

INFORMATION NOTE

TACKLING THE SCHOOL RUN

LITERATURE REVIEW

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1. INTRODUCTION

1.1 Background

1.1.1 As part of the desk based phase for the Tackling the School Run project, a literature review has been undertaken to provide context to the study and to also inform the next phases, primarily the identification and sifting of case study schools for the primary fieldwork stage.

1.1.2 The specific purpose of the literature review is threefold:

- To place the research within the broader policy context;
- To update knowledge of what influences school transport choices; the effectiveness of initiatives currently underway in Scotland and internationally with the aim of altering school transport behaviours; the effectiveness of international initiatives, and how these might inform the Scottish context; and
- To contribute to the selection process to identify suitable case study initiatives/schools/areas for inclusion in the primary data collection phase.

1.2 Methodology

1.2.1 The literature review involved a review of key sources, covering policy, research papers, project reports and relevant guidance documents. The review was focused through a keyword search using terms agreed with the Project Steering Group. These included:

- School run;
- School travel;
- School run initiatives;
- School travel plans;
- School travel policy;
- Active travel for school pupils;
- Health benefits of active travel;
- Environment benefits of active travel;
- Promoting active travel to school; and
- Travel to school mode choice in Scotland.

1.2.2 Existing literature reviews and systematic reviews were a key data source. In particular, the Glasgow Centre for Population Health (GCPH) *Active Travel To and From School Report* (2012) provided a key reference point. A review of the bibliography assisted in **identifying material also of relevance to this study. This was supplemented by the** research team's own knowledge and search of literature in turn provided additional links to other material. National datasets, such as 2011 Census, Scottish Household Survey and associated publications like the Transport and Travel in Scotland were also identified and incorporated within the review.

1.2.3 The review also benefited from direct access to academic databases held by Sustrans which were interrogated to identify relevant academic research using key term searches 'school', 'children', 'education', 'school travel' and 'school run'. In addition, the Sustrans report database was also searched for project reports using similar terms and project names. This was complemented by the team's awareness of 'live' projects such as I Bike.

1.2.4 The document sourcing was also informed by contact and discussion with stakeholders. This facilitated the collation of further material and also helped to ensure the most up to date information was obtained and reviewed.

1.2.5 The activities outlined generated a volume of material to review. An initial overview of material was completed and a more systematic and detailed review subsequently undertaken of sources identified to be particularly useful and relevant to the focus of this study. A reference list is enclosed in Annex 1.

1.3 This Note

1.3.1 Following this introductory section, the note is structured as follows:

- Policy Background and Priorities;
- School Travel Trends;
- Factors Influencing School Travel Choices;
- Scottish School Travel Initiatives;
- Wider UK and International School Travel Initiatives; and
- Summary and Conclusions.

1.3.2 This note should be read in parallel with the *Secondary Data Analysis Information Note* reporting on data analysis undertaken as part of the desk top research.

2. POLICY BACKGROUND AND PRIORITIES

2.1 Introduction

2.1.1 The promotion of active travel to school is an issue which cuts across transport, public health, environment, climate change and planning policy agendas. Directly or indirectly, 'the school run' affects every family in Scotland and accounts for considerable percentage of average morning peak-hour traffic. This section outlines key policies of note within the context of this study.

2.2 Transport Policy

2.2.1 The *National Transport Strategy* (NTS) sets the long-term vision for transport policy in Scotland. It was first published in 2006 and more recently refreshed in 2015 followed by an announcement in August 2016 that a full review will be undertaken. In terms of school travel, the NTS notes that:

“We need to tackle the congestion problems in many of our cities and towns, including those caused by the School Run which also lead to inactive lifestyles for our children and road accidents which cause deaths and injuries and contribute to problems of congestion and unreliable journey times.”

2.2.2 The NTS is complemented by mode specific policies, including *A Long Term Vision for Active Travel in Scotland 2030* (Transport Scotland, 2014) contains the vision that:

“Scotland’s communities are shaped around people, with walking or cycling the most popular choice for shorter everyday journeys. This helps people make healthy living choices and assists in delivering places that are happier, more inclusive and equal, and more prosperous. Travelling by foot or cycle, or with a personal mobility aid such as a mobility scooter, is a realistic option for all local journeys as individuals. People are confident to walk and cycle more often and they value and use their local transport networks (streets, roads and path networks), which offer safe, high quality, realistic and predictable journey options for active travel.”

2.2.3 It contains the specific aspiration that ‘There will be a range of programmes available to support employers, schools and community groups to ensure that active travel can continue to develop.’

2.2.4 The *Cycling Action Plan for Scotland 2013* (CAPS) (Transport Scotland, 2013) sets out clear ambitions for increasing the proportion of short journeys completed by walking or cycling, including trips to/from school. This is underpinned by the vision that by 2020 10% of everyday journeys will be undertaken by bike. An ‘everyday’ journey includes travelling to school, college/university, work and personal business. CAPS also actions the preparation of an Active Travel Strategy by local authorities and this is also a recommendation of the *Let’s Get Scotland Walking: The National Walking Strategy* (Scottish Government, 2014).

2.2.5 At the regional and local level, Regional Transport Strategies and Local Transport Strategies are also supportive of active and sustainable travel for the school journey and joined up approach advocated. This is in part underpinned by the RTS Guidance issued by the Scottish Government which noted that constituent Councils ‘...will have to aim to perform, so far as possible, any of their

functions that relate to transport, affect transport or are affected by transport in a way which is consistent with the Regional Transport Strategy (RTS). That means that areas of council responsibility other than transport but which, for example, rely on or generate transport should also take close account of the RTS and feed into its development. These include, for example, education (school transport but also decisions on the location of schools and other educational facilities) and land-use planning. The introduction of 20mph speed limits outside schools, improved footpath links, and the introduction of walking buses are further achievements of the School Travel Planning Process to date.'

2.3 Wider Policy Context

2.3.1 With higher levels of walking and cycling come a wealth of benefits, both for individuals and for society. There are well documented and proven benefits in increasing journeys to school by active modes of transport. In particular some of the benefits of active travel are:

- Improving both mental and physical health through physical activity;
- Establishing positive active travel behaviour;
- Promoting independence and improving safety awareness;
- Reducing congestion, noise and pollution in the community; and
- Reducing the environmental impact of the journey to school.

2.3.2 Increasing the amounts of active travel to/from school will therefore have a direct impact on a number of the Scottish Government's stated strategic objectives, including:

- We live longer, healthier lives;
- We reduce the local and global environmental of our consumption and production; and
- Our young people are successful learners.

2.3.3 Given all of these beneficial outcomes from increased active travel, an increase in the proportion of active travel to/from school can be expected to positively contribute to a range of National Indicators to show progress towards the achievement of a more successful and prosperous Scotland, including:

- Reducing traffic congestion;
- Improving physical activity;
- Improving mental well-being; and
- Increasing the proportion of journeys made by public or active transport.

Education Policy

2.3.4 *Curriculum for Excellence* (CfE) is founded on the principles to achieve a coherent, more flexible and enriched curriculum for 3 to 18 year olds in Scotland and based around six levels – Early, First, Second, Third, Fourth and Senior. This new Curriculum approach has opened up opportunities to integrate different programmes into classroom learning, including initiatives with a transport theme and as well as wider topic areas of relevance such as health and well-being and the environment for example, with examples discussed in Chapters 4 and 7 of this report.

