school journey. The two key variables 'number of cars in household' and 'type of school attended' were a central focus in the research. These variables were used to investigate if there were differences between children in relation to all four dimensions of car culture: future aspirations, preference for transport modes, perceptions and attitudes towards transport modes and also in relation to levels of physical activity. A further refinement was to collect data on the actual number of cars e.g. 'no car', 'one car', 'two car', 'three car' to overcome the previous dichotomy: 'car owning' or 'non car owning' household. This enabled the investigation of an element missing from previous research, if there are *differences by degree of household car ownership.*

The two key variables were also germane to an analysis which attempted to identify the *specific* source of influence on children. This aspect of the research was stimulated by the previous research in the health socialisation literature. Tinsley (1997) quotes a study by Noll, Zucker and Greenberg in 1990 which researched the basis of preschool children's knowledge about alcohol. They concluded that the knowledge must have come from the parent's alcohol usage, rather than advertising. This is because the children identified different drinks by smell alone, which is not learned from seeing adverts (p.1056). In the thesis there are examples in which a specific influencing force on children is strongly suggested by the findings. However, there is also evidence that multiple sources of influence act upon children and this is the subject of Chapter 8. The findings of the previous research on children's travel are compared with the author's in the relevant literature review section of the chapters.

2.5 Evaluation of School Travel Initiatives

Re-educating children and parents about reducing car use and promoting safe, healthy and sustainable travel to school is the impetus behind the introduction of the policies incorporated in the concept of the School Travel Plan (STP). The policy and initiatives

affecting school travel plans are integrated by three governmental departments, the DfES, the DfT and the DH. The DfT provides this description on its website:

> *"A school travel plan is a document setting out a package of measures for reducing the number of car trips made to a school or a group of schools by parents and staff and for improving safety on the school journey. No two school travel plans are likely to be the same"*
> (School travel strategies and plans, section 2.2).

In 2003, the DfT and DfES announced a £50 million injection of funds to aid the production of school travel plans (DfT 2003a). The government committed £7.5 million per year for at least two years for local authorities to recruit School Travel Advisers. Each primary school producing a plan receives five thousand pounds and secondary schools ten thousand pounds to upgrade facilities in schools. Targets have been set in the Action Plan (DfES 2003) so that by March 2006, 10,000 written plans were expected in primary schools and a review of progress was scheduled for 2005/2006. An overall aim is to eventually achieve complete coverage in primary schools. The monitoring and evaluation of STPs is an integral part of the 'Travelling to School Initiative' (DfES 2003). Surprisingly, financial resources were committed by central government when few systematic evaluations of school travel initiatives had been undertaken. Therefore a practical aspect of the PhD research was an evaluation of primary school travel initiatives to investigate effectiveness in reducing car dependency for the journey to/from school. The evaluation also provided relevant material for investigating if the travel culture of a school is influential on children.

In 2002, there were few STP evaluations in the literature to consult for guidance in designing the research and formulating questions. However, a general purpose was to measure the effectiveness of several schemes and in paragraph 5.3, the DETR (1999) provides a broad list of outcomes and indicators including *"changes in mode of travel", "changes in attitude and awareness", "changes in levels of physical activity outside school hours"* (p.30). Initially a 'before and after' research design was envisaged for the evaluation but there were no suitable schools in West Yorkshire at the time of the fieldwork. Those available all had established schemes. Measuring 'change' was precluded from the empirical element of the research but it was possible to investigate if there were differences between schools and a comparison study was undertaken instead. Comparisons were made in relation to: i) 'levels of walking to/from school', ii) 'attitude towards transport modes', iii) 'levels of physical activity/exercise outside of

school hours'. Children gave their views on school travel schemes during focus groups and the final section of the interview schedule was included to elicit the opinions of parents. The parents were asked if they had heard of STPs, if not, a description was read out. Parents were then asked if they thought there were advantages in having a STP, firstly for their child; secondly for themselves and thirdly, for the school. This question repeated asking about any disadvantages. Key persons in schools were given the opportunity to raise any views about the STP operating at their school.

2.6 Theoretical Framework, Observations Based on Author's Personal Experience

Two personal observations described in the text box below became part of the stimulus for using 'child socialisation' as the theoretical framework which is outlined in section 2.7. One incident occurred following a house move and the second at a later date during a family holiday:

> Two five year olds became intrigued by the car parked in the driveway of their new next-door neighbours. One asked the neighbour, *"Why do you only have one car? We have two cars. My mummy and daddy both have a car."* Several answers to their probing questions later, another of their questions asked, *"Why is your car so small? We have bigger cars"*.
>
> -oOo-
>
> Over breakfast in a guesthouse a father took a set of car keys from his pocket and played with his eighteen month old daughter, using them as a surrogate rattle. *"Say caaa keeeys"* he said to her. She grabbed and shook them, *"caar ees"* she replied. The keys kept her amused and as a source of pleasure, they would often be handy living as they did in a trouser pocket or on a table top[1]. She began to learn a new word for her vocabulary. A word associated with transport, introduced quite early in this child's life. After breakfast the family left to go out for the day in the family car.

The first experience informs readers that the children noticed and acknowledged the differences regarding their parent's cars and the author's. It may be inferred that the children had learned to expect or to accept, that dual car ownership is, for them,

normal. In their social world, the new neighbours were outside their range of experience of family life and they wanted to know why they were not the same. Are children of such a young age already making assumptions according to direct or indirect parental influence, what else are they absorbing and what are the implications for their future travel behaviour? The second observation may be indicative of the beginning of a child's induction to modes of transport. What other introductions will be available to them? In the case of the two five year olds, parental influence appears a likely explanation for their assumption re: the normality of two car households. These children did not, at this time, attend primary school. The author wanted to know if the separate influences of the home and school could be discerned. For instance, if there are differences between children by car ownership level, are these affected by type of school attended? i.e. if a school travel initiative is operating. The research did not seek to collect data on the reasons given by parents for using particular modes of transport in escorting children to school. A sufficient number of studies have already investigated this topic and a summary of the findings from 12 school travel surveys is provided in the literature review section in Chapter 4.

2.7 Theoretical Framework, Child Socialisation

The research applied a theoretical framework 'child socialisation', not hitherto utilised by others but stimulated by the previous work on children's travel and the personal observations of the author. The definitions of socialisation used by academics vary, according to emphasis on the different aspects studied by social science disciplines. Nevertheless, there are general understandings to the concept which are pervasive. Clausen (1968) highlights these: *"the study of socialisation focuses upon the development of the individual as a social being and participant in society"* (p.3). He goes on to write: *"To a large degree, childhood socialisation is the social orientation of the child and his enculturation, first within the small social world of family and neighbourhood and then in relation to the larger society and culture"* (p.4). In essence, it entails learning about the social world in which each child lives, usually

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[1] The visibility of car keys in the home was the topic of an article regarding car theft in a local newspaper , Car keys 'An easy Target' (Brighouse Echo 2003).

occurring as a result of attempts by others to influence the individual. 'Socialisation' in sociological and anthropological usage, is defined as:

> *"the process in which the culture of a society is transmitted to children; the modification from infancy of an individual's behaviour to conform with the demands of social life"* (Jary and Jary 2000:568).

The sociologists Berger and Berger (1991) recognised that the socialisation process is different for every person and every person emerges differently in some respects. To take a sociological approach is to focus on the commonalities, the ways all people are alike, as well as the ways group members are more like one another, than members of other groups. Socialisation is used thus to explain resemblances within groups and differences from others. Traditional socialisation theory emphasises that societal norms are transmitted from four agents of socialisation: the family,[2] the school, the media and peer groups. Primary socialisation takes place mainly in the family and secondary socialisation in the school and peer groups and later in life. This normative perspective of socialisation is attributed to the work of Talcott Parsons, see Parsons and Bales (1955), and Goslin (1969). More recent sociological thinking can be found in Waksler (1991) and Haralambos, Holborn and Heald (2000). An example of a different perspective on socialisation in the home is given by Ambert (1992) who studied the interactional element of socialisation. She contends that influence is not always unidirectional and researchers should also investigate how *children* can affect their parents. The relevant findings are discussed in the thesis in relation to both approaches.

2.8 Conclusions

This chapter reviewed the modest literature on children's car dependency. Research issues, gaps and omissions were identified which limited the drawing of conclusions. The problems highlighted were: incompleteness of coverage, internal validity, sample variation, scope of enquiry and the generalisation of the findings. Ways of overcoming these using appropriate methods to replicate and broaden the findings were discussed.

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[2] A 'Family' describes a household in which a person or persons live with their dependent child(ren) sharing a common system of housekeeping.

Chapter Three

Methodology

3.1 Introduction

Chapter 2 provided a literature review of the previous research into car dependency in children. This chapter discusses the author's research problem, the scope of the enquiry, the research design and the methodological approach. There is a discussion of how the methods and techniques used previously were utilised, extended or changed to overcome the gaps and omissions identified in Chapter 2. There is a description of the research instruments and tasks and response rate tables are provided. The sample selection for the participating schools is described and there are place maps showing their geographical location. Several research and ethical issues, and any weaknesses in the research instruments are discussed. The changes made to the instruments following piloting are described and the ordering of the results in the thesis is then explained.

3.2 Research Problem

The research reported in this thesis was designed to investigate the cultural determinants of children's travel. A purpose was to gain an understanding of the travel mode behaviour of samples of primary aged children and their parents. It examined the home and the school in a project that had theoretical and practical objectives. Theoretically, the research sought to ascertain if there is transmission of parental attitudes, norms and patterns of travel behaviour to children and whether their social and educational environment reinforces or changes these. 'Social and educational environment' refers to children's peer groups and the primary school attended. A practical objective was to determine if school travel initiatives are effective in reducing car dependency for the journey to/from school. An essential element was to discover if the home is influential on children becoming 'car dependent' and whether children's peers or the type of primary school attended, changes or reinforces this. The objective and research question set for 'the school' are mainly based on the specific data needs of the evaluation for which there are identifiable outcome measures, as outlined in Chapter 2, section 2.5. However, there were no such antecedents to shape the objective relating to 'the home'. The findings from previous research are suggestive of

home influence on children, but they did not indicate what the processes are. Hence the starting point for the research could clearly be seen but the finishing point was well hidden from view. The wording of the objective reflects the broad remit of the task involved. The objective evolved from the need to discover what is happening in the home by focusing on the processes and practices of households such as travel mode lifestyle habits in car owning and non-car owning families. Until generalities were known, it was not possible to ascertain specifics, for instance, if there were differences between households. There are precursors to this in the health socialisation literature, for instance, Tinsley (1997) who discusses the variety of ways in which a mother's health beliefs and behaviours have been found to be transmitted to children. Nevertheless, the work of others has not specifically addressed the phenomenon in the context of travel mode behaviour. In Chapters 4 and 5 the 'socialisation processes' found to be operating in households, as identified in the author's research, are presented and discussed. The objectives were also set to address the specific and measurable health focus of the research, the decline of the physically active transport modes (walking, cycling) and to investigate the factors within the home and the school which may have a bearing on this. A better understanding of the reasons behind a problem progresses it closer to the identification of the measures which are needed to deal with it. Ultimately an increase in the number of walking or cycling journeys will lead to a reduction in car use and this will contribute towards tackling the other negative effects on health as described in Chapter 1.

3.3 Scope of Enquiry

Children of primary school age Years 3 to 6 (ages 7 to 11) and parents[1] were the target populations for the research. At the time of the fieldwork, STPs were mainly *aimed* at primary schools therefore it was necessary to obtain a sample of primary schools. Regarding the theoretical objective, a problem identified in Chapter 2 was an inability to draw conclusions because of sample variation (age, travel distance, type of journey). To avoid this, the author sought to make comparisons based on two key variables, (number of cars in household, school attended) and the different dimensions of car dependency, by concentrating on a narrow age band. Children aged 9 to 11 were

[1] A 'parent' was defined by the author as: a household member "who brings a 9 to 11 year old child/ren to school (or has done so in the past)".

suitable because they are allowed some freedom of mobility, and able to make some journeys unaccompanied by parents. They actively seek greater independence and in doing so, are more likely to spend time in the company of peers. Inherent in the completion of the attitudinal scale is the choice/control element and children of this age are better able to express preferences and views about transport modes. The interview schedule was designed for parents with children aged 9 to11 so that the questions relating to topics such as 'peer pressure' could be included. A comparative methods approach to data analysis was used to investigate if there were differences in the samples of children and parents to fulfil both the theoretical and the practical needs of the research. Comparisons were made regarding: i) mode of travel to school or other journeys according to household car ownership, ii) attitude towards transport modes, iii) the use of the physically active modes walking, cycling. [For the latter, data were collected on 'time spent walking and cycling'] and iv) 'levels of physical activity/exercise outside of school hours'.

Data were collected from younger children, Years 3 and 4 (ages 7 to 9), mainly for purposes of the evaluation. The School Travel Survey (STS) was used to collect school travel data needed to assess the outcome measure, 'levels of walking to/from school'. The STS contains a simple tick box question asking pupils if they are happy with the way they travel to school and also about their future aspirations. The findings from the analyses of school travel and other data are reported alongside those for the older children in the relevant chapters. In consultation with headteachers, it was decided that children in Years 3, 4, or younger[2] would not have sufficient cognitive development to complete a travel and exercise diary or a questionnaire asking about feelings towards transport modes. Other research methods are more suitable with this age group but they are also more time-consuming and the time scale for the project precluded consideration of these and also the inclusion of younger children in the focus groups.

3.4 Research Design, Mixed Methods

A mixed methods design was chosen for the research because of the nature of the research problem as described in section 3.2. Although the problem emerged from the findings of previous researchers, the methodological approach used by them would be

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[2] If the schools had 'infant and nursery' classes, children in these were not included.

inefficient for meeting the extended needs of the author's research. Robson (1993) states, *"Selecting a method or methods is based on what kind of information is sought, from whom and under what circumstances"* (p.188). In the author's project, one kind of information sought was numerically based, such as, how many children want to learn to drive when older? This type of information is simple enough to collect using standardised 'closed ended' questions on a questionnaire. The answers to another question required additional input from children. How many minutes are spent walking by children during a one week period? A travel diary was chosen as a suitable instrument because it enables a daily record to be kept. Quantitative data also enables statistical analysis of key variables to be performed, essential when investigating if children's travel behaviour varied according to household car ownership. Responses from a large number of children were required to make comparisons between the four categories of car ownership ('no car', 'one car', two car', 'three or more'). As quoted above, Robson (1993) states that selecting a method or methods is based on the kind of information that is sought and *"from whom"* (p. 88). One reason for choosing a pictorial questionnaire to investigate children's image associations was related to the age of the target population – children of primary school age.

Another kind of information required was based on the subjective feelings, views and opinions of individuals, such as answers to exploratory questions. This element involved 'open ended questions', a requirement not satisfied by the use of a questionnaire for distribution to primary age children. Previous research uncovered that a majority of children wanted to learn to drive a car but ascertaining the reasons '*Why*' involved the utilisation of a method which would elucidate this, whilst providing reassurance that participants understood what was being asked of them. Regarding another of the target populations, parents, information was required on their regular journeys. An initial travel diary had a low response and so this was substituted with the 'Parents Travel and Exercise Questionnaire'. But the depth and exploratory nature of some of the questions for the parents meant that employing a quantitative method alone would not produce suitable responses to meet the research objective set. For this reason an interview schedule was written with the intention of conducting interviews in parents' homes. Another relevant point regarding the type of information required, as Robson (1993) states, *"under what circumstances"*. The detail and intimacy of some sections of the schedule rendered the focus group method inappropriate for the

sample of parents. In Chapter 2 there is a discussion on how the limited availability of schools reduced options in choosing a research design for the evaluation. Some flexibility of method was possible in collecting information from headteachers and key persons. Those involved with a school travel initiative were interviewed to elicit their views and a questionnaire collected the factual information required from those in Non-STP schools.

In the author's research, it was imperative to collect both quantitative and qualitative information. Tashakkori and Teddlie (1998) offer guidelines for systematically conceptualising research which combines both of these within a project. A 'mixed methods' design has the advantage that the main conclusions can be strengthened by methodological triangulation, that is, the convergence of results from research instruments which dovetail to improve explanation. Two examples are provided in Chapter 9 to illustrate how the research design improved the validity and explanation of two findings from the research. In a small number of instances, it was possible to fulfil the need to isolate the source and effect of a particular influencing force on children and to seek corroboration of findings across methods. When this was possible it is discussed in the relevant chapters which are arranged around the socialising agents, the parents, the school, the media and peers. Nonetheless, there are also disadvantages in using a mixed method design and these are also discussed in the final chapter.

3.5 Previous Research, Overcoming Gaps and Omissions

In Chapter 2, the four dimensions used by researchers to measure the assimilation of 'car culture' were outlined: Comparison of Parents and Adolescent's Attitudes Towards Cars, Children's Preference for Travel Mode, Children's Future Aspirations Regarding Cars, Children's Image Associations with Different Transport Modes. This section discusses how the methods and techniques used by previous researchers of car dependency in children were utilised, extended or changed. Regarding the comparison between parents and children, a simple attitudinal scale, the 'Car Culture Attitudinal Scale', collected data on the strength of feelings towards several different modes of transport rather than restricting the question to cars. This enabled the feelings towards cars to be gauged in relation to other modes. The scale was shown on the question-

naires distributed to children in Years 5, 6 and to parents. Measuring feelings towards the active modes was essential for the practical and theoretical aspects of the research. Regarding children's future aspirations, an answer to the, 'How many?' question, was achieved in previous research by asking, *"Do you want to learn to drive a car (own a car) when you are older?"*. The author included this question on all the research instruments but sought to extend the depth of the data collected. Researching the reasons behind children's responses, that is, finding answers to the 'Why' question, was equally important and yet not researched. Quantitative data can identify which are the relevant variables, whereas qualitative can indicate in *what way* they are relevant. Interviewing children individually to discover the reasons why they wanted to learn to drive or preferred particular transport modes was rejected because of time restraints and on ethical grounds. An ethical issue arose during the piloting of interviews because of lack of confidentiality and privacy for children if parents are present (see section 3.20). Conducting focus groups in the schools increased the number of participants and overcame the ethical issues. They are less threatening for children who would not have to face being alone in a room with a stranger. The role of these is aptly described by Steward and Shamdasani (1990) *"for exploring the way particular groups of individuals think and talk about a phenomenon"* (p.140) and, as *"a tool for obtaining a better understanding of the results of more quantitative analyses"* (p.141). Regarding the former of these, a phenomenon of interest is: how do children think about and regard different modes of transport? Focus groups were appropriate in finding answers and the exploratory element of the project enabled hypotheses to be generated from the children's responses. An example is the finding reported in Chapter 5, the emphasis by some children, on cars as a timesaving device. Their responses suggested the source of knowledge and understanding to be the result of experiences in the home. The inclusion of an additional section in the interview schedule enabled this to be followed up and the timekeeping values of households were investigated.

The author sought to investigate children's image associations but a different technique was used to meet the extended needs of the PhD project and also to overcome the issue raised in Chapter 2 regarding interviewing children. A questionnaire rather than an interview survey of children was decided upon because this minimised researcher influence on children and was more efficient use of the researcher's time and was easier for the schools. A teacher distributed the questionnaires at a convenient time

during lessons. In consideration of the age group of the children, a set of photographs was still appropriate and these were used to aid understanding as well as to make a bland topic more interesting. Completion by large numbers provided scope to undertake further statistical analysis to investigate if there were differences between children using a wider range of variables: 'number of cars in household,' 'children's future aspirations regarding cars', 'age' and 'sex'. The vignette travel questionnaire (see Appendix 1a) comprises seven photographs of transport modes: the Train, the Average car, the Bus, the People Carrier, the Cycle, the Status car (sports), the Walkers (street scene, people walking). Meaton and Kingham (1998) gave children limited options, one 'transport card' with one 'type of person' card. Children were offered a wider selection of 'types of people' on the vignette and could choose one or more (or none) and also write in their own responses. Pupils were encouraged by directions on the front page: *"To make sure you give all your answers, you can circle a picture or pictures as well as writing down who you think"*. They were provided with a set of ten potential answers in the form of photographs to answer the question: *"Draw a circle around the picture or pictures that shows who you think likes to travel by...?"*. The photographs depict people of different ages, socioeconomic status and types: the Family, the Children, Trendy Young Woman/Man, Housewife/Female manual worker/Male manual worker, the Sporty character, Elderly Woman/Man, the Professionals. Each character was duplicated for all transport modes but the ordering changed to discourage replication of earlier answers and mind set responses. Meaton and Kingham (1998) are acknowledged as a seminal work in the design of the vignette.

3.6 Research Design, Research Instruments and Tasks

Figure 3.1 shows the research instruments and the sources for data collection. The research instruments for Years 5 and 6 were: the vignette, diary set, some took part in focus groups. Two other questionnaires were completed by *some* older children, the SalterSTS and the Travel and Exercise Questionnaire (TEQ) by the Kirklees Metropolitan Schools (KMC). The reasons for including these additional questionnaires are discussed in sections 3.9 and 3.11. Children in Years 3 and 4 completed the School Travel Survey. The two research instruments used with parents were the Parent's Travel and Exercise Questionnaire (PTEQ) and interviews. A detailed account of the quality of the data and procedures is provided in Appendix 1j. This begins with a

description of procedures for the vignette. A copy of each instrument is provided in Appendix 1a to 1e and the focus group, interview and 'key person' schedule are in Appendix 1f to 1h.

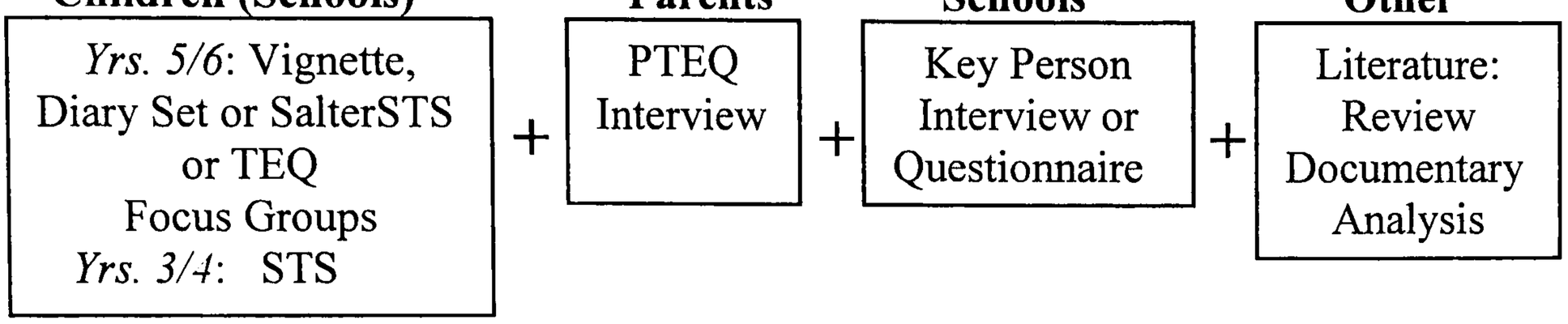

Figure 3.1 Research Instruments and Sources for Data Collection

There were five separate research tasks: questionnaires to schools (vignette, diary sets/SalterSTS, STS, TEQ), focus groups, interviews with parents and key persons, a literature review, a documentary analysis of governmental STP promotional literature. The questionnaires were designed for replication purposes and to meet the needs of the STP evaluation. Important questions were harmonised across research instruments. To maximise the total response set, data from two or more questionnaires were combined for some analyses, for instance diary set with STS. This was possible because of question repetition. Each research task was conducted independently but the *"findings from each fed into others as the project as a whole progressed"* (Chinn, Elliot, Sentinella et al 2004:3). Taken together, the tasks formed a coherent programme. It was important to collect data from both children and parents for two reasons, firstly, a child-centred approach was taken (Trine 2002). For this, children's views were heard either in self-report questionnaires or in focus groups. This meant that children could voice opinions independently of parents. Secondly, data were required from both parties so that comparisons between a child and a parent, or between groups of each, could be made. Data were collected from children to measure: how they travel/like to travel, level of exercise, feelings towards transport modes, how they think others like to travel, how they would like to travel when older. The PTEQ collected data to measure: how they travel/like to travel, short car trips, car use for exercise, feelings towards transport modes, level of physical activity. The nine sections of the interview schedule covered: Family History, Family Routines and Habits, Travel Time/Scheduling in Household, Car Dependency, Media and Cars, Peer/Sibling

Pressure, Travel Mode and Lifestyle, Effect of Car on Physical Activity, Public Transport, Views on STPs.

An initial literature review was conducted prior to fieldwork and following this, a second search for literature took place in 2005 structured around the research results. The findings from the documentary analysis of governmental STP promotional literature are reported in Chapter 6 alongside any others which relate to STPs and schools. This qualitative 'analysis of content' was undertaken to gain an understanding of the educational messages contained in the materials. This work is conceptualised as being a research task with an empirical component rather than a review activity. The analysis enabled a conclusion regarding the behavioural approach underpinning STPs.

3.7 Research Design, The Structure of the Research

In Chapter 1, Figure 1.1 shows the structure of the research to provide readers with an overview of the different phases of the research. For ease of exposition, the ordering of these is shown as sequential. However, at times the processes involved were more complex and a circular, rather than a linear link existed between them. For instance, although the 'key person' interview/questionnaire was prepared at Phase 2, it was amended as a result of feedback from findings at phase 3. The distribution of some questionnaires (phase 2) extended into phase 3. Children as participants require additional time and effort because they suffer overload sooner than adults. Data were collected over a period of three months to overcome this. In addition, not all schools could manage to distribute questionnaires at exactly the same time. Several administrative and clerical functions were undertaken by others: the distribution of questionnaires in the classroom to all children in the age range for the research (teachers), data input (four paid staff) and transcribing focus groups/interview tapes (two departmental staff, one external secretary).

3.8 Evaluation Schools, Sample Selection

The theoretical objective of the research was set within the context of a summative evaluation, which, *"concentrates on assessing the effects and effectiveness of the programme"* (Robson 1993:179). In 2002 only a small number of schools were operating travel schemes and these did so without a written travel plan. In order to

identify potential primary schools for the evaluation, meetings were arranged with the School Travel Plan Officers at three local authorities[3] (Leeds, Bradford, Calderdale). Several schools in the Bradford area were contacted but declined involvement. Three of the other schools that were recommended agreed to participate. These had travel initiatives which had operated for a year or longer and are hereafter described as the 'STP' schools: Weetwood, Leeds; Salterhebble, Halifax (Walking Buses); Riverside, Hebden Bridge (Yellow Bus). The lists of state primary schools provided by the local education authorities which administer the STP schools, were used to obtain three suitable comparison schools. The three Non-STP schools fulfilled the following criteria as far as practically possible, in terms of urban/rural, travel distance and socioeconomic catchment area (a school in the same or very similar socioeconomic district). The comparison schools were: Ireland Wood, Leeds; All Saints, Halifax; Sowerby, Sowerby village. The issues arising from the self selected nature of the sample of schools used in the evaluation schools are discussed in Chapter 6. Four 'key persons' (three headteachers and a walking bus co-ordinator) took part in interviews.[4] Four headteachers completed a simple questionnaire (see Appendix 1h) which collected factual information about the school.

3.9 Evaluation Schools, Questionnaire Response Rates

Table 3.1 shows the response rates by school, for the questionnaires (STS, diary set/SalterSTS) which were used to collect data for the quantitative element of the evaluation. An indication of the socioeconomic status of the catchment area of the school (profile data of population) is provided by the Indices of Deprivation, ID 2000 obtained from the school postcode. English districts are ranked between '1' and '8,414' on an ascending scale and rank 1 is bottom. Unfortunately there was a low response to diary sets in two of the STP schools, (Weetwood and Salterhebble). The deputy head of Salterhebble agreed to re-try but for the second attempt using the shorter and simpler STS (referred to as SalterSTS). This was distributed in the same month as the

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[3] A meeting with a fourth, Wakefield, was held but none of the three potential schools were suitable because of their size, the stage of the STP and in one case, another initiative also operated in the school.

[4] At Weetwood school an interview was undertaken with the walking bus co-ordinator and at a later date, the headteacher also completed a questionnaire.

diary sets (June 2004) but 12 months later to ensure completion by different pupils of the same age. This meant a reduction in data preventing some analyses, but enabled the evaluation of STP schools to be completed. Completion in class yielded a response rate of 90% with little missing data. SalterSTS data are included in Chapters 5 and 6 (attitudinal analysis, the evaluation of STPs) and the inclusion is made clear in the text. The figures in Table 3.1 were collapsed into school type, STP and Non-STP and there were a similar number of responses for each type of school: STP = 277 (50%) and Non-STP = 278 (50%), rounded to nearest 0.5%. Weetwood at the top of the table had a population of 131 pupils aged 7 to 11 years at the time of fieldwork therefore the response rate was 53%. The questionnaires are provided in Appendix 1b and 1c.

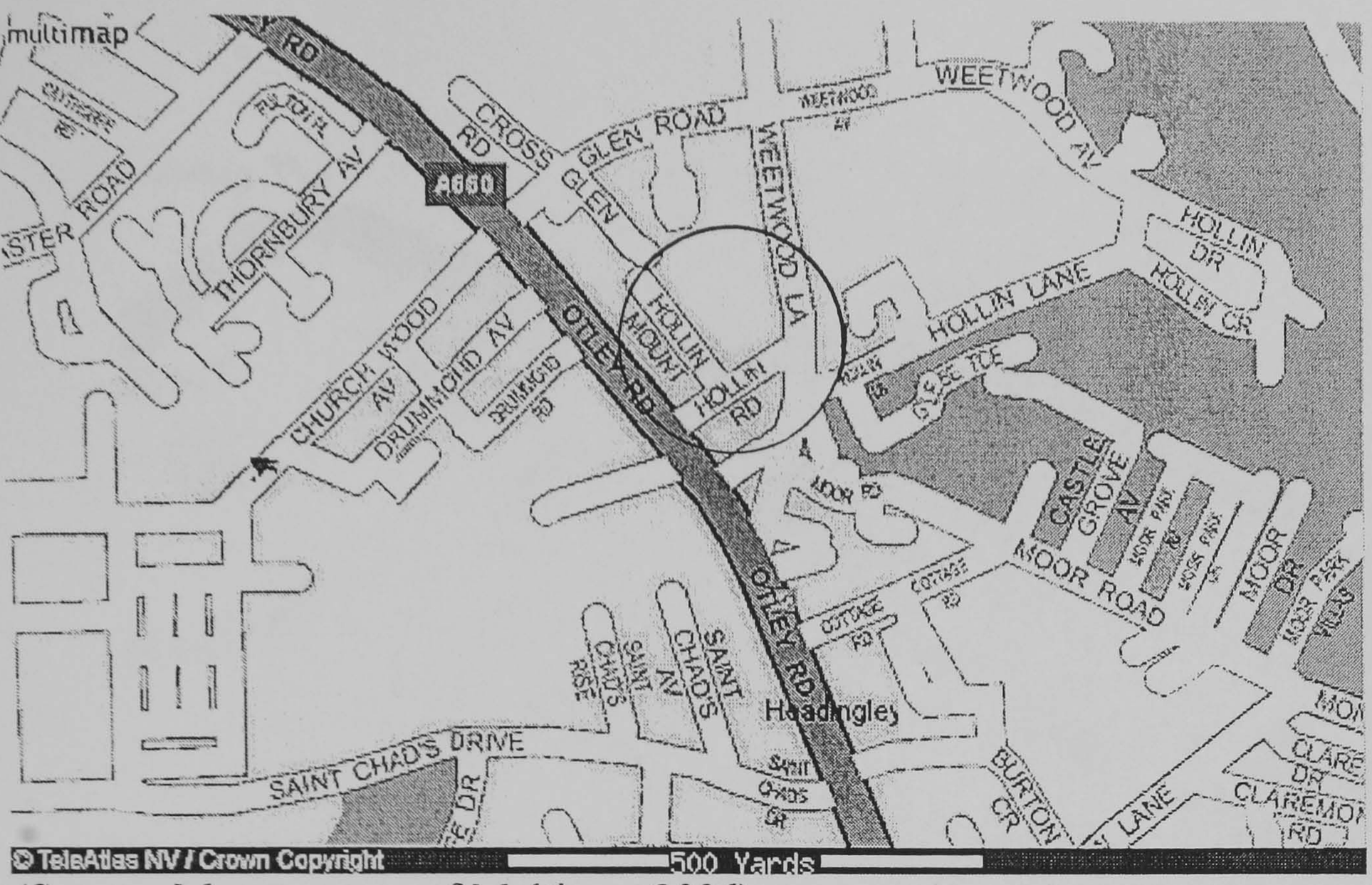
Table 3.1 Evaluation: Completions of School Travel Survey and Diary Set/SalterSTS

School	ID 2000	STS Yrs 3, 4	Diary Set/ SalterSTS Yrs 5,6	Total	Overall Response Rate*
Weetwood (STP)	4,518	54	16	70	53%
Ireland Wood	5,672	52	39	91	63%
Riverside (STP)	3,378	64	55	119	58%
Sowerby village	3,775	42	55	97	72%
Salterhebble (STP)	4,547	43	45	88	88%
All Saints	4,547	53	37	90	76%
Total		**308**	**247**	**555**	

*Based on the actual pupil populations in Years 3/4 and Years 5/6 for the school

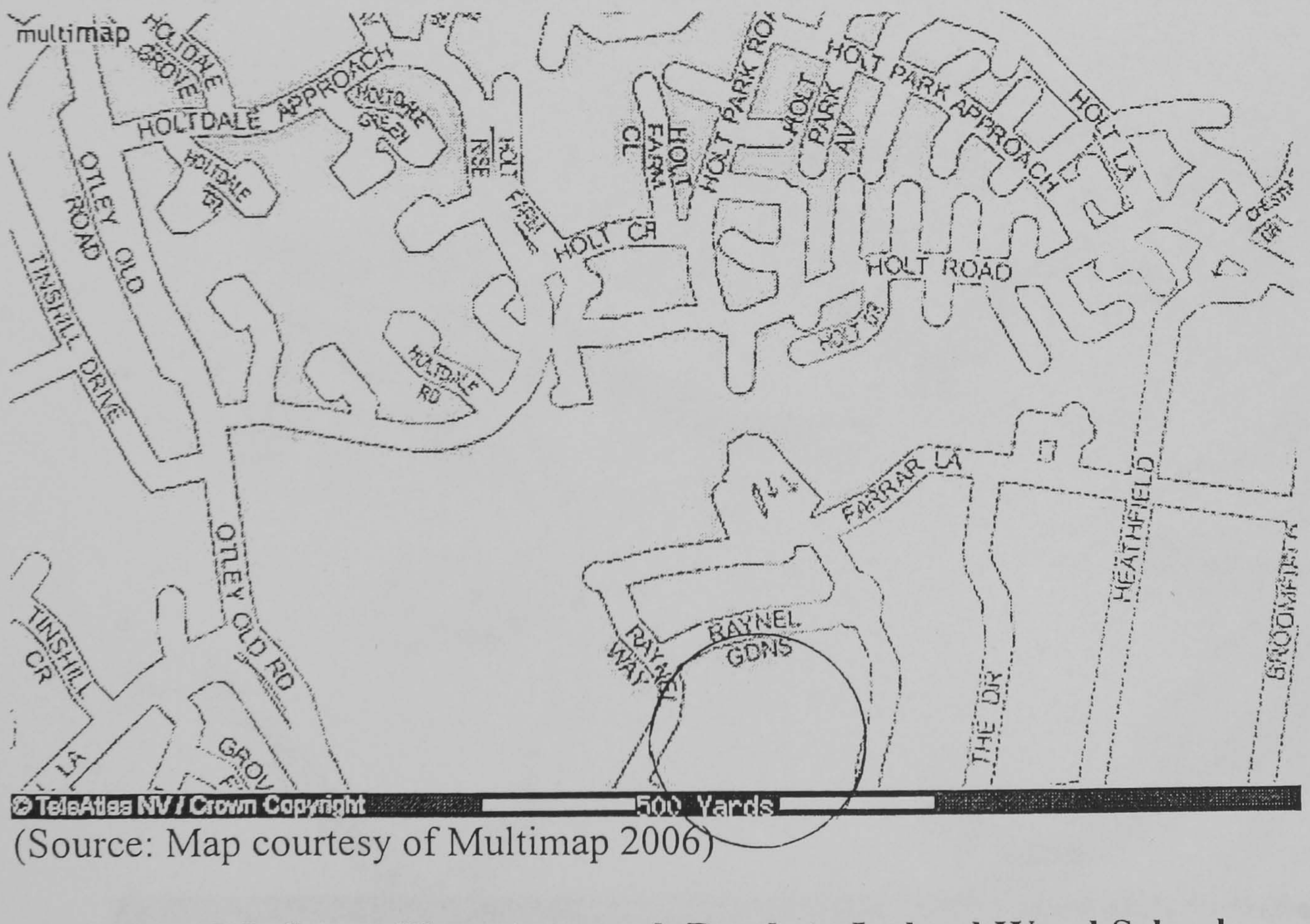
3.10 Evaluation Schools, Physical Setting

Figures 3.2 to 3.7 are street plans showing the approach roads around the six schools in the evaluation. The STP schools are shown at the top of each page beginning with Weetwood School. A description of the physical conditions and approach roads in the immediate vicinity around the schools is informative. Weetwood school, Leeds is positioned reasonably well away from busy roads and the quality of the walk from most directions is very good. Ireland Wood is approximately two and three quarter miles from Weetwood. The higher ID is misleading because the school is located on a local authority/social housing estate also away from busy roads. Walking is not unpleasant although the roads are not tree lined as in the suburbs around Weetwood. Sowerby school is located within close proximity to a local authority/social housing estate away from busy roads. It is classified as 'rural' and has pleasant walks surrounding the school. The higher rating hides the fact that 29% of pupils are entitled



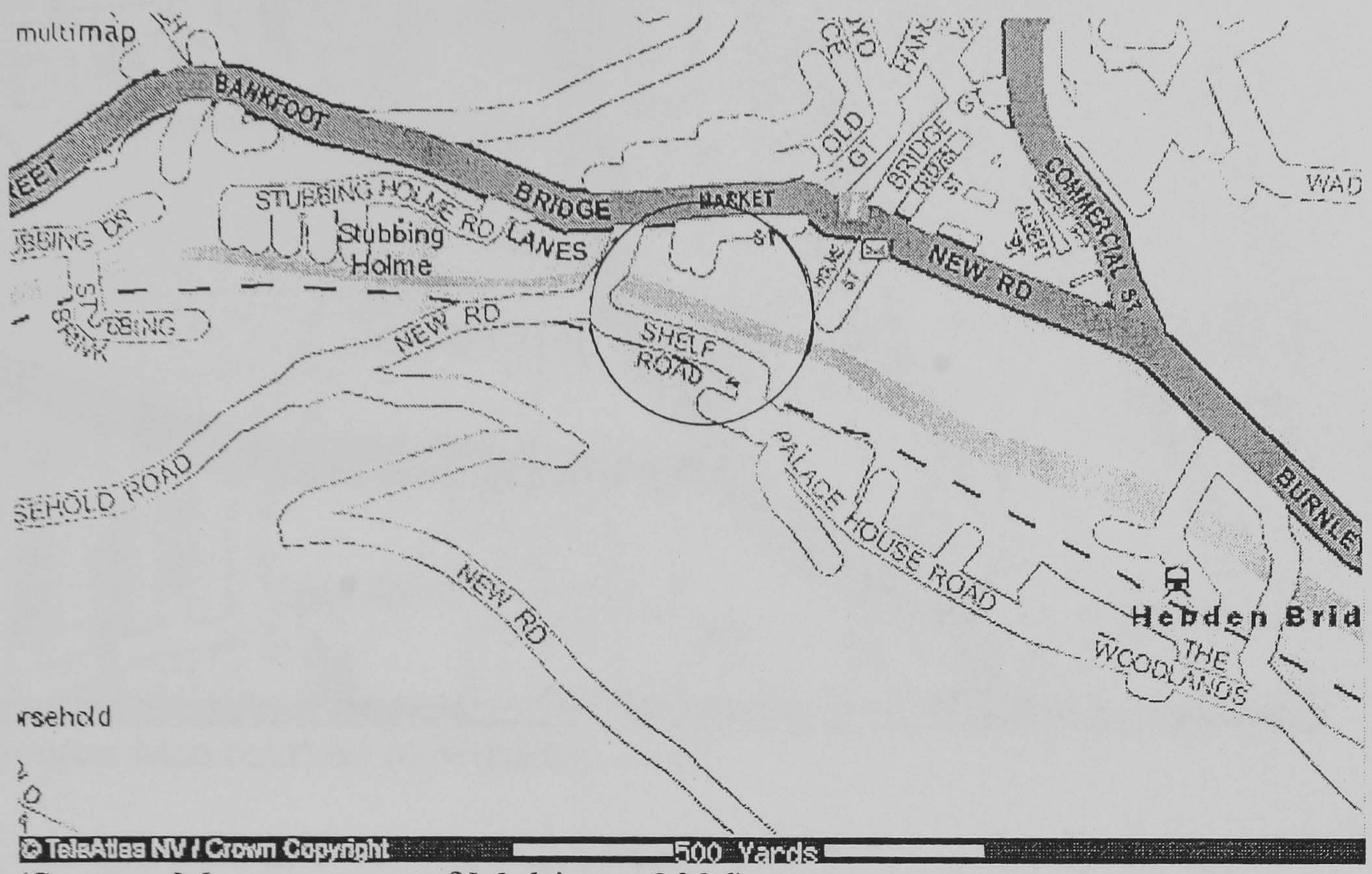
(Source: Map courtesy of Multimap 2006)

Figure 3.2 Street Plan: Approach Roads to Weetwood School, Weetwood Lane, Leeds.



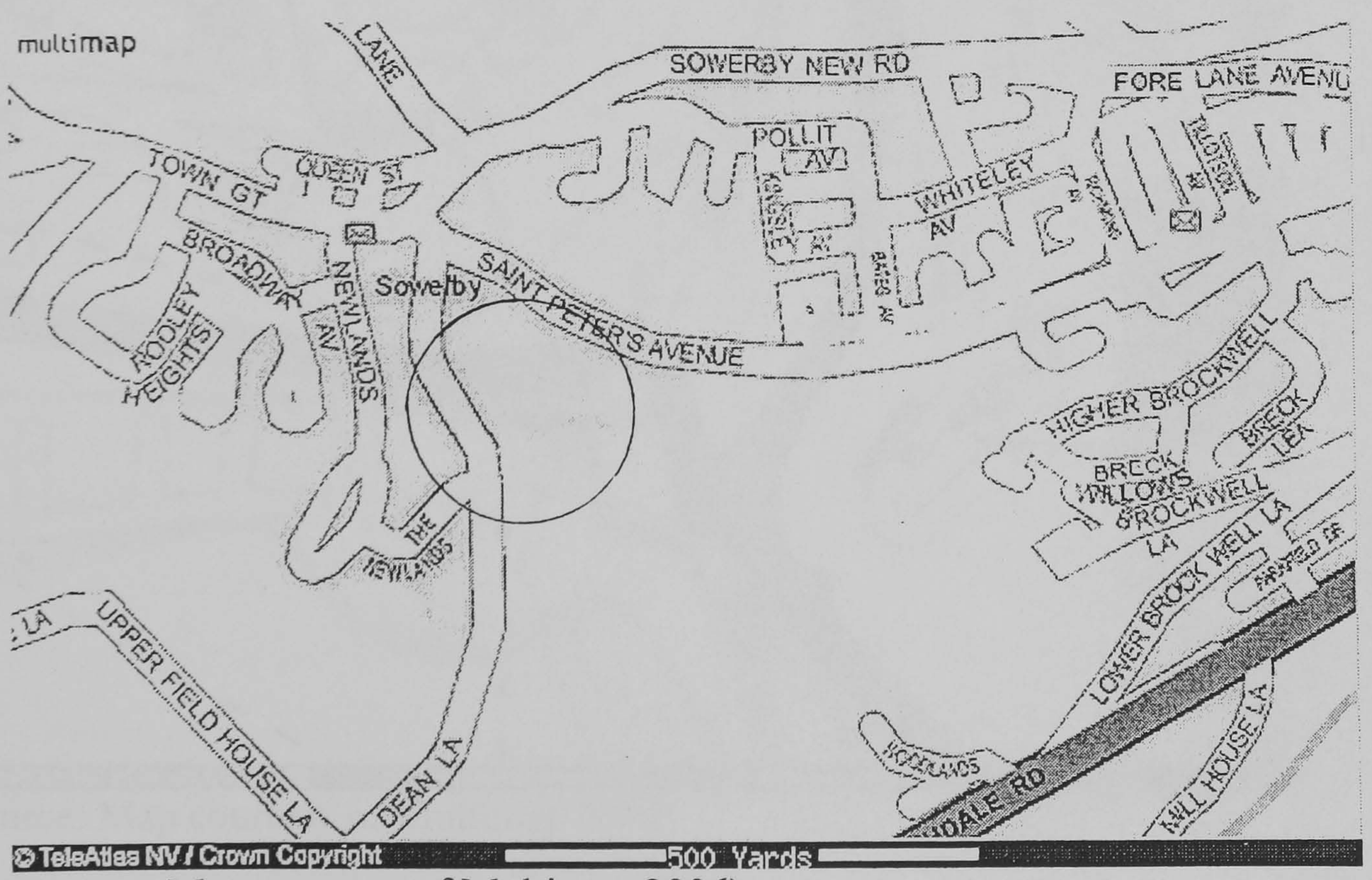
(Source: Map courtesy of Multimap 2006)

Figure 3.3 Street Plan: Approach Roads to Ireland Wood School, Raynel Gardens, Leeds.



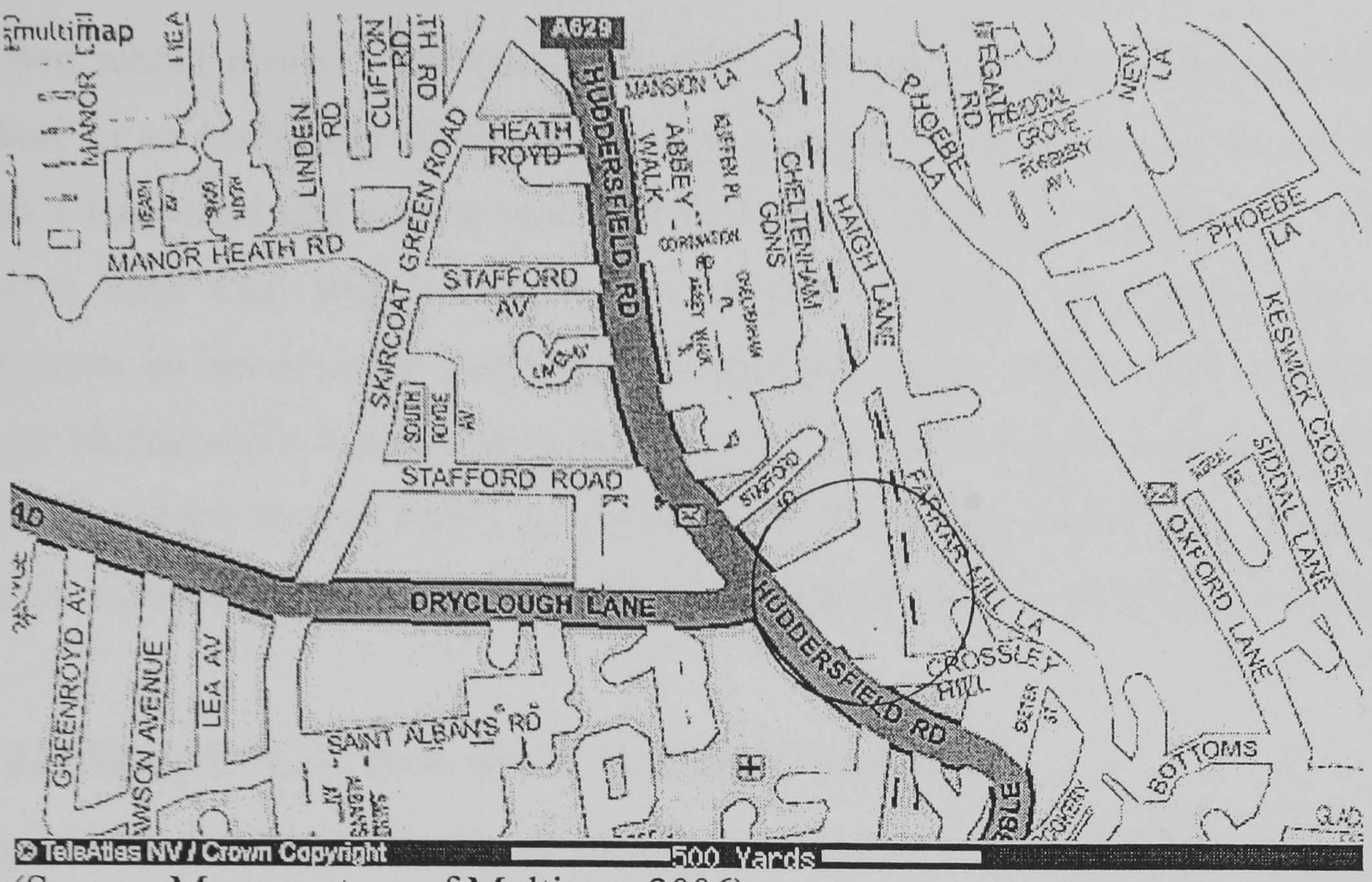
(Source: Map courtesy of Multimap 2006)

Figure 3.4 Street Plan: Approach Roads to Riverside School, Hebden Bridge.



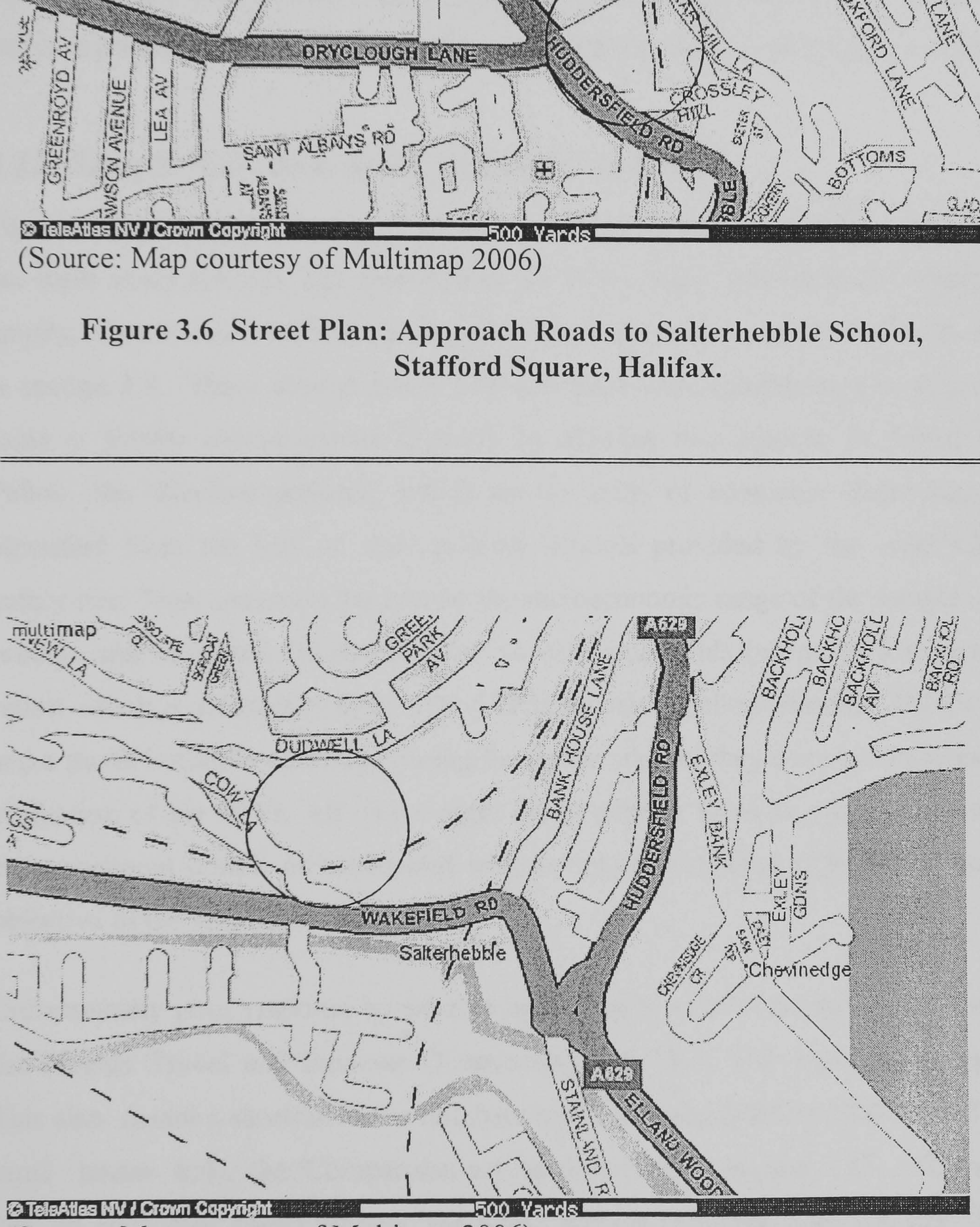
(Source: Map courtesy of Multimap 2006)

Figure 3.5 Street Plan: Approach Roads to Sowerby School, Sowerby village.



(Source: Map courtesy of Multimap 2006)

Figure 3.6 Street Plan: Approach Roads to Salterhebble School, Stafford Square, Halifax.



(Source: Map courtesy of Multimap 2006)

Figure 3.7 Street Plan: Approach Roads to All Saints School, Dudwell Lane, Halifax.

to free school meals[5]. Riverside is located approximately five miles from Sowerby school in an essentially rural area, but the immediate vicinity of the school is beset with a busy road and a noisy junction. Cars cannot drive past the school – it is sited near a dead end, with no space for vehicular parking. Salterhebble also shares proximity to heavy traffic and is also situated in a cul de sac near the congested and noisy Huddersfield Road. Salterhebble and All Saints schools have the same ID 2000, (4,547) and are located within approximately half a mile of each other. However, All Saints is positioned away from the busy Huddersfield road where parking is possible.

3.11 Sample Selection, Study and KMC Schools

Figure 3.8 is a map of West Yorkshire showing the location of the cities and towns for the eight study schools. The selection of six of the eight schools in the research was largely determined to fulfil the practical needs of the project, an evaluation as outlined in section 3.8. Three schools had a STP and three were comparisons (a school in the same or similar socioeconomic district). In addition, two schools, St. John's and Mt Pellon, the 'Shadow schools', which are in areas of economic deprivation, were identified from the lists of state primary schools provided by the local education authorities. Their inclusion broadened the socioeconomic range of the sample of study schools and increased the numbers of 'no car' households (normally low income), a subset which is difficult to find in the STP/comparison school districts. Neither school had a travel initiative operating during the fieldwork and they were not included in the evaluation of the STPs. All of the eight study schools acted as a conduit to obtain a cross-sectional sample of households with parents and children to fulfil the theoretical objective of the research.

Unfortunately poor response by parents in the study schools resulted in a shortfall of the Parents Travel and Exercise Questionnaires (PTEQ) and interview acceptances. This also meant a shortfall in the numbers of parents and children who resided in the same house- hold, the 'Comparison set' as described in section 3.15. To overcome this, an additional seven schools, the KMC schools (Kirklees Metropolitan Council), were contacted in the winter of 2003/4. As with the study schools, the KMC schools acted as a conduit to obtain a cross-sectional sample of children and parents. The map

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[5] Headteacher's comment during key person interview.

Location of Study Schools

(Source: Map courtesy of Multimap (2006)

Figure 3.8 Map of West Yorkshire, Location of Cities and Towns, Study Schools: Leeds, Bradford, Halifax, Hebden Bridge, Sowerby village.

on page 38 shows the districts in Huddersfield where the seven KMC Schools are located. Five of the seven were identified from the lists of state primary schools provided by the education authority for Kirklees and they were selected according to ID 2000 (school postcodes for Huddersfield). The private schools in the local telephone directory for Huddersfield area were contacted and two of them agreed to become involved in the research. Their inclusion broadened the socioeconomic range of the children and parents, in this case, to include residents with high ID 2000 ratings. Children in Years 5 and 6 attending KMC schools were asked to complete the TEQ. This was the same as the questionnaire included in the diary sets but allowed quicker tick box responses for school travel rather than completion of a separate travel diary. The TEQ was distributed in class with the expectancy of home completion. For this reason a far lower response rate was achieved in this sample, 'KMC children' (n=90). Having a separate sample of children enabled comparisons with findings from the 'diary sets'/'SalterSTS'. It also enabled an amalgamation of samples to follow up inconclusive findings from the aforementioned. This was possible because the TEQ contained identical questions to the questionnaire included with the 'diary set'. None of the KMC schools had a travel initiative but the two data sets that were amalgamated (for the attitudinal analysis in Chapter 5, for the analysis of children's future aspirations, in Chapter 8), were not biased by this. Separate analysis carried out on the study schools showed that the variable 'STP' or 'Non-STP' did not have a bearing on these two findings.

3.12 Sample Selection Issues

Obtaining a stratified random sample of schools was not possible because of several constraints. The overall supply of schools was restricted, particularly those with a school travel initiative or in areas of economic deprivation. An initial attempt to recruit STP schools and their potential comparisons in two West Yorkshire local authority areas, proved time consuming. A number declined involvement because of school examinations, staff shortages or disinterest. Another drawback was the reluctance of parents to take part. Following three pilots it became evident that the willing participants would be a self- selected sample. An alternative strategy, to expand the geographical area to broaden the pool of schools was discounted. In light of the number of separate visits required for each school (and the catchment area to interview

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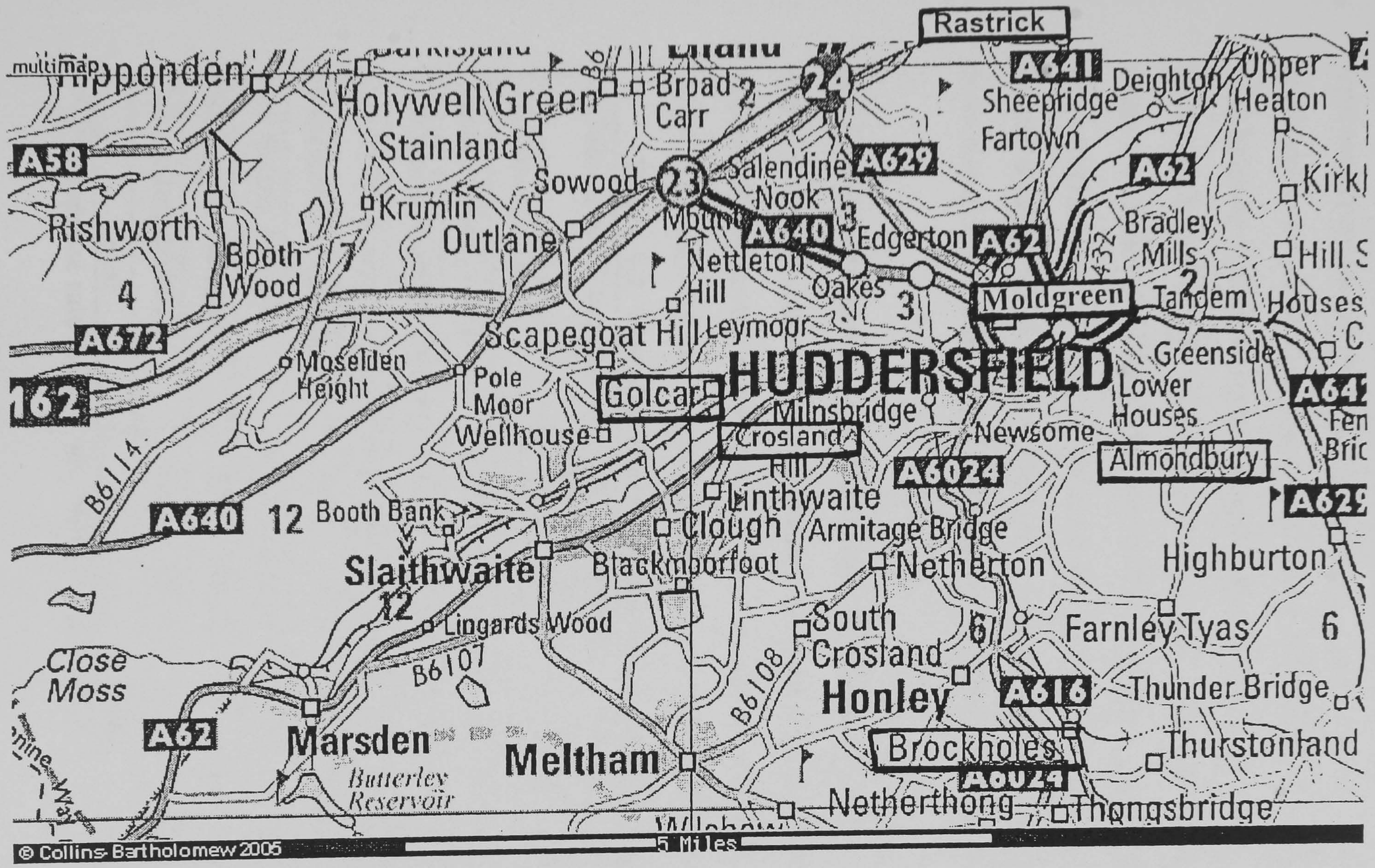

(Source: Map courtesy of Multimap (2006)

Figure 3.9 Map of Huddersfield, Location of KMC Schools: Brockholes, Golcar, Almondbury, Moldgreen, Crosland Moor, Rastrick

parents), the demands of the extra travel time made this option unachievable. Although the schools which took part are located in a cross-section of districts, they represent a self-selected, rather than a random sample of schools. Non-random samples may be biased and caution is warranted regarding generalisation of the findings. However, it was possible, to some extent to overcome the problem of representativeness by making comparisons of the author's results with those of other researchers. An example is the discussion of the findings in Chapter 5 regarding family time keeping values. Corroboration of other results was obtained through comparison of the author's findings with those of previous researchers of children's travel. Data from the National Travel Survey (NTS) were also available as a check on the representativeness of several other results, for instance the pattern of travel to school by car ownership. However, when it is evident that small, non-random samples may have biased the findings, this is highlighted in the discussion sections of the thesis.

3.13 Study Schools, Questionnaire Response Rates

Table 3.2 is a breakdown of completions for the questionnaires used in the eight study schools: the vignette, diary sets, the STS, by school and Indices of Deprivation (ID 2000). The response rate for each instrument per school is shown in brackets.

Table 3.2 Vignette, Diary Set and STS Completions, Study Schools

School and Location	ID 2000	School Type	Vignette Yr 5, 6	Diary Set/ SalterSTS	STS Yr 3, 4
Weetwood, Leeds	4,518	STP	54 (90%)	16 (25%)	54 (77%)
Ireland Wood, Leeds	5,672	Comparison	86 (95%)	39 (46%)	52 (87%)
Riverside, Hebden Bridge	3,378	STP	97 (89%)	55 (50%)	64 (67%)
Sowerby, Sowerby village	3,775	Comparison	61 (85%)	55 (76%)	42 (67%)
Salterhebble, Halifax	4,547	STP	42 (93%)	45*	43 (95%)
All Saints, Halifax	4,547	Comparison	56 (97%)	37 (64%)	53 (91%)
St. John's, Bradford	247	*Shadow*	54 (90%)	52 (86%)	n/a
Mt. Pellon, Halifax	298	*Shadow*	36 (51%)	58 (83%)	n/a
Total			**486**	**357**	**308**

* 7% response rate to diary set, 90% to SalterSTS.

3.14 Sample Composition, Parents' Travel and Exercise Questionnaire

In the research a 'parent' was defined by the author as: a household member *"who brings a child/ren aged 9 to 11 to school (or has done so in the past)"* hence they were a sample of people, mainly women, involved in the 'school run'. All children in the 9 to 11 age group took a request letter home to parents. This asked if parents would complete a PTEQ and/or take part in an interview. In total, 140 PTEQ's were collected and and a breakdown of the sample composition according to car ownership, employment and postal districts, suggests a cross-sectional sample was achieved. Regarding car ownership, 15% were from households with 'no car', 32% from 'one car', 50% from 'two cars' and 2% from 'three/more' (1% missing). Nine percent had no qualifications, 36% had O' levels *or* a vocational qualification, 16% had A' levels and 33% had a degree (7% missing). Three quarters had employment (n=107): 43% of these worked full-time, 48% were part-time or 'hours vary' (9% missing). The descriptions of jobs given by parents were used to place occupations into three bands:[6] Professional/Employers & Managers (40%), Skilled/Administrative & Secretarial (35%), Semi/unskilled (18%), (7% missing). Thirty three parents did not have paid employment: 27 were 'housewives', 1 a student and 1 a retired parent (2% missing). A complete list of parents' occupations is given in Appendix 2b.

The PTEQ did not collect distance data but estimates from postcodes (street address on diary sets) of the 94% of children completing diary sets in the study schools were helpful. The average distance travelled was three quarters of a mile, hence most parents resided fairly close to the school. A breakdown by ID 2000 for the 140 parents is: 24% of parents live in the region of districts rated 5000 - 6000; 13%: 4500; 16%: 3000-4000; 17%:1000-2000; 16%:<1000; (14% missing for private schools). A breakdown by district for the smaller sample of parents in the 'comparison set' (n=121) see section 3.15 below, is very similar. Because the PTEQ sample was collected during different seasons (36% in summertime, 64% in wintertime), it was possible to make comparisons to investigate if attitudes towards transport modes changed according to season.

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[6] Office for National Statistics, *Standard Occupational Classification 2000*. London: The Stationery Office, was consulted in order to do this.

3.15 Sample Composition, 'Comparison Set'

A sample of parents and their children who each completed a version of the travel and exercise questionnaire during the same time period, (a PTEQ/TEQ or a PTEQ/diary set), were included on a database hereafter called the 'comparison set' (n=121). The sample was of a sufficient size for statistical comparisons to be made between a parent and a child residing in the same household. Although the parents' version of the travel and exercise questionnaire contained several questions aimed at adults, most questions were meant for both parties. Direct comparisons were made on the following variables: school travel, feelings towards transport modes, exercise level and attitudinal category. Although a simple attitudinal scale was used on the questionnaires, a problem arose because of the age group. Firstly, it is not known if parents answer these types of questions more reservedly than children. This may explain the type of disagreement between a parent and child (as reported in Chapter 5) which made the findings of the regarding feelings, inconclusive. Although the low correlation values suggest response differences, further investigation revealed that few children responded with the opposite view to their parent The findings highlight the difficulties of making comparisons between adults and children. A further limitation of the 'comparison set' analyses is that only *one* parent was used when making the comparisons. Another issue is that children may feel strongly towards a mode but the reason/s for this could be different from their parents'. Qualitative data proved helpful in identifying this issue and the relevant findings are discussed in Chapter 8.

3.15.1 Comparison Set, Questionnaire Response Rates

Table 3.3 shows the completions for the PTEQ and the TEQ, by school and ID 2000. The *overall* response rate for the PTEQ averaged 11% and the TEQ, 14%. The response rate for the TEQ (by school) is: Brockholes 32%, Golcar 8%, Moldgreen 11%, Crosland Moor 8%, Almondbury 7%, Rastrick 24%, Rosemeade 70% (only 17 pupils in school). Some questionnaires were returned from parents without a corresponding diary set or TEQ from a child or vice versa. Nine of the PTEQ questionnaires were returned from parents attending STP schools: Weetwood (n=6) or Salterhebble (n=3). Apart from these two schools which have walking buses, none of the other schools in Table 3.3 had travel initiatives. Table 3.7 at the end of the chapter provides the *overall* response rates for all the research instruments used in the research.

Table 3.3 Parent and Child Travel and Exercise Questionnaires, Completions by School

KMC Schools		ID 2000	Parents PTEQ	KMC Children TEQ	Comparison Set
Brockholes,	Huddersfield	5,017	20	20	20
Golcar	"	3,035	6	6	6
Almondbury	"	2,069	10	7	7
Moldgreen	"	1,841	14	12	12
Crosland Moor	"	861	20	22	20
Ratrick Preparatory	"	*	9	11	9
* Rosemeade	"	*	11	12	11
Winter completions			**90 (64%)**	**90 (100%)**	**85 (70%)**
KMC Schools Response Rate			**14%**	**14%**	
Study Schools					
Ireland Wood,	Leeds	5,672	13	n/a	9
Salterhebble,	Halifax	4,547	3		2
All Saints,	Halifax	4,547	9		5
Weetwood,	Leeds	4,518	6		6
Sowerby,	Sowerby village	3,775	1		0
Riverside,	Hebden Bridge	3,378	15		11
Mt Pellon,	Halifax	298	3		3
Summer completions			**50(36%)**		**36 (30%)**
Study Schools Response Rate			**9%**	n/a	
Total			**140 (100%)**	**90 (100%)**	**121 (100%)**

* Rastrick/Rosemeade are private schools. Pupils travel from various locations.

3.16 Sample Selection and Composition, Interviews

Recruiting parents for interviews proved difficult and time consuming. The research issues raised by this are discussed in section 3.19. Recruitment for interviews took place at the same time as for diary sets or the TEQ: all children in the 9 to 11 age group took a request letter home to parents. Initial letters to the eight study schools produced 11 acceptances. A twelfth, from St. John's school responded when a contact at the school forwarded a further request letter to specific parents associated with the school. The 'Casual Worker' had an 11 year old child at St. John's and attended a community education programme provided by the school for parents. To increase the sample size, another source was used. Managers and the personnel responsible for various academic and non-academic staff at Leeds University were contacted for permission to place request letters in pigeon holes or send emails. One manager actually agreed to an interview herself as a result of this contact. Her child (aged six and a half) was outside the age group and this is made clear when findings from this interviewee are presented. Several other managers distributed request letters but the

response rate was similar to schools at approximately one/two percent. Only one other member of staff, a cleaner, agreed. Unlike school recruitment which targeted specific age groups, members of staff had children of various ages reducing the target population. New guidelines prohibiting distribution of email addresses also hampered recruitment. Following this, the KMC schools were contacted and a further seven parents accepted.

Of 15 schools in the research 22 parents (from 11 schools) agreed to participate in an interview. Table 3.4 provides demographic details for the 22 parents, none of whom was known to the author. Four of the 22 had a connection with a school such as the teacher/teaching assistants at Riverside, Mt Pellon and Salterhebble or the Yellow Bus escort at Riverside. Nevertheless, all these had children involved in the research and received request letters in the same way as others. Two interviewees were male and 20 female. A breakdown by age is: 28-37 years = 3, 38-47 years = 10, over 47 = 6, three are unknown. The youngest was 28 and eldest 53. Three interviewees had one child, eleven had two children, five had three, and three had four children. Regarding car ownership: 4 parents were from 'no car' households, 7 'one car', 11 'two/more cars' (1 had 6 cars, 4 for business use). There were six single parents (two recently separated). One of the six was a 'no car' household and five, 'one car' households. A question on the PTEQ asked: "How *Long* have you owned a *second* car?". The 'length of ownership' of a second car varied for the eleven parents with 'two/more' cars: less than six months = 1 parent, 2 to 5 five years = 5, 9/10 years = 2, 15 years or more = 3. During analysis three disparities were found between the length of time shown on the questionnaire and the length given at interview. This raised the possibility that interviewees made a mistake or that a different meaning was attached to the wording. It could be interpreted literally, 'own' rather than still *paying* for a car on credit. Although time spans agreed in other cases, the implication remains that second car ownership was possibly longer than shown. When 'length of ownership' is referred to, the time given at interview is used. The wording in any future research should be, "For *'Two or more car'* households: How *Long* have you had two cars?" .

Twenty one home postcodes were available so that ID for districts could be verified. With one exception, these were in the same ward as the school therefore share ID with the school. A breakdown by ID for the 22 parents interviewed is: 1 lives in a district

Table 3.4 Profile of Interviewees

Cars in H/H	School	ID 2000	Occupation	Age, Sex	No. of Child. Ages	Family Type	Duration (Minutes)
0	St. Johns	247	Casual Worker/Student	33 F	2 11,14	Single	40
0	Leeds University	1,070	Cleaner	53 M	2 11,13	Two	45
0	Mt Pellon	298	Sales Assistant (p/t)	28 F	2 9,10	Two	30
0	Mt Pellon	"	Teaching Assistant (p/t)	50 F	3 10,12,13	Two	40
1	Riverside	3,378	Warehouse Worker (p/t)	37 F	3 8,10,11	Single	30
1	Riverside	"	Teacher	46 F	4 7,10,11,13	Two	40
1	Salterhebble	4,547	Teaching Assistant (p/t)	38 F	2 8,10	Two	45
1	Leeds University	N. K.	Manager	40 F	1 6½	Single	45
1	Moldgreen	1,841	Nursery Nurse	42 F	2 10,15	Single	30
1	Almondbury	2,069	Writer/Researcher	45 F	1 10	Single	35
1	Crosland Moor	861	Housewife	51 F	2 9,17	Single	35
2	Brockholes	5,017	Podiatrist (hours vary)	38 F	3 5,7,9	Two	50
2	Riverside	3,378	Computer Programmer	39 M	2 10,14	Two	35
2	Riverside	"	Manager	50 F	2 11,14	Two	45
2	Weetwood	4,518	Landscape Architect	N.K. F	2 10,11	Two	40
2	All Saints	4,547	Community Nurse	N.K. F	2 9,12	Two	40
2	All Saints	"	Housewife	39 F	4 6,8,8,10	Two	40
2	Brockholes	5,017	District Nurse (p/t)	41 F	2 4,9	Two	40
2	Crosland Moor	861	Health Visitor (p/t)	49 F	4 9,15,19,22	Two	45
2	Rosemeade	6,163	School Science Technician (p/t)	49 F	3 9,15,17	Two	60
2	Brockholes	5,017	Housewife	45 F	1 9	Two	55
6	Salterhebble	4,547	Student (Degree)	N.K. F	3 11,13,16	Two	40

rated 6,000; 8: 4,500-5,500; 4: 3,000-4000; 3: 1000-2000; 5:<1,000; one missing. Ten had full time and eight had part-time employment. Nine were in Professional/Managerial occupations, four were skilled and five semi/unskilled. Three others were not in paid employment (housewives) and one a full-time student. One parent, a health visitor who has parents in white collar occupations, resides in a 'middle class' enclave on the fringes of Crosland Moor, ID 861. English districts rated 841 or lower are described as 'very deprived' a reminder that census data is indicative rather than definitive regarding the economic nature of districts. An anomaly discovered during analysis of diary sets was that some children from 'two/more car' households resided in the very deprived districts around St. John's and Mt Pellon schools (ID 247, 298). Unfortunately none of these participated in an interview but the statistical analysis for this subgroup is reported in Chapter 4.