2.3.5 Getting It Right for Every Child (GIRFEC) is “the national approach in Scotland to improving outcomes and supporting the well-being of our children and young people by offering the right help at the right time from the right people”. The

approach aims to support pupils and their parent(s) to work in partnership with the services that can provide assistance.

2.3.6 Well-being sits at the heart of the GIRFEC approach and reflects the need to tailor the support and help that children, young people and their parents are offered to support their well-being. There are eight indicators of well-being, with the following most pertinent from an active travel view point, point of view:

- Healthy - having the highest attainable standards of physical and mental health, access to suitable healthcare and support in learning to make healthy, safe choices;
- Achieving - being supported and guided in learning and in the development of skills, confidence and self-esteem, at home, in school and in the community;
- Active - having opportunities to take part in activities such as play, recreation and sport, which contribute to healthy growth and development, at home, in school and in the community; and
- Responsible - having opportunities and encouragement to play active and responsible roles at home, in school and in the community, and where necessary, having appropriate guidance and supervision, and being involved in decisions that affect them.

Environmental Policy

2.3.7 Reducing the number of car trips will help reduce congestion (particularly in the week-day morning peaks) and reduce the emissions of atmospheric pollutants which contribute to poor air quality and greenhouse gases which contribute to global climate change. The reduction in traffic emissions may in turn lead to additional area-wide health benefits, due to improved air quality. The reduction in greenhouse gas emissions will help Scotland achieve its challenging (and statutory) targets for a 42% reduction in greenhouse gas emissions by 2020 and an 80% reduction by 2050 (relative to 1990 baseline levels).

2.3.8 The [Climate Change \(Scotland\) Act 2009](#) sets out the statutory framework for greenhouse gas emissions reductions in Scotland. This establishes an interim 42% reduction target for 2020 and an 80% reduction target for 2050 underpinned by annual targets. The Government's Report on Proposals and Policies (RPP) is published annually and sets out how Scotland can deliver its climate change targets as set by the Climate Change Act. With the transport sector accounting for approximately 25% of CO₂ emissions, more sustainable and greener travel choices for all trips, including the journey to school, have an important contribution to make towards achieving the targets set by the Climate Change Act.

2.3.9 *Cleaner Air for Scotland – The Road to a Healthier Future* (CAFS), published by the Scottish Government in 2015, provides a national framework which outlines how the Government proposes to achieve further reductions in air pollution. CAFS recognises that the health impact of air pollution can have a negative impact in terms of the loss of school time and makes note of the Pilot being undertaken by the City of Edinburgh Council to restrict traffic around several schools where road safety issues have been raised as a concern. The intention of the Pilot is to reduce the number of children dropped-off by car and to encourage increased levels of walking and cycling to and from school.

“A Scotland that reduces transport emissions by supporting the uptake of low and zero emission fuels and technologies, promoting a modal shift away from the car, through active travel (walking and cycling) and reducing the need to travel.”

2.3.10 The Scottish Government is investing significant resources through infrastructure and behavioural change initiatives in seeking to encourage people to use walking and cycling, particularly for short journeys. Such funding streams include the Community Links Programme that provides funding for new or improved paths that provide walking and cycling links between communities across Scotland and the Smarter Choices, Smarter Places Programme that funds walking and cycling promotional activities to encourage walking and cycling journeys as alternatives to single occupancy car journeys.

2.3.11 Thus an understanding of the effectiveness of approaches in influencing journeys to school towards these active modes of travel is of considerable importance in directing future funding in this area.

Health Policy

2.3.12 There is strong evidence that being physically active is beneficial for the health of body and mind. For children, high activity levels provide both immediate and longer-term benefits, for example by improving the health of the heart, muscles, bones, and immune system, and reducing the risk of chronic conditions such as obesity. Being active can also help to improve mental health and wellbeing by reducing depression and anxiety in children, boosting self-esteem and sleep quality, and laying the groundwork for academic attainment. The forthcoming ten-year mental health strategy will include a focus on early intervention and the mental health of children and adolescents.

2.3.13 Furthermore, the obesity strategy for Scotland, *Preventing Overweight and Obesity in Scotland* (Scottish Government, 2010) highlights increasing opportunities for uptake of physical activity as a core action in obesity prevention. A message that will be continued as the policy is reviewed in 2017.

2.3.14 The UK Chief Medical Officer’s report *Start Active, Stay Active* recommended active travel as one way of making up the recommended 60 minutes of moderate to vigorous intensity physical activity daily for children, as well as outlining the links between physical activity and health.

2.3.15 The 2014 Glasgow Commonwealth Games raised the profile of sport and physical activity in Scotland. Building on this, the Scottish Government committed to increasing rates of physical activity and through the *Active Scotland Outcomes Framework* and *Physical Activity Implementation Plan*, Scotland is leading the way in its strategic response to the challenge of increasing physical activity and reducing sedentary behaviour.

2.3.16 The *Active Scotland Outcomes Framework* sets out Scotland’s ambitions for a more active Scotland, including improving our active infrastructure. Success will rely on the collective efforts of communities, individuals and a wide range of partners in areas such as health and social care, education, environment, transport, communities and sport and active recreation. The outcomes will be achieved through the delivery of *A More Active Scotland*, the Physical Activity Implementation Plan, which adapts key elements of the 2010 gold standard advocacy tool, the Toronto Charter for Physical Activity (Bull et al., 2010) to Scotland.

2.3.17 One of the key delivery themes concerns education settings and commits that ‘all learning places in Scotland will promote increased physical activity.’ There is also recognition that active travel has a positive contribution to make in terms of physical activity:

“Promoting active travel on the school journey can make a positive contribution and complement policy and related initiatives to promote healthy lifestyles and physical activity.”

Planning

2.3.18 From a planning perspective, new schools in Scotland are subject to national and local authority planning policy and procedures. *Scottish Planning Policy* (SPP) and *National Planning Framework 3* (NPF3) advocate sustainable and well connected development with the Scottish Government’s *Designing Streets* (2010) policy statement setting out guidance that puts *‘place and people before the movement of motor vehicles’*.

2.3.19 At the school level, the Scottish Government/Coalition of Scottish Local Authorities (COSLA) joint strategy for school buildings, *Building Better Schools: Investing in Scotland’s Future* (Scottish Government, 2009), outlines the key objectives to be taken into account by local authorities, community planning partners, and the Scottish Government when considering changes to the school estate. These include a need to *‘focus attention on all aspects of sustainability and environmental efficiency...[and]... options for sustainable travel’ and ‘improve the way we think about a school’s fit with its surroundings and relationship to the community’*.

“...focus attention on all aspects of sustainability and environmental efficiency...[and]... options for sustainable travel’ and’ improve the way we think about a school’s fit with its surroundings and relationship to the community.”

“Looking outwards, the extensive network of linkages, movements and activity generated by each school is another important aspect of its dynamics. The daily pattern of home to school travel on the part of pupils, staff and community users of school facilities is the most visible manifestation of this and reaches into every community in the land.”

2.3.20 In addition, *Creating Places: A Policy Statement on Architecture and Place for Scotland* (Scottish Government, 2013) promotes well connected places with priority for pedestrians and the intention to build a sustainability ‘Gold’, ‘Silver and ‘Bronze’ labelling for new schools (similar to new homes).