3.17 Sample Selection and Composition, Focus Groups

Focus groups were conducted at five schools in June, July 2003 (Weetwood, Ireland Wood), November 2003 (Mt Pellon) and in February 2004 (Sowerby). The pupils were selected by name from the diary sets and the vignette with the purpose of assembling homogenous groups of four/five children according to sex, age, attitudinal category or household car ownership. A small number of groups did not meet the criteria. An effort was made to draw groups selected by car ownership or attitudinal category from all schools but this proved difficult to achieve because some children were unavailable on the day. Table 3.5 shows the composition of focus groups according to school, attitudinal category, car ownership and gender. In 13 focus groups, 56 of the children were selected according to attitudinal category. This ensured that children with a range of feelings towards transport modes would be included. Of the 13 groups, four were 'car cultured' (the car was the only mode these children ticked 'No' they *felt* they could *not live happily without*, n=18). Four groups comprised the 'active dependents' (children who chose car and also one or both of the active modes, n=16). Three groups were 'multimodal' (chose car and at least one form of public transport, n=15). Two groups were 'car free' (those who ticked 'Yes' they *felt* they *could* live happily without cars, n=7). To maintain size, two groups had one member whose category varied in a way which did not alter group composition. At Riverside school there was a concentration of 'active dependents' even though an analysis of diary sets showed that

Table 3.5 Focus Group Participants
By School, Attitudinal Category, Car Ownership and Gender

	Attitudinal Category					*Car Ownership*				
	Car	Active	Multi-	Car	Mixed:	*None*	*One*	*Two /*	Total	Total
School	Cult.	Dep.	Modal	Free	Rate & Cars			*Three*	Groups	Pupils
Mt Pellon	Bs (n=6)		Bs (n=5)	Bs (n=4)		Gs *(n=5)	Gs (n=5)			
	Gs (n=4)								6	n=29
Ire Wood	Gs (n=5)				Gs (n=5)	Bs (n=5)		Bs (n=5)		
					Gs (n=5)				5	n=25
Riverside		Gs (n=5)			Gs (n=5)					
		Gs (n=5) *			Bs (n=6)				5	n=25
		Bs (n=4) *								
Sowerby	Gs (n=3)		Gs (n=4)	G&B(n=3)		Bs *(n=4)		Gs (n=4)	6	n=24
			Bs (n=6)							
Weetwood		G&B(n=2)					Gs* (n=4)	Gs (n=3)		
							Bs (n=4)	Bs (n=3)	5	n=16
No.Groups	4	4	3	2	4	3	3	4	27	n=119

Gender: B=boys B=11 G&B= 2
G=girls G=14

Mt Pell*: *1 in group from 3 car h/h*
Sowerby* *1 in group from 1 car h/h*

Riverside*: *1 in these groups, slight variation to rating*
Weetw* : *1 in group from 0 car h/h*

this and other categories, were spread across all schools.

An essential point to make refers to the display of qualitative findings from focus groups in tables. In these, a numerical total is provided in brackets against responses to account for all the answers to each question. The proportion of children mentioning certain things was useful in assessments of particular events, for instance, how widespread car advertising on cartoon channels is. But the ordering should not be used to imply an 'hierarchy of importance' a possibility when qualitative data are treated in this way. In one instance, a child was alone in voicing a view which raised an issue for discussion. A single response appears as a tiny portion of the whole, 0.8%. Quantifying data can render it statistically meaningless, therefore overlooked.

3.18 Research Design, Comparative Methods

A 'comparative methods' approach (Vallier 1971, Haralambos, Holborn and Heald 2000) was used in the design and analysis of the research instruments. Following difficulties in finding suitable STP schools for a 'before and after' project, a comparison study was chosen as an alternative for the evaluation. To fulfil both the theoretical and practical research objectives, comparisons were made within and between children and parents. There were several facets to the comparisons:

- intra-familial, within families, researching if and how a parent's attitudes, and mode of travel is influential on a child
- inter-familial, between families based on 'number of cars in household'
- inter-school, outcomes between schools.

Statistical comparisons were made of children's responses on key variables (number of cars in household, learn to drive/own a car) to test for their accuracy and reliability and the results are reported in section 3.21. Some focus groups were selected according to car ownership level. The responses in these groups could be compared which enabled identification of similarities and differences between the children and to build a picture of these. Other groups were selected according to attitudinal category (described in section 3.17). This ensured that in some groups, children with a range of feelings towards transport modes would be included. Chapter 5 reports the results of a basic statistical analysis of the attitudinal scale but further statistical testing such as cluster analysis is necessary before any conclusions are reached regarding the useful-

ness of this classification.

3.19 Interviews, Research Issues

The difficulties in recruiting the parents and the self-selected nature of the resulting sample raise issues regarding reliability and the interpretation of findings. One implication is that those who participated held particular views and/or behave differently to others. A comment from one parent (discussed in section 3.20), suggests the sample may have consisted of individuals who felt comfortable talking about levels of physical activity. Those who do not, may have declined an interview. There is further discussion of the calibre of the parent's interview sample and other findings in Chapter 4 (Section 4.20). Another drawback was that subset sizes were small and the conclusions take this into account. Additional material from the literature review was available to support some findings from the 'two parent, one car' households. However no research has been found which investigated the effect of parents on children by cars in household. Although the focus groups included children from these households, sample sizes were also small.

A prudent criticism on the method of data collection is that primary data were only available from *one* parent in the household when two are likely to be influential on children in two parent households. By implication, it could be said that the interviews represent a study of the influence of females on children. Obtaining one interview per family was difficult therefore requesting two could have reduced the numbers willing to participate. In two parent families the interviewee was asked to provide information about a spouse's travel behaviour and if they thought a spouse would share opinions (in most cases, a wife was asked about her husband). This provided the opportunity to investigate if the interviewee perceived differences between themselves and husbands/partners regarding travel modes and use of the car. There is no verification of the information collected but some facts were provided to support statements:

> ***Q.*** *"Talking now about your husband/partner and his regular weekly car trips. Same question again. Trips that last over 40 minutes?*
>
> ***A.*** *He commutes to work everyday* [Leeds from Halifax] *which takes over 30 minutes, so that takes up a significant proportion of his time"* (Interview No.7).

Open ended questions provide opportunity to reveal issues and ideas not previously considered. There was also the chance to enquire about queries if these had arisen from

the parent's completion of the PTEQ. Interviews, like the focus groups enabled probing to reduce misunderstanding of responses. An example given earlier concerned children's comprehension of the word 'normally'. The interview schedule for 'non car owning' interviewees varied in two respects. One of these was in the 'Car Dependency' section which referred to length of *bus trips* rather than car journeys. The 'Travel Mode and Lifestyle' section asked: *"Would you like to own a car?", "Do you think that not having a car stops you doing the sorts of things you do, and like doing?".*

Four parents allowed children to participate in short 15 minute interviews prior to, or following their own interviews. These were useful as pilots for focus group questions and were structured around the child's responses on travel diaries. There were sections on travel mode to school, why they wanted to learn to drive/own a car, type of car, family routines, the media and cars and acceptable walking distances. Children were present during *part* of their parent's interview and vice versa. The quoted material from two child interviews is presented because these children were *not* included in focus groups at the school. Four other interviewees had a son/daughter who participated in focus groups and these are indicated when quotes from their parents are shown.

3.20 Ethical Issues

Several ethical issues emerged during the research. Firstly, regarding anonymity. A name was requested for pupils in Year 5 and 6 (used in matching a child and parent and diary sets with vignette). Street names (not house numbers) were used to obtain postcodes. In the study schools, a headteacher (or key person) contacted parents to inform them of the project and that a postcode would be utilised. A name was requested from parents but no home address was necessary unless parents agreed to an interview. Measures to maintain anonymity were: only an I.D. number and postcode appeared on the database; batches of questionnaires were not identifiable by school or district. During focus groups/interviews, only first names were used. A second issue was privacy and confidentiality. An ethical issue arose during piloting of interviews with children at home which led to rejection of this method. Several parents were present for part of the child's interview but in this case a mother stayed throughout. Her son indicated on the questionnaire that he was unhappy with his travel mode to school. When asked why, he mentioned wanting to walk rather than travel by car. The parent

was preparing food for a meal and discontinued the chopping of vegetables for a few seconds. This happened when responses to subsequent questions were given. The parent may have felt guilty on hearing about his dislike for car travel to school. An issue is that the child may have faced awkward questioning later, even though nothing was said at the time. Trine (2002) discusses the ethical and moral issues involved when researching children. They are a vulnerable group of participants and the parent's proximity may have been a protective mechanism. Nonetheless, children have rights of privacy and confidentiality and the circumstances of the interview situation were not upholding these. Parents were offered a copy of the child's interview schedule. Another issue arose in relation to the exercise section of the PTEQ. One parent mentioned at interview:

> *"I was actually horrified by how little exercise I do. When I came to tick it all off, to say that I very rarely sit down, this is the longest sit down for most of the week. I actually couldn't add it up into the recommended levels of exercise that I'm meant to be doing. I think that made me think"*
> (Interview No. 20, Crosland Moor, Huddersfield).

Reassurances about this were conveyed personally in this case, but those declining interview would not receive these. The interview schedule was designed to avoid sensitive questions resulting in participants feeling harmed. Interviews were conducted mindful of this possibility. Nevertheless, an underlying implication of some sections, for instance, enquiring about walking levels, could be, 'Are you a good parent?' During an interview with another parent, it became apparent she had very recently separated from her husband. Questions referring to a spouse were deliberately avoided as insensitive. Clark and Haldane (1990) refer to the responsibility a researcher must take for *"what is left behind"*. Research interviews are not a substitute for counselling or therapy, they add, but neither should they be allowed to become a scientific equivalent of slash and burn agriculture (p.143). They mean that researchers should be mindful of emotions and personal issues heightened for participants during interviews.

3.21 Consistency and Accuracy Checks: Responses to Key Questions

The children's responses to two key questions were checked. Firstly regarding their 'future aspirations' i.e. *"Do you want to learn to drive / own a car when you are older?"*. Altogether 265 pupils completed both a diary set and the vignette travel questionnaire (confirmed by pupil I.D. number). There was a gap of between three/four weeks between distribution of the two questionnaires. Of the 265 cases, 19

pupils failed to answer either one or both of these questions on one instrument, therefore 246 cases were considered. Regarding 'Learning to Drive' 18 pupils (7%) gave a different response on the diary set to the one provided on the vignette. Twenty five (10%) of the 246 did so for 'Own a Car'. Cramer's V was the correlation coefficient used to assess the degree of association between a pupil's diary set response and that on the vignette travel questionnaire. This was used because the level of measurement of these variables is nominal (response alternatives are 'yes', 'no', 'don't know'). It is based on a crosstabulation and is calculated from the chi square statistic (Pett 1997). Although the obtained value revealed a 'very strong' relationship between the responses, Learn to Drive, Cramér's V = 601 $p<.001$ or Own a Car, Cramér's V = 503 $p<.001$, expected cell counts less than five in the crosstabulation make the statistic unreliable. Nevertheless, that approximately 90% of children remained consistent suggests that most are decisive regarding their future aspirations.

Children's responses to the question, "*Does your family have a car? Count all types of car or van"* were checked for consistency as well as accuracy. This time a Cronbach's Alpha coefficient was used to measure the reliability of children's responses on the vignette and those on diary sets because the variable 'cars in household' was used numerically. It can be classed as a ratio level of measurement because it has a true zero, or else, if ranked, can be ordinal (response alternatives, none, one, two, three or more). The obtained value $\acute{\alpha} = .90$ revealed a very strong relationship. A slight variation would be expected because a small number of parents may have changed the number of cars during the three/four weeks between distribution of the instruments. The responses of the sample of children (n=121), whose parents completed a PTEQ, were used to make a comparison between the parents' responses and their children's. A Cronbach Alpha coefficient, $\acute{\alpha} = .97$, revealed a high level of concurrence in the child/parent sets. Hence children were both consistent and accurate in their responses.

The accuracy of children's recording of journey times could not be verified. However journeys to/from school were easier for children to gauge because of regularity of journey. An advantage of employing a self-report diary questionnaire is that it reduces the problem of recall and memory lapses associated with retrospective surveys, for instance the Health Survey for England (DH 1999). A disadvantage is they overload busy potential respondents and cannot guarantee that the 'halo effect' is not operating, a problem associated with any self-report measures which can produce over-estimates.

Suspicious totals on the diary sets were queried and excluded. The TEQ questionnaires (completed at home) were examined to check that the handwriting did not resemble their parent's. To increase motivation the older children were awarded a laminated 'Certificate of Appreciation' which had names printed on them (see Appendix 1i). In the study schools a decorative sticker was also given to the children (suggestion made by a teacher). Completion of questionnaires in class is the most likely reason for the difference in response rates between the study and KMC schools.

3.22 Study Schools, Distance Data

Distance data for the journey to school for study schools were generated from postcodes identifiable from street names provided by pupils. Postcodes were used to obtain map co-ordinates from the 'All Fields Postcode Directory' (AFPD).[7] The 'Easting' and 'Northing' co-ordinates are utilised by the software program MapInfo to plot postcodes around the school. A ruler line was drawn between points to obtain a distance which measured direct lineal distances, i.e. how the crow flies, therefore values presented are underestimates of absolute travel distances (Gray and Kelly 2003). Table 3.6 shows the estimates against measured road distances for six walked and four car journeys to one school.

Table 3.6 Estimated, Against Actual Distances of Ten Postcodes

Pupil I.D.	Home Postcode	School Postcode	Estimated Distance (Km)	Measured Distance (Km)
5.01	HX6 1HH	**HX6 1HB**	.200	.322
5.02	HX6 1LE	"	.290	.483
5.03 *	HX6 2HR	"	1.720	2.897
5.04 *	HX6 1HQ	"	.140	.483
5.07	HX6 3HA	"	2.420	3.540
5.08 *	HX6 1HG	"	.300	.483
5.12	HX6 1HP	"	1.040	.966
5.18	HX6 1HH	"	.200	.322
5.19	HX6 1DD	"	.420	.641
5.20 *	HX6 1LA	"	.230	.402

* car journeys to school.

The underestimates produced by this method will affect all eight schools. The 'measured' distance assumes drivers use the shortest routes whereas if busy during peak times these may be avoided. Walkers may use shortcuts. Subtracting 'estimated'

---

[7] See http://www.statistics.gov.uk/geography/afpd.asp (2005).

from 'measured' distances produced an average underestimate of 0.35k or approximately a third of a kilometre. Twenty postcodes were missing, 13 (11%) for STP and 3 (1%) for Non-STP schools. Alternative methods of obtaining distance data were considered. These were discounted as being either too time consuming for all parties or because accuracy would not have improved. For instance, if children actually drew the route travelled to school more classroom supervision was involved. A significant proportion also use two different modes of travel (walk, car) therefore routes may vary according to mode.

3.23 Piloting of Research Instruments, Questionnaires

All the questionnaires were piloted three times on different groups of children and parents. The alterations made to each instrument following piloting are shown below.

Vignette: several of the original ten photographs, 'types of character' were changed to convey the sharpest distinctions between characters. Some of the original photographs of transport modes were improved, for instance the photograph depicting 'the Walkers' showed profiles rather than a street scene. The space for children to add their own comments was lengthened because of the amount of commentary added in the pilots.

Travel diary: the first draft was shortened and simplified. The instructions on the page were made bolder to eliminate misunderstandings. Colour coding of the three sections (TD, SED, questionnaire) also helped. Additional space in the grids allowed children to record the 'number of minutes' taken. This enabled time spent 'walking for transport' to be recorded and analysis of the number of short car trips. A method for estimating 'distance travelled to school' was introduced (using MapInfo). Initially children recorded their own estimates which produced a large number of missing cases. Other methods of doing this were given consideration before rejection.

School Travel Survey: the first drafts included journeys to 'visit friends' and 'other places' which were removed because they overloaded children in this age group who were confused and made numerous errors. The pictorial representations were improved to convey meaning. Tick boxes were added so that children could show the actual 'number of days' each mode was used. This separated the dual modal trips (part journeys) from the alternation of modes on different days. Analysis of the pilot highlighted this shortcoming.

PTEQ: initially styled as a travel diary. Two early drafts were over complicated and

too time consuming resulting in very poor response. It became a questionnaire and most questions were converted into tick box responses.

3.23.1 Focus Groups and Interviews

Four children participated in 15 minute interviews. These were useful as pilots for gauging comprehension and suitability of questions for the focus groups. They also uncovered a topic not previously considered - car advertising on cartoon channels. A direct question was added to the schedule to ascertain if other children were aware of this. Two of the focus groups at Riverside school were preparatory although this material was included in the findings. Following these a new question was added to the schedule: What *type* of car would you like to own? The original only enquired if children wanted to learn to drive or own a car. When some children gave their reasons, they did so in relation to owning *particular* cars. Further questioning revealed this to be a motivator in their decision to own a car.

A query arose when some pupils at three schools did not follow an instruction on the diary set questionnaire. They answered 'Yes' and went on to complete a further question for those answering 'No', to question 3 "I am *happy* with the way I *normally* Travel to School". The pupils' understanding of the word 'normally' was questioned. The opportunity to test comprehension was taken in eight focus groups at two schools, Sowerby and Mt Pellon. Pupils were asked what they thought the question meant and the responses indicated understanding. The examples below are from two schools:

> *"it's what you usually do to get from one place to another."*
> *"What you usually do from day to day."*
> *"I just think you want to know how we travel, like on foot..."*
> (Sowerby Groups 2 and 5).
>
> *"It's like how you travel every day to school and back."*
> *"Well, it's like for, yeah, like what do you do the most..."*
> *"It's what you do every day"* (Mt Pellon Groups 3 and 4).

The potential list of topics on the original focus group schedule was reduced because of time limitations and the need to maintain children's interest throughout. The pilots also highlighted the need for proficient recording equipment to overcome background interference and ensure soft voices could be heard.

Five pilot interviews with parents were undertaken and the schedule was reassessed after each so that any changes were also piloted. No drastic alterations were required

but the wording of some questions altered to improve clarity and the ordering of the sections changed. The first part of the original asked for parents' views on 'School Travel Plans.' This proved to be a difficult starting point either because interviewees had little to say on the topic or because it was politically charged. The 'Family History' contained easy to answer non contentious questions which did not require prompts. This meant that the interviews began in a more conducive and relaxed atmosphere. A short preamble was added to explain the purpose of the questioning in the 'Family Routines and Habits' section when interviewee reaction during the pilots revealed uncertainty as to what information was required. A general change made to the schedule was to ensure all permeations of household circumstance were covered by the questions. For instance, in the 'Travel Mode and Lifestyle' section, an additional question was added specifically for the 'one car' two parent households. This was included to ascertain if and how the parents shared the car following comments made about this topic by an interviewee. In the same section a potential question asking about the interviewee's responses on the PTEQ was added. The purpose of this was to follow up any queries that may have arisen or else enable further investigation of the responses provided on the questionnaire. A completely new question asking about car use for exercise, *'Are there any ways that having a car helps you to be active...'* was added to the section, 'Affect of Car on Physical Activity'. This harmonised with a closed question on the PTEQ in order to elicit complementary material for analysis.

3.24 Presentation of Findings in the Thesis

For ease of exposition and consistency, the ordering of the chapters is framed by the theoretical framework of the research. Hence the role of each of the four socialising agents is presented in turn beginning with 'the Home'. The two key variables which became the central focus following the literature review are used to organise the material into four data themes:

i) the number of cars in household ('the Home' primarily *Chapter 4,5*)

ii) the type of school attended ('the School' *Chapter 6*)

iii) two other sources: 'the media' and 'peers' (*Chapter 7*)

iv) a combination of all the above (*Chapter 8*).

A 'comparative methods' approach was used in the design and analysis of the research instruments and this dictated the organisation of the results in the chapters. In the case

of 'the Home' most comparisons made the between parents and children are arranged in Chapters 4 and 5. The two key variables underpinning these are pertinent to both the statistical and the qualitative analyses therefore all the relevant material is presented within the chapter. Chapter 4 contains the results appertaining to 'travel experience'. Appended to this is the data on physical activity/exercise such as 'time spent walking'. All the data collected from the PTEQ, children's TDs, TEQ and STS which is relevant to these topics are presented here. Chapter 5 reports all the findings of the attitudinal analysis for children and parents including material from the focus groups and interviews. Chapter 6 presents the travel to school data, in particular, the evaluation of STP schools. All the findings germane to this, derived from the TDs or the STS are reported. Chapter 7 covers the specific findings relating to the influence of the media and peers on children. These are drawn from the focus groups and interviews with one exception. A finding from the written responses on the vignette is provided as evidence of the source of children's knowledge regarding particular types of car they wanted to own. In Chapter 8 the results from the vignette are presented followed by material from focus groups, children's likes and dislikes for transport modes. This chapter also reports the findings from a question repeated across research instruments, children's future aspirations, the reasons they did, or did not, want to learn to drive. As in other chapters, the qualitative material associated with this is presented alongside.

3.25 Data Limitations and Weaknesses

Several limitations and weaknesses were identified in some of the questionnaires which had implications for data analysis. An internal validity problem arose with the use of the 'Car Culture Attitude Scale'. A short discussion in Chapter 5 of the wording of the questions raises the issue of what is *actually being measured* when respondents were asked to indicate their feelings about transport modes. The use of a 'comparison study' for the evaluation introduced data limitations. A 'one off' survey only provides a snapshot picture rather than an ongoing record. Hence it lacked the ability to detect any potential *change* in travel behaviour which may have resulted from STP implementation. In one instance, insufficient data were collected. A failure to ask parents about the time spent walking to/from school on the PTEQ meant that an important finding from the children's exercise diaries could not be followed up. Section 9.8 in the Conclusions chapter discusses the disadvantages of using a 'mixed

methods' for the research design and the lessons learnt from this. Table 3.7 shows the response rates for all the research instruments used in the research.

3.26 Research Instruments, Overall Response Rates

Table 3.7 Research Instruments, Response Rates

Instrument *Children*	**Questionn. Distributed**	**Questionn. Collected**	**R/ Rate**[8]	**Request Letters**	**Inter-views**	**Focus Groups**
Vignette	572	486	84%			
Diary Set	572	315 *(301 valid)*	53%			
SalterSTS *(Total)*	50	42 *(357)*	90%			
Focus Groups						27 *(119 children)*
STS (6 schools)	392	308	80%			
KMC Schools TEQ	649	90	14%			
Parents						
PTEQ, Study schools	572	50	9%			
PTEQ, KMC schools	649	90	14%			
(Total)		*(140)*	*(11%)*			
All Schools Key Person						
Interview:		4				
Questionnaire:	4	4				
Request letters:						
Study schools			2.0%	572	12	
KMC schools			1.4%	649	8 [9]	
University			1.3%	150	2	
Total				**1371**	**22**	**27**

[8] % of total pupils in age group at the schools. [9] Nine recruited, one cancelled owing to illness.

3.27 Conclusions

This chapter explained why a mixed methodology using a comparative methods approach was chosen for the research design. It described the research instruments, the sample selections and response rates and how the methods and techniques used previously were utilised, extended or changed. The problems with the sample selection which prevented the generalisation of some of the results, were highlighted. Other data limitations such as the poor response to diary sets in the evaluation schools and the general weaknesses and methodological problems which arose during analysis were discussed. The changes made to research instruments following piloting were described and the ordering and presentation of the results explained.

Chapter Four

Children's Travel Socialisation, the Role of Parents on Travel Experience

4.1 Introduction

This chapter presents evidence to support the argument that the parental home is a source of knowledge and learning in children's travel socialisation. The theme is travel experience and evidence is drawn from statistical and qualitative findings using data from a sample of parents and several samples of children. From the parents, the results reported are from analysis of the Parents' Travel and Exercise Questionnaire (PTEQ) and interviews (see Appendix 1e and 1f). From the children, the findings are from analysis of Diary Sets, the School Travel Survey (STS), the Travel and Exercise Questionnaires (TEQ) and Vignette Travel Questionnaire (see Appendices 1a to 1g).

The findings from the 'History' section of the interviews are reported first. The topic is travel in birth family households, how the parents travelled when *they* were of primary school age. Further results from the interviews regarding the 'Routines, Rules and Rewards' of households are presented before the results of statistical analyses. This begins with the parents' and children's current travel. A pervasive finding from the data collected from both children and parents is the effect of car ownership on the amount of car usage. Car usage for all regular journeys increases as the number of cars in a household rises. The reverse is true regarding the amount of walking for transport. Further findings from the statistical analysis of the physical activity data are reported before the additional material from the interviews with parents is presented. A discussion of the findings precedes the literature review at the end of the chapter.

4.2 Interviews: Birth Family Travel

The History section of the interview schedule collected information about the birth family backgrounds of the twenty two parents and investigated:

- socioeconomic status
- if being raised in a car owning household in the 1960's/1970's is influential on the parents' current car usage and attitudes

- if socialisation processes were operating in birth family homes.

Table 4.17 in Appendix 2a lists the occupations of interviewees alongside their parents. The occupations of all parents who completed a PTEQ is shown in Table 4.18, Appendix 2b. In most cases, the intergenerational skill level of jobs remains the same. Two notable exceptions are the daughter of a doctor working in a warehouse and a landscape architect whose father was a labourer. Nineteen interviewees were brought up with a car in the family. Five had two cars and 14 one car. Eleven of the 19 described having a family car/s, *"As long as I can remember"* . Of the remainder, one was aged two, four were aged between six and eight, one was aged 10, and another was 13 when their parents first had a car (one not ascertained). The car was needed for employment in eleven cases (mostly for father's job). Others did not *need* a car for work but may have used the car for the journey to work. Interviewees were asked to recall how much they travelled in the family car, firstly for travel to school during their time at school. Seventeen walked to primary school and five travelled by car. The shortest journey for the latter was one and a half miles while the other four travelled by car over two miles. Four of these lived in rural areas with little or no bus transportation and their parents owned and relied on two cars. Eight of the 17 non-car travellers described short, five minute walks to primary school, but four had journeys lasting 20 minutes or else a distance of around a mile to walk. Two others sometimes caught a bus. Three 'walkers' did not remember the distance. Regarding secondary school, two interviewees were taken by car and both of these were long journeys. Thirteen others caught a bus while the remainder walked. For journeys to visit friends or social activities, six were taken by car. Five of these were the same as those driven to primary school. Another lived on a remote farm. Fourteen walked or caught a bus to activities and two others did not go out very frequently. Typical quotes are:

A. *"I'm afraid not. My father always said he wouldn't run a taxi service. So we didn't get lifts"* (Interview No. 16).

Q. *"Did your parents drive you to visit your friends, or out in the car to other activities at any time?*

A. *No. Caught bus or walked."* (Interview No. 22).

4.2.1 Interviews: Birth Family Travel, Rules and Rewards

Apart from the five rural dwellers, most interviewees mentioned how little they travelled in the car. In 'one car' households, the father's dominance of the car was often remarked upon and they usually took the car to work. The interviewees recalled

mothers who walked or caught a bus to go shopping. A vivid memory for ten was the yearly family holiday, six others remembered days out, to the countryside or the coast:

> ***A.*** *"I mean, I do remember us travelling in the car to, you know, it wouldn't have been very far, just to the East coast. I don't really think it, sort of, affected my life a lot really; the fact that my dad had the car. I mean, even shopping I'd go with my mum shopping and we'd go on the bus"*
> (Interview No. 3).

Nevertheless, 10 of 19 interviewees recalled a rule or rules imposed by parents when they did travel by car. The rules they remembered were: not to eat or drink, to sit in the back, not to touch the driver, not to touch electric windows, to keep quiet or to sit still in seats. These were made explicit by verbal commands but parents also conveyed messages implicitly. For instance, several knew *not* to sit in the front seat of the car because a parent/s automatically sat there:

> ***Q.*** *"Was that a spoken rule?*
> ***A.*** *Yes, and you weren't allowed to move you had to sit, most children would be dancing round in the back of the car but we weren't allowed to do that we had to sit still"*
> (Interview No. 13).

> ***Q.*** *"You talked about it was generally expected you'd sit in the back, is that because of a spoken rule or was it by implication you just sat in the back?*
> ***A.*** *Yes it was a kind of unwritten rule. It was definitely a treat to sit in the front"*
> (Interview No. 7).

> ***Q.*** *"Do you mean by that there was never anything spoken to you about sitting in the back?*
> ***A.*** *It was just convention that she would sit in the front and I would sit in the back"*
> (Interview No. 20).

Eleven interviewees remembered helping to wash the car. This was insisted upon by parents in several families, but five were encouraged by a reward such as extra pocket money. Some enjoyed doing it, reward or not. Eight others said that their fathers *always* washed the car, interviewees were never expected to help.

The 'History' section of the interview schedule asked interviewees if there were differences in the way their birth family used a car/s, compared with their current families. Twelve said car usage was now greater than their family of birth and for two, was about the same. Two parents now use a car less. One of these lived in a rural area

as a child and she recalled her parents' reliance on cars for most journeys. She currently lives in a small semi-rural town with good public transport and prefers walking, cycling or travel by train. Closer proximity to work and school make a difference for the two parents who use a car less. Of those using the car about the same as their birth families, both were raised in the country. One is now an urban dweller whose circumstances she feels, make car ownership a necessity. The second still resides in the country and there are no trains and few buses. Five interviewees were either not raised in a car owning family or else were in 'no car' households at the time of the fieldwork. Another interviewee was non committal about the amount of current car travel. To conclude the History section of the chapter, summarised below are the lifestyle/cultural changes as perceived by interviewees to explain differences in their current car use compared with their parents. The car owning interviewees gave examples of how they have been affected by the social and cultural changes they described. No hierarchy is intended by the ordering:

- location of shops (growth of out of town retail parks)
- new technology - refrigerators at home (shop weekly, not daily)
- amount of and location of leisure activities for children
- fear for child safety: abduction, traffic levels
- car enables parents to widen spectrum of own and children's activities
- children's expectations have increased – expect car transport
- use car for employment now
- better roadside facilities for car travellers
- quality of cars now superior, better roads
- time pressures in household – reduced time to walk to places
- cars viewed functionally, not for specific purposes/as luxury item
- home location changed – from urban to rural, from rural to urban
- public transport not so popular now.

The findings reported henceforth refer to the current travel of the parents and families.

4.2.2 Interviews: Current Family Travel, Routines, Rules and Rewards

The interview schedule asked about current family routines rules and rewards. In particular if they have any regular routines before setting out in the morning, or for other journeys involving a time schedule. If so, did their children help with these?

Thirteen car owning households gave concrete examples of how children helped. Seven assisted with car keys, three ensured all items ready, one opens and closes the garage doors, another, the garden gates. Interviewee No.8 mentioned that her son (aged 6½) has shoes/coat ready, sets the burglar alarm as well as de-misting the car windows. One child carried keys, opened doors and placed keys in the ignition when younger. Examples from the transcripts are:

Q. *"Do you have any set routines in the morning before you set out on your journey by car?*

A. *Sometimes they put the keys in the car on the seat for me or in the ignition, and they sit and wait in the car"*
(Interview No. 4).

Q. *"Do the children help with anything like putting things in the car or do they have a little job that they do, get the car keys or anything like that?*

A. *.....(son) will take the car keys, unlock the car, and sit himself in. Well he'll bring the keys back so I can lock the doors.*

Q. *Do you think he likes doing that little task?*

A. *Yes, definitely. And I think if it's frosty, for instance, in the mornings he likes to get the scraper out and scrape the windows"*
(Interview No. 16).

Q. *"He has the keys?*

A. *He usually goes first and opens the door.*

Q. *Does he enjoy doing that, his little job?*

A. *I think it's just become a routine. I don't think he gets particular enjoyment from doing it"*
(Interview No. 20).

Three others said their children did not contribute to leaving on time, one response was not ascertained. One of the parents from 'no car' households said that their child had to prepare school items the night before and ensuring promptness in the morning. Another said, *"They do get some things ready in the morning. Once we have given the last call, they will get themselves ready."* Two helped to carry shopping on and off the bus. All 18 car owning parents said their child helped when it came to washing the car, albeit this was not a regular task in some households. Several children also helped load/unload shopping into the car. Eleven children did not receive a reward for helping with jobs. Seven were usually given money or sweets:

Q. *"Do you have any other regular routines such as cleaning the car or anything like that?*

A. *... (son) has started so he can get some pocket money*
(Interview No. 13).

Q. *"Does ... (son) help with that at all?*

A. *Sometimes.*
Q. *Does he like doing it?*
A. *He likes to be given that little bit of money for helping"* (Interview No. 21).

Nineteen of the parents interviewed impose a rule or rules on their children. These apply to both car owners and non-car owners. The car owners named nine rules in relation to car travel: wear seat belts, sit still in seats, be careful with food, sit in back seat, no feet on seats, get in and out on pavement side, not to touch driver, no mess – clean up rubbish, no music in car:

Q. *"Do you yourself have any rules about your car that would affect your children at all?*
A. *Other than safety, I always insist that they get in and out on the pavement side and that they all wear their seatbelts and they all sit in the car seat"* (Interview No.10).

Q. *"Do you have any rules about the car /s that affect your children?*
A. *Yes, seat belts must be on and no music in the car"* (Interview No.14).

Three of the parents from 'no car' households mentioned rules they have for their children in relation to bus travel. Two examples are reminding the child *"not to talk to strangers."* Another asks her children *"not to be so noisy and consider others".* The findings from the statistical analysis of questionnaires are presented next. This begins with the results from the PTEQ regarding the parents' travel mode to work.

4.3 Parents' Travel Mode to Work

From the sample of 140 parents who completed a PTEQ, 107 had employment. Of these: 61 (57%) travel by car all the way, 17 (16%) walk all the way, 12 (11%) travel by bus, 4 (4%) by train, 1 (1%) by shared car. The remaining 12 (11%) travel by two modes: car/or share car/walk (11), bus/walk (1). Table 4.1 is a crosstabulation for car journeys to and from work by cars in household. Twelve (11%) dual modal journeys are not included. A chi square test showed highly significant difference in the proportions who travel by car according to car ownership (χ^2 30.718, $p<0.001$, df 2).

Table 4.1 Parents: Car Travel To/From Work by Cars in Household

Travel by Car To/From Work	No Car	One Car	Two/More	Total
No	11 (100%)	17 (57%)	6 (11%)	**34 (36%)**
Yes	0	13 (43%)	48 (89%)	**61 (64%)**
Total	**11 (100%)**	**30 (100%)**	**54 (100%)**	**95 (100%)**

Percentages are rounded to the nearest 1%.

The observed counts are shown in Table 4.1. In this table and all others which use the parents' dataset, the 'expected' counts were examined to eliminate the possibility that the statistical significance is attributable to differences in distribution, rather than as a result of biased subsamples. Table 4.2 is the first of three tables which were produced from NTS data following personal requests. The tables show the percentage *of trips* by car ownership, whereas the findings from the author's surveys are presented according to *number of individuals* using each travel mode. The travel pattern of parents in the PTEQ sample follows the national trend. As the number of cars in a household increases, the percentage of journeys made by car to work also increases. This is reversed for walking to work.

Table 4.2 Percentage of Trips to Work* by Main Mode and Car Availability: Great Britain, 2002/2003

Travel Mode	% No Car	% One Car	% Two/More	% All H/Hs
Walk	26	11	5	**10**
Car	15	68	87	**71**
Bus	32	8	2	**8**
Other	27	13	6	**12**
% All modes	**100**	**100**	**100**	**100**
Sample trips	**11,131**	**42,005**	**48,667**	**101,803**

(Source: McDonnell 2004a) *Adults aged 16+, full and part-time work

4.3.1 Parents' Travel Mode for School Escort

Analysis of the PTEQ (n=132), showed that no parents travelled to escort their children to school by train; two used a public bus, the remainder walked or travelled by car. An analysis by car ownership revealed that as the number of cars in a household increases, fewer parents walk to school: 15 (94%) 'no car' households walk, 17 (55%) of 'one car' and 11 (20%) of parents from 'two/more cars' households walk. A chi square test showed that the differences in these proportions are highly statistically significant (χ^2 29.936, $p<0.001$, df 2). This is reversed for travel by car with 37 (76%) parents from 'two/more cars' households who travel by car and 12 (43%) from 'one car' households. None of the 15 'no car' parents travel by car to school. The differences are again highly significant (χ^2 25.055, $p<0.001$, df 2). Analysis of PTEQ data suggests it is most likely that 'car availability' explains the mode of travel parents used to escort their children to school, *not the decision* to escort a child to school. This is because similar percentages of parents in all car ownership categories escorted their child to/

from school: 75% of parents in 'no car' households do so, 84% of 'one car' and 84% from 'two/more' car households. Furthermore 11 of the 54 parents in 'two car' households who escort children by car reside in the *lowest* rated ID districts (Crosland Moor, Almondbury, Moldgreen) suggesting 'car availability' is the factor not socioeconomic status. Section 4.4.1 presents the findings of an analysis by socioeconomic status.

An analysis of the parents in the PTEQ sample who work part-time did not change the central finding regarding parents' travel mode to school. Of 43 'part-timers' who escort children, car ownership is still the independent variable, (χ^2 8.503, $p<0.01$, df 1). A greater number of part-time workers from two/more car households travel by car compared with other car ownership categories: 15 (75%) compared with 7 (30%). It is possible that part-timers work mornings which places them under the same time constraints as full-time employees. However, if part-timers who escort by car *both ways* are selected, the pattern remains the same. Of 10, 9 are parents from two/more' car households who travel by car. An analysis of the parents in the PTEQ sample who are not employed (27 housewives, 1 retired) produced interesting results. These parents do not have the time pressure associated with the journey to work in the morning. Of 21 who escort their children (19 both ways), a greater proportion of those who travel by car are from 'two car' households. As would be expected, none of the housewives from 'no car' households travels by car, four of those from 'one car' households do so whereas nine of the 'two car' housewives travel by car to escort their child/ren, (Fisher's Exact Test $p<.05$). The travel distances are not known but only four housewives have children who attend private schools and are therefore likely to travel further. The 21 housewives live in a mixture of ID districts, approximately 45% rated 2,069 and below, 55% from districts rated 3,035 and above.

Table 4.3 is the second table produced from NTS data. It shows a national subsample of approximately 3,000 'economically inactive' school escort trips. This subsample includes housewives 18 years or older with at least one child but there may also be male and older sibling school escorters. Fewer of the housewives/unemployed parents from 'two/more car' households walk to school and a higher percentage escort by car. A conclusion is that 'cars in household' is the explanatory variable on mode of travel for housewives/unemployed school escorters. This suggests that the number of cars in

a household overrides the time pressure of employment in the decision to travel by car.

Table 4.3 Economically Inactive Adults Percentage of Trips to School by Main Mode and Car Availability: Great Britain, 2002/2003

Transport Mode	% No Car	% One car	% Two/More	% All H/Hs	Sample trips
Walk	83	53	30	52	**1,533**
Car/van driver	3	35	66	37	**1,087**
Car/van passenger	3	10	1	6	**179**
Other	11	3	3	4	**122**
% All modes	100	100	100	100	**100**
Sample trips	**574**	**1,574**	**773**	**100**	**2,921**

(Source: Mottau 2005)

The findings presented in the sections which follow are based upon the statistical data from diary sets and the School Travel Survey (STS).

4.4 Study Schools, 'Walkers To/From School' by Cars in Household

Public transport was not used by the majority of pupils for travel to/from school. No pupils used trains and only 18 (7%) used a public/school bus. Therefore this section concentrates on the findings for two modes, walking and car travel. Further findings regarding public transport usage are reported in section 4.10. 'Walkers to school' are subsamples of pupils who walk for four or five days per week. These were compared with those who do not walk to school on any days using diary set data (n=301, 14 missing cases). Table 4.4 is a crosstabulation of the results for 'walkers to school'. The 'total' provides the number of children in each car ownership category in the diary set sample, for example, there were 52 from 'three/more car' households. A chi square test revealed highly significant differences in the proportions according to cars in household (walkers to school, χ^2 28.151 $p<0.001$ df 3).

Table 4.4 Pupils 9 to 11 Years Walk to School, 4/5 Days by Cars in Household

Walk to School 4/5 Days	No Car	One Car	Two Car	Three/ More	Total
No	7 (23%)	58 (48%)	62 (63%)	40 (77%)	**167 (55%)**
Yes	24 (77%)	62 (52%)	36 (37%)	12 (23%)	**134 (45%)**
Total	**31 (100%)**	**120 (100%)**	**98 (100%)**	**52 (100%)**	**301 (100%)**

Percentages rounded to nearest 1%

The observed counts are shown in Table 4.4. In this table and all others which use

the school datasets, the 'expected' counts were examined to eliminate the possibility that the statistical significance is attributable to differences in distribution, rather than as a result of biased subsamples. An analysis of the 'walkers from school' produced a very similar finding (walkers from school, χ^2 28.156 $p<0.001$ df 3). In both crosstabulations, the proportions who walk for four/five days decreases as car ownership rises. The response rate for diary sets was 53%. A further analysis by 'cars in household' produced a crosstabulation for the pupils in the diary set data who travelled by car for four/five days during the week of diary set completion. There were 96 (32%) of pupils who did so. Of these 1 (3%) were from 'no car' households, 26 (22%) were from 'one car', 46 (47%) were from 'two cars' and 23 (44%) were from 'three car' households. Table 4.5 is the crosstabulation for 'car to school' on four or five days in the week.

Table 4.5 Pupils 9 to 11 Years, Car to School, 4/5 Days by Cars in Household

Car to School 4/5 Days	No Car	One Car	Two Car	Three/More	Total
No	30 (97%)	94 (78%)	52 (53%)	29 (56%)	**205 (68%)**
Yes	1 (3%)	26 (22%)	46 (47%)	23 (44%)	**96 (32%)**
Total	31 (100%)	120 (100%)	98 (100%)	52 (100%)	**301 (100%)**

Percentages rounded to nearest 1%

For the journey home 86 pupils travel by car for four/five days and the crosstabulation showed the same pattern as 'to school'. Both results showed highly significant differences in the proportions by car ownership (to school by car, χ^2 31.363 $p<0.001$ df 3, from school by car, χ^2 13.390 $p<0.004$ df 3). A pertinent point is that a sizable proportion of pupils from three/more car households do not travel to/from school for 4/5 days by car (44% do so, 56% do not).

To investigate if the finding regarding 'walkers to school' held for younger pupils (7 to 9 year olds), the analysis was repeated on STS data (n=303, 5 missing). The resulting crosstabulation showed the same pattern as for older pupils for both journeys, but the percentages of children from both 'no car' and 'three car' households who walk is higher (86% and 33%). A chi square test revealed highly significant differences for younger pupils (walk to school 7 to 9 years, χ^2 31.283, $p<0.001$ df 3, walk from school 7 to 9 years, χ^2 32.534, $p<0.001$ df 3). The response rate for the STS questionnaire was 80%. Table 4.6 is the third table produced by personal request from NTS data. This

provides a national snapshot of how children travel to school whereas the author's sample represents a sample of largely *urban* dwellers. A comparison with the author's data reveals that the trend observed in all previous analyses, continues. As car ownership increases, walking journeys decrease: 82% of trips by 5-10 year old children from 'no car' households are walk journeys, compared with 54% of 'one car' and 37% of those made by children from 'two/more cars' households. Regarding bus travel, the breakdown by age shows that if older pupils are included (5-16 year olds), there are similarities. Distance may be the explanatory factor because primary children tend to live closer to school.

Table 4.6 Percentage of Children's Trips to School by Main Mode and Car Availability: Great Britain, 2002/2003

Age	% No Car	% One car	% Two/More		% All H/Hs
5-10 year olds					
Walk	82	54	37		52
Car	5	36	58		40
Bus	10	7	4		6
Other	3	2	2		2
% All modes	100	100	100		100
Sample trips	**2,956**	**7,640**	**7,027**		**17,623**
5-16 year olds					
Walk	68	48	34		46
Car	6	29	44		31
Bus	22	19	19		19
Other	4	4	4		4
All modes	100	100	100		100
Sample trips	**6,063**	**14,752**	**15,199**		**36,014**

(Source: McDonnell 2004b)

4.4.1 Study Schools, Travel Distance to School, Socioeconomic Status

Analysis was undertaken to investigate if there were any confounding variables which explained children's travel mode to school. Firstly, analysis by 'travel distance' to eliminate the possibility that those from households with fewer cars, live closer. Descriptive statistics were crosstabulated against car ownership using diary set data (n=285). The results are shown in Table 4.7. Of the 31 'no car' households in the table, 6% travel over 2.2km to school, longest journey (l.j.) = 2.42km. For 'one car' households, the figure is 11% (l.j.= 8.36km), for 'two car' 8.6% (l.j. = 4.47km) and for

'three car' 10.6% travel over 2.2km (l.j. = 4.81km). The estimated travel distances to school for each car ownership category were compared. Because the distributions for travel distance to school were not normally distributed, the non-parametric equivalent of a one-way analysis of variance was used. The value of the Kruskal Wallis Test (chi-square .564 p<.905 df 3) indicated that there were no significant differences in the travel distance to school by children according to car ownership categories. Any differences between *some* of the pupils from 'no car' and 'three car' households, are small in road mileage terms (within half a mile). Some pupils from 'one car' households appear to travel further but the larger sample size may bias this. The small sample of 'no car' households (n=18) in the STS data (younger pupils aged 7 to 9 years) did not allow for a meaningful comparison of travel distance. In general the distances travelled by younger pupils are very similar.

Table 4.7 Estimated Distance to School (Kilometres) by Cars in Household

Descriptive Statistics (km)	No Car	One Car	Two Car	Three/More
Mean	0.79	1.04	0.91	0.98
Median	0.55	0.53	0.63	0.51
Interquartile range	0.71	0.89	0.72	1.18
S.D.	0.62	1.40	0.87	1.02
Sample Size	31	114	93	47

An analysis of travel distance by *travel mode* was not meaningful because a significant minority alternated between walking and car travel. For instance, those who walk all of the way on one or more days is 201 (64%) of 315 cases in the diary set which is discussed in Chapter 6. A breakdown of travel mode to study schools including distances by *school* is included in section 6.3 of Chapter 6. From travel time data it is known that 36 of a total of 52 children from 'three/more' car households travel by car on one or more days. Of the 36, 17 children travel for five minutes or less. Of the 98 'two car', 59 travel by car on one or more days and 38 take five minutes or less.

Further analysis was undertaken by 'school attended' to eliminate the possibility that socioeconomic status is a confounding variable and explains the proportional differences between pupils. A sample of 'walkers to school' (four or five days) and 'non walkers' in Shadow[1] schools (n=100) was compared with 'All others' (n=201) in

[1] The ID 2000 for St. John's school is 247 and Mt. Pellon 298.

the diary set sample, (total=301). In the Shadow schools 42% of pupils aged nine to eleven walk for four/five days per week and 46% of pupils attending 'All others' do so. Because the distributions for travel distance to school were not normally distributed, the non-parametric equivalent of the T test, a Mann-Whitney U test was computed on the travel distances. This revealed that travel distances are not significantly different (Mann-Whitney U = 9172.000 p<.18). An analysis on the STS data and 'walkers to school' also showed that the differences were maintained - and this sample did not include children from Shadow schools. The variable 'cars in household' is not used as an indicator of socioeconomic status and the reasons for this are discussed in Chapter 5 in relation to findings from an analysis of attitudes towards transport modes.

4.4.2 Study Schools, Short Car Journeys

Children recorded journey times for all journeys on their diaries. This analysis investigated if there were differences in the proportions that made at least one short journey during the week according to car ownership. A short car journey is defined as a trip lasting 'five minutes or less' (Goodwin 1995). Some children made multiple short car journeys but the purpose of this analysis was to count the number of children not the total number per child. Table 4.8 shows the crosstabulation for those making car journeys comparing the four car ownership categories and if a short car journey was made. The total '272' is the number of children making car journeys and the 160 (59%) were those of short duration. A chi square test on the crosstabulation in Table 4.8 revealed highly significant differences in the proportions who make short car journeys (χ^2 20.037, p<0.001, df 3). Two thirds of children from households with two or more cars made at least one short car journey during the week. Approximately half of those from 'one car' households did so. Some children from 'no car' households also make short car journeys. They may be given lifts by friends or family or else travel by taxi for these.

Table 4.8 Short Car Journeys in Week by Cars in Household

Short Car Journey	No Car	One Car	Two Car	Three/ More	Total Children
No	20 (71.5%)	50 (48.0%)	27 (29.0%)	15 (32.5%)	**112** (41%)
Yes	8 (28.5%)	54 (52.0%)	67 (71.0%)	31 (67.5%)	**160** (59%)
Total Children	**28** (100%)	**104** (100%)	**94** (100%)	**46** (100%)	**272** (100%)

Percentages rounded to nearest 0.5%

Regarding school journeys, 174 children in the diary set sample travelled *all the way* to school by car (at least one day),[2] and 88 (51%) of these journeys lasted for five minutes or less. The figures were also collated for younger children who completed the STS (n=144). Of these, 88 (61%) travelled by car for five minutes or less. There were no significant differences by car ownership for short car trips to school. A child who made a short car trip was driven by an adult but it is not known if the escort ended the journey or travelled elsewhere. However, some figures are available for the parents who completed the PTEQ. Of the 86 parents who escorted a child to school by car, 41% made a short car journey. The figure is lower for journeys to work, 15% of the parents in employment had short journeys. Of the 109 who made car journeys to 'Other' places, a third made a journey lasting five minutes or less. Analysis of the PTEQ data showed that there were no differences in the number of short car trips by car ownership level.

4.5 Comparison Set: 'Walkers To/From School' by Cars in Household

The results from the final analysis of school travel data are based on the 'comparison set'. This data set directly links a parent and a child who share the same household. Parents completed a PTEQ while their children completed a TEQ (or diary set) during the same time period. The *'number of days'* walked to school (or car travel) was not recorded by parents or children who completed the PTEQ or TEQ. For this reason, the analysis was undertaken on all those who walked for one or more days, compared with those who did not walk to school on any day of the week. A new variable 'matching set' was created for each pair (parent *and* child) who both walk or both travel by car. This variable was then crosstabulated by cars in household. The results were: 10 of 18 (56%) parent/child sets in 'no car' households, walk all the way to school, 13 of 38 (34%) of 'one car' and 8 of 64 (12%) of 'two/more' do so. A chi square test showed the differences in proportions from each category of car ownership to be significant (χ^2 15.630, $p<0.01$, df 2). Table 4.9 is the crosstabulation for the parent/child sets.

Table 4.9 Parent/Child, Walk to School Sets by Cars in Household

Walk to School Sets	No Car	One Car	Two/More	Total
Walk, No	8 (44%)	25 (66%)	56 (88%)	**89** (74%)
Walk, Yes	10 (56%)	13 (34%)	8 (12%)	**31** (26%)
Total	**18** (100%)	**38** (100%)	**64** (100%)	**120** (100%)

Percentages are rounded to nearest 1%.

[2] 87 travelled by car for 5 days, 18 for 4 days, 23 for 3 days, 23 for 2 days, 23 for 1day.

Additional children in each of the car ownership categories also walked to school but these did not *travel with the parent* who completed the PTEQ. The analysis on comparison sets was repeated for travel to school by car. A total of 51 parent/child sets travel by car. None of these are from 'no car' households, 12 are from 'one car' and 39 are from 'two/more car' households. The proportional differences are statistically significant (χ^2 24.355, $p<0.01$ df 2). Additional children in 'one car' and 'two/more car households travelled by car but did not *travel with the parent* who completed the PTEQ. A conclusion from the analyses of school travel is: as the number of cars in a household increases, children aged from 7 to 11 years are less likely to walk to/from school. Neither of the variables 'travel distance' or 'school attended' had a bearing on the sample used in the analysis. Chapter 6 reports the results of an analysis which investigated if this finding holds in the schools which have a STP operating.

4.6 Travel to 'Friends' and 'Other' Places by Cars in Household

The travel diaries and TEQ questionnaire included questions about children's travel to see 'Friends' or go to 'Other' places. In both data sets, a percentage of children did not make any of these journeys. For instance in the diary sets, 18% of children did not go to see friends (friends may have visited them during this week).[3] Less than 1% of children used trains for trips to see 'Friends' or journeys to 'Other' places. Use of public buses was greater than trains, 19 (6%) using them for journeys to 'Friends' and 42 (13%) 'Other' journeys. The analysis of non-school travel reported here concentrates on the popular modes, walking and car travel. Approximately one third of children alternate between walk and car for their journeys to/from school, for journeys to 'Friends' and to 'Other'. The effect, and implication of this finding is easier to see in the larger 'school travel' dataset. There is further detail and a discussion of this in relation to school travel and the evaluation of STPs in Chapter 6.

Table 4.10 is the crosstabulation showing the proportions of children in the diary set sample who walk to see 'Friends'. For ease of computation of small samples, the figures in the table are based upon the overall proportions and not according to the *number of days*.

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[3] This explains why the total in Table 4.10 is lower than in other tables showing diary set data.

Table 4.10 Study Schools, Walk to 'Friends' by Cars in Household

Walk To Friends	No Car	One Car	Two Cars	Three/ More	Total
Walk, No	6 (21.0%)	37 (34.0%)	47 (50.5%)	22 (47.0%)	**112 (40%)**
Walk, Yes	23 (79.0%)	73 (66.0%)	46 (49.5%)	25 (53.0%)	**167 (60%)**
Total	**29 (100%)**	**110 (100%)**	**93 (100%)**	**47 (100%)**	**279 (100%)**

The percentages in Table 4.10 are rounded to the nearest 0.5%. A chi square test showed that the proportional differences by car ownership are significant (diary set walk to 'Friends', χ^2 11.556, $p<0.009$ df 3). Travel distances were not recorded for these trips or for journeys to 'Other' places. When the walk journeys to 'Other' places were crosstabulated, there were also significant differences (diary set, walk to 'Other', χ^2 8.111 $p<0.05$ df 3). A smaller percentage of all children walked to 'Other' places. Regarding car journeys to see 'Friends' and 'Other' places, the pattern remained consistent with all other findings on children's travel. As car ownership increases the numbers travelling by car also increased. Differences in the proportions who travel by car by car ownership were highly significant (diary set car to 'Friends', χ^2 17.335, $p<0.001$ df 3, car to 'Other', χ^2 19.390 $p<0.001$ df 1).

A noticeable feature of all the crosstabulations (older children, trips to/from school, any other journeys), (younger children, trips to/from school), is the decline in the percentage of children *who walk*, or conversely, a rise in the percentage who *travel by car,* across each of the car ownership categories. For instance, approximately 30% more of the children from 'no car' households, compared with those from 'one car' households, walk for these journeys. Approximately 20% more of those from 'one car' households compared with those from 'two/more' car households do so. Approximately 4% more of the children from 'two/more' compared with those from 'three car' households walk although the differences between the latter two categories are not consistent. With regard to Table 4.5, which shows car travel to school for pupils aged 9 to 11, there is a slight *drop* in the proportion of children from three car households who travel by car. The greatest proportional differences overall are those between the children from 'no car' households and the children from households that have two cars or more.

4.6.1 KMC Children, Travel to 'Friends' and 'Other' Places

The analysis in section 4.6 was repeated on the KMC children who made journeys to see 'Friends' and to go to 'Other' places. There were significant differences for journeys by car to 'Friends' and to 'Other' places (to 'Friends' KMC children, χ^2 9.694, $p<0.05$, df 1); (to 'Other', KMC children: χ^2 8.892, $p<0.05$, df 1), car ownership categories were collapsed to avoid cell counts of less than 5. For walking journeys the same pattern emerged but the proportional differences were not significantly different.

4.6.2 Parents, Travel to 'Other' Places

Analysis of the parents PTEQ sample (n=137) showed that the findings were the same as for KMC children. Regarding travel to 'Other' places[4], differences in the proportions of parents by car ownership were highly significant (parents, χ^2 22.029, $p<0.001$, df 2). Of 102 parents who made journeys to 'Other' by car, 6 (6%) were made by 'no car' households, 35 (34%) by 'one car' and 61 (60%) were made by parents in households with two/more cars. This is reversed for walking. A conclusion from analyses of non school journeys, for older children and parents (mainly women), as the number of cars in a household increases, the percentage of journeys made by car increases.

4.7 Are Children Happy with the Way they Travel?

The travel diaries, TEQ and STS all included a question asking children if they were happy with their travel mode. If they indicated 'No' a further question asked them to show which travel mode/s they would like to use. Analysis of all data sets revealed that the majority were happy with their travel mode to school, (diary set sample = 89%, TEQ = 87%, STS = 80%). The percentage was almost identical for older children regarding journeys to see 'Friends' or travel to 'Other' places (90%). The STS only asked younger children about school journeys. An analysis of the 'Unhappy travellers' (89 pupils) did not reveal any clear pattern or trends. This is because a percentage of children who use various modes were represented in the approximate 15% of 'Unhappy travellers'. Similar percentages of walkers and car travellers were unhappy. Some of those who walked all the way wanted to combine walking with car travel and this was reversed for car travellers. Analysis of the 'desired' modes showed that half of the 'Unhappy travellers' wanted to use two or more modes for their journeys and choices

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[4] On the PTEQ, journeys to 'Friends' were not separated from journeys to 'Other' places.

were mixed. Overall ten percent of the STS sample would like to cycle to school rather than their current mode. The percentage was much lower for older children and only 4% of these want to cycle to school or for other journeys. Public transport and school bus travel were chosen by fewer than 10 of the 'Unhappy travellers'. There were no consistent differences in choice of mode by car ownership. A conclusion is that if the choices of the 'Unhappy' travellers were incorporated with the current profile of travel, few differences would be noticeable. An exception would be that a greater number of 'cyclists' would appear. The attitudinal section of the questionnaires (children's feelings towards transport modes), proved more productive in terms of measuring similarities and differences. Section 4.8 reports the statistical findings from the exercise diaries.

4.8 Study Schools, Out of School, Sports and Exercise Diaries

The diary sets contained a one week, 'Out of School, Sports and Exercise Diary' (SED), see Appendix 1b. These were completed by 53% of pupils in study schools. The data were analysed for three purposes: to compare children's responses by cars in household, to compare their responses by socioeconomic status (by postcode of school attended) and to compare the STP with the Non-STP schools. The SED consisted of several parts: Sport, Active Play, Walking, Cycling and House and Garden. Frequency counts were obtained firstly for the total time spent on 'All Exercise': Up to 6 hours: 108 (34%), Over 6 to 12 hours: 112 (36%), Over 12 to 18 hours: 44 (14%), Over 18 hours: 38 (12%), Missing = 13 (4%). Separate totals were then computed for each subcategory. The grouped frequencies are shown in Table 4.11 and the percentages are rounded to the nearest 1%.

Table 4.11 Grouped Frequencies: Sport, Active Play, Walking, House and Garden

Time Spent Hours	Freq Sport	Freq Active Play	Freq Walking	Freq Hse & Gar
None	18 (6%)	113 (37%)	19 (6%)	161 (53%)
Up to1hour	54 (18%)	74 (25%)	88 (29%)	96 (31%)
Over 1 to 3	55 (18%)	62 (21%)	125 (41%)	32 (11%)
Over 3	175 (58%)	53 (17%)	73 (24%)	15 (5%)
Total	**302 (100%)**	**302 (100%)**	**305 (100%)**	**306 (100%)**

To discover if levels of exercise during week of diary completion were 'normal' a section on the SED enquired about this: *"My Sports & Exercise Diary shows a normal week for me: No / Yes ?"*. Of 315, 212 (67%) indicated 'Yes' and 52 (17%) 'No', 43 did

not provide an answer. The 52 were spread across all schools except Weetwood [5] (n=0). Some of the 52 pupils had extra exercise (n=41). The reasons given were: *"sport cancelled, too busy, or illness".* Sixteen pupils did not provide a reason. A common reason provided by those who had less exercise (n=11) was: *"time of year".* Eight pupils were coded as 'query' for either ticking 'Yes' to Exercise 'Normal' and also giving a reason, or else not supplying sufficient details.

During the week of diary completion the mean of the number of hours spent by pupils on 'All Exercise' was, boys: 11.34 hours and girls: 9.17 hours. A comparison with the Department of Health, Health, Survey for England, DH (1999b) is: boys 11.43 and girls 7.31 hours.[6] Boys in the sample are very close to the national average, whereas the girls are well above. Pupils from Mt. Pellon school are not included in the comparison with the national survey. This school had a high proportion of ethnic minorities and the mean time spent on physical activity levels was noticeably lower. A total of 28 pupils of 58 who completed diary sets had Asian names. Pupils at St. John's school reside in a district with similar economic deprivation to Mt. Pellon and yet the mean for pupils here is not significantly different to others. St. John's had only two Asian names in 52 diary sets. The lower average for Mt Pellon corresponds with the findings in the HSE (1999) which featured the health of minority ethnic groups (DH 2000b). A comparison was made between Mt. Pellon and other schools. The value of a Kolmogorov-Smirnov test 2.435 $p<.001$ confirmed that the distributions for times spent on 'All Exercise' and exercise subcategories were not normally distributed. A non-parametric equivalent of a T test was used. The results of a Mann-Whitney U test showed that the differences in means between Mt. Pellon and other schools are highly significant: 'All Exercise' Mw U= 4411.500 $p<.001$; 'Sport' Mw U= 4326.500 $p<.001$; 'Walking' Mw U= 5614.000 $p<.05$. Table 4.12 shows the mean and median times (hours) spent by pupils on 'All Exercise' and 'Walking'. The mean for schools is 9.61 and the median, 7.65 hours. Weetwood (n=16) and Salterhebble (n=3) are excluded because of small sample sizes.

A comparison with national surveys regarding walking was not possible because of

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[5] St. John's (n=11), Ireland Wood (n=8), Riverside (n=9) Sowerby (n=4), Salterhebble (n=1), All Saints (n=6), Mt. Pellon (n=13).

[6] Averaged for 9 to 11 year olds.

measurement differences.[7] Data are not available for walking in relation to school journeys. However, the data provided in DfT (2005) are applicable and reference is made to this in the 'Discussion' section.

Table 4.12 Mean, Median Hours Spent 'All Exercise' and 'Walking' by School

School Name and Place	ID 2000	All Exercise (Hours) Mean (Median)	Walking *(Hours) Mean (Median)
Ireland Wood, Leeds	5,672	11.76 (8.32)	2.25 (1.70)
All Saints, Halifax	4,547	12.62 (10.15)	2.04 (1.69)
Sowerby, Sowerby village	3,775	8.86 (7.18)	2.17 (1.85)
Riverside, Hebden Bridge	3,378	8.42 (7.36)	2.50 (2.29)
Mt. Pellon, Halifax	298	7.23 (3.66)	1.77 (1.07)
St. John's, Bradford	247	11.06 (9.21)	1.99 (1.16)

* Includes all walking shown on the Travel Diary or Sports and Exercise diary

4.8.1 Study Schools, Minutes Spent Walking by Cars in Household

Figure 4.1 shows the minutes spent walking during the week of diary set completion and this includes the walking shown on travel diaries. The mean time spent was 127 minutes (2.11 hours) and median, 97 minutes (1.61 hours). Only 3% did not show any walking suggesting that either a small percentage of children walk for negligible amounts of time or that some failed to *record* their walking. Of the 305 pupils who

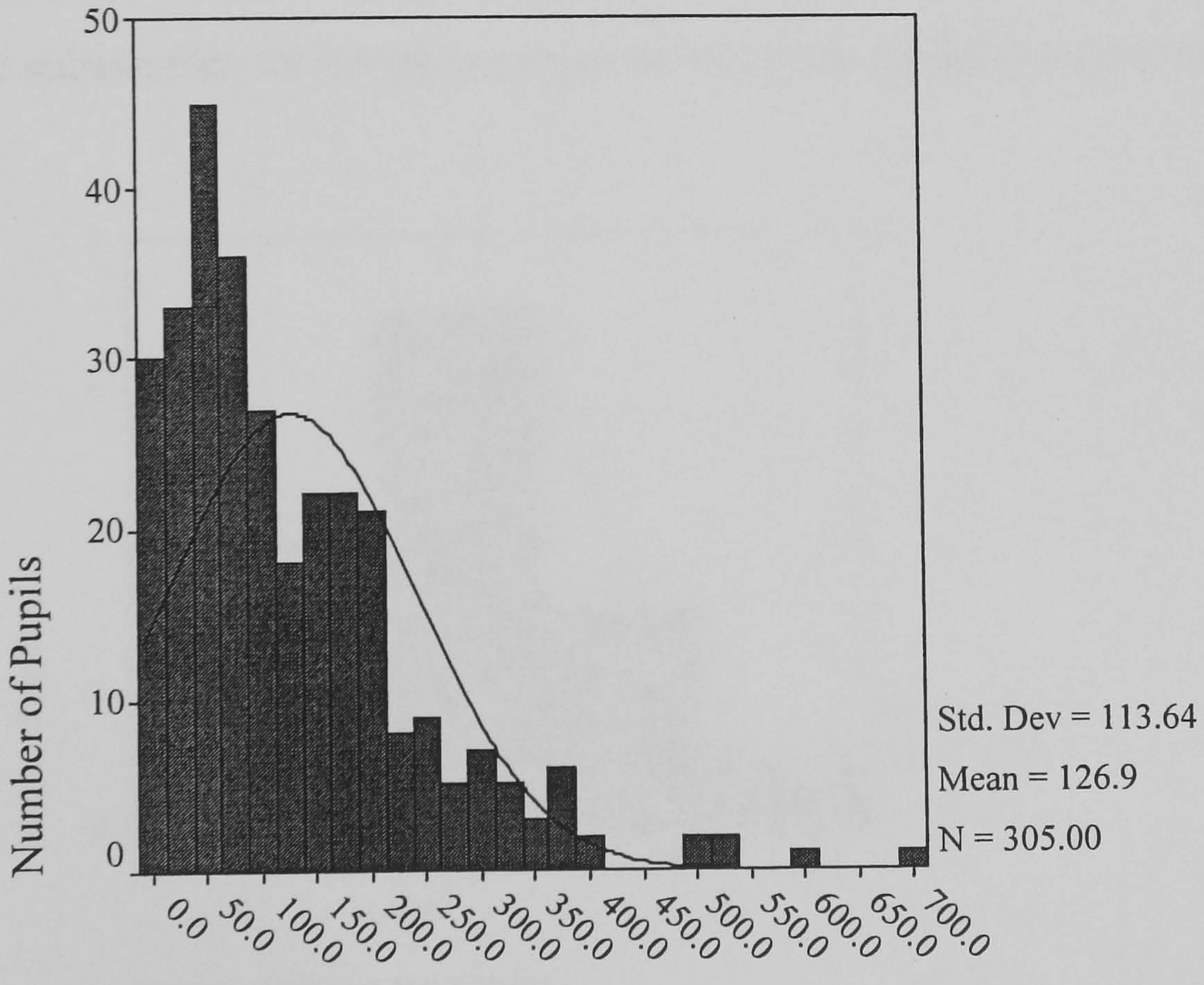

Figure 4.1 Number of Minutes Spent Walking in One Week (Diary Sets)

[7] For instance, walking levels by number of days when walking lasted for 20 minutes each day.

completed a SED, half walked for 'up to 90 minutes', approximately a quarter for '91 to 180 minutes' and likewise for 'over three hours'. There were 9 extreme scores (>375 minutes) in the 305 cases. These are spread over car ownership categories: 5 pupils 'no car/one car' and 4 pupils 'two/more'. The descriptive statistics for the minutes spent walking by cars in household are shown in Table 4.13.

Table 4.13 Descriptive Statistics, Minutes Spent Walking in One Week by Cars in Household

Descriptive Statistics (minutes)	No Car	One Car	Two Car	Three /More
Mean	181	129	119	98
Median	175	111	79	61
Interquartile range	141	127	155	101
S.D.	86	102	109	130

The figures are rounded to the nearest whole number

Figures 4.2-4.5 are the distributions for each category of car ownership, 'no car', 'one car', 'two car' and 'three or more'. Figure 4.2 time spent walking, pupils who live in 'no car' households, shows a normal distribution, as confirmed by a Kolmogorov-Smirnov test .461 p<.984. The sample has a good range of walkers, some spent a small amount, some a medium amount, and others a large amount of time walking. This indicates that the sample is representative of the population of children from 'no car' households whereas the subsamples for the other categories of car ownership may not be.

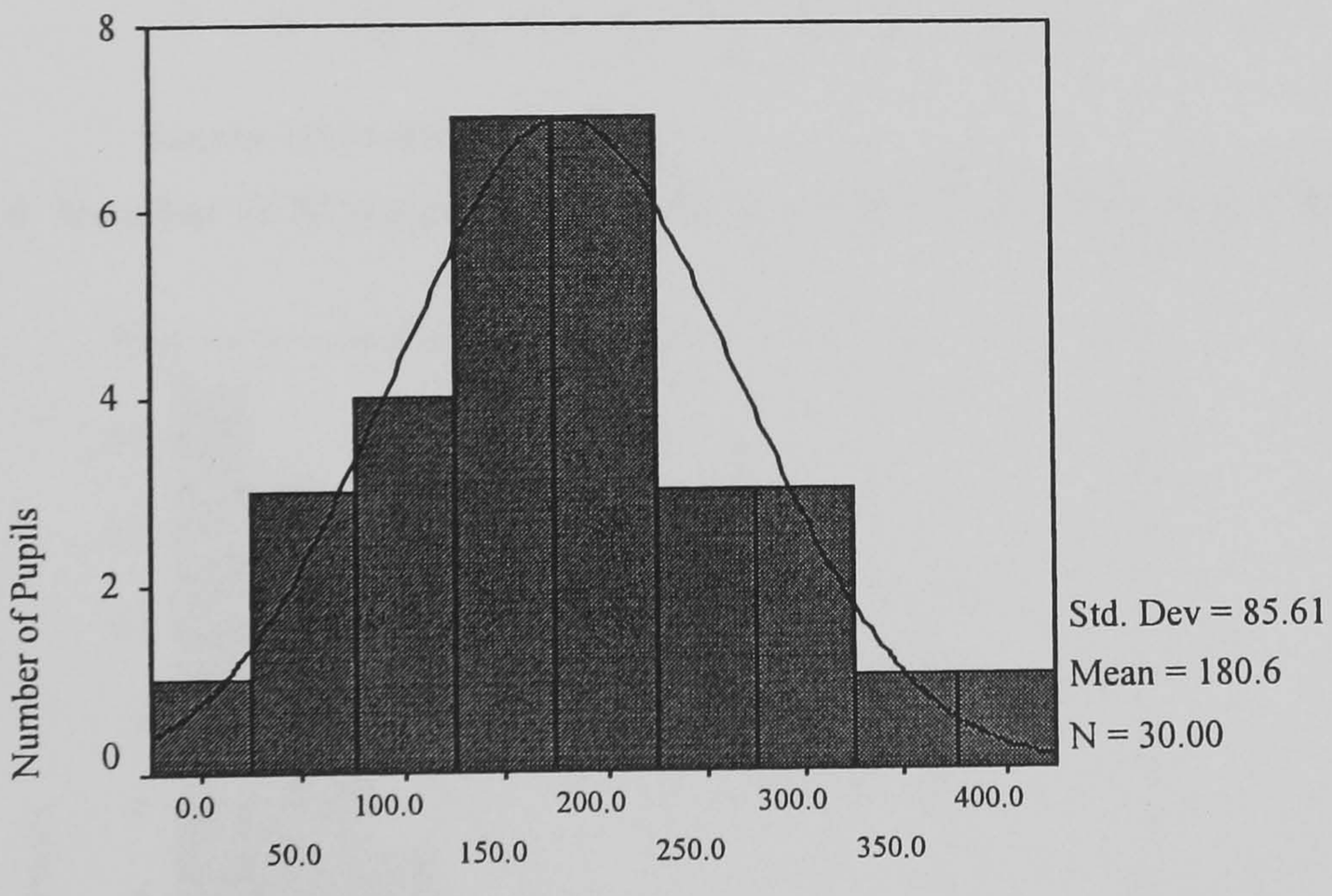

Figure 4.2 Number of Minutes Spent Walking in One Week by Cars in Household, No Car

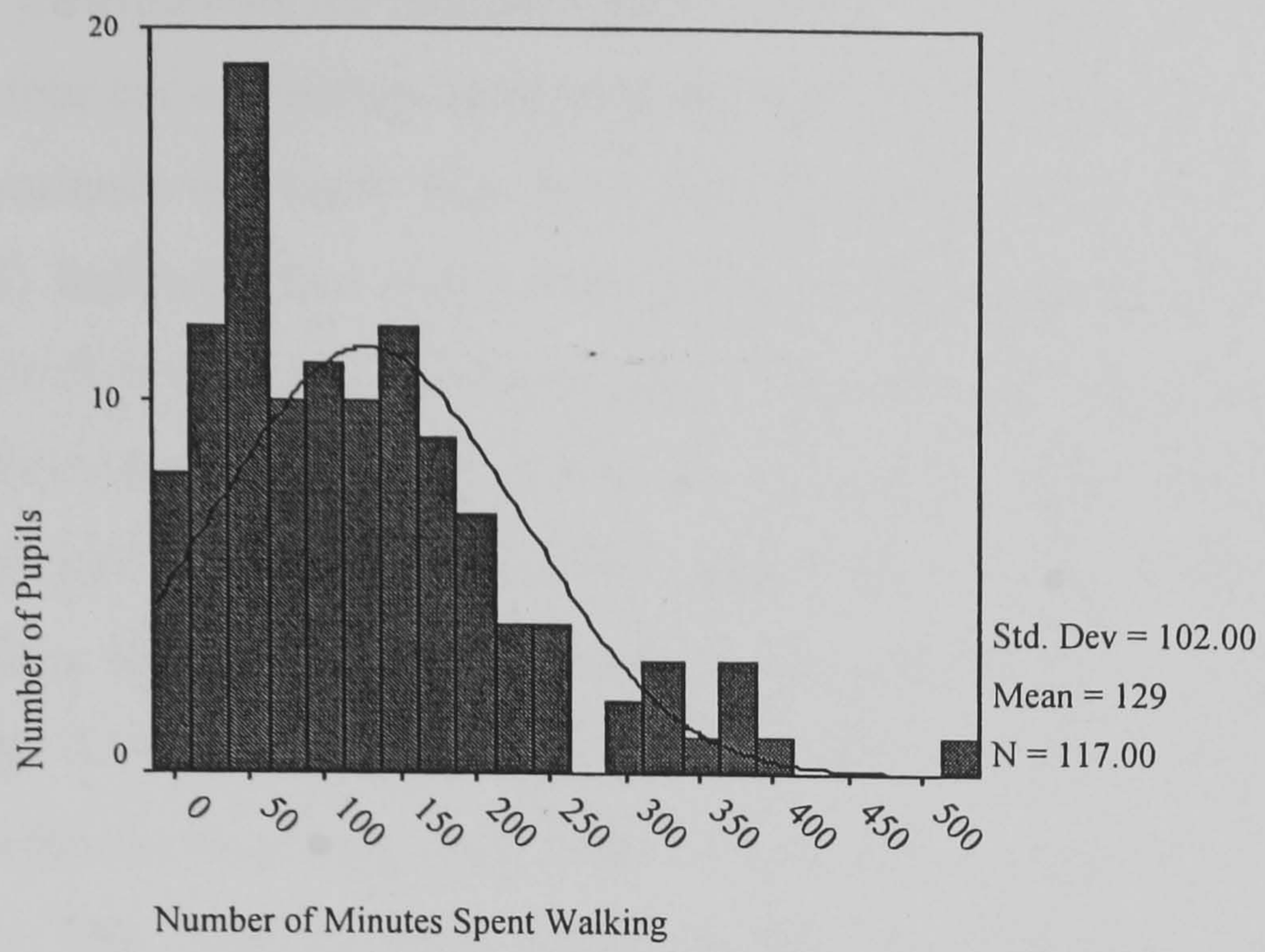

Figure 4.3 Number of Minutes Spent Walking in One Week by Cars in Household, 1 Car

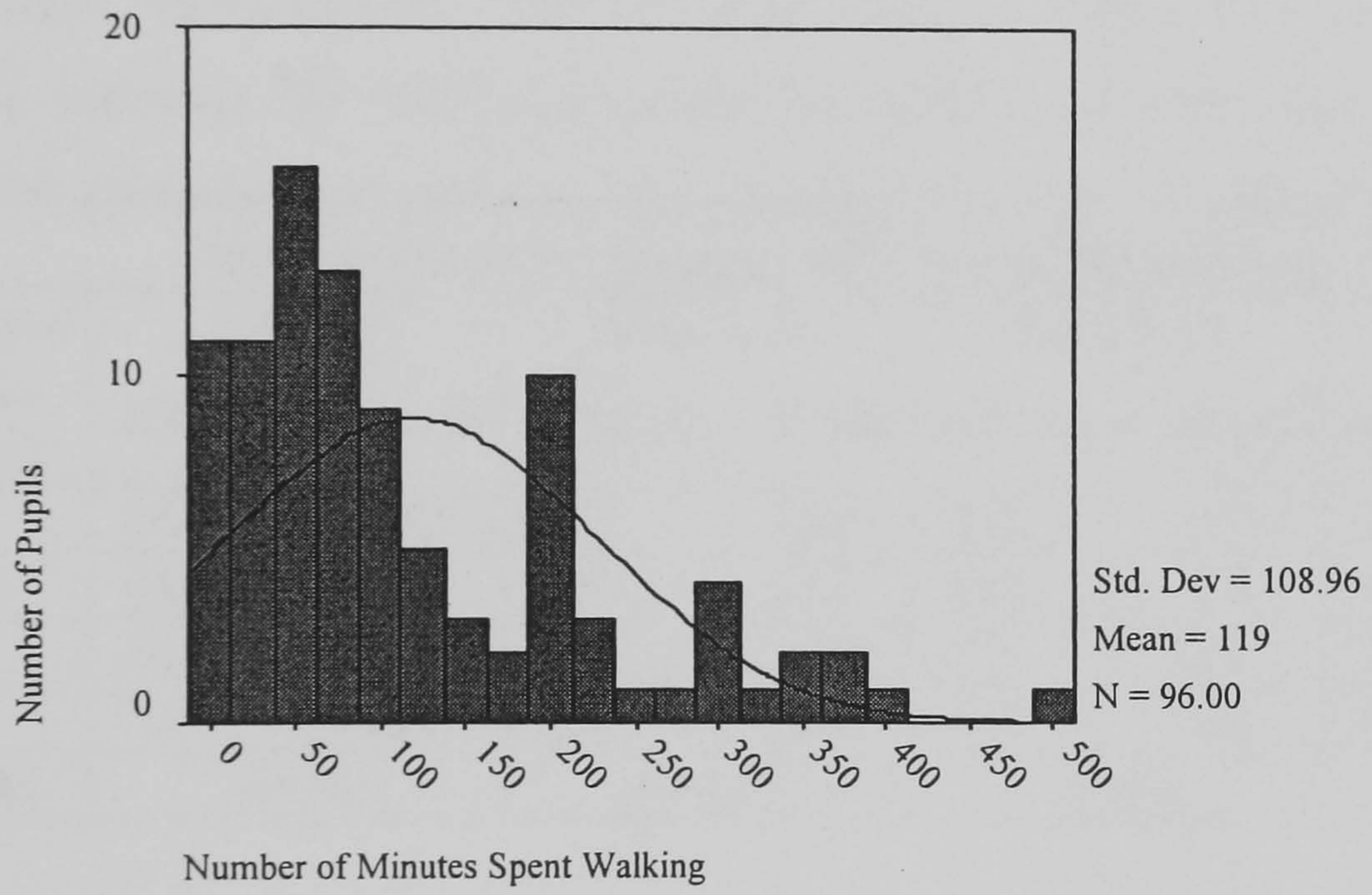

Figure 4.4 Number of Minutes Spent Walking in One Week by Cars in Household, 2 Cars

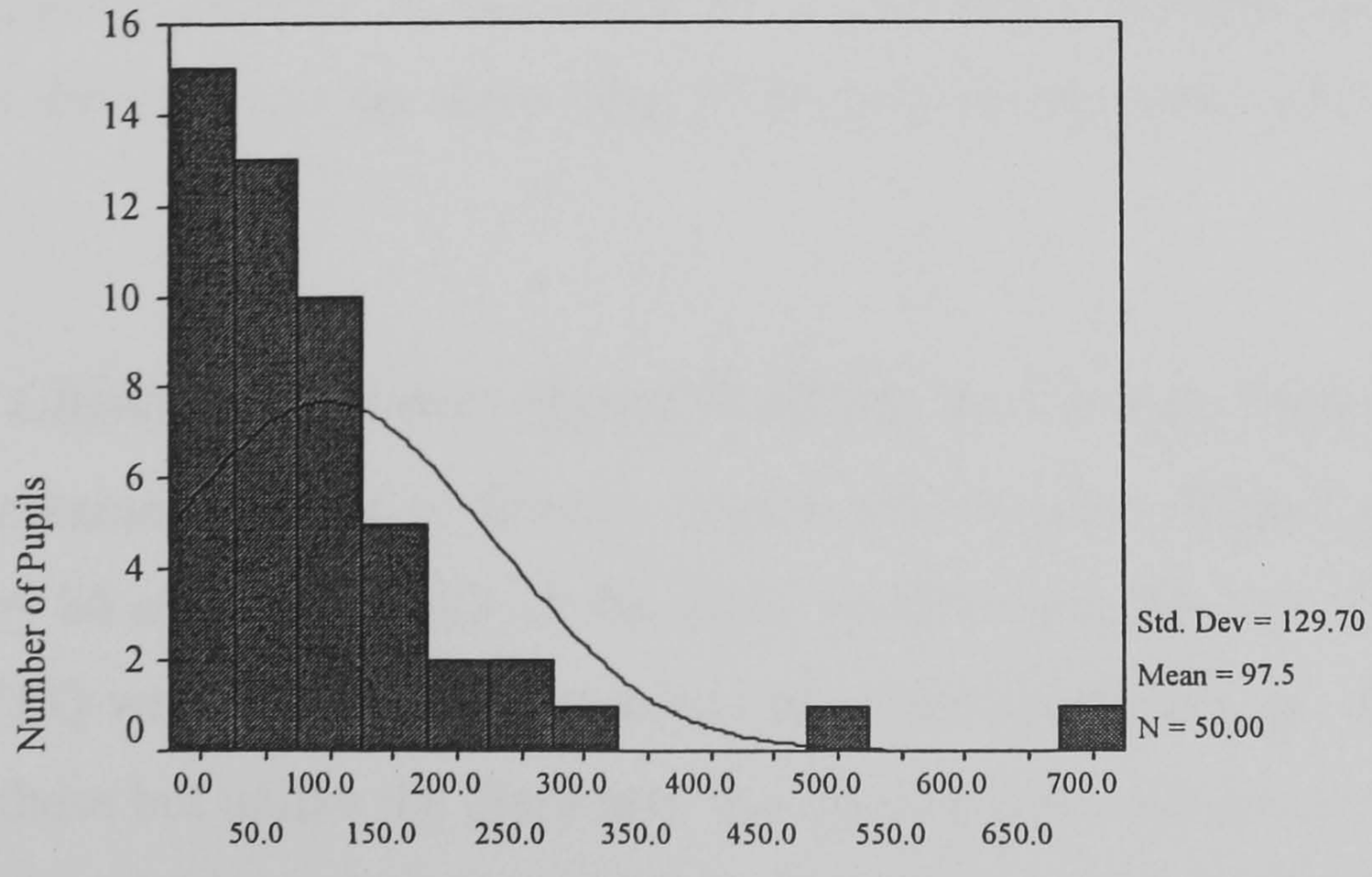

Figure 4.5 Number of Minutes Spent Walking in One Week by Cars in Household, 3/MoreCars

Because the distributions for 'minutes spent walking' were not normally distributed in three of the four car ownership categories, the non-parametric equivalent of a one-way analysis of variance was used. The value of the Kruskal Wallis Test (chi-square 22.672 $p<.001$ df 3) indicated that there were highly significant differences in the mean values for the four car ownership categories. The data were then grouped in order to analyse proportional differences and a chi square test was calculated on a table collapsed into two categories ('no car/one car' and 'two or more') to avoid cell expected counts of less than five. The differences in proportions are highly statistically significant (χ^2 20.064, $p<0.001$ df 2). A Mann-Whitney U test was used to compare those who *walk the most* with those who *walk the least*, ('no car' and 'three/more' car households). This also showed highly significant differences (Mw U= 302.500 $p<.001$). It is stressed that the differences between children only apply to walking, not other exercise subcategories. This is made clear in Table 4.14 which shows the descriptive statistics for 'All Exercise' and 'Walking' by number of cars in household.

Table 4.14 Descriptive Statistics, Minutes Spent on 'All Exercise' and 'Walking' in One Week by Number of Cars in Household

Descriptive Statistics (minutes)	**No Car**		**One Car**		**Two Car**		**Three/More**	
	'All Exer'	**'Walk'**	**'All Exer'**	**'Walk'**	**'All Exer'**	**'Walk'**	**'All Exer'**	**'Walk'**
Mean	561	***181***	573	***129***	570	***119***	559	***98***
Median	488	*175*	459	*111*	440	*79*	440	*61*
I.Q.R	524	***141***	529	***127***	417	***155***	700	***101***
S.D.	329	*86*	453	*102*	446	*109*	409	*130*
Sample	**n=30**		**n=117**		**n=96**		**n=51**	

The children from each of the other car ownership categories spent as much time *overall* on physical activity. A conclusion for the sample of children aged 9 to 11 who completed a diary set: as car ownership in household increases, time spent walking decreases.

4.9 KMC Children, Minutes Spent Walking by Cars in Household

The TEQ contained an 'Out of School, Sports and Exercise Record' and these were completed by 86 of the 90 pupils in the KMC children sample. The questions on the TEQ and PTEQ were kept to a minimum to encourage good response. Pupils recorded walking on these but unlike the diary sets, the questionnaire did not include a separate travel diary in which walking journeys to and from school could be shown. The analysis of 'minutes spent walking' on the KMC children's data does not include

journeys to school.[8] There were differences in the means between 'no car' and 'two or more' car households but these were not statistically significant therefore the finding did not concur with that of diary set data. Three possible reasons for this are: walking to school was not included, smaller subsample size ('no car' and 'three car households'), and there are true differences between children in the study and KMC schools. A far higher proportion of KMC children who completed the Sports & Exercise Record (n=86, 58%) did not show *any* walking. The comparative figure for study schools was 6%. This suggests that either a greater number of the KMC children failed to record their walking or else that the walking related to school journeys.

An estimate of the minutes spent on walking journeys to/from school was obtained from a sample of diary sets by deducting this from any other walking shown. A 10% sample from study schools was selected by taking the first 35 children from the dataset whose parents completed a PTEQ. These are not meant to be a representative sample of those who walk to school but they are illustrative of the amount of time spent walking by children from a mixture of car ownership levels.[9] The sample is shown in Table 4.19, Appendix 2c. A low estimate is that one and a half hours per week is spent walking to/from school. This figure allows for those who do not walk to and from school every day. An estimate for children who walk for all school journeys is two and a half hours per week.

4.10 Parents, Minutes Spent Walking and Length of Second Car Ownership

The analysis of 'minutes spent walking' according to car ownership level was repeated on the parents' sample (n=133). Unfortunately the calibre of the sample for this analysis was poor. Walking for school journeys was not included and in total, 38 parents who completed the Sports & Exercise Record did not show any walking. Subset sample sizes were also small with only three parents from 'three/more car' households. A crosstabulation by car ownership showed a similar trend to that of the study schools but the differences in proportions were not statistically significant. A question on the PTEQ asked respondents how long they had owned a second car. The aim was to investigate if there were differences in minutes spent walking according to

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[8] In error, pupils were *not* asked to record walking to/from school on the Sports and Exercise Record.

[9] 5 = 'no car', 13 = '1 car', 14 = '2 car', (two missing). One did not record any walking on the diary.

length of second car ownership in years. Unfortunately two subset sizes in the sample (n=67) were small, preventing any conclusions on the data. Seven of the eight parents in the 'Between 1 and 2 years' did not record *any* walking therefore the median for the group is zero. The results suggest there may be differences according to length of second car ownership but a larger sample is required to investigate this. Table 4.15 shows the crosstabulation.

Table 4.15 Parents in Two Car Households, Minutes Spent Walking by Length of Second Car Ownership (Years)

Descriptive Statistics (minutes)	Upto 1 Yr (n=10)	Between 1 and 2 Yrs (n=8)	Over 2Yrs (n=49)
Mean	141.5	60.0	86.84
Trimmed mean	117.2	48.3	68.90
Median	67.5	0	20.0
Interquartile range	210.0	112.5	140.0

4.11 Summary of Statistical Findings, Travel Experience

The figures shown for the national samples approximate to those found in the research samples.

Employment:

- *Nationally:* 70% of trips are by car, 20% by other mode, 10% are walk trips.
- *Nationally:* as car ownership in household increases, the percentage of trips by car also increases: 87% of 'two/more' car households, 68% of 'one car' and 15% of 'no car' households. This is reversed for walking.

School travel:

- *Nationally, unemployed school escorters:* as car ownership increases, the percentage of trips by car also increases. This is reversed for walking.
- *Nationally, children* (5 to 10 year olds): as car ownership in household increases, the percentage of trips by car also increases: 58% of 'two/more' car households, 36% of 'one car' and 5% of 'no car' households.

Other findings:

- *Children* (Diary Set): as car ownership increases, time spent walking decreases. There were no differences between car ownership categories and the *total* time spent on physical activity.
- *Children* (Diary Set): as car ownership increases, the percentage who make a short car trip increases. Two thirds of children from households with two/more cars made at least one short car journey.

- *Parents, Older Children:* the 'number of cars in households' has a strong bearing on travel mode for all regular journeys. As car ownership increases, the percentage of all regular journeys by car increases. This reverses for walking.

4.12 Interviews: Public Transport Usage by Cars in Household

The interview schedule collected information from parents about usage of and attitudes towards public transport. Table 4.16 shows the 22 interviewees' use of public transport and the number of times their child is accompanied by themselves or their husband/partner. A summary of public transport usage by car ownership is: interviewees from 'no car' households use buses *very* regularly and children accompany them fairly often on these journeys. Train use is approximately 'quarterly' and the child in three of four households travels with a parent/s. Interviewees from two of the 'one car' households do not travel on public transport. Another uses buses two/three times a week, the child accompanies once a month. Bus usage by four households is approximately on a monthly basis but children accompany less often in three of these.

Five 'one car' households travel by train. This is monthly in two cases, bi-monthly in one case and quarterly in two. In four of the five, children travel with their parents on some of these journeys. Five interviewees in the 'two car' households together with the 'six car' householder do not use public transport. Only one of the 'two car' householders uses buses on a daily basis. Three use buses quarterly, another, on a six monthly basis. Ten 'two car' households use the train. This varies from monthly in two cases, bi-monthly in two or quarterly. One uses it twice a year. Only one parent accompanies a child on buses (quarterly). Four do so on trains, three quarterly and one monthly. Regarding family trips, only two of the two parent households make bus trips together and these are 'no car' households. Three of these also travel on trains together on a quarterly basis. Some single parents (shown as s-p-f in the table) do not use any public transport as a family. Apart from several 'two/more' car households who travel by train, none of the others use public transport as a family. The cost of family outings on public transport was *perceived* to be cheaper than car transportation by six car owning parents. Interviewee No.22 recalled their last family outing by train - six years ago.

Table 4.16 Interviewee's Use of Public Transport

Cars in H/H	*Buses*	*Trains*	Child Accompany Parent/s		Family Trips	
			Bus	**Train**	**Bus**	**Train**
None	Daily	bi-monthly	2/3 per Wk	bi-monthly	s-p-f	
"	Daily	1 month	1 month		1 month	1 quarter
			0			
"	Daily	1 quarter	Daily	1 quarter	0	1 quarter
"	1 per Wk	1 quarter	1 per Wk**	1	school holidays	
One	bi-monthly	bi-monthly	6 monthly	6 monthly	s-p-f	
"	1 month	1 quarter	bi-monthly	1 quarter	0	0
"	1 per Wk	1 month	1 per Wk	6 monthly	0	6 monthly
"	0	0	0	0	s-p-f	
"	0	0	0	0	s-p-f	
"	1 month	1 quarter	0	0	s-p-f	
"	2/3 per Wk	1 month	1 month	bi-monthly	s-p-f	
Two	0	1 month	0	1 quarter	0	1 per Yr
"	5 per Wk*	1 month	0	1 month	0	1 month
"	0	1 quarter	0	1 quarter	0	1 quarter
"	0	bi-monthly	0	0	0	
					0	
"	1 quarter	1 quarter	0	0	0	1 per Yr
"	0	6 monthly	0	0	0	0
"	1 quarter	1 quarter	1 quarter	1 quarter	0	0
"	1 quarter	1 quarter	0	0	0	0
"	6 monthly	1 per Yr	0	0	0	0
"	0	bi-monthly	0	0	0	0
Six	0	0	0	0	0	0

*Escort on Yellow Bus, travels home by public bus. **2/3 per week during sch. holidays
s-p-f = single parent family.

The independent use of public transport by children and husbands/partners is not shown in Table 4.16. A summary for the latter is: all spouses in the 'no car' households use buses. In one case this is more often than the interviewee, in another, less often. Train usage is the same as for interviewees. One husband in the 'one car' two parent households uses trains as often as the interviewee but does not use buses. The other does not use buses but travels by train weekly. Of the 'two car' households, one spouse uses buses and trains almost as regularly as the interviewee. Of the other ten, several husbands travel two/three times a year by train to London on business, but none of them use buses. The husband in the 'six car' household never uses public transport.

All of the parents were asked if they thought their child would know how to use public buses independently. Seven replied "*No*" but in one case the child is only 6 ½. In five cases both parents do not use public transport, the sixth is a single parent who does not.

A seventh is a single parent using buses and trains but is not accompanied by her child. Fifteen parents thought their child *would* know how to use buses. Not all of these used public transport at the time of the fieldwork but their children had learned from other experiences. Sometimes children were introduced to public transport when the parent used it in the past. Other children travelled on buses with friends, while some used school buses (pay on entry):

Q. *"Do your children travel with you at any time on public transport?*
A. *No, they always do it themselves or with their friends"*
(Interview No. 4, 'six car' household).

A. *"My daughter's started to, when she goes shopping in town, I may drop her off at a friend's house where there's a bus service to take them into town, for instance. So she's getting more into using buses"*
(Interview No.16, 'two car' household for 22 years).

Several interviewees remarked on their decreased usage of public transport since getting a second car. Bus use is described as an 'adventure' in two cases. In the first example, the reason for this is 'clarified' by the interviewee's son also present:

Q. *"How often, would you say once a month for buses?*
A1. *No not that regularly. We used to do; we used to go to town most weeks on the bus but I don't know that's just stopped really.*
Q. *Is that when you had one car or two cars?*
A1. *Just because the children wanted to, I don't think it had anything to do with the cars, it was just more of an adventure for them.*
A2. **(Son in background answers):** *It was because daddy had the car.*
A. *Yes it might have been because we had one car maybe. But we'd probably walk now if we didn't have a car,"*
(Interview No.13, 'two car' household for four years).

Q. *"How often does your partner use public transport?*
A. *Not now, he used to use it when we just had the one car before he started to cycle he'd use the train and the bus as well but the train was better"*
(Interview No.15, 'two car' household for one month).

Q. *"What about when the children were growing up?*
A. *When they were little, everywhere we went we'd have to go on the bus because we haven't had two cars for such a long time and my husband would have always taken the car to work,"*
(Interview No.20, 'two car' household for ten years).

Q. *"Do your children normally travel with you when you go on the bus?*
A. *Yeah. It would be a bit of an adventure now, going on a bus, wouldn't it?* (looks at child). *Because we used to go everywhere on buses"*
(Interview No.3, 'two car' household for three years).

4.13 Interviews: Walking

The parents were asked if they liked walking and what was an acceptable distance. For some this depended on the context and they separated recreational walking from walking for transport, such as local trips to shops. A maximum distance for four parents was one mile (20 minutes); two said one and a half miles (30 minutes); three said two miles (forty minutes). The remaining 13 were happy to walk over two miles (45 minutes). Those prepared to walk over two miles often gave examples of walks in the countryside. The quality of walk (physical environment, traffic conditions, time pressure or the weather), were factors which affected the decision to go by car or walk to local places:

> ***A.*** *"It would depend on what I was walking for though, you know, and how much shopping I was going to get obviously. I mean, there's local shops here. I can walk across the park here and it's really nice"* (Interview No. 3, 'two car' household).
>
> ***A.*** *"I have to say this because it's certainly important to me, and as soon as we had children and got a pushchair we noticed it even more, the state of the pavements is quite poor. And also they're quite dirty. I don't think the pavements are kept up by the Council. It affects the way you walk because you're used to looking down all the time..."* (Interview No. 16, 'two car' household).

The distances or desire to walk did not depend on car ownership. Two of the four 'no car' interviewees walked only when necessary:

> ***Q.*** *"Do you like Walking?*
> ***A.*** *I don't like it – I do it, but I wouldn't say I* ***like*** *it"*
> (Interview No.12 'no car' household, interviewee's emphasis).

This also became evident when these parents talked about the length of regular bus trips. None of these would catch a bus for a journey lasting *less* than five minutes but the regular journeys for two were short, usually lasting between 5 and 15 minutes.

4.14 Interviews: Car Travel and Exercise

The interview schedule asked parents if they or other members of the household travelled by car to play sport/get exercise. This provided the opportunity to collect qualitative data to follow up the findings from analysis of this question on the PTEQ. Of 133 parents, 96 (72%) indicated that they did so. Of the 96, only 4% use a car every day, 55% use a car weekly, 12% twice a month, the remainder, less than once monthly. The findings from an analysis by car ownership showed highly significant differences

in 'car usage for exercise' by car ownership (χ^2 37.134, $p<0.001$, df 2). Of the 96, 60 (63%) have two/more cars, 32 (33%) 'one car' and 4 (4%) 'no car' in the household. Fourteen of eighteen car owners in the interview sample named regular physical activities as being made easier for them or family members because of car transport. Another lives in a rural area and uses her car for all journeys. Activities mentioned were: gym, sports centre, swimming, tennis, football, cricket, dog walking. Two mentioned driving to the countryside for walking but only in summertime. Those who cycled as a family (usually two/three times a year) talked about using cars to transport cycles including holidays. Typical responses were:

Q. *"Are there any ways a car helps you to be active and get exercise?*
A. *Yes, I go to the gym in the car and take the children swimming after school. We could walk it but can get there and back within an hour in the car"*
(Interview No.7, 'one car' household).

Q. *"Are there any ways a car helps you to be active and get exercise?*
A. *Well, to get to the pool she'll normally go with her dad at the weekend"*
(Interview No.19, 'one car' household).

The question on the interview schedule also enquired about the opposite effect, if cars *prevented* parents from getting exercise. Five of 18 car owning parents responded with a *"No"* they did not think so. Nine parents thought it did. Several also mentioned less exercise as a response to other questions such as a disadvantage of having two cars:

Q. *"Would you say that the car in a sense, enabled you to get more exercise? You go swimming and you may not do that if you didn't have the car?*
A. *That's a difficult one really. I suppose specific exercise has increased. But a lot of general walking has decreased.*
Q. *Have you noticed that specifically since you got your second car?*
A. *Yes. Because when my husband used to take the car to work and I was literally walking or going on the train. So I used to do a lot more walking in that respect."*
(Interview No.15, 'two car' car household for one month).

Q. *"Are there any ways that you think the car stops you from being active and getting exercise at all?*
A. *Yes, because I always have to walk to school otherwise and back. By being there it just stops you being active"*
(Interview No. 20, two car household for ten years).

Q. *"Are there any other disadvantages to having two cars?*
A. *I think you get lazy really; it's a bit of a luxury having two cars really.*
Q. *Have you noticed a difference in your habits since you got your second car?*

A. *Probably, I'm not that aware of it but if I look back, yeah probably.*
Q. *I wondered because you said, 'you get lazy', if you'd particularly noticed the difference?*
A. *I think I'm more tempted to get into the car whereas at one time if my husband was on nights and there wasn't a car there then I would certainly have walked somewhere"*
(Interview No.13, two car household for four years).

A parent who bought a car after re-training and starting employment commented on the effect *a job* has (time pressure, tiredness) on her exercise level:

Q. *"Are there any ways that having a car stops you from being active?*
A. *Well, in as much as it stops me walking as much as I used to. But I think that's probably to do with having a job as well, you see. Because when I was at home with the kids we'd be out doing things, you know, walking around and visiting people, and, so I think probably just being at work really as well. Yeah, then I come back, and I'm shattered!"*
(Interview No.3, two car household for three years).

Q. *"Do you think there are any advantages to not having a car?*
A. *Yes the exercise. I think you get lazy, some people jump in the car to go down the road for a newspaper. I do think you get lazy"*
(Interview No.21, one car, single parent household).

Q. "Do you think there are any advantages to not having a car?
A. *You'd get more exercise.*
Q. *What do you mean by that?*
A. *You would have to walk more. Which is why I now leave it at home."*
(Interview No.17, one car, single parent household).

4.15 Discussion: Social and Cultural Change

One purpose of interviewing parents was to investigate if being raised in a car owning household during the 1960's and 1970's was influential on their current car usage and attitudes. A conclusion for these parents is that car ownership in birth family bears no relationship to current behaviour. Although most interviewees grew up with a car in the family, many did not travel in it regularly. From the findings of the 'History' section it is concluded that car ownership in a household does not, in itself, result in reliance on the car as a mode of transport. Other factors are important for this to occur. With the exception of rural dwellers, recollections of childhood revealed differences in the travel experiences of their own children. Many parents walked to primary school and caught a bus/walked/cycled to social activities. The parents' perceptions of reasons for intergenerational differences highlight lifestyle changes over time and the reasons

mentioned were all relevant. Modern technology, better roads and facilities for motorists make driving easier. The location of shopping and leisure activities have altered where people go in cars. The interviewee's financial circumstances are relevant such as being able to afford a car. But it is the social and cultural factors which have had a prominent role in determining *how* the car is used and *by whom.* The 'family' car of thirty years ago was largely within the father's domain. It is now socially acceptable for women to be as economically active as men and also to own and drive cars. Women's employment has raised incomes for many to afford a car at the same time making ownership either essential in doing the job or useful in managing time pressures because of it. Divorce rates have risen resulting in greater numbers of single parent families, many headed by women. All of these signify increased independence for women, hence car manufacturers now target them as a major market for cars. Other social, economic and technological changes are described by Lyons, Chatterjee, Beecroft and Marsden (2002) in relation to present and future travel demand. The statistics which chart the changing access to cars by women were reported by the DfT (DfT 2005). This section has highlighted the social changes which have resulted in intergenerational differences in travel behaviour. However, a cultural factor which appears stable across generations is the propensity of a parent to regulate a child's behaviour by imposing rules or rewards in relation to travel. This topic is discussed next in relation to the four prominent theories in the socialisation literature.

4.16 Discussion: Learning Theory

The four theories which are prominent in the socialisation literature have their roots in developmental psychology. The theories are, 'learning theory', the work of I.P.Pavlov, J.B. Watson and B.F. Skinner; 'social learning theory', which is mainly based on the work of A. Bandura; 'cognitive-development theory', the work of J. Piaget. The fourth theory is psychoanalysis, the work of S. Freud. An essential difference between these is that the first two believe the explanation for social learning is largely an environmental process whereas the latter two think that internal, cognitive processes are mainly responsible. 'Learning theory' is characterised by the idea that responses are conditioned through a pleasure or pain. An important concept is the 'reinforcement' of desired behaviour. Skinner's point of view was that parents who reward children when rules are obeyed and withhold rewards when rules were broken, will produce children

adapted to the social order of society (Skinner 1965). Social learning theory[11] Bandura (1977), stresses that children learn by imitating or modelling adults and are able to acquire new behaviour by observation alone. Piaget believed that children are active in the learning process and are capable of learning on their own from a spontaneous interest in the world. Nevertheless, a parent must gear their teaching to a child's level of understanding because some rules are harder to learn than others and children have a specific age related developmental capability (Piaget 1968). Freud's theory is that a boy identifies with a father and a girl with a mother. This identification is coupled with an internalisation, a girl learns a mother's values, beliefs and prejudices while a son internalises his father's (Freud 1935). At different periods in modern history each of the above has achieved greater or lesser popularity and featured in textbooks on childrearing/childcare. These theories formed the basis of advice to parents from professionals. Elkind (1981) ponders the question, *"How do children learn to be Social?"* . He highlights the complexity of human beings and reaches the conclusion that all four theories contain a certain amount of truth. Hence children probably learn things in more than one way: they sometimes model adults, learn through rewards and punishments, by identifying with a parent and are able to learn rules once they have reached a level of intellectual maturity.

4.17 Discussion: Children's Travel Modes, Knowledge and Learning in the Home

A child is born with an innate ability to walk but it is the parent/s who teaches the child how to walk. There is no innate ability to travel by car. This is a learned behaviour and begins when children are shown the basics of sitting in the car (or placed into a car seat). They learn how to pull down a seatbelt and other safety requirements. Discussing the literature on parental transmission of values to children, Ambert (1992) describes how parents may pass on their attitudes and beliefs to their children by the example of their own behaviour (as a reflection of their values), by direct teaching, and by acceptance or rejection of their children's behaviour (Ambert 1992). By helping and engaging with different activities associated with the car, they are equating themselves with what their adult role models do. Many parents imposed 'rules of behaviour' whilst travelling in the car and it can be concluded that the car is an extension to the home with regard to regulated and unregulated behaviours. Unlike

[11] Later re-labelled 'social cognition theory' by A. Bandura.

their parents, children in car owning households now travel in cars regularly from an earlier age. Those living in 'two/three car' households have more opportunity to do so. These children most likely learn about car travel before learning how to use a public bus. From the parents' descriptions, it is clear that some know how to unlock car doors (part of daily routine) but do not know how to use buses!

As toddlers, children can become aware of different forms of transport. They see toy cars and trains in shops and on TV. Relatives or parents may buy these as presents. It is an adult who shows the child how to operate the remote control or roll the car along the surface. From an early age children have the chance to gain a *knowledge* of transport modes from other sources but it is within the parental home that instruction on travelling on the mode and hence travel experience begins. For some children, the car is the first mode they learn to travel in. The home is where many children learn how to ride cycles, from a parent or sibling or other relative, although peers may teach a child how to do so. Later in life, some parents may also teach the adolescent how to drive a car. Parents who cannot drive themselves (two of the 'no car' interviewees could not), will not be able to do this. However, it is still very likely that children in these households have their first experience of car travel with a parent or relative. Cars may be hired for holidays or taxis on occasions.

A general difference between car owners and non-car owners is that some or all members of the family in the latter relied on public transport for many of their journeys and children accompanied parents on a greater number of occasions. From either instruction or modelling, children learn how to use public buses. The children of the sample of interviewees in 'two car' households had fewer chances to experience public transport with parents. However their range of introductions is not necessarily limited because of this. Some spend time travelling with friends on public or school buses. A concern is that children travelling by car may be experiencing a *greater* number of short car journeys than their parents, such as being dropped off at school while a parent continues the journey elsewhere. The example being set is to use the car for short trips, children may learn to associate the car with short journeys, a measure of 'car dependency' (Goodwin 1995). A conclusion in Mackett (2002a) is that to change the way children travel, it is also necessary to change the way their parents travel.

4.18 Discussion: Cars in Household and Children's Travel Behaviour

It is not known if the author's finding, 'time spent walking' by children in the car owning subsamples are representative of their populations. However a literature review enables a general conclusion. Researchers of children's travel have found dichotomous differences in modal split for 'car owning and noncar owning' households. There is a decline in the extent to which children walk to school as level of car ownership increases. These differences are most noticeable in the statistics when the number of cars in the household is '0-1', compared with '2-4' car households. Davis (1998) concluded that people in 'non-car' owning households walk 50% more on average, quoting NTS data. Recent findings from the NTS, show the gap to have widened: *"Those people living in a household with a car walk less than two thirds as far as those in a household without a car. The main driver of a vehicle walks only half the distance of a non-car owning household"* (DfT 2005, Table 2.12). Statistics from the DfT reveal that the number of 'two/more' car households nationally has almost doubled since 1980, from 15% of all households to 29%. The percentage of 'one car' households, 45%, is constant but those with 'no car' have dropped from 41% to 26% (DfT 2005).

4.19 Discussion: Cars in Household and Habit Forming Behaviour

Compelling evidence has been reported on the strong link between the number of cars in a household and the effect on parents' and children's travel behaviour. It is influential on all types of journey. Chapter 5 reports similar evidence regarding children's and parents' attitudes towards some transport modes and Chapter 8, the effect on whether children want to learn to drive or own a car. A conclusion from analysis is that there is a greater likelihood of family members in households with two/more cars becoming car dependent. The pervasiveness of car usage by mothers in households with two/more cars suggests a habit forming relationship signified by the gradient which cuts across car ownership categories in the crosstabulations. Those of more recent second car ownership were conscious of behavioural change in relation to the amount of walking and diminished use of public transport. Justifications for escorting children by car are based on social, psychological and economic variables: safety: 'stranger danger' or busy roads, time pressure, peer pressure, convenience, the weather, cost, which are tangible reasons. These explain people's needs, but not the

greater usage of cars in multi-car households. Do these parents feel more threatened by 'stranger danger?'. Do they have less time than others?. Fear of strangers or busy roads is reason for parental accompaniment of children but does not explain car use for this purpose, except if the parent themselves feels threatened. It is expected that travel to work by car is mediated by the availability of a car but a general impression gained at interview from parents in 'two car' households is that the longer a second car had been available, the more essential it becomes. Initial use for a specific purpose eventually broadened to include others. Goodwin (1995) concludes that car dependence is a process not a state. He adds that a car encourages change in behaviour and circumstances so that in effect, it turns into a necessity. The findings reported here highlight a hidden complexity, returning to work is a lifestyle change which a car assists with. Employment has effects such as bigger income, increased time pressure and these variables may trigger lifestyle changes in response. In the sample of parents there were cases of lifestyles which had changed because of car ownership, and also cases in which lives had changed (new job, baby), therefore individuals obtained a car to help them cope with the changes.

The occupations of parents in the PTEQ and interview samples are varied. Many are busy mums and dads juggling careers and caring for a family. Interestingly the unemployed in two/more car households (or part-timers) use the same mode as the employed. Housewives with families may be full-time carers who need a car for this role. This could also apply to housewives from 'no car' or 'one car' households' but unemployment appears to provide the incentive for these to walk when escorting children to school. Parents from 'no car' or 'one car' households have to manage their lives with limited or less access to a car. Two/more car families may feel they have a financial commitment in that, if they are paying to run two cars, they should get full use of them. As well as economic considerations, an issue of cause and effect arises: does the availability of an extra car/s increase car dependency or do those who lack fervour for walking, ensure ample supply of cars to avoid it? The findings from interviews and focus groups (reported in Chapter 5) do not lend support to the latter. However, the sample included two parents in 'no car' households, one of whom did not like walking and the other who had a mediocre attitude towards it. They preferred to catch a bus to avoid walking. Hence these individuals may have counterparts in the car owning community. A difference is, the latter can afford to own a car rather than

having to walk! Even so this does not mean that non car owners are likely to be fitter. A high proportion of car owners used their cars as transport to sports centres and other forms of exercise. Busy people find this access to sports facilities easier by car.

It is clear from the tables that there are overlaps and commonalities between those of different car ownership status. For instance, some of the statistical findings reported for 'one car' households in the thesis are inconsistent. A likely explanation is 'single parent' households. The ratio of 'one car per adult' is the same as for 'two car'. This was borne out by the interview findings in relation to car use and public transport. Although a greater number of parents in 'one car' households travel to employment and escort children to school/other places by car, the percentage is lower than those with access to two/more cars. This factor appears to have remained constant over time because in both birth and current families, one car households had at least one parent who continued to use public transport or walk for some journeys. Nevertheless, the experience of using public transport may not have remained the same over the years.

4.20 Discussion: Calibre of Parents' Sample

A pertinent question regarding the parents' sample is, *"What biases were introduced by the use of a non random method of data collection?"*. It may have produced a sample of 'under' or 'over exercisers' and no generalisations are possible regarding physical activity. As for travel patterns, they appear to follow the national trend with reference to the NTS tables. Although they were a self-selected sample, this does not mean they are 'atypical' as *parents* and the sample contained a cross-sectional selection by socio-economic group. In some respects having a sample largely comprised of females was an asset. Some of them remembered becoming car owners, acquiring a second car for their own use. Hence the experience was closer in their minds than their husbands/partners. Those of more recent second car ownership were conscious of behavioural change in relation to diminished usage of public transport and amount of walking. However, there are some limitations because of the nature of the sample. One is that generalisations cannot be made onto those who reside in large conurbations such as London. Adults and children may have a different usage pattern and understanding of the public transport system. Another is that the interviewees, as parents, differ from the population of single adults. Parenting carries responsibilities

and those with children have restrictions single people do not. Single parents as sole carers may have less freedom. It became evident from listening to interviewees that family needs played an important role in affecting their own travel behaviour. One parent wanted to continue walking to school after taking employment but this meant the family rising half an hour earlier and she faced objections. Some enjoyed walking and could manage without a car but family responsibilities made this impossible. The recent 'no car' householder was happy to cope but experienced pressure from family to get another. Birth of children may be pivotal and some householders purchased a second car to help cope with babies and toddlers when previously they travelled by bus. However, in one case having a second car had become the norm long after children were at school. The interviewee did not have paid employment and three quarters of all regular car trips lasted five minutes or less albeit she walks to escort children to school.

4.21 Literature Review, School Travel Surveys

A comparison of the 'determinants of travel behaviour', the factors influencing children's travel mode in the mid 1970's compared with the 1990's revealed the following to be important: journey length, urban/rural (school location), household car ownership and age of children. In the 1990's these determinants still applied but additional findings are reported in surveys: perceived traffic conditions (increase in traffic levels), fear of 'stranger danger', employment patterns within households. The 11 surveys consulted for the above comparison were: Sadler (1972), Jones (1977), Rigby (1979), Dix, Read and Fox (1993), Bradshaw (1995), Cleary Hughes Associates (1995), Hensher and King (1996), Roberts, Carlin, Bennett, Bergstrom, et al (1997), Hopwood (1998), Johnson (2000), Bradshaw and Jones (2000). More recently two researchers, Gilhooly and Low (2004), conducted a survey of four primary schools in Scotland (1008 school children, 776 parents). They concluded, *"travel behaviour is influenced significantly by both age and distance from school but additional differences between schools are also evident".* The author agrees with the findings regarding age and differences between schools but questions the finding regarding distance. This is because 'distance' is measured in small units (metres) and the results are open to misinterpretation. Approximately two thirds of those who live 800 metres (half a mile) or less, walked to school. Over two thirds of children who live from 800

(half a mile) or less, walked to school. Over two thirds of children who live from 800 to 1600 metres (between half and one mile) travel to school by car. At greater distances there is variation between schools, at one, 48% of those living 'over 1600 metres' walk, whereas at another, none of the pupils do so. Local road conditions, size of catchment area (one has rural communities) and peer group influence are offered as possible explanations. Analysis of travel mode by car ownership level was not undertaken which would have revealed the *similarities* as well as the differences. It is likely that some children in the sample will alternate between walking one day and travelling by car on another. There is a discussion on the reasons for this in Chapter 6. Unfortunately these children are hidden when 'hands up' surveys are used as a data collection technique. A burning conclusion, not stated, is that many pupils live within a walkable distance and yet still travel by car.

An error of judgement was made by the author in excluding walking to school/work on the questionnaires designed for parents and the KMC children. But this proved serendipitous because it generated the hypothesis: walking to school by children in 'no car or 'one car' households accounts for most of the additional time spent walking. A study of the physical activity of 5 to 11 year olds, by Sleap and Warburton (1996) found that a vast amount of brisk walking is done by children in this age group. Walking to/from school explained much of this.

The author found that only 10% of younger pupils and 4% of older pupils want to travel by cycle to school. Dixey (1998) reports a survey in 1995/6 of the actual and preferred modes of travel to school in a sample of 7 to11 year olds. The seven schools are in three predominantly council housing estates in Leeds (Seacroft, Swarcliffe, Middleton). Children completed a questionnaire in 1995 (n=1043) and again in 1996 (n= 933) and were asked how they would prefer to get to school. A finding is that the children's preferences, compared with how they actually travel to school, were *"dramatically different"*. Children did not mind walking but approximately 40% prefer to cycle. Dixey (1998) concludes that there is an unmet demand for cycling to school, particularly by boys. The time lapse between the studies, the broader socioeconomic base of the author's sample, or the question wording, may account for the differences.

The author asked, 'Are you happy with the way you travel to school?'. Another variable, the 'geography of an area' may also affect children's enthusiasm. Further findings in relation to cycling are reported in Chapter 8.

4.22 Transport and Recreational Walking

It is a commonsense notion to think that children from 'no car' households spend more time walking because access to cars is limited. In walking to school, the minutes automatically accrued on travel diaries. However, explaining the decreasing levels between 'one car' and then 'two or three' has been informed by a literature review. Socioeconomic status has been found to be an indicator of the walking levels of adults but it is vital to make the distinction between walking as a mode of transport (for essential journeys such as for shopping) and recreational, for pleasure or for exercise. Some parents remarked on the differences pertinent to them during their interviews. Weinstein and Schimek (2005) stress the need for improved data collection of pedestrian travel. The American equivalent of the NTS fails to capture all walk trips. Their analysis by car ownership revealed that transport walking is related to car ownership whereas recreational walking is not. The NTS does not distinguish between types of walking. However, travel recorded in the NTS travel diary excludes walking *off* the public highway therefore recreational walking is less likely to be shown. Evidence that there is a widening gap between car ownership categories and time spent walking (section 4.18) is based upon responses to a separate question in the interview part of the NTS survey. This is used to collect data for Table 2.12 DfT (2005) and asks respondents about *any* walks of 20 minutes or more, on or off the public highway. Therefore useful comparisons can be made for all walking.

A finding of Ross (2000) was that residents of economically deprived neighbourhoods are more likely to walk than those in less disadvantaged places. A third subsample in the study (those with highest education level) walked as much as the economically deprived therefore it is suggested that 'high density' environments could encourage walking. The aim of the study was to measure 'neighbourhood effects' on individual behaviour but essential variables were not controlled. Data on car ownership were not collected nor types of walking distinguished, therefore their findings do not allow firm conclusions. In line with the findings of the author's study, the differences found only

relate to *walking* levels rather than other forms of 'strenuous' exercise. This suggests that walking for transport is explanatory for the increased levels of those on low incomes. Van Lenthe, Brug and Mackenbach (2005) also explored neighbourhood characteristics and physical activity of residents. Those who lived in the most economically deprived areas of a city in the Netherlands were more likely to walk for transport reasons but less likely to walk or participate in sport in their leisure time. Car possession appeared to be associated with an increased risk of almost never walking or cycling to shops or work. The researchers offer reasons based on psychological, cultural, or socioeconomic explanations. Regarding the latter of these, those without a car are forced to walk. Walking to the shops may also be contagious, if walking is engaged in by some, others do the same. A cultural reason is that streets are viewed as important places for meeting others and neighbourhoods vary in this respect. The author believes that the first of these is the most likely explanation because of the nature of the districts in which the walking takes place. There are more pleasant places to meet. This was made evident from research by Bostock (2001) who found that 'no access to a car' is an indicator of low socioeconomic status and also having to walk to places because of necessity, not pleasure. Her sample of 30 mothers and children suffered contradictory health effects because of the unsafe environment in which they walked. Both suffered tiredness, felt threatened by dangerous roads in physically neglected/depressed areas with high rates of pedestrian injury.

4.23 Chapter 4 Summary, Key Findings

- *Nationally:* 70% of trips to work are by car, 20% other mode, 10% are walk trips. As car ownership in household increases, the percentage of trips by car to work also increases: 87% of 'two/more car', 68% of 'one car' and 15% of 'no car' households. This is reversed for walking.
- *Nationally, unemployed school escorters:* as car ownership increases, the percentage of trips by car also increases. This is reversed for walking and suggests that the number of cars in a household overrides the time pressure of employment in the decision to travel by car.
- *Nationally, children* (5 to 10 year olds): as car ownership increases, the percentage of trips by car to school also increases: 58% of 'two/more' car, 36% of 'one car', 5% of 'no car' households.

- *Nationally,* people living in a household with a car walk less than two thirds as far as those without a car. There is a trend towards increasing car ownership.
- *Parents, Older Children:* the 'number of cars in households' has a strong bearing on travel mode for all regular journeys. As car ownership increases, the percentage of all regular journeys by car increases. This suggests there is a greater likelihood of those from multi-car households becoming car dependent.
- *Children* (Diary Set): as car ownership increases, time spent walking decreases. There were no differences between car ownership categories and the *total* time spent on exercise. As car ownership increases, the percentage who make a short car trip also increases. The availability of a car can reduce walking for transport but may facilitate other exercise.
- The pervasiveness of car usage by parents in households with two/more cars suggests a habit forming relationship. The 'ratio of cars per adult' may have a bearing. Single parent, one car households share the 'one to one' ratio.
- Family needs influenced the travel behaviour of interviewees (mainly mothers). This has implications for the decisions made about their own and their children's travel behaviour.
- Walking in unsafe environments can have contradictory health effects.

4.23.1 Conclusion: Children's Travel Socialisation, What is the Role of Parents on Travel Experience?

One source of evidence which suggests the home environment has a bearing on children's learning about travel is the *similarities* found between households such as the daily routine that is common to most. Another source of evidence is based on the *differences* by household car ownership. Two socialisation processes identified as operating within households relate to parental behaviour which may be explicit such as through instruction. A child may be taught *how* to travel in a car, how to ride a cycle, or use other modes. Parental behaviour may be implicit such as setting an example to a child. Children learn from observation through parental action, what they do, or *do not do* in relation to travel. They gain a knowledge and experience of travel modes if parents allow access. The findings strongly suggest that the learning mechanisms associated with other aspects of social life are applicable to children's travel behaviour.

Chapter Five

Children's Travel Socialisation, the Role of Parents' Attitudes and Timekeeping

5.1 Introduction

This chapter presents evidence to support the argument that the parental home is a source of knowledge and learning in children's travel socialisation. The theme is attitudes towards travel modes and parental timekeeping values. Chapter 4 demonstrated how the travel behaviour of children and parents varied across car ownership categories. The differences found also relate to attitudes towards transport modes but there are commonalities in households regarding timekeeping. Evidence is drawn from the results of statistical analyses of the children's and parents' questionnaires and qualitative material from focus groups and interviews.

It is important to stress that the tool used to investigate attitudes, the 'Car Culture Attitudinal Scale' is measuring 'feelings towards transport modes' and this is not a reflection of how dependent individuals actually are on the travel modes included in the scale. It also relies on a respondent's subjective assessment of how *they think they would feel* if in an alternative state of being, i.e. "living without" a mode. This is not the same as asking, "Do you like this mode, Yes / No?" which is a different question. The limitations of the scale prevent an overall assessment of the level of car dependency in children. Nevertheless, it is a useful measure of the *differences* between individuals by car ownership and for making comparisons between children and parents. The findings from the attitudinal data are presented first followed by a report on the similarities evident in the households in relation to travel time and scheduling.

5.2 Children's Feelings Towards Transport Modes

The attitudinal section of questionnaires collected data on feelings towards seven transport modes by asking: *"How do you Feel about the different ways there are to travel around?"*. In response to the statement "I could live happily without - ..." (Public Bus travel, Car, Walking, Cycle, Train, School bus, Share a car), respondents indicated their feelings in the 'No', 'Some of the Time' or 'Yes' tick box. Those who

held favourable attitudes towards the mode indicated this by ticking the 'No' box. A 'Yes' response indicates an unfavourable attitude. Responses were available for an amalgamated sample of 415 children (diary set/SalterSTS, KMC children). The three modes that obtained the highest percentage of 'No' (favourable) were: Car (74.5%), Walking (57.0%) and Cycling (37.0%). The remaining four modes obtained the highest percentage of 'Yes' (unfavourable): School Bus (62.0%), Share a Car (43.0%), Train (34.0%) and Public Bus (32%). Table 5.1 lists the three modes which received the highest percentage of 'No' and 'Yes'. The top three modes indicated for 'some of the time' were: public bus 45%, Train 36%, Cycle 32%. All the percentages remained constant when the sample of KMC children (n=90) was analysed separately.

Table 5.1 Children's Feelings Towards Transport Modes

I could *live happily without* = 'No'	% of Children		I could *live happily without* = 'Yes'	% of Children
Car	74.5%		School Bus	62.0%
Walking	57.0%		Share a Car	43.0%
Cycling	37.0%		Train	34.0%

Percentages rounded to nearest 0.5%

A summary of the findings is:

- Three quarters of children felt they could not *live happily without* car travel, 6% chose 'Yes,' they felt they could.
- The second most popular mode was walking, just over half felt they could not live happily without and 11% felt they could.
- Respondents were fairly evenly divided regarding train and cycle, with approximately a third at each level of feeling.
- The least popular mode is school bus followed by share a car. In both cases approximately 20% felt they could *not* live happily without them.
- Nearly 30% felt that they could live happily without a public bus, approximately half felt this for 'some of the time'. Approximately a quarter felt that they could not.

5.2.1 Children's Feelings and Cars in Household

An important question is: *"Does the number of cars in a household influence children's feelings towards transport modes?"*. In the analysis, differences were found between children according to level of car ownership. Table 5.2 shows the percentage of children in each car ownership category, who ticked the 'No' box. A higher proportion

of children from 'no car' or 'one car' households ticked the 'No' box, *could not live happily* without public buses. The differences are highly statistically significant (χ^2 38.711 $p<0.001$ df 6). The proportions are reversed for the children who ticked the 'Yes' box. A steady rise in percentages across categories for public bus also applies to the feelings these children have towards car (χ^2 9.126 $p<0.05$ df 2). For this test, the categories were collapsed into 'no car/one car' and 'two or more' to avoid expected cell counts less than five. A separate analysis on the data for KMC children (n=90) produced the same results. For the three modes not shown in the table (Train, School bus, Share Car) there were similarities in the feelings of children suggesting compara-

Table 5.2 Children's Feelings Towards Transport Modes by Cars in Household

I could *live happily without* = 'No' (Mode:)	**Sample Size**	**Percentage of Children**			
		No Car %	**1 Car %**	**2 Car %**	**3 or More %**
Public Bus	415	45%	25%	13%	21%
Car	415	50%	74%	78%	88%
Walk	413	58%	60%	60%	40%
Cycle	412	31%	35%	35%	56%
Sample Size		**43**	**155**	**159**	**58**

Percentages rounded to nearest 1%

bility of views. There were also significant differences for cycling (χ^2 13.678 $p<0.05$ df 6) and walking (χ^2 19.302 $p<0.01$ df 6), but these do not follow the pattern noted above. For these modes, only the proportions of children in the 'no car' and 'three car' households show noticeable differences such as the 56% of 'three car' who *could not live happily without cycling.*

5.2.2 Children's Feelings, No Car, Three Car Households

The feelings of children residing in 'no car' households (n=42) were found to be different when compared with 'all others' aged nine to eleven in the dataset (n=373). The differences in proportions were significant for two modes: car χ^2 18.178 $p<0.01$, df 2 and public bus χ^2 27.193 $p<0.01$, df 2. Of the children from 'no car' households, 48% felt they could *not live happily without* public bus compared with 19% of 'all others'. This reverses for 'car.' Although half of these children feel they *could not live happily without* a car, this figure is lower than that for 'all others' (78%). A higher percentage also felt they could live happily without a car for 'some of the time'.

The 'three car' households were also compared with 'all others' which revealed differ-

ences which were statistically significant for three transport modes: car χ^2 6.186 $p<0.05$, df 2; cycle χ^2 10.597 $p<0.01$, df 2; walk χ^2 10.267 $p<0.01$, df 2. This subset have strongest feelings for car 88%, 'all others' 73%. Walking is less favoured. Although a significant minority, 40%, felt they *could not live happily without,* this compares with 61% of 'all others'. Figure 5.1 shows the proportional differences in feelings towards car for children from 'no car' and 'three car' households.

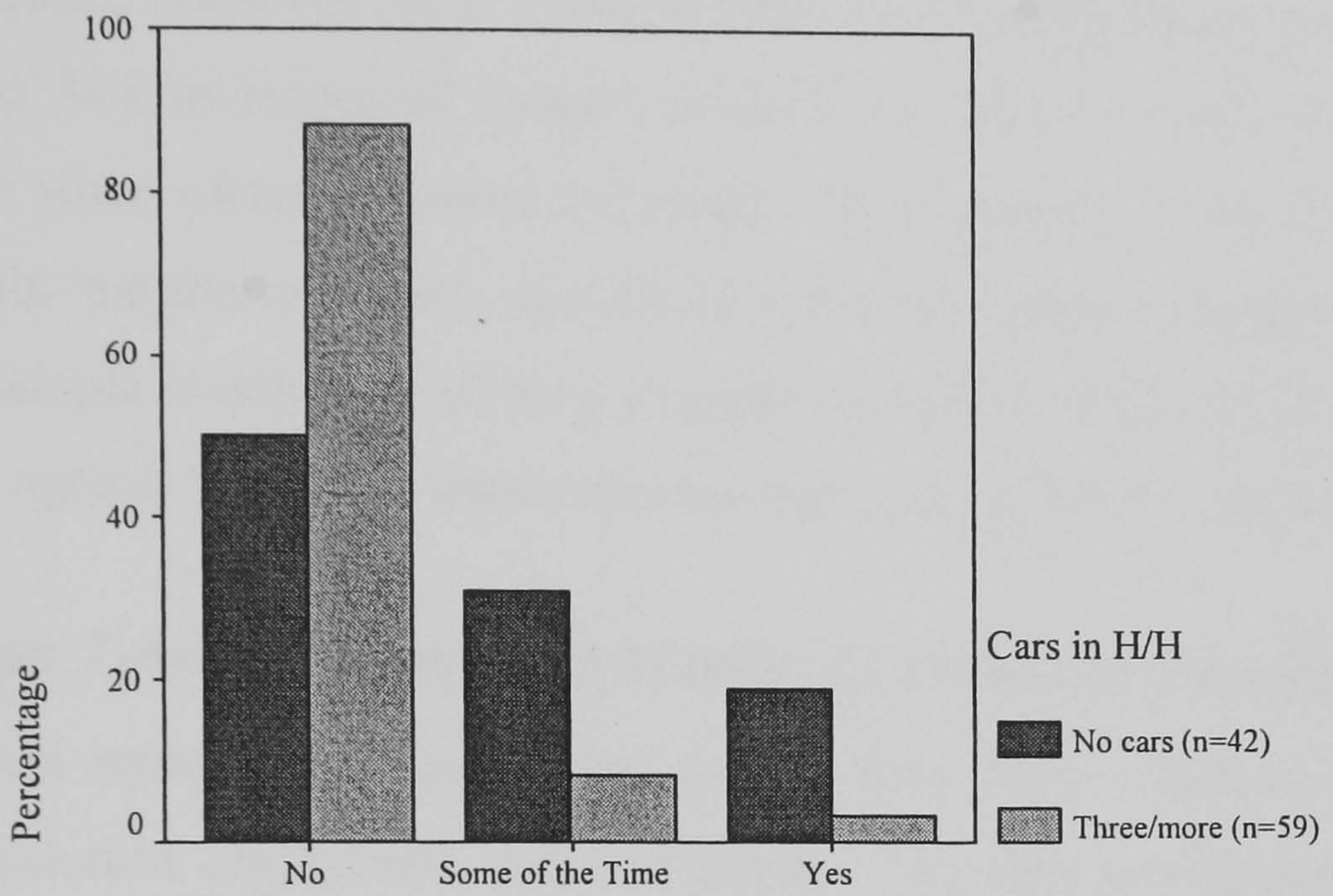

Figure 5.1 Children's Feelings for Car, 'No Car,' 'Three Car' Households

5.3 Parents' Feelings Towards Transport Modes

The attitudinal analysis was repeated on the 'parents' sample (n=132) and the results were very similar to those of the children for public bus. There were highly significant differences in the feelings of parents by car ownership (χ^2 21.185 $p<0.001$ df 4): 65% of parents from 'no car' households indicated they *could not live happily without a public bus*, 32% of 'one car', and 16% of parents from 'two or more' car households did so. This finding is shown in Table 5.3. When the sample of parents from 'no car' households was tabulated against 'all others' there was also a significant difference in the proportions (χ^2 16.877 $p<0.01$ df 2). Unfortunately the sample contained a negli-

Table 5.3 Parents' Feelings for Public Bus by Cars in Household

I could *live happily without...*	**No Car**	**One Car**	**Two/More**	**Total**
No	13 (65%)	14 (32%)	11 (16%)	**38 (29%)**
Some of Time	6 (30%)	20 (45%)	30 (44%)	**56 (42%)**
Yes	1 (5%)	10 (23%)	27 (40%)	**38 (29%)**
Total	**20 (100%)**	**44 (100%)**	**68 (100%)**	**132 (100%)**

Percentages rounded to nearest 1%

gible number of parents from 'three car' households' (n=3) and these are included with the 'Two/More' category in Table 5.3. A crosstabulation of parents' feelings towards car showed a steady rise in percentages across categories: as car ownership increases, feelings towards cars become stronger. The proportional differences were highly statistically significant (χ^2 39.652 p<0.001 df 4), 24% of those from 'no car' responded with a 'no', 69% of 'one car' and 89% of the sample of parents from two or more car households did so. However, most of the parents from households in the latter category ticked the 'no' box in response! Consequently there were two cell counts below the expected five when categories were collapsed. The closeness of this result suggests it is highly likely 'number of cars in household' influences parents' feelings towards cars but a larger sample is required before a conclusion can be made. If 'no car' households are tabulated against 'all others' the results are the same (χ^2 34.713 p<0.01 df 2).

5.4 Feelings Towards Transport Modes, Correlation Coefficients

For all the chi-square tests carried out on the data from samples of parents and children, correlation coefficients were calculated. The first calculation involved two variables, children's feelings for transport modes and number of cars in household. Because the data for both of these is ordinal, (the response alternatives were arranged in ranks), Spearman's rho was used. In general the values revealed a weak association between the two variables. A second analysis on the subsamples of children from 'no car' and 'three car' households (n=101) was undertaken. For the second calculation, a different correlation coefficient was used because, by selecting only two categories from 'cars in household' the level of measurement of this variable became nominal. Cramér's V is based on a crosstabulation and is calculated from the chi square statistic. The value of Cramér's V = .422 p<.001 showed a 'very strong' relationship. This finding was consistent in the parents sample, ('no car' and 'two or more'), Cramér's V = .507 p<.001. Unfortunately two cells (over 20%) had expected counts of less than five. Nevertheless a calculation of Spearman's rho on all car ownership categories for the parents' sample (n=135), revealed a moderate negative association, *rs* -.494 p<001. A negative value was obtained because an increase in one variable is associated with a decrease in the other. It can be concluded that the level of feeling parents have for car tends to rise with the number of cars in a household and for children, those from 'three car' households are likely to have stronger feelings towards cars than those from 'no car'.

5.5 Feelings Towards Transport Modes, Time of Year

Some parents completed a PTEQ in the summer of 2003, 'summer' parents (n=50) and others during the winter recruitment 'winter' parents (n=90). The KMC children completed a TEQ in the winter of 2003/4, KMC children (n=90). To investigate the possibility that 'time of year' influences feelings, the winter and summer samples were selected for separate analysis. In each of these, the pattern of differences found on larger samples was consistent. For 'summer' parents (by car ownership), the differences for bus remained statistically significant (χ^2 14.047 $p<0.01$ df 2). For the KMC children, public bus, car and walking were again statistically significant but smaller sample sizes produced expected cell counts of less than five. This was true also for the winter sample of parents. The general trend showing proportional differences by car ownership held in all samples. None of the winter/summer samples of children had sufficient numbers of 'three car' households to enable follow up of analyses between these and other car ownership categories. The differences between parents and children regarding feelings for cycling and walking held: 71% of parents in the winter sample and 75% in the summer sample felt they *could not live happily without* walking.

The analyses on 'no car' households were repeated on the parents' sample (n=131). Two differences in proportions were found to be significant, for public bus (χ^2 16.877 $p<0.01$, df 2 and for car χ^2 34.713 $p<0.01$, df 2). However, cell counts of less than five make the latter finding inconclusive. Insufficient numbers of 'three car' households prevented separate analysis on this subset of parents. Similar proportions of parents from 'no car', 'one car' and 'two or more' car households like walking.

5.6 Walking and Cycling Differences

No differences by car ownership were found in the parents' sample regarding walking and cycling. Further investigation highlighted two differences between the parents' sample and children. Greater numbers of all parents (75%) *could not live happily without* walking χ^2 12.161 $p<0.01$, df 2. This is reversed for cycling χ^2 48.559, $p<0.001$, df 2 with only 15% of parents who felt they *could not live happily without* whereas a significant minority (37%) of children did so. Just over 60% of parents could live happily without cycling compared with 30% of children. The findings for 'walking' are shown in Table 5.4. The feelings parents have towards cycling correspond with the time they spend doing it! Only one parent cycled for travel and

only five showed entries on the Sport and Exercise Record.[1] Because the majority of parents felt they could not live happily without walking, a crosstabulation of feelings and 'time spent walking' did not produce meaningful results.

Table 5.4 Parents and Children, Feelings Towards Walking

I could *live happily without...*	**Parents**	**Children**	**Total**
No	99 (75%)	239 (58%)	**338 (62%)**
Some of Time	27 (20%)	127 (31%)	**154 (28%)**
Yes	7 (5%)	47 (11%)	**54 (10%)**
Total	**133 (100%)**	**413 (100%)**	**546 (100%)**

Percentages rounded to nearest 1%

5.7 Comparison Set, Feelings Towards Transport Modes

The findings regarding the differences between children and parents (as separate groups) to walking and cycling held when sets were compared. Hence disagreement within the parent and child sets was almost as great as between groups. A chi square test showed differences were *close* to statistical significance for both walking (χ^2 8.405, $p<0.078$, df 4) and cycling (χ^2 8.307, $p<0.081$, df 4). The differences also held when sets were analysed by car ownership. Therefore a conclusion regarding feelings for walking and cycling is, children share more in common with each other than a parent. Chapter 8 reports the findings of the focus groups regarding cycling. For many of the children who participated in these, cycling was a pastime *shared* with other children rather than adults.

Cohen's Kappa correlation coefficient was used to test the measure of agreement within the parent and child sets regarding feelings for public bus, car, walk, train and shared car. Cohen's Kappa is based on a crosstabulation, used when the tables have the same categories in the columns as in the rows (Pett 1997). Of approximately 115 sets of responses, 50% of the child's responses matched with a parent for public bus, 67% for car, 48% for train and 43% for share car. None of the Kappa values either collectively, or by car ownership were above 0.4, lower than the 0.6 which indicates a 'fair to good' agreement. However, the coefficient measures 'chance occurrence' of agreement but not the intricacies of disagreement, the nature of which bears scrutiny. Polarised responses occurred in only six of the 115 sets for car and six for bus (a 'no'

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[1] Three for 30 minutes, one for 20 minutes, one for over two hours.

of one party with a 'yes' for the other). A repetitive difference is that a 'some of the time' response matched a 'no' or a 'yes'. The first example which follows is from the responses of those in 'no car' sets to illustrate this. Feelings towards public bus: in the total of 17 sets, 5 sets of responses do not match. The disparate five refer to parents who feel they *could not live without* a bus whereas their children *could not live without* for 'some of the time.' Feelings towards car: nine of the 17 sets do not match. In 7 of these, 'some of the time' is the response of one party against a 'no' or a 'yes' of the other party and 2 are polarised. The second example is from the responses of those in 'one car' sets. Feelings towards public bus: in the total of 38 sets, 21 sets of responses matched. In 17 responses 'some of the time' is the response of one party against a 'no' or a 'yes' of the other. Feelings towards car: 26 of the total 38 sets matched. In 8 responses, 'some of the time' is the response of one party against a 'no' or a 'yes' of the other and 4 are polarised.

5.7.1 Comparison Set, Feelings and Cars in Household

The analysis on *groups* of parents and children according to number of cars in household highlighted relevant differences. An analysis of feelings *within* sets shows this variable is also pertinent. This is illustrated in the interconnected data shown in Tables 5.5-5.7 which juxtapose sets of children and parents. There are noticeable differences between car ownership categories 'no car' and 'two car' sets. Table 5.6 'one car' households, share more in common regarding feelings towards bus and car. With several exceptions, the similarities of feeling within each table are greater than those between. In some sets, the feelings of one party are missing.

Table 5.5 'No Car' Sets: Feelings, Bus Feelings, Car

I could *live happily without...*	***Bus Child***	**Bus Parent**	***Car Child***	**Car Parent**
No	5 (29%)	10 (59%)	7 (41%)	4 (22%)
Some of Time	12 (71%)	6 (35%)	6 (35%)	10 (56%)
Yes	0	1 (6%)	4 (24%)	4 (22%)
Total Sets	**17 (100%)**	**17 (100%)**	**17 (100%)**	**18 (100%)**

Table 5.6 'One Car' Sets: Feelings, Bus Feelings, Car

I could *live happily without...*	***Bus Child***	**Bus Parent**	***Car Child***	**Car Parent**
No	10 (26%)	13 (35%)	27 (71%)	26 (68%)
Some of Time	17 (45%)	16 (43%)	6 (16%)	9 (24%)
Yes	11 (29%)	8 (22%)	5 (13%)	3 (8%)
Total Sets	**38 (100%)**	**37 (100%)**	**38 (100%)**	**38 (100%)**

Table 5.7 'Two Car' Sets: Feelings, Bus

I could *live happily without...*	*Bus Child*	Bus Parent
No	7 (11%)	10 (17%)
Some of Time	23 (37%)	27 (45%)
Yes	33 (52%)	23 (38%)
Total Sets	**63 (100%)**	**60 (100%)**

Feelings, Car

Car Child	Car Parent
53 (84%)	55 (89%)
8 (13%)	7 (11%)
2 (3%)	0
63 (100%)	**62 (100%)**

Percentages rounded to nearest 1%

A conclusion regarding feelings for public bus and car is: children and parents share more in common with each other than those of different car ownership status. Figure 5.2 draws on all cases of 'no car' households in the diary set/SalterSTS, KMC children (n=42) and parents (n=21). The bar chart shows 'feelings for car' *for groups of cases* rather than sets to investigate the disparities in Table 5.5. The apparent gulf between 'no car' sets (a third more children compared with parents felt they *could not live happily without cars*), remained in the larger sample but was not statistically significant. There were no significant differences regarding feelings for public bus or car in the groups of cases. The disparate feelings for bus within sets of two/more car households (Table 5.7), disappeared when larger samples were compared.

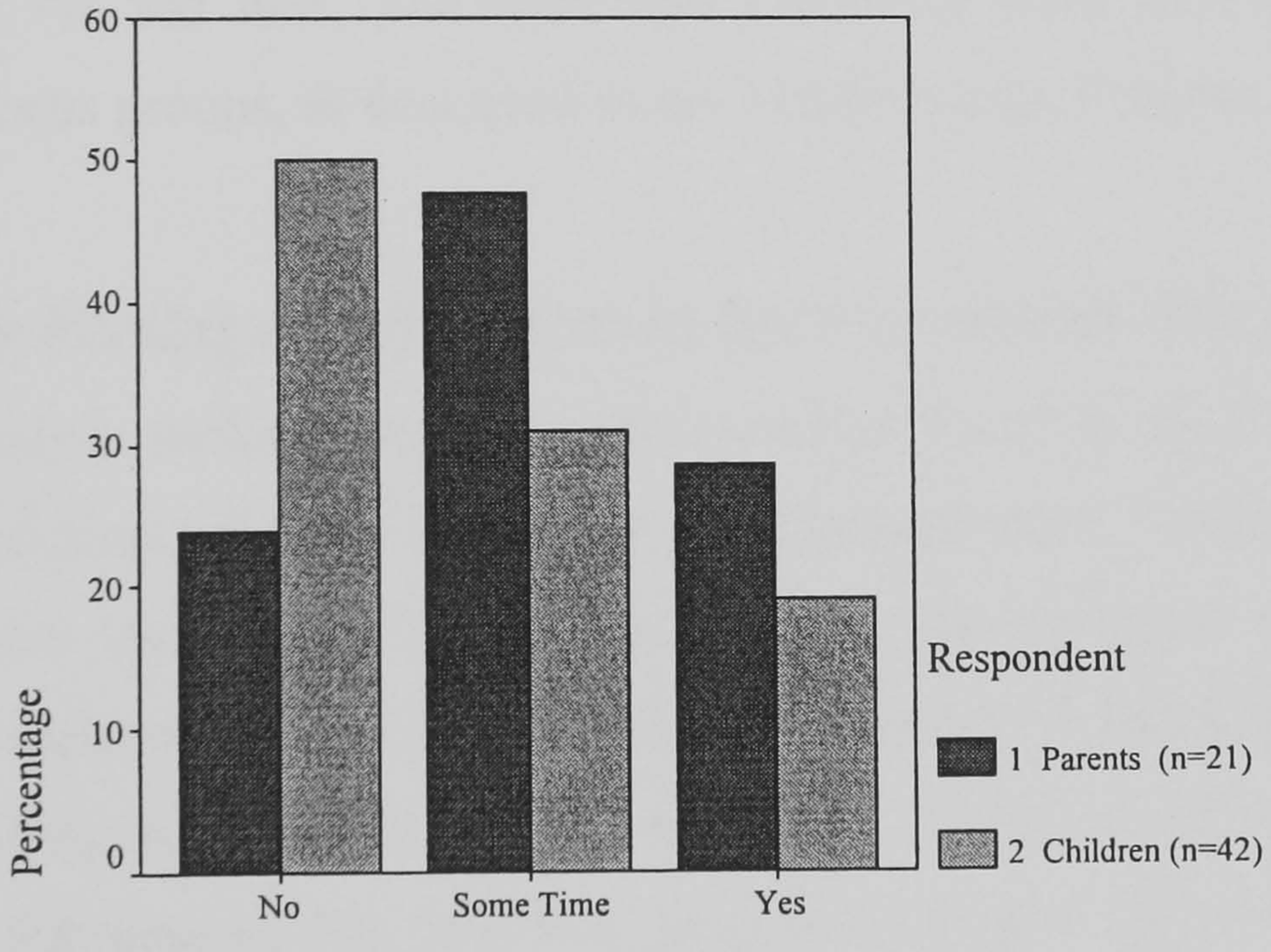

Figure 5.2 No Car Households, Feelings for Car

5.8 Car Culture Attitudinal Scale

The diary sets and TEQ measured children's travel from two angles. The findings for travel behaviour, *what children do,* were reported in Chapter 4. But children are often passive travellers when escorted. From age nine onwards they usually seek more independence from parents, are able to make some journeys unaccompanied and are

able to express preferences for transport modes. Inherent in the completion of the attitudinal section of questionnaires is the choice/control element. The analysis reported above took into account one response from each child, counting the numbers of children who ticked 'No' or 'Yes' *could not live happily without* for each of the transport modes. An additional analysis concentrated on all the responses ticked by each respondent. Most ticked 'No' for cars but many did so for a second and a third mode. Dividing the respondents in this way produced four categories: i) the 'Car Cultured' (only ticked 'No' to car); ii) the 'Active Dependents' (also ticked 'No' to one or both of the active modes, walking or cycling); iii) the 'Multimodal' (also ticked 'No' to at least one form of public transport and 'No' or 'Some of the Time' for one or both active modes). Those in the fourth category, iv) the 'Car Free' ticked 'Yes' *could live happily* without cars. Two of these attitudinal categories i) and iv) are distinct, children favour cars or they do not. But there are overlaps regarding the other modes, for instance 'Some of the time' is used by the active dependents to indicate how they feel towards public transport. A count of the numbers in each attitudinal category revealed that of 419 children: 16% were 'car cultured', 39% were 'active dependents', 38% 'multimodal' and 7% 'car free'. The attitudinal categories were used to select some children for the focus groups, as described in the Methodology, Chapter 3.