2.3.21 The recent *Empowering Planning to Deliver Great Places – Independent Review of the Scottish Planning System* (Scottish Government, 2016) includes a number of observations and recommendations of relevance to this study. Notable points include:

- Future school building programmes should address the need for new schools in housing growth areas;
- There appears to be little alignment of corporate responsibility to deliver new schools. More consistency in approaches to catchment planning, developing specifications and costing new schools is clearly required. There are suggestions that a ‘blended’ approach involving both public and private sector investment is required to ensure new schools are funded; and

- A high level of certainty is required to justify the building of new primary and in particular secondary schools to meet future needs arising from development. It is widely accepted that development delivery is being hindered by reliance on the private sector to finance new schools.

2.4 Summary

- 2.4.1 School travel trends indicate that active travel accounts for the largest proportion of the school journey in Scotland, but varies between primary and secondary years as well as state and independent schools. This is reflective, in part, of the school catchment area alongside wider factors which are discussed further in later chapters.
- 2.4.2 From a policy perspective, the impact of the school run is cross-cutting. It has direct impact in terms of transport and associated congestion and national targets to increase travel by more sustainable and active modes. The journey to school is also influenced by wider policy, particularly in terms of planning and also impacts directly on other policy areas including health and the environment.

3. SCHOOL TRAVEL TRENDS

3.1 Scotland

3.1.1 From a Scottish perspective, the Scottish Transport Statistics No 34. reports that in 2014 the Scottish Household Survey, ‘51% of children in full-time education at school usually walked to school, 20% usually went by bus, 25% by car or van, 2% cycled. There was little difference between the sexes, but varied greatly with age: 59% of primary school age pupils (those aged up to 11) usually walked to school compared with only 42% of those of secondary school age (those aged 12 and over); 29% of primary pupils went by car or van compared with only 18% of secondary pupils; and only 9% of primary pupils usually travelled by bus compared with 36% of those of secondary age.’ The proportion of school pupils being driven to school has remained between 21% and 25% since 2003.

3.1.2 It was also noted that those usually travelling by car/van tended to rise with household income, to 25%-32% of pupils from households with an annual net income of £30,000 or more, reflecting patterns seen elsewhere in this chapter e.g. travel to work and car use more generally. Walking to school was lowest (28% - 29%) in rural areas. Estimates for those walking to school have remained relatively stable whilst those traveling by car has risen since 2004.

Sustrans Hands Up Scotland Survey

3.1.3 Sustrans’ Hands Up Scotland Survey (HUSS) is an annual survey undertaken in the second week of September each year. Established in 2008, HUSS is the largest national dataset recording how pupils travel to school across Scotland. Data is collected through a survey, asking pupils ‘How do you normally travel to school?’, with the following response options: Walk, Cycle, Scooter/Skate, Park and Stride (driven part of the way by car and walk the rest), Driven, Bus, Taxi and Other. All local authorities in Scotland are invited to take part in the survey.

3.1.4 The most recent HUSS report for 2015, reported that over 2,060 schools took part in the survey across all 32 local authorities in Scotland. Out of this total, 2,045 were state schools (80.3% of all registered state schools in Scotland), with responses received from 474,200 state school pupils in Scotland (69.7% of all state school pupils enrolled in Scotland). The national level results for HUSS in 2015 are shown in [Figure 1](#).

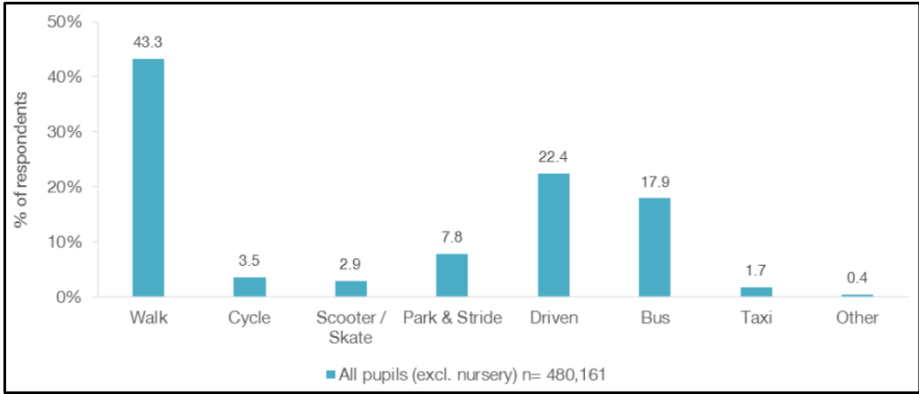


Figure 1. National Travel Modes – All School Pupils (exc. Nursery), (Sustrans, 2016)

3.1.5 In summary, 49.7% of pupils surveyed in 2015 said that they normally travel to school in an active way (walking, cycling, using a scooter or skateboard):

- Walking was the most frequent mode of travel with 43.3% of pupils stating that they normally walk to school; and
- 3.5% of pupils said they normally travel to school by bicycle and 2.9% stated that they normally use a scooter or skateboard to travel to school.

3.1.6 A further 7.8% of pupils said that they normally park and stride to school (i.e. they are driven part of the way to school by car and walk the rest of the way).

3.1.7 42% of pupils surveyed in 2015 said that they normally travel to school using only a motorised mode of transport. The majority, were either driven to school (22.4%) or took the bus to school (17.9%). A further 1.7% travelled by taxi.

3.1.8 Figure 2 shows the 2015 HUSS results by primary and secondary school. In summary, primary school pupils are more likely to travel to school actively. There is a decrease in car use from primary to secondary school, with increased use of public transport among secondary school pupils reflecting larger school catchments and associated school bus provision.

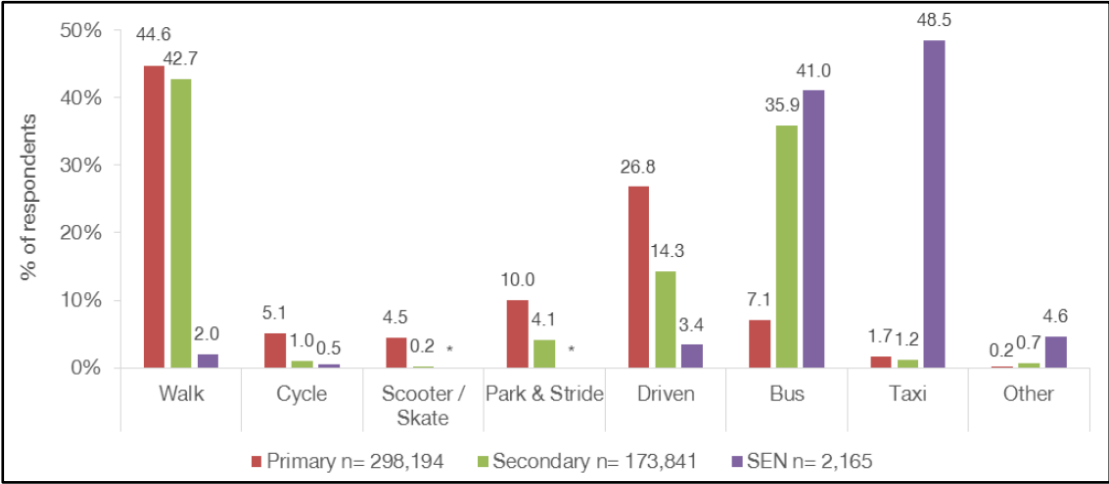


Figure 2. Travel modes at a National Level: Primary and Secondary Pupil Responses, 2015 (Sustrans, 2016)

3.1.9 Figure 3 shows the 2015 HUSS results by local authority. This illustrates variations between local authority areas, characterised by more rural and remote authorities having a higher number of school journeys being undertaken by car and bus.

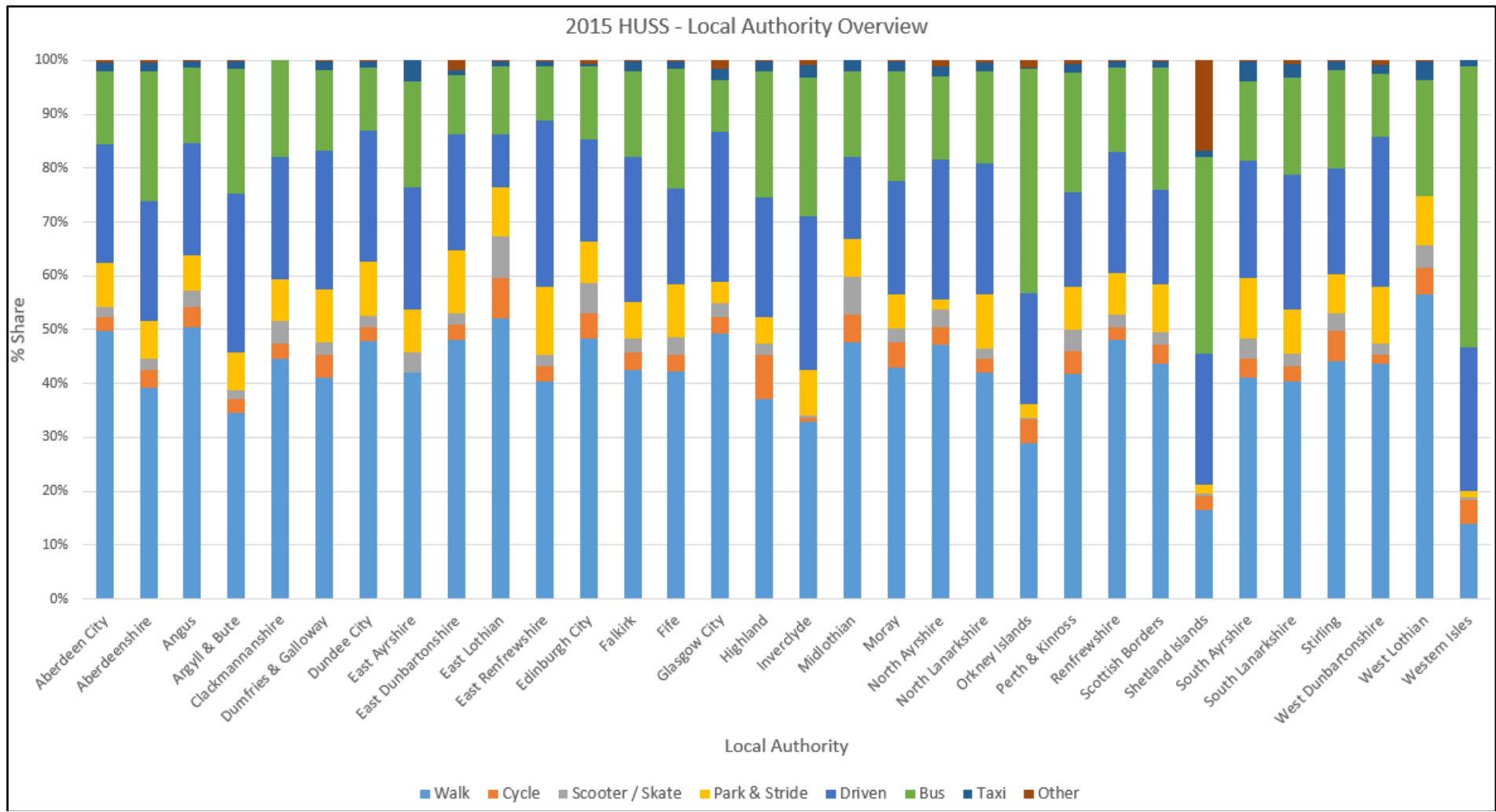


Figure 3. Travel modes at a Local Authority Level, 2015 (Sustrans, 2016)

3.1.10 A comparison of independent and state school results showed that pupils at independent schools are less likely to travel to school in an active way than those in state schools (primary, secondary and special education needs (SEN) as shown in Figure 4. A higher proportion of independent school pupils than state school pupils use motorised transport to travel to school with car accounting for the highest proportion of all journeys compared to walking for state schools. This is expected to reflect the wider catchment of independent schools, with parents opting for their children to attend a fee-paying school and depending on location this can have a notable impact in terms of the length of the school journey compared to the location of the catchment state school.

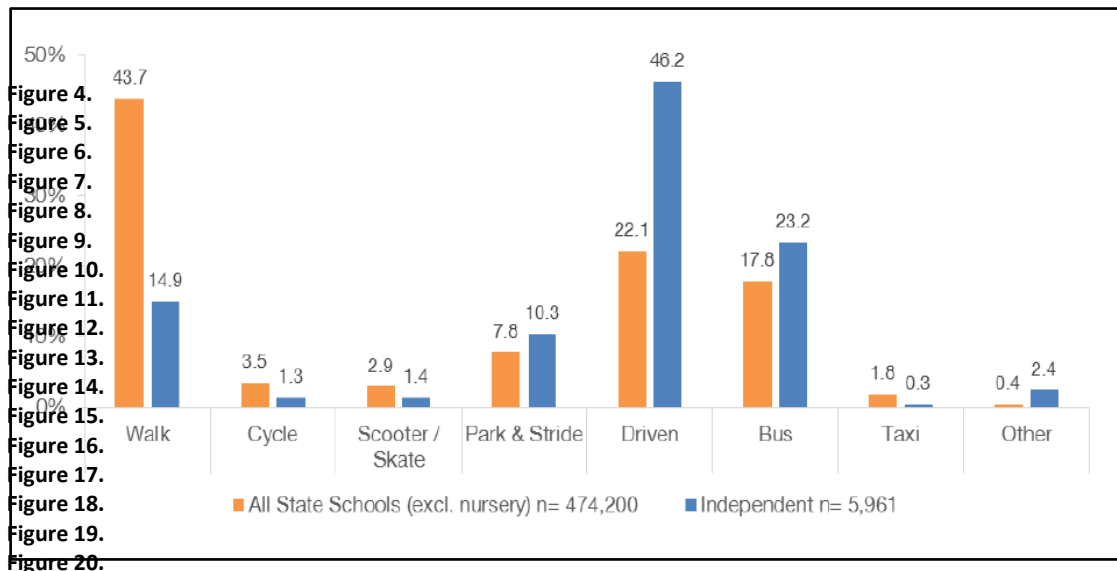


Figure 4. National Level: State and Independent Pupil Responses, 2015 (Sustrans, 2016)

3.1.11 Table 1 summarises travel mode by year group. In summary, a smaller percentage of pupils in lower years (P1 - P4) walk to school compared to upper years (P5 - P7). In contrast, fewer older pupils are driven (all the way to school) with a larger difference in the number walking. At secondary school there is generally a similar profile between younger (S1 - S3) and older (S4 - S6) year groups with a small difference characterised by a higher percentage of older pupils being driven to school.