5.9 Children's Feelings, Differences in Socioeconomic Status?

The following analysis seeks to overcome the anomalies found in the ID classifications of districts around three schools. This applies to Crosland Moor, Sowerby and Ireland Wood, which have local authority/social housing in the catchment of the schools. Ireland Wood is included in Cookridge ward, an area rated ID 5,672 and it is unclear whether the children from 'two/more car' households live in pockets of 'middle class' enclaves. Table 5.8 presents data from four schools, St. John's and Mt Pellon (IDs 247 and 298 respectively) and the two private schools, Rosemeade and Rastrick, two very economically deprived districts compared with those from more affluent areas. Although only the ID of one child who attends a private school is known, ID 6,163, there is a strong probability that children attending these private schools do not reside in districts with the deprivation of St. John's or Mt Pellon. The figures in Table 5.8 reveal that similar proportions from all schools feel the same about public buses (χ^2 .560, $p<0.756$ df 2). The percentages were very similar for trains. Regarding cars, walk

and cycle, cell counts less than five make the results unreliable. Nevertheless the proportions follow the trend of analyses carried out on larger data samples. These revealed that for four modes (bus, car, walk, cycle), the attitudes of children from 'two/more' car households vary. A conclusion is that the children in this analysis share attitudes towards transport modes, but not socioeconomic group.

Table 5.8 Two/Three Car Households at Four Schools: Children's Feelings for Public Bus

I could *live happily without...*	St. John's & Mt Pellon Schools	Rosemeade & Rastrick Schools	Total
No	7 (15%)	2 (11%)	**9 (14%)**
Some of Time	23 (50%)	8 (44%)	**31 (48%)**
Yes	16 (35%)	8 (44%)	**24 (38%)**
Total	**46 (100%)**	**18 (100%)**	**64 (100%)**

Percentages rounded to nearest 1%

A plotting exercise was undertaken using the Bradford A-Z ordnance survey street map for the area around St. John's school. For this the street addresses for 48 of a total of 52 pupils were available from diary sets. The streets were marked according to the car ownership in household (n=48). This revealed that 17 of 21 children from 'no car' and 'one car' households resided fairly close to the others, either in adjoining roads or the same street to those from 'two/more' car. Hence the difference observed is level of car ownership not area of residence. Table 5.9 is a crosstabulation of the data collected from children at St. John's and Mt Pellon schools.

Table 5.9 Children from Economically Deprived Districts: Feelings for Public Bus

I could *live happily without...*	No Car	One Car	Two/More	Total
No	8 (62%)	5 (16%)	7 (15%)	**20 (22%)**
Some of Time	5 (38%)	10 (32%)	23 (50%)	**38 (42%)**
Yes	0	16 (52%)	16 (35%)	**32 (36%)**
Total	**13 (100%)**	**31 (100%)**	**46 (100%)**	**90 (100%)**

Percentages rounded to nearest 1%

The feelings towards public buses vary according to car ownership in household (χ^2 18.886, $p<0.001$ df 4). As car ownership increases, feelings towards buses decreases. Table 5.9 shows observed frequencies. There were two cells (22.2%) of the expected frequencies of less than five. This also occurred in crosstabulations for other modes but the same pattern emerged as in larger samples: attitudes towards train are very similar, but vary for car, walk and cycle. A conclusion is that children residing here share

socioeconomic status but not attitudes towards transport modes. All the findings presented above strongly suggest that it is the fact of car ownership rather than socio-economic differences per se, which affect attitudes.

Repeating this analysis on the two private schools was attempted but only four of the 22 children who completed TEQs, reside in households with one car. No children lived in households that did not have a car. An insufficient number of questionnaires also prevented repetition of this analysis on the parents' data. Focus groups were held with children at Mt Pellon school but although children from 'two/more' car households participated, five of six groups were arranged according to attitudinal scale categories. These groups consisted of children from both 'one car' and 'two/more' households. Table 5.10 was compiled from census data and shows the number of households in each car ownership category, for the districts around all the state[2] schools.

Table 5.10 Household Car Ownership, Census Administrative Districts

Administrative District/ School Name/Place	**ID 2000**	**No Car or Van**	**1 Car or Van**	**2 Car *or Van***	**3 Car or Van**	**4 or More**
Ireland Wood, Leeds	**5,672**	2199	4017	2519	378	101
Weetwood, Leeds	**4,518**	4571	3309	1170	352	181
Sowerby, SowerbyVillage	**3,775**	1061	1877	1535	277	106
Riverside, Hebden Bridge	**3,378**	1238	2072	1137	202	70
Salterhebble, Halifax	**4,547**	1146	2203	1040	157	39
Allsaints, Halifax	**4,547**	1146	2203	1040	157	39
Mt. Pellon, Halifax	**298**	2392	1683	361	46	21
St. John's, Bradford	**247**	2590	2089	795	113	18
KMC Schools						
HolmeValley(Brockholes)	**5,017**	1415	2882	1907	319	94
Golcar	**3,035**	1940	3376	1614	220	57
Almondbury	**2,069**	1819	2575	997	148	47
Dalton (Moldgreen)	**1,841**	2284	3030	1212	183	47
Crosland Moor	**861**	2339	2867	1129	172	44

(Source: National Statistics (2004) Neighbourhood Statistics, Table UV62 Cars and Vans West Yorkshire)

In total, [3] 49 of the 100 pupils who completed a diary set at St. John's or Mt Pellon live in two or three car households. This proportional split is not representative of households in the districts. A greater number of 'no car' or 'one car' households are located around the schools. This suggests that the ID rating for the two districts is

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[2] Pupils attending the two private schools travel from various places.
[3] Three missing cases for feelings were not included in Tables 5.8 and 5.9.

fairly accurate in terms of the socioeconomic group of residents in the catchment areas of the two schools. Of the 49, 15 were from ethnic minority backgrounds. As expected, the higher the ID classification, the greater the number of 'two car' households.

5.10 Summary of Statistical Findings, Feelings Towards Transport Modes

The summary below takes account of both the parents' and Children's samples. The percentages are approximate to allow for minor variations.

- **No car**: a greater proportion have strongest feelings in favour of walk (60%), followed by public bus (50%) and car (50%). Cycling is least favourite mode.
- **One car**: a greater proportion have strongest feelings for car (72%) *or* walk (70%) followed by bus (28%). Train or cycle are least favourite modes.
- **Two car**: a greater proportion have strongest feelings for car (78%), followed by walk (70%), train (25%) or cycle. Bus is least favourite mode.
- **Children, Three car**: a greater proportion have strongest feelings for car (88%) followed by cycle (56%) and walk (40%). Bus is least favourite mode. The feelings of parents were not ascertained.
- Parents have stronger feelings in favour of walking and weaker feelings for cycling in comparison with children. Parents and children share similar feelings towards travel by shared car, 24% could not live happily without.

The textbook guidance for the statistical work reported in this chapter came from Siegel and Castellan (1988) and Pett (1997).

5.11 Focus Groups: Feelings Towards Transport Modes

A conclusion from the statistical analysis of attitudes towards transport modes was that 'cars in household' is an independent variable influencing feelings. The analysis of focus groups by cars in household sought to investigate the following:

- if the verbal responses concurred with statistical findings
- to discover the favourite travel mode/s according to car ownership
- to compare children from 'no car' and 'two/three car' households

Forty two children who took part [4] in 10 of the focus groups were arranged according to number of cars in household. Of the 10, three were 'no car' (n=14), three were 'one

[4] To maintain group size, two groups had one member in a similar car ownership category.

car' (n=13). The remaining four groups were comprised of children in either 'three car' households or from 'two or three' cars (n=15). All those in the 'one car' groups wanted to learn to drive and own a car when older. The same was true for the children in two/three car groups but two preferred to own a motorbike. Of the 14 children in the 'no car' groups, five did *not* want to learn to drive and six did not want to own a car. Those who did want to learn gave similar reasons to those from car owning households.

Regarding the favourite mode according to car ownership, in the 'no car' groups (n=14), nine chose modes which did not include a car. A breakdown by response is: two said car and one, car and cycle. Three said walking, three cycling and three public bus. One named public bus and train, another did not know. In the 'one car' groups (n=13), six chose modes which did not include a car. A breakdown by response is: four said car, one car and cycle, one car and bus. Two chose public bus and two cycle, while one chose walk and cycle. One liked all modes. Unfortunately 'favourite' mode was not ascertained for several children in the 'two/three' car groups therefore only 12 of 15 responses are listed: six chose modes which did not include a car. A breakdown by response is: four said car, one walk and car, one motorbike and cycle, four said cycle, one chose walk. One child liked all modes.

5.11.1 Focus Groups: Feelings, No Car, Two/Three Car Households

A difference between the 'no car' and two/three car households is the amount of usage of public transport, particularly buses. Some 'no car' children are given lifts in cars from friends' parents or relatives but generally they have to walk or travel in taxis. Regarding attitudes towards trains, children in both groups shared similar attitudes. However, regarding buses, although some had 'grumbles' a more accepting attitude could be detected in the 'no car' groups:

> ***Q.*** *"How do you normally travel then?*
> ***A.*** *A lot of public buses, but most of the time I just walk, but if I need to go somewhere far, I just get a bus"*
> (Ireland Wood Group 4, 'No Car').

> ***Q.*** *"What do you think about the journey?*
> ***A.*** *It's not faster than a car but you can't help it because if you can't drive and then you can't get a car so you have to catch a bus"*
> (Sowerby Group 5, 'No Car').

Travelling on buses was viewed as a way of avoiding walking. One child also thought

of them as a time saving device:

Q. *"Do you travel on public buses?*
A1. *Yeah. Everywhere, 'cause I don't like walking……*
Q. *Do you want to tell us what you think about travelling on buses?*
A1. *Great, because it saves you time"*
(Mt Pellon Group 1, 'No Car').

Responses from two other pupils in Mt Pellon Group 1 are given below. Several children in the 'three car' groups liked public buses but the others were overtly critical. Those who did not like walking also viewed the car as the best way to avoid it:

Q. *"Why do you want to learn to drive?*
A1. *Because it's better than walking, really. My legs won't ache.*
A2. *I don't like buses, cos they're slow and if you're stuck in snow you get stuck for like six hours and it's really boring, then you have to walk up hills, right. I don't like walking. I don't like them, I don't like anything other than cars really, and bicycles.*
A4. *I don't like buses because they should have air conditioning. They should have toilets on the bus"*
(All from Sowerby Group 6, 'Three Car').

Q. *"For long journeys, what about shorter journeys where you could walk?*
A. *I still prefer the car"*
(Ireland Wood Group 2, 'Two/Three Car').

In general the 'no car' children like car travel (favourite mode of five). Most usage was for days out. Their reasons for wanting to learn to drive are the same as others and most want to own the same sort of sporty fast cars. A subtle difference is the *amount* of car usage they expect to make:

Q. *"Why do you want to learn to drive?*
A1. *I haven't had a car for that long, it just might be helpful one day, like when I'm older, for work, so I've got to get there faster but I might be able to walk but if I was late I would probably go in the, 'my' car"*
(Ireland Wood Group 4, 'No Car').

The following reply from another member of the same group implies a mental representation of a house. Included with the house is a garage and a car. This could be interpreted to suggest that, like the bricks and mortar, a car is needed to complete the household. Car usage is described as, *'from time to time'* in the first quote and in the second, for extreme circumstances, although this is qualified later:

Q. *"Why do you want to own a car?*
A2. *I'd like a car so it would be there and if you get a big house with a garage you can put your car in there. But it'd be nice to have a car to use it from time to time.*

A4. *Yes it's important and helpful as it might save your life if you get lost or abandoned. If you couldn't drive and didn't have any money you might not be able to get back. It's also useful for everyday life to get you there on time but I wouldn't use it to go up the street I'd just walk"*
(Both from Ireland Wood Group 4, 'No Car').

A question raised by the above, is, if all the children had been asked to *draw* the house they wanted to live in when older, how many would include a car or cars in the picture? The example below also illustrates the amount of future car usage envisaged by the children who live in 'no car' households:

A2. *"I would like to own a car because then just in case of an emergency. I might not use it all the time but I'd have it just straightaway.*
A4. *No, Miss, because that'd still pollute everything, so I'd just like to have a car but just sit in my garage and then I can like, I'll show off in it"*
(Both from Mt Pellon Group 1, 'No Car').

Two pupils (not previously quoted) live in households with changed vehicular circumstances. One household no longer has a car, the other has *become* a one car household in the three months since completing a diary and taking part in the group:

A3. *"I didn't like walking. But when the car broke down, we never got a new one so I had to walk more, so after a time I'm not really bothered about walking as it keeps you quite fit. But if I had to go too far I'd probably get the bus.*
Q. *Do you think if they'd kept the car...?* (**A3** replied before end of sentence)
A3. *I'd probably be using it more and I'm glad the car broke down because I think it's helped us.*
A5. *I still walk a lot, I walk to school, and back but now since we got the car I'm not that used to it yet and I still walk and I get car sick sometimes 'cause I'm not used to travelling by car"*
(Both Ireland Wood Group 4, 'No Car').

Section 5.12 reports the children's responses in relation to cars and timekeeping.

5.12 Focus Groups: Cars as a Timesaving Device

A question on the focus group schedule asked: *"Do you want to learn to drive a car when you are older?"*. Those who replied with a *"Yes"* were asked why they wanted to learn. In response, 36 children in 21 (of 27 groups) used the adjective 'quick' or 'fast' with reference to journey time.[5] Quick journeys were liked for timesaving reasons: 'being on time' (n=21), 'not missing other things' (n=8), 'for emergencies' (n=4) or 'wanting to get the journey over' (n=3). Of the 21 'being on time' responses, 11 were

[5] 'Quick or fast' used with reference to journey length: Ireland Wood Grps 1 to 5; Mt Pellon Grps 1,3,4,5,6; Sowerby Grps 1 to 5; Riverside Grps 2 to 5; Weetwood Grps 1 and 5.

made in relation to getting to work, or work related activities on time, nine of these regarding the advantage of cars and two for trains [6]. Four of the 21 responses referred to 'important events' such as a wedding and three for nondescript places, 'in a rush to get somewhere.' Three others viewed car travel as beneficial as it 'saves time' for other things in the morning before school or if late for school. The illustrative quotes beginning with 'Being on time for work' are shown below:

Q. *"You mentioned getting to work on time, why is that important?*
A. *You might have a chance of getting fired or sacked"*
(Ireland Wood Group 4).

"Because when you're older when you have to get to meetings and stuff you can get there very quickly in the car, so you get there faster, so you're not late" (Ireland Wood Group 1).

"...you don't have to walk you can get in your car and go really fast. And then you can get to work on time" (Mt Pellon Group 5).

Not missing other things:

"Because when you get there slower it's like, you feel like you're missing out on stuff and that you're waiting and you're like, 'it's going to be gone when I get there!' " (Mt Pellon Group 1).

"And when you get to school you get a chance to talk a bit more before school" (Weetwood Group 5).

For emergencies:

"If you can't drive and there is an emergency you might not be able to get to places quick enough" (Riverside Group 2).

Important event:

"Because if you were going to a wedding and you're the groom or the bride you need to be there on time" (Sowerby Group 3).

Saves time:

"I'm very slow at getting ready and if I'm late it's easier to be able to drive" (Sowerby Group 1).

Some children also used the word 'fast' as a descriptive meaning that they liked the *sensation* of moving at speed on trains or in cars and their responses are reported in Chapter 8. The other reasons children gave when asked *why* they wanted to learn to drive or own a car are also presented here.

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[6] 'Car' mentioned specifically in relation to employment: Ireland Wood Grps 1, 2, 4, 5; Mt Pellon Grps 1, 3, 4, 5; Sowerby Grps 2, 4, 5; Riverside Grp 3, Weetwood Grp 1.

5.13 Interviews: Timekeeping and Travel

An additional section about travel time and scheduling was added to the interview schedule belatedly responding to the findings described above regarding children's emphasis on cars as a timesaving device. The purpose was to identify if there were shared experiences in households and if opportunities existed for children to learn about timekeeping and travel in the home. Parents were asked to indicate which of four descriptions best described their feelings regarding travel time and travel arrangements during a typical week. Options were: i) extreme time pressure; ii) some time pressure; iii) a little pressure; iv) no time pressure. Unfortunately this was not incorporated until interview six therefore responses from 17 parents were available for analysis. Of these, five considered themselves under 'extreme' time pressure, two felt between 'extreme' and 'some pressure'. Seven parents described feeling 'some' time pressure and several gave examples of their 'trip-chaining':

> ***A.*** *"Most of my journeys during the week are on foot and yes I am under pressure to get to and from work at a certain time. I try and combine the shopping – I work in playgroup in the morning so I can buy my shopping at lunchtime, drop it off and go to school"* (Interview No. 12, Teaching Assistant P/T, three children).

Of these 14, twelve had either full or part-time employment and two were housewives. One of the latter has no paid employment but was involved in informal dog training and sometimes assists her husband with his own business. Two of the remaining three parents felt under a 'little' pressure. Another implied that she felt between 'little or no pressure'. Not surprisingly the three who felt least sense of pressure had different circumstances to others. Although two of these were single parents, one did not have paid employment and another worked at home. Both have time to walk with their children to school. The third lives close to employment and walks while her children walk independently to school.

Parents were asked if they talked about/explained to their child/ren, why they arrange their travel arrangements in the way they do. Twelve parents responded with a *"Yes"* and one thought she might do but was not conscious of doing so. Three said *"No"* and one answer was not ascertained. Interestingly those who responded with a *"No"* were those who perceived themselves to be under little or no time pressure. The quotes below describe typical discourse in households:

Q. *"You feel you're under 'extreme' time pressure?*
A. *I think I get right stressed out in the morning if they're running late getting up, and I'm saying, 'Come on, hurry up, we've got to catch this bus, 'cause I've got to get to work and you've got to get to school'.*
Q. *How do they show you that they're aware of the time schedule?*
A. *They sometimes get ready for school quite early, or if I'm running a bit late they'll be saying, 'Come on, we've got to catch the bus.' I don't know. I think they've just got into a set routine now,"* (Interview No. 11, Sales Assistant P/T, two children).

Q. *"Do you think they're aware of the way you and your husband arrange your time?*
A *Yes, they know most of what's happening in the day and why we do what we do.*
Q. *Are there any ways in which they show they are aware?*
A. *Because my husband works up in the same area as ...'s school so he'll often ask if his dad's working or, 'Will you be taking us up there mum?'. So he knows that his dad will try to combine going to work with taking the boys up to school"* (Interview No. 13, Community Nurse, two children).

The quote below is from the son of Interviewee No.13:

Q. *"What is it that you like about travelling by car please?*
A. *It's a bit quicker to get to places and stuff I suppose. Yeah.*
Q. *Why is being quicker important to you?*
A. *I don't really like to be late it's a bit rude I suppose.*
Q. *So it's the time keeping aspect?*
A. *Yes, probably. Otherwise I'd probably walk if it wasn't too far"*

The next quote is from a parent who feels under extreme time pressure:

A. *"Well I think I must state here that all my journeys are to times, they are all absolutely timed almost to the minute...*
Q. *Would you say they are aware of your time commitments?*
A. *Definitely, yes. They may not necessarily agree with them, but yes, definitely it's explained to them. And of course I suppose they feel guilty because it's for their benefit that I'm screaming at them to, 'get in the car because if we're late we shall miss it all' "* (Interview No.16, Science Technician P/T, three children).

Q. *"Do you think the children are aware you perhaps have to organise your time around transport?*
A. *Yes. They realise now that we don't have the car that things are changing. It is not just a question of coming out with five minutes to spare and being able to get there with two minutes to spare, and so they have had to adapt...*
Q. *Do you think they've improved their timekeeping now because they've been kept to times?*
A. *I think so, yeah. But, as I say, I think it's also knowing, you know, that I'm quite punctual about things. If I know*

I have to be somewhere at a certain time I will set off and make sure I get there in time..."
(Interview No.9, Cleaner, 'no car' household for ten months).

Interviewee No.8 (notes only) is a single parent working full-time in a managerial position who feels under extreme time pressure. When asked if she talks to her son about timekeeping she replied *"Yes"* and sometimes raises her voice mildly to hurry him in the morning. He acknowledges by responding, *"don't raise your voice mummy"*. An incident which had surprised the parent and demonstrated her son's awareness of her time pressure was narrated. On arrival to collect him from 'After school Club' one day, the teacher asked to speak with her about a routine matter, adding, this would only take a minute because she knew how busy the parent was. When the parent revealed surprise at this remark, the teacher went on to explain the reason for saying this. Her son had commented, *"My mummy is very busy all the time!"*. Until then the interviewee was unaware that her sense of time pressure had been assimilated to this extent.

Several interviewees gave responses to other topics which suggested their children had an awareness of a parent's time availability. This consciousness may be the result of a parent's explicit or implicit behaviour:

Q. *"You mentioned you do the 'taxi-ing' how do you think that has come about, any particular reason?*
A. *I've been at University for three years, so I've had,* **I've had a little bit more, spare time, or so they thought** so I've *been the one that's taken them to school in a morning and arranged lifts and, it's just fallen that way because I've got more time"*
(Interview No. 4, Student, interviewee's emphasis).

Q. *"Any little rituals knowing you have a journey to make?*
A. *No, apart from making sure we get out on time.*
Q. *How do you do that?*
A. *Well I suppose I plan the activities before or the routine before to make sure that if we are going to have lunch in time or just things like that.*
Q. *Do you ask the children to make sure they will be ready on time?*
A. *Yes"* (Interview No. 6, Teacher, four children).

Q. *"Do you have any regular routines before setting out, say on bus journeys or if you're going walking? For instance, making sure that you set off at a certain time?*
A. *Oh yes. Getting everybody ready and, you know, 'The bus is in ten minutes – get ready! And get out the house. If you're a minute late that bus is down the lane!' You know"*
Continued.....

The interviewee quoted above went on to say that she does not explain to her children about time arrangements, *"Not particularly"*. Nevertheless she knows they are aware:

> ***Q.*** *"In what ways do they show they are aware?*
> ***A.*** *They don't actually show any awareness. They know how our days work out, where we have to be, what we've to do, and how we've to get there, but they don't actually say anything"*
> (Interview No.12, Teaching Assistant P/T, three children).

A parent in a 'one car' household explained her response to children who pester about getting a second car so they don't have to walk to school. The following conversation takes place monthly, *"But it doesn't come up regularly, once a month perhaps"*.

> ***Q.*** *"My children can be quite, not rude, but, will say things, like, 'Why does 'so and so' go to school in a car because they only live at...?' And I say, 'Some mums have to go to work and so it is a time issue to drop them off in school on the way.' But they are aware that most families have two cars"*
> (Interview No. 7, one car, two parent household).

Parents may act in ways which communicate a message to children implicitly. For instance, a *change* in the usual mode of travel and/or routine. Interview No. 22 (notes only) mentioned how she normally liked to walk when escorting her child to school or regular social activities. However if in a hurry or when she has items to carry to the venue, she will drive her son instead. Sometimes when they are not late he asks to travel by car to allow him more time for the activity. Hence she knows he has learned that cars can be potential timesavers. The following quote is from a parent who replied with a *"No"* regarding explaining to her children about her time arrangements:

> ***Q.*** *"Does he talk about wanting to travel by car as a way of saving time?*
> ***A.*** *Yes, because normally I like to walk to school on a morning if I can with him, but if it's particularly late or we might be late, he wants to go in the car, if it's a nice day he'll walk but if we're pushed for time he'll want to go in the car"*
> (Interview No. 21, Housewife, two children).

Several other parents mentioned requests from children to travel by car. But in the context these were made, they knew it was from *"pure laziness"* or else because friends/neighbours were travelling by car.

5.14 Interviews: Parents' Feelings Towards Cars

The analysis of attitudes towards cars begins with the four parents from 'no car' households. They were initially asked: "*Would you like to own a car?*" A subsequent question asked if they thought that *not* having a car stopped them from doing the sorts of things they did and liked doing and if they thought there were any advantages or disadvantages to having or not having, a car. In response they talked about how they managed and circumstances in which a car would be useful. A single parent could see no advantages but was not prevented from doing the sorts of things she likes doing, hence did not feel restricted. However, she regrets not learning to drive because of potential future employment. Three of the 'no car' households mentioned cost as a disadvantage of car ownership. One had to sell the family car and he manages by walking and using public transport but all of his family want another car. He finds that the planning required to use public transport and the limitations it places on days out are a drawback. *"It has restricted us"*. The other parent mentioning cost said, *"I mean, it's more money for a car. It's cheaper catching the bus"*. She too would, *"like to go on family outings"* as well:

> ***Q.*** *"Are there any disadvantages do you think to not having a car?*
> ***A.*** *Yeah, you can't just get up and go. If it's a bus, if it's a Sunday you've got to wait like an hour for a bus"*
> (Interview No.11, 'no car' household).

The daughter of Interviewee No.11 was rated 'car free' on the Car Culture Attitudinal Scale and took part in a focus group at school for children from 'no car' households. The fourth parent from a 'no car' household wanted a car for emergencies. She describes car travel as an 'adventure' for her children. The double quote below gives her response to the question which follows. In her reply she mentions the benefit to her children of not having a car. This implies that the experience is character building in that it prepares them for facing and overcoming other obstacles in life:

> ***Q.*** *"Would you like to own a car?*
> ***A.*** *Oh, I'd love to.*
> ***Q.*** *Do you think that not having a car stops you doing the sorts of things you do, and like doing?*
> ***A.*** *Like my telephone – I'd like a car for emergencies. If something cropped up and I needed to get from here to there quickly, that's when I miss not having a car. Most of my life I can get round without it, but just on odd occasions I think, 'If I just had a car'*
> ***Q.*** *"Do you think there are advantages to not having a car in a family?*
> ***A.*** *Yes – your children don't become dependent.*
> ***Q.*** *What do you mean by that?*

A. *I think they appreciate when they are in a car – they don't accept it as norm. My niece – her children go everywhere in a car, so to them going on a bus is an adventure whereas to my children going in a car is an adventure, because they're not used to it. They get a better grounding in life – that life isn't so easy, that there are burdens in life and you have to get round them and over them"*
(Interview No.12, 'no car' household).

The 18 car owning parents, were asked: *"Do you think that a car is essential, or is not essential, to your lifestyle?"* . Essential reasons were placed under the following codes: employment, (self or husband), role of carer, (fulfilling needs of children or other relatives), shopping, independence, social/sport, family holidays, timesaving, journey planning, illness in family. If interviewees gave more than three reasons, the term 'multiple' was applied. The responses from the 'one car' households are provided first. Six of these gave a definite answer – *"Yes*" but the degree of dependency varied. Two parents stated that their husbands needed a car for employment, the crucial factor. They walked to work and used public transport for other things. Both thought some modification in lifestyle would be necessary for their families to manage. Of the single parents, one was experiencing changes in her life (recently separated, potential new employment) and could not be definitive. She would like to manage without a car but as a single parent, it was useful for holidays or getting to employment:

Q. *"Do you think that a car is essential to your lifestyle?*
A. *I would like not to own a car I think if I knew there was a scheme were you could hire cars cheaply for holidays and I knew I'd be able to get one such as a car pool"*
(Interview No.2, single parent).

The son of Interviewee No.2 was rated 'car free' on the 'car culture attitudinal scale' and participated in a focus group at school. Two gave reasons summarised under 'the carer role'. One regularly visits her mother as well as meeting her children's needs:

A. *"I just can't imagine not having it. My mum lives in Honley and it would be two bus rides to get to her and she's on her own"*
(Interview No.17, single parent).

The second cited her son's care as paramount – car use for his social activities, illness and emergencies. In addition both thought maintaining their 'independence' was important. One of these is not in employment and the other walks to work. Two single parents gave 'multiple reasons' why a car is essential to them. One said she, "*could not live without one"* going on to cite employment, timesaving, the carer role (son aged 6½), and shopping as reasons. A parent who worked from home mentioned shopping followed by the carer role, social events and independence. Of the eleven parents from

'two or more' car households, nine gave a definite, *"Yes"* they did think a car essential, but the degree of dependency again varied. Employment was common to most responses and three mentioned this as the only reason. Two of these were essential users, a health visitor and a community nurse:

> ***Q.*** *"Do you think there are advantages to having two cars in a family?*
> ***A.*** *We wouldn't have two cars if we only had one job"*
> (Interview No. 20, Health Visitor P/T).

Two others who mentioned employment were also essential users (a landscape architect, a district nurse) but these also added additional reasons, either social/sport activity or time saving. Another parent gave two reasons, the carer role and to extend her employment prospects.

One of the eleven 'two/more' car households gave three reasons which were, firstly, employment (husband) who has a window cleaning business. Secondly she described her family as *"spontaneous in their decision making"* not practised in having to plan journeys on public transport. The third reason was family holidays. Two interviewees gave multiple reasons to explain why a car is essential to their lifestyles. One of these is a rural dweller with no alternative transport: *"Our lives couldn't operate without cars. We just can't operate at all"*. The second said, *"All sorts of reasons"* listing social, family illness, shopping, employment (self) which was informal dog training and sometimes helping her husband in his business. A tenth parent is an amateur football trainer who bought a second car for carrying equipment to matches. Apart from the sport activity he believed the family could manage easily with *one* car. An eleventh thought that she would have to adapt her lifestyle quite a lot, but *"life would be manageable without one"*. The two essential reasons she gave for owning a second care were for shopping and the role of carer.

5.15 Interviews: Parents' Feelings Towards Public Transport

The section on public transport in the interview schedule collected information from the parents' sample (n=22) about usage of and attitudes towards public transport. The findings from the analysis of attitudes are reported, beginning with the four parents from 'no car' households. Within this group, attitudes varied but not about the principle of using public transport as a travel mode. Three of the four mentioned the quality of service as an issue. Three thought using buses was cheaper than running a car. Interviewee No.1 reported a very good service because she has buses that run every ten

minutes. She is happy to travel by bus and had no complaints. Her children have always travelled on buses and although one suffers travel sickness, *"Apart from this they don't mind really"*. Another complained mildly:

Q. *"Do you think there are any disadvantages to travelling on buses?*
A. *Only if they don't run on time.*
Q. *What about the trains? Any disadvantages to travelling on trains?*
A. *If they're late as well"* (Interview No. 11, 'no car' household).

Interviewee No.9 is positive about public transport in general but despairs at buses that do not run on time, are inconsistent and make him late for work:

Q. *"Do you travel on public transport, buses and trains now?*
A. *Yes, I do. To be quite honest with you, I have always been a firm believer in public transport. It is a pity that the Government doesn't believe in public transport too...* (later in response) *you wait for a bus and they all come at once"*
(Interview No. 9, 'no car' household).

Another parent criticised vociferously:

Q. *"I noticed that you ticked on your travel diary that you were unhappy with the way you travelled for any of your regular trips. Have we covered what you meant?*
A. *I think so, it's basically they just keep messing the buses around– they keep messing the times around, the routes around. That's basically what I meant by that.*
Q. *You could do with better bus services?*
A. *Yes. I feel it isn't passenger transport any more – it's bus company transport. They don't seem to care about passengers"*
(Interview No.12, 'no car' household).

Regarding the attitudes of the seven parents from 'one car' households, two are single parent families (s-p-f), who do not use public transport and would not like to. The reasons given for not using were: time pressure, having to wait for buses and unreliable services. They had *"rarely"* used it previously. Four of the 'one car' households use buses for some regular journeys but have a mediocre attitude towards them. They had issues about the quality of service as well as other matters.

A. *"Apart from the fact you pick up all sorts of germs like coughing and sneezing and you can't always get a seat"*
(Interview No. 21, 'one car' s-p-f).

A. *"You can't always rely on them for time, they could be crowded with secondary school children and I had issues one time with language and swearing. Trains and buses aren't always very clean"*
(Interview No.7, 'one car' two parent household).

Of the eleven parents from 'two/more car' households, four had seldom used public

transport in the past and did so infrequently at the time of the fieldwork. Two of these were not in paid employment and lived within walking distance to one form of public transport. A third would like to use it at times, saying, *"I would feel happier environmentally if we did more shared journeys, used public transport more often."* Her husband would not travel on public transport. A fourth lives in a rural area with no trains and few buses. Seven interviewees from 'two/more' car households had used public transport and five supported the principle of using it but three preferred trains. One uses public buses to travel home but would rather travel on trains. Two shared the view that more people would use public transport if services improved. One of these rarely uses them now and her children do not like buses. Another parent likes the convenience of her car although was not critical of public transport. She travelled on buses and trains four times a year motivated by a desire to provide her children with wider experience of transport. Another also likes the convenience of her car but uses trains on a monthly basis. However, she is critical of buses having suffered a bad experience with overcrowding when her children were small, *"it was not a pleasant experience so I didn't do it again."* A seventh had a mediocre attitude. Before the family became a two car household she used to travel on buses regularly. Her opinion of them is that they are unreliable and inconvenient.

5.16 Discussion: Socioeconomic Status

The vagaries of census data in measuring economic deprivation were highlighted in this study. Differences within some postcode districts were found to be as great as those between, therefore pockets of prosperity or deprivation exist which are not obvious from the ID classification. The interview with a key person at Sowerby village (ID 3,775) revealed that the district around the school is relatively deprived with 29% of pupils allowed free school dinners. Some pupils live in a housing association estate in the rural setting. In the diary set sample, the school with the lowest index, St. John's, had more pupils from 'three or more' car households than from 'no car'. Households with children may be more likely to have one or more cars, hence those included in the research may not be representative of others residing in the districts. However, these anomalies are not explanatory for the differences found in the children's attitudes towards transport modes across car ownership categories. This is an important finding highlighting that the potential effects of multi-car ownership can extend to children from all socioeconomic groups.

A household may become 'three car' when an older sibling gets a car which potentially increases the availability of vehicles. The respondents in the author's research belonged to a family unit but NTS data includes cases in which friends who share a common address are also classed as a 'household'. The 'three car' household still reflects three adults who each own a car therefore the car ratio is the same. Some skilled manual workers have potentially high earning power to afford a second or third car but may not necessarily live in affluent areas. There are a number of reasons why lower income groups have access to several cars. One is that the *quality* of the car is a factor, for instance, owning smaller or older cars. Of those in the lowest income group, 46% have cars over ten years old (DfT 2003b). The cost of new and second-hand cars has decreased and although petrol prices have risen, the running costs of motor vehicles have risen less than the cost of living since 1980 (Hibbs 2000). Access to a 'company car' is possible for skilled, semi and unskilled manual workers such as builders and taxi drivers. This enables greater usage of the family car by a spouse. The incomes of such households may be similar to neighbours devoid of such 'perks'. Some Asian communities in Bradford and Halifax have two three or more cars because of a tendency towards permanent or casual work as taxi drivers to supplement low income.

5.17 Discussion: Children's Attitudes Towards Transport Modes

An analysis of attitudes towards transport modes has shown that children's feelings vary according to the number of cars in a household. Most noticeable are the differences between children from 'no car' and 'three car' households but the effect on feelings rises across car ownership categories. A conclusion is that 'cars in household' is an explanation of feelings towards four transport modes: as car ownership increases, so does strength of feelings towards cars. This is reversed for public buses. However the observations regarding walking and cycling did not follow this pattern. The differences were mainly applicable to children at either ends of the car ownership spectrum. One reason why *some* children from 'three car' households favour cycling more than those in other categories could be the sense of freedom and independence offered. This provides an outlet for liberty not available in situations when so many journeys are made in cars and of necessity with a parent. Low incomes may reduce the availability of cycles to children living in 'no car' households, and therefore they do not get the chance to appreciate them. 'Lack of experience' may also explain why children living in 'three car' households have less fervour for walking. This was a topic

discussed in Chapter 4 in relation to adults. If satisfactory, this explanation serves to underline how 'travel experience' varies according to the car ownership status of the family.

The division of respondents into four attitudinal categories identified a wide variation in feelings towards transport modes and highlights that *what children do* is not necessarily in harmony with how they feel. In a survey of parents and children Barker (2003) discovered that 47% of 1006 children taking part in the research were not involved in making the travel decisions in their household. Only one child chose car exclusively: 'No' could not *live happily* and 16% only felt this for cars. The author suggests that these children best deserve the title 'car cultured'. However, the remainder felt equally strongly towards other forms of transport and the wide variation of 'car dependence' in adults, as noted by Goodwin (1995) is evident in children. Approximately 40% chose cars in conjunction with an active mode, often walking. Almost the same proportion chose car with one form of public transport and the 'multimodal' have a strong tendency to like walking. The attitudinal section on questionnaires produced a simple, unbiased scale although this is not always a straightforward exercise. Friedman and Amoo (1999) discuss ten ways a scale can be unintentionally biased. Several examples are: problems with the category labels, response alternatives, making implicit assumptions in the question and forcing a choice on respondents. They conclude that researchers need to be especially careful if the findings are to be used in important decision making (Friedman and Amoo 1999). With regard to the four attitudinal categories developed from the scale, as pointed out in Chapter 3, further statistical testing such as cluster analysis is necessary before any conclusions are reached regarding the usefulness of this classification.

A benefit of dividing respondents according to degree of car culturedness is that, by focusing on the differences, it is clear that one strategy alone is not enough to change travel behaviour (Jensen 1999). The work of Anable (2005) is relevant as it emphasises that the principle of segmentation of populations is useful in identifying whom to target and which interventions are likely to be the most effective. Anable (2005) identified six distinct groups of adults and named them according to their characteristics. An objective was to assess whether the groupings had predictive value with respect to travel behaviour, that is, could they predict the use of alternatives to the

car, for day trip travel. A criticism of Anable's work is that the sample, day trip visitors to the National Trust, are not typical of all day trip travellers. It is likely that they are from the more affluent socioeconomic groups therefore the findings only apply to this section in the community. Comparisons should be made with the findings of samples drawn from a broader range of socioeconomic groups, for instance, sampling from the day trippers who frequent other venues such as seaside resorts like Blackpool, Lancs.

5.17.1 Discussion: Parents' Attitudes Towards Transport Modes

An analysis of the parents' questionnaires was frustrated by small subset sizes limiting conclusions in some tables but the trend clearly follows the pattern of the children's data. Regarding the findings from the analysis of the 'comparison set' (feelings towards transport modes of a parent and child residing in the same household). A conclusion is, the children's views were not diverse from parents. Although the low correlation values suggest response differences, these required further investigation. Few children responded with the opposite view to their parent and the differences between parties rested upon the midway response, 'some of the time'. A point highlighted in Chapter 3, it is not known if parents answer the types of questions on the attitudinal scale in a more reserved manner. Therefore the difficulties of making comparisons *between adults and children* of this age made the findings of the comparison set inconclusive. Nevertheless, the findings *between car ownership categories* in the comparison set were consistent with the findings of the analysis of children and parents *as separate groups.* A notable difference found between children and parents *as separate groups* is that regarding walking. This finding suggests that fewer adults in the next generation, will favour walking. In order to make a firmer conclusion, a longitudinal study following this cohort or else a cross-sectional study of teenagers is required.

5.18 Discussion: Process of Attitudinal Transmission

Maternal attitudes are one mechanism of influence on children. Of importance is *how,* the *process* of transmission from mother to child. The statistical results established the direction and extent of differences (level of car ownership). The nature of differences became concrete from children in focus groups and samples of mothers at interview (greater willingness to use public transport, anticipated car usage). However, the *process* of transmission is not ascertained from the statistical results nor from the dis-

course. Both of these have enabled theorising as to the likely answer to the 'how' question. Clearly this is rooted in *what children know* but how they *come to know it* may be the result of either one or both of two mechanisms. Children who feel they could not live happily without car travel may have developed this attitude independently because they like car travel. They reside in a home with a parent/s who shares the same view but this is because of mutual enjoyment. Alternatively, constant exposure to a parent/s who has strong feelings towards a car may also be responsible for the formulation of the attitude in the child. Children from 'no car' households have fewer opportunities to realise the benefits of car travel but they too may be in close contact with a parent/s who has no strong feelings about cars. An important conclusion is that *experiences within households* have a bearing. Whether it is the experience of being in close contact with an adult role model who holds a particular attitude or the experience of sharing the same travel modes. The former refers to modelling an adult, the latter to gaining exposure to a travel mode thereby the opportunity for an attitude to develop.

5.19 Discussion: Differences in Attitudes, Focus Group and Interviews

Chapters 6, 7 and 8 report the findings regarding *external* influences acting on children (education in schools, the media, peer group pressure). These act on children from all levels of household car ownership. This may explain the low correlation in general between children's feelings and the number of cars in household. Those from 'three car' households are likely to have stronger feelings towards cars than those from 'no car' but there are overlaps and commonalities between all children. For instance, 50% of children from 'no car' households feel they could *not live happily without* cars so clearly the children in this subset vary in their views. However, the findings from the focus groups and interviews revealed subtle but nevertheless identifiable differences in the attitudes of a small sample of children and adults which distinguishes these from others. One of these relates to the perception of the children from 'no car' households regarding future usage of a car. The interviews with parents from these households also revealed differences regarding how they envisaged a car in their household would be used. A single parent thought learning to drive useful for future employment, but other potential usage related to family days out or emergency situations. There is acknowledgement of the benefits but for particular purposes. Attitudes towards public

transport also varied according to car ownership. Although the 'no car' children had grumbles about public transport there was a greater willingness to use it. Cars were not chosen as 'favourite mode' by many and public transport was a more popular choice for children from both 'no car' and 'one car' households. Conversely, children from 'two/three car households' were very critical and revealed higher expectations particularly towards buses. Regarding parents, the main complaint of the 'no car' households was the management and quality of service or lack of convenience compared with a car. Complaints by many of the car owning parents were broader based. Late running and unreliability were mentioned but the behaviour of other passengers, cleanliness and overcrowdedness were additional issues. The travel mode/s individuals (parents and children), have become used to in their daily lives may explain subtle differences in attitude. Those from 'no car' households are likely to get more experience of public buses.

Only small subsample sizes were available for inclusion in focus groups and interviews and this raises the issue that only those with particular views may have been studied. This automatically places limitations on generalisability. Although the statistical results have established the direction and extent of differences, there is no concrete evidence that the suggested reasons for differences, apply to larger samples in these subsets. An obvious deficit is that only one interview was undertaken with a parent with 'three or more' cars. Additional research involving more interviews and focus groups is required to discover if these are the only differences. In a review of maternal influence on children's health behaviour, Tinsley (1997) discusses the variety of ways in which a mother's beliefs and behaviours were found to be transmitted to children. These were considered in relation to the findings from a range of research projects investigating this.

5.20 Discussion: Parents' Timekeeping Values

A mechanism likely to be formative on children is parental timekeeping values. Kostelnik, Stein, Phipps Whiren and Soderman (1988) outline how children learn the values of society from parents: through direct instruction, observation, reward and punishment. They discuss how children learn the cultural meaning of time. One way is when parents organise events into predictable sequences or daily routines, 'the daily

schedule'. The arranging of blocks of time into a predictable pattern, a routine, develops expectations of behaviour from children so that they know how to function within a group schedule. Within the sample of parents interviewed, the individual circumstances of households diverged in a number of respects: financial, family size, occupations, school attended, place of residence and travel mode/s used. However, a common thread united most of them. This was that as working parents they have busy lives which incorporate daily routines and time schedules. A factor identified was the opportunity provided by household routines and habits for children to learn family values about timekeeping in relation to travel. Examples of explicit and implicit messages based on verbal and non-verbal actions or behavioural changes by parents were described. The evidence that children were aware of parents' busy lives became apparent during focus groups when at times their graphic descriptions displayed realisation of the pressures of modern living, having a job and a family to care for. The amount of perceived time pressure varied as did the processes by which this was communicated to children. Although some children may want to travel by car out of laziness or peer pressure, others had learned to regard the car as a timesaving device in relation to future employment and other adult roles. This finding holds for children who do not share a car to school with a parent travelling on to work because the mechanism operates in homes not reliant on car travel.

Elkind (1981) was concerned about the pressures on children to grow up too fast. Parents play a role in *"the hurried child"* syndrome by inter alia, creating a conflict between the imposed pace of their own schedules and the pace of a child's life. Further illustration of this is provided in Chapter 8 which reports the children's accounts of why they wanted to learn to drive. Altogether 26 children in 13 different focus groups mentioned an employment related reason for wanting to learn to drive or own a car. Undoubtedly schools also encourage values regarding timekeeping, particularly not being late for school but for children of this age, references to being late for meetings and the consequences for employment must be negligible. Children do not receive careers guidance before the age of 13, which was confirmed during the key person interviews/questionnaires to study schools.

There may be greater emphasis on timekeeping in some homes for instance when both parents are in full-time employment. A phenomenon highlighted by Daly (1996) is the

expanding work ethic which cuts across all socioeconomic groups. An increased emphasis on the importance of work, particularly paid employment is signified by the rising number of hours adults and adolescents spend in the workforce. A decline in leisure time has meant that both men and women experience greater *"time squeeze"* (p.93) and finding a balance among daily time demands has become a necessary survival skill to be learned. It could be argued that two car households are likely to be those in which the adults have greater time pressures because of job status or other commitments. Hence they need a second car to balance the additional time pressures in their lives. But there was no evidence to suggest that those living in 'two car' households had extra demands on their time necessitating ownership of a second car to balance this. Those with 'one car' used the same descriptives as those with two. There is a subjective element to this and factors other than job status may influence amount of free time available to individuals: the number of children, assistance from family members to share domestic responsibilities. Those living in 'no car' households may have increased time pressures because their travel, by walking or public transport is often slower.

The interviews and focus groups enabled insight into *"Time Norm"* (Daly 1996:97), the way that family members talk about time. This served as an important window on their beliefs, commitments, and priorities. Car use for employment featured highly when parents gave reasons why a car is essential to lifestyles, a finding also for Maxwell (2001). Participants weren't asked to place reasons in order of importance but employment was often mentioned first. An exception was a rural dweller who described her overall car use in general terms. The carer role (often to escort children) and shopping were other popular reasons car owning parents gave. Dowling (2000) noted how 18 of 20 suburban mothers interviewed were solely reliant on a car. They wanted to minimise travel time and *"keep to a schedule, goals that were more efficiently managed with a motor vehicle"* (p.6). Using public transport doubled travel time and those with or without paid employment thought this a waste of time and were unwilling to use it. A theme throughout Dowling's paper is the interconnectedness of cars and mothering. She suggests that cars were viewed as an aid in implementing notions of *"good mothering"* by participants in the study.

5.21 Literature Review, Children's Attitudes Towards Transport Modes

There are few attitudinal studies in the literature (children or adults) designed to compare attitudes by car ownership in household. Two of the studies quoted were reviewed in Chapter 2. Cahill et al (1996) found that the car was the most popular transport mode for the sample of children in general although there were noticeable differences in proportions between children in 'car owning' and 'non-car owning' households. The age ranges 9–10 year olds (n=226) and 11-12 year olds (n=498) were similar to the author's and the sample of schools was also selected from a cross-section of socioeconomic districts of Brighton. Meaton and Kingham (1998) researched children's preference for transport mode and the image associations of the following: motor bike, family car, BMW, Porsche, Lada car, Landrover, cycle, train, bus. The overall favourite transport mode for the 140 children interviewed was the motorbike although no percentage is provided for this. The BMW and Porsche cars were second and third favourite. Bicycle and family car were joint fourth, the Landrover, fifth. The train and bus were favourite for two children (one for each). No children mentioned the Lada car. Meaton and Kingham (1998) make the point that preferences varied with age and sex, fewer of the older children favouring the motorbike and 50% more boys than girls did so. Their sample had 80 children *below the age of eight* whereas the author's sample had a narrow band of nine to eleven year olds which could account for the differences.

Sandqvist (2002) also reviewed in Chapter 2, researched familial differences in attitude according to car ownership status. This study investigated the impact of the family car on adolescents' mobility experiences, leisure activities, kin contact, long journeys and so forth. Regarding mobility, the family car did not matter very much for the adolescents. Good public transport and living in a built up area meant that, regardless of car ownership, adolescents enjoyed extensive independent mobility by walking or public transport. However, regarding attitudes towards cars, a family car did matter *"...particularly in relation to child-rearing"* (p.18). Adolescents who had grown up with a family car saw this as an asset for children and held more 'pro-car' attitudes than the 'car free'. A finding which may reflect the nature of the environment, i.e. living in a less 'car dependent' culture, is that adolescents did not view the car as essential to 'the good life', nor ascribe status value to car-ownership. This finding held for all

adolescents, regardless of car-ownership. In Sandqvist's research, the adolescents were of an independent age regarding mobility, therefore, a question raised was: do children learn travel mode behaviour before they become independent? A suggestion from findings of the author's research is that *they do.* The children in the sample of 'no car' households had *already* learned *not* to rely on cars to the same extent as children in the two/three car households. Their views suggested 'car dependency' to be a *growing* reliance on the car. These children reside in households in which a car is not immediately available, therefore have fewer opportunities to become accustomed to daily usage. This was also true for the non-car adults interviewed regarding their perceived future usage. Parents in 'no car' households appear to manage by organising their lifestyles differently and *learn* how to cope. Although not researched, it is likely their mobility is reduced because many social attractions and activities are geared to those who have car transportation. A parent who had to sell the car noticed reduced mobility at weekends and fewer days out with the family. Planning these on public transport, although possible, is troublesome.

A project incorporating the theory of planned behaviour (TPB), Ajzen (1988), is reported by Pilling, Murray and Turner (1998). This involved an intensive short-term educational intervention with the purpose of changing the attitude of young people (aged 12 to 23) in favour of more sustainable transport modes. The intervention did not change attitudes towards public buses. From their findings, the researchers suggest that many young people have had negative experiences, especially of school buses. This is also a finding of the author in relation to younger, primary aged children.

5.21.1 Attitudes Towards Transport Modes, Adults

Ibrahim (2003) reports a study in Singapore which investigated if there were differences between adults from car owning and non-car owning households in relation to shopping trips. The research had a qualitative and then a quantitative phase which Tashakkori and Teddlie (1998) call a 'sequential' mixed methods design. Respondents were residents in decentralised housing estates in Singapore. The composition of the sample: 57% non-car owners and 43% car owners, suggests a greater number of low income households but it is difficult to determine this. This is because the stratified sampling strategy targeted residents by 'Room type' reflecting the housing situation in Singapore. 'Non-car' owners may be parties in one car households without access to

the car or else 'no car' households. The results are based upon 30 in depth interviews and 675 questionnaires, representing a very high response rate of 61.3%. Five travel modes were rated by respondents (car, taxi, bus, mass rapid transit and walk) according to 25 attributes such as 'travel time', 'cost', 'enjoyment'. Higher mean scores on most dimensions were recorded for car owners. In general, the respondents who did not own a car had a better perception of public transport with statistically higher ratings on a number of attributes. Although the researchers felt that the findings could *"probably"* apply to travel for other purposes, the setting for the research makes interpretation to a British context difficult. There is not enough detail about the respondents in the study and little information about the nature of the setting therefore generalising from the findings is not possible.

The evaluation of the effectiveness a public awareness campaign in Kent, 'MIST'[7] is reported by Hodgson and Tight (1999). Questionnaires were completed by a total of 1,252 adults in 1994. For this a comparison of an individual's beliefs about transport mode according to their main mode of travel was undertaken. A finding was that adults who use bus transportation have more positive perceptions than car users - who were very negative about buses. Positive beliefs about travel by car were held by both. From the analysis the researchers suggest that the perceptions of car users may be unrealistic or based on negative experiences in the past. The researchers quote a study undertaken earlier by the Chartered Institute of Transport in which there were comparable findings. Another relevant finding from the work of Hodgson and Tight (1999) is discussed in Chapter 7.

A striking result for Dunne (1984) who studied the choice of transport mode for the journey to work, was the apparent lack of importance of the 'level of service' variables as determinants of mode choice. Conclusions made from the findings were: the efficiency or cost of buses would not effect patronage; car usage is mainly determined by car availability (Dunne 1984). However, the results from the aforementioned are now 21 years old and may not now apply. In a more recent project, Pooley and Turnbull (2000) report the findings of an historical analysis of life histories combined with in-depth interviewing. They investigated, inter alia, attitudes towards modal choice

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[7] The Maidstone Initiative for Sustainable Transport (Hodgson and Tight 1999).

amongst commuters since the 1930's in London, Manchester and Glasgow. These areas had well developed and extensively used urban transport systems at this time. They discovered that contemporary concerns expressed about public transport – were very similar to those voiced in the 1930's! A difference is that in the past many people had limited choices regarding their travel mode. That most men have *always* favoured modes which offer flexibility, privacy, and independence is also interesting. In past decades cycling to work enabled them to achieve this thus avoiding 'public' transport. From the 1960's the car substituted the cycle as an option for maintaining this. A consistent finding over time was that more women than men enjoyed travelling on public transport but this has now changed. The attitudes of women towards public transport have followed those of men with a 20-30 year gap. After examining the modes used in different time periods they conclude that once a mode becomes established, people are often reluctant to change. Pooley and Turnbull's work suggests that 'quality of service' of public transport was not a factor in decision making on mode choice for journey to work.

The research by Dobbs (2005) suggests that this still applies. Questionnaires and focus groups were used in the study which included postcodes and self-report data. Dobbs (2005) found that 82% of the 2,904 women returning questionnaires in North East England were reasonably well served by public transport in terms of distance to and frequency of service. An example is a public service running four or more per hour; 97% lived within 13 minutes of a bus stop. Her conclusion is that the majority had access to public transport but choose not to use it – 74% of women's journeys to work were in the car. Although public transport could well be used intermittently, cars dominated their travel to work patterns. There is a discussion on individualism and attitudes towards transport modes in relation to children in Chapter 8.

5.22 Chapter 5 Summary, Key Findings

- *Parents:* have stronger feelings in favour of walking and weaker feelings for cycling in comparison with 9 to11 year olds. This finding suggests that fewer adults in the next generation, will favour walking.
- *Parents and Children* (9 to11 year olds): as car ownership increases, so does strength of feelings towards cars. This is reversed for public buses.

- *Children:* a majority of 9 to11 year olds felt they could not live happily without car travel. Approximately half felt this for walking and a quarter for travel on public buses.
- *Children* (9 to11 year olds): school bus is the least popular mode, followed by share a car, only 20% felt they could not live happily without.
- *Children* (9 to11 year olds): from 'three car' households are likely to have stronger feelings towards cars than those from 'no car' but there are overlaps and commonalities between all children.
- The possession of two/more cars sometimes extends socioeconomic and geographic boundaries therefore the effects of multi-car ownership are not limited to the more affluent in the community.
- In focus groups and interviews, subtle differences were identified in the attitudes towards buses and the expected future usage of cars, by those residing in 'no car' households. 'Travel experience' is suggested as being explanatory for the differences.
- A mechanism likely to be formative on children is parental timekeeping values. The daily routine provides the opportunity for children to learn family values about timekeeping in relation to travel.
- Research on the journey to work by other researchers provides evidence to suggest that: once a mode becomes established, people are often reluctant to change; for some people, 'quality of service' of public transport is not a factor in decision making on mode choice; there may be fewer women who want to travel to work on public transport nowadays. A conclusion from this is that firm measures are needed to persuade people to use public transport or other modes for the journey to work.

5.22.1 Conclusions: Children's Travel Socialisation, What is the Role of Parents' Attitudes and Timekeeping?

Two socialisation processes that are influential on children's travel socialisation are parental attitude towards travel modes and the daily routine. Parental attitude delimits the range and type of experiences children have access to. A child may be allowed or disallowed access to travel modes, for instance allowing a child to have a cycle or to travel on public buses. Based on the statistical and qualitative evidence showing similarities of attitude and differences between car ownership categories, a conclusion

is that maternal attitudes are one mechanism of influence on children. Regarding the process of attitudinal transmission, *experiences within households* have a bearing, whether it is the experience of being in close contact with an adult role model who holds a particular attitude or the experience of sharing the same travel modes. Those from 'three car' households are likely to have stronger feelings towards cars than those from 'no car' but there are overlaps and commonalities between all children. Additional research on 'no car' and 'three car' households is required to discover if the hypothesised reasons are the only differences. A project designed for one researcher, the author, had limitations which could be overcome by further research. The lower ratio of 'no car' households compared with other categories renders the former more difficult to find and recruit.

During the daily routine children have the opportunity to learn family timekeeping values. The significance of this is demonstrated by the finding that some children view cars as a timesaving device. Time norms and perception of time pressure varies depending on familial employment and other time commitments. Verbal accounts from parents support the conclusion that the primary source of children's learning about timekeeping in relation to employment stems from family life. Although the finding regarding attitudes towards transport modes is restricted to mothers, this is not likely to be the case regarding timekeeping. Many employed fathers also have to observe a time schedule to be at work on time. This does not mean that time pressures are the same for both sexes. Turner and Grieco (2000) describe the differences between them. Because of the additional pressures on women as carers, they are described by the researchers as being, *"time poor"* (p.130).

Chapter Six

Children's Travel Socialisation, the Role of Schools

6.1 Introduction

This chapter presents evidence to support the argument that the school is a source of knowledge and learning in children's travel socialisation. To fulfil the practical objective of the research an evaluation of three schools operating school travel initiatives was undertaken. Initially a 'before and after' design was envisaged, the benefits being the adeptness of this method in detecting and isolating the effects of intervention measures. Unfortunately there were no schools in West Yorkshire available for this. Those with travel initiatives had instigated them well in advance of the research. Therefore a comparison study involving the six study schools was undertaken. Of these, two schools operated walking buses and one was in the Yellow Bus scheme. The three schools with initiatives were compared with three which did not have initiatives. Comparisons were made based upon the quantitative outcome measures: 'levels of walking to/from school', 'attitude towards transport modes' and 'levels of physical activity/exercise outside school hours'. Children gave their views on the travel initiatives during focus groups and the final section of the interview schedule was included to elicit the opinions of parents.

Sections 6.2 and 6.3 provide an overview of *all* children's travel to and from for the eight study schools including travel mode and distance travelled. Section 6.4 onwards presents the findings for the six schools in the evaluation beginning with the findings from the quantitative analyses. The findings from the analysis of the qualitative material collected from children and parents are reported in section 6.9. The final part of the results section presents the findings from the documentary analysis undertaken to gain an understanding of the educational messages contained in the governmental STP promotional literature. This analysis enabled a conclusion regarding the behavioural approach which underpins STPs. A discussion of the results of the evaluation follows this. The pertinent points made by the 'key persons' in the schools which have travel initiatives are included. A section at the end of the 'Discussion' is

devoted to the theoretical aims of the project, introducing a relevant sociological theory regarding the school as a mechanism of travel socialisation. A literature review of other evaluations of school travel initiatives starts at section 6.20. The final section is a summary of the key findings along with the conclusions made regarding the role of schools on children's travel socialisation.

6.2 Travel To and From the Eight Study Schools

Table 6.1 shows the travel mode of the 357 pupils who attended study schools. SalterSTS data are included in totals. An analysis by sex of respondent revealed similarities in the percentages of girls and boys who walk or do not walk to school. Inspection of the STS and diary sets revealed an indistinct travel pattern for some, with some children alternating between two modes (walking or car) for journeys to and from school. Some pupils used several modes. This pattern was also a feature of the travel to school by KMC children.[1] One explanation for this is the part-time employment of parents or variable working hours. A parent may walk with a child some of the time and at others drop the child at school or at a neighbours/relative's house for transportation. Another reason may be the mixed availability of a car which is shared by others in the household. The children from households which do not own a car may be given lifts. Alternatively some parents may plan this to ensure that their children do some walking.

Single mode travellers are listed at the top of Table 6.1. Of these, 125 (35%) walk *all of the way* every day. Ninety five pupils travel by car *all of the way* on five days. Only two pupils use a school bus every day and another in combination with walking some of the way. Three pupils use a public bus every day and a further 19 combine bus travel with another mode on other days (these pupils are included under 'Combinations' on the table). None of the pupils travelled by train to school. Most of the 109 pupils listed under 'Combinations' in Table 6.1 use a single mode *each day* but vary the mode on some days. The exceptions are the 18 pupils against 'Several modes' which includes part journeys, for example, car and walk some.

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[1] 20% of KMC children also used two modes for journeys to school, 25% did so for journeys to friends and other places.

The number of pupils who walk *all of the way* to school on one or more days is 230 (64%). Of these, 125 (35%) do so for five days per week. The remaining 105 (29%) (listed under 'Combinations' in Table 6.1): walk *all of the way* for between one and four days as follows: One day: 18 (5%), Two days: 25 (7%), Three days: 25 (7%), Four days: 37 (10%).

Table 6.1 Travel Mode To Study Schools, Pupils Aged 9 to 11 Years

Transport Mode	Pupils	%
Walk five days per week	125	35.0%
Car five days per week	95	27.0%
School Bus " "	2	0.5%
Public Bus " "	3	1.0%
Missing	23	6.5%
Combinations		
Car some days, Walk others	72	20.0%
Several modes: school bus, walk, cycle, car, walk some	18	5.0%
Public Bus some days and Walk others	12	3.0%
Public Bus, Walk, Car	7	2.0%
Total	**357**	**100%**

Percentages rounded to nearest 0.5

The number of pupils who travel by car *all of the way*, on one or more days is 177 (50%). Of these, 95 do so for five days per week. The other 82 (23%) (listed under 'Combinations' in Table 6.1): travel by car *all of the way* for between one and four days. In addition to the 177, 11 pupils who use a car as a part journey (car and walk some) are also included under 'Combinations': One day: 39 (11%), Two days: 18 (5%), Three days: 21 (6%), Four days: 15 (4%).

Regarding the journey home, only minor percentage differences were found in relation to the data in Table 6.1. For instance, the number of pupils who travel by walking *all of the way*, on one or more days is 239 (67%). Of these, 119 (33%) walk every day and 119 walk on some days (one missing). There are 180 (50%) car travelling pupils and of these, 81 (23%) travel by car home every day and 99 (28%) on some days. The proportional split in days for both walking and travel by car is very similar. Only two pupils travel home every day by school bus and one does so on some days. Six pupils use a public bus every day and a further 22 as part journey with other modes. No respondents travel home by train or share a car.

The travel modes of children aged 7 to 9 years were compared with those of the older children and were found to be similar in most respects. One difference is the slightly higher proportion of those aged 7 to 9 who walk to school every day (40%). There is also variation in mode for the journey home. Of the younger children 243 (79%) use the same mode. Only 192 (54%) of older pupils do so. This fact is 'hidden' in Table 6.1 because the totals to/from are similar. A change in mode for journey home was identified by an additional variable on the coding sheet. Because a sufficient number alternate between car / walk to or from school the overall total is balanced.

6.3 Travel Distance to the Eight Study Schools

This section considers travel distances by school. An analysis of travel distance by travel mode and *number of cars in household* was included in Chapter 4. Figure 6.1 is a histogram of the distribution of estimated distances, home to school for the older pupils who provided address details (n=337), 94% of the diary set/SalterSTS sample. The line on the histogram shows a normal curve, indicating the spread of travel distances as would be expected in a normal distribution. However, this distribution has a positive skew with a far greater number of pupils living closer to the school, 44.5% travel a distance estimated at half a kilometre.

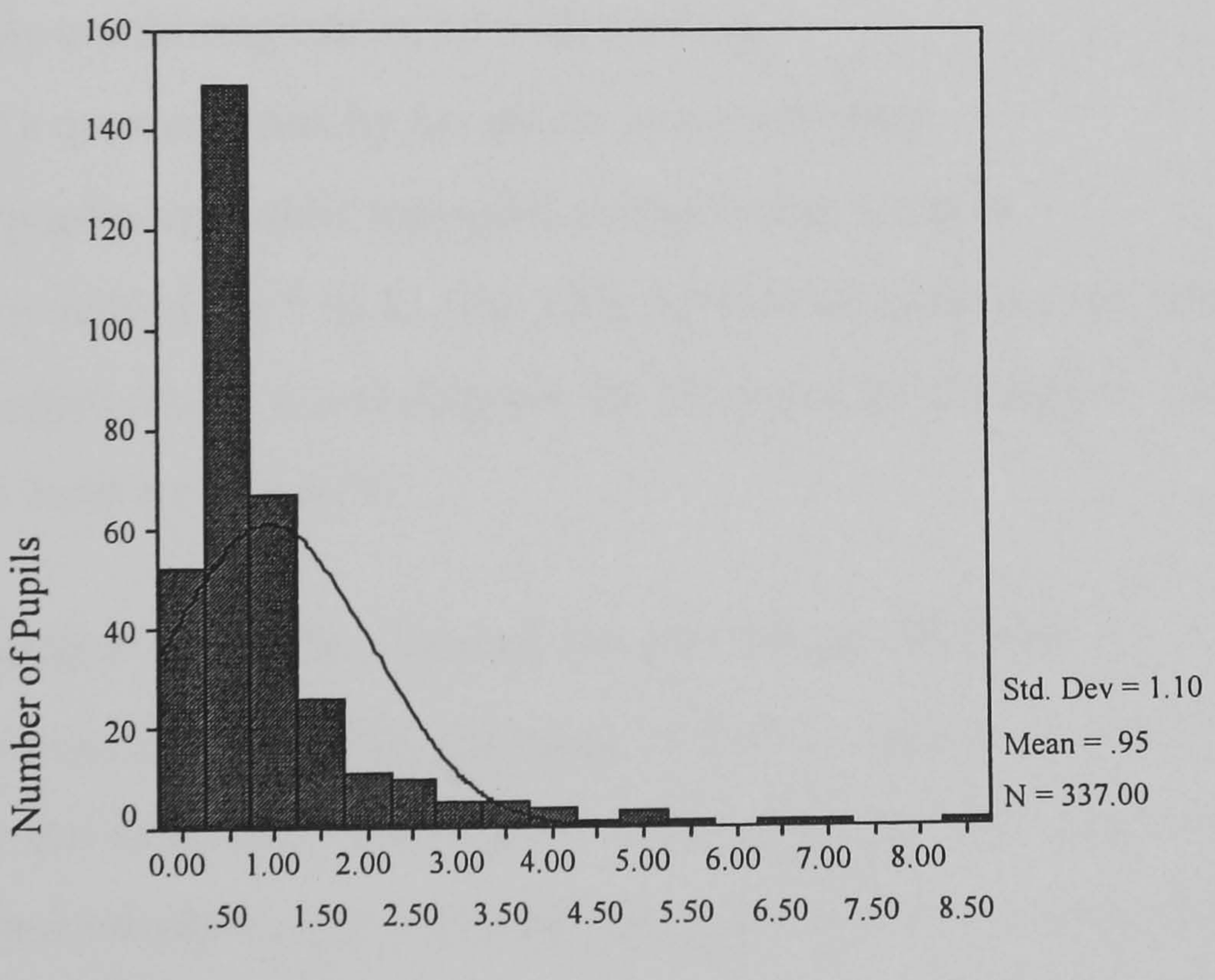

Figure 6.1 Estimated Distance, Home to Study Schools in Kilometres

For all 9 to 11 year olds (n=337), the estimated mean travel is 0.95 km, SD =1.10. The

shortest journey is 0.004km and longest, 8.36km. Thirty four pupils travel over 2km and six of these over 4km. Travellers over 2km attend seven of eight study schools.[2] When the pupils who travel over 2.02km (the 'outliers') are removed, the mean reduces to 0.78 (median 0.56). The following breakdown by school shows estimated distances in kilometres with outliers removed: Weetwood 0.82 (median 0.65), Ireland Wood 1.12 (median 0.75), Riverside 0.77 (median 0.65), Sowerby 0.69 (median 0.32), Salterhebble 0.72 (median 0.49), All Saints 0.89 (median 0.58), St. John's 1.12 (median 1.04) and Mt Pellon 0.51 (median 0.43). As would be expected, estimates for younger pupils were very similar, with a trimmed mean distance of 0.79km (median 0.59) with close similarity for most schools. The exceptions were differences of approximately 0.15 km for Ireland Wood, Riverside and Weetwood but diary set samples are smaller at two of these. When the underestimate of travel distance was taken into account, (discussed in Chapter 3), all travel distances increase by a third. Using 0.78 as the mean, 303 (90%) of pupils travel around 1.3 kilometres to school or approximately three quarters of a mile. This is also the case for younger pupils. A summary of the findings for travel to/from study schools (7 to 11 year olds) is:

- Walking *all the way*, every day of the week, is the most popular travel mode
- Approximately two thirds use *one* mode, around one third use *two or more* mainly combining car travel with walking
- Only a quarter travel by car *all the way* every day
- Few pupils use public transport, school buses or cycle
- Nearly half of the 9 to 11 year olds vary travel mode for the journey home
- The approximate travel distance for the majority of pupils is 1.3 kilometres, or three quarters of a mile.

6.4 Evaluation Schools: Travel To and From School

This section reports the findings relating to the *six* schools in the STP evaluation. It begins with the findings regarding travel distances for the pupils attending the six schools in the evaluation. The mean distance travelled for pupils aged 9 to 11 attending STP schools is 0.91km (with 'outliers' removed trimmed mean 0.75km, n=103) and for Non-STP 1.05km (trimmed mean 0.88km, n=128, 16 missing cases). This is similar to that for younger pupils, STP: 0.88km (trimmed mean 0.75km), Non-STP:1.10km

[2] Pupils who travel over 2km, schools: Weetwood =1, St. John's = 4, Ireland Wood = 7, Riverside = 5, Sowerby = 7, Salterhebble = 5, All Saints = 5.

(trimmed mean 0.84km). When the underestimate of travel distance was taken into account, (discussed in Chapter 3), all travel distances increase by a third. The estimated distances are not normally distributed therefore the statistical test used for comparison was a Mann-Whitney U test. There were no significant differences between types of school (Mw U= 32430.5 p<.969 n=512). This holds for each set of STP/Non-STP. However, the small diary set sample for Weetwood is unlikely to be representative of other 9 to 11 year olds. The finding for younger pupils revealed significant shorter travel distance for Weetwood and comparison, Ireland Wood, (Mw U= 811.5 p<.05 n=94). Table 6.2 lists the percentage of 7 to 9 year old pupils (by school) who walk to/from school one or more days.

Table 6.2 Evaluation: Percentage of 7 to 9 Year Olds, Walk All the Way To and From School

	School	% Walk To	% Walk From
STP	Weetwood	85%	82%
Comparison	Ireland Wood	58%	50%
STP	Riverside	55%	56%
Comparison	Sowerby	67%	64%
STP	Salterhebble	79%	67%
Comparison	All Saints	62%	64%

Percentages rounded to nearest 1%

A noticeably higher percentage of pupils who attend the STP schools, Weetwood and Salterhebble (walking buses) walk to and from school. This is reversed for travel by car to/from school. Table 6.3 shows the percentages of those who travel by car.

Table 6.3 Evaluation: Percentage of 7 to 9 Year Olds, *Car All the Way*, To and From School

	School	% Car To	% Car From
STP	Weetwood	44%	59%
Comparison	Ireland Wood	65%	65%
STP	Riverside	63%	53%
Comparison	Sowerby	41%	43%
STP	Salterhebble	51%	65%
Comparison	All Saints	70%	66%

Percentages rounded to nearest 1%

The data in Tables 6.2 and 6.3 and that for older pupils were analysed in two stages. Firstly by type of school, STP/Non-STP. No statistical differences were found in the data. Secondly the proportions for each set of STP/Non-STP schools were analysed for the younger pupils and for the older pupils. Regarding Weetwood and Ireland Wood, a significantly higher number of younger pupils walked to and from Weetwood school

(to school χ^2 7.847, p<.005 df l, from school χ^2 10.712, p<.001 df 1). This was reversed for travelling by car to school (χ^2 4.378, p<.05 df l). The proportions travelling *from* school were similar to those for pupils attending Ireland Wood school. For the Riverside and Sowerby set, fewer pupils travelled by car to Sowerby. In this case the comparison had a better performance than the STP school. There were no differences between Salterhebble and All Saints schools. In the older children, only two significant differences were found for the STP set, Salterhebble and comparison. These were for the proportions who travel by car *to and from* school in favour of Salterhebble, (to school χ^2 6.320, p<.05 df l), (from school χ^2 4.524, p<.05 df l). The small sample size for older pupils at Weetwood school prevented meaningful analysis.