Table 1. National Travel Modes: By School Type and Year Group (Sustrans, 2016)

School Type Year Group	Walk	Cycle	Scooter /Skate	Park & Stride	Driven	Bus	Taxi	Other	Total
Primary									
P1-4	42.0%	4.8%	4.9%	9.7%	29.9%	6.8%	1.7%	0.2%	159,106
P5-7	47.8%	5.6%	4.0%	10.9%	22.5%	7.5%	1.6%	0.1%	106,838
Secondary									
S1-3	43.4%	1.1%	0.2%	4.7%	13.1%	35.6%	1.4%	0.6%	79,963
S4-6	41.8%	0.8%	0.3%	4.0%	16.4%	35.0%	1.1%	0.7%	58,181
SEN^{4b}									
P1-4	*	*	0.0%	0.0%	*	33.6%	55.2%	9.0%	223
P5-7	*	0.0%	0.0%	0.0%	2.8%	58.2%	24.3%	13.0%	177
S1-3	*	*	0.0%	0.0%	*	33.6%	55.2%	9.0%	223
S4-6	3.2%	3.2%	0.0%	0.0%	4.0%	33.1%	47.2%	9.3%	248
Independent^{4a}									
P1-4	17.2%	*	*	7.2%	34.3%	35.7%	0.6%	4.5%	1,276
P5-7	15.0%	1.4%	*	14.1%	45.1%	21.6%	*	1.4%	1,267
S1-3	17.2%	*	*	7.2%	34.3%	35.7%	0.6%	4.5%	1,276
S4-6	20.5%	*	*	6.2%	32.5%	35.6%	*	4.8%	1,256

National Results 2008 – 2014

- 3.1.12 Table 2 summarises mode share for the journey to school by year between 2008 and 2015. Active travel is the most frequently reported mode of travel to school in Scotland, with a small decline from 51.8% in 2008 to 49.7% in 2015. At the individual mode level walking to school decreased slightly from a high of 48.3% to a low of 43.3% in 2008 and 2015 respectively. The reported level of walking has decreased from 48.3% in 2008 to 43.3% in 2015. Cycling has increased from 2.8% to 3.5% over the same period. The percentage of pupils who scoot or skateboard has increased from 0.7% (2008) to 2.9% (2015).
- 3.1.13 Motorised travel has remained around 41% to 42% over the period between 2008 and 2015. Car use has fluctuated between a low of 21.4% (2013) and high of 23.3% (2009), with an overall increase from 22% in 2008 to 22.4% in 2015. Bus and taxi use have remained fairly consistent at approximately 18% and 2% respectively. The percentage of pupils travelling to school by park and stride has increased from 6.1% in 2008 to 7.8% in 2015.
- 3.1.14 Although survey design and methodology have remained consistent, survey sample size has increased considerably from over 390,000 pupil responses in 2008 to just over 480,000 in 2015. In addition, 2010 was the first year all local authorities participated in HUSS. In comparing data across years it is important to recognise the increase in sample size. Also, a number of variables may impact on travel behaviour from year to year (e.g. weather conditions, school mergers) as well as policies and schemes introduced by central and local government or individual schools.

Table 2. National Travel Modes: All State Schools (exc. Nursery) 2008 – 2015 (Sustrans, 2016)

Year	Walk	Cycle	Scooter /Skate	Park & Stride	Driven	Bus	Taxi	Other	Total
2008	48.3%	2.8%	0.7%	6.1%	22.0%	18.2%	1.4%	0.5%	396,377
2009	47.0%	2.3%	0.6%	6.7%	23.3%	18.1%	1.6%	0.4%	415,804
2010	45.8%	2.8%	0.7%	7.4%	22.9%	18.2%	1.6%	0.5%	439,401
2011	45.9%	3.0%	1.0%	7.5%	22.4%	18.2%	1.6%	0.3%	427,104
2012	45.1%	2.9%	1.6%	7.8%	22.2%	18.2%	1.7%	0.5%	457,488
2013	44.1%	3.5%	2.8%	7.5%	21.4%	18.8%	1.6%	0.4%	467,397
2014	44.2%	3.4%	2.8%	7.8%	21.9%	17.7%	1.6%	0.5%	487,147
2015	43.3%	3.5%	2.9%	7.8%	22.4%	17.9%	1.7%	0.4%	480,161

- 3.1.15 Cycling Scotland's 2016 Monitoring Report, identified the top five local authorities in Scotland for the percentage of school children between P5 and P7 cycling to primary school over a 2012 – 2014 average are:
- Orkney (11.2%);
 - East Lothian (9.9%);
 - Highland (9.8%);
 - Eilean Siar (9.6%); and
 - Moray (9.4%).
- 3.1.16 Taking a snapshot of 2014 alone, Orkney and Highland achieved 18.4% and 15.5% respectively of primary school children between P5 and P7 cycling to school. The top five local authorities for secondary school children cycling to school based on a 2012 – 2014 average are:

- Highland (4.6%);
- Orkney (2.6%);
- Moray (2.5%);
- East Lothian (2.1%); and
- Stirling (1.8%).

3.2 Scotland in Context

- 3.2.1 From a wider perspective, the Department for Transport's (DfT's) National Travel Survey (NTS) 2014 reported that the 'proportion of trips to school made by walking has fallen over the last 40 years – in 1975/76, an estimated 64% of all trips to school (within Great Britain) were made by walking – 74% for primary age pupils and 53% for those of secondary age. Over the same period, the proportion of trips by car has increased – in 1975/76, 15% of trips by primary age children and 7% of trips by secondary age children were made by car or van.' The data for 2014 (England only) by contrast indicated that 46% of children aged five to ten years walked to school, while 38% of children aged 11 – 16 years walked. Figures for the same year reported that 46% of primary age children and 23% of secondary age children were driven to school.
- 3.2.2 Alongside a change in the proportion of school journeys undertaken by active modes, there is a trend of distances between home and school increasing. The results of the 2014 NTS reported that the average length of trips to school in England for 2014 was 1.6 miles for primary school children, as opposed to 1.2 miles in 1995/9. For secondary school children, the average distance for the trip to school has grown from 2.9 miles in 1995/97 to 3.4 miles. Due to changing mode share patterns, the average time spent travelling to school 'has remained remarkably stable for both age groups' – around 13 minutes per trip for primary children and 25 minutes for secondary children.
- 3.2.3 Forty-seven per cent of trips for primary school children were less than 1 mile in 2014, compared to 67% in 1975/76; and for secondary school children, 23% of trips to school were less than one mile, compared to 35% in 1975/76 (The 1975/76 data refers to the whole of Great Britain, not just England as in the 2014 data.)
- 3.2.4 In terms of mode share, the NTS results for 2014 reported that car and walking are the two most common modes of travel to primary school, each accounting for 46% of all trips as shown in [Figure 5](#). Walking was the most common mode of travel to school for secondary children (aged 11 to 16 years), followed by local and private bus (29% of all trips) with car accounting for 23% of trips. These figures differ in some respects from Scotland, particularly with the car accounting for a notably higher proportion of trips made by both primary and secondary pupils. Walking levels amongst secondary pupils are also higher in Scotland.
- 3.2.5 For children aged 11 to 13 years of age, the two main reasons for mode choice are that it is convenient and that the school is too far away. Escort trips to school were found to be more likely to be made by women aged 30 to 49.

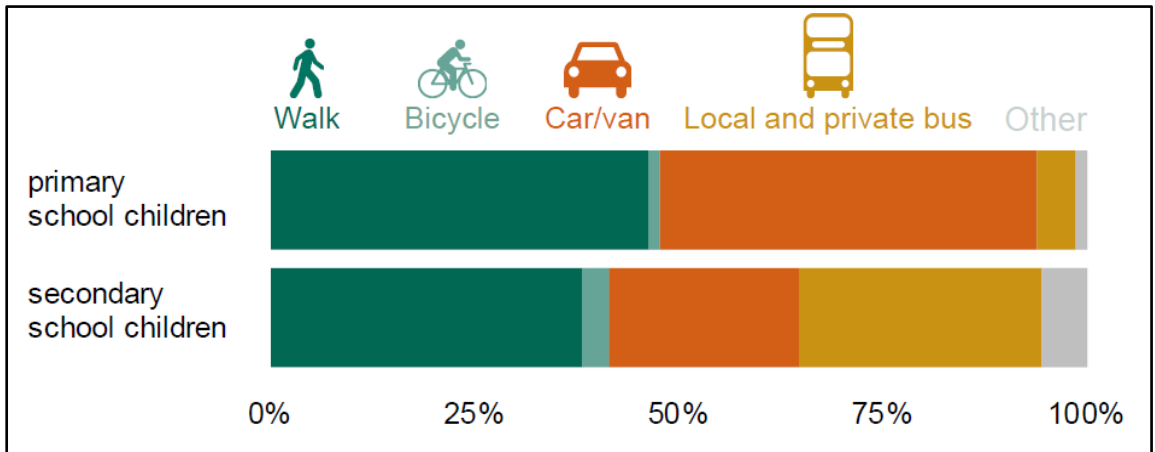


Figure 5. Travel to School in England (Department for Transport, 2014)

3.3 Summary

3.3.1 In summary, active travel accounts for the majority of primary school journeys with walking being the most popular mode. At the secondary school level, motorised transport is more predominant. There are also variations in mode of travel between state and independent schools. The different data also illustrates patterns, in terms of mode split, are relatively consistent in recent years.

4. FACTORS INFLUENCING SCHOOL TRAVEL CHOICES

4.1 Introduction

4.1.1 To encourage more pupils to travel actively and sustainably to school it is important to understand the factors and influences involved in school transport choices. Several studies have explored the attitudes of pupils and parents to gain insight into the factors that influence transport to and from school.

4.1.2 Previous research undertaken by the Scottish Executive Social Research (2002) has considered this research area and adopted a case study approach to explore the attitudes of young people towards sustainable transport. This research identified a range of factors that influence school transport choices, including school curriculum, parental influences, quality of public transport, cost of public transport and cycling/walking routes.

4.1.3 The Scottish Executive (2002) carried out a comprehensive study to review research on the factors affecting school travel and the effectiveness of school travel initiatives designed to address obstacles to efficient school travel. This review identified a range of factors affecting school travel, including organisational, such as school rules, economic, such as changes in car ownership, and health and environmental factors, such as personal security and poor weather. The study identified the importance of social factors in school travel, such as social interaction, shared sense of responsibility and community ownership. It was also highlighted that the importance of these factors is often underestimated in school travel planning.

4.1.4 The study also highlighted the differences in influences among pupils - between younger and older pupils and between females and males. For example, environmental messages are more likely to impact on younger children and their parents, whereas older children are influenced by practicalities of transport, such as journey time and flexibility. Female pupils were found to be more open to social aspects and opportunities of travel, whereas male pupils are more likely to respond to messages around health and fitness. This study identified opportunities to encourage more pupils to travel sustainably to school, including integrating sustainable transport into the school curriculum, whole-school approaches, such as Eco-schools and healthy schools and including parents in school travel plans.

4.1.5 The following sections provide further discussion on different factors influencing school travel choices, including anecdotal views from discussions with stakeholders.

4.2 School Catchment

4.2.1 The 2011 Scottish Census reported that 88% of children aged between 4 and 11 years travelled less than 5km to school, including 72% who travelled less than 2km. This indicates that active modes are an option for the majority of school pupils in Scotland. 430,000 people of any age travelled under 2km to their place of study, with 73% walking, 6% travelling by bus and 17% as a passenger in a car or van. Of the 428,000 people who travelled 2km or more to their place of study, 31% did so as a car driver or passenger, 43% travelled by bus and 7% by train.

4.2.2 School planning policy, however, and in particular a movement towards combined/campus style schools to address budget constraints and achieve economies of scale can have a direct bearing on school travel and mode choice.

This is directly attributable to school catchment distances increasing as schools increase in size and serve a wider geography.

- 4.2.3 As reported in the GCPH *Active Travel To and From School* (2012) study, previous research by Barker et al. (2005) into Scottish mode choice suggests that distance between the pupil's house and school is one of the factors which has the most influence on the mode share of school travel. It was also noted that, Di Guiseppe et al. (1998) studied the travel patterns of London primary school children and found that the strongest predictors of car travel were distance to school as well as car ownership, attendance at an independent school, and worry about abduction. The study concluded that policies that encourage children to attend local schools are likely to increase walking. Wilson et al. (2007), Muller et al. (2008), Black et al. (2004) and Yarlagadda and Srinivasan (2008) were also noted to have studied the effect of school location on children's travel behaviour. The research converged on the point that school location is a critical factor influencing a child's travel behaviour and surmised by McMillan et al. (2006) that '*living within one mile of a school appears to have the most significant effect on active travel to school*' (GCPH, 2012).
- 4.2.4 These research findings are broadly in line with more recent data, such as *Transport and Travel in Scotland* (Scottish Government, 2016) as illustrated in [Table 3](#).
- 4.2.5 In Scotland, of the pupils who usually walk to school 90% do so because the school is nearby while 41% who travel by car do so because it is the most convenient mode. 40% who use a school bus and 40% who use a service bus do so for the same reason – 'most convenient'. 'Safest method' was the second most popular reason cited by those who travel by car (20%), while for school bus the second most popular reason was also attributed to this reason and for service bus the second most common reason was 'too far to walk'. The most popular reason for primary children not using public transport is that 'they are too young to travel on their own' (55%). For secondary aged children the main reason was attributed to parents 'prefer to drive their car' (49%) are that 'it is inconvenient' (27%).
- 4.2.6 As noted in the GCPH *Active Travel To and From School* study (2012), location, scale and population catchment of facilities, and the density of the area are factors over which planners have some control and which can influence mode choice on the journey to school. Shorter journeys occur in areas of high density, because their supporting populations are more tightly bound geographically and therefore children are more likely to walk, scoot/skate or cycle to school. The study also noted the work of Hillman et al. (1976) which indicates '*accessibility (to school) is related to density and scale of the local area*'. It was also observed that density is related to household car ownership, and that car use is higher in the lower density areas, where car ownership is high, leading to a greater likelihood that children will be driven to school. [Table 4](#) illustrates mode split by geography which indicates more dependence on motorised transport, particularly the school bus, in less populated areas.
- 4.2.7 The scale of the school catchment will also be influenced by school type. For example, denominational schools will have a larger catchment to non-denominational schools. Similarly, independent schools can be expected to serve a wider geographic area and in rural areas catchments will be across a wider area compared to urban and semi-urban areas.
- 4.2.8 Research by Kirby and Inchley (2009), as reported in the GGPH study (2012), explored the perceived barriers and benefits of active travel to school of 10 - 13 year olds in Scotland, through focus group discussions in primary and secondary schools. This study highlighted the importance of taking the type of school into

account when delivering initiatives. For instance, primary schools have smaller catchment areas and therefore journeys to school may be considerably shorter than for secondary schools, and schools in a rural setting may have different surrounding infrastructure from urban schools.