6.4.1 Evaluation: Travel To and From School by Number of Days

A second stage was to analyse the data in Tables 6.2 and 6.3 according to the *'number of days'* pupils walk and travel by car. An analysis was undertaken by type of school, STP/Non-STP and then for each set of STP/Non-STP schools. A summary of the results for pupils aged 7 to 9 'walk or car travel' *to* school is shown in Table 6.4. The *'number of days'* was not normally distributed for either travel mode, therefore a Mann-Whitney U test was the statistical test used. The 'mean rank' shown in the table refers to the average rank of all the pupils in each type of school, STP/Non-STP (for each school in the sets listed). The first line in the table shows that the average rank for STP schools, walk to school is 161.44, for Non-STP schools it is 146.89. These are not significantly different from each other. Moving down the table, an example of a significant difference for 'walk to school' is Salterhebble compared with All Saints. The former has a mean rank of 54.47 and the latter, 43.66.

Table 6.4 Evaluation: Summary of Analysis on 7 to 9 Year Olds Walk or Car Travel *To* School

To School	Mean Rank		M-w U	P
Walk: STP / Non-STP	161.44	146.89	n.s	
Walk: Weetwood, Ireland Wood	66.16	43.47	882.50	0.01
Walk: Riverside, Sowerby	48.21	61.56	1005.50	0.01
Walk: Salterhebble, All Saints	54.47	43.66	883.00	0.04
Car: STP / Non-STP	144.54	65.40	10230.50	0.03
Car:Weetwood, Ireland Wood	45.73	61.57	984.50	0.005
Car:Riverside, Sowerby	57.17	47.90	n.s	
Car: Salterhebble, All Saints	40.73	54.80	805.50	0.01

n.s. = Not Significant

Table 6.5 is a summary of the results for pupils aged 7 to 9 'walk or car travel' *from* school.

Table 6.5 Evaluation: Summary of Analysis on 7 to 9 Year Olds, Walk or Car Travel *From* School

From School	Mean Rank		M-w U	P
Walk: STP / Non-STP	158.15	150.50	n.s.	
Walk: Weetwood, Ireland Wood	61.39	45.31	978.00	0.005
Walk: Riverside, Sowerby	50.20	58.52	n.s.	
Walk: Salterhebble, All Saints	48.55	48.46	n.s	
Car: STP / Non-STP	58.27	77.61	9923.500	0.02
Car: Weetwood, Ireland Wood	47.48	59.75	1079.00	0.03
Car: Riverside, Sowerby	54.87	51.42	n.s	
Car: Salterhebble, All Saints	46.60	50.04	n.s	

n.s. = Not Significant

The analysis was repeated on the data for older pupils. The significant differences for each set of STP/Non-STP as shown in Table 6.4 or 6.5 did not apply to both age groups. In the Riverside/Sowerby set, the younger pupils at Sowerby walked for a greater number of days than older pupils. It is likely that the small diary set sample for older pupils at Weetwood (n=16) affected the finding for the Weetwood/Ireland Wood set. Nevertheless, higher rates of walking were expected at Weetwood for several reasons. The Walking bus co-ordinator mentioned the very good walking levels *prior* to implementation of the Walking bus, a similar finding to Mackett, Lucas, Paskins and Turbin (2003a). Another is that the travel distance may be shorter and the *quality* of the walk is likely to be better. Table 6.6 shows a summary of the results for pupils aged 9 to 11 'walk or car travel' to school.

Table 6.6 Evaluation: Summary of Analysis on 9 to 11 Year Olds, Walk or Car Travel To School

To School	Mean Rank		M-w U	P
Walk: STP / Non-STP	100.17	108.01	n.s	
Walk: Weetwood, Ireland Wood	30.88	26.82	n.s	
Walk: Riverside, Sowerby	53.27	57.73	n.s	
Walk: Salterhebble, All Saints	45.10	34.88	589.50	0.04
Car: STP / Non-STP	110.58	89.58	3854.00	0.009
Car: Weetwood, Ireland Wood	22.63	30.21	n.s	
Car: Riverside, Sowerby	55.65	55.35	n.s	
Car: Salterhebble, All Saints	34.68	47.61	536.00	0.01

n.s. = Not Significant

The findings for Salterhebble school are positive. Salterhebble achieved higher rates of walking on the measure, *'number of days'* than the comparison, All Saints school. Fewer pupils also travelled by car. Although restricted access at this school no doubt serves to encourage walking, this factor in itself does not explain Salterhebble's performance, otherwise Riverside would have better results. There is parking for teachers at Riverside but very little at Salterhebble and teachers here use public transport. However regarding the journeys *from school*, analysis of the journey according to *'number of days'* showed no significant differences. The number of walkers decrease and car travellers increase in the afternoons for both age groups attending Salterhebble. Interestingly their Walking bus does *not* operate for the journey home. This suggests the parents are using the walking bus when available, otherwise they collect their children in cars.

6.5 Evaluation: Walkers to School

The travel data presented in Chapter 4 revealed significant differences between car ownership level and propensity to walk to school. As the number of cars in a household increases, walking decreases. A pertinent question is: *"Are the two schools with walking buses effective in breaking this trend?"* Analysis on individual schools showed that the trend held for some Non-STP schools, but not STP school Salterhebble. The sample of older pupils at Weetwood school was too small to assess this. Unfortunately expected cell counts less than five appeared in crosstabulations regardless of compressing car ownership categories. Larger samples are needed in order to make a separate conclusion for each age group. However, sample sizes were increased by amalgamating the STS data for younger children, with the diary set/SalterSTS data (n=310).[3] To reiterate a conclusion made in Chapter 4, as the number of cars in a household increases, children aged from 7 to 11 years are less likely to walk to/from, school. An analysis on the amalgamated sample revealed that the association *did not* hold in the two schools with walking buses. The SPSS output for the crosstabulations are shown in Tables 6.7 and 6.8. In both tables, all categories of car ownership are shown first and then collapsed into 'no car/one car' and 'two/three or more' cars to eliminate the expected cell counts of less than five. This finding suggests the initiative is equally effective at all levels of car ownership. The

[3] This total was made up of 'Walkers to school' (n=208) and 'Nonwalkers' (n=102).

socioeconomic status of pupil is not influential on whether children are less likely to walk, but type of school may be influential (STP or Non-STP).

Table 6.7 SPSS Output Pupils 7 to 11 Years in STP Schools (Weetwood, Salterhebble), Walkers and NonWalkers

			Walk to School		
			No	Four/Five Days	Total
No. of cars in household	No cars in household	Count	1	4	5
		Expected Count	1.2	3.8	5.0
			20.0%	80.0%	100.0%
	one car	Count	11	45	56
		Expected Count	13.6	42.4	56.0
			19.6%	80.4%	100.0%
	two cars	Count	15	48	63
		Expected Count	15.3	47.7	63.0
			23.8%	76.2%	100.0%
	three or more cars	Count	6	6	12
		Expected Count	2.9	9.1	12.0
			50.0%	50.0%	100.0%
Total		Count	33	103	136
		Expected Count	33.0	103.0	136.0
			24.3%	75.7%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.032[a]	3	.169
N of Valid Cases	136		

a. 3 cells (37.5%) have expected count less than 5. The minimum expected count is 1.21.

			Walk to School		
			No	Four/Five Days	Total
Revised Cars in Household	No car or 1 car	Count	12	49	61
		Expected Count	14.8	46.2	61.0
			19.7%	80.3%	100.0%
	2 or more cars	Count	21	54	75
		Expected Count	18.2	56.8	75.0
			28.0%	72.0%	100.0%
Total		Count	33	103	136
		Expected Count	33.0	103.0	136.0
			24.3%	75.7%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.270	1	.260
Continuity Correction	.857	1	.355
N of Valid Cases	136		

Although the trend continues in all schools, it is in the Non-STP schools that differences are statistically significant (χ^2 6.474, $p<0.011$, df 1, 2x2 table) as shown in Table 6.8 below. Unfortunately it was not possible to repeat these analyses to measure

the 'minutes spent walking.' Low response by Weetwood and Salterhebble meant that only 19, 'Out of School, Sports & Exercise Diaries', were available for analysis.

Table 6.8 SPSS Output Pupils 7 to 11 Years in Non-STP Schools (Ireland Wood, All Saints), Walkers and NonWalkers

			Walk to School		
			No	Four/Five Days	Total
No. of cars in household	No cars in household	Count	1	18	19
		Expected Count	7.5	11.5	19.0
			5.3%	94.7%	100.0%
	one car	Count	24	42	66
		Expected Count	26.2	39.8	66.0
			36.4%	63.6%	100.0%
	two cars	Count	33	30	63
		Expected Count	25.0	38.0	63.0
			52.4%	47.6%	100.0%
	three or more cars	Count	11	15	26
		Expected Count	10.3	15.7	26.0
			42.3%	57.7%	100.0%
Total		Count	69	105	174
		Expected Count	69.0	105.0	174.0
			39.7%	60.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.030	3	.003
N of Valid Cases	174		

			Walk to School		
			No	Four/Five Days	Total
Revised Cars in Household	No car or 1 car	Count	25	60	85
		Expected Count	33.7	51.3	85.0
			29.4%	70.6%	100.0%
	2 or more cars	Count	44	45	89
		Expected Count	35.3	53.7	89.0
			49.4%	50.6%	100.0%
Total		Count	69	105	174
		Expected Count	69.0	105.0	174.0
			39.7%	60.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.287	1	.007
Continuity Correction	6.474	1	.011
N of Valid Cases	174		

6.6 Evaluation: Attitudes Towards Transport Modes

The attitudinal section of the diary set (or SalterSTS questionnaire) was used to assess if there were differences in the older[4] pupils' feelings towards seven transport modes by type of school attended, STP or Non-STP. This analysis was done, firstly, on four of the study schools: the two with walking buses (Weetwood, Salterhebble) and their comparisons (Ireland Wood, All Saints). For five modes, (train, walk, public bus, shared car, school bus), pupils at both types of school had similar feelings towards these. For two modes, car and cycle, differences were found. The crosstabulation for 'cycle' revealed that a greater number of children attending the STP schools *could not live happily* without cycling, 17%, compared with 34% of pupils at STP schools (χ^2 7.592, $p<0.05$ df 2). The percentages for 'yes' could live happily without were similar: 40% and 35%. For feelings towards 'car', 66% of STP pupils *could not live happily without*, compared with 77% Non-STP. However an expected cell count of less than five in this crosstabulation does not allow a firm conclusion. A pertinent point is that 66% is a fairly high proportion of children regardless of whether the difference is statistically significant. The analysis was then done separately on the STP school Riverside (Yellow Bus) and the comparison, Sowerby school. There were no differences in feelings for any of the transport modes. To investigate if pupils attending Riverside had a different attitude towards 'school bus,' a comparison was made between Riverside and 'All other' schools included in the evaluation. No differences in attitude were found. Another relevant question is: *"Are there differences in the proportions of respondents from STP and Non-STP schools who want to learn to drive, or to own a car when older?"*. No differences were found. The percentages indicating 'yes', 'no' and 'don't know' were almost identical for both STP and Non-STP schools in older pupils. For younger pupils, the proportions of pupils who indicated 'yes', 'no' and 'don't know' were similar in both types of school.

6.7 Evaluation: Levels of Physical Activity

Unfortunately, the shortfall in returned diary sets from two STP schools prevents any comparisons based on the Out of School, Sports and Exercise Diaries. The small and unrepresentative samples from Weetwood (n=16) and Salterhebble (n=3), would not produce results that could be generalised to their school populations. Nevertheless,

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[4] The STS for younger pupils did not include an attitudinal section.

investigation of the performance of the third STP school Riverside is possible. Regarding hours spent on 'all exercise', the mean for STP school Riverside is 8.42 (median 7.36) and for the comparison, Sowerby, 8.86 (median 7.18). A Mann Whitney U test showed no significant differences for any of the exercise subcategories therefore physical activity levels were very similar. No differences were found when Riverside was compared on this measure with 'All other' schools.

6.8 Evaluation: Summary of Statistical Findings

The following conclusions are made based on the evaluation of three STP and Non-STP schools on the output measure: 'levels of walking to/from school':

- The differences found at Weetwood compared with Ireland Wood school cannot be attributed solely to the travel initiative
- The differences found at Salterhebble compared with All Saints school reflect a successful initiative.

Regarding Riverside School (Yellow Bus):

- There were no differences in levels of bus use at Riverside school compared to Sowerby or 'All other' schools in the evaluation.

Regarding the two output measures: 'attitudes towards transport modes' and 'levels of physical activity outside of school hours':

- There are no differences in the feelings towards five transport modes.
- There is a difference of feeling towards 'cycling' in STP schools, a moderately higher proportion could not live happily without cycling.
- Two thirds of STP and three quarters of Non-STP could not live happily without a car. This difference was not statistically significant.
- There are no differences in levels of physical activity for pupils at Riverside compared with Sowerby or 'All other' schools. Levels could not be assessed for Weetwood or Salterhebble schools.

Interestingly, although the evaluation revealed that Salterhebble school had a successful travel initiative, it came second on overall performance regarding pupils' travel modes. The highest walking levels and lowest percentage of car travellers were found at Non-STP school, Sowerby. This applies to pupils aged 7 to 11 years.

6.9 Evaluation: Focus Groups, Walking Bus

The focus groups at Weetwood school provided an opportunity to gather children's views on the walking buses. Sixteen pupils took part at this school but four had not used the walking buses. Two of these lived too close, another too far from the nearest 'bus'. One didn't want to use it. Of the other 12 children, three liked it when they had used them in Year 4 or younger. Two of these liked the social side – being able to chat with friends. One felt safe in that cars gave way to walkers. Two still used it and one mentioned: *"...but I don't really like it. It's a bit boring"*. The other would like to be amongst her own age group, 13 of the 15 children involved were Year 4 pupils. Several others disliked an aspect of it while the remainder had strong grievances especially about timekeeping. Three thought the bus set off too late, arriving only just in time for school. These children preferred to have time to socialise on arrival. One complained of actually being late for school and other members of the focus group gave examples of lateness, *"They're always late, even the leaders are late as well."* Two others did not like their 'bus conductor' described as 'horrible' for shouting at children and being so strict. Another with a different conductor said that the 'bus' did not wait if children 'fell over'. One child did not like walking when it rained. The mum of one pupil used to accompany them but eventually stopped (along with the pupil) because of having to carry younger sisters for some of the route. Two children in Weetwood Group 3 mocked the walking bus, laughing about the bright yellow tabards (vests) the children wear:

A1. *" I don't like the jackets you have to wear as they're just bright yellow.*
A2. *We call them the 'bogey jackets' (voices laugh).*
Q. *They wear those jackets for safety though?*
A. *Yes but it's not very dark though, I think they wear them to show everyone they are part of the 'bogey bus', walking bus."* (laughter)

6.10 Evaluation: Focus Groups, School Bus

School buses were only used by two of the study schools explaining why only 17 pupils in the focus groups had travelled on them. Seven of these attended Riverside (Yellow Bus) although several no longer travelled on the bus. Three others used school buses while living abroad and five others while attending a different school. Of the ten who had travelled on school buses (not including Riverside) five liked the experience and five did not. Socialising with friends (3), being independent (1) or more comfortable than public buses (1) were the favourable comments, whereas vandalism/smelly (3) or

too loud (2) were reasons for not liking them. Pupils at Sowerby school have a private bus for school swimming and occasional school trips. Those who used it gave their opinions. They liked having a bus exclusively for their school as well as being with their friends. On a school trip to Halifax the school bus was overcrowded:

> *"It was really tight with three children on a seat. And then even adults. I think they should have done two young children like Year 3and Year 4 and then one of us. But it was actually two of us and then an adult and it was really cramped. Didn't like it at all"* (Sowerby Group 6).

The opinions of children at Riverside who used/had used the Yellow Bus were augmented with views from pupils who knew of others who had. Chapter 7 discusses the implications of this in relation to peer group communication. Four children liked the Yellow Bus. One thought the bus driver 'nice,' another, liked being collected close to home. Two others liked the 'bright and jazzy colour' or 'Christmas decorations'. The remainder complained about slow journeys owing to the large size of the bus, uncomfortable seats, having to be picked up early, lateness, noisy children and breakdowns:

> ***Q.*** *"What do you think of travelling by the school bus?*
> ***A.*** *It's okay but you have to be up early in the morning and the seats aren't very comfortable"* (River Group 1).
>
> ***Q.*** *"Why did you stop taking the school bus?*
> ***A.*** *Because it's boring, takes too long and was always late"* (River Group 2).
>
> ***Q.*** *"Do you like travelling on the school bus?*
> ***A.*** *They're good, the bus driver is nice"* (River Group 3).

The children attending study schools which did not run a school bus, were asked if they would like to have one at their school. Some children lived too close to school or liked walking therefore would not consider catching a school bus if one were available. Eighteen would like to, mentioning: would be 'fun' (4), socialising with friends (4), saves journey for parent/saves parent's fuel (2), know other passengers (1), independence (1), all pupils arriving together (1), eco friendly transport (2), chance to misbehave (1), pupils at school behave (1), yes provided buses were clean and had CCTV cameras on board (1). Twelve were against school bus travel because of stories they'd heard. They feared: bad behaviour/bullying (5): *"Some school kids take penknives on school buses"* (Sowerby Group 4).

Two children did not like *any* buses, vandalised buses (1), drivers who shout/are mean (1), crowding (1), noisy (1), hot, no windows (1). The theme of socialising, being with friends, having fun with friends is a reason given by some for preferring various modes of transport even the unpopular school buses. At Weetwood several liked walking to school but isolation from friends had become a de-motivator for continuing with the walking bus. Chapter 8 covers the findings relevant to peer culture and travel.

6.11 Evaluation: Interviews, School Travel Plans

The final section of the interview schedule was included to elicit views on school travel plans/initiatives from a sample of parents. A question asked if parents had heard about these; if not a description was read out. Two questions asked if parents thought there would be advantages/disadvantages for each party: child, parent, school in relation to the school the child attends. Seven of twenty-two parents had children who attended one of three schools with travel initiatives: Weetwood (one parent), Salterhebble (two parents), Riverside (four parents). Comments by these are given first. The interviewee with children at Weetwood thought travel initiatives were an excellent idea in general and had no criticisms of the Weetwood scheme but could not use it, *"I just...I wish we could use it."* Her children cannot use the walking bus because she and her husband have to leave the house before it arrives on their road, otherwise they are late for work. She drops them off at school and drives on to her employment.

One of the two Salterhebble parents is critical that her son cannot join the walking bus. This is because only part of the catchment area is included in the route. She feels that children who live in the opposite direction have no crossing patrols and have been *"forgotten about"*. Two other points were made regarding travel initiatives in general. Firstly her elder son attends High school and would like to cycle there along the canal side, a safe route. Cycles are not allowed on school premises therefore he cannot and she disagrees with this. Another is that High schools face difficulties junior schools do not have - young people want independence rather than being told how to travel and the introduction of schemes here is likely to be more problematic. The other parent whose child attends Salterhebble lives close to the school. She works there part-time and so walks with her sons. They have not used the walking bus but could not think of any disadvantages with the initiative.

Two parents at Riverside school live within a five to ten minute walk and are happy to walk with their children. They could not comment on the 'Yellow Bus' because they have not used it but would if they lived further afield. They both thought that any travel initiative which reduces vehicular congestion around the school would be beneficial. Another parent is a school escort on the 'Yellow Bus' at Riverside and had definite views. Hebden Bridge has meandering narrow streets and is hilly. The journey by bus is slow because of its large size and cannot manoeuvre easily. As a result it cannot operate as it should, collecting and delivering close to homes. Late arrival at school is a problem as well as finding escorts (at the time of the fieldwork):

> ***A.*** *"It wouldn't work without the escorts because, and I think they're a little naïve in that, because you cannot put 25 children on a bus and not expect problems with children from different schools. Also the children have to cross roads, particularly to catch the bus"* (Interview No. 5, Yellow Bus escort).

A fourth Riverside parent shares the driving of their son to school with her husband. The times of the Yellow Bus were inconvenient for them and it would be quicker to walk the distance. She is also cynical of any school travel initiatives believing, *"the language of John Prescott is to make women feel guilty"*. Her objection is political and felt that school travel plans were aimed at women who do most school escorting. She described them as an *"anti women"* drive to get women out of cars. Interviewee No.14 would not get involved in schemes which are restrictive on women.

Of the 15 parents whose children attend schools without a travel scheme, thirteen were definitely in favour of them although seven mentioned potential problems to overcome. One had mixed feelings. Another doubted practical viability foreseeing various difficulties which are included in the following. Eleven potential disadvantages which affected all parties were mentioned: children, school, parents. Firstly for children, those who lived a distance from schools may face long journeys. The parent who mentioned this had a child who had spent an hour each way on a school bus. At senior schools there is more homework and long travel time increases demands on young people. Two thought that on rainy days children would sit in damp clothes all day if changing rooms were unavailable. Another thought sports equipment and books would be heavy to carry on a walking bus. Children would lose the opportunity to attend 'after school clubs' if they are collected straight after school. Recruiting volunteers may be a problem for the school. Another foresaw that some children would not be ready when

the walking bus arrived and this would make all the children late. One thought some parents selfish and persuading families not to use cars would be difficult. Two parents thought time pressure and working hours may prevent parents using the initiative. Low take up by parents may come about because parents do not see the value to them if children are dropped en route to work. One parent was aware of this at his daughter's school. Four mothers set up a walking bus and the school found 'off street' parking for car travellers. The walking bus stopped because of 'low take up' and parents persisted in causing congestion:

> ***A.*** *"There's a local co-op with a car park and they've given permission for all the mums to park their cars in their car park and drop the children off at school. They're still coming down the road, parking up, 'bye-bye children', and then doing a three-point turn...It's just that the uptake, the people, they're just not interested"* (Interview No. 9).

Three interviewees thought parents would be concerned about children's safety in that one volunteer could not supervise groups of children near roads on walking bus routes. One parent thought that families living a distance away would not be included therefore continue to drive. A parent who walked daily saw a disadvantage in losing the regular school contact. This provided opportunity to read school notices, and keep up to date with announcements. A similar disadvantage was mentioned: *"We sometimes go and see a teacher and ask how they've been doing. If I wasn't there to pick them up then I wouldn't be able to ask the teacher"*. At the end of the interviews, time permitting, parents were asked if they would volunteer as 'bus conductors'. Several said *"Yes"*. Others had restrictions preventing this such as a rural dweller or mother who drove a disabled daughter to High school in another town. Some employed parents thought work commitments caused difficulties:

> ***Q.*** *"Would you be happy to volunteer yourself?*
> ***A.*** *I would but I start work at 9.00 am so I'd probably struggle really, but if I could sort work out and start a bit later, then yes"* (Interview No. 13).

6.12 Evaluation: Analysis of Content, Governmental School Travel Plan Promotional Literature

This section reports the findings of a 'qualitative analysis of content' (Coolican 2004) undertaken in order to assess the governmental STP promotional literature disseminated to parents, schools and others. A purpose was to gain an understanding of the educational messages contained therein. This work is conceptualised as being a

research task with an empirical component rather than a review activity. Some of the material produced by the DfT [5] and DfES [6] is educational, for instance DfT (2003c) 'School Travel Resource Pack'. This contains information and advice for those organising and developing a STP: posters, information leaflets, OHP slides, notes and booklets. Presentational literature is designed for display at public meetings, open evenings, council meetings, school newsletters, assemblies and notice boards. The analysis reported here examined the explicit and implicit messages and images contained in textual and photographic materials. Findings for the 'School Travel Resource Pack' are given first beginning with the posters in the pack. Table 6.9 shows the central explicit message for each of these.

Table 6.9 Evaluation: Central Messages of Posters 'School Travel Resource Pack'

Poster	Central Explicit Message
1) Vicious circle	safety aspect
2) Reducing congestion and pollution	health aspect
3) Improving children's health and fitness	health aspect
4) Encouraging confidence, independence and road sense	empowerment aspect
5) More time to talk and learn about your area	social/learning aspect

The themes, 'safety' and 'physical activity' are also common to most posters. On page 13 of Transport 2000 Trust (1999), the central messages are summed up and repeated under the heading, 'Why Walk?'. This is followed by six short paragraphs with the memorable subheadings: Active living, Easy breathing, Time to talk, Better road sense, Growing confidence, One less car on the roads. These headings are repeated in the 'Information Leaflets' of the School Travel Resource Pack.

Two implicit messages identified in the posters, information leaflets[7] and booklets were: 'sense of community and collectivity' and of 'involvement and responsibility.' These are achieved through use of language such as the selection of words, repetition of phrases, use of the personal pronouns 'we' and 'our'. The logo **'Better for children Better for everyone'** (bold emphasis) is shown on the front of the resource pack and

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[5] Known previously as DETR. The Department of Health has also produced a publication on STPs, DH (2000b).

[6] See also Transport 2000 Trust (1999).

[7] These are: 'The school journey', 'Our children's safety', 'Our children's health'.

repeated on the base of posters and top of information leaflets. It suggests explicit endorsement for the implicit messages. The two booklets produced by the DETR (1999) and Transport 2000 Trust (1999) were inspected and a simple analysis, based upon 'face value' inspection of the visual images was undertaken. Appendix 3a and 3b contain descriptions of all the photographs in both booklets. Below is a summary of depictions for the 22 photographs featured in DETR (1999):

- 15 show physical activity – children and young people actually walking/cycling or implication of this (seven include adults)
- three show scenes of young people using bus transport
- three show scenes of children who appear to be engaged in activities involving planning (p.14, 21,37, one includes adults)
- one shows young people 'sharing' a car (includes adult).

Generally the photographs in the booklets reflect the same messages as in the posters/information leaflets. In the latter this is achieved through the use of language, whereas in the photographs, visual imagery is used. The following implicit messages are suggested by the photographs:

- Sense of *activity*, both physical and mental.
- Sense of *community and collectivity,* being together emphasised (walking, cycling, working, learning, travelling on transport together).
- Sense of *involvement and responsibility,* particularly in the nine photographs which include adults.

6.12.1 OHP Slides and Notes

The OHP[8] slides provided in the 'School Travel Resource Pack', DfT (2003c), are intended for use as supporting information for the posters and information leaflets. Presenter's notes for use with OHPs are provided which expand on the key points shown on slides. Slides 1A–3B (n=10) present the reasons for and benefits of, STPs. An additional message not apparent in the posters or information leaflets is introduced by the OHPs. This emphasises a practical benefit for parents: 'Parents spending time driving to school'. It is introduced on OHP 1 and is expanded on in OHP2E and 3B. The points made on OHP 1 are shown below:

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[8] Individual OHPs can be selected from the full set of 19, according to length of presentation and audience type.

OHP 1, WHY SCHOOL TRAVEL PLANS?

- Children miss the daily exercise that walking and cycling to school can offer
- In busy traffic, children are exposed to more fumes inside the car than outside
- Children lose the opportunity to become independent and travel with friends
- Parents have to spend time driving to school.

Each of the points in OHP 1 is expanded in subsequent OHPs (1A-3B). A noticeable feature of these is the repetition and re-wording of one of the ideas shown on OHP 1 regarding 'levels of exposure to pollution'. This idea is reiterated several times on two OHPs and Notes: Health and Fitness (OHP2D) and Benefits for Everyone (OHP 3B). Examples are:

> *'In congested, slow moving traffic, pollution levels can be 3 times higher inside cars than outside' (OHP 2D).*
>
> *'—in fact in traffic jams, cyclists and walkers have the lowest exposure to pollution' Notes (OHP2D).*
>
> *'Cleaner air benefits the whole community, and especially children who are more susceptible to the effects of pollution'* (Notes OHP3B).

Likely explanations for the change of wording and repetition are: to increase the understanding for parents/audience of all educational levels; to reinforce the central important message; both of the above. The OHPs share the central messages identified in the posters and information leaflets, the most prominent being health and safety along with the empowerment social/learning aspect of STPs. The theme of physical activity is also common and featured in seven of the ten sets of notes for the OHPs.

6.13 Discussion: Evaluation, Main Findings

An analysis of travel mode to and from school revealed significant differences for Salterhebble, a school with a walking bus. This suggests there is potential for STP schools with walking buses to be effective. However, two important points must be made. Firstly the schools in the sample were self-selected. The three with travel initiatives were recommended to the author and therefore may be a biased sample because good results were expected, albeit this was not the case for Riverside. Another point is that the evaluation did not include the implementation and practicalities of running such schemes. A bi-yearly monitor of all local education authority and independent schools in York showed that in 2004, 60% of primary children were walking to school. This council have been proactive in tackling traffic

congestion and establishing school travel initiatives. However a report[9] in 2001 regarding the progress of setting up walking buses is not promising. The council had approached nine schools because of either reported traffic problems or they had expressed an interest in a scheme. Lack of support meant that only one of the nine schools established a walking bus and walking had always been popular in this school. The 'Discussion' section states that *"the Council's lack of success in setting up walking buses mirrors the experience of most other local authorities..."*. From regular contact with neighbouring and other local authorities (LAs), it had been learnt that *"our experience of lack of interest from parents is almost unanimously shared"* .

The views of a sample of pupils from Weetwood revealed the practical difficulties in organising walking buses. Routes may be convoluted if home addresses are dispersed and this adds to walking distance, potential lateness and monotony of journey. Some children are excluded because not all streets are covered. As children become more independent by Year 5 and 6, they find it less appealing, a finding also of Mackett, Lucas, Paskins and Turbin (2003c). However children leaving the bus because they have outgrown it is not an indication of failure. If they have learned sufficient road safety skills to continue independently this is a successful outcome. Mackett et al (2003c) discuss the beneficial health effects of walking buses but the longevity of these schemes is doubted. For the evaluation, statistics were compiled on the numbers of pupils using walking bus at Weetwood and Salterhebble schools. A difficulty of analysis was that over time, size of school intake changes and falling school numbers cause unreliability of results. Another is that a large percentage of pupils at Weetwood school have always walked to school. Travel distances are shorter as well as the physical geography being more appealing for walking. Weetwood currently has four walking buses and at least one has operated for four years. They appear to be thriving and since the research began the school has produced a written travel plan incorporating them. Even so there may not be a ready supply of 'bus conductors' therefore choosing these on the strength of social acceptability to the children is not an option. Safety concerns necessitating strictness are likely to be paramount for adults

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[9] Survey undertaken as part of Local Transport Plan, Johnson, D. (2001) York School Travel Survey Report. This was previously available online: City of York Council website.

with responsibility for escorting *15* children. Kearns, Collins and Neuwelt (2003) highlight that a drawback for children is the formal nature of a walking bus compared with unstructured walking. Escorting in this way maintains the power dynamic imposed by car travel in that children are still under parents' control. A view expressed is that it is the children who are being restricted rather than imposing control on traffic, a similar argument to Hillman, Adams and Whitelegg (1990). Nevertheless a concern voiced by some parents at interview was that insufficient numbers of adults are supervising pupils along the routes. The key person interviewed at Weetwood is a paid employee of Leeds City Council's Road Safety Department. Her hours include time spent co-ordinating and 'conductoring' the walking bus.

The author joined a walking bus in another school administered by Wakefield City Council that also had a paid worker. This had short term funding in order to introduce the scheme and gain co-operation of parents. Mackett et al (2003b) points out that mothers who escort children tend to end this once their own child finishes school or leaves the walking bus. Ongoing difficulties in recruiting voluntary escorts on the Yellow Bus was a problem mentioned by the headteacher at Riverside school. Without escorts the bus cannot operate as intended by collecting and dropping off children on doorsteps. Since the initial meeting with her there had been a development, a number of parents can now claim reasonable expenses for their time (£100 per month) which has alleviated difficulties. A general conclusion from an analysis of the governmental STP policy is that parental support is vital to the success of travel initiatives operating in primary schools. Parents play an important role in supporting schemes, firstly, by allowing children to join them and secondly, some are needed as volunteer escorts.

6.14 Discussion: Analysis by 'Number of Days'

A finding from the analysis of school travel is that walking all the way every day to school is the most popular mode for both age groups (35% of older, 40% of younger pupils do so). The figure increases to average 64% if those who walk on *one or more days are included* which highlights the amount of walking to school by many of those surveyed. This is a conclusion of Davis (1998) Dixey (1998) and Pooley, Turnbull and Adams (2005). Pooley et al discovered that approximately half of ten year olds in

Lancaster and Manchester still walk to school, with more doing so from time to time. Pooley et al (2005) note two factors which have changed since the 1940's: parents' perception of risk and also the complexity of arrangements made to chaperone young children to and from school. A finding of the author's research is that approximately a third of 7 to 11 year olds have a complex travel pattern, combining walking with car trips hence they learn to use cars sensibly. Nearly half of all older pupils vary their travel mode for journey home. This raises a technical issue regarding the impact of 'hidden' data which requires attention because of potential measurement discrepancies of approximately twenty percent. Comparisons which rely on the overall proportion of children walking or travelling by car may mask true differences (Baslington 2008). At the time of the fieldwork, nationally 53% of children walk (DfES 2003) therefore Salterhebble and other study schools performed better than this. However, when the variable *'number of days'* was employed in the analysis, differences between schools were detected that contributed to the conclusion that a walking bus initiative is working successfully in one school based on a quantitative measure.

6.15 Discussion: Attitudes Towards Transport Modes

The author's evaluation of schools showed that attitudes towards transport modes at STP schools are similar to those attending comparison schools, with two possible exceptions. The first difference refers to the proportions of pupils who felt they could not live happily without a car. A lower percentage of pupils who attend schools with walking bus feel this. However a cell count of less than five in this crosstabulation does not allow a firm conclusion. A pertinent point is that the percentage (66%) is a fairly high proportion of children regardless of whether differences between types of school are statistically significant. The second difference, feelings towards cycling, is unexpected given that the initiative at Salterhebble school is a walking bus. There is no concentration of children from three car households at this school.[10] This result may be due to an unknown factor relating to the school or pupils or else it could be one of the five odds in a hundred, when an incorrect result is produced at the ninety-five percent confidence level.

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[10] A finding in Chapter 4 is that some children from three car households have greater enthusiasm for cycling.

The 'key person' interview/questionnaire at the STP schools revealed that no additional education to complement the travel initiative is provided. Environmental education in general is covered by PSHE (Personal, Social, Health Education). These lessons are incorporated in the national curriculum for all children in primary/junior schools although there may be variation in the amount of coverage by individual schools. During focus groups some children from Non-STP schools talked about pollution from cars. This may explain why the attitudes of children attending the STP schools are very similar to others. The overall pattern of findings suggest that the walking bus at the two schools fulfil a functional role and provide a service for some parents. They reduce vehicular congestion around the school and raise awareness about walking. Although these are beneficial, they do not appear to be influential on *changing* children's attitudes, nor their future aspirations of learning to drive/own a car.

6.16 Discussion: Location of Schools

A finding of note in the author's evaluation was that a school with no travel initiatives, Sowerby, actually performed better than Salterhebble school. The headteacher here was surprised and could not suggest reasons why. She invited further research to investigate if the rural setting has a bearing. During recruitment of schools the deputy headteacher of another rural school suggested that the location means they are less likely to need STPs. He had experienced differences in parents' attitudes compared with those in urban environments, the latter extending fewer freedoms to their children. This natural advantage which encourages more walking in some schools may exist alongside a social one. The STP Officers employed by four councils in West Yorkshire made the point that schools with travel initiatives tended to form in affluent districts.

Some catchment areas may have other disadvantages. Cycling and walking are not as appealing in hilly terrain. The headteacher at Riverside believed that a strong contributory factor for low take up of the Yellow Bus is that a large American bus is negotiating meandering streets of Hebden Bridge. As a result, journeys can take a full hour and some homes are not accessible. Suggestions from participants in the author's research thought this could be tackled sensibly by using mini buses. A change in timetable during the one year pilot made the schedule inconvenient for some parents

resulting in low take up and empty seats. The estimate from the author's research (20 children, not all every day) was thought generous by the headteacher.

6.17 Discussion: The Funding of School Travel Plans

Surprisingly, financial resources were committed by central government when few systematic evaluations of school travel plans had been undertaken. Some schemes are no doubt working successfully but as a national strategy, the inherent difficulties of implementation will reduce overall impact. Not least of these is the problem of recruiting volunteers. It could be said that the walking bus concept is reminiscent of 19th century approach to welfare based on self-help, charity and philanthropism. The 'self-help' philosophy was tied to the values of the day, now far removed from those living in the 21st century. Finance has been allocated by central government to stimulate the operationalisation of plans and this is an incentive for the STPs which only require on site improvements. However one reason for non-implementation of STPs is a shortage of local government finance to cover expensive infrastructure developments (pelican crossings, off-road walkways, lanes for cyclists and so on). During the recruitment of schools, one local authority in West Yorkshire was found to have over 50 written STPs. These remain inoperative, inter alia, because vital engineering work to create safe routes is needed. This is a fundamental requirement in extending STPs beyond a paper exercise. According to a source in the council, the estimate for being able to afford and launch the STPs is three per year. Chapter 8 discusses the emotionality aspect of the 'school run', which makes it difficult to persuade some parents to allow children to walk/cycle without adequate safe routes. Furthermore, the ambitious target set for producing STPs is disappointing. The lesson from the West Yorkshire council is that the quantitative may take precedence over the qualitative. A comparison with another area of social policy target setting is warranted. League tables for NHS hospitals based on performance measures such as reductions in hospital waiting lists, have not necessarily led to improved patient care.

6.18 Discussion: The Theoretical Underpinning of Governmental School Travel Plan Promotional Literature

An analysis of content revealed that the central messages of governmental STP promotional literature revolves around the health, safety, empowerment and social aspects of STPs. A conclusion is that the educational messages are underpinned by mainstream health psychology's theoretical models for health promotion (see Ogden 1996, Rutter and Quine 2002). One of these models, the theory of planned behaviour (TPB) (Ajzen 1988), states that behaviour is a result of intentions which are based on a combination of attitudes, subjective norms and perceived behavioural control. The rationale is, if a person is educated about the health/other benefits of using alternative/s, the individual's attitude will change in favour of the alternative. Models such as the TPB assume a rational decision making approach by individuals, as discussed by Steg (1999). Critics such as Crossley (2000) and Bunton, Nettleton and Burrows (1995), point out that these models are based upon an assumption that individuals 'weigh up' the potential costs and benefits of health-related behaviours, not surprising to Crossley (2000) who notes that these approaches draw heavily from economic theories. Analysis of the STP promotional literature also supports another of Crossley's assertions, that the central modus operandi of health promotion work is the provision of information and practical skills, sometimes disseminated through selected peer or community leaders who act as motivators for the implementation of healthy behaviours. Many health promotion and education interventions espouse the *"information and education"* approach as the foundation of behavioural change (Crossley 2000:38).

A problem raised by Maddux and Ducharme (1997) is that the underlying assumption of such models is that people exercise *"volition or free will"*. This is inherent in the phrases 'planned behaviour' or 'reasoned action' and assumes people are to a great extent free agents (p.148). The author found that some parents were affected by family needs and pressures. Their travel choices were influenced by their role as carers, for instance walking less if accompanied by young children. The birth of a sibling may be pivotal because coping with babies/toddlers while walking with a seven year old to school is tiring. Although some parents enjoyed walking and could manage without a car, family responsibilities made this impossible. Changing their own behaviour also involved changing that of others in the household. If a parent shares residence with

another, some of the decision making is also likely to be shared, for instance in 'one car' households in which two adults both have use of the family car. Therefore making lifestyle changes and altering travel behaviour is not always under the control of individuals who are integral to the household unit. Jopson (2003) points out a difficulty in applying the TPB, in its current form, to car user behaviour, when the choice of an alternative mode of transport is not available. Essentially the TPB ignores the politics and problems of everyday lifestyles particularly in relation to parents.

6.19 Discussion: Socialisation in Schools

Sociologists have studied the ways in which schools intentionally or unintentionally help to shape beliefs and moral values. This is done formally through direct teaching, for instance environmental education teaching about pollution from vehicular transport. The national 'Walk to School' week held yearly was supported by some study schools and this involves formal instruction. At St. John's school, children are awarded certificates for becoming involved. Having a reward system can be productive as was noted by Cairns (1999) regarding a school with a travel initiative: *"the headmistress of Wheatfields Junior School in Hertfordshire reported that merely distributing house points to those who had not arrived by car was sufficient to affect traffic levels outside the school"* (p.300). Children joining walking buses are taught road safety skills. School rules are another example of a direct message. The findings from focus groups revealed that some schools explicitly prohibited cycles on site. Some did not provide facilities for cyclists which had the same effect as a direct order. Children can be socialised in schools through the 'hidden curriculum'. This term was introduced in the late 1960's, see Dreeben (1968) or the work of conflict theorists, Illich (1973), Bowles and Gintis (1976). The concept describes a technique of socialisation which refers to, *"those things that pupils learn through the experience of attending school, rather than the stated educational objectives of such institutions"* (Haralambos, Holborn and Heald 2000:787). The theory is that children learn by example hence it is not about what is said, but what is done during constantly repeated routines. These are culturally specific. Holmes (1998) describes practices which reflect the cultural values and ideology of societies in countries with different social and economic systems. For instance, in China there is emphasis on collectivity and the importance of the group. A daily class ritual in kindergarten is a group visit to lava-

tories. Children learn to coordinate their body rhythms with those around them.

The travel culture of a school is apparent from visual inspection. Of relevance in the study schools was the physical layout, such as the amount of space devoted to car parking or cycle racks. On site observations revealed full car parks (except Salterhebble which does not have one). Many teachers arrive daily at school in cars and lots of parents can be seen dropping children off at the gates. This provides *reinforcement* of mainstream cultural values. Hence, unless there is a culture of 'healthy travel' within the school, the experiences children have are no different to those of the outside world. However there were exceptions to this and two schools offer wider experience of travel. Riverside school has a policy of using local trains for school outings and Sowerby uses double decker buses for weekly swimming trips and local outings. Pupils here liked the exclusiveness of a private bus compared with sharing seats with other schools such as on the Yellow bus. Unfortunately a finding of the statistical analysis in Chapter 5 was that school buses are the least popular transport mode with 62% feeling they could live happily without them (20% could not). The views expressed by pupils in the focus groups mirrored this.

6.20 Literature Review, Evaluations of School Travel Initiatives

O'Fallon (2001) evaluated thirteen walking bus schemes in three schools in New Zealand. Ten per cent of the children in the trial schools used the scheme (on average each of the 112 children used it for around five trips a week). The scheme is described as *"self sustaining"* but the figures given refer to 'after' surveys within five months of implementation. This time period is not long enough for firm conclusions to be made. Because 40% of the 112 children walked to school *prior* to the introduction of the scheme, it cannot be said that the walking levels have come about as a result of the walking initiative. Rowland, DiGuiseppi, Gross, Afolabi and Roberts (2003) examined the effectiveness of having a school travel coordinator at 11 intervention schools, using comparison schools *"10 control schools in London"*. After 12 months, there were increases in the number of schools with school travel plans in the 11 schools provided with a school travel coordinator, but the *"...Proportions of children: walking, cycling, or using public transport on the school journey in these were similar to the 10 control schools"* . They recommend that provision of school travel coordinators should only be

implemented if randomised control trials are included to monitor effectiveness. However, Rowland et al (2003) made comparisons based on the 'proportions' walking rather than by the 'number of days' walked which was found to make a difference in the outcome of the author's evaluation.

An unexpected disadvantage of introducing the Yellow Bus to Riverside school was uncovered by Steer Davies Gleave (2003). They undertook a 12 month evaluation of all the Yellow Bus Schemes operating nationally on behalf of the DfT, (including Riverside). A 'before and after' survey at Riverside showed that pupil numbers initially increased from 5% to 13%, but this was *at the expense* of walking and cycling which dropped during the 12-month period. Car use had returned to pre-Yellow Bus rates by the end of the year. The physical geography of Hebden Bridge is unusual and the findings from other places were more positive. The location of STP schools is the subject of work by Collins and Kearns (2005) who undertook a case study of walking bus schemes operating in 34 primary schools in Auckland, New Zealand. In general they were successful in reducing car traffic and a conclusion was that the schemes offer benefits for *specific* purposes such as having a role in individual and community health. Difficulties in establishing and maintaining initiatives were observed, in particular the recruitment and rostering of parental volunteers. But of major concern was the paradox arising from the *"Unequal landscape of walking school bus activity"*. A high concentration of schemes in areas of socioeconomic privilege meant that deprived districts, those with the highest rate of childhood pedestrian injury, were least likely to have walking bus schemes. Since the initial submission of the thesis in January 2006, the findings from two more evaluations (Cairns and Newson 2006, Neuwelt and Kearns 2006), have been reported in the literature.

6.20.1 School Travel Plans as a 'Car Reduction' Measure

Some researchers have measured the 'car reduction value' of school travel initiatives. Characteristic of these is a wide variation in modal shift between schools. This is also a feature of governmental statistics. The DfT provides estimates from a survey of four LAs reporting an impact upon car travel to school. These are given as percentage reductions: 30%, 20%, 11%, 10% (DfT 2002:9). Cairns (1999) lists percentages from four school surveys: 30%, 30%, 24%, 12%. The report by Steer Davies Gleave (2003) discussed above in relation to the performance of Riverside, provides a confusing array

of statistics with regards to the national performance of YBs but the report adds that not all LAs introduced them as a car reduction measure. A conclusion is: 'the research suggests that the introduction of a 'yellow bus package' of measures can generate positive modal shift away from cars.' Success is dependent upon several factors: locality, attributes of buses, careful routing of services and the relationship with the school. Mackett et al (2003a) found a range of percentage modal shift from 31% to 100% in their evaluation of 11 schools with walking buses.

Not all those who travel by car to escort children to school represent the potential pool for car use reduction. This only applies to those who return straight home in the morning. A national picture of trip chaining and school escorting is available from the DfT (2005). This shows that 57% of women and 53% of men return straight home. The 43% of females (47% of males) who 'trip chain', drop their children en route to other destinations.[11] A sizeable proportion of escorters would *still* be on the roads, a point raised by Mackett et al (2003b). Because of this, the overall car reduction capacity of walking buses is limited but other benefits such as children's welfare and timesaving for parents may be achieved. Hence it is necessary to evaluate these against the objectives set for them by the instigators of the schemes (Mackett et al 2003b).

6.21 Chapter 6 Summary, Key Findings

- A significant minority of children aged 7 to 11 years alternate between walking and car travel for the journey to/from school. This has implications for the way school travel data are collected and analysed. Evaluations based solely on the proportions walking or travelling by car may mask true differences.
- A walking bus was equally effective at all levels of car ownership. This suggests there is potential for STP schools with walking buses to be effective.
- Pupils attending STP schools had similar attitudes towards transport modes as those attending Non-STP schools with the exception of feelings towards cars.
- The views expressed by pupils about school buses mirrored the finding from the statistical analysis – they are children's least popular mode of transport.
- A general conclusion from an analysis of the governmental STP policy is that

[11] Only 18% of females nationally (17% of male), travel to employment after dropping their children.

parental support is vital to the success of travel initiatives operating in primary schools.

- A conclusion from an analysis of the STP promotional literature is that the educational messages are underpinned by mainstream health psychology's theoretical models for health promotion. Problems in applying these to parental behaviour are: individuals may not behave rationally; may not be able to exercise free will because of family needs and pressures.
- The problems identified by the author's research and other evaluations in the literature, have the potential to undermine the implementation, extensiveness and longevity of travel schemes. These were: recruiting volunteers, the social and geographic location of some schools, funding engineering work.
- A general conclusion based on the review is that there is a wide variation in the effectiveness of STPs. Their value as a national 'car reduction' measure is limited and the long-term outcome of any scheme is, as yet, unknown.

6.21.1 Conclusion: Children's Travel Socialisation, What is the Role of Schools?

The travel culture of a school is apparent from visual inspection in and around schools: facilities for walking, car parking and cycling. The socialisation processes identified which encourage or discourage particular travel behaviours include 'rules and rewards' such as not allowing cycles on site, house points for children who walk to school, road safety instruction and environmental education. STPs are attempting re-socialisation by changing travel mode behaviour for the school journey. A benefit is that children gain wider travel experience and those which encompass walking buses provide opportunity for physical activity. Until there is further research investigating the ability of STP initiatives to change attitudes, it is not known if they have potential to do this. Schools can provide children with introductions to other travel modes such as school buses but experiences on these are not always positive and therefore may not have the desired effect. Several topics briefly introduced in this chapter are discussed elsewhere because there are overlaps with other topics. For instance, schools provide a feeding ground for 'peer culture' a topic discussed in Chapter 8. There are opportunities for this to flourish in schools because children regularly interact with each other in classrooms or in playgrounds. If the travel culture within schools is no different to what is learned from other socialising agents, this acts as a reinforcement to other learning.

Chapter Seven
Children's Travel Socialisation, the Role of the Media and Peers

7.1 Introduction

This chapter presents evidence to support the argument that the media and peers are sources of knowledge and learning in children's travel socialisation. The findings regarding the role of the media, sections 7.2 to 7.5 are mainly drawn from focus groups with children. A definition of 'the media' as used in the context of this thesis is: TV newspapers, films, radio, any printed materials: books, magazines, comics, internet, advertisements. The findings presented refer to three aspects in which the media were found to influence children at the time of the fieldwork and these are used to illustrate that children are listening to, and observing from, a source other than parents schools or peers. The three aspects are: TV coverage of train accidents and children's perception of the safety of train travel; children's knowledge and recall of car adverts; the exposure of celebrities and the types of car children want to own when older. In the focus groups, children were asked about their likes and dislikes for five travel modes. Safety issues were raised by some children as a reason for disliking a mode/s and the findings from this analysis are presented first, beginning with public transport. Section 7.6 onwards reports the findings relating to the role of peers and children's travel socialisation. The evidence presented here is mainly drawn from the focus groups with children and the interviews with parents.

7.2 Media, Travel Modes and Safety Issues: Trains and Buses

Altogether 23 children mentioned 'train crashes' as being a reason for not liking train travel. Their responses included the topic of vandalism which makes trains vulnerable to train crashes:

> *"...on the news and that you always see like trains crashing and that"*
> (Mt Pellon Group 1).

> *"There's a lot of train crashes on the telly. Yeah. Faulty tracks"*
> (Riverside Group 5).

Children in nine focus groups,[1] across the five schools, mentioned the crashes in relation to the media coverage of train accidents. These groups were asked: *"Would that put you off travelling by train?"*. For ten children in these, it definitely would, but two others replied with a *"No"*. One of these added, *"anyway I don't really travel on trains much"*. Another pupil was a little scared by the thought of train crashes, *"Normally I don't mind them but do you know all that stuff that's been on the telly about them crashing..."*. Two children had personally experienced an accident. One had been in a train derailment and did not want to travel on trains again. But a pupil whose journey was delayed because an earlier train had struck a car was not dissuaded even after seeing the wreckage at the trackside.

When children spoke about their likes and dislikes for other travel modes, safety issues were also raised. In contrast to the perception some had of rail safety, children had largely formed their opinions from personal experience. The examples which follow are from replies given about public bus travel. Thirty children in 14 focus groups[2] gave responses which highlighted 'safety' issues (10 bus crash/incident; 9 internal accident; 8 no seatbelts; 3 driver competence). Ten had either personally experienced or knew someone, involved in a crash or incident such as coming off road:

> ***Q.*** *"Have you been on a bus when it's had a crash?*
> ***A.*** *Yes, I have. Me and grandma were on bus to Huddersfield and the bus crashed into a car that was in front of it"* (Ireland Wood Group 4).

> *"and the bus driver didn't know that it was a red traffic light and he crashed"* (Sowerby Group 2).

Nine feared an internal accident such as falling downstairs on a 'double decker'. Several others related this to driver behaviour:

> *"I think that the drivers, you know as soon as you get on they just start driving and imagine if you're on a double decker and you want to go upstairs and they just start driving and you can fall back on the stairs"* (Mt Pellon Group 3).

For eight children, not having seat belts was cause for concern: *"I don't like there not being any seatbelts, 'cause they'd be better with seatbelts"* (Mt Pellon Group 1).

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[1] Media coverage of train crashes: Weetwood Group 1; Ireland Wood Groups 2,3,4; Riverside Group 5; Sowerby Groups 1 and 2; Mt Pellon Groups 1 and 3.
[2] Safety issue on public buses: Weetwood Groups 1 and 3; Ireland Wood Group 2,4,5; Sowerby Groups 2-6; Mt Pellon Groups 1,3,4,5.

7.2.1 Travel Modes and Safety Issues: Walking, Cycling, Cars

Six children in the focus groups raised issues in relation to the safety of walking (4 'stranger danger'; 1 pollution; 1 traffic):

> *"You can't go walking on your own in the dark because sometimes – once my Dad went to London and he got mugged and it puts him off walking sometimes in the dark"* (Sowerby Group 4).

Six thought cycling could be hazardous (4 traffic; 1 pollution; 1 falling off):

> *"when on a curve and the brakes don't work, might fall off"* (Ireland Wood Group 5).

Several thought cycles safer than cars:

> *"I think they're actually quite safe because you have your own cycle lane which cars don't go in, if they do you have a right to arrest them"* (Weetwood Group 1).

Of the 119 who took part in the focus groups, 5 disliked cars because of a fear of having a car accident:

> ***A.*** *"There's lots of car accidents all the time, such as if you're travelling on the motorway"*
> ***Q.*** *Does that put you off travelling by car?*
> ***A.*** *Sometimes, yes."*

Another member of the same focus group disagreed:

> *"There are more bike accidents than car accidents"* (Both from Ireland Wood Group 1).

Three children in the groups thought that cars were safer than buses:

> *"Yeah, Miss, and they're fairly safe as well. Miss, 'cause like, if they have seatbelts and the driver has a seatbelt as well"* (Mt Pellon Group 6).

Three children recalled seeing either a car advert or a documentary on TV about impact resistance testing on cars. In contrast to the small numbers who spoke of seeing programmes about safety matters and cars, many had seen adverts selling them.

7.3 Media, Car Advertising on Cartoon Television Channels

During the pilot interviews, a child was asked for her feelings on car advertising. Her reply included a comment regarding seeing adverts on cartoon television channels. To discover if this was commonplace, the focus group schedule contained a question to ask all those who took part. On average, two children in each of 22 (of 27) focus groups had seen car adverts on cartoon television channels such as Cartoon Network and CBBC. Illustrative quotes are:

A1. *"Yes. The Honda and the Skoda adverts, and also Peugeot cars and normal car adverts.*
A2. *I've seen Audis, Peugeots, Vauxhall.*
A3. *Renault Clio"* (Ireland Wood Group 4).

"Yeah, Miss, I've seen them sell right big family Vauxhalls. I've seen the Toyotas driving on the roads" (Mt Pellon Group 6).

A1. *"Yes on the cartoon network they show them.*
A2. *Dixons.*
Q. *Do they [Dixons] advertise on cartoon channels?*
A2. *Yeah, they do. They advertise new makes of cars as well, say there is a new Renault coming out they advertise it.*
A1. *Yeah they show all Vauxhalls"* (Sowerby Group 2).

Q. *"Have you ever seen any car advertising shown on those channels, car advertising between the cartoons?*
A. *Yes.*
Q. *What sort of car advertising did they have?*
A. *I'm annoyed by them because if you're watching say ...(names of show) and if you're favourite song comes on and then they go into a car advert, and it's for all those horrible cars. Ford Mondeo"* (Weetwood Group 5).

The advertising may have an international basis as per this quote from an ethnic minority pupil:

"I've seen an advert for the Mazda 6. I get Arabic TV and they show exactly the same in Arabic as well" (Ireland Wood Group 5).

The children named 19 different makes/model of cars seen on cartoon channels:

"Audi, Citroen Picasso, Galaxy, Ford Mondeo, Honda, Jaguar, Mazda 6, Mercedes, Mini, Nissan Micra, Peugeot 206, Renault Clio, Renault Laguna, Skoda, Toyota, Volkswagon Beetle, Volkswaggon, Vauxhall Corsa, Vauxhall family cars."

In addition the names of two car dealers were mentioned: *"Carcraft and Cars R Us."* Several of the children had seen adverts from the loan company *"Car Credit"* or the *"More Than"* car insurance firm featuring 'Lucky' the dog. Four children had seen car adverts *made as* cartoons such as Bugs Bunny or the characters of Tom and Jerry selling a Ford Mondeo. Six pupils had read children's comics which contained car adverts: The Beano (Renault Clio, Mini, solar powered car), Simpson's Comic (Renault Clio):

A1. *"A Renault Clio's been in the Simpson's comic...*
A2. *In the Beano which I normally get every Thursday, it advertises the Renault Clio and loads like the new Mini. I don't think it was really for the kids I think it was for the adults as the kids will show adults and the adults will buy the car and that's how they'll make more money".*

Q. *So they're using the kids to get to the adults. What do you think about that?*
A2. *I think it's a bit mean because children at this age don't really want to be bothered about that because you have to enjoy your youth while you've still got it because when you become an adult you've got bills and all sorts of worries to worry about so they should just leave children ...* (Ireland Wood Group 4).

Children who had seen adverts on cartoon television channels or in children's magazines were asked who they thought the advert was aimed at, children, young people or adults? Forty three children had a definite answer. Thirteen of these thought they were aimed at children for the purpose of *using* them to persuade adults:

"*Mum's making tea you run into the kitchen and you go, 'Mummy, mummy, come and look at the good car. Let's go buy it mummy' "* (Mt Pellon Group 1).

Twelve children thought that they were meant for children, seven of these adding the comment *"for when they're older"*:

"Because kids go and watch it, and think I want a car when I get older and that's the sort of car I want" (Sowerby Group 6).

Ten children thought the adverts were aimed only at adults:

"but if mum and dad haven't got very much to do they could be watching it and giving you a cuddle and that, they could be watching the telly and see the advert" (Sowerby Group 5).

Q. *"Do you think they are aimed at adults?*
A. *Yes. I don't know why they put them in our mags"* (Weetwood Group 5).

Seven thought cartoons were family viewing, by implication, intended for all the family. One thought the pictures in magazines were for children to play with - to cut them out and make a montage of cars. The placement of car adverts amidst children's terrestrial TV was noted by two pupils but time restrictions prevented opportunity to ask all those in focus groups if they had experienced this:

"If you tape a video at Xmas, there's lots of car adverts in the middle. Like, in 'Wind in the Willows' " (Weetwood Group 3).

"They have car adverts between children's programmes like 'Stitch up' " (Weetwood Group 5).

7.4 Media, Children's Feelings About Car Advertising

The children were also asked about their general views on *any* form of car advertising and 92 of the 119, gave responses. Other children took no interest in adverts or cars; and some responses were not ascertained. Of the 92, 46 did not like car adverts and 28

were in favour of them. A further 18 were wary of being *"conned"* by advertisers. Those in favour found them: funny/entertaining (16), informative (4), inspiring - to learn to drive (2), harmless/not bothered by them (2). For four pupils it 'depends', some were thought silly, others funny. Those not liking them said: boring (14), annoying/irritating (17), time wasting (6), ineffective/ off-putting (4), ignored, turn over (5):

> *"they show you all about the car and how comfortable it is"* (Mt Pellon Group 2).
>
> *"Some of them are, I think, are funny"* (Mt Pellon Group 1).
>
> *"I think it's quite good but the adverts get a bit carried away. They need to make a living but can con you"* (Ireland Wood Group 1).
>
> ***Q.*** *"Is there anything you don't like about the adverts?*
> ***A1.*** *Yes they have really good backgrounds to make them look good.*
> ***A2.*** *Yes and when you actually get one they're actually rubbish"* (Riverside Group 5).
>
> ***Q.*** *"What do you think about car adverts?*
> ***A.*** *I think that they are a waste of time because when you want to buy a car, it's really the cars you see outside sometimes that you like"* (Ireland Wood Group 5).

The children were asked if *any* of the advert/s they had seen on any form of media were memorable and if so, why? Most of the 92 could recall adverts and some mentioned why they stayed in their mind. Others hummed the tunes or sang the words or repeated the catchy phrases which are often incorporated in adverts. This embellishment suggests that the media were the source of the children's knowledge rather than family or school although children may discuss the topic of adverts with their friends. The cars mentioned were: *"Citroen Picasso, Citroen Zara, Ford Mondeo, Galaxy, Honda, Mazda, Nissan Micra, Peugeot, Vauxhall Corsa, Volkswaggon Beetle, cars in Auto Trader, Carcraft."* Popular descriptions were: *"Va va voom advert, Zoom, zoom, zoom advert, Major Tom advert* (David Bowie record), *'Lucky the Dog' car in tornedo, car made from jelly, domino advert, car splits in half"*.

Only six recalled adverts which featured expensive fast cars: *"Saab 93 Sports, BMW, Aston Martin (James Bond), Jaguar, Porsche, secondhand Ferrari (Autotrader)"*. Two of these were remembered in annoyance and three were sports cars children wanted to buy when older, which made them memorable. Interestingly the majority of the named cars were *not* the models or types of car which the children had mentioned

earlier when asked about the cars they wanted to own when older. Many children wanted expensive sports or other status cars of brands not normally marketed through the advertising channels or media readily available to them. Further detail was obtained from the interviews with parents. A section of the schedule included a question on whether interviewees thought their child wanted to own a car when older. The purpose was to ascertain if interviewees knew about the model/type of car their child wanted and if this matched the household car/s. Only 3 of the 22 parents interviewed described their *own* model of saloon car. All other descriptions[3] regarding type of car suggested countervailing messages to the home:

> ***A.*** *"Well at the moment because I've just had the car stolen they've been suggesting what sort of car we should get! The two boys want a mini because they've been watching 'Italian Job' "* (Interview No. 2).
>
> ***Q.*** *"Does ...(daughter) ever talk about owning a car when she's older?*
> ***A.*** *Yes she wants a pink Cadillac! She's very into pink and she saw that car on a movie*
> ***Q.*** *Why do you think she likes that type of car?*
> ***A.*** *It must be because she saw it on a particular American movie. We don't watch TV but we do watch videos quite a lot"* (Interview No. 4).

The vignette travel questionnaire enabled further investigation of this. This research instrument was completed by a larger number of children (n=486) and contained a photograph of an expensive sports car ('status car'). As well as circling the characters depicted on the A4 page, space was provided for children to write in their own answers: *'Can you think of someone else who likes to travel in this type of car?'*. In the written responses, the defining feature for the status car was the association with fame and riches or a type of person who is cool or fashionable such as a trendy young man or woman.[4] Fifty seven children added comments such as: *"a famous or rich person" or "rich or sporty people" or "celebrities"*. Eight of these made reference to football players. In addition 37 written comments associated the car with 'high income'. A small number of children added comments about the practical benefits of a sports car such as: *"somebody travelling somewhere on a hot day."*

More findings from the vignette are reported in Chapter 8. A question about children's future aspirations was harmonised across several questionnaires and repeated on the focus group schedule. It asked children if they wanted to learn to drive and to own a

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[3] Several of the parents interviewed did not know if their child wanted to own a car.
[4] Of 486 children, 441(91%) circled 'trendy young man' and 406 (84%) 'trendy young woman'.

car when older. The statistical analysis of this data is presented alongside the findings from the focus groups in Chapter 8. In the following section, the role of the media in influencing the types of car many children wanted to own is highlighted.

7.5 Media, Types of Car Children Want to Own When Older

Those who wanted to own a car when older were asked: *"What sort of car would you like to own?*, *"Why do you want one of those cars?"*. Of 119 children only 15 did not want to own a car. Over a hundred mentioned a make or type of car they wanted to own when older. Some named several, increasing the total in Table 7.1 to 131.

Table 7.1 Types of Car Children Want To Own When Older

Type of Car	*Examples*
Fast expensive sports cars (57)	Ferrari, Lamborghini, Porsche, McLaren, Aston Martin, convertibles
Fast cars (12)	Mini ('customised'), 'a fast car,' rally car
Expensive classy (16)	Jaguar, BMW, Bentley, Mercedes
Classy (4)	Puma, kit car, Subaru Impreza
Small cars (13)	Beetle, Smart car, Ford Fiesta, Ford Ka
Big cars (10)	Four wheel drive, monster truck, tank
Saloon cars (9)	Renault, Toyota, Ford
Purposeful vehicles (5)	People carrier, hippie van, camper van
Other (5)	Motorbike, a 'safe' car, a pink car.

The most popular cars were fast expensive sports cars. Two reasons were mentioned by children for wanting these: high speed travel and/or the status value of owning such cars: *"Because you can go over speed limit on the motorway"* (Sowerby Group 2).

> ***A.*** *"Ferrari... it's very small, because the fastest it can go up to175mph.*
> ***Q.*** *That is very fast. Why is speed important?*
> ***A.*** *It's not – I wouldn't go that fast, it just looks good, the car"*
> (Weetwood Group 5).

Most liked the thrill of speed but several liked the thought of being chased by police:

> *"Ferrari. Yeah, only fast, because you can get...if someone chases you in a police car, you can go and run away and hide"* (Mt Pellon Group 5).

One thought speed would be beneficial for family emergencies, two others that having fun in a fast car reduced susceptibility to travel sickness. Several children mentioned a practical purpose in owning a convertible, removing the roof on hot days to cool down.

Three wanted expensive cars but feared vandalism or theft and opted for standard cars instead. Some liked the luxury and comfort of expensive cars (soft leather seats, *"all squishy"*), but attracting the admiration of others appealed to many:

A1. *" ... so I can own a posh car and drive around and show off in it*
A2. *I like Jaguars, there is a song about them, they're very flashy"*
(Weetwood Group 5, Riverside Group 3).

Some boys mentioned footballers or films which featured sports cars:

Q. *"Do you know somebody who owns one of these cars?*
A1. *Yes. David Beckham.*
A2. *Ryan Giggs has got a Ferrari, I think"* (Mt Pellon Group 5).

For ethical reasons, direct questions about type of car ownership at home were avoided but geographical locations of the schools where focus groups were held suggests parental ownership of the commonly desired cars (Porsche, Ferraris, Jaguar) would be minimal. Only two children mentioned family connections:

Q. *"So you like sporty cars?*
A. *Yes, we have a BMW convertible so I'm quite used to going in them. I really like them"* (Weetwood Group 3).

Occasionally a child was influenced by their parent's car:

A. *"[Toyota] Miss, my Dad's got that car.*
Q. *...You like it 'cause your dad's got one of those cars?*
A. *Yeah"* (Mt Pellon Group 3).

The influence of a parent manifested in other ways:

"My dad said I can get a car when I'm 14 and he can help me do it up. He knows I like old fashioned cars and so 'choose a cheap one and I'll help you' " (Sowerby Group 2).

A. *"I go nearly everywhere in the car, it makes me feel sick but we need a car to get around, but I walk to school.*
Q. *You say you need a car to get around can't you get around by bus or train?*
A. *My mum thinks that the car's better, and she also thinks it would have been a waste of money getting her driving licence"*
(Ireland Wood Group 5).

Four of those wanting 'big purposeful cars' gave practical reasons such as for holidays or large families. Those who wanted 'cheaper fast cars' also had more realistic ideals:

"I've got a lot of cars that I'd like to own, Mini Cooper the old one, Ford Focus, Nova or a Corsa...because they're small and cheap in insurance as well and a lot of them are fast" (Sowerby Group 5).

Those wanting small cars gave three reasons: easy driving/parking (5), environment (4), economy (2), if family small (2). An example for 'easy driving' is:

"I've got some ideas but I think in stages. When I'm learning to drive I would like a mini or a beetle, but when I'm more confident I would like a bigger car

(Ireland Wood Group 1).

The girls and boys in the focus groups shared the same choice of cars. Subtle differences were revealed such as *some* girls wanted a *"soft top"* for practical reasons and more girls than boys mentioned the comfort value of status cars. But many others also liked the speed and status element. Seven girls talked about the colour being an attraction in comparison with two boys. The 13 children wanting small or standard cars were all girls.

Section 7.6 reports the findings regarding children's travel socialisation and the role of peers and begins with the children's responses in focus groups. 'Peer pressure' was found to operate in direct and indirect ways and the evidence for this is drawn mainly from the focus groups with children and the interviews with parents. A definition of 'peer pressure' is: *"Pressure to appear independent, pressure for recognition, pressure to appear mature or grownup, and pressure to have fun"* (Newman 1984:146). The academic literature appertaining to some topics is limited for primary aged children which is reflected in the shortened literature review in section 7.16.

7.6 Role of Peers: Focus Groups, Cycling

The theme of socialising, being with friends, having fun with friends was a reason given by some children during focus groups for liking various modes of transport even the unpopular school buses. Illustrative quotes are provided in this section for cycling. Thirty two children mentioned reasons for liking to cycle which were coded under 'Personal gratification'. Included in this are responses which linked the cycle with having *"Fun"* and its social context. This often encompassed doing something with friends such as racing them:

> *"I like playing out on my bike with my friends and have races"*
> (Ireland Wood Group 1).

> *"I just like to go out on my bike and have fun with my mates"*
> (Sowerby Group 6).

Approximately ten others enjoyed going out to a canal, park or other off road location with their friends. In addition to the above, three liked chatting to friends while cycling: *"and you can have a chat with your friends as you cycle"* (Ireland Wood Group 1). The social context is also revealed by the six children who made reference to the look of the cycle or owning a cycle to impress: *"and it's cool to have a bike and*

show your friends" (Mt Pellon Group 1, girls). All four girls in the following focus group thought 'looks' important:

> ***Q.*** *"What is it you like about riding bikes?*
> ***A1.*** *I like the fashionable bikes.*
> ***A2.*** *I like bikes with lots of gears on.*
> ***A3.*** *My bikes really cool.*
> ***Q.*** *Are you saying that it's how people look at you?*
> ***All:*** *Yes (all)"*
> ***A4.*** *I once taught a little girl how to ride a bike, I showed her how to pedal and then let her go. Yes, that's what my mum used to do to me"* (Sowerby Group 3, girls).

In the final response shown above, (Sowerby Group 3, girls, Answer 4), the child mentioned that *she* taught another child how to ride a bike. She adds that her mother taught her to ride a bike and therefore passed on a skill originally learned in the home. Chapter 8 reports further examples of the responses coded as 'Personal gratification' as well as the other reasons given for liking or disliking cycling.

7.7 Role of Peers: Focus Groups, Car Travel

Altogether ten children gave social reasons, (taking friends out/being with friends), as the explicit reason for either wanting to drive/own a car in the future, or for currently liking car travel:

> ***Q.*** *"Why do you want to learn to drive?*
> ***A.*** *'Cause, Miss, so you could go out with your mates and everyone"* (Mt Pellon Group 2).

Two children expressed a desire to impress friends:

> *"Well, I'd like to own a car so I could...partly so*
> *I could show off to my friends, but that's not all"* (Mt Pellon Group 1).

Several others mentioned that they did not want to feel left out:

> *"It's nice to have your own car and so you don't feel left out"*
> (Weetwood Group 3).

Peer group influence was *implied* in some responses regarding choice of car:

> ***Q.*** *"Why is it important that you have a car that looks good?*
> ***A.*** *So all your mates can have a ride in it and have fun"* (Weetwood Group 5).

7.8 Role of Peers: Focus Groups, Public and School Bus Travel

Five children liked public buses because of the opportunity for independence from parents and to be with friends such as a child from Weetwood Group 4: *"Yes, that's why I like going on buses into town and see my friends"*. Four others mentioned the

"Fun" factor of activities engaged in while with friends or siblings such as: pulling faces at driver (or vice versa), falling off seats, sitting at back. Sowerby school runs a school bus for swimming and pupils here liked having a bus exclusively for their own school. Of ten children in study schools who had travelled on this or another school bus (not including Riverside school, Yellow Bus scheme), five liked the experience. Three mentioned being able to socialise with friends as being an asset of school buses:

Q. *"And what do you think about travelling on them to go swimming?*
A. *It's fun because you're with your friends"* (Sowerby Group 2).

Several pupils at Riverside School had heard bad reports of the Yellow Bus:

Q. *"Would any of you like to travel on the school bus?*
A1. *No.*
A2. *The bus my friend was on kept breaking down"* (Riverside Group 2).

The children attending study schools which did not run a school bus, were asked if they would like to have one at their school. Eighteen would be in favour and four gave socialising with friends as the reason for this:

"Why would you like to travel on the school bus?
Miss, 'cause like you can chill out with your mates" (Mt Pellon Group 6).

Some children lived too close to school or liked walking therefore would not consider catching a school bus if one were available.

7.9 Role of Peers: Focus Groups, Walking and Walking Bus

Three children liked walking because they could socialise with friends at the same time: *"If I walk I can see my friends on the way"* (Ireland Wood Group 4). Twelve children in focus groups at Weetwood school had used the walking bus. Several had liked walking to school but isolation from friends had become a de-motivator for continuing:

Q. *"Are you saying the car makes it quicker?*
A1. *Yes.*
A2. *When you get to school you get chance to talk a bit more before school.*
A3. *Because on the walking bus, you're nearly always late so you never get chance to chat to your friends. But sometimes there's friends on the walking bus.*
A4. *I've got no friends on the walking bus because they're all Yr. 4's and I don't play with Yr. 4's*
A2. *And none of my friends were on the one I went on, I just had to talk with my little sister"*
(Weetwood Group 5).

7.10 Role of Peers: Interviews, Travel Mode and Peer Pressure

A question on the interview schedule asked parents if their child had ever made them think that he/she would like to do what his/her friends were doing regarding travel. The purpose was to investigate if any countervailing influences to the home were operating. Of 22 interviewees, 9 responded with a *"No"* and 9 with a *"Yes"*. Of the remaining four, one parent thought peers would become influential in the future. The response of the second suggested *indirect* influence in that her child wanted to be at school earlier to be with friends. A third parent said that her daughter had a disability which restricted social contact and as a fourth said:

> ***Q.*** *"Have any of your children ever made you feel like they want to travel in the same way some of their friends are travelling?*
>
> ***A.*** *Perhaps, the woman across the road. She's just had a baby so she was using the car every day down and back and when we would walk places the kids would say, 'Well they're going in their car, can't we go in ours?' "* (Interview No.15, escorts by walking to school).

Nine parents did *not* think peers were influential on their child. However, if their children travel in the same way as their friends, the opportunity for parents to become aware of an influencing force may not have arisen:

> ***Q.*** *"Have they ever suggested travelling in different ways because of what their peers are doing?*
>
> ***A.*** *Not that I'm aware of no, because most of their peers either walk to school or go in the car, just the same as us"* (Interview No.10, escorts by car to school).

The nine parents who responded with a *"Yes"* gave examples:

> ***Q.*** *"Have any of your children ever made you think that they like to do what their friends are doing when it comes to travelling?*
>
> ***A.*** *I suppose they think that walking to school is a big thing. You know, they do, they want to have that independence and they want to walk to school by themselves and there's sort of peer pressure to do that. You know, especially when they're getting older. End of year 5 and beginning of year 6. So there is, yes, there is"* (Interview No. 3, escorts by car to school).

> ***Q.*** *"Do any of your family go out on bikes at all?*
>
> ***A.*** *They don't cycle regularly. They have fits and starts. They'll ride a bike for weeks and then they'll sit for months and not be used, depending on whatever everybody else in the area is doing. If everyone's riding their bikes, they'll ride – if people aren't, they don't bother.*
>
> ***Q.*** *Would you say, then, that they are influenced by what their friends are doing?*
>
> ***A.*** *Yes"* (Interview No.12, escorts by walking to school).

An interviewee who thought her daughter was influenced by her friends had overheard conversations in which her daughter talked to friends about types of car. These were described as being *"one upmanship"* type debates, *"my car is better than yours"*. Her daughter also knows when friend's parents are getting new cars. The parent went on to add that the influence of peers only applied to car travel. Her daughter does not like cycling or want a cycle even though friends have cycles and ride them (Interview No. 22, Notes only).

A group of parents whose travel mode or circumstances varied from other households had experienced pressure on them to change. Examples are: a parent who had to sell the family car for financial reasons and felt pressured to buy another; a 'one car' householder felt pressured to purchase a second car; interviewees in several 'two car' households whose children wanted them to change model of car:

Q. *"Have ...(children) ever made you think they are influenced by the way their friends are travelling?*
A. *Yes.*
Q. *In what ways please?*
A. *Well, mainly because now that the car is gone, you know, if we, it's a question of, 'Well do we have to travel by that mode of transport?' And I say, 'If you want to go anywhere let's accept the fact that we have to travel by this way.' The frequent question we usually get is, 'Why can't we go by taxi?' "*
(Interview No. 9, 'no car' household).

The mother quoted below does not always have access to the family car:

Q. *"Have the boys ever made you feel they have been influenced by the way they travel by things that friends have said or done?*
A. *I have had issues with my eldest son, nearly eleven, that I don't allow him the freedom to go further by himself and also when I've said, 'We'll walk' and they've moaned about walking and said, 'Why haven't you got a car? So and sos' mum has a car' But it doesn't come up regularly, once a month perhaps"*
(Interview No.7, 'one car', two parent household).

Q. *"You think they're influenced by what their peers are doing?*
A. *Definitely, yes. We're under a lot of pressure. 'Why can't we have one of those, mum?' kind of attitude, yes, definitely"*
(Interview No.16, 'two car' household).

This following quote from a child interviewee suggests the need for independence is associated with a desire to be like friends:

Q. *"How do you travel to your new school?*
A. *Well at first we take it in turns to go up in the car, well the parents do, because there's four of us and we're all mates, but we're trying to start*

going on the bus now all the time to get a bit more independent"
(Child of Interviewee No.13).

7.11 Role of Peers: Interviews, Travel Mode and Sibling Pressure

The question about siblings investigated if there were countervailing influences on a child within a home. Three of the sample of twenty two parents only had one child. Thirteen had other children with age differences up to three years. In six households there was a gap of four or more years. The direction of age difference can have a bearing on whether siblings are affected by each other. For instance one interviewee had a nine year old with a younger child aged four in which case neither was interested in the other's travel. Two parents acknowledged similarities in their children's likes and dislikes regarding travel but were uncertain if this was an influencing effect. The views of two parents were not ascertained. Of the nineteen households with siblings, eleven parents did not think their children were influenced by sisters or brothers:

Q. *"Are they alike in the way they want to travel?*
A. *No, she [daughter] hates it. She* [sister] *absolutely loves travelling"*
(Interview No. 9, two children aged 11,13).

Q. *"Do you think he's influenced by the way ...(brother) travels?*
A. *No not really. Not as far as travelling goes"*
(Interview No. 21, two children aged 9, 17).

Four parents thought that their child was influenced by a sibling/s. The latter of these quotes suggests that peers also play a role:

Q. *"Are they influenced by each other do you think in the way they want to travel?*
A. *Well yes, probably because the oldest one started using the bus, she goes out with her friend on the bus and the next one down is wanting to do that as well"*
(Interview No. 6, four children aged 7,10,11,13).

7.12 Discussion, Media: Travel Modes and Safety Issues

Adverse media coverage regarding train accidents and crashes left some children with a negative view of trains. This was apparent in groups held at all schools throughout the fieldwork. Safety issues regarding public buses were also in the minds of a significant minority who regard them as potential accident zones. However, unlike references to trains, their opinions were formed largely from the children's own experiences on public buses. A possible exception is the issue of seat belts on school

buses/coaches which has featured in news reporting. In contrast to the children's awareness of safety matters on public transport, very few spoke of *car crashes* and only three mentioned media coverage which related to safety testing of cars. Also noticeable by absence were comments about cars as being potentially lethal to pedestrians. Six viewed walking as hazardous but four of these related it to 'stranger danger' rather than being hit by a car. Only four children spoke of the danger cars pose to cyclists. That car safety issues are not prominent in the minds of a majority of children is surprising given that local councils provide standard road safety training at the eight study schools and seven offer cycling proficiency courses. Road accidents involving fatalities are also given media coverage. They feature in local news reports but pile ups on motorways receive national coverage. Those convicted of drink or dangerous driving receive headline status if fatalities are involved. A train accident near Selby had bouts of publicity, one newspaper headline read, 'The carnage at Great Heck' (Wainwright 2001). Much of this resounded for many months because of the ongoing trial of the *car driver* imprisoned when found guilty of causing the accident after falling asleep while driving. There is also media reporting of general safety on the roads such as the 'watch your speed' adverts aimed at reducing child pedestrian casualties. The introduction of speed cameras and traffic calming has also received media attention. That there is regular low level reporting on various safety issues in relation to cars may be a clue to understanding this surprising lack of acknowledgement by the children. One possible explanation is that the process of 'drip feeding' small and regular amounts of coverage produces desensitisation. This contrasts with the sudden bursts of high level reporting on train crashes. The actual number of these is low on average but when negligence is suspected and there are numerous casualties, this attracts prominence in the media.

During the fieldwork, safety issues on public transport were given disproportionate consideration by many children. This resulted in the perception that public transport is more dangerous than car travel, walking or pedal cycling which does not correspond with the facts. The statistics show that rail air and sea travel have the lowest *death rates* from accidents (National Statistics 2005). Unlike the media coverage, death rates from rail accidents remained fairly constant since 1993 and are similar for rail, bus or coach. The following statistics show the 'Rate per billion passenger kilometres' for Gt Britain: *Rail travel* 2002: **0.3,** *Bus/coach* 2002: **0.4**. The death rates for pedestrians and

pedal cyclists have decreased markedly since 1993 but remain high in comparison with those for public transport and car travel: *Pedestrians* 2002: **44.8,** *Pedal cyclists* 2002: **29.5,** *Car travellers* 2002: **2.8** (National Statistics 2005). However, the non-fatal accidents for *car travellers* are noticeably higher than other modes. [5]

7.13 Discussion: The Media and Car Advertising

Advertising cars on TV cartoon channels was a commonplace practice at the time of the fieldwork. There is no doubt that children are part of the captive audience but choosing this medium creates a catch all situation and encompasses parents who share reading or watching TV with youngsters. That four children had seen car adverts *made as* cartoons supports the suggestion made by Bristow (2002) – that car manufacturers tailor adverts to suit the target audience. It is heartening that a significant minority expressed an uncanny awareness of the motives of advertisers. A sizeable number condemned advertising particularly those shown on children's TV. Buckingham (1993) also found that children are aware of the functions of advertising and can be sceptical of it. The issue of the car industry targeting children in some campaigns raises twin concerns about the acceptability and morality of such a practice (drinks manufacturers were admonished for marketing alcoholic drinks to appeal to young people). While there is no shortage of campaigns to promote the use of cars [6], the advertising of other forms of transport is almost non-existent. The enormous amount of money spent on car advertising is raised by Stokes and Hallett (1992) and Baird (1998). Bristow (2002) makes a comparison with the low budget available for public transport. Litman (2004) notes that walking is inexpensive and that there is no organised walking *industry* as exists for the automobile, transit and air transport industries, which have dedicated funding. The automotive industry has an overwhelming influence through the mass media because of the *"significant proportion of total mass media advertising revenue"* (Roth 2003). Wright and Egan (2000) discuss a strategy for de-marketing the car while promoting public transport as an alternative.

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[5] The statistics for slight and serious injury for nearest comparative year, 2003 are: Rail travel 2002/3: 2,545; bus/coach: 9,057; pedestrians: 35,631; pedal cyclists:16,919; car travellers: 186,573 (TSGB 2005, Transport Statistics Bulletin 2005).

[6] An exception is the car manufacturer, Kia. In Jan/Feb 2002, an advertising campaign 'think before you drive' was launched to promote the sensible use of cars (terrestrial TV at peak viewing time). In 2005 they still offer free instructions/guidance for schools setting up a 'walking bus', see website: http :// www.walkingbus.org/ (2005).

Children pestering their parents to buy or change a car was reported in relation to 'peer pressure' in section 7.10. However the pestering may be as a result of advertising in the media. 'Pester power', the use of children to persuade parents to buy products to increase sales, has received attention from professionals and academics working in the health field. Blythman (2004) discusses it with regard to the food industry, criticising celebrity endorsement of junk food by footballers David Beckham and Gary Lineker. Journalist, Sherwin (2004) reports the use of cartoon characters in advertisements for junk food which are aimed at children.

7.14 Discussion, Media: Celebrity Endorsement and Symbolism of Status Cars

Many children associated celebrities with status cars. This image is promulgated by the media and car manufacturers have a role in this. Bristow (2002) discusses how their well-developed marketing strategies go way beyond conventional advertising. 'Product placement' is lending a car to a high profile sports star whose picture appears in newspaper and TV programmes. Another method which enables a global market to be reached is the provision of luxury cars for the stars in films such as James Bond. The work of Stokes and Hallett (1992) is informative. They make the point that cars in the media are nearly always presented to children in a positive way. In films, stories and children's TV shows, cars appear almost magical or very exciting and help provide hero status for the main characters. Two of a number of examples used are Batman and his Batmobile and James Bond with a variety of sumptuous cars, Aston Martin, Lotus etc. They go on to argue that a host of factors also make the car seem attractive to older teenagers providing positive reinforcement. American films in particular portray the car as a symbol of freedom and rebelliousness and some have heroes who engage in illegal races and speeding. In addition the themes in some car advertising are the thrill of speed, the macho, sexy image and associations with the open air and freedom.

7.15 Discussion, Peers: Peer Group Pressure

Qualitative analysis of the views of parents suggests that children may be influenced by their peers in relation to travel mode. The concept of socialisation presented hitherto in this thesis is the traditional unidirectional view of how parents influence their children. This dominated mainstream Western sociology of the family until the 1990's. In her book, 'The Effect of Children on Parents', Ambert (1992) describes

ways children can indirectly (at least), influence their parents' own values. One example is the arrival of the first child. Life plans may change, for instance, career, housing, daily schedule to accommodate provision for a child. In relation to the author's research and travel, Chapter 4 discussed how some mothers ceased to travel on public buses because of difficulties managing babies and toddlers. In this chapter, the parents who gave examples of a countervailing influence, referred to school friends, neighbours' children or others in local communities. Parents were aware of the effects on *them* such as pressure from their child to change the mode of travel to accommodate their children's desire to be like friends. The children of a parent in a 'no car' household wanted the family to have a car and those in a 'one car' household wanted two cars. Parents in two car households related it to their children wanting a different type of car, usually bigger and faster than the current model. Peers may also have indirect influence on siblings who want to copy their sisters or brothers who travel with their friends.

The importance of the social context of travel modes was highlighted in the focus groups and interviews and appeared particularly strong regarding cycling. One parent observed how her children rode their *"bikes"* if others were doing so in the district. Having fun with friends, the fashion and status value of cycles were reasons mentioned by children for liking to cycle. Mackett (2002) discusses the decline in the number of girls' cycle trips by comparing the figures for 1985/86 with those for the late 1990's. Two possible reasons are suggested to account for this. One is a concern about road safety and personal security. Another is that the figures may also reflect *"changes in fashion."* He adds that children are very sensitive to comments from peers about their actions. However irrational, children may stop cycling and would not want to be seen cycling by friends if they regard it as unfashionable. In the author's research, children liked the opportunity to be with friends particularly when this enabled independence from parents. Some children wanted to own a car when older in order to take friends out with them. Peer group influence was implied in the responses made by some children during focus groups regarding choice of cars – to impress friends and not to feel left out if others have a car. There is a need for further research to investigate if the 'status' value attached to cars refers in general or more specifically to peer groups. The role of peer culture on the outcome of travel initiatives was not investigated in any depth during this research but its potential bearing should not be overlooked. The

Yellow Bus at Riverside (during fieldwork) had a number of operational problems which dissuaded children from using it. Low take up of the scheme meant that few children were available in focus groups who could talk about its merits and demerits. Nevertheless, one possible effect is suggested by the finding that several children had formed a detrimental opinion of the Yellow Bus even though they had not personally used it. They based their opinions on the comments of *other* children. This indicates that communication within peer networks provided a source of knowledge which was influential on them. The views of twelve children attending Weetwood school were collected regarding the walking bus initiative. Isolation from friends had become a de-motivator for continuing with it for some of these.

7.16 Literature Review, Peer Group Pressure

Ambert (1992) asks the question, *"What do parents learn through their children's friends?"*. A conclusion is that, from a consumerist point of view, pre-teen and teenage subcultures are a new phenomenon which arose after the Second World War in North America. She found indications that children become peer-oriented at an earlier age now. Peer group influence has increased with a consequent reduction of parental influence. Ambert (1992) calls for more research into this topic. In the mid 1990's a 'group socialisation' theory of development was introduced by Harris (1995). This psychologist wanted to know if parents have any important long-term effects on their child's personality. In a review of the research, she concludes that the answer is 'No'. Children have many environments and they learn how to get along in all of them. Her theory is that socialisation is context specific, children learn how to behave within the home from parents and outside the home from becoming members of and identifying with, social groups. It is within peer groups, children's play groups, those they join in nurseries or school that socialisation takes place. Intra and intergroup processes, not dyadic relationships (parent to child) are responsible for the transmission of culture and the modification of a child's personality characteristics inherited by birth. As with much of the psychological literature on socialisation, this work involves the 'nature versus nurture' debate: the relative impact of genes, (inherited characteristics) as opposed to environmental (characteristics of home) and external factors. The author concludes that the work of Harris (1995) and the nature nurture debate has significance in the transport context in relation to the influence of peer groups and parents' contri-

bution to exercise. Children are *not born* with a knowledge about transport modes. This can only be learnt from the social and cultural environment: parents, kinship network, the media, school, or friends. However, as is usually *assumed* in discussions about 'personality', children are born with some mental and physical capabilities. Hence, they have the ability to walk, once taught to do so. A conclusion from Chapter 4 is that more research on the exact nature of the parental contribution to children's activity levels is required.

Holmes (1998) observed how peer group culture flourishes in primary school playgrounds. She cites the example of hearing verbal material such as rhymes, stories and jokes which are told to each other and passed on from one child to another around playgrounds by children of different ages. The invention of new lyrics to replace the original adult versions, is done to re-address the power differential between pupil and teacher and other adults. It is through these oral traditions that children learn about their own social worlds and their place in the world of grown ups. Rowan (2005) reports on the creativity and secret culture of ten year olds. After visits to six primary schools in West Yorkshire, London and Scotland, he found that children are still chanting ancient playground rhymes as part of their traditional lore and language. Songs are passed down the generations orally. Hence schools provide a feeding ground for 'peer culture'. There are opportunities for this to flourish because children are regularly brought together to interact with each other.

7.16.1 Peer Group Pressure and Transport Modes

Bradshaw (1995) lists 'peer group pressure' as one of six factors determining whether or not parents choose to drive their nine to thirteen year olds to school. This is a problem for both children and parents. She adds that it is probably more difficult now for many parents to resist their children's pleas for a lift to school. Pettitt, Frost and Thornthwaite (1995) discuss surveys of 'modal shares' on the journey to school, 1975 to 1993. Over this period they found a shift away from walking towards car use. This trend is described as *"complex"* resulting from the interplay of a combination of factors. Peer pressure was one of ten factors cited by parents in the findings of the surveys they examined. Regarding older children, Chinn et al (2004) studied the road safety behaviour of adolescent children (aged 11 to 16). One aspect was to investigate 'risk-taking and peer pressure'. A finding from their literature review was that young

adolescents cared about what their friends thought about their behaviour. Sensation seeking increased after the age of 12 and is higher amongst boys. With reference to their own research findings, they conclude that it is perhaps those of mid secondary school age (13/14) who most wanted to appear 'cool' and to impress their friends by their bravado. Their review of the literature revealed that driver behaviour is also influenced by friends who were travelling in the car.

Waylen and McKenna (2002) note that young drivers are more likely to be involved in a car accident if they have peer passengers with them which suggests they become distracted or else show off by driving too fast. A literature search for research on this topic in parallel research areas uncovered an abundance of studies investigating the effects of peers on teenagers' behaviour, for example: smoking, dieting, substance abuse, delinquency, gender roles, dress/fashion and learning in school. But few studies have researched primary age children. Dohnt and Tiggemann (2005) investigated the role of peer influence in the development of body dissatisfaction and dieting awareness in primary school girls aged between five and seven years. Methodological weaknesses are acknowledged by the researchers but their findings provide preliminary evidence of peer influence. They conclude that body dissatisfaction in their sample of girls appeared to be a function of shared peer norms for thinness. It is stressed that once children start school, far greater time is spent in peer interaction and communication and exposure to peers allows an increased level of social comparison.

7.17 Chapter 7 Summary, Key Findings

- The news coverage of train accidents influenced some children's perception of the safety of rail travel. The media were influential on the types of car that many children wanted to own when older. Car advertising on cartoon channels was a widespread practice at the time of the fieldwork.
- Some children raised safety issues about bus travel. These were mainly based on personal experiences. Six raised issues in relation to the safety of walking and six thought cycling hazardous. Only five children mentioned the dangers posed by car transportation.
- Peer pressure can operate on children in conflicting ways. It is likely that the effect of peer pressure on travel behaviour increases in adolescence.

7.17.1 Children's Travel Socialisation, What is the Role of the Media?

The role of the media in children's travel socialisation is different from that of parents, schools or peers. All of the latter can provide direct instruction and children are able to interact with these agents of socialisation. Because of this there is an interactional element to socialisation, and, as argued by Ambert (1992), the influence is not always unidirectional. This is not so in the case of the media. Many parental homes have TVs and most (but not all) children are allowed to watch it. Some of the children who spoke of the media coverage of train accidents at the time of the fieldwork (2003) had heard news reports on the TV. They absorbed information and made sense of it in terms of the overall safety of train travel and this had affected their perceptions. This also happens to adults for instance, the fear of child abduction 'stranger danger' heightened by cases such as Jessica Wells and Holly Chapman which resounded in the media because of protracted legal cases. For both child abductions and rail crashes, the actual number of incidents is low compared with the effect they can have on some people. If adults are affected by news reporting, it is not surprising to find that children are also affected. Stafford (1996) discusses how adults' perceptions and fear of crime and security influence travel patterns on public transport. It is not known whether fear of train crashes will have short or long term effects on the children. The focus of news reporting changes quickly and rail safety issues were not currently 'news' in 2005.

The findings show that many children are listening to and observing from a source other than parents, schools or peers. Stokes and Hallett (1992) stress that the media play a major role in promoting the desire for car ownership and usage. They add that media pressure is not the sole or even the main cause of transport domination by the car but reinforces other causes. With regard to the author's research, this is an important conclusion. As is demonstrated in Chapter 8, the reasons children gave for wanting to learn to drive and own a car stem from a range of sources. It is driving instructors (sometimes parents) who teach adolescents how to drive, not the media. The media has an impact on children by directly or indirectly providing encouragement and ideas. For many, a knowledge of and desire for *particular types* of cars, and the symbolism associated with these is largely rooted in media images. In this example the media extends children's knowledge but not in a way which conflicts with what they have already learned regarding the benefits of cars as a mode of transport. Hence the effect on children is synergistic. Time limitations during the focus groups

prevented the collection of additional material from children to explore any other ways the media or peers could be influential on them. Nevertheless the findings presented serve as a case study in demonstrating the potential *power of the media* on children.

7.17.2 Conclusions, Children's Travel Socialisation: What is the Role of Peers?

As children grow they spend more time with others outside the home, therefore it is reasonable to suggest that peer groups may be influential. A pertinent question is: *"In what way?"*. The research uncovered several ways, one of which is through direct instruction. A child in the focus groups had taught another how to ride a cycle and therefore initiated a new experience. By doing this peers play an *'introductory'* role because they provide a new skill, in this case the possibility of using a different mode of transport. Peers may show a newcomer an interesting cycle or walking route through a wood. Another way peers can be influential is through indirect means. Opportunities to be with and engage in activities with friends increased the appeal of some modes of transport for children. Cycles offer the chance of independence from parents in a way cars do not.

Children may come into contact with peers whose travel circumstances are the same as or differ from their own. The role of peers on children's travel socialisation is conflicting. Peer pressure may *reinforce* what children learn in the home or alternatively cause behaviour *to change* in some circumstances. Nine of the interviewed parents who experienced pressure to change used a different travel mode, or had circumstances which varied for some reason, from their child's friends. Hence these children were mixing with others who did things differently from them and this was a source of dissatisfaction. In the cases of travel mode behaviour which harmonised with friends, satisfaction levels are likely to be higher therefore the behaviour is reinforced and the effect is synergistic. Conversely, some children had come into contact with peers whose travel circumstances were 'contradictory' and wanted to change to avoid feeling left out. The circumstances uncovered in the research were: children wanting to walk to school rather than travel by car and vice versa; children who rode their cycles if others were doing so in the district, children who travelled on public buses with friends.

Chapter Eight

Children's Travel Socialisation, the Role of Multiple Influences

8.1 Introduction

This chapter considers the role of multiple influences on children's travel socialisation. It is argued that the car as a mode of transport tends to receive more positive reinforcement from socialising agents than other forms of transport. The chapter begins by reporting the quantitative findings from the Vignette Travel Questionnaire. The topic is image associations and children's perceptions of transport modes. Following this, the findings from a qualitative analysis of focus groups regarding children's likes and dislikes for five transport modes are presented beginning with train travel. Section 8.13 onwards reports the findings regarding children's future aspirations. It begins with the statistical analysis of the question which asked children if they wanted to learn to drive or own a car when older. Several samples of children were amalgamated for this analysis. The corresponding qualitative findings from the focus groups in study schools are then reported beginning with the reasons children gave for wanting to learn, or not wanting to learn, to drive. The two final sections present the findings from the interviews with parents. Section 8.17 covers the parents' responses in relation to their children's future aspirations. A copy of all the research instruments is provided in Appendices 1a to 1g.

8.2 Vignette Travel Questionnaire, Image Associations by Travel Mode

An instruction on each page of the questionnaire asked children to: *'Draw a circle around the picture or pictures that shows who you think likes to travel in this type of...?'*. They could choose one or more (or none). A code on the database recorded the total number of circles that each respondent circled on the page for every travel mode. Two thirds of respondents circled *one* for Cycle; two thirds circled *two* characters for Status Car, People Carrier and Train. Two thirds circled *three* characters for public bus and average car, two thirds circled *four* characters for walk. This suggests that a majority of respondents think walking has general appeal whereas cycling, travelling in the Status Car, Train or People Carrier are liked by specific people. Table 8.1 shows

the character types against the seven transport modes according to the percentage of the 486 respondents who selected the character with the mode and a distinct pattern of image associations can be seen. The strongest image association for each character type has been highlighted. These are: the Family with People Carrier (84%), Children with Cycle (55%), Sporty with Cycle (64%), the Professionals with Train (51%), the Trendy Young with Status Car (89%), the Elderly with Public Bus (68%), the Manual Workers with Average Car (38%). Most of the scores for the images which have both a male and female counterpart, had percentage scores within five percent. This suggests that the respondents gave both sexes fairly equal status in terms of transport mode association. In two instances there were proportional differences in the responses which were statistically significant and an asterisk shows these in table 8.1. They are: the Elderly and Public Bus, female 74%, male 62% (χ^2 82.314, $p<0.001$, df 1) and the Manual Workers and Walk, female 36%, male 20% (χ^2 11.948, $p<0.001$, df 1).

Table 8.1 Image Associations by Transport Mode

	Transport Mode						
Character Type	**Status Car**	**People Carrier**	**Public Bus**	**Train**	**Cycle**	**Walk**	**Average Car**
The Family	11%	**84%**	10%	35%	4%	25%	50%
Children	6%	35%	31%	12%	**55%**	45%	14%
Sporty	8%	7%	26%	13%	**64%**	50%	26%
The Professionals	23%	21%	15%	**51%**	3%	16%	27%
The Trendy	**89%**	7%	10%	10%	8%	13%	22%
The Elderly	3%	7%	**68% ***	50%	9%	56%	14%
Manual Workers	4%	15%	28%	10%	9%	28%*	**38%**

A strong perception is that the 'Family' like to travel in a People carrier or Average car rather than the active modes of walking (25%) or cycling together (4%). In contrast, 'Sporty' is linked with cycling and walking. 'The Children' were perceived by their peers as liking the active modes, Cycling (55%) and Walking (45%) although a third associated them with the People Carrier (34%) or Public Bus (31%). The perceptions of the modes used by the 'Professionals' were less distinct after Train (51%) but fewer respondents associated them with Walking, using Public Buses, or Cycling. There is only one distinctive score for the 'Manual Workers', Average Car (38%) followed by public buses (28%). Further statistical analysis of the image associations by travel mode showed that there were no differences according to the variables, 'number of cars in household', 'sex' of respondents or socioeconomic status (school attended). An

interesting finding relating to the location of a school is reported below.

8.3 Vignette Travel Questionnaire: Train Travel

The headteacher of Riverside school, Hebden Bridge, commented during the 'key person' interview that commuting trains are popular with parents travelling to employment. Many drop off their children en route to the railway station. Riverside is the only study school with a local railway station. A subsequent statistical analysis of the vignette showed that a highly significant proportion of pupils who attend Riverside school (n=97) associated 'the professionals' with 'like to travel by train', in comparison with pupils at 'Other study schools' (n=389), (χ^2 10.687, p<.001 df l). Table 8.2 shows the crosstabulation. There were no differences between schools for any of the other characters selected as responses for 'train' on the vignette. Regarding other modes, four *minor* differences in proportions were found.[1] Parents of children attending other schools may also travel by train to work. The significance of this finding is that children at Riverside are more likely to be aware of a parent's movements because it is part of their own daily routine. The proximity of the station to school enables children either to walk to school or be dropped off first.

Table 8.2 The 'Professionals' Like to Travel by Train, Riverside and Other Study Schools

Like to Travel by Train	Riverside School	Other Study Schools	Total
No	33 (34%)	207 (53%)	**240 (49%)**
Yes	64 (66%)	182 (47%)	**246 (51%)**
Total	**97 (100%)**	**389 (100%)**	**486 (100%)**

8.4 Vignette Travel Questionnaire: Written Responses

Space was provided for children to write in their own answers: *'Can you think of someone else who likes to travel by...?'*. Approximately *half* the 486 respondents added written responses to the questionnaire. Most comments consisted of a word or short phrase and a simple code was applied. These are arranged in tabular form in Table 8.3. Codes are listed in the far left column with examples. The number of responses are shown below the corresponding travel mode. For example 17 respondents thought *people travelling to work,* like to travel by Train. A total for the number of written

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[1] Three related to 'walking': 'the Professionals and 'like to travel by walking' Riverside = 7%, Other Study Schools = 18%, χ^2 6.467, p<.05 df l; similar finding for both the 'trendy young'

comments for each travel mode is given on the bottom row of the table. Appendix 4 contains a list of the written responses coded under 'Miscellaneous'.

Table 8.3 Children's Written Responses, the Vignette Travel Questionnaire

Code	Train	Average Car	People Carrier	Public Bus	Cycle	Status Car	Walk
General to Work	17	8	3	10	2	1	1
Age: Teenagers	3	4	1	18	9	10	0
Named Relative	32	42	24	29	17	24	32
Other named	20	15	16	23	20	25	12
Self *"me" "I would"*	22	8	8	24	34	42	23
Journey							
Distance:	17	1	0	3	1	0	0
Speed:	7	0	0	0	1	0	1
A destination:	29	5	1	5	2	2	6
To school	0	3	0	4	4	0	2
No Access to Car	15	0	0	24	1	0	5
Specific People	4	2	0	1	1	2	9
"posh people"	1	0	0	0	0	18	0
cool woman	1	0	0	0	0	10	0
Family, General	2	29	28	5	2	3	3
Single person	0	4	0	0	0	1	0
Being Active							
Exercise	0	0	0	0	29	0	29
Lose Weight	0	0	0	0	3	0	0
Range of People	4	4	1	4	3	5	5
Media, Named	4	2	0	0	0	3	2
Media, General	1	0	0	0	0	57	1
Low income	0	2	0	2	2	0	2
High income	0	2	4	0	0	37	0
Miscellaneous	10	17	20	13	16	15	22
Total	**189**	**148**	**106**	**165**	**147**	**255**	**155**

'Status Car' achieved the largest number of written responses and 57 children added comments such as: *"a famous or rich person", "rich or sporty people", "celebrities".* Eight of these made reference to football players. The written responses for Status Car were discussed in Chapter 7. It is possible to detect one or two defining features for each travel mode. For train, this is related to some aspect of the journey e.g. *"people travelling a long way"* or if a fast journey is required, or travel to a specific place. Seventeen view the train as a mode for travelling to work, or a mode for people who *do not have access* to a car. This is the same for bus and 24 responses indicate this.

The average car is defined as being the transport for families (29 responses) and 42 children know someone who has this vehicle. The People Carrier is defined by the physical characteristics of size and space which make it suitable for practical purpose. Examples from Table 8.3 are: *"large families"* or included in 'Miscellaneous': *"people with a lot of stuff to carry"*. Regarding walk and cycle, 29 responses define these as being useful for physical activity.

8.5 Summary of Findings, Vignette Travel Questionnaire

- Distinct patterns were detected in the data and the children associated particular modes with age, character types or socioeconomic status. The elderly were linked with public transport/walking, the young with status car, families with the people carrier/average car rather than walking or cycling as a family; the 'professionals' with trains. Cycling and walking are associated with children but the active modes are strongly linked with sport.
- In general the sexes were given equal status in terms of transport mode association.
- A significant proportion of pupils who attend Riverside school associated the 'professionals' with 'liking to travel by train'.

The findings from the focus groups regarding children's likes and dislikes for transport modes are reported next beginning with train travel.

8.6 Focus Groups: Children's Likes and Dislikes for Train Travel

Of 119 pupils included in focus groups, 106 (89%) had travelled by train. Only 12 had used the train on a weekly or monthly basis for shopping or other trips. Others had used local trains but not very often. The most popular usage was for days out such as to York or London usually on a two/three times a year basis. Approximately half of all the pupils liked train travel. Table 8.4 lists the 88 responses.

Table 8.4 Children's Reasons for Liking Train Travel

Reason	*No. of Responses*	*Examples*
Speed	(29)	quick journey ('more time' for other things or being 'on time'), travelling at speed
Facilities	(21)	food on board, comfortable seats, space to move, toilets
Views	(12)	able to look at countryside animals or other
Enjoy tunnels	(8)	sensation of travelling through dark tunnel
Miscellaneous	(18)	I like it but I don' know why. Cool.

Some children mentioned aspects they did not like but overall, were still in favour. Children gave one or more examples of things they like and dislike about trains and Appendix 5 lists the 'Miscellaneous' reasons given for liking trains.

8.6.1 Like trains: Illustrative Quotes

Speed, Facilities, Views, Tunnels:

"Yes because it's fast" (Ireland Wood Group 4).

"It was fast. We didn't want to be late" (Sowerby Group 4).

"I like the different compartments and the restaurant area" (Weetwood Group 2).

"There wasn't any traffic, there was countryside to look at" (Ireland Wood Group 5).

"I liked going into the tunnels because it went black" (Weetwood Group 1).

Eighty seven children had dislikes for train travel which are listed in Table 8.5. The 23 responses relating to 'Train crashes' were discussed in Chapter 7.

Table 8.5 Children's Reasons for *Not* Liking Train Travel

Reason	*No. of Responses*	*Examples*
Train crashes	(23)	includes several mentioning vandalism making trains vulnerable to train crashes
Poor facilities	(23)	motion of train, crowded, cramped, bumpy, chewing gum on seats, expensive food.
Noisy engine	(15)	includes several for noisy train lines/horn
Poor standard of service	(8)	waiting for late trains, breaking down, change trains, stopping at each station
Noisy people	(5)	noisy adults, screaming babies
Speed	(4)	thrown about, can't look out
Miscellaneous	(9)	quite boring, travel sick, get locked in toilet, don't like train stopping, other people's music.

8.6.2 Dislike trains: Illustrative Quotes

Poor facilities, Noisy engine, Noisy people:

"It's not that bad but usually the seats have chewing gum on them!" (Riverside Group 1).

"Very crowded" (Mt Pellon Group 6).

"Very noisy 'cause you could hear the train lines" (Mt Pellon Group 4).

"People shouting... When they have a row" (Riverside Group 2).

One child initially said *"No"* when asked if he liked travelling on trains. When asked *"Why?"* the response revealed a preference for cars based on what is known rather than the specific reason/s for not liking trains: *"Nowt actually. I'm just used to travelling in cars"* (Sowerby Group 2).

8.7 Focus Groups: Children's Likes and Dislikes, Public Bus Travel

Most of those taking part in focus groups had used public buses and recalled journeys. Approximately a quarter of the 119 children liked bus travel and 47 responses were given in favour. The children gave one or more of the examples in Table 8.6.

Table 8.6 Children's Reasons for Liking Public Bus Travel

Reason	*No. of Responses*	*Examples*
Facilities	(13)	quite relaxing, comfy seats
Views	(8)	from top deck, from windows
'Eco' friendly	(7)	less polluting
Fun	(4)	pulling faces at driver (or vice versa), falling off seats, sitting at back.
Independence /Socialise	(5)	going with friends not parents socialise with friends
Cheaper	(4)	cheap day rider tickets, bus passes.
Miscellaneous	(6)	no problem parking, don't pay to park.

There were 143 responses given for *disliking* bus travel covering a range of reasons as shown in Table 8.7.

Table 8.7 Children's Reasons for *Not* Liking Public Bus Travel

Reason	*No. of Responses*	*Examples*
Poor facilities	(50)	litter, crowding, bumpy/rocky, smell
Bus crashes	(10)	Road accident or bus skids off road
Safety issues	(20)	internal accidents, no seat belts, driver competence
Poor standard of service	(17)	late, slow, not reliable
Other people	(16)	noisy, smoking, mobile phones, drunks, strangers, knives
Cost	(8)	expensive
Drivers	(6)	grumpy, uncaring drivers
Miscellaneous	(16)	boring, no music, get lost/stuck in traffic, travel sick, get wet at bus stops, lose things.

The dislikes for public buses were given as reasons for restricting travel on them or avoiding buses altogether. The 30 responses relating to 'Safety issues' were discussed in Chapter7. Analysis of the vignette travel questionnaire revealed that 31% of respondents thought children *liked to travel by public bus* therefore children were reasonably accurate in their perception about peers. Some children had multiple criticisms for public buses:

> *"I don't like them because they are too expensive. It's a five minute drive and it costs about a £1. I hate the noise. I hate the way there's no windows on some buses and they're not very clean, they are always late and really slow"* (Riverside Group 4).

8.8 Focus Groups: Children's Likes and Dislikes, Walking

Many of the children liked walking and 93 gave favourable responses as shown in Table 8.8. Of the 93, 25 stated they liked walking for short journeys or if there were no steep hills! Some of those who liked it also acknowledged one or more dislikes such as finding it tiring on long journeys and these are included with the 55 responses shown in Table 8.8. Particular journeys were favoured by some such as walking to school, or in the country. Several schools had been on school trips and most children had enjoyed these. Children gave one or more reasons for their likes or dislikes.

Table 8.8 Children's Reasons for Liking to Walk

Reason	*No. of Responses*	*Examples*
Health Aspects	(33)	good exercise, being in fresh air,
'Eco' friendly	(4)	it's not causing any pollution
Engage in other 'fun' activities	(14)	practise dancing, play games, time to think
Advantage over car	(10)	can use short cuts, no parking
Socialise with friends	(3)	chat with friends
Miscellaneous	(4)	something to do, independence, versatile.
Walk for some trips	(16)	short trips on flat roads
" " " "	(9)	if not raining/cold, have time to walk.

8.8.1 Like Walking: Illustrative Quotes

Health Aspects:

> ***Q.*** *"Why is walking good for you?*
> ***A.*** *Because its exercise and you lose weight a bit, it's good for you"*

(Ireland Wood Group 5).

"Yeah, they're [walks] *well cool. You get exercise"* (Mt Pellon Group 6).

Engage in other Activities:

"Sometimes its fun because you can play games as you walk the dog"
(Ireland Wood Group 2).

Advantage over car:

"Yes, because you don't get traffic jams, somewhere,
like Blackpool you get trapped" (Sowerby Group 3).

Walk for some trips:

Q. *"So is it good for short journeys?*
A. *Yes, say for under half an hour"* (Ireland Wood Group 1).

A1. *"If I'm late then in a car. If I'm early then I just go walking.*
A2. *If it's cold I'll be in a car"* (Mt Pellon Group 3).

Analysis of the vignette revealed that 45% of respondents thought children *liked to travel by walking* therefore children were reasonably accurate about their peers. Approximately a third of the 119 in the focus groups did not like walking in any circumstances. Their reasons are shown in Table 8.9.

Table 8.9 Children's Reasons for *Not* Liking to Walk

Reason	***No. of Responses***	***Examples***
Physical effect	(39)	hurts legs, get tired, hot /sore feet, get wet, sunburnt, bitten by things
Safety	(6)	strangers (4), pollution (1), traffic (1)
Slower than car	(4)	
Miscellaneous	(6)	lots to carry (x2), don't know, eczema, walk in dark, uneven /slippery surfaces.

8.8.2 Dislike Walking: Illustrative Quotes

Physical effect:

"The bad thing about walking is your feet hurt a lot" (Mt Pellon Group 2).

"The bad thing about it is that when you walk too far your legs ache
and you trip over but you can't trip over in a car" (Mt Pellon Group 4).

Safety, traffic:

"your shoes get dirty and you might fall over, [onto road]
particularly when it's raining" (Riverside Group 3).

Slower than car:

"it's better than walking as you get to places faster" (Ireland Wood Group 3).

Miscellaneous: *"Because it's boring when you walk and you get tired"* (Ireland Wood Group 2).

The comments made by eight children suggested parents influenced them:

> *"We do walk sometimes but my mum and dad are trying to walk around every night at least once a week. We do try to walk to more places than we usually do"* (Sowerby Group 1).

> ***Q.*** *"What about walking to school, do you like that?*
> ***A.*** *No. Because my mum wants to walk with me"* (Weetwood Group 5).

8.8.3 Where Do the Children Go Walking?

When asked about destinations, the children's responses suggest independent mobility is restricted by parental approval. A comparison with the replies to this question for cycling (section 8.9.3) shows vital differences. Firstly a greater number of children are able to walk to *specific* places for *transport reasons* such as to school. Walking forms 'part journey' travel when using public transport such as going to local towns or cities requiring walking at either end. They also travelled with parents when shopping which also provided the opportunity to use both modes:

> *"Yeah, I walk around town. I walk when my Dad parks his car into the car park and then we walk round town, go to the shops and stuff"* (Mt Pellon Group 2).

Other outings were for *recreational* walking, for instance sightseeing visits:

> *"I like walking to Mill Bank because it's a nice view. I like walking over the tops"* (Sowerby Group 4).

Hence the children could describe a broad range of experiences encompassing purposeful transport walking (school, shops, visiting), as well as leisure activities (countryside, walking dogs). These included more references to walking with *adults,* albeit not all liked this aspect:

> *"when my mum's shopping my legs hurt. She walks round all the time"* (Mt Pellon Group 6).

Eleven made reference to having 'fun' when walking but many of these were talking about the activities walking enables them to do:

> *"sometimes we go for long walks with them in the park which is quite fun"* (Weetwood Group 3).

While on the topic of 'owning a car' a pupil raised a point regarding collectivity:

> *"I'd use my car all the time because if people were willing to cut down and just use it for when it's very important for long distances, I'd join in because I'd be using less fuel. But if just a few people*

like us try and walk everywhere it's not going to help anything because there's still other people who are going to do it. So there's no point. But if everyone was willing to do it then yes I would, I'd walk"
(Sowerby Group 6).

8.9 Focus Groups: Children's Likes and Dislikes, Cycling

Ninety five of the 119 children owned bikes albeit that some were unroadworthy. Approximately two thirds of these, 65, liked using their cycles. A further 15 liked cycling but also had reservations. Some of the responses coded as 'Personal gratification', 'Fashion', 'Socialise with friends' were illustrated in Chapter 7. The 79 responses given for liking to cycle are shown in Table 8.10. Children gave one or more reasons. Analysis of the vignette revealed that 55% of respondents thought children *liked to travel by 'cycling'* therefore children were reasonably accurate in their perception of peers. However, when asked about the reason why they like travelling by bike, their responses indicate that they attach a different meaning to the word 'travel'. Travel for many was 'playing' or 'riding' on bikes for pleasure rather than using them as a form of transport to go to places. Section 8.9.3 expands on this point.

Table 8.10 Children's Reasons for Liking to Cycle

Reason	*No. of Responses*	*Examples*
Personal gratification	(32)	having 'fun' such as playing tricks going fast, wind in hair
Health aspects	(16)	good exercise, being in fresh air
'Eco' friendly	(3)	no pollution
Advantages over other modes	(14)	faster than walking
Family occasion	(3)	able to ride with family
Fashion 'cool'	(6)	like the fashionable bikes
Socialise with friends	(3)	chat to friends while cycling
Versatile	(2)	can do 'anything' on bikes.

8.9.1 Like Cycling: Illustrative Quotes

Personal gratification, 'having fun':

Q. *"Those of you who like travelling by bike, would you like to tell me what it is you like about it?*
A1. *I like standing up and doing, like, pulling, trying to pull wheelies and falling off.*
A2. *Miss, I like doing bunny hops on it. When two wheels come up off the ground"* (Mt Pellon Group 5).

"The good thing about bikes is that you can go really fast and

you can do tricks on bikes also. With bikes you can hold on so you can feel secure. With roller blades you can topple over" (Weetwood Group 4).

Q. *"Do you like travelling on your bike?*
A. *Yes, I like pulling skids"* (Ireland Wood Group 4).

"I like riding bikes because it's really fun 'cause you can do tricks and stuff like that" (Mt Pellon Group 1).

Eco friendly:

"I like bikes because they're fun and they're eco friendly" (Riverside Group 4).

Health aspects:

A1. *"Normally I do it to build up my legs, muscles.*
A2. *We play football and so need a lot of health"* (Sowerby Group 2).

Advantages over other modes:

"It's easier to travel round than in a car or bus, the train is quite fast and you don't get in traffic jams when all the fumes come off but bikes are good because you can go as fast as you want or slow as you want" (Riverside Group 1).

"It gets you places quicker that walking, like a car" (Sowerby Group 3).

Family occasion: *"I like to go with my family"* (Ireland Wood Group 3).

8.9.2 Dislike Cycling: Illustrative Quotes

Approximately one third of the children did not like cycling and avoided it. The following reasons also apply to those who had reservations: (11) safety (technical problem such as brakes fail, wheel buckles), (9) tiring/legs ache, (4) safety (traffic, roads), (3) breaks down, (2) get muddy/wet, (1) pollution from cars, (1) bumpy.

Safety: technical problem:

"when on a curve and the brakes don't work, might fall off" (Ireland Wood Group 5).

Safety: traffic:

"I think bike travelling can be quite dangerous, particularly if there's two way traffic and really busy roads" (Ireland Wood Group 1).

Tiring: *"Too tiring"* (Sowerby Group 2). *"...but your legs get tired after a while"* (Sowerby Group 3).

8.9.3 Where Do the Children Go Cycling?

When the children were asked about destinations, the expressions used in responses also signify that a different purpose and meaning is given to the activity known as 'cycling or biking.' Some showed surprise to be asked this, making the distinction:

"I don't exactly travel anywhere, but my mum she likes to walk a bit, when we go out for walks, I either take my scooter or my bike"
(Mt Pellon Group 1).

"I don't travel on bikes I just play on them" (Sowerby Group 2).

Q. *"Whereabouts do you go on your bike?*
A. *Sometimes I like to cycle around the park and stuff, it's nice, but I don't usually cycle somewhere, I just cycle because it's nice"*
(Weetwood Group 2).

Q. *"Do you travel on bikes at all?*
A. *I don't travel on bikes. I just ride them.*
Q. *Is that just a sort of fun thing?*
A. *Yes it's a hobby"* (Sowerby Group 1).

Being with friends on cycles is part of the attraction. The social context of cycling was discussed in Chapter 7. Ten described 'bike rides' to a canal or other 'off road' location: *"sometimes go on bike rides to the park"* (Weetwood Group 3). Seven mentioned going to 'the shops' but replies suggest the purpose is not to shop:

Q. *"Do you do the shopping on your bike?*
A1. *I like it because you can give people rides on it*
Q. *What about you, do you like going out on your bike?*
A2. *Yes it's alright but I don't really do the shopping by bike because its difficult with carrier bags on the handle bars, wobbling, but I use my bike to go round to my friends and just cycle around"*
(Ireland Wood Group 4).

Six others named a specific place such as Norland, Ryburn or 'to town' or to a relative who lives nearby. Four travelled to/from school on cycles. The most popular place to 'cycle', mentioned by 22 children, was a local street/s in the district where they lived and described it as 'play out' on bike: *"Yes. I always play out on it when I get home. Play out on bike"* (Riverside Group 5). Several take their cycles in the car for bike rides in the countryside. Three mainly use their bikes when on holiday and three rode them alongside a parent who walks.

8.10 Focus Groups: Restrictions on Children's Cycling

Six children mentioned *specific* places they go to and these were pupils at Sowerby Village school. It is likely children are given more freedom to travel to destinations accessible along quieter rural routes. Nevertheless some children in the focus groups at Sowerby also gave similar responses to those in other schools with regard to staying close to home. The children who liked 'cycling'/'biking' were asked about travelling on roads, and a common response was to talk about the hazards and restrictions imposed

on them by parents, schools or the terrain:

"No. I'm allowed up my street but not allowed on the road because it's a busy road" (Mt Pellon Group 3).

"On my street there's like these lines to show where the main road starts and I just have to turn where the lines are" (Mt Pellon Group 3).

A1. *"We don't have anywhere to keep them.*
A2. *And because they get nicked and because 'Miss' goes on a moody"* (Mt Pellon Group 1).

"but I don't bring my bike to school because I have to go up loads of hills" (Riverside Group 5).

8.11 Time Spent Cycling, Week of Diary Set Completion

During the week of diary set completion only 4 pupils (1.3%) of a total of 315 travelled to and from school on their cycles. The average travel time for their trips was just under a minute. Of the 32 (10%) who travelled on cycles to see 'Friends' or to 'Other' places, the mean travel time for the 32 was 3.98 minutes. Time spent cycling to specific places was shown on the travel diaries whereas 'Other Cycling' was shown on the 'Out of School Sports & Exercise Diaries'. In comparison, 103 (33%) showed an amount of time spent on the SED, the mean time spent cycling on this was 37.78 minutes for the 103. This figure reduced to half (trimmed mean = 18 minutes, if 5 outliers who cycled for more than >560 minutes were excluded). Nevertheless this highlights that time spent cycling for transport is done by far fewer children. Some of the activities described by children as 'cycling' (section 8.9.3) would qualify as exercise whereas others are limited in their physical activity value. The analysis of time spent 'cycling' provides statistical evidence to support the conclusion from the qualitative analysis that many children attach a different meaning to the word 'travel' when referring to what they do on their bikes.

8.12 Focus Groups: Children's Likes and Dislikes, Car Travel

Approximately half of the 119 children cited reasons for liking as well as disliking cars. However, most did not change their preference for car travel because of dislikes. Some sought to manage these by limiting car use, for instance using the train for long journeys, sitting in the front seat of a car to avoid travel sickness. Sixty seven gave reasons for not liking car travel as shown in Table 8.11. When the children gave their reasons for liking car travel they viewed themselves as *passengers* rather than drivers,

hence tended to focus on immediate rather than future needs. Examples were: being able to listen to radio/CDs or stick heads out of windows, relax, fall asleep. A distinction is drawn between the children's responses to liking car travel and those given in answers when asked why they wanted to learn to drive when older, reported in section 8.15. To provide context to this, section 8.13 presents the results of statistical analyses of children's future aspirations.

Table 8.11 Children's Reasons for *Not* Liking to Travel by Car

Reason	*No. of Responses*	*Examples*
Poor facilities	(24)	hot/stuffy (9), smell of petrol (6), cramped (4), others (5).
Car sickness	(18)	often in relation to motorway/long trips or sitting at the back of the car
Not 'Eco' friendly	(7)	causes pollution (several dissuaded from driving, others still want to use cars).
Traffic jams	(5)	
Car accidents	(5)	
Long boring trips	(3)	
Miscellaneous	(5)	don't know, skid on ice, speeding, makes you lazy.

8.13 Children's Future Aspirations, Learning to Drive/Own a Car

A question repeated on several research instruments asked children, *"Do you want to learn to drive (own) a car when you are older?"*. Children could answer by ticking a 'Yes', 'No' or 'Don't know' box in response. In the study schools, most nine to eleven year olds answered this on the vignette travel questionnaire (n=476) or else as part of the questionnaire included in the diary sets[2] (n=42). KMC children completed the TEQ (n=89). Only one response for each child was included in the analysis. Table 8.12 is the data for the amalgamated sample of all nine to eleven year olds in both the study and KMC schools (n=607 or n=603). Very few of the children in the sample responded with a 'no' or 'don't know' for wanting to learn to drive or to own a car when older. In this large sample[3] significant differences in the proportions between each car ownership category were found: 78% of children from 'no car' households wanted to learn to drive whereas 86% of 'one car', 93% of 'two car' and 95% of 'three car' wanted

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[2] Most pupils completed both, some only completed one of these.

[3] Analysis of a smaller sample of pupils, those who completed a vignette travel questionnaire (n=476) produced a chi square probability just above significance: $p<.074$.

to learn to drive. The percentages were very similar for wanting to own a car when older. A chi square test showed that the differences in proportions between the car ownership categories were statistically significant (Learn to drive, χ^2 11.783, $p<0.01$, df 2, Own a car, χ^2 11.179, $p<0.01$, df 2). The chi square values are for categories collapsed into 'no car/one car,' and 'two or more' to eliminate expected cell counts of less than five which appeared in the test result for the crosstabulation shown in Table 8.12. The 'expected' counts were examined to eliminate the possibility that the statistical significance is attributable to differences in distribution, rather than as a result of biased subsamples.

Table 8.12 Nine to Eleven Year Olds: Learn to Drive, Own a Car, by Cars in Household

Learn to Drive	**No Car**	**One Car**	**Two Car**	**Three/More**	**Total**
Yes	42 (78%)	214 (86%)	204 (93%)	81 (95%)	**541** (89%)
No	2 (4%)	12 (5%)	5 (2%)	1 (1%)	**20** (3%)
D/K	10 (18%)	22 (9%)	11 (5%)	3 (4%)	**46** (8%)
Total, Learn	**54** (100%)	**248** (100%)	**220** (100%)	**85** (100%)	**607** (100%)
Own a Car	***No Car***	***One Car***	***Two Car***	***Three/More***	***Total***
Yes	41 (77%)	207 (84%)	201 (92%)	80 (93%)	**529** (88%)
No	3 (6%)	11 (5%)	6 (3%)	0	**20** (3%)
D/K	9 (17%)	27 (11%)	12 (5%)	6 (7%)	**54** (9%)
Total, Own	**53** (100%)	**245** (100%)	**219** (100%)	**86** (100%)	**603** (100%)

Percentages rounded to nearest 1%

8.14 Comparison of Younger and Older Children's Future Aspirations

The 7 to 9 year olds were also asked on the School Travel Survey (STS) if they wanted to learn to drive/own a car when older. Overall, 240 (78%) of the younger children wanted to learn and 227 (74%) wanted to own a car. In both cases, 55 or 56 (18%) responded with a 'don't know'. The proportions of girls and boys who wanted to learn and own a car when older are identical; 120 girls and 120 boys. The 'don't knows' are higher for girls but this is not statistically significant. A comparative analysis of age groups for pupils in the study schools was undertaken. The data for Years 3 and 4 (n=293) those who completed the STS were combined with Year 5 and 6, the older pupils who completed the vignette travel questionnaire (n=471). The totals exclude all missing cases for the variables 'age', 'learn to drive' and 'own a car', overall total (n=757).

Significant differences were found in the proportions between Years 3 and 4 and between Years 5 and 6, for both (Learn to drive Yrs 3 to 6, χ^2 12.349, $p<0.05$, df 2, and Own a car Yrs 3 to 6, χ^2 13.157, $p<0.05$, df 2). A higher proportion of pupils in Year 5 and 6 want to learn to drive (89% of older pupils compared with 78% of younger). This suggests that the desire to learn increases with age. Furthermore it appears that an increase in only one year has an effect. When the nine year olds are included with the seven and eight year olds, the proportions indicating a 'Yes', they wanted to 'learn to drive' increases from 78% to 82%, and by a very similar percentage for 'Yes' to 'own a car'. Table 8.13 shows the crosstabulation.

Table 8.13 Comparison of Younger and Older Children: Learn to drive, Own a car

Learn to Drive	**Age 7, 8 and 9**	**Age 10 and 11**	**Total**
Yes	319 (82%)	333 (90%)	**652 (86%)**
No	9 (3%)	9 (3%)	**18 (2%)**
D/K	60 (15%)	27 (7%)	**87 (12%)**
Total, Learn	**388 (100%)**	**369 (100%)**	**757 (100%)**
Own a Car	***Age 7, 8 and 9***	***Age 10 and 11***	***Total***
Yes	302 (78%)	324 (88%)	**626 (83%)**
No	20 (5%)	11 (3%)	**31 (4%)**
D/K	66 (17%)	34 (9%)	**100 (13%)**
Total, Own	**388 (100%)**	**369 (100%)**	**757 (100%)**

Percentages rounded to nearest 1%

The conclusions from an analysis of 7 to 11 year olds' future aspirations are: the majority aspire to learn to drive or own a car when older; the number of cars in household is an explanatory variable, as car ownership increases, so does the desire to learn how to drive and/own a car. The association may not be identified if sample sizes in car ownership categories are less than 30 and was not identified in Year 3 and 4 pupils. It is highly likely that desire increases with age and there were no differences according to gender. The reasons given by children in the study schools (n=119) for wanting to learn to drive/own a car are reported next. Parents were asked about their child's future aspirations and examples of responses are given in section 8.17.

8.15 Focus Groups: Why Do Children Want to Learn to Drive?

In contrast to the children's responses regarding the reasons they like to travel in cars, asking about 'learning to drive when older' often produced animated responses such as hands up in eagerness to answer. This reaction was spontaneous, the children did not

look around to see the response of others in the groups. Overall the children provided an array of reasons why they wanted to learn to drive and some gave several. The responses given to the related question about owning a car usually duplicated earlier responses but 15 children gave additional reasons which are also shown in Table 8.14.

Table 8.14 Children's Reasons for Wanting to Learn to Drive/Own a Car

Reason	*No. of Responses*	*Examples*
Advantages of cars *over* public transport (56 responses):		
i) Convenience	(24)	waiting for buses, buses slow, quicker, timesaving-if in hurry set off later, in emergencies, stuff to carry.
ii) Go anywhere	(21)	places public transport does not go, long distances (out of town, holidays)
iii) Cost	(6)	cheaper
iv) General	(5)	get wet at bus stops, buses less safe, buses less private, don't like strangers on bus.

Employment related (26):
Specific/any job (17), Being on time for work/related activities (9)

Personal gratification (17):
Status, fun to drive, go fast, passing driving test, other

Family needs (11):
Take relatives out , carer role, visit relatives.

Independence (7) **Parent / relative or other drives** (6) **Related to walking** (6)
Miscellaneous (11):
Go to places (4) I don't know really (2) A mode of transport (1) It comes in handy if you drive (1), Money spent on car so will use it, I don't want to find it difficult to travel around when I'm older, It's something else to do rather than just in the house doing nothing.

'Own a car' additional reasons (15)
Advantage to own, rather than rent a car (10), To own is to control (5).

Some replies suggested deeper thought and consideration of themselves in the adult role, as illustrated by the quotations:

8.15.1 Learning to drive: Illustrative Quotes

Advantage of cars over public transport, go anywhere:

> *"and the bus doesn't always go where you want to go"* (Ireland Wood Group 1).

> *"If you're going somewhere and you need to get to an exact spot you can drive there by car but by train you can't"* (Riverside Group 3).

Advantage of cars over public transport, convenience:

"You can travel faster 'cause you don't have to wait
for no bus at the bus stop. You can just get in your car" (Mt Pellon Group 4).

Q. *"Why do you go in the car if you live so close?*
A. *Because if I'm late, sometimes I watch television*
and then find out that I'm late, so I just go in the car" (Weetwood Group 5).

Advantage of cars over public transport, cheaper:

"and its cheaper than getting public transport everyday" (Riverside Group 1).

Advantage of cars over public transport, general reasons:

"In the winter you might get wet" (Riverside Group 2).

Employment related, jobs:

"To carry your tools if you've got a job" (Sowerby Group 2).

"jobs like Royal Mail, or buses, or, ambulance, army, anything like that" (Sowerby Group 4).

Illustrative quotes for 'Employment related, Being on time for work' were discussed in Chapter 5 in relation to the topic 'Cars as a Timesaving Device'.

Personal gratification:

"Because I would like to go fast" (Mt Pellon Group 5).

Family needs:

"because your grandparents they might not be able to walk
very far so you could take them somewhere" (Ireland Wood Group 1).

Independence:

"If you want to go somewhere and if your Dad was working
you would be able to go on your own" (Ireland Wood Group 3).

Parent/Relative or other drives:

"I want to drive just because I've watched my mum and dad do it so want to" (Ireland Wood Group 2).

Related to walking:

"you have to walk up hills, right. I don't like walking" (Sowerby Group 6).

Own a car, advantage over renting a car:

"because it's your own you adjust to it and get more used to it" (Ireland Wood Group 1).
"If you rent a car it's more expensive 'cause you've got to pay every week or every month but with a car, you still have to pay for petrol" (Ireland Wood Group 1).

Control of car:

"you might want your own space where you can do what you want in it" (Ireland Wood Group 3).

Fifteen did not want to learn to drive/own a car and the reasons are reported below.

8.16 Children's Reasons for Not Wanting to Learn to Drive/Own a Car

The 15 of 119 pupils who did not want to learn to drive or own a car were dispersed across 12 different focus groups. Five of the fifteen *"didn't know"* or were *"unsure"*. Three did not trust themselves not to crash or speed. One wanted a chauffeur and another a future wife to be the driver! A pupil who intended to join the navy thought it unnecessary if he lived aboard ships. Five pupils spoke of environmental concerns as being the influencing factor for *not* wanting to learn to drive:

> *"but I don't think I'll drive when I get older 'cause there's too many cars and there's too much pollution"* (Mt Pellon Group 1).

In addition to the 5, 5 others thought it better to drive only in specific circumstances such as emergencies. Some of the pupils attending four schools (Riverside, Ireland Wood, Sowerby, Mt. Pellon) revealed environmental knowledge and were asked about the source:

> ***Q.*** *"Where did you learn about that, the ozone layer and pollution?*
> ***A.*** *Some of it I've read, some is from school and some is from what my sisters have told me"* (Ireland Wood Group 1).

Pupils at three schools mentioned geography or history lessons in Yr 5 and two here also spoke of television programmes or the News. Several at Mt. Pellon showed awareness but did not name the school as the source:

> ***A.*** *"Miss, if nobody had a car there wouldn't be global warming.*
> ***Q.*** *Where did you learn about that? That's about the environment isn't it?*
> ***A.*** *Miss, I don't know. I just heard it"* (Mt Pellon Group 4).

A conflict could be heard in the focus groups. In the following, the topic of pollution was raised after the children had already talked about wanting to learn to drive/own cars. Their previous replies were moderated:

> ***Q.*** *"Does that put you off travelling in cars at all, because of the pollution?*
> ***A.*** *Yes.*
> ***Q.*** *But you all said you wanted to learn to drive when you were older. You're all wanting to own a car.*
> ***A.*** *But if I did I'd only go shopping or something, but not all the time. I'd try to walk to the shop"* (Sowerby Group 6).

> *"I don't want to own a big car because they're the worst for the environment, just a small car"* (River Group 1).

Several others responded by saying they would only drive 'eco friendly' cars:

> *"I don't want to own a car, but if the oil runs out I would get a car as I think they would be hydrogen powered"* (Ireland Wood Group 4).

8.17 Interviews: Learning to Drive, Own a Car, Parents' Views

The interview schedule included a question on whether interviewees thought their child wanted to learn to drive or own car when older. Only *two* of twenty two interviewees did *not* think their child wanted to learn when older. Several of the parents did not know if their child wanted to own a car. A comparison of the responses parents gave with those of the children also suggested that various sources of influence act on children such as rides in a theme park, older children, future employment needs. Examples from the transcripts are:

Q. *"Do you think that any of your children want to learn to drive when they're older?*

A. *They've all expressed an interest in it, yes. We went to 'Legoland'* [4] *not long ago and they have a little driving school at Legoland and they all wanted to go on it.*

Q. *Really? Even your youngest?*

A. *Yes. And they all loved it. But yes they all, I don't know, I think they're aware of teenagers that they know sort of having driving lessons and they think well that's just what you do when you're 17, you just have driving lessons and learn to drive"*

(Interview No.10).

Q. *"Have they brought it up in the conversation or have you?*

A. *No they've initiated it.*

Q. *What's the reason for them bringing it up? Why have they said they want to learn to drive?*

A. *I think in relation to work. When we're driving past cars, probably, for the boys.*

Q. *Is it that they're starting to think about their future occupations and whether they'll need a car, is that it?*

A. *Perhaps so, they have talked about what they want to be when they grow up, so probably related the two"* (Interview No.15).

A parent's attitude towards her children learning to drive was elicited when replying to a question about school travel plans:

A. *"But I think as you're giving them life skills I think it is a life skill.*

Q. *Is there any particular reason do you think, regarding the driving?*

A. *I think because everybody does now. Because it's become common-place, it's become something that we do. Not to be able to do it you're different then. And it does give you freedom"* (Interview No. 20).

The parents' views regarding the *types of car* their children wanted to own when older were reported in Chapter 7.

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[4] Theme park in Windsor, Berkshire.

8.18 Interviews: Time Spent Walking, Cycling, as a Family

The parents were asked about walking journeys in which children accompanied parents, that is, if they walked together as a family at any time during the week. 'Family' was explained to mean the child in the age group for the research and if applicable, both parents, with or without siblings. Walking could be for transport trips such as shopping or recreational walks. All 22 households spent little time walking together as a family regardless of car ownership. For instance, only four went out walking together once per week, one did so bi-weekly, nine households walked once a month and one on a quarterly basis. One household did not walk together as a family. Four of the six single parents walked for transport reasons usually to take the child to school. Regarding cycling, seven households cycled two/three times a year on holiday or on family days out. Typically this included family holidays and days out when cycles were taken by car to the countryside or leisure park. Thirteen households do not cycle with their child at any time but several accompany their children on foot to supervise. Two husbands/partners cycle on a regular weekly basis with a family member. One of these travels with an older sibling to school, the other for recreation. The following quotes illustrate that emotionality has a bearing on the freedoms children are allowed when walking or cycling:

Q. *"Do the children go out together, the three of them, on a regular basis?*
A. *Yes, they're starting to want to go on their own, but, again, because of the issue of safety, one of us has to supervise.*
Q. *When you say 'safety' are you thinking, about road accidents in particular there, or any other form of safety?*
A. *Possibly, the issue around strangers, abduction, they have to, if they went in the wood, say, they know they can only go a certain distance because I need to be able* **to see** *where they* **are***"* (Interview No.15, interviewee's emphasis).

Q. *"Do they have buses to ...?* (name of village*)*
A. *Very few that go along here. One problem we do have here is that there are very few buses but also there's no pavement. So it's quite a dangerous thing to have to walk the children to the main road..... And that road is lethal. It's lethal in a car. So if you're walking you're dicing with death. So we have to keep the children safe"* (Interview No.16).

Q. *"What about cycling? Do you go out cycling at all?*
A. *During the summer we did go out a lot to the Crossley Heath playing fields and we cycle around in a square round on the grass there. But not on the road. I don't feel safe on the road"* (Interview No.10).

Q. *"Do you cycle together as a family?*
A. *Cycle together as a family? No. Would be scared to let her cycle on roads"* (Interview No. 22, notes only).

8.19 Discussion: Stereotypical Image Associations

The vignette travel questionnaire is a useful instrument for demonstrating that it is possible for children to learn positive and negative stereotypical images often attached to transport modes by adults (see Marsh and Collett 1986, Darmon 1991, Clark 1998). Distinct patterns were detected in the data and the children associated particular modes with age, character types or socioeconomic status. The strongest stereotypes were for the trendy young and the elderly, the former being linked with a status vehicle and the latter, with public transport, (particularly buses) as well as walking. The strongest association for the manual workers was the 'average' car. Two differences by gender were also found such as a stronger association, elderly woman with buses, housewife with walking. All of these findings suggest a recognition by children *of the differences* in power and status held by some members of society which is reflected in part, by transport mode. Analysis by car ownership showed that the findings were common to all children regardless of household car ownership level which suggests that these stereotypes are likely to be learned from multiple sources. The children were reasonably accurate in their perception of peers and whether they liked to travel by public bus walking or cycling. This was true also regarding families liking to walk – only four parents mentioned that they walked as a family once per week, albeit there is no evidence that the interviewees are a representative sample.

The image of the elderly as bus travellers or walkers was investigated further. A table requested from the NTS showed estimates for public bus travel for the three years prior to fieldwork. Trip rate varies by age and the highest number of bus journeys, nationally, were made by the 16-24 age group. Their annual average is 115 per person in Gt. Britain, increasing to 136 in Yorkshire and Humberside. For the 'over 65s' the figure is 69 reducing to 65 in Y & H. The estimates for other age groups in Y & H are: Under 16 = **57,** 25-34 = **71,** 35-44 = **40**,[6] 45-54 = **59**, 55-64 = **50** (Source: NTS, 1999/2001, DfT, London). Regarding walking, 26% of those aged over 70 walk three or more times a week. This compares with 43% of those aged 17-20. Of all age groups,

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[6] For age groups 35-44 and 55-64, the NTS sample size for Y & H is too small to derive estimates. The figure shown is for England.

those over 70 are the ones: *"least likely to make walks of twenty minutes or more"* (DfT 2005,Table 2.12 p.22). Table 2.12 includes walks if they last 20 minutes and if they are on, or away from the public highway. However, the statistics do not distinguish between males and females. An analysis based on number of bus journeys as a proportion of total journeys by all modes, per year, may also produce figures which vary to the ones quoted above. Methodological issues relating to the vignette were discussed in Chapter 3. Caution is warranted before generalisations can be made from the findings. Repeating the survey in London for instance may reveal that children have a different understanding of who uses public transport. It was not possible to investigate if children's perceptions varied according to the context of travel. The explanation on the front of the vignette reads: *'The pictures show a different way of travelling around for adults, young people and children when they travel to work, to visit their friends, travel to school or go anywhere else'.*

8.20 Discussion: Cycling

A finding from the vignette is that 55% percent associated children with 'liking to travel by cycle' but the amount of travel shown on their diaries did not concur with this. Instead entries appeared on the Sports & Exercise Diary. The different meaning attached to 'travel by cycling' highlights how the findings from quantitative data can be misleading even when simple terms are used. In both the coded and written responses, the association made is with physical activity for sport and health reasons. The depiction of the cycle on the vignette is that of a standard cycle for general usage. It is a style popular in the 1970's and 1980's, often being referred to as a 'shopper bike' fitted with supports for a basket to enable transportation of shopping and other goods. They were designed for ease of use (simple gears) and comfort when travelling or transporting. Although the photograph was chosen to deliberately convey the idea of a vehicle for transport (rather than a vehicle for sport and exercise such as a mountain bike), only 41 (8%) associated it with the person most likely to have used it - the housewife. Instead a *male* tennis player was selected and many of the written responses collaborate the 'sporty' character association, the physical activity element being the prominent image. The latter idea expresses a finding from the focus groups in that many of those sampled view the cycle in terms of a means of fun and entertainment rather than as a vehicle for travel. In the mid 1980's, a survey on

children's personal mobility pointed to the cycle being *"more a toy than a method of travel"* (Hillman, Henderson and Whalley 1986). The gap between time spent on travel to specific places and time spent on the children's concept of 'cycling' suggests a negative impact in the future. As the children mature, the fun aspect will lose momentum. Children enjoyed playing on cycles with friends but family experiences are often limited to off road holiday cycling, accompaniment on foot or to a local park. These are examples of implicit 'social processes' for instance, it is what the parents *do not do* which impacts on their attitudes towards cycling. An explicit process is operating when children are given verbal warnings such as restrictions being placed upon them by parents and schools. There is a desire *by some* to cycle for health reasons and this is a positive finding for the future. The strong association with sport and exercise permeates different sources: adult role models who dress for cycling in sporting attire with protective headgear emphasises sport, rather than travel. Cycles suitable for transport rather than mountain biking are not in abundance in high street shops. This sporty image is abundant in the media – the sports coverage on television is about cycling as a competitive sport. Celebrity role models drive cars rather than ride cycles. Tolley (2003) notes the steady increase in those who see cycling as a healthy recreation activity rather than as a mode of transport. The analysis of time spent 'cycling' provides statistical evidence to support the conclusion from the qualitative analysis that many children attach a different meaning to the word 'travel' when referring to what they do on their bikes. A conclusion is that cycling is no longer perceived in terms of a mode of transport by many 9 to 11 year olds. A discussion in Chapter 4 highlighted the difference between the author's finding and Dixey (1998) regarding the proportions of 7 to 11 year olds who prefer to cycle to school. A conclusion of the author is that an unmet need for cycling to school exists, but the proportions of children wanting to do so varies. Factors such as socioeconomic status and the geography of an area can affect this.

8.21 Discussion: Likes and Dislikes for Public Transport

Some of the children's dislikes about public transport are related to their age. Travel sickness is suffered by adults but many children grow out of it. Small stature can heighten senses therefore trains sound louder and the gaps between platforms appear larger. This also applies to the children's views of public buses. However, a pertinent

point is that when children become adults some of their reasons for liking public transport will disappear such as seeking an opportunity to be independent from parents. Unfortunately many of those who have used public transport have learned about its shortcomings. Their criticisms echo adult opinion and will remain as a lifelong perception unless services are improved. In this sample approximately three quarters of children gave consideration to the advantages of car travel – not the disadvantages. They have a perception that cars provide convenience comfort and reliability. For public buses this is the reverse. Stokes and Hallett (1992) comment on how buses are marketed, drawing the distinction between adverts for cars and mountain bikes. There are differences in production quality, subtlety and message of communication. They add that buses are still seen as *"old and smelly"*, people interested in buses are generally thought of as bus spotters and bus users are generally associated with low status. Although this media image permeates, children in focus groups had also *experienced* various problems which compounds this negative image. Trains have a better image but are not considered as an alternative to cars, rather as a secondary mode useful in some circumstances. The way they use them echoed that of the usage by the sample of parents interviewed and may well be indicative of their train use in the future. Some children envisaged that time pressures in the future would limit their transport options or perceived the quality of public transport to be inadequate in meeting their needs.

8.22 Discussion: Learning to Drive and Own a Car

A large proportion of children wanted to learn to drive and own a car in the future. There were no differences by sex of respondent but differences in proportions between car ownership categories were found. This suggests that home environment has a bearing. Nevertheless, that three quarters of children from 'no car' households still want to learn suggests that external forces are also influential on children. The finding regarding the sex of respondents and future aspirations, is worthy of note. Data published from the NTS shows that the gap between males and females is closing: 61% of women now hold driving licences (81% of men). Of women in full-time employment 64% (71% of men) are main drivers of household cars compared with 58% of those who work part-time (DfT 2005). It appears that young girls are assimilating this change. In addition, respondents gave the sexes fairly equal scores on

the vignette questionnaire, therefore they are not making gender distinctions either in the way they view themselves, or perceive others, regarding travel mode behaviour. Children may be learning this from their own communities but it is also likely that the media is influential. Car advertisers now target women as well as toy manufacturers producing Barbie dolls that drive Porsches and Sindy dolls that drive Ferraris. Advertisers also target particular income groups for their cars – such as the readers of the Sun newspaper for instance, seeing adverts for cars they can afford.