Table 3. Reasons for Transport Choice to Children's Full-time Education Establishment, 2004-2015 (Scottish Government, 2016)

REASON	WALKING	CAR OR VAN	SCHOOL BUS	SERVICE BUS
Close/Nearby /Not far away	90%	7%	5%	11%
Most convenient	8%	41%	40%	40%
Travel with friends	4%	1%	6%	4%
Safest method	1%	20%	22%	2%
Quickest method	4%	14%	10%	7%
Only method available	2%	11%	18%	23%
Too far to walk	0%	16%	21%	24%
No public transport	0%	3%	4%	2%
Public transport unsuitable (e.g. too infrequent)	0%	2%	2%	0%
Good exercise / fresh air	5%	0%	0%	0%
No car / transport	0%	0%	0%	3%
Cheapest method	0%	1%	1%	1%
It is free	0%	0%	14%	0%
On way to work	0%	9%	0%	0%
Too young to travel any other way	0%	7%	2%	1%
Relative meets child	0%	1%	0%	0%
Other reason(s)	0%	5%	1%	2%
Sample size (=100%)	930	470	290	100

Note: *Percentages may total to more than 100% as respondents can give multiple answers.

Table 4. Travel to School by Urban/Rural (Scottish Government, 2016)

GEOGRAPHY	WALKING	CAR OR VAN	BICYCLE	SCHOOL BUS	SERVICE BUS	RAIL	OTHER
Large urban areas	50.2%	29.7%	1 %	5.9%	8.8%	2.4%	2.0%
Other urban	53.3%	25.5%	1.4%	12.5%	4.4%	0.3%	2.6%
Small accessible towns and small remote towns	63.2%	15.5%	1.6%	14%	4.6%	0.5%	0.7%
Accessible rural	32.9%	26.3%	1%	31.3%	4.7%	1.1%	2.8%
Remote rural	21.4%	30.4%	0.6%	42.7%	2.2%	1%	1.7%

4.3 Home to School Transport Policy

4.3.1 Linked to school catchment and distance travelled is the home to school transport policy. Scottish pupils living over a maximum walking distance threshold are entitled to free or supported travel from their local education authority and School Transport Guidance Circular 7/2003 sets out the requirements for the provision of school transport in Scotland.

4.3.2 The distance between a pupil's normal place of residence and school is a key consideration defined in section 42(4) of the 1980 Act. Education authorities in Scotland are required to provide home to school transport arrangements *that they consider necessary* for:

- Children aged less than 8 years old who live more than two miles from their designated school; and
- Children aged 8 and over who live more than three miles from their designated school.

4.3.3 As noted in *The Costs and Challenges of Changing the Specifications for School Transport in Scotland* research undertaken for Transport Scotland in 2013, distances are measured by the nearest available route and the entitlement covers both pupils residing within the local authority area, and those from outside who attend schools in their area. The application of the criteria is not uniform across Scotland, but based on a combination of age and distance. Variants include:

- Using the primary/secondary school distinction to determine eligibility instead of the eight years' age threshold;
- Lower thresholds of one mile maximum walking distance for primary school pupils, and two miles for secondary school pupils; and
- Lower thresholds of one mile maximum walking distance for those aged 8 and under, and two miles for those aged 8 and over.

4.3.4 [Table 5](#) shows school transport entitlement provision by Local Authority in winter 2015/2016. This illustrates the mix between the application of statutory and Local Authority specific distance parameters on a primary and secondary basis.

4.3.5 The Transport Scotland research observed that in the academic year 2012/13, there were approximately 670,000 primary, secondary and Additional Support Needs (ASN) pupils in Scotland. Of these pupils, approximately 18% were eligible for, and used, statutory school transport provision. The proportion of pupils making use of statutory transport varied by geography, area and school type – those living in lower density regions, in rural areas, and attending secondary schools typically had the highest proportions, whereas pupils in urban areas, higher density regions, and attending primary schools had lower proportions.

Table 5. Local Authority School Transport Entitlement Distances

Local Authority	Primary Eligibility (miles)	Secondary Eligibility (miles)	Notes
Aberdeen	2	3	
Aberdeenshire	2	3	
Angus	2	3	
Argyll & Bute	2	3	Primary changed from 1 mile in 2010
Clackmannanshire	1 (under 8s) 2 (over 8s)	2	
Comhairle nan Eilean Siar	2	3	Primary and Secondary changed from 1 mile in 2012
Dumfries & Galloway	Statutory	Statutory	
Dundee	2	3	
East Ayrshire	1.5	3	Primary and Secondary changed from 1 & 2 miles in 2013
East Dunbartonshire	1	3	Secondary changed from 2 miles in 2010
East Lothian	2	2	
East Renfrewshire	2	3	
Edinburgh	2	3	Secondary changed from 2 miles in 2010
Falkirk	1 (under 8s) 2 (over 8s)	2	Currently considering moving to statutory distances from Aug 2015
Fife	1	2	Currently considering options for change
Glasgow	1.2	2.2	
Highland	Statutory	Statutory	
Inverclyde	1	2	
Midlothian	2	2	Currently considering moving to 3 miles for Secondary
Moray	2	2	
North Ayrshire	2	3	Primary and Secondary changed from 1 & 2 miles in 2010
North Lanarkshire	1	2	
Orkney	Statutory	Statutory	1.5 miles during winter months
Perth & Kinross	2	3	
Renfrewshire	1	2	
Scottish Borders	2	3	
Shetland	Statutory	Statutory	1.5 miles during winter months
South Ayrshire	2	3	Primary changed from 1 mile in 2009
South Lanarkshire	1	2	
Stirling	2	2	May consider proposing a move to statutory distances
West Dunbartonshire	1	2	
West Lothian	1.5	2	

4.3.6 Education authorities have a number of options through which to provide school transport. These include:

- Dedicated, free, home to school transport for some or all of the journey;
- Making bicycles or other suitable means of transport available to pupils; and
- Paying some or all of their travel costs for travel on scheduled public transport or in taxis.

- 4.3.7 Dedicated free transport and subsidy of scheduled bus/taxi fares account for the majority of provision, with the percentage mix highly dependent on the density and coverage of scheduled public transport services. When travelling to/from school on transport arranged by education authorities, pupils are under the charge of the authority. As a result, high standards of safety and security are imperative and this led to the publication of '*A Guide to improving School Transport Safety*' by Transport Scotland in 2010.
- 4.3.8 The guidance recognises there will be instances where individual pupils residing just within measured boundaries would not normally be entitled to free transport, whereas those residing just outwith the boundaries would qualify. Local authorities are expected to keep under review their criteria on this provision by introducing added flexibility and taking into consideration other factors, such as road traffic volumes, the availability of crossings, sufficient pavement and footpaths, subways, built-up and wooded areas, adequate street lighting etc.
- 4.3.9 The demand for home to school transport is also heavily influenced by demographic trends, wider education policy, and parental choices around residential location, car ownership, and school choice. In particular:
- The number of pupils attending primary school is expected to grow much more rapidly than the number attending secondary schools in the near to medium term future, with the absolute number of secondary school pupils falling until 2017, and not recovering to 2012/13 levels until 2019/20;
 - Changes in the number of pupils with Additional Support Needs (ASN), who may require more bespoke travel solutions;
 - Changes in the number of schools, their location and size; and
 - Changes in the demand for home to school transport from parents.
- 4.3.10 Policy in relation to choice of school is also a further driving factor.

4.4 Built Environment / School Neighbourhood Characteristics

- 4.4.1 Effective masterplanning and local planning are integral to improving the walkability of neighbourhoods, and, therefore, the journey to school. Information prepared by Living Streets in 2016 notes that the *Building Better Schools Strategy* advocates a need to '*focus attention on all aspects of sustainability and environmental efficiency...options for sustainable travel*' and '*improve the way we think about a school's fit with its surroundings and relationship to the community.*' It is considered in the note that new schools should:
- Be sympathetically located with regard to the catchment areas they serve;
 - Recognise local walking, cycling and public transport links and prioritise locations that favour these modes; and
 - Be integrated 'community hubs' that are safe and easy to access by all users.
- 4.4.2 Figure 6 illustrates the contrast of a more and less conducive design for encouraging access by walking, cycling and public transport.

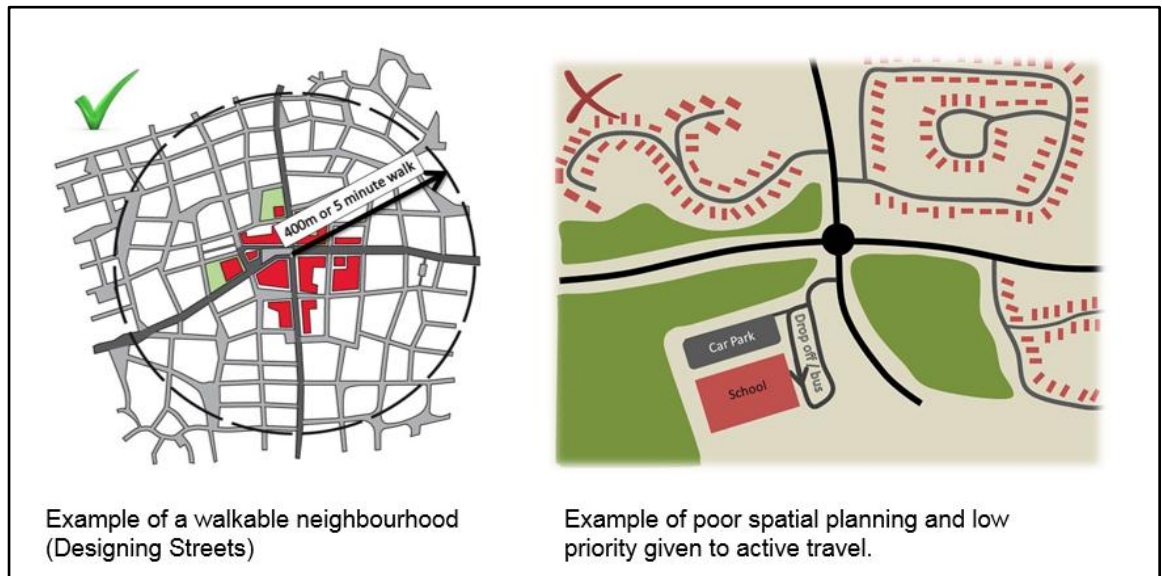


Figure 6. Examples of Good and Poor Spatial Planning - New Schools Info Sheet (Living Streets, 2016)

4.4.3 As well as considering the site location, the importance of site design and layout of the school for access by arrival on foot, bike and public transport is also pertinent. Guiding principles outlined include (Living Streets, 2016):

- Accessible main entrances that are suitably located to welcome all school users with due consideration given to those arriving by walking, cycling and public transport or with limited mobility;
- Direct and legible walking routes that are not bisected by car parks, drop-off areas or service roads;
- Priority given to pedestrian movement; and
- Suitable facilities on site to encourage walking and cycling, such as heated cloakrooms and cycle racks.

4.4.4 Aspects highlighted to avoid include designs based around parking and roads access (a 'supermarket' style design as well as an overemphasis on security and continuous fence lines with limited access points). Early consideration of provision for access by active and sustainable modes is of importance.

4.4.5 The development management process, in terms of the consideration given to the impact of developments on the transport network in a school context is also of importance. This is particularly relevant in terms of how routes to school are taken into account when new residential developments are being considered and also the impact of other developments which are expected to have a significant impact on the transport network within a school catchment area or equally also provide opportunities to enhance active travel routes.

4.4.6 In Scotland, Sustrans administers, in partnership with Local Authorities, the Safer Routes to School Implementation Fund which is grant programme aimed at improving infrastructure in and around schools across Scotland. The programme is funded by the Scottish Government and interventions include improvements to crossings, improving or building shared use paths or access points to school. In 2014/15 the programme received 23 applications from 11 local authorities for funding totalling more than £1million. Projects receiving funding ranged in size from £7,500 to £1,000,000 schemes and consisted of a range of projects from vehicle activated speed signs to area-wide cycling and walking improvements.

4.4.7 Research by Kirby and Inchley (2009), as reported in the GCPH (2012) study, explored the perceived barriers and benefits of active travel to school of 10 - 13

year olds in Scotland which raised safety concerns as a barrier to active travel, although it was noted this may have been due to the context of the research as the schools included were rural or semi-rural. This study highlighted the importance of taking the type of school into account when delivering initiatives. For instance, primary schools have smaller catchment areas and therefore journeys to school may be considerable shorter than for secondary schools, and schools in a rural setting may have different surrounding infrastructure from urban schools.

4.4.8 International studies have also looked at the relationship between the built environment and travel to school mode choices. In 2007, Dalton et al. assessed 16 different Built Environment Characteristics (BECs), using 47 school neighbourhoods to determine the impacts BECs had on travel to school in the US. Assessments were carried out using census data, on site observations and telephone surveys with 1,552 pupils and their parents between 2007 and 2008. Active travellers were defined as those who walked/cycled to/from school one day or more per week.

4.4.9 Slightly less than half of the sample lived within three miles of school, of whom 388 (52.8%) were active travellers. Levels of active travel to school varied by season, ranging from a mean of 1.7 days per week in the winter to 3.7 in the spring. Pupils who attended schools in highly dense residential neighbourhoods with pavements were most likely to be active travellers. Active travel frequency was greater in school neighbourhoods with high residential densities, on-street parking, food outlets, and taller and continuous buildings with small setbacks. The study found that *'the BECs that support safe travel may be necessary to allow for active travel to school, whereas active travel frequency among adolescents may be influenced by a wider variety of design characteristics. Additional strategies to promote active travel and physical activity are needed in rural areas because of long commuting distances for many students.'*

4.5 Pupil Attitudes

4.5.1 Anecdotal and stakeholder comments suggest that perceptions and 'image' are influencing factors on school travel choices. This has also been reported in the GCPH (2012) study which reported that pupils felt cycling to school wasn't cool.

4.5.2 The work of Kirby and Inchley (2009) also identified a range of personal, social and environmental factors as influencing school travel choices. Social interaction was seen as a major benefit of active travel for pupils, particularly for those pupils transitioning from primary school to secondary school, when forming new friendships was a priority. Pupils also identified the importance of health benefits gained from active travel to school. Parental influences and support from schools were identified as important factors in school transport choice. Whole-school approaches and curriculum activities provide a framework within which to overcome barriers to active travel. Safety concerns were also raised as a barrier to active travel, which may be due to the context of this research, as the schools included were rural or semi-rural.

4.5.3 School culture is also an important factor. This aspect will be considered further as part of the primary fieldwork.

4.6 Parental Influencers

4.6.1 Parent attitudes to factors such as safety, perception about time and distance as well as wider lifestyle characteristics and commitments can have a direct influence on how their children travel to and from school.

- 4.6.2 Lorenc et al. (2008) conducted a UK wide review on attitudes of children, young people and their parents to walking and cycling. Results from this review identified a culture of car use, dislike of local environments, children as responsible transport users and parental concerns around children's safety as barriers to walking and cycling. This research emphasised