The eagerness and multiplicity of responses given by children is indicative that they are making reasoned judgements rather than randomly ticking boxes on a questionnaire. The children provided a range of reasons and some took on the role of adults – as employees, as parents, as carers with responsibilities and time constraints. At times graphic descriptions displayed realisation of the pressures of modern living, having a job and a family to care for. A large number in the focus groups could not envisage fulfilling these roles without car transportation. The RAC report on 'car dependency' suggests that children learn that the car is a frequent and necessary tool for the organisation of everyday life (Goodwin 1995). Some children also associate a car as being necessary for doing some manual and non-manual occupations. The source of learning for this is more likely to be parents, schools and their own communities. Undoubtedly schools encourage punctuality and not being late for school but it is unlikely that warnings about lateness for meetings or employment stem from primary school. Careers guidance begins later at the age of 13. At times the children's responses in focus groups reflected media images for instance in their *choice* of cars, a topic discussed in Chapter 7. However, the types of cars the celebrity role models drive are very unsuitable for carrying the tools required by some occupations! Furthermore their insights about future employment incorporated insight into practical benefits of car travel which make it superior to bus transportation. A greater number of children at Riverside school associated the 'professionals' with train travel. Parents of children attending other schools may also travel by train to work but children at Riverside are more likely to be aware of a parent's movements because it is part of their own daily routine. All of the above suggests that children are relating to the real and everyday world they live in, as well as reflecting media images.

8.23 Discussion: Cultural Associations with Cars

In some respects, children made cultural associations with the car, perceiving its benefits in terms of what they know and have learned about every day life. The 'work ethic', attention to timekeeping, 'individualism' and cultural values of parenting, some spoke of only being able to achieve this if they have a car. Such values are reinforced from multiple sources of influence. An article in the Guardian discusses the national decline of volunteering for charity work. Longer working hours are suggested as one reason. Anita Roddick, founder of the Body Shop, is quoted as saying, *"We live in a culture of comfort and indifference, where young people are learning to measure themselves by wealth and what they are buying. They are losing touch of the wider issues of social justice and human rights"* (Guardian, 2002). Cars have become part of mainstream culture in the U.K. and elsewhere. They are incorporated in our major institutions, in the home (design of houses), family (lifestyle, parenting), employment, access to leisure and shopping facilities and so on. Therefore it is not surprising to realise that children raised in this social milieu are becoming *institutionalised.*

8.24 Discussion: Children's Freedoms and Emotionality

A finding of the interviews and focus groups is that emotionality has a bearing on the freedoms children are allowed when walking and cycling. This concurred with a report from a headteacher[6] when making requests to parents not to park so close to school gates. Parents responded to the headteacher by saying, *"they did not feel their children were safe, unless they actually saw them go into school"*. The parents' actions may invoke criticism in a transport context but culturally, they could be said to be behaving normally, that is reacting to perceived potential dangers threatening their offspring. It is natural for parents to be protective of children but this is mediated by cultural and subcultural concepts and definitions. These can change over time and may vary from place to place, for instance, it was acceptable to allow children greater freedom and independence forty years ago when traffic volume was much lower and streets thought to be safer. Hillman and Adams (1992) found that children's freedoms were restricted and age is the principal variable on this. A finding by Dowling (2000) was the interconnectedness of cars and mothering. She suggests that cars were viewed as an aid in implementing notions of *"good mothering"* by participants in her research. Thus a

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[6] Comment made during a meeting with head teacher of a Non-STP school.

study of cultural parental values and priorities is insightful when it comes to understanding parental car user behaviour and suggests that 'social processes' are as important as the cognitive. Protective instinct may override notions of 'time saving' and 'fuel economy' which are highlighted as being beneficial for parents who use walking buses (O'Fallon 2001:18). A conclusion in Chapter 6 is that the promotional literature for STPs is underpinned by mainstream health psychology's theoretical models. Several criticisms of these were discussed. An argument raised by Biddle and Mutrie (2001) with reference to physical activity, is that these models and theories have a limited focus on cognitive processes, resting on the presumption that a conscious 'decision making process' is explanatory for the behaviour patterns of individuals (p.128). A conclusion here is that emotionality can have a bearing on parental decision making and behaviour and undermine parental support for STPs.

8.25 Discussion: Contradictory and Mixed Messages

One child made an observation regarding collectivity during focus groups. She questioned the usefulness of some people walking when others continue to use their cars. Many of the car travellers and walkers related experiences *which involved a parent or relative*. Far fewer did so in relation to bus, train or cycling trips. In their everyday lives children see adults in their communities travelling regularly in cars. With the exception of Salterhebble, teachers at schools providing environmental awareness also travel to school by car. The message about cars not being 'eco friendly' had only reached a small proportion of children in the focus groups. A conflict resulting from mixed messages could be discerned in the responses of these children. They have to decide whether to heed the advice of teachers or else assimilate their behaviour and that of other adults. Few were dissuaded from car travel and learning to drive/own a car when older. 'Do as I say, not as I do' raises this issue on the topic of smoking and young people who have parents who smoke (Longrigg 2004). Other aspects of life appear to be of greater importance as well as being at odds with values relating to car use and care of the environment. Any *public* transport system incorporates values and priorities underlined by notions of 'community' and 'sharing'. Car driving for these children is based on a different value system based on individualised and *personalised* needs. Even efficient and streamlined public systems cannot hope to compete with this. The author suggests this is an inherent feature that

children learn as part of the culture of 'car dependency'. Individualism is characteristic of cultures that place personal or individual needs above those of the group, a topic discussed in relation to the findings of fieldwork with children (Holmes 1998). In a discussion of the determinants of future travel demand, Lyons, Chatterjee, Beecroft and Marsden (2002) describe the characteristics of 'community oriented' or 'individual oriented' societies. Since the 1980's, there has been a rise in the social and political philosophy of 'individualism' (Barnes 1995). Community funded services have declined in favour of private provision producing material changes such as alterations to public transport. There have been changes in social ideals - a move away from community values, notions of community and sharing towards a different value system based on individualised and personalised needs. The views of children during focus groups suggested that the values of individualism have been assimilated.

8.26 Literature Review, Image Associations

In general, the findings of the author on image associations were very similar to those of Meaton and Kingham (1998). Families were associated with the estate car, the contemporary vehicle now being the people carrier, business people were linked with the train, bus with an elderly lady, and 'flashy' young man with a Porsche. A contrary finding of the vignette is the association between the elderly and train. In the author's findings half of respondents thought this for elderly man (41% for elderly woman) whereas for Meaton and Kingham the figure was only 15%. They interviewed 140 children and one aim was to discover the age when children become aware of the images. Twenty children for each age from five to eleven were included. A point made in Chapter 5 regarding another finding from this research, is the age range of children. Their sample had 80 children younger than eight compared with the author's study which concentrated on a narrow band of nine to eleven year olds which could account for differences. Kingham and Donohoe (2002) aimed to discover at what age children become aware of cars and transport problems. Eighty children aged between 4-11 (approximately 10 for each age), in two schools were interviewed for five minutes each. Pictures were used to represent some of the questions. Of 80 children, 78 came from car owning families, 53 of these, from two car families. The favourite travel mode was cycling (35%) with car second (27%) and bus (19%) joint third with walking (19%). The researchers concluded that children as young as four were aware

of makes and models of car. By the age of six, most could identify the make and model of car their parent owned. The conclusions are interesting but not all are warranted because of the range and depth of the questions asked of some children. Other problems with this research were discussed in the literature review, Chapter 2.

8.27 Future Aspirations, Learning to Drive/Own a Car

Other researchers of children's travel have found that a majority of children want to learn to drive when older. In a questionnaire survey by Cahill et al (1996) 592, 82% of the 724 children aged 9 to 12 ticked the 'Yes' box for wanting to learn to drive when older and 79% 'Yes' to owning a car. Four times as many children from non-car owning families said they did not want to own a car, than those from car-owning families. A criticism raised in Chapter 2 was that the authors use percentages to describe the differences found. Hegarty (2001) used a question and answer session in the classroom, followed by children self completing a structured questionnaire. The questionnaire asked pupils about their future aspirations, 'When you're older do you want to have a car of your own? Yes / No. Only two of the 218 12-15 year olds who attended the two schools (one rural, one urban), did not want to own a car when older (p.39). A high proportion, 92.5%, of the 80, 4 to 11 year old children that Kingham and Donohue (2002) asked, said they would like a car when older. Mackay (1997) carried out detailed unstructured interviews with sixteen to eighteen year olds (n=49). A finding reported is that learning to drive is considered part of the transition to adulthood for many.

8.28 Attitudes Towards Care of the Environment

At the time of the fieldwork, the majority of pupils did not have a negative health link with car transportation. Of 15 who did not want to learn to drive or own a car, only five spoke of environmental concerns as being the influencing factor. And yet there is media coverage of environmental matters and this has potential to be a positive influence. But in comparison with the amount of time devoted to car advertising or other media depictions, it appears that the message that cars are not 'eco friendly' has not reached many. This lack of acknowledgement suggests that it has low priority or else is at odds with values relating to car use. For many children, other aspects of life appear to be of greater importance such as owning status cars. At the time of writing,

researchers of children's travel had not reported investigations into attitudes towards care of the environment and transport modes, but two studies based on adults were found. A telephone survey of 788 Danish people of mixed ages revealed inconsistency between how car drivers would like to act and how they actually act. There was a gap between attitudes and behaviour which related to the drivers' recognition of the environmental problems caused by cars, without any reduction in their amount of driving (Jensen 1999).

The message of a publicity awareness campaign, evaluated by Hodgson and Tight (1999), was broadly to make people more aware of the environmental effects of transport, particularly cars. To discover which factors affected travel choices, the respondents (over 1,200) were presented with a range of seven attributes: convenience, reliability, journey duration, safety and security, comfort, expense and environmental effects. They were asked on the questionnaires to give a rating of the level of importance of each. Both before and after the campaign (1994 and 1996), respondents (roughly equal proportions of both sexes), rated 'environmental impact of the transport mode' as being the least important attribute. A follow up survey found that peoples' perception of congestion in the local area had unexpectedly changed since the initial survey. In explaining the results the researchers warn of the consequence of sending mixed messages and suggest that the message about travel awareness was inconsistent with the infrastructural, managerial or road improvements implemented.

8.29 Chapter 8 Summary, Key Findings

- Children learn the positive and negative stereotypical images often attached to transport modes by adults. The elderly were associated with public transport and walking, the young with status cars, families with travel in cars rather than walking or cycling together; the 'professionals' with train travel. Cycling and walking were linked with sport and children.
- Most children had not regularly travelled by train. Train travel is thought of as a secondary mode of transport, useful in some circumstances. Most children had travelled on public buses but many disliked them. The main dislikes were: poor facilities, safety, poor standard of service, the behaviour of others.
- Many children liked 'cycling' as a means of fun and entertainment but it is no longer perceived in terms of a mode of transport by many. Many children liked

to do some walking, the main reasons being: the health aspects, being able to engage in other fun activities, advantages over car travel.

- The majority of children aged 7 to 11 want to learn to drive/own a car when older. Children's responses and those of a sample of parents, suggest various sources of influence are influential.
- Many children gave consideration to the advantages, not the disadvantages of car travel. They made cultural associations with the car which are reinforced from multiple sources of influence. Their potential for independent decision making in the future may have already been undermined by this.
- Contradictory and mixed messages from adults about car use can create conflict for children and weaken the message about the negative effects of car travel. A majority of pupils did not have a negative health link with car transportation.
- Emotionality can have a bearing on parental decision making which affects their own and their children's travel behaviour. 'Social processes' can be as important as the cognitive in understanding parental car user behaviour.

8.29.1 Conclusion: Children's Travel Socialisation, What is the Role of Multiple Influences?

Multiple sources of influence can act upon children. It is suggested that these impact on children's learning and knowledge of transport modes in one of two ways. Firstly, the effect could be synergistic. In the case of cycling the consistent message is *"keep off the roads"*. Cars tend to receive more positive reinforcement than other modes used for daily travel. Children learn about them from various sources such as parents, personal experience, kinship networks, local community and the media including films, computer games or toys. Public transport tends to be given negative reinforcement. Chapter 7 reported one aspect, the negative images attached to trains because of the resounding adverse coverage of accidents. A second way multiple influences may impact on children's learning is by providing contradictory or mixed messages, which can create conflict for them. Education or parental instruction may be at odds visually with what children observe in their adult role models. Role models teach environmental awareness and there is coverage of this in the media, but in their daily lives, children regularly see adults travelling by car. Mackett (2002) reports that 70% of children's trips were by car. Mixed messages are less powerful and therefore less likely to be effective. Hence, information about the negative environmental effects of cars, in itself, is not always sufficient to change attitudes or behaviour.

Chapter Nine

Conclusions,

Policy Implications for Social and Cultural Change

9.1 Introduction

Chapter 9 begins with an overview explaining how well the research has met the aim and objectives set in Chapter 1. A summary of the key findings is provided before the main conclusions of the research are presented. This includes discussion of the author's theoretical contribution, a social theory of travel mode behaviour. The policy implications of the research address how children, as the next generation of travellers, should be socialised to avoid dependency on car transportation. The contribution of the research design to the main conclusions is highlighted before further research indicated by the findings is outlined at the end.

9.2 Fulfilment of the Aim and Objectives of the Research

This section explains how well the aim and objectives of the research were met. The aim of the research was:

- To study the role of cultural factors (the home and the school) on children's travel, and of children's travel mode on their physical activity and exercise behaviour.

Four cultural factors were found to be influential on children: parents, schools, the media and peers. In addition, evidence was found that these factors can work in tandem, as a multiple source of influence, the subject matter of Chapter 8. The subsections which follow contain a summary of the role of each factor beginning with the findings relating to parents, as discussed in Chapters 4 and 5.

9.2.1 The Role of Parents

The objective which focused the research on 'the home' was:

- To determine if there are identifiable 'socialisation processes' operating within households that are influential on children's attitudes, norms, and of travel mode on their physical activity and exercise behaviour.

This objective was met and from the findings the author concluded that there are iden-

tifiable socialisation processes operating within households that are influential on children. Although the socialisation processes described below may not be exhaustive, they are important and offer firm grounding for further research in the future. Four socialisation processes were identified and these relate to parental behaviour which may be explicit, or implicit - by setting an example to a child:

1. Through parental instruction, a child may be taught *how* to travel in a car, how to ride a cycle, how to use a bus or other transport modes.
2. Through parental action: what parents do or *do not do* in relation to travel modes which children can learn from observation.
3. Through parental attitude towards travel modes which delimits the range and type of experiences children have access to. A child may be allowed or disallowed access to travel modes, for instance allowing a child to have a cycle or to travel on public buses.
4. Through the daily routine which provides opportunity for a child to learn family timekeeping values. Time norms and perception of time pressure varies depending on familial employment and other time commitments.

From the findings the author was able to determine that the economic circumstance of the home is important regarding *walking for transport*. Many children from non-car households spent more time walking. Regarding other physical activity, the nature/nurture debate often discussed in the socialisation literature, is relevant in the transport context. The nature of the parental contribution may stem from a genetic contribution hence children may be born with a propensity to like physical activity therefore enjoy walking. However there may also be a psychological factor, such as greater encouragement being given. The effects *of both* may operate on children and more research on this topic is required.

A research question asked: *"How are attitudes, norms and patterns of travel mode behaviour passed on in households?"*. The answer to this question was only ascertained in relation to mothers because few fathers took part in the research. A conclusion in Chapter 5 is that maternal attitude towards cars is one mechanism of influence on children. A consistency in the findings of analyses on the variable, 'number of cars in household' enabled the conclusion that *experiences within households* have a bearing. Whether it is the experience of being in close contact with

an adult role model who holds a particular attitude or the experience of sharing the same travel modes. The former refers to modelling an adult, the latter to gaining exposure to a travel mode thereby the opportunity for an attitude to develop.

9.2.2 The Role of Schools

The objective which focused the research on 'the school' was:

- To determine if an educational interventionist policy, a STP/travel initiative acts as a 'counter socialising agent' and is effective in bringing about behavioural changes to increase physical activity/exercise and reduce car dependency in a sample of primary school pupils.

Two of the three parts of this objective were met. It was possible for the author to make conclusions on the first part of the research undertaken to investigate the effectiveness of STP/travel initiatives in bringing about behavioural change. The conclusions from the results reported in Chapter 6, are:

1. Evaluations which are based solely on the *proportions* of pupils walking or travelling by car may mask true differences between STP and Non-STP schools.
2. An educational interventionist policy, a STP/travel initiative, can be effective in reducing car use for the journey to school. A walking bus initiative was equally effective at all levels of car ownership.
3. A STP/travel initiative did not act as a 'counter socialising agent'. The overall pattern of findings suggested that the walking buses fulfilled a functional role, providing a service for some parents. The impact of the environmental education covered by PSHE (Personal, Social, Health Education) was minimal at the time of the fieldwork.
4. The socialisation processes identified which encourage or discourage particular travel behaviours include 'rules and rewards' such as not allowing cycles on site, house points for children who walk to school, road safety instruction and environmental education.

The part of the objective that was *not met* concerns one of the three outcome measures used in assessing the effectiveness of STP/travel initiatives to increase physical activity/exercise outside of school hours. Insufficient data from two schools prevented overall comparisons, all three STP with Non-STP schools. However, it was possible to make a comparison between the third school and the Non-STP schools. There were no

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1. They may reinforce what children learn in the home if their travel mode is the same as others, hence the effect on peers may be synergistic.
2. They may cause travel mode behaviour to change in some circumstances. Children who came into contact with others whose travel circumstances were 'contradictory' wanted to change their behaviour. An example is the children who wanted to walk with friends rather than travel by car to school.
3. They may influence children through direct instruction, for example teaching peers how to ride a cycle, hence they may have an 'introductory' role.

Several general conclusions from the research are: the social context of travel modes can be important for children; opportunities to be with and engage in activities with friends increased the appeal of some modes; it is likely that the effect of peer pressure on travel behaviour increases in adolescence.

9.2.4 The Role of Multiple Influences

The research investigated the role of cultural factors on children's travel, and children's travel mode on physical activity and exercise behaviour. The potential influencing force of each of four cultural factors, the parents, the school, the media and peers was described in separate chapters. In these, the findings which strongly suggest the ways that an independent effect may operate were discussed. For instance, 'travel experience' is suggested to explain the differences in feelings towards public buses and cars by children from 'no car' households. The role of multiple influences was reported in Chapter 8 and a conclusion is that these may impact on children's knowledge of transport modes and travel mode behaviour in one of two ways. Firstly, the effect could be synergistic. An example is how children learn to associate cycles with sport and exercise rather than as a mode of transport. This image is popular in the media but also reflected in the attire of adult role models in local communities nowadays. If parents and schools discourage cycling for transport on roads the message from all agents of socialisation is powerful because it is cumulative. Secondly, multiple influences may impact on children by providing contradictory or mixed messages creating conflict. Education or parental instruction may be at odds visually with what children observe in their adult role models. An example provided in Chapter 8 relates this to car transportation and the negative environmental effects of cars. Although there are opportunities for children to learn about this in schools, from the media or elsewhere, they also receive other messages from adults which can create conflict for

them and weaken this message. For instance, the amount of advertising devoted to *selling* cars in the media compared with other modes. Hence information about the negative environmental effects of cars, is not, in itself, always sufficient to change attitudes or behaviour.

9.3 Summary of Key Findings, Parents' Travel and Attitudes Towards Transport Modes

A purpose of the research reported in this thesis was to gain an understanding of the travel mode behaviour of samples of primary aged children and their parents. Chapter 4 reported the statistical findings from the PTEQ sample (mainly women), regarding travel to work, school and other regular journeys. A conclusion from the analyses is that the 'number of cars in households' has a strong bearing on travel mode for all regular journeys. As car ownership increases, the percentage of trips by car also increases. In this, the 'school run' is no different from 'the evening' or the 'weekend run' for mothers and whether they are escorting children, travelling to employment or elsewhere. For all regular journeys, the widest percentage gap between the car ownership categories is between the 'no car' and the 'two/more car' households. However, there is also an approximate 20% rise between the 'one car' and the 'two or more'. The findings from the PTEQ sample were enhanced by comparison with NTS data which showed that the travel to work pattern of parents follows the national trend for adults. As the number of cars in a household increases, the percentage of trips by car to work also increases. Car use by the unemployed school escorters also follows the national trend. As car ownership increases, the percentage of trips by car for school escort increases. This is reversed for walking and suggests that the number of cars in a household overrides the time pressure of employment in the decision to travel by car. The approximate 20% rise between the 'one car' and 'two/more' car households in the PTEQ sample is also evident in the two NTS tables.

An analysis of parents' attitudes towards transport modes showed that as car ownership increases, so does strength of feelings towards cars. This is reversed for public buses. During interviews, subtle differences were identified in those who reside in 'no car' households regarding their attitudes towards buses and the expected future usage of cars. There may be other differences. A general finding is that the parents have stronger feelings in favour of walking and weaker feelings for cycling than 9 to11 year

year olds. Only 17 of 140 PTEQ questionnaires were completed by fathers and only two were interviewed, therefore the findings cannot extrapolate to them. Several key findings for parents require additional research and more details are provided at the end of the chapter.

9.3.1 Children's Travel

For the 9 to 11 year olds in study schools, the 'number of cars in household' is an independent variable for children's travel mode, number of short car journeys, attitudes towards cars, public buses and future aspirations. The data collected from younger children (travel to/from school, future aspirations), also showed an association between the 'number of cars in household' and travel mode to school and future aspirations. A noticeable feature of the crosstabulations is the decline in the percentage who walk, or a rise in those who travel by car, across the car ownership categories. Regarding the travel to school data, the percentage differences are representative of a national sample and are most striking between the children from 'no car' and 'three car' households. Table 4.6 in Chapter 4 shows that only 37% of the trips to school for those residing in 'two/more' car households are walk journeys compared with 82% of those from 'no car'. The rise (or drop) across categories is also noticeable between the one and 'two/more' car households. For instance regarding *travel by car to school*, there is an approximate 20% increase between the children from 'one car' and 'two/more' car households. The author's data shows an approximate rise of 4% between the 'two car' and 'three car' households but this is not a consistent difference across all the data analysed. A comparison with NTS data is not possible because 'three or more' car households are not distinguished in the tables.

9.3.2 Children's Attitudes Towards and Perceptions of, Transport Modes

The feelings of the 9 to 11 year olds towards cars and public buses is associated with the number of cars in households. As car ownership increases, so does strength of feelings towards cars. This is reversed for public buses. The majority of children felt they could not live happily without car travel. Approximately half felt they could *not live happily* without walking and a quarter for travel on public buses. School bus is the least popular mode, followed by share a car - approximately 20% felt they could not live happily without these. In the focus groups many children gave consideration to the advantages of car travel, not the disadvantages and the majority did not have a

negative health link with car transportation. A majority of 7 to 11 year olds also want to learn to drive/own a car when older. The responses of the 9 to 11 year olds and those of a sample of parents suggest various sources are influential on children.

The statistical analysis revealed differences between children from 'no car' and 'three car' households and feelings towards transport modes. In the focus groups subtle differences were found regarding the attitudes towards buses and the expected future usage of cars, by those residing in 'no car' households. Travel experience is suggested as being a possible explanation for this. There may be other differences. Nevertheless there are also overlaps and commonalities between all children. For instance, 50% of children from 'no car' households felt they could *not live happily without* cars and 78% wanted to learn to drive.

An analysis of children's image associations showed that the strongest stereotypes were for the trendy young who were associated with status cars, and the elderly associated with public transport and walking. Families were linked with car travel rather than walking or cycling; the 'professionals' with train travel. A perception is that children like to walk and cycle but the latter is strongly linked with sport. In the focus groups, many of those who liked 'cycling' viewed it as a means of fun and entertainment rather than as a mode of transport. An unmet need for cycling to school exists, but the proportion of children wanting to do so varies. Those who liked walking often mentioned the health aspects or to a lesser extent, being able to engage in other fun activities, or for some, the advantages over car travel. Many children liked to do *some* walking.

Most of the children in the focus groups had not travelled by train on a regular basis and viewed it as a secondary mode of transport, useful in some circumstances. News coverage of accidents had influenced some children's perception of the safety of rail travel. In contrast, a high proportion of children had travelled on public buses but this is an unpopular transport mode and many cited negative experiences such as: poor facilities, safety, poor standard of service, the behaviour of others. The views expressed by pupils about school buses mirrored the findings from the statistical analysis. A finding from the focus groups, at the time of the fieldwork, was that car advertising on cartoon channels was a widespread practice.

9.3.3 Children's Physical Activity

Analysis of the SED completed by 9 to 11 year olds in the study schools showed that, as car ownership increases, time spent walking decreases. It is not known if three of the subsamples (children from 'one' 'two' and 'three/more' car households) are representative of their populations. However from NTS data, a key finding is that those people living in a household with a car walk less than two thirds as far as those in a household without a car. The percentage difference between the two categories has increased over time. The author's research uncovered that the availability of a car may reduce walking for transport but can facilitate other exercise. There were no differences between car ownership categories and the *total* time spent on physical activity. Two findings from the literature review are: walking can provide significant volumes of activity but walking to/from school may not make a large enough contribution to a child's total activity needs; walking in unsafe environments can have contradictory health effects. An encouraging finding from the author's research is that a significant minority of 7 to 11 year olds alternate between walking and car travel for the school journey. Although the distances may be short, this will encourage children to combine car use with walk trips and provide opportunities for them to learn sensible car use. Several of the key findings for children require additional research and more details are provided at the end of the chapter.

9.4 Main Conclusions, School Travel Plans

A conclusion from an analysis of the governmental STP policy is that parental support is vital to the success of travel initiatives operating in primary schools. Parents play an important role in supporting schemes, firstly, by allowing children to join them and secondly, some are needed as volunteer escorts. A conclusion from the author's research is that 'social processes' can be as important as the cognitive in understanding parental car user behaviour. This raises issues regarding the behavioural approach underpinning STPs (mainstream health psychology's theoretical models for health promotion). Two aspects which can have a bearing on parental decision making and mode choice for school journeys or elsewhere, are: 'family needs' and 'emotionality'. An example of the latter is the feelings aroused by perceived potential dangers to offspring. Further research is necessary to determine the extent of this influence and how well the governmental STP promotional literature appeals to parents.

There is a wide variation in the effectiveness of STPs. Their value as a national 'car reduction' measure is limited and the long-term outcome of any scheme is, as yet, unknown. The potential barriers to the implementation, extensiveness and longevity of STPs are: recruiting volunteers, the social/geographic location of some schools, the ability of local authorities to meet the cost of new infrastructure. There is a need for systematic evaluations of the role of peer culture on the outcomes of STPs. The research uncovered that isolation from friends had become a de-motivator for some children continuing with a walking bus.

9.5 Defining 'Car Dependency'

In Chapter 2 the four dimensions used by the researchers investigating the assimilation of 'car dependency' in children were discussed. The research in this thesis incorporated all four and the findings have enabled the author to reach valid conclusions about the concept. Firstly, there are conceptual differences in the usage by academics of the expression, 'car dependency.' Some use the expression when referring to the individual differences between people regarding the amount of reliance on the car. A proposition of Goodwin (1997) is that *"People differ"*(p.454) and he notes the wide variation of 'car dependence' in adults. People as individuals increase their use of cars, relying on them more and more. Goodwin also discusses the term in relation to social changes such as land use and provision of services which *make* people dependent on cars as a society. Brindle (2003) discusses 'car dependency' with reference to the social situation. He argues that the car is a means to an end. If there is an addiction, (implied by the word 'dependency'), it is not to cars, but to mobility. It is *"the mobility demands of our lifestyle and consumption patterns within the context of the physical, social and economic environment that we live in"* (p.65). He asserts that tackling societal dependence on cars goes beyond transport planning. The author identified differences in attitude and travel mode behaviour between groups of parents (mainly female) and children by car ownership. It is known that travel distance to school was similar for most therefore the fact of having more than one car had independent effects to the social situation. Other findings for non-school journeys and short car trips strongly suggest that the number of cars in a household is a determinant on the degree of car dependency of individuals. The 'ratio of cars per adult' may be linked with habit forming behaviour which is briefly discussed in section 9.6.2.

9.5.1 Car Dependency in Children

Children cannot be assessed in the same way as adults, i.e. based on *what they do.* They are often passive travellers with less control over travel mode. A dimension used previously by researchers, 'children's future aspirations', produced consistent findings in the author's research and a majority of children want to learn to drive when older. Another measure, based on 'feelings towards transport modes' was reported in Chapter 5. This analysis enabled meaningful comparisons between the car ownership categories and between children and parents. The results, and those from the focus groups, contributed to the conclusion that *children differ*. As with adults, there are varying degrees of 'car dependency' in children. Another finding reported was that less than 10% of children in the research felt they could live happily *without* cars and a large proportion felt equally strongly towards other forms of transport. For 16% of the children, the car is the *only* mode that they felt they *could not live happily without*. The findings from the attitudinal analysis would suggest that approximately this proportion of children deserve the title 'car cultured'. However, although these findings are interesting, they cannot be interpreted as providing an assessment of the overall levels of car dependency in children. As stressed in Chapter 5, the limitations of the 'Car Culture Attitudinal Scale' preclude such conclusions.

An essential element of the research was to discover if the home is influential on children becoming 'car dependent'. A conclusion is that there is a greater likelihood of children in households with two/more cars becoming 'car cultured' but three factors are *equally important* regarding the parental contribution: the number of cars in a household; the range of transport modes and travel experiences children are allowed access to; parental timekeeping values and the perception of time pressure within households. The author's research has uncovered that possession of two or more cars sometimes transcends socioeconomic and physical boundaries. Normally the variable 'car availability' is used as an economic indicator synonymous with higher income and residency in particular neighbourhoods. An important implication is that the potential effects on travel mode, number of short car journeys, attitudes towards cars, public buses and future aspirations are not limited to the more affluent in the community. They are applicable to adults and children from different backgrounds and all those who share the commonality of multi-car ownership.

9.6 Theoretical Conclusion, Children's Travel Socialisation

A theoretical conclusion from the research is that the learning mechanisms associated with other aspects of social life are applicable to children's travel behaviour. In Chapter 2, two personal experiences were described by the author because they were part of the stimulus for using 'child socialisation' as the theoretical framework. Questions were asked based on these, *"Are children of such a young age already making assumptions according to direct or indirect parental influence? What else are they absorbing and what are the implications for their future travel behaviour?"*. Having conducted empirical research and consulted relevant literature (see Meaton and Kingham 1998, Kingham and Donohoe 2002, Valsiner and Connolly 2003), these questions have been answered. Five year old children have a basic understanding about transport modes because of direct or indirect parental influence. But the findings also show that they absorb from other sources which have a bearing on their knowledge of transport modes and travel mode behaviour. Other researchers of child socialisation have concluded that parents do not exist in a social vacuum. In a review of contemporary psychological research on parenting, Collins, Maccoby, Steinberg, Hetherington and Bornstein (2000) stress that socialisation can only be fully understood by *"examining the role of parents in light of the influence of other settings in which children and families function"* (p.18). Graham (1984) discusses the parent's role in relation to health choices, *"Health choices are shaped by material as well as mental structures. The barriers to change are represented by the limits of time, energy and income available to parents"* (p.187). The affect of a social factor on parents, 'cultural parental values' was discussed in Chapter 8 in relation to parental decision making and transport mode. It is natural for parents to be protective of children but this is mediated by cultural and subcultural concepts and definitions of parenting.

9.6.1 Travel Socialisation, A Social Theory of Travel Mode Behaviour

The results from the empirical research presented in the thesis were used in developing a social theory of travel mode behaviour based upon child socialisation (Baslington 2007, 8) and illustrated in Figure 9.1. This is unprecedented in transport studies literature and contributes a new perspective. Travel socialisation is based upon the effect of social institutions on children's travel and represents the primary argument of the thesis. This states that children learn about travel modes in the same way as other

aspects of culture, through agents of socialisation: the family, the school, the media and peer groups. Hence the focus is the social context, the role of everyday life on travel behaviour. The theory is derived from the findings reported in different chapters. Chapters 4 and 5 concentrated on the role of parents and the results are summarised in section 9.2.1 in relation to the objective which focused the research on 'the Home'. Chapter 6 concentrated on the role of schools, the summary of the findings here is provided in section 9.2.2. Chapter 7 concentrated on the role of the media and peers and section 9.2.3 provides a précis of these. The findings from the qualitative material were a cornerstone in the conceptualisation of travel socialisation theory enabling the conclusion in Chapter 8, as summarised in section 9.2.4, that multiple sources of influence can act upon children. Based on the evidence compiled, it is concluded that the parental home is a strong influencing factor on a child's knowledge of travel modes and on travel mode behaviour. The three other agents are contributory socialisers, and the effects on the child may be:

i) synergistic: reinforcing the knowledge of travel modes and travel mode behaviour learned in the home

ii) contradictory: conflicting with the knowledge of travel modes and travel mode behaviour learned in the home

iii) introductory: introducing or extending knowledge of travel modes which may change some travel mode behaviour learned in the home.

The examples which illustrate the 'synergistic', 'contradictory' and 'introductory' effects of the contributory socialisers were presented in Chapters 6 to 8. The diagram in Figure 9.1 below represents the hypothetical pathways for the flow of influence between the four socialising agents in relation to the child. Some peer groups form within schools but others may exist in different social settings. The unidirectional influence of the media, as opposed to the interactional influence of the other three agents, is symbolised by the broken line. When viewed in isolation, each of the directional arrows shown in the diagram is representative of the independent effect of the cultural factors (from left to right, Household, Peers, School, Media). When viewed collectively, the arrows are representative of the role of multiple influences.

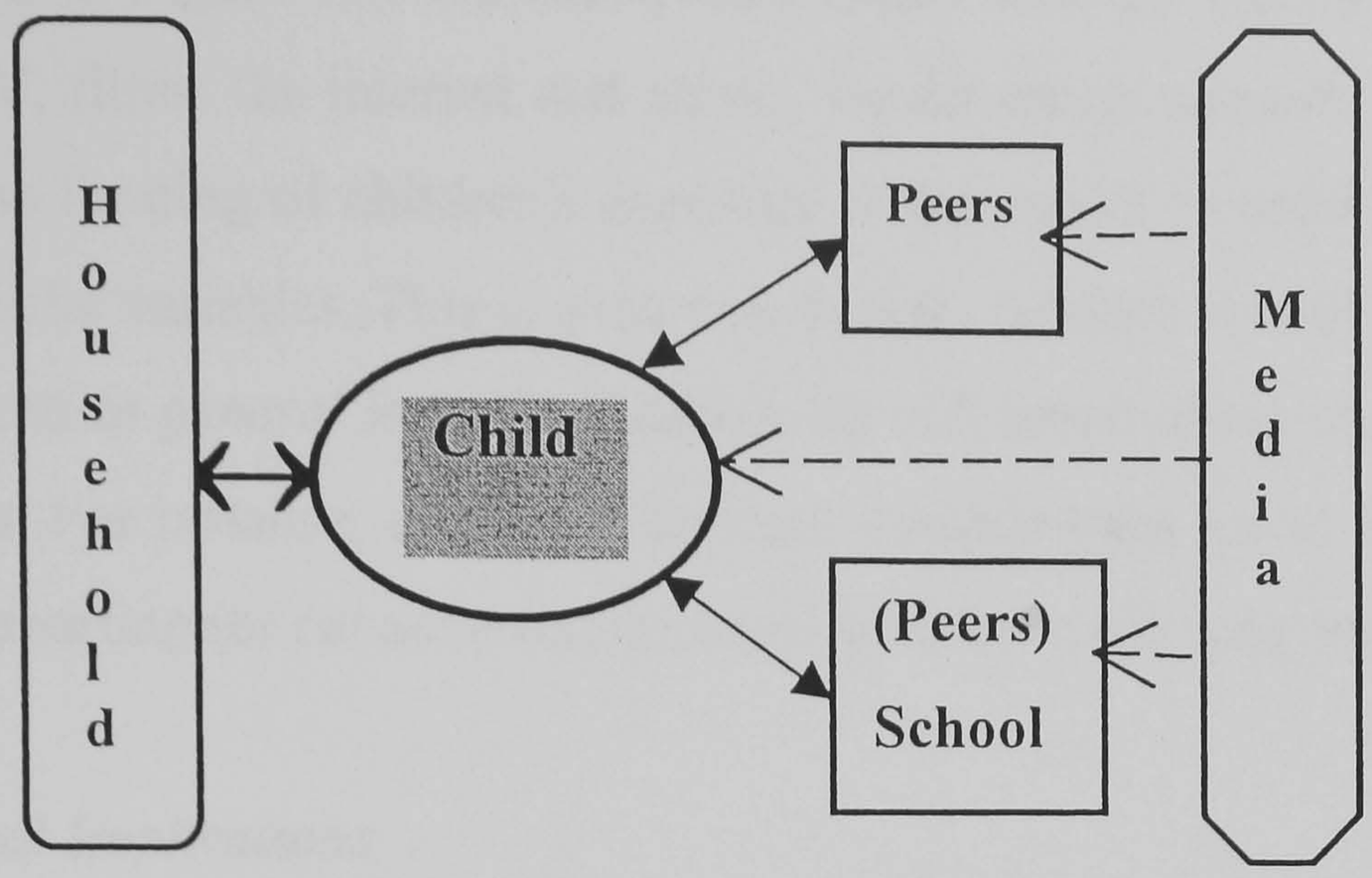

Figure 9.1 Socialising Agents: Hypothetical Pathways of Influence Travel Socialisation Theory of Travel Mode Behaviour

At the time of writing, more research is required before it will be possible to assess the relative strength of the impact on children of the different linkages shown in Figure 9.1. For instance, until STPs have become established, it is too soon to know the full effect of schools. To discover if STPs are successful in reducing car use and the elements which make them so, requires further evaluation, collecting both quantitative and qualitative material. Once the pool of schools with STPs has expanded, it would be possible to obtain large samples of the participants and non-participants in the schemes and compare their travel behaviour and attitudes towards transport modes. A possibility for additional research with regard to the 'household' is to conduct evaluations following the introduction of policies designed to reduce parental car dependency, such as employer travel plans (as outlined in section 9.7.1). This would gauge if and how they are effective and enable further work to investigate if changes in the parents travel behaviour are passed on to children. As with the author's evaluation, qualitative research would make a valuable contribution by identifying the pertinent variables needed for any future analyses. In due course, the use of statistical analysis techniques such as multiple regression could be used to measure the relative impact of a variety of different variables on children. Examples of these are (parents): a parent/s travel mode to work, involvement in an employer travel plan, the type of scheme; (schools): quantity and quality of environmental education, involvement in a STP, peer support for STP.

Regarding an assessment of the relative impact of the media, compared with the other socialising agents in Figure 9.1, the amorphous nature and the variety of forms this encompasses, TV, films, the internet and so on, would create research difficulties. It would require the limiting of children's exposure to the media in order to isolate and control for particular variables. This is a mammoth task. Another way of measuring the impact on children *in general* is to have follow up and longitudinal studies based on specific findings. For instance, children's feelings towards train travel to gauge if the adverse media reporting (or car advertising campaigns) have any long term effects.

9.6.2 Theoretical Implications

Travel socialisation theory focuses on behaviour in the context of the culture (or subculture) in which people live. The central theme is childhood determinants of future travel behaviour. A theoretical implication is that our thinking and attitudes towards transport modes are embedded in childhood. Another implication is that an unconscious element may be operating: are travellers acting out socially prescribed patterns of behaviour acquired through habitual practises and daily routines inculcated from an early age? If so, this challenges the traditional orthodoxy in the transport studies literature which conceptualises people as independent in thought and action. If individuals are being socialised into certain behaviours, their actions should not be interpreted as a manifestation of transport mode 'decision' making or the product of rational 'choice'. Lyons (2004) found that individuals are highly habitual in their travel choices to the extent that for the majority of journeys, there is no choice to be made at all. A key finding highlighted in the author's research is the pervasiveness of car usage by mothers in households with two/more cars which suggests a habit forming relationship. Further research on samples from other populations is required to investigate the link between the 'ratio of cars per adult' and the amount of car usage. A question raised is, to what extent can individuals exercise volition in a climate of persuasive social pressures? This starts early for children for example if they are allowed to watch cartoon channels on TV. Additional research, further theorisation and deliberation is required to establish the full potential of the 'travel socialisation' social theory of travel mode behaviour. Nonetheless, it is evident that the primary argument of the thesis is germane to the secondary argument, to remove 'car dependency' involves changing the social and cultural emphasis on cars as a mode of transport. At present the synergistic effect of the socialising agents on children, endorses car use.

9.6.3 Policy Implications

The definition of a problem has important implications for tackling it. A contention of the author is that transport and social policies need to address both the individual and the social determinants of car dependency if they are to be effective. A criticism of 'attitude theory' as applied in the transport context, is that it only tackles car dependency in individuals. This is only part of the problem. Measures such as travel awareness campaigns deal with people who are able to make changes in their behaviour. If alternative modes are not too inconvenient some will change attitudes. But in urban areas like Leeds, public transport could not cope if large numbers of commuters were persuaded out of their cars for the journey to work. Lyons (2004) notes that travel awareness campaigns generally fail to convince individuals that they personally should move in the direction advocated. This notwithstanding, the point made by Kingham, Dickinson and Copsey (2001) applies, if travel awareness campaigns are included as part of broader initiatives, a number of small modal shifts add up.

A social dependency on cars impacts on all households including those without cars. Solomon (2003) notes how families who do not have a car suffer social exclusion and discusses the effects of this. Hamilton (2003) discusses the profound changes in lifestyle involved in giving up the family car. Home location, job location, choice of school and other decisions may have been made on the basis of having a car. She stresses that goods and services have to be brought nearer to people so that less travelling is involved. In suggesting 'relocation' of employees, nearer to employment, Kingham et al (2001) add that this measure is a much wider issue than a transport planning matter. Cullinane (1992) suggests that changes in urban design are necessary because 'out of town' shopping centres and other facilities encourage car use.

To understand children's travel behaviour it is imperative to understand the travel mode behaviour of parents and the social and cultural environment in which they both function. As children, the interviewees were not dependent on cars and a conclusion in Chapter 4 is that car ownership in a household does not, in itself, result in greater reliance on the car as a mode of transport. However, the car owning interviewees outlined how they have been affected by the social and cultural changes which they

aptly described. These have contributed to an increase in car usage by many people and produced a 'social dependency' on cars, as discussed in section 9.5. Today's children are being raised in a society in which there is a greater emphasis on car transportation and all children are exposed to this - regardless of their parent's car ownership status. The overall pattern of findings in the thesis strongly suggest that children, as the next generation of travellers, will emulate current car users in behaviour and attitudes towards transport modes. There is no indication that when they move away from the family home, their behaviour or attitudes are likely to change. Discouraging car use will not be easier and probably harder given that some ten year olds, unlike most of their parents at this age, have already been travelling regularly by car for a decade. Reducing car use and promoting public transport and walking/cycling are the key objectives for almost every travel plan and transport appraisal in the UK but these initiatives appear not to have much impact on children's *thinking* about car use. This is because key objectives are not shared by all sources of influence. Because children learn from the major social institutions of society, to change behaviour it must be tackled through these with potential policies aimed at the agents of socialisation. It is easier for children to learn while young rather than have to change their way of thinking and behaving as adults. In the sections which follow, the policy implications of the findings are structured around the agents of socialisation beginning with the potential policies for households.

9.7 Potential Policies, Households

A conclusion from the research is that children's travel experience begins from home. The way parents travel is influential on children therefore it is essential to have policies aimed at parents and the family. There is an association between the number of cars in households and the amount of car usage. In the 24 years 1980 to 2004, second car ownership in Britain almost doubled from 15% of all households to 29%. Those with 'no car' dropped from 41% to 26% (DfT 2005). Forty five percent of households currently manage with one car. A system of inducements and disincentives for families to remain or become 'one car' households should be introduced. Baird (1998) quotes Michael Palin who observes that as society becomes more affluent, there are more cars. He adds, there have to be limits, *"perhaps we will end up with a policy like Chinese birth control, one car per household"* (p.168). A one car policy

could be marketed as 'car share' within families. A concern is that women will be the losers with a return to the situation recalled by interviewees: the family car was often dominated by their fathers. Dobbs (2005) stresses that sustainable transport systems may have serious gender implications. Hence, the viability of any 'one household, one car' policy must be incorporated as part *of an integrated package*. The findings in Chapter 4 (sections 4.14 and 4.18) imply that children and adults in car owning households may offset the loss of activity in walking for transport by making gains in other physical activities. Accessing some of these is made easier because of the availability of a car. Therefore any policy to reduce the number of cars in a household must be integrated with measures that ensure adequate public transport to sporting venues and that new facilities are built within easy access for most people. This would ensure that children who *prefer* sporting activities to walking can still achieve the desired physical activity levels while continuing to enjoy all the other benefits of being able to take part in activities such as team sports.

A suggestion by the author is that road tax on a second car should be set at a higher rate and that of a third car, higher still (Baslington 2006). The income generated should be hypothecated for expenditure on incentives which support 'one car' policies. An interviewee thought an easy rental scheme specifically aimed at family holidays would allow her to manage without a car. Another potential scheme is to provide subsidies on taxi fares for 'no car' householders. The cost of family travel on buses and trains needs addressing so that 'no car' households are not as disadvantaged for family days out. One possibility is additional services and special weekend tickets to places of interest to encourage 'day trippers' on public transport. A scheme in The Netherlands enables a family to travel together at weekends on one ticket which is transferable to individual family members during the week.[1] Any general policy measures which incorporate *parents* have a greater chance of success if the travel needs of the family unit are taken into account rather than targeting one family member in isolation from others. A point argued in Chapter 6 is that some decision making is likely to be shared, such as in 'one car' households in which two adults both have use of the family car.

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1 Personal communication from a Dutch delegate, Suzanne Hillen, met during attendance at a Sustrans conference in 2004. She provided a reference for the Dutch Cyclists' Union Fietsersbond, which can be contacted for further details: www.fietsersbond.nl

9.7.1 Potential Policies, Employers

Reducing car use for employment requires the support of both householders and employers and several key findings point to the need for integrated policies. Nationally, over two thirds (70%) of trips to work are by car, 20% other mode, 10% are walk trips. The number of cars in households shows a rise in car use across categories: 15% of 'no car' travel to work by car, 68% of 'one car' and 87% of two/more. Some interviewees mentioned obtaining a second car for the journey to work. For some children the car was regarded as a timesaving device in relation to future employment and other adult roles. The reasons they gave for wanting to learn to drive or own a car were related to employment. Although it is only suggestive, a finding from the vignette is that children are aware, through the daily routine, of parents using trains to commute to work. Chapter 5 presented the findings from several researchers who investigated travel mode and the journey to work. This provides evidence to suggest that: once a mode becomes established, people are often reluctant to change; for some people, 'quality of service' of public transport is not a factor in decision making on mode choice; there may be fewer women who want to travel to work on public transport nowadays. A conclusion from this is that firm measures are needed to persuade people to use public transport or other modes for the journey to work. A complementary strategy to augment household car reduction is organisational change at work, for instance gaining the support of employers to encourage an anti-car policy. Discussing the commute to work, Kingham et al (2001) make the point that while some employers provide a car and allowances for petrol, people will not be persuaded to leave cars at home. They advocate reduced provision of company cars, increased car share, increased usage of public transport and 'tele' working. For those employees who live too far away to use public transport, walk or cycle, relocation packages could be offered with incentives for employees to move closer to their employment. Cullinane (1992) describes company cars as *"an unnecessary addition to the park of cars"* and advocates that owners are fully charged, without subsidy from government or employers (p.300).

Difficulties in enacting Employer Transport Plans are discussed by Rye (1999) and Enoch and Potter (2003). The following scheme is designed as an incentive to employers. A proposal is to develop an 'Investors in Transport Award' drawing on the experience and knowledge gained through the 'Investors in People Award' which

is successful in large and small organisations in the private as well as the public sector. Contacts in business and industry would be needed for consultation, advice and guidance regarding the feasibility of this. The scheme could be piloted on various employers. Some of the suggested initiatives below are not applicable to all employers and like STPs, will vary according to the type and size of business. Factories with production lines or large offices geared to regular start and finish times could not offer the first option whereas the second is practicable:

- increased flexibility regarding start/finishing times for parents who are responsible for school escort to allow time for walking to tackle the 'school run'
- coach transport schemes for employees to reduce peak hour congestion
- workplace parking schemes to deter car use by employees
- a pool car system for essential car users to enable access to a vehicle during working hours for employment purposes rather than for journeys to/from work.

To implement a pool car system, additional paperwork may be necessary for monitoring purposes. However, many employees currently use 'mileage claims forms' which ask individuals to fill in the time, destination, the number of miles covered and reason for journey. Healthcare workers need cars for out of hours work but these could also be provided for job related trips only. Feasibility studies of the above measures are required with ample trial periods to assess the practicalities in general and also across different industries.

Until employees have suitable alternative transport modes, or schemes discouraging individual car use, such as 'car share', the use of cars for work and other regular journeys is inevitable. This point is made by Perry (2000) who argues that any change in transport paradigm requires a transitional period in which cars will still be relied upon. During this period, policies which promote less reliance on cars should be introduced. Reducing car use is supported by the arguments outlined in Chapter 1, such as on health, safety and environmental grounds. Perry (2000) writes about 'car free' days which have been successful in Paris. Three Italian cities have regular, monthly, car free days. One benefit is that people see the advantages. However, being a tourist and seeing the sights is different to being an employer/employee who travels daily into the city for their livelihood. If executed during the week, the author believes these would be useful as a measure to test preparedness of employment schemes once

alternative modes/schemes are offered to employees.

9.7.2 Potential Policies, Schools

Walking to school is beneficial because it reduces congestion around schools and contributes to a child's physical activity needs. But a safe environment is necessary. An alternative for schools in which there is a difficulty in establishing walking buses, is to remove and restrict vehicular access. Two of the study schools had severely restricted vehicular access because of the physical design of streets. This resulted in a greater number of part car, part walk journeys which helps children to think about using cars sensibly. Part walk journeys to school may be short distances in many cases but they are symbolic and a finding from focus groups was that most children liked to do some walking. There are implications for new school buildings. Creating safe, accessible walkways from streets preventing access to traffic is possible for new schools. For existing schools, in some cases, encouraging walking could be achieved if the street approach roads around schools are pedestrianised during school start and finish times. This could be a permanent feature with bollards and sign posts preventing access. As with STPs, the arrangements will vary because of local conditions. For instance, one study school was located opposite a head posting/sorting office, therefore preventing vehicular access is not an option. However, 'Access only' signs would allow for this and for local residents to park. Some provision for parking is needed for those who have to travel further using 'park and stride' schemes. In other instances such as schools built on main roads, this would not be suitable.

If pedestrianisation is possible, a closed zone around the school would reduce the need for a 'bus conductor' or a 'school crossing patrol' person. However, the protective instinct of parents should be addressed and 'stranger danger' is still a concern. A suggestion is to change/extend the role of the 'school crossing patrol' to become a 'safety officer' engaged in patrolling the pedestrianised area during school arrival and finishing times. This is perhaps more achievable than expecting some parents to become volunteer escorts, as is needed to implement STPs! To promote STPs, new staff were employed (STP Advisers) funded by government, and this may be a necessary requirement in expanding the supply of staff available as safety officers. The option of payment is one possibility in overcoming the lack of parental volunteers for travel initiatives. But not all councils are willing, or able, to finance this. A temporary

measure is for schools to use some of the money provided for schools from the £5,000 allocated as part of 'Travelling to School: an action plan' (DfES 2003). As with the other suggestions in this section, feasibility studies are required with ample trial periods to assess the practicalities of measures suggested above such as restricting access to traffic around certain schools.

It is important that children are *sensitised* to the negative health link with cars, inter alia, to dispel the myth that it is a *safe* form of transport. The health effects of car transportation and care of the environment should be given more prominence in the curriculum in primary and secondary schools. Part of the government's STP policy (DfES 2003) is for schools to use geography, PSHE, citizenship and other lessons to explain the benefits of sustainable travel. This ensures that environmental education is part of the package. STPs are planned for all schools in England, but it is not known how many will come to fruition and environmental education should still be provided. Morris (2003) quotes a Sustrans' spokesperson who provides a statistic for the number of STPs in operation at September 2003: 2,000 (8%) of a possible 25,000 schools in the country. At the time of writing, a great deal of STPs are yet to be written.

9.7.3 Potential Policies, School and Public Buses

Both the parents and the children complained about the quality of public buses and the attitudinal analysis showed that school and public buses are unpopular with many children. A high proportion had travelled on public buses but many cited negative experiences such as: safety issues, poor facilities, poor standard of service, the behaviour of others. Improvements should be prioritised so that the early experiences of primary children do not affect future potential usage. Buses appealed to some children because they provide opportunity for them to be with friends and for independence from parents. Safety matters should be tackled. The 'First' bus company advertised improved safety features on their new public buses in Calderdale: no steps to climb to get on, CCTV cameras, they are roomier with illuminated interiors (Calderdale News 2004). However, bus conductors were a feature of public and school buses in the past. A bus conductor is a visible deterrent, having one makes it easier for children to board without queuing to pay a driver or a machine. Trained bus conductors on school buses would also help by ensuring passengers are seated before the bus moves are able to control bad behaviour. Travelling on 'double deckers' was an

issue for some children which is overcome by the single deck Yellow Buses. A payment for 'escorters' on board was necessary at one school to maintain the Yellow Bus service. Chapter 5 of a report by the Scottish Executive (Granville, Laird, Barber and Rait 2002) suggests potential measures to make public bus services more attractive for school journeys. These are: the return of bus conductors, safety features such as seat belts, pedestrianised zones around schools, bigger buses and an increase in some services, raising awareness with parents to inform them of the improvements as well as discounts and schemes such as a joint parent and child ticket.

Perry (2000) believes a consensus is growing that public transportation is not only an economic and environmental necessity but also a means of restoring cultural vitality to urban areas. He discusses light rail, tramways and electric buses. The advantages of electric buses over conventional petrol powered engines are described: they are almost silent, odourless, lighter and faster. Construction costs are equal but maintenance costs are about half of standard buses and running costs are lower. Nevertheless *any* form of community transportation is preferable to cars, provided safe walking or cycling is incorporated with schemes to ensure fewer road traffic casualties. Many commuters reside outside of towns and cities and therefore require some form of motorised transport to replace car transportation particularly for the commute to work. Although some people will not use public transport however good the service, there is an equity issue. Current users of public transport deserve, and will benefit from improved services. Ultimately higher taxes, or redirection of tax funding for all (as in some European countries which have better public transport systems) are necessary to pay for this. Section 9.7.4 addresses the negative image of public buses.

9.7.4 Potential Policies, The Media

The power of the media as a source of knowledge and learning for children was demonstrated in Chapter 7. Many children have the stereotypical image that public transport is a mode for the elderly and those with lower status, whereas status cars are associated with the trendy young and celebrities. Walking and cycling as *transport modes* have to achieve greater social acceptance and marketing and media campaigns should be part of the apparatus for achieving this. The power of the media should be harnessed to change the negative images. A challenge says Bristow (2002), is to advertise public transport walking and cycling via a positive image, perhaps mirroring

the signals and target audience tactics used by car advertisers (p.71). Media campaigns in which celebrity role models promote cycling and walking for transport and recreation would help to counter this. Wright and Egan (2000) describe how a celebrity or public figure could be part of the delivery mechanism for de-marketing the car.

Advertising has been targeted to tackle a cause of childhood obesity – poor diet. Governmental proposals aimed at childhood obesity are presented in the government's White Paper, Choosing Health (DH 2004b point 55, p.35). This is for a tightening of the rules on broadcast advertising, sponsorship and promotion. The purpose is to protect children from encouragement to eat non healthy food and drinks, those high in fat, salt and sugar. In addition it is proposed that the foods children should eat be promoted using marketing devices such as cartoon characters, role models, celebrities and glamorisation. The author suggests these measures are applied to unscrupulous car advertisers who advertise cars on cartoon channels. A restriction on the amount of air time allocated to car advertising on TV or copy space in paper and other mediums are bolder measures.

9.7.5 Potential Policies, Encouraging Walking

Walking is a simple and accessible form of physical activity for children but a walking journey to/from school may not be sufficient to fulfil all their daily activity needs. A point made in Chapter 1 is that as a proportion of *all* journeys, school trips are decreasing and a concern raised by Mackett (2002) is that if policy prescriptions only focus on educational travel, they will have little impact. Many children have the perception that families like to travel in a car rather than walking or cycling as a family. In this, children are relating to what they see or experience either personally or vicariously such as on TV. It is commonplace to see people in cars and the physical environment may be acting as a 'silent socialiser' on children. Davis and Jones (1996) conclude that, *"Health promoters need to be aware of how the urban environment creates barriers to healthy lifestyles and of the potential for environmental as well as behavioural interventions"* (p.373). Sallis, Frank, Saelens and Kraft (2003) summarise the research on the relation between the design of communities and levels of walking and cycling for transport. They discuss how communities have been built which make it difficult or dangerous, to walk or cycle. Physical activity has been *"engineered"* out of daily lives (p.261). In the past, new housing, shopping and leisure developments

were designed on the premise of easy accessibility and availability of car transportation. These cannot be physically moved but some changes are possible. Giles-Corti and Donovan (2002) conclude that to increase walking for pleasure or transport, attention should be directed at improving the quality of the walking environment. Car free neighbourhoods within towns are advocated by Reutter and Reutter (1996). A good example of a pedestrianised centre is Birmingham. Expansion is needed to encompass wider areas and other towns and cities. There is political pressure from some shopkeepers against this. They fear loss of custom because competing centres have better facilities for car travellers. Ultimately if all town centres are relatively car free this argument loses power. Another side effect of pedestrianisation is that traffic is deflected to other areas. Therefore integrated measures are necessary to overcome this such as inducements to use park and ride schemes. Replacing existing roads with expensive walkways is not necessary, signs and bollards would suffice. 'In-town' shopping centres should be encouraged to allow easier access to non car users. Consideration should be given to imposing a location tax on 'out of town' shopping developments that necessitate car transportation.

9.7.6 Potential Policies, Encouraging Cycling

In the winter of 2004 a joint programme, 'Links to Schools' funded by the DfT, managed by Sustrans was announced (Sustrans 2004). One hundred local authorities covering over 230 schools will benefit from funding to extend the National Cycle Network. Residential areas are joined to the schools making it easier for young people to walk and cycle on a dedicated route. The author believes this is beneficial (although small scale nationally), because it encourages cycling for transport. There is some unmet need for cycling to school by 7 to 11 year olds. When provision for cyclists is based on 'off road' cycling routes with no logical connection to venues, these only provide an outlet for children and adults who want to cycle for pleasure. A drawback is that these may aid compartmentalisation. By segregating cyclists from roads and routes that do not go to specific places, the effect on children may be to compound the effects discussed in Chapter 8 whereby they lose the notion of cycling for transport.

The manufacture or import of cycles suitable *for transport* should be encouraged. In Copenhagen, Stockholm and Amsterdam cycling is more commonplace. Welleman (1997) and McKenzie (1995) describe cycle friendly policies operating in The

Netherlands. Here the vehicles themselves are designed for comfortable travel and *look* like vehicles for transport – not sport. Some have baskets and child carriers to encourage family outings. These types of cycles with accessories are not easily obtainable in Britain, there is currently little demand because cycling is not a popular transport mode, hence market forces are a barrier to this. Another problem raised by Tolley (2003), is that better facilities do not in themselves result in more cycling. To encourage this, both the *"hardware"* (roads/facilities) and *"software"* (shift in attitudes towards cycling) must be in place. Tolley (2003) discusses the contradiction in government policy: car ownership should increase, usage decrease. Car ownership levels are likely to go up with greater economic prosperity and the continued rise in household car ownership is an *"underlying force for reduced walking"* (p.190). Advertising cycling via positive images in the media was discussed in section 9.7.4.

9.7.7 Improve Collection of Pedestrian Travel Data

Some of the walking done by children and adults is not officially recorded. When the author used the variable 'number of days' in the analysis of the STP evaluation, differences between schools were found which would otherwise be undetected. Likely explanations for this were discussed in Chapter 6, the parent's employment situation, mixed availability of a car, some parents plan this to ensure children do some daily walking. Mackett et al (2003b) concluded that walking buses need to be evaluated systematically using new methodologies. Adequate data is necessary to get a baseline for policy. Weinstein and Schimek (2005) stress the need for improved data collection of pedestrian travel data. To monitor increasing car ownership within households, NTS data should include *all* cars or vans in households, currently the ceiling is 'two/more'. The differences in walking levels (percentages travelling by car) for each car ownership category can then be recorded rather than the current dichotomy ('no car' and households with a car'). The actual number of cars per household is collected for census data but this cannot be linked to the walking data collected as part of the NTS.

9.8 Contribution of the Research Methodology to the Main Conclusions

The main conclusions of the research were strengthened by methodological triangulation, that is, the convergence of results from research instruments which dovetailed and improved explanation. However, there are also disadvantages in using

'mixed methods' as the research design. Two examples of the benefit of the methodology are described first. One of these refers to the validity of the conclusion made regarding children and cycling. Primary data were collected using the attitudinal section on questionnaires, the vignette and focus groups. Children ticked a box to indicate strength of feelings towards 'travel by cycling' but for a majority, a disparity emerged between their concept of this term and the author's. If the quantitative data had been used independently, the findings would be open to misinterpretation. The qualitative material ensured a level of internal validity, while the quantitative, the benefit of large samples, external validity. A metaphor used in textbooks to describe the differences between qualitative and quantitative data is: quantitative findings provide an overview to gain a picture of the *size* of a wood, but learning about the *types* of trees therein requires a view from within the wood. One example from this research is the explanation for the statistical differences which emerged following analysis of the attitudinal section on questionnaires (attitudes towards cars/buses by car ownership). Qualitative material enabled hypotheses to be formed as to the reasons for the differences. The views of children in focus groups and parents at interview provided some reasons for these. Unfortunately small sample sizes did not allow for generalisation although the problem in this case was due to recruitment, not methodological problems.

Recruitment problems in projects can result in small and self selected samples which create difficulties because of potential bias and problems with generalisation. However, such samples can also be advantageous and researchers may reap benefits from them. In two instances the use of biased samples generated unexpected insights during this research. In one instance, an unexpectedly high proportion of two car households in shadow schools (unrepresentative of local population) enabled segregation of this subgroup for comparison purposes in the statistical analysis. Following an additional research task, an important conclusion was reached: that the potential effects of multi-car ownership can transcend socioeconomic and geographic boundaries. A second instance refers to the interview sample and the findings and limitations of this were discussed in Chapter 4. The sample consisted mainly of mothers and initially a mixed sample was presumed preferable. However in some respects the interviewees provided a richer source of data because a number of participants remembered becoming car owners, acquiring a second car for their own

use. They described their husbands/partners situation as, *"always having a car"*. Therefore the experience of obtaining a car was closer in the minds of the mothers than their husbands and they remembered the impact of car ownership on them.

There are distinct disadvantages in using a mixed methods design particularly for a *sole* researcher engaged in a PhD project. Greater demands are made on both researcher and participants and because of this it is better suited to team work or for experienced individuals who have already acquired some of the skills required. It is more time consuming throughout the research: at the planning stage, in the design of instruments and the piloting of these, during data collection (administrative and organisational skills) and analysis (results from different types of data). Separate reports on each of the research instruments were prepared before the write up for the thesis to make the latter task manageable. Most of the transcription of tapes and data input was handled by others because this was an overwhelming amount of work for one person. A sole researcher also requires a range of skills, for instance, interviewing necessitates different abilities from writing questionnaires. Co-ordination and timing is necessary if the full benefit of each method is to be reaped. For example the analysis of some PTEQ questionnaires had to be completed before the interview schedule was finalised. A general difficulty in this project was that school timetables dictated arrangements for focus groups and interviews were arranged according to parental availability. The overall sequence was not initially conducive to testing the hypotheses which generated from each of these. Additional piloting would have overcome this and ample piloting and pre-pilot work is recommended as being essential to the success of any research project.

9.9 Overall Conclusions

The empirical research undertaken for this thesis applied sociological knowledge to transport problems. A specific health focus was the use of the physically active modes (walking, cycling) by children. An overall conclusion is that to understand children's travel behaviour it is imperative to understand the travel mode behaviour of parents and the social and cultural environment in which they both function. The principal argument is that children learn about travel modes in the same way as other aspects of culture, through agents of socialisation: the family, school, media and peer groups. The

findings of the research were used to develop a social theory of travel mode behaviour, 'travel socialisation'. This focuses on behaviour in the context of the culture (or subculture) in which people live, examining the role of every day life on travel. The central theme is childhood determinants of future travel behaviour. An understanding of how children learn about travel is beneficial in formulating strategies to reduce car use. Multi-car ownership within households can increase an individual's reliance on cars but a social dependency on cars impacts on *all* households. A contention of the author is that transport and social policies need to address both the individual *and* the social determinants of car dependency if they are to be effective. The ramifications of achieving social and cultural change so that children are not socialised into 'car dependency' go beyond targeting individuals who drive or ride in cars. Broader based social policies to embrace this include measures aimed at families, employers and *everyone* who shares the community. Hence there is a need to tackle the problem from a social policy approach rather than just a 'travel demand' management perspective. An educational interventionist policy, a STP/travel initiative, can be effective in reducing car use for school journeys but the implementation and the practicalities involved in organising STPs is of major concern because a variety of factors can affect this. Parental support is vital to the success of travel initiatives operating in primary schools.

The health effects of car transportation and care of the environment should be given greater emphasis socially. Many individuals have high levels of mobility in a society that has a social and economic infrastructure built on the premise of the permanency of mass car transportation. A conclusion of the author is that 'car dependency' should be viewed as a social problem because there are social causes as well as social costs to consider which impact on everyone including children, therefore policies must address the root causes – essentially *changing the culture* in which dependency thrives. A primary task in bringing about change is to convince and persuade the populace of the need to do so. Bold policy measures are required to support the necessary changes in lifestyle and avoid the health and other problems created by over reliance on car transportation. A criticism of past and current governments is that they are not building public support for the political actions that are necessary for sustainable transportation (O'Brien 2000). Some of the measures will be unpopular both commercially and with

the general public. This was the conclusion of Tight (2001) regarding transport interventions to reduce adverse health impacts in West Yorkshire.

9.10 Further Research

From a theoretical and a 'pure research' perspective, 'travel socialisation theory' provides ample scope for additional study. However, seven of the findings which were summarised in sections 9.3 and 9.4, are prioritised for further research because of their potential policy orientation and significance to 'healthy travel' and tackling car dependency in children and adults:

1) STPs: the monitoring and evaluation of STPs is an integral part of the 'Travelling to School Initiative' (DfES 2003). However, this covers general outcomes and not qualitative aspects of travel schemes such as the role of 'peer culture' on the longevity and take up of schemes. In the author's research, isolation from friends had become a de-motivator for continuing with a walking bus. It is not known how important this factor is and further research on a larger sample of schools is required.

***2) STPs*:** a conclusion made in Chapter 8 is that 'social processes' can be as important as the cognitive in understanding parental car user behaviour. This has implications for the implementation of travel schemes and encouraging parental involvement in them. The role of this influence and how well the governmental STP promotional literature appeals to parents, requires further investigation.

3) STPs: children from 'no car' households were found to spend more time walking than others. A hypothesis generated and discussed in Chapter 4 is that walking to/from school by children in 'no car or 'one car' households accounts for most of the additional walking children do. The time spent walking to/from school requires further research on larger samples to ascertain the overall contribution made by school journeys.

4) *The effect of the variable 'ratio of cars per adult' on: the amount of car usage, time spent walking and attitudes towards transport modes:* several findings from the research on parents suggest that the 'ratio of cars per adult' has a significant impact on parents' attitudes and travel behaviour. Two of these were discussed in Chapter 4 in relation to the poor calibre of the sample used in analyses, the number of cars in

household and: the 'minutes spent walking', the 'length of time of second car availability'. A key finding highlighted in section 9.3 is the association between the number of cars in households and the strength of feelings towards cars. Further research on samples from other populations is required to investigate if the 'ratio of cars per adult' has an effect on: the amount of car usage, minutes spent walking and attitudes towards transport modes. For this, a stratified random sample of adults to include couples with and without children, single people, comprising males and females at each level of car ownership is required.

5) *The differences between children and mothers' feelings towards the active modes:* this finding reported in Chapter 5, suggests that fewer adults in the next generation will favour walking. However the author's sample of parents consisted mainly of mothers therefore a sample of fathers is required for future research. A longitudinal study following primary aged children or else a cross sectional study of young people of different ages is required for additional research.

6) *Children from 'no car' and 'two/more car' households, differences in attitude towards cars and public buses:* the statistical results reported in Chapter 5 established the *direction and extent of differences*, but additional research on 'no car' and 'two/more car' households is required to discover if the hypothesised reasons for the difference in attitudes, are the only differences. The findings from the small sample of 'no car' households suggests they have *already* learned *not* to rely on cars to the same extent as children in two/three car households and this has important implications for future car use.

7) Children's short car journeys: Mackett and Ahern (2000) found that women make more short car trips than men. In Chapter 4, the author reported findings which suggest that children may be making more than other members of households. They are often dropped off after short trips to school or friends' houses. The sample of children from 'two/more car' households were found to make the highest number of short car trips. Further research using random samples of children from all the car ownership categories is required to investigate this.

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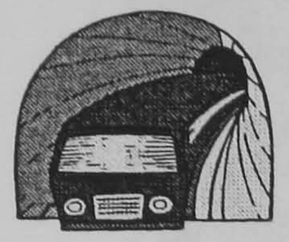


Travel Questionnaire

Inside this booklet you will find a set of pictures. The pictures show a different way of travelling around for adults, young people and children when they travel to work, to visit their friends, travel to school or go anywhere else.

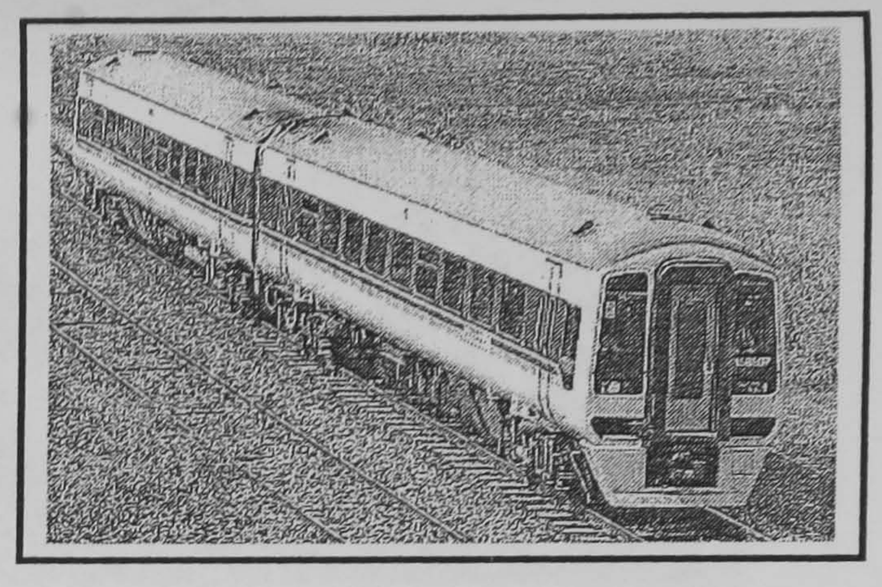
Look at the pictures on each page and draw a **circle** around the picture or pictures that shows who you think likes to travel in the way shown by the picture. You can circle one or more pictures to give your answer.

If you do not see the picture that shows who you think likes to travel in the way shown by the picture, write down your answer clearly to let me know who you mean.

To make sure you give **all your answers** you can circle a picture or pictures as well as writing down who you think.

Work on your own when you give your answers. Do not ask any one else to help you.

Look at the picture of a Train...



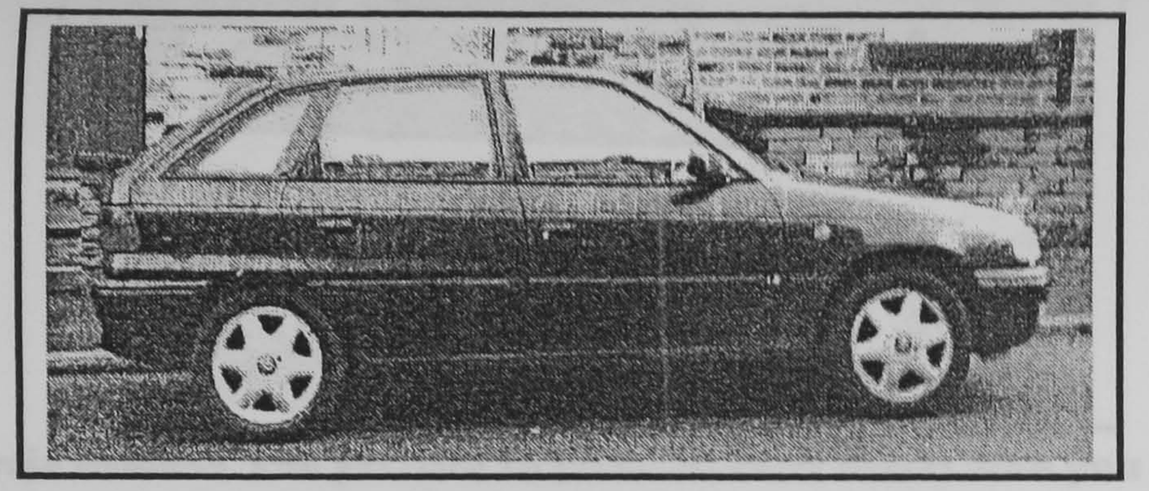
Draw a circle around the picture or pictures that shows who you think likes to travel by train:

Can you think of someone else who likes to travel by train?

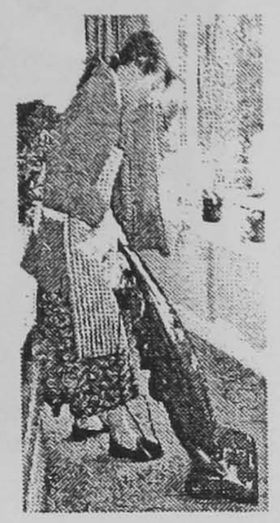
.....

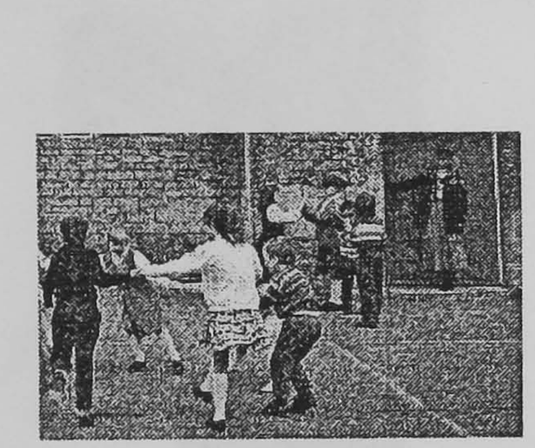
.....

Look at the picture of a type of Car...



raw a circle around the picture or pictures that shows who you think likes to avel in this type of car:





Can you think of someone else who likes to travel in this type of car?

.....

.....

Look at the picture of a Bus...

Draw a circle around the picture or pictures that shows who you think likes to travel by bus:

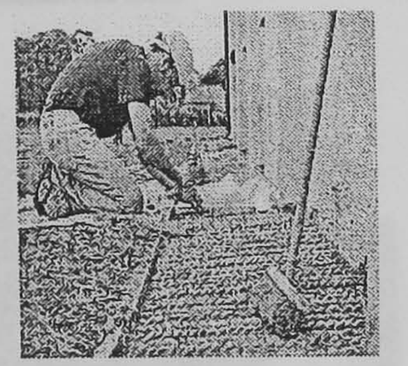
Can you think of someone else who likes to travel by bus?

.....

.....

Look at the picture of a type of Car...

Draw a circle around the picture or pictures that shows who you think likes to travel in this type of car:

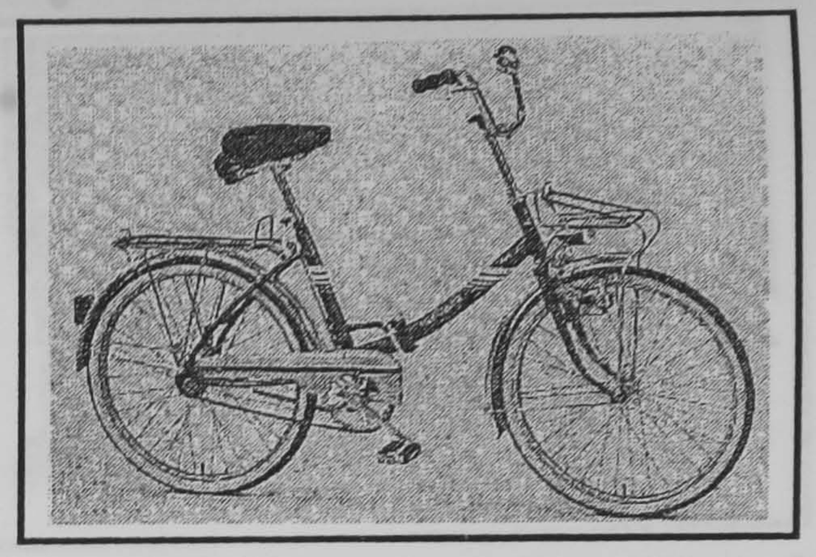


Can you think of someone else who likes to travel in this type of car?

.....

.....

Look at the picture of a Cycle...



Draw a circle around the picture or pictures that shows who you think likes to travel by cycling:

Can you think of someone else who likes to travel by cycling?

.....

.....

Look at the picture of a type of Car...

aw a circle around the picture or pictures that shows who you think likes travel in this type of car:

Can you think of someone else who likes to travel in this type of car?

.....

.....

Look at the picture of Walkers...

Draw a circle around the picture or pictures that shows who you think likes to travel by walking:

Can you think of someone else who likes to travel by walking?

.....

.....

My name is:

.....

Does your family have a car? This means any type of car or van.
Count all types of car your family has:

Tick √ one of the boxes to let me know your answer:

☐
Our family does not have a car

☐
Our family has one car

☐
Our family has two cars

☐
Our family has three or more cars

Do you want to learn to drive a car when you are older?

Yes☐ No☐ Don't know☐

Do you want to own a car when you are older?

Yes☐ No☐ Don't know☐

I am a girl☐ I am a boy☐

My age last birthday was

.....

Check you have filled in all the answers.

Hand this to your Teacher. Thank you very much.

Travel Diary for One Week

NAME..... Week Beginning Monday.....

This is the *name* of the *street* where I live:.....

A 'journey' means each place that you go to: 'the shop', 'to school', to see friends. 'Travel ' means how you get to the place you are going to: by car, by walking, by train, by cycling, by bus or by two or more ways.

Journey *to* School This is *how* I travelled: This is *how long* it takes:	***On* Mon** ..... Minutes	***On* Tues** ..... Minutes	***On* Wed** ..... Minutes	***On* Thurs** ..... Minutes	***On* Fri** ..... Minutes	***On* Sat**	***On* Sun**
Journey *from* School This is *how* I travelled: This is *how long* it takes:	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes		
For Journeys to See and Go Out with Friends: This is *how* I travelled: This is *how long* it takes:	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes
Other Journeys: This is *where* I travelled: This is *how* I travelled: This is *how long* it takes:	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes

There is more space to fill in *all your journeys* over the page

>>>>>>>>>>>>>

A 'journey' means each place that you go to: 'the shop', 'to school', to see friends. 'Travel ' means how you get to the place you are going to: by car, by walking, by train, by cycling, by bus or by two or more ways.

For Journeys to See and Go Out with Friends: This is *how* I travelled: This is *how long* it takes:	***On* Mon** ..... Minutes	***On* Tues** ..... Minutes	***On* Wed** ..... Minutes	***On* Thur** ..... Minutes	***On* Fri** ..... Minutes	***On* Sat** ..... Minutes	***On* Sun** ..... Minutes
For Journeys to See and Go Out with Friends: This is *how* I travelled: This is *how long* it takes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes
Other Journeys: This is *where* I travelled: This is *how* I travelled: This is *how long* it takes:	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes
Other Journeys: This is *where* I travelled: This is *how* I travelled: This is *how long* it takes:	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes
Other Journeys: This is *where* I travelled: This is *how* I travelled: This is *how long* it takes:	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes	..... Minutes

Thank you for Filling in this Diary. Hand it to your teacher with your Sports & Exercise Diary and Questionnaire.

Out of School, Sports & Exercise Diary

NAME.....Week Beginning Monday.....

This is the Sports & Exercise I did:	This is how *Long* I spent on each Sport & Exercise IN *MINUTES* EACH DAY						
	On Mon ↓	*On Tues* ↓	*On Wed* ↓	*On Thurs* ↓	*On Fri* ↓	*On Sat* ↓	*On Sun* ↓
	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes
Swimming..... >	.....	.....	.....	.....	.....	.....	.....
Running or Jogging..... >	.....	.....	.....	.....	.....	.....	.....
Dancing..... >	.....	.....	.....	.....	.....	.....	.....
Gym Work..... >	.....	.....	.....	.....	.....	.....	.....
Keep Fit..... >	.....	.....	.....	.....	.....	.....	.....
Rugby..... >	.....	.....	.....	.....	.....	.....	.....
Football..... >	.....	.....	.....	.....	.....	.....	.....
Another Sport/Exercise? >	.....	.....	.....	.....	.....	.....	.....
Another Sport/Exercise? >	.....	.....	.....	.....	.....	.....	.....
Active Play/Street Games...>	.....	.....	.....	.....	.....	.....	.....
Kicking a Ball..... . >	.....	.....	.....	.....	.....	.....	.....
Other Walking.....>	.....	.....	.....	.....	.....	.....	.....
Other Cycling.....>	.....	.....	.....	.....	.....	.....	.....
Do not show Walking or Cycling if this is *travel to/from school each day.*	.....	.....	.....	.....	.....	.....	.....
***Other Ways to Be Active*:**							
Helping with Work which meant pulling Or pushing:							
Housework:							
Dusting.....>							
Hoovering .....>							
Anything Else?							
Cleaning a Car.....	.....	.....	.....	.....	.....	.....	.....
Mowing Grass	.....	.....	.....	.....	.....	.....	.....
Anything Else?	.....	.....	.....	.....	.....	.....	.....

Thank you for Filling in this Diary. Hand it to your teacher with your Travel Diary & Questionnaire.

TRAVEL & EXERCISE QUESTIONNAIRE

Answer the questions *at the end of the week* when you have *filled in* your Travel & Exercise Diaries:

Q. 1
My AGE, last birthday was: 9 10 11 (Draw a Circle around your age).

Q. 2 Please tick *one* box →: I am a Girl ☐ I am a Boy ☐

Q. 3 I am *happy* with the way I *normally* **Travel to School: Please tick *one* box:**

No ☐ **Yes ☐**

Q. 4 I am *happy* with the way I *normally* **Travel to See and Go Out with Friends:**

No ☐ **Yes ☐**

Q. 5 I am *happy* with the way I *normally* **Travel For My Other Weekly Journeys:**

No ☐ **Yes ☐**

If You are *Happy* with *all* your travel Now answer Q. 7 on the Next Page

Q. 6 If you are *Unhappy* with *some or all* of your travel, Q. 6 is to show me how you *would like* to travel. Tick *one or more* boxes to answer each part of Q. 6.

	Travel to School	For Journeys to See & Go Out with Friends	For My Other Weekly Journeys
I would *like to travel* by Walking All... ...of the Way	☐	☐	☐
I would *like to travel* by Public Bus	☐	☐	☐
I would *like to travel* by Train	☐	☐	☐
I would like *to travel* by Car	☐	☐	☐
I would *like to travel* by Cycle	☐	☐	☐
I would *like to travel* by Shared Car	☐	☐	☐
I would *like to travel* by School Bus	☐	☐	☐
I would *like to travel* by Walking *Some* of the Way	☐	☐	☐

I would *like to travel by two or more ways.* I have **ticked the boxes above** to show these ☐

There are More Questions on the Next Page.....

Please √ Tick *one* box:

Q. 7 Do you want to learn to drive a car when you are older? Yes☐ No☐ Don't know ☐

Q. 8 Do you want to own a car when you are older? Yes☐ No☐ Don't know ☐

Q. 9 Does your family have a car? Count all types of car or van:

No car☐ One car☐ Two cars☐ Three cars or more☐

How do you *Feel* about the different ways there are to travel around?

Answer all the Questions below:

	NO	SOME OF THE TIME	YES
Q.10 I could ***live happily without*** - Public Bus travel	☐	☐	☐
Q.11 I could ***live happily without*** - Train travel	☐	☐	☐
Q.12 I could ***live happily without*** - Car travel	☐	☐	☐
Q.13 I could ***live happily without*** - travel by Walking	☐	☐	☐
Q.14 I could ***live happily without*** - travel by Cycle	☐	☐	☐
Q.15 I could ***live happily without*** - School Bus travel	☐	☐	☐
Q.16 I could ***live happily without*** - Shared Car travel	☐	☐	☐

Q. 17 **My Sports & Exercise Diary** shows a *normal* week for me: **Please √ Tick *one* box:**

☐ **No** ↓ ☐ **Yes >>>** Now answer Q. 18

If **No**, this is because of: ☐ The Time of Year

☐Another reason, I have written in here……

If your Sports & Exercise has NOT been normal this week, Please write in below:

Sport & Exercise: …… I *normally* Play …… minutes MORE, OR minutes …… LESS

Walking:…… I *normally* Walk…… minutes MORE, OR minutes……LESS

Active Play/Street Games: I *normally* Play……minutes MORE, OR minutes……LESS

Other Ways to Be Active: I *normally* Help ……minutes MORE, OR minutes……LESS

Q.18 **My Travel Diary** shows a *normal* week for my travel: **Please √ Tick *one* box:**

☐ **No** ↓ ☐ **Yes >>>>>**Go to End

If **No**, this is because of: ☐ The Time of Year

☐Another reason, I have written in here……

If your travel has NOT been normal this week, ***Please √ Tick one or more boxes*** below:

*I **normally*** make: *More* trips by Car☐ Bus☐ Walk☐ Train☐ Cycle☐

AND / OR: *Fewer* trips by Car☐ Bus☐ Walk☐ Train☐ Cycle☐

Please check that you have filled in all of your answers. Hand to your teacher with your Travel & Sports/Exercise Diaries. Thank you.

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How to Fill in your Travel Diary

A 'journey' means each place that you go to: 'the shop', 'to school' to 'see friends'. 'Travel ' means *how you get* to the place you are going to: by car, by walking, by train, by cycle, by bus or using two or more ways.

1) Fill in your name and the date when you start. This should be **the same** as the Sports & Exercise diary. Show all your journeys. This means any made in the day time or evenings or weekends. ***Fill in your diary every day to make sure you write down all your journeys.***

2) Fill in how you travel *to* School and *from* School **each day** of the week:

Journey *to* School	***On Mon***	***On Tues***	***On Wed***	***On Thurs***	***On Fri***	***On Sat***	***On Sun***
This is *how* I travelled:	Walked	School bus and Walk	Car	Car	N/A		
This is *how long* it takes:	25 Minutes	15 Minutes	5 Minutes	5 Minutes	Minutes		

3) Show *all the ways* you use to travel. If you are not in school on any day, show N/A under the day or days. This pupil was not at school on Friday.

4) Show all journeys made when you See and Go Out with Friends.

5) Show *where* you travelled to, on your Other Journeys:

Other Journeys:

This is where I travelled: To the shop

This is *how* I travelled: Cycled and walked

This is *how long* it takes: 20 Minutes

How to Fill in your Out of School, Sports & Exercise Diary

1) Fill in your name and the date when you start your diary. This should be **the same** as the Travel diary. ***Fill in your diary every day to make sure you write down all the exercise.***

2) Show the time spent, in **MINUTES** on ANY sports and exercise done **OUT OF** school.

3) If the Sports & Exercise is not shown, write it in under 'Another Sport/Exercise'.

This is the Sports & Exercise I did:	***On Mon***	***On Tues***	***On Wed***	***On Thurs***	***On Fri***	***On Sat***	***On Sun***
Swimming……	**30**	**30**					**30**

Here the pupil went swimming on Monday, Tuesday and Sunday for 30 minutes.

Do not Forget to Answer the questions on the Travel & Exercise Questionnaire at the end of the week when your Diaries have been filled in.

Your Diaries have plastic covers so that they can be taken home with you. Keep them safe. Remember to return them to school on Monday morning, after the weekend.

School Travel Survey

Q. 1 When I Come to School in the Mornings, this is how I get here.
If you use two or more ways, you need to tick more than one box.

Tick √ one or more of the boxes to let me know *all the ways* you use:

☐ ***Walk all the way***

on *one or more* days. This is the number of days I Walk to School: One day ☐
Two days ☐ Three days ☐ Four days ☐ Five days ☐

If I Walk *all the way,* this is *how long* it takes:.....Minutes

☐ **By Car *all the way***

on *one or more* days. This is the number of days I come by Car to School: One day ☐
Two days ☐ Three days ☐ Four days ☐ Five days ☐

If I come *all the way* by Car, this is *how long* it takes:.....Minutes

☐ **School Bus**

on *one or more* days. This is the number of days I come by School Bus: One day ☐
Two days ☐ Three days ☐ Four days ☐ Five days ☐

☐ **Cycle** ☐ **Train** ☐ **Public Bus** ☐ **Walk**
some **of the way**

Q.2 How would you *like to travel* when you Come to School?

Tick √ one of the boxes to let me know your answer:

I am *Happy* ☺ with the way I travel to School ☐ >>>>Go to Q. 4 over page

I am *Unhappy* ☹ with the way I travel to School ☐ >>>>Go to Q. 3 over page

→ → → There are more questions on the next page..... → → →

Q. 3 If you are *unhappy* ☹ with the way you travel to School.
This is how I would *like* to travel to School. Tick √ one or more of the boxes to let me know *all the ways*:

Walk *all the way* ☐ Car ☐ School Bus ☐
Cycle ☐ Train ☐ Public Bus ☐ Walk ☐
some **of the way**

Q.4 Do you want to learn to drive a car when you are older?
Yes ☐ No ☐ Don't know ☐

Q.5 Do you want to own a car when you are older?
Yes ☐ No ☐ Don't know ☐

Q. 6 I am a Girl ☐ I am a Boy ☐
Q. 7 MY AGE last birthday was.....

Q. 8 **When I Go Home in the Afternoons, this is how I get there.**
If you use two or more ways, you need to tick more than one box.

Tick √ one or more of the boxes to let me know *all the ways* you use:

☐ **Walk *all the way***

on *one or more* days. This is the number of days I Walk Home from School: One day ☐
Two days ☐ **Three days** ☐ **Four days** ☐ **Five days** ☐

☐ **By Car *all the way***

on *one or more* days. This is the number of days I Go Home by Car: One day ☐
Two days ☐ **Three days** ☐ **Four days** ☐ **Five days** ☐

☐ **School Bus**

on *one or more* days. This is the number of days I Go Home by School Bus: One day ☐
Two days ☐ **Three days** ☐ **Four days** ☐ **Five days** ☐

☐ **Cycle** ☐ **Train** ☐ **Public Bus** ☐ **Walk *some* of the way**

→ → → There are more questions on the next page..... → → →

Q. 9 **How would you *like to travel* when you Go Home from School?**

Tick √ one of the boxes to let me know your answer:

I am *Happy* with the way I travel Home ☐ **>>>>Go to Q.11**

I am *Unhappy* with the way I travel Home ☐ **>>>>Go to Q.10**

Q.10 **If you are *unhappy* with the way you travel Home.**
This is how I would *like* to travel to School. Tick √ one or more of the boxes to let me know *all the ways*:

Walk *all the way* ☐ **Car** ☐ **School Bus** ☐
Cycle ☐ **Train** ☐ **Public Bus** ☐ **Walk *some* of the way** ☐

Q. 11 **Does your family have a car? This means any type of car or van.**
Count all types of car your family has:

☐ **No Car** ☐ **One car** ☐ **Two cars** ☐ **Three or more cars**

Q. 12 **This is the *name* of the *street and place* where I live:**

.....

✷ **Check you have filled in all the answers. Hand this to your Teacher.**

Thank you very much.

CHILD'S TRAVEL & EXERCISE QUESTIONNAIRE

Q. 1 When I travel To School in the Mornings, this is how I *normally* get there:
Tick √ **one or more** of the boxes to let me know *all the ways* you use:

Walk *all the way* ☐ Public Bus ☐ Train ☐ Car ☐
Cycle ☐ School Bus ☐ Walk *some* of the way ☐ Share a Car ☐

Q. 2 When I travel To See and Go Out with Friends, this is how I *normally* get there:

Walk *all the way* ☐ Public Bus ☐ Train ☐ Car ☐
Cycle ☐ Walk *some* of the way ☐ Share a Car ☐

Q. 3 When I travel for any Other Weekly Journeys, this is how I *normally* get there:

Walk *all the way* ☐ Public Bus ☐ Train ☐ Car ☐
Cycle ☐ Walk *some* of the way ☐ Share a Car ☐

Q. 4 Do you want to learn to drive a car when you are older? Yes ☐ No ☐ Don't know ☐

Q. 5 Do you want to own a car when you are older? Yes ☐ No ☐ Don't know ☐

Q. 6 Does your family have a car? Count all types of car or van:

No car ☐ One car ☐ Two cars ☐ Three cars or more ☐

How do you *Feel* about the different ways there are to travel around?

Answer all the Questions below:	**NO**	**SOME OF THE TIME**	**YES**
Q. 7 I could ***live happily without*** - Public Bus travel	☐	☐	☐
Q. 8 I could ***live happily without*** - Train travel	☐	☐	☐
Q. 9 I could ***live happily without*** - Car travel	☐	☐	☐
Q.10 I could ***live happily without*** - travel by Walking	☐	☐	☐
Q.11 I could ***live happily without*** - travel by Cycle	☐	☐	☐
Q.12 I could ***live happily without*** - School Bus travel	☐	☐	☐
Q.13 I could ***live happily without*** - Shared Car travel	☐	☐	☐

There are More Questions on the Next Page.....

Q. 14 My AGE, last birthday was: 9 10 11 (Draw a Circle around your age).

Q. 15 Please tick *one* box →: I am a Girl ☐ I am a Boy ☐

Q. 16 I am *happy* with the way I *normally* **Travel to School: Please tick *one* box:**

No ☐ **Yes ☐**

Q. 17 I am *happy* with the way I *normally* **Travel to See and Go Out with Friends:**

No ☐ **Yes ☐**

Q. 18 I am *happy* with the way I *normally* **Travel For My Other Weekly Journeys:**

No ☐ **Yes ☐**

If You are *Happy* with *all* your travel, Now fill in your 'Out of School Sports & Exercise' over the Page

Q. 19 If you are *Unhappy* with *some or all* of your travel, Q. 19 is to show me how you *would like* to travel. Tick *one or more* boxes to answer each part of Q. 19

	Travel to School	**For Journeys to See & Go Out with Friends**	**For My Other Weekly Journeys**
I would *like to travel* by Walking **All**...			
...of the Way	☐	☐	☐
I would *like to travel* by Public Bus	☐	☐	☐
I would *like to travel* by Train	☐	☐	☐
I would like *to travel* by Car	☐	☐	☐
I would *like to travel* by Cycle	☐	☐	☐
I would *like to travel* by Shared Car	☐	☐	☐
I would *like to travel* by School Bus	☐		
I would *like to travel* by Walking ***Some*** ...of the Way	☐	☐	☐

Fill in all your 'Out of School Sports & Exercise' Over the Page

Out of School, Sports & Exercise Record

NAME..... DATE FORM FILLED:.....

This is the Sports & Exercise I did:	This is how *Long* I spent on each Sport & Exercise IN *MINUTES* EACH DAY						
	On Mon ↓	*On Tues* ↓	*On Wed* ↓	*On Thurs* ↓	*On Fri* ↓	*On Sat* ↓	*On Sun* ↓
	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes	Minutes
Swimming..... >	.....	.....	.....	.....	.....	.....	.....
Running or Jogging..... >	.....	.....	.....	.....	.....	.....	.....
Dancing..... >	.....	.....	.....	.....	.....	.....	.....
Gym Work..... >	.....	.....	.....	.....	.....	.....	.....
Keep Fit..... >	.....	.....	.....	.....	.....	.....	.....
Rugby..... >	.....	.....	.....	.....	.....	.....	.....
Football..... >	.....	.....	.....	.....	.....	.....	.....
Another Sport/Exercise? >	.....	.....	.....	.....	.....	.....	.....
Another Sport/Exercise? >	.....	.....	.....	.....	.....	.....	.....
Active Play/Street Games...>	.....	.....	.....	.....	.....	.....	.....
Kicking a Ball..... . >	.....	.....	.....	.....	.....	.....	.....
Other Walking.....>	.....	.....	.....	.....	.....	.....	.....
Other Cycling.....> (Do not show Walking or Cycling if this is *daily travel to/from school* but show Other Walking/Cycling)	.....	.....	.....	.....	.....	.....	.....
***Other Ways to Be Active*:** Helping with Work which meant pulling Or pushing: Housework:							
Dusting.....>							
Hoovering .....>							
Anything Else?							
Cleaning a Car.....							
Mowing Grass	.....	.....	.....	.....	.....	.....	.....
ything Else?	.....	.....	.....	.....	.....	.....	.....

Thank you for Filling in this Diary. Hand it to your parent/s.

PARENTS TRAVEL & EXERCISE QUESTIONNAIRE

Information provided will only be used for research purposes. All answers and comments will be treated as strictly confidential in accordance with the Data Protection Act 1998.

Part A: Travel

Q. 1 **This is how I travelled *last Week (Monday to Sunday).* Please √ Tick *one or more* boxes to let me know *all the ways*:**

	For School Escort Trips To	For School Escort Trips From	For Trips To/From Work	For Any Other *Regular* Trips (Trips to go To Shops, To See friends, Go Anywhere)
I *travelled* by **Walking** *All* of the Way	☐	☐	☐	☐
I *travelled* by **Public Bus**	☐	☐	☐	☐
I *travelled* by **Train**	☐	☐	☐	☐
I *travelled* by **Car**	☐	☐	☐	☐
I *travelled* by **Pedal Cycle**	☐	☐	☐	☐
I *travelled* by **Shared Car**	☐	☐	☐	☐
I *travelled* by **Walking** *Some* of the Way	☐	☐	☐	☐

I *travelled* by ***two or more ways*** and I have ticked the boxes above to show these ☐

I do Not take my children *To* School ☐ **Or,** *To or From* School ☐ I am Not in Employment ☐

Q. 2 **If you travel *by Car* for some, or all of your trips, √ Tick *one* box:**

School Escort Trips: I travel by Car and some trips Take **5 Mins. Or Less** **NO** ☐ **YES** ☐

Trips To/From Work: I travel by Car and some trips Take **5 Mins. Or Less** **NO** ☐ **YES** ☐

Other *Regular* Trips: I travel by Car and some trips Take **5 Mins. Or Less** **NO** ☐ **YES** ☐

Q. 3 **Do you travel *by Car* if you go to places to play any Sport/s or get Exercise?**

This includes trips to the park or the country or Anywhere for Walking, **NO** ☐ **YES** ☐

If YES, How Often? Daily ☐ Every Week or Most Weeks ☐ Twice a Month ☐ Once a Month or Less ☐

Are you *Happy* with the Way or Ways you Travel?

Q. 4 I am *Happy* with the way I travel for *School Escort Trips* **NO** ☐ **YES** ☐

Q. 5 I am *Happy* with the way I travel for Trips *To/From Work* **NO** ☐ **YES** ☐

Q. 6 I am *Happy* with the way I travel for Any Other *Regular Trips* **NO** ☐ **YES** ☐

Now Go to the next section at the top of the Page .....

If You are *Happy* with *all* your travel Go to Q. 8

If you are *Unhappy* with *any* of your travel, how would you *like to travel*? Answer Q. 7
Please √ Tick *one or more* boxes:

Q.7 Unhappy	School Escort Trips To	School Escort Trips From	Trips To/From Work	Any Other *Regular* Trips
I would *like to travel* by **Walking** *All* the Way	☐	☐	☐	☐
I would *like to travel* by **Public Bus**	☐	☐	☐	☐
I would *like to travel* by **Train**	☐	☐	☐	☐
I would *like to travel* by **Car**	☐	☐	☐	☐
I would *like to travel* by **Pedal Cycle**	☐	☐	☐	☐
I would *like to travel* by **Shared Car**	☐	☐	☐	☐
I would *like* to *travel* by **Walking** *Some* of the Way	☐	☐	☐	☐

I would *like to travel* by ***two or more ways*** **and** I have ticked the boxes above to show these ☐

Q. 8 How do you *Feel* about the different ways there are to travel around?

Please Answer *all* the questions:	**NO**	**SOME OF THE TIME**	**YES**
I could ***live happily without*** -Bus travel	☐	☐	☐
I could ***live happily without*** -Train travel	☐	☐	☐
I could ***live happily without*** -Car travel	☐	☐	☐
I could ***live happily without*** -Travel by Walking	☐	☐	☐
I could ***live happily without*** -Travel by PedalCycle	☐	☐	☐
I could ***live happily without*** -Shared Car travel	☐	☐	☐

Q. 9 Employment:
My usual Job is:.....**This is:** Full time /Part-time/ Hours vary

Q. 10 Educational Qualifications: Please √ Tick *one or more* boxes:

None ☐ O'level/GCSE & Equivalent ☐ Vocational or Trade ☐ A'level & Equivalent ☐ Degree/s ☐

Q. 11 I am Female ☐ I am Male ☐ **Q. 12** My Age Last birthday.....

Q. 13 Does your family have a Car? (Count all types of car or van):

No Car ☐ One Car ☐ Two Cars ☐ Three Cars or more ☐

Q. 14 For *'Two or more car'* families: How *Long* have you owned a *second* car?

Months:..... **Years:.....**

Part B: Fill in all your Weekly Sports & Exercise Over the Page

Part B: Parents Weekly Sports & Exercise Record

NAME..... DATE FORM FILLED:.....

This is the Sports & Exercise I did:	This is how *Long* I spent *Last Week* on each Sport & Exercise IN *MINUTES* PER DAY						
	On Mon Minutes	*On Tues* Minutes	*On Wed* Minutes	*On Thurs* Minutes	*On Fri* Minutes	*On Sat* Minutes	*On Sun* Minutes
Swimming.....>	.....	.....	.....	.....	.....	.....	.....
Running or Jogging.....>	.....	.....	.....	.....	.....	.....	.....
Badminton .....>	.....	.....	.....	.....	.....	.....	.....
Dancing.....>	.....	.....	.....	.....	.....	.....	.....
Gym Work.....>	.....	.....	.....	.....	.....	.....	.....
Keep Fit/aerobics.....>	.....	.....	.....	.....	.....	.....	.....
Rugby.....>	.....	.....	.....	.....	.....	.....	.....
Football.....>	.....	.....	.....	.....	.....	.....	.....
Another Sport/Exercise? Please write in below:	.....	.....	.....	.....	.....	.....	.....
.....>	.....	.....	.....	.....	.....	.....	.....
Another Sport/Exercise?	.....	.....	.....	.....	.....	.....	.....
.....>	.....	.....	.....	.....	.....	.....	.....
Another Sport/Exercise?	.....	.....	.....	.....	.....	.....	.....
.....>	.....	.....	.....	.....	.....	.....	.....
Other Walking..... >	.....	.....	.....	.....	.....	.....	.....
Other Cycling.....> (Do not show Walking or Cycling if this is *daily travel To/From school or Work* but show Other Walking/Cycling).	.....	.....	.....	.....	.....	.....	.....
----------	.....	.....	.....	.....	.....	.....	.....
***Other Ways to Be Active*:** Work involving pulling Or pushing: Housework:	.....	.....	.....	.....	.....	.....	.....
Hoovering .....>							
Dusting.....>	.....	.....	.....	.....	.....	.....	.....
Anything Else? .....>	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
Cleaning a Car..... >	.....	.....	.....	.....	.....	.....	.....
Mowing Grass ..... >							
Anything Else? .....>							
.....>							

Thank you very much for filling in this Questionnaire.

Please return it with the Reply in the White Reply Envelope.

Appendix 1f FOCUS GROUP SCHEDULE

Have any of you ever travelled on a ……? (train, car, public bus, etc.)

Where were you going and why?

Do you travel by……..for going anywhere else?

What do you think about travelling on……?

Prompt (if needed): Is there anything you like / do not like about……?

Why is that important to you?

Car *Additional questions:* Do you want to learn to drive a car when you are older?

If Yes: Why do you want to learn to drive?

Do you want to own a car when you are older?

If Yes: Why do you want to own a car?

What sort of car would you like to own? Why do you want one of those cars?

Car Advertising

Do you watch Cartoon Channels on T.V.? (channels such as Sky not *ordinary* TV).

If Yes: Have you seen any car adverts shown on these? Which car/s is advertised?

Do you think these adverts are aimed at children, young people or adults?

Thinking now about **any** car adverts that you have seen: in magazines, newspapers or books or on the TV or **anywhere** that advertises cars. Are there adverts that for some reason, stand out in you mind? **If Yes:** Why does that stand out in your mind?

What are your feelings about car advertising?

Prompt (if needed): Do you like the adverts, or not like the adverts?

Cycling *Additional question:* Do any of you own a cycle/bike?

Walking *Additional question if applic*: Have any of you used the Walking Bus?

What do you think about the Walking Bus?

Prompt (if needed): Is there anything you liked/ did not like about the Walking Bus?

Final Question: Do you have a favourite way or ways of travelling?

INTERVIEW SCHEDULE FOR CAR OWNING PARENTS

General questions to begin, Firstly about the FAMILY:

How many children in the family? What are their ages?
If Applicable, Do they attend the same schools?
Is your Family a Two parent or Single Parent Family?

FAMILY HISTORY - BIRTH FAMILY

This question is about Car Ownership in your family of birth.

Thinking back, Did your Parents own a Car or Cars at any time, during YOUR school life?

If YES, Birth Parents Owned a Car /s:

How many cars? Can you remember how old you were, when your parent/s first owned a car?

Did one or both parents need a car to get to their employment? If not mentioned:

What did your father do at work? What did your mother do at work?

Thinking back, Did your Grandparents own a Car or Cars - How many?

Did any one else in your extended family own a Car or Cars, such as an Aunt or Uncle?

When you were growing up, did your parents, relatives or someone else, *take you* to school or collect you in a car at any time?

If YES: were you dropped off by a parent/s or relative who travelled on to work?

If NO: How did you travel to school (primary) and to (high school, secondary)
How far did you have to travel to each?

Did your parents drive you to visit your friends, or out in the car to other activities at any time?

Thinking back, can you remember if your parents had any rules about the car /s that affected you for instance, not being allowed to sit in the front seat, not being allowed to eat or drink in the car.

Can you remember if there were any rewards associated with the car, for instance, a treat such as extra pocket money for you, for cleaning the car?

Do you have any vivid memories about growing up with a car/s in the family at any time? By this I mean any *happy* memories you can recall?

Do you have any *unhappy* memories about having a car in the family at any time?

Do you think there are differences in the way your birth family used the car, compared with how you use your family car/s now? **If YES:** What are these?

If NO: Birth Parents *Did Not* Own a Car /s:

Did you grow up in a family that has never owned cars?

Thinking back, Did your Grandparents own a Car or Cars -

If YES: How many?

Did any one else in your extended family own a Car or Cars, such as an Aunt or Uncle?

If YES: Can you remember being taken out in these?

When you were growing up, at any time, did your relative/s or someone else, *take you* to school or collect you in a car at any time?

If NO: How did you travel to school (primary) and to (high school, secondary)
How *far* did you have to travel to each?

Did a relative or someone else to drive you to visit your friends, or take you out in the car to other activities at any time?

Ask if not mentioned:
What did your father do at work? **What did your mother do at work?**

CAR OWNING FAMILIES: FAMILY ROUTINES and HABITS

The next set of questions are about family routines and habits to do with travel. I want to find out about any journeys made when your child/children *travel with you* in the car e.g. taking the children to school, or other places when you have to be there for a set time. Are you the parent who normally takes the child/children to school in the morning (or used to do this in the past)?

Do you have any regular routines before setting out for a journey in the car when you have to be there for a set time?

PROMPT: Fetch the car keys/unlock car doors?

IF YES: Do the children help with this?

Do you have any regular routines in general, for your car or cars?

PROMPT: For instance, Cleaning the car. Some people set aside a particular day to wash their car, perhaps on a Sunday, other people have no set routine.

Do you wash and clean the car yourself or take it to the car wash?

Do you children ever wash the car or help with this? Have they ever done this?

Do they earn pocket money for helping with car cleaning?

Do your children have any regular responsibility for the car?

PROMPT: Helping with jobs such as basic car maintenance?
Helping with loading shopping, into or out of the car?

Do you have any rules about the car /s that affect your children?

PROMPT: For instance, rules about safety in the car, or not being allowed to eat or drink in the car?

TRAVEL TIME / SCHEDULING IN HOUSEHOLD

Thinking about your day to day activities, which of the following best describes how you *feel* about the way you have to arrange your travel time and travel arrangements during a typical week:

i) Under extreme time pressure – have to make most travel arrangements to 'save time' whenever possible e.g. combine journeys – a trip to the shop on the way to work, use a car wash to save time during a typical week.

ii) Under some time pressure – have to make some travel arrangements to 'save time' during a typical week

iii) Under a little time pressure – only a small number of journeys involve saving time during a typical week

iv) Under no time pressure whatsoever – 'saving time' is not considered when arrangements about travel are made.

If Applicable, do you think your husband/ptnr would feel the same about his/her own time arrangements?

Do you talk about/explain to your child/ren, why you arrange your travel arrangements in the way you do?

Do you think your child/ren are aware of the way you *and /or your husband/ptnr* arrange your time during the week?

If Yes, in what ways do they show they are aware?

PROMPT: Do you think your child/ren are aware of time planning - making the most of any free time they have, for instance, talk about saving time on travelling, using the quickest way to travel to save time for other things?

PROMPT: Does your child/ren ever talk about wanting to travel by car, as a way of saving time for him/her to do other things?

CAR DEPENDENCY

USE SHOW CARD Length of Journeys - Interviewee

Thinking about *your regular weekly Car trips* – these are the journeys you normally make every week or most weeks in the car, when you go to work, to the shops or go anywhere in the car. How long do these journeys normally last? Please answer this by saying one of the following whichever applies, from those written on the card:

NONE of my weekly journeys
About a Quarter of all my weekly journeys
About a Third
About a Half
About Three Quarters
About Two Thirds
ALL of my weekly journeys

Car trips that last Five minutes or less?
Car trips that last Between Five and Ten minutes?
Car trips that last Over Ten to Fifteen minutes?
Car trips that last Over Fifteen minutes to Thirty minutes?
Car trips that last Over Thirty minutes to One hour.
Car trips that last Over one hour.

If Applicable: Length of Journeys – Husband/Partner

Thinking about your husbands/partners regular weekly car trips – these are the journeys he/she makes every week or most weeks in your car, when you he/she goes to work, to the shops or goes anywhere in the car. How long do these journeys last? I will read out the same list of journey times in minutes. REPEAT THE ABOVE.

Car Journeys in Which Children Accompany Parents

Does your child/ren normally travel with you in the car at any time?

If YES, How often? I will read out a list:

Less than Once a Month | Once a Month | Once a fortnight
Once a week | Two/Three times a week | Four/Five times a week
Every day of the week

If Applicable: Are any of these for School Journeys?

If Applicable: In Addition to travelling with you, do your children also normally travel with your partner/husband at any time? If YES, How often? ? REPEAT LIST

If Applicable: Are any of these for School Journeys?

In Addition, do you child/ ren normally travel with both you and your partner/husband in the car, that is, go out together as a family at any time? If YES, How often? REPEAT LIST
If Applicable: Are any of these for School Journeys?

Children's Future Aspirations and Cars

Do you think that your child / any of your child/ren, would like *to learn to drive* a car when they are older?

Have You learnt how to drive ? If YES, Have you driven a car in the past?

Do you think that your child / any of your child/ren, would like *to own a car* when they are older?

If YES: does he/she / they like any particular model or type of car?

If Applicable: Is this the same as the car you own now, or have owned in the past?

If Applicable: Or is it the same as your husband's/partner's car or a car owned in the past?

The *type* (make/model) of *each* car/s in the family (or friend or neighbour)
is . . . . . (1st. Car)
. . . . . (2nd.Car). . . . . (3rd. Car)

If Applicable: What do you think it is about *that model/ type of car* he /she / they like?

MEDIA AND CARS

Have you become aware of any recent adverts in the Press or on the TV which feature Cars, that for some reason are memorable to you?

What do you think about car advertising – adverts used to sell cars - have you any views on the way cars are advertised?

PEER PRESSURE / SIBLING PRESSURE

Has your child / Have the ever made you think that they/ he/she would like to do what their /his/her / friends are doing? For instance, wanting to change their travel behaviour because of what their friends are doing? This refers to travelling at any time such as travelling to school or going out at the weekends.

If Applicable: Are your children similar in their likes and dislikes about the way they travel?

Have the children /your child / ever made you think that he/she is influenced by what his/her / their / brother or sister/ siblings is/are doing? For instance, wanting to change their travel behaviour because of what their sister/ brother, is doing?

TRAVEL MODE AND LIFESTYLE / AFFECT OF CAR ON LIFESTYLES /

Do you think that a car is essential, or *is not essential*, to your lifestyle? By this I mean, how you live your life.....For instance,

Do you think that *not* having a car would stop you doing the sorts of things you do, and like doing?

If YES, explain. In what ways? PROBE .

Do you think there are advantages to *not* having a car in a family?

If Applicable: Do you think your husband/partner shares your views?

If NOT mentioned: What is your husband's/partner's job?

If Applicable and NOT mentioned: Ascertain Why Unhappy with mode/s of travel. Refer to Travel & Exercise Questionnaire. On the Travel & Exercise Questionnaire you have ticked to show that: Ask whichever applies:

You are Un*Happy* with the way you travel for *School Escort Trips*
You are Un*Happy* with the way you travel for Trips *To/From Work*
You are Un*Happy* with the way you travel for Any Other *Regular Trips*

ONE CAR FAMILIES ONLY (Refer to Travel Diary/Questionn.):

If Applicable: Some people have arrangements about using the car during the week, for instance one partner may use the car during the day for work while the other uses it in the evenings? Do you have any arrangement about the car?

TWO CAR FAMILIES ONLY: (Refer to Travel Diary/Questionn.):

Can you remember becoming a 'two-car' family? How long have you been a two-car family?

Do you think there are *advantages* to having two cars or more in a family?

Do you think there are *disadvantages* to having two cars or more in a car in a family?

Do you know anyone, relatives, friends or neighbours who does not have a car?

If Applicable: On your way to work, do you encounter any traffic jams? What are your feelings about these?

AFFECT OF CAR ON PHYSICAL ACTIVITY/EXERCISE
(See Exercise Diary/Questionnaire)

Attitudes Towards Walking - Interviewee Do you like walking?

Thinking now about the times when you walk to get to where you are going such as the local shops, or if you like to walk in the park or in the countryside, or *go anywhere* by walking. What is an *acceptable walking distance for you?* It may be easier for you to think about this in distances and/or times and so I'll read out a list of both. Please say whether you would normally rather drive or walk, assuming it is not raining or snowing heavily:

Length of Journeys	**Time**
Less than an Eighth of a mile (e.g. corner shop)	A Walk lasting Two or Three minutes or less in your normal walking speed.
	Would you normally rather drive or walk for this journey?
Quarter of a mile	A Walk lasting about Five minutes in your normal walking speed?
Half a mile	A Walk lasting about Ten minutes in your normal walking speed?
About Three Quarters of a mile	A Walk lasting about Fifteen minutes?
About One mile	A Walk lasting about Twenty minutes?
A mile and a Quarter	A walk lasting bout Twenty-five minutes?
A mile and a half	A Walk lasting about Thirty minutes?
Two miles	A Walk lasting about Forty minutes?
Over two miles	A Walk lasting More that Forty-five minutes?

If Applicable: Attitudes Towards Walking – Husband/Partner

Thinking now about your husbands/partner, What is an *acceptable walking distance for him/her?* **REPEAT THE ABOVE.**

Walking Journeys When Children Accompany Parents

Thinking now about the times when you *walk* to get to where you are going such as to the local shops, or if you like to walk in the park or in the countryside, or take a dog for a walk or go anywhere by walking. Does your child/ ren normally walk with you?

If YES: How Often? I'll Read out a list:

Less than Once a Month | Once a Month | Once a fortnight
Once a week | Two/Three times a week | Four/Five times a week or more
Every day of the week

If Applicable: Does your child/ ren normally cycle with you? If YES, How Often?
I'll Read out the list again. **REPEAT THE LIST.**

If Applicable: Are any of these for School Journeys?

Does your child/ren normally Walk with your Husband/Partner? If YES, How Often?
REPEAT THE LIST.

If Applicable: Does your child/ren normally Walk with Both you and your Husband/Partner?
i.e. go walking as a family?

If YES: How Often? **REPEAT THE LIST.**

If Applicable: Cycle together as a family

If Applicable: Are any of these for School Journeys?

If Applicable: Does your child/ren Walk with his/her sisters and/or brothers (siblings)?

If YES: How Often?

Are there any ways that having a car *helps you* to be active and get regular exercise?
for you? for your children?

Are there any ways that having a car *stops you* from being active and getting exercise?
for you? for your children?

PUBLIC TRANSPORT (See Travel Mode Diary / Diary Questionnaire)

Do you travel on public transport (Trains or Buses), at any time?

If YES: Which public transport do you use?

If YES; How often? I will read out a list:

Less than Once a Month | Once a Month | Once a fortnight
Once a week | Two/Three times a week | Four/Five times a week or more
Every day

If Applicable: *Thinking now about your husbands/partner,* does he or she travel on public transport (Trains or Buses), at any time?

If YES: Which public transport does he/she use?

If YES: How often? I will read out the list. **REPEAT LIST**

Does you child/ren normally travel with you on (the bus) (the train) at any time?

IF YES: How often? I will read out the list. **REPEAT LIST**

Does you child/ren normally travel with your husband/partner on (the bus) (the train) at any time?

IF YES: How often? I will read out the list. **REPEAT LIST**

Ask of All: Do you ever travel together as a family on Trains or on Buses?

IF YES: How often? I will read out the list. **REPEAT LIST**

If NO to ALL:

Has your child /ren ever travelled on public transport when they were smaller or while they were growing up? This means with you or your husband/partner, or with a relative or someone else?

If YES: How old were the children?

Ask of All: Do you think your child/ren like to travel on buses or trains?
Do you think there are any advantages to travelling on buses?

Do you think there are any *Dis*advantages to travelling on buses?

REPEAT for TRAINS.

VIEWS ON SCHOOL TRAVEL PLAN
Have you heard about School Travel Plans and what they are?

School Travel Plans are being introduced to tackle problems faced by some schools because of congestion and safety problems around schools as well as for health reasons - encouraging children and young people to walk to school. STPs vary from school to school depending on local needs, for instance, how far pupils have to travel. They may include measures such as: walking, cycling and public transport initiatives, school buses etc. Some schools have measures but do not have a written plan – you may have heard of 'Safe Routes to Schools Schemes' which have operated for some time.

Do you think there are *advantages* in having a STP -
i) for your son/daughter?
ii) for you as a Parent (as Parents)?
iii) for the school?

Do you think there are *disadvantages* to the STP - **Repeat:**
i) for your son/daughter?
ii) for you as a Parent (as Parents)?
iii) for the school that your child attends?

That completes all the questions are there any you would like to ask me about the project? Is there any thing you would like to ask or to say about transport - anything at all that has not been covered and you think should be?

END

Appendix 1h School Travel Project
Schools Key Person Questionnaire

ALL SCHOOLS:

Is the school involved in the Healthy School Initiative (now or in the past)?

If Yes, when? **Date started:** ..... month, year.

If Applicable: **Date completed:** ..... month, year.

If Yes, did this involve any ***additional education*** Or ***activities*** for pupils that involved travel to school, travel in general, AND / OR sports and exercise /walking?

ALL SCHOOLS:

P.E./Physical Education

How long do Yr. 5 and Yr. 6 (9/10) (10/11) year olds spend on P.E. in a typical week?

Is this the standard curriculum time?

Any extra periods of sport/activities in evenings e.g. swimming?

Does the school take part in the 'Walk to School Week' organised by the local council Or by any other external organisation? YES / NO

Road Safety Training

Is there any road safety training at the school e.g. Road Safety Officer from local council who visi the school?

Any other road safety training?

Cycling Proficiency

Are **parents** enthusiastic about children taking their cycling proficiency test?

Do children take their cycling proficiency at the school? YES / NO

If Yes, At what age? **If Yes,** there a cover charge for this?

Careers Education in School

Pupils Yr. 5 and 6. Are there any *careers education* periods within the school timetable?

If Yes, Do any external agencies visit the school for this? e.g.Careers Service, (now Connexions YES / NO

Thank you very much for completing this questionnaire. Please return it in the reply envelope.

ITS

CERTIFICATE OF APPRECIATION

This certificate is awarded to

Jane Smith, of ..... School,
Bradford.

in recognition of valuable contributions to

Completing a Travel & Exercise Questionnaire
for a School Travel Research Project

Signature **Date**

Appendix 1j **Research Methods: Detailed Account of Data Quality and Procedures**

1j 1 Vignette Travel Questionnaire, Quality of Data and Procedures

Questionnaires were completed by 486 pupils in Years 5 and 6 in the study schools. At seven schools they were completed in class and overall, the response rate was 84%. The school which allowed children to fill them in at home, (Mt Pellon) only achieved a 51% response rate. The completion rate for STP schools was 40%, NonSTP 42%, Shadow schools 18%. A breakdown of completions 'by age' for the 486 is: 20% by nine year olds, 45% by ten year olds, 32% by eleven year olds, 3% missing. The sample contained roughly equal proportions of girls (51%) and boys (49%). A breakdown 'by car ownership' showed that 76% had one or two cars in the household: 7% were from 'no car' households, 35% from 'two car', 41% from 'one car' and 16% from 'three/more,' 1% missing. A code was used to identify the pages within each questionnaire left completely blank by respondents (no characters circled, no written response). Of the transport modes, 'Walk' had most with seven missing cases, all others had three or less. Other missing variables were: 'Own a Car' = 9, 'Learn to Drive' = 7. The questionnaires were stamped to show month and year of completion along with the code letter of the school for identification purposes. A method of binary coding was used to record the data using the format 0=No, 1=Yes, for each of the ten characters depicted under the seven modes of transport. Following coding of the questionnaires, 15 from the first batch inputted from Weetwood, were selected at random and checked for accuracy in the coding. After input into an SPSS data file, 15 different entries were manually re-checked for possibility of constant input errors. Frequency tables were used for each variable in the database to detect unexpected values.

1j 2 Diary Sets, Quality of Data and Procedures

Diary sets were comprised of three parts: a Travel Diary (TD) an Out of School, Sports & Exercise Diary (SED), and a questionnaire. The TD is a one page matrix printed on white paper. It has sections for journeys: 'To' and 'From' school. 'To See and Go Out with Friends' and 'Other' journeys. Pupils filled in their travel mode, destination and duration of journey, (minutes). On the SED (green paper) pupils showed time spent daily on out of school sports and exercise. Demographic details: age, sex, car ownership were collected on the questionnaire. This also asked if pupils were happy with their transport mode, about attitudes towards transport modes and if their diaries showed normal weeks for travel or exercise. Diary sets included a yellow instruction sheet and were tied and protected with plastic covers. They were completed in April, June and July 2003. The expectation was for pupils to take home the diary set but some teachers were sceptical regarding return and suggested completion in class. Several schools allowing pupils to take them home achieved a lower response. The lowest response rate was from Salterhebble - only three sets for 50 pupils. Of the 315 diary sets collected, 277 (88%), were recorded as being of 'good' quality containing responses to most, if not all questions. Thirty eight (12%) were classed as 'poor' because of missing sections, usually the SED or parts of the questionnaire were left blank. Nevertheless, from these, *some* useable data were extracted, hence totals in tables vary for some variables. For instance, 'walking by car ownership' is available for 293 pupils (52% response rate). The response rates below take into account the inclusion of SalterSTS (n=42). The completion rate for diary sets/SalterSTS in STP schools was 32.5%, NonSTP 36.5%, Shadow schools 31%. A breakdown of completion 'by age' for the 357 is: 18% by nine year olds, 51% by ten year olds, 29% by eleven year olds. The sample contained roughly equal proportions of girls (51%) and boys (49%). A breakdown 'by car ownership' showed that 71% had one or two cars in the household: 9% were from 'no car' households, 38% from 'one car', 33% from 'two cars', 16% from 'three/more'.

Three of Salterhebble's Year 5 pupils completed a diary set *and* later, as Year 6 pupils, a SalterSTS. These were only counted once as diary sets but provided serendipitous opportunity to compare the attitudinal/rating scale responses of three pupils when a

year older. Although the sample (n=3) is small, differences found raised issues of reliability and validity which are discussed in Chapter 4. The processing of the diary set/SalterSTS duplicated that of other questionnaires regarding method of coding, error checking and dealing with postcode data. A major difference was the use of a coding sheet to handle copious variables in the diary set. Regrettably the coding of the SED proved time consuming. The colour of this (green) hampered reading of the small pencil print used by many children. Error checks revealed numerous mistakes. To overcome a serious lapse in quality, the entries on coding sheets for eighty five per cent of the diary sets were painstakingly checked. Most errors occurred on the SED, the light colour of other sections making reading easier and children only had to 'tick' boxes on the questionnaire. Frequency counts of all variables revealed 19 input errors, a minimal amount considering database size.

1j 3 Diary Sets/SalterSTS, Missing Cases

Table 3.8 lists the missing variables for the diary sets/SalterSTS. The number is low with several exceptions, 'Car Use for Exercise' (n=43 14% of 315). This relates to insufficient data for 'Other' journeys and either the travel mode was missing (n=25) or else destination (n=18). The greatest number of *Queries* shown in Table 3.8 are from the questionnaire, Q. 3, in which pupils are asked if they are happy with their travel mode. The 51, 57, 59 queries (approximately 17% of 315) are those who ticked 'Yes' and then answered question 6 for the *'Unhappy'* travellers, *"question 6 is to show me how you would like to travel."* Although approximately 83% of respondents did *not* make this mistake, the possibility exists that 17% misunderstood the purpose of questions 3 and 6. Some children repeated the actual way they travel to school, others doodled in boxes and some gave answers as if *'Unhappy'*. The latter may have changed their minds when shown the options. Nevertheless, the first answer given 'Yes' was counted in the database therefore the 17% were not included in the analysis of the *'Unhappy'*. By implication, approximately 10% of pupils may be *'Unhappy'* but not recorded as such. Twelve pupils made a similar mistake on the final question, Q.18 asking about 'normal' travel during the week. The 'Yes' box was ticked and then an answer in the *"If No"* box added. In addition, 55 pupils did not provide an answer. Twenty of the 55 were respondents whose diaries were rated as 'poor'. However, if 35 (11%) of pupils rated as 'good' also failed to answer this, then poor lay out/wording, on this part of the questionnaire is probably responsible. Fortunately none of the missing cases or queries impact on the important analyses or findings in the thesis.

Table 3.8 Diary Set/SalterSTS, Missing Cases

Variable	No. (%) * (Of 357)	Variable	No. (Of 315)
Age	8 (2%)	**To Friends	22
Sex	4 (1%)	**Happy Travel to Friend	14
Cars in Household	14 (4%)	**Like to, to Friends *Queries*	3 57
Postcodes	20 (6%)	**To Other	25
To School	23 (6.5%)	**Happy Travel To Other	13
To School, No. Days	23 (6.5%)	**Like to, To Other *Queries*	2 51
Like to, To School *Queries*	14 (4%) 59	**Total minutes All Exercise **Total minutes Walk	13 10
From School	29 (8%)	**Car Use for Exercise	43
Happy Travel to School	11 (3%)	**Sports/Exercise, Normal, *Queries*	43 + 8
Feelings modes *Queries*	21 + 5 (7%)	**Travel, Normal, *Queries*	55 + 12
Rating	26 (7%)		
Learn to Drive	27 (8%)		
Own a Car	32 (9%)		

*Percentages rounded to nearest 0.5%. ** SalterSTS did not collect this data.

1j 4 School Travel Survey, Quality of Data and Procedures

Data on the following variables were collected on the STS: travel mode to/from school and number of days; travel time to school; length of journey to school; if pupils happy/unhappy with travel mode, how *'unhappy'* pupils would like to travel; future aspirations, age, sex and number of cars in household, street address. Questionnaires were completed in June and July 2003 (n=212, 69%) and October 2003 (n=96,31%). Completion in class meant a response of 308 (80%). STP schools completed 52%,

NonSTP 48%. A breakdown of completion 'by age' for the 308 is: 18% by seven year olds, 56% by eight year olds, 23% by nine year olds, 3% missing. The sample contained roughly equal proportions of girls (54%) and boys (46%). A breakdown 'by car ownership' showed that 80% had one or two cars: 7% were from 'no car' households, 35% from 'one car', 45% from 'two car' 45%, 11% from 'three/more,' 2% missing. A code was used to identify if travel mode 'to or from' school was not completed. Missing cases for these are: To School: 1, From School: 2. Other missing variables are: 'Learn to Drive' = 7, 'Own a Car' = 7, Happy or Unhappy To School = 4, Like to Travel To School = 2. The youngest children may have experienced difficulty recording *'journey time'* to school because there were 23 missing cases for 'Walk' and 30 for 'Car, Travel Time to School'. The times provided are reliant on children's memory/concept of time, therefore accuracy cannot be guaranteed. Processing the STS data duplicated that of other questionnaires regarding method of coding, error checking and dealing with postcode data. Pupils ticked a box appertaining to the number of days they used each mode/s. Following data input into an SPSS data file, seven questionnaires from each school were selected at random and manually re-checked for accuracy of input. Inspection of the STS revealed a typing error on the last page. 'To School' is repeated instead of 'From School' in the question asking if pupils are happy with mode of travel (Q.10). The sequencing of questions and location of the error towards the end probably limited any misunderstanding which would in any case only have affected the 62 (20%) of *"Unhappy from school"* travellers. Nevertheless the findings regarding 'To school' only are discussed and used when combined with diary set data for analysis. Distance data were generated from postcodes identifiable from street names and there were 30 missing cases, 10% of the STS sample. Each STP/NonSTP school set was balanced regarding these with 15 (20% of STP and 29% of NonSTP) in both types of school.

1j 5 Travel and Exercise Questionnaires, Quality of Data and Procedures

The procedures used in the study schools were the same for the KMC schools. A key person at the seven KMC schools advised of class sizes in the age group (9 to 11) and 649 envelopes containing request letters and questionnaires were delivered for distribution to each child in class. Children took these home to parents who returned them via their child. As with the study schools, to increase the motivation of both parties, children were awarded a laminated 'Certificate of Appreciation.' (see Appendix 1i). The response rate for the 'comparison set' was 14%. The processing of all datasets duplicated that of other questionnaires regarding method of coding and error checking. Regarding quality of completion, 93% of the 140 parents and 95% of the KMC children were recorded as being of 'good' quality containing responses to most, if not all questions. An issue raised is that 20 of the children's questionnaires were completed in their parent's handwriting. Responses on these were checked against parents. In 14 of these there was no suspicion that parents had given their own answers because responses to questions varied. In six cases, responses on the attitudinal section were very similar. Even though other responses on the questionnaire did not share similarity, as a precaution, the six were removed from the dataset. This reduced the KMC children sample to 90 and the comparison set to 121 cases. The number of missing cases was low with two exceptions, neither of which impacted on the findings. These were: 'hours worked' 18 missing cases for 107 employed in sample (17%), 'age group' (19%) and 'Job' (10%), 'car use for exercise' (8%) and 'education' (7% missing). Of the 121 parents 105 (87%) were female and 16 (13%) male. A breakdown by age group is: 27-36 years = 22%, 37- 46 years = 49%, over 46 = 10% the eldest, 68; (19% missing). The breakdown by 'age groups' for the larger sample of 140 parents is the same or very similar. A breakdown of completion 'by age' for the 121 is: 40% by nine year olds, 35% by ten year olds, 17% by 11 year olds (8% missing). Most missing cases occurred for children's 'age' although it is known that all children were aged between nine to eleven. The sample contained roughly equal proportions of girls (45%) and boys (55%). Two other variables had 5% and the remainder 2% or less

missing. Because there were missing cases in both parents and children's samples which did not coincide, this reduced the number of sets and crosstabulations are often based upon 112-115 comparison sets.

1j 6 Focus Groups, Quality of Data and Procedures

A list of children was given to a key person who arranged access to the author, the moderator of the groups. Measures to avoid participants discussing the content with other potential participants were taken. Groups were arranged at each school in close succession over two or three days. Children were drawn from at least two, sometimes four classes which avoided concentrations of friends. Names were provided in advance to the school but not to the children, who joined groups when their names were read out. Unfortunately at Weetwood school, late play rehearsals coincided with the pre-arranged dates reducing the numbers. A quiet area away from distractions was requested for the venue and this was met in at least 22 of the 27 groups. Exceptions were a side corridor position in which some interruptions occurred. Once assembled, the children were asked to write their first names on a sticky label (along with researcher) and display these. A short introductory statement was read out explaining the purpose of groups and asking if the children still wanted to be involved. None of the children asked to withdraw. Following this they chose their preferred way for responding, either in set order working around the group or in free style, those wanting to comment speaking up first. The size of groups and use of first names allowed each pupil the opportunity to respond to questions and ensure all views were heard. Photographs from the vignette were presented as a visual stimulus to introduce the transport modes. It was easy to keep to the schedule beginning with 'train' and working through each mode in turn. This format proved helpful in the organisation and analysis of the transcripts. The children were encouraged to each give their own opinions on topics. Occasionally replies such as 'don't know' were given in response. The sections of the schedule which asked what sort of car children wanted to own when older provided light relief and maintained interest. A standard recording microphone, necessary to record soft voices, became a central focusing agent. This proved invaluable in cementing the verbal affirmations about the importance of their contribution to the research. They showed no inhibitions regarding the tape recorder. At the end the children listened to a section of the tape and enjoyed hearing their own voices. If children appeared to be nonchalantly agreeing with others they were asked for specific reasons. For instance, answers to the 'why' question when children said they wanted to learn to drive. Three known incidents in which members of groups were influenced in replies were noted. In one regarding owning a car, the first speaker mentioned the pros and cons of renting a car, an insightful and unexpected response from a ten year old. It was unusual for children in any of the groups to talk about this unless asked to comment on it. When two others in the same group began their responses with reference to renting, follow up questions were added to make sure the two added their own views which differed from the first speakers. Most children showed enthusiasm and serious intent but at one school, Mt Pellon obtaining co-operation took concerted effort when some pupils talked consistently over one another or distracted others with side conversations. Encouraging tactics such as switching off the microphone and waiting until they re-engaged usually worked. Anyone appearing uninterested was asked to return to class but only one girl did. A greater problem was persuading lingerers avoiding schoolwork to rejoin classes. Depending on group size, most groups lasted 30 minutes, the shortest 20 and longest 45 minutes. Of 27 focus groups, two were described in the 'after group' notes as 'poor', 4 as 'fair', and 21 as 'good/very good.' The 'poor' resulted in briefer coverage of topics because children were misbehaving or distracted. Approximately 95% of all spoken content could be transcribed amounting to fourteen hours of taped dialogue. A departmental secretary transcribed most tapes although six were typed up by an experienced external typist. The focus groups and interviews were analysed using 'qualitative content analysis' (Coolican 2004:558). This enabled the author to gain an understanding of participants' experiences by concentrating on the substance, the overt content of what was said in response to questions. The transcripts were input into 'Atlas.ti' the qualitative analysis

program. This was used to speed and aid the analysis and remove the drudgery from the cut and paste procedure, necessary when organising and comparing responses. It also enabled easy transfer of quotes into reports. The analysis was tackled by asking questions of the transcripts beginning with 'train' travel, for instance, why do children like train travel? All the answers were compiled and presented in tables showing both likes and dislikes for travel modes. A 'Miscellaneous' code was used to summarise the, (mainly), one off replies. When quoted material is used, the responses of each group member are numbered separately in the text.

1j 7 Interviews, Quality of Data and Procedures

Nineteen interviews were held in the participant's home and three in private offices at place of employment. Seventeen interviews were tape recorded and five 'notes only' were taken. The duration of interviews ranged from 30/35 minutes (n=6), 40/45 (n=13), 50/60 (n=3). Following the interview an 'After Interview Notes' record was completed which recorded additional details about the walking environment, the neighbourhood and quality of the interview. Thirteen were classed as very good, four 'good', three 'excellent' and two 'poor'. 'Poor' interviews were short because of time constraints on the interviewee. Ninety eight per cent of the spoken word was picked up by the tape recorder. A departmental secretary transcribed most tapes although several were typed by an experienced external typist. For both the focus groups and the interviews, the transcripts were carefully error checked by the researcher who replayed each tape in conjunction with reading transcriptions and errors or omissions were corrected. Transcribed interviews and 'notes only' were input into 'Atlas.ti'. The procedure for analysis was as follows, initially the factual data were compiled into tables and conclusions made. The 'non-factual responses' to questions (Fielding and Lee 1991:34) were then manually arranged in a matrix for comparison purposes. An examination of similarities and differences between responses enabled the application of a code. 'A code is a symbol applied to a group of words to classify or categorize them' (Robson 1993:385). For instance replies to: *"Do you think that a car is essential, or is not essential, to your lifestyle?"* Some parents gave one reason, others two or more. At this point a preliminary 'coding' scheme or list was developed, also called *"themes"* or *"aspects"* that applied to the *"salient points"* (Miles and Huberman 1994:52). The codes are shown in the thesis with the findings. Short quotations from interviews and focus groups are shown in italics with quotation marks. Longer extracts are indented using **Q.** and **A.** for question and answer, followed by verbatim wording.

Appendix 2a

Table 4.17 Interview Sample, Occupation of Parents (n=22)

No. of Cars	Interviewee Occupation:	Mother's Occupation:	Father's Occupation:
0	Casual Worker/Student	Housewife	Self-employ, Top Soil Provider
0	Cleaner	"	Deceased
0	Sales Assistant (p/t)	Secretary	Steel Fixer (Building)
0	Teaching Assistant (p/t)	Cleaner	Security Guard
1	Warehouse Worker (p/t)	Housewife	Doctor
1	Teacher	Health Visitor	Teacher
1	Teaching Assistant (p/t)	Housewife	Civil Servant
1	Manager	Worked in Husband's Antique business	Self-employ, Antique Dealer
1	Nursery Nurse	Not Ascertained	Policeman
1	Writer/Researcher	X Ray Supervisor	Textile Technician
1	Housewife	Mill Worker	Engineer
2	Podiatrist	Farmer (Own farm)	Farmer (Own farm)
2	Computer Programmer	Not Ascertained	Not Ascertained
2	Manager	Not Ascertained	Not Ascertained
2	Landscape Architect	Not Ascertained	Labourer
2	Community Nurse	Director of Personnel	One Parent Family
2	Housewife	Farmer (Own farm)	Farmer (Own farm)
2	District Nurse (p/t)	Dinner Lady at School	Joiner
2	Health Visitor (p/t)	Company Secretary	Funeral Director
2	School Science Technician (p/t)	Worked at School (p/t)	Technical Sales Representative
2	Housewife	Housewife	Plumber
6	Student (Degree)	Not Ascertained	Sales Representative

Appendix 2b **Table 4.18 Parents' Travel and Exercise Questionnaire Parent Occupations (n=140)**

Professional (n=31)	Skilled (n=26)	Semi/UnSkilled (n=19)
teacher x 9	nurse x 5	support teacher/assist x 4
podiatrist x 2	nursery nurse x 2	sales assistant x 3
psychotherapist	reflexologist x 2	kitchen assistant x 3
midwife	cook x 2	textile worker x 3
chartered mechanical engineer	school science technician	nursing auxiliary
doctor	community worker	taxi driver
landscape architect	playgroup supervisor	warehouse worker
computer programmer	representative	library assistant
health visitor	customer adviser	cleaner
interior designer	customer services assist	casual worker
social worker	airline cabin crew	
marketing consultant	theatre co-ordinator	
senior computing officer	police officer	
pharmacist	playgroup practitioner	
civil engineer	EMA	
senior equipment officer	sales adviser	
dentist	service team leader	
lecturer	lunchtime supervisor	
librarian	royal mail employee	
senior research fellow		
project analyst		
writer/researcher		*Occupation not provided x 8*
Employ & Managerial (n=12)	**Admin.& Secret. (n=11)**	**Other (n=33)**
manager x 2	administration officer	Housewife x 27
company director	secretary	Not known x 4
performance manager	local govt. officer	Retired
operations manager	peripatetic bursar	Student
manager activity centre	office worker	
café owner	examinations officer	
furnishing retailer	examiner	
nursery owner	computer accounts	
management consultant	computer operator	
technical manager	housing officer	
administrator	personal assistant	

Appendix 2c

Table 4.19 Sample of Pupils, Study Schools, Minutes Spent Walking in One Week

Pupil Reference	Other Walking in Week	School Walking in Week	Total for Week
1.01A	40	200	240
1.02A	30	0	30
1.03A	59	24	83
1.04A	160	165	325
1.05A	0	0	0
1.06A	24	38	62
3.01A	180	25	205
3.03A	128	30	158
3.04A	106	82	188
3.05A	42	15	57
3.06A	0	45	45
3.07A	72	105	177
3.08A	120	0	120
3.09A	450	87	537
4.01A	39	43	82
4.02A	60	117	177
4.03A	70	170	240
4.04A	130	55	185
4.05A	40	115	155
4.06A	150	155	305
4.07A	244	128	372
4.08A	130	89	219
4.09A	96	67	163
4.10A	0	15	15
4.11A	160	140	300
6.01A	125	50	175
6.02A	40	50	90
7.01A	30	100	130
7.02A	0	65	65
7.03A	0	37	37
7.05A	170	28	198
7.06A	0	45	45
8.01A	0	16	16
8.02A	340	35	375
8.03A	0	177	177

(n=35)

Appendix 3a

Internal Colour Photographs, DETR (1999):

Page....

9: several children on school mini bus
12: three children walking, two children cycling
14: older children and adults in discussion around table
15: (front cover photo) two adults walking with several children
16: two children holding cycles
18: three adults walking with several children
21x2:i) two young children near a table that has 3-dimensional model of street
ii) large group of children, two holding cycles, two adults
32: (front cover photo) children and an adult on a walking bus
34: group of children near cycle shed, one holding cycle
35: two children near cycle shed, one holding a cycle
36: (front cover photo) adult helping a small child at roadside
37: group of young children around a desk looking at a street plan
38: photo of a 'Go Green Walk to School' gateway sign for school safety zone
40: (front cover photo) children getting on board a bus
42: view of road outside school entrance – children at bus stop, cars in 20mph zone
44: young person placing a cycle helmet in locker
45: young child on cycle with adult assisting
46x2:i) three young people holding cycles, an adult instructor close by
ii) adult near car, several young people getting in/out
47: two adults holding large cheque, young people holding cycles grouped behind
51: groups of children and young people walking and cycling.

Appendix 3b

Internal Colour Photographs, Transport Trust (2000):

Page:

2: large photograph of children on a walking bus (stationary)
4: group of adults and young people walking and walking with cycles crossing road
5x3: i) head and shoulders of child
ii) head and shoulders of adult
iii) child holding handle bars of cycle
6x2: i) adults walking with children
ii) two adults in conversation one holding literature
7: two adults in conversation, child close by
8: group of young children around a desk looking at a street plan
9x2: i) several young children writing
ii) adults being interviewed outside school
10: two adults and two children looking at a model of a street
11x2:i) several children close to a model of a street
ii) two adults in conversation (standing)
12: young child reading a STP noticeboard
13x4:i) child walking alone
ii) several children crossing road helped by school crossing patrol officer
iii) group of children walking with several adults
iv) child walking alone
14x3:i) two young people at computer with teacher
ii) several children point to an item on a STP noticeboard
iii) small photograph of two children writing
15x2:i) 'Get a Bike' gateway traffic sign for school safety zone
ii) children on cycles (stationary)
18: children on a walking bus crossing a road
19x3:i) young children pulling on Wellington boots/shoes in cloakroom
ii) cars queuing to leave a school car park
iii) group of young people walking
20x2:i) cycle shed: young people pumping tyres on cycles
ii) young person pumping tyres, another cycling past
21x2:i) group of cyclists
ii) three young people holding cycles with an adult giving instruction
22: children boarding a bus
23: children leaving a bus with adults close by
24: four children getting out of a car, adult waving from driver's seat
26: legs of child standing on a traffic sign ('children walking' sign) painted on road
28: school crossing patrol officer looking at a model of a street

Back page:

A4 size photograph of two children cycling.

Appendix 4 Miscellaneous Written Responses Added to Vignette Travel Questionnaire

Miscellaneous: Train, total = 10

people in a wheel chair
people who are a bit old fashioned
i think that the three i choose were at a train station
people with bikes
popel who wude like to have an exspereyens on a trane.
people who don't enjoy walking
I can not think of any who would
...animals
on because of the noys
as if.

Miscellaneous: Average Car, total =17

Someone who has just started off driving (= 4)
travelars travel in these cars sometimes
people with a lot of things to move around
people who have to get around quite a lot
A blander (?)
O.K. people
it is que trendy
A person that has just past there test
a person's who lonely
someone not very flashy
why are there no disable people on this?
people who like vaxull astrea's
smart people
a busy person

Miscellaneous: People Carrier , total = 20

a person with lots of friends/transporting many people (= 3)
people with a lot of stuff to carry (= 2)
child minders (= 2)
it can be lovely than travelling on a bus
someone who really wants a seven seater
a person who can drive
disabled people (= 2)
someone who likes big car (= 2)
females
people who need room
new drivers
a dog

Miscellaneous: Bus, total = 13

disabled people (including, "people who can't walk) (= 5)
live faraway = 1
travellers
shoppers, use buses as travel a lot
patient people
People in my school
people who can't be bothered to walk
someone who liked riding
someone who has a baby

Miscellaneous: Cycle, total = 16

cyclists (or "like to ride a bike") (= 9)
...and keeps the environment clean (= 1)
someone who has been banned from driving
people with no where to park their car at work
a foriner (foreigner?)
little people
People who have bikes but don't like cars
a person who cute throught road (cut through?)

Miscellaneous: Status Car, total = 15

fashionable people (= 5)
show ofs (= 2)
people who like driving fast (= 2)
A person who is testing this car
...or who already has other cars
someone who like having something fancy
an important person
the car is famace
someone travelling somewhere on a hot day

Miscellaneous: Walkers, total = 22

people who don't live far away from their location (home or jobs) (= 8)
people at school (= 4)
pet (my cat, my dog) (= 2)
small people (= 2)
people who want to get some fresh air
a travler
a roal person (?)
people who like walking, and don't like cars
somebody that has got energy
someone when it is a hot day and feels like walking

Appendix 5 Focus Groups: Miscellaneous Reasons for Liking Trains

I like it but I don' know why. Cool (=2)
Yes its effective, useful and it gets you there,
The choo-choo-choo-choo. The sound
I like talking to my little sister (easier than in a car)
Cars can get nicked but trains can't
We listen to other people's conversation
I think it's a lot more organised
It's cheaper
Do not suffer travel sickness (=2)
i's quite posh quite nice
It was a quiet ride
I found it really fun...
That you can fall asleep on it
It's fun because you get to play games
No seat belts
Trains save pollution from cars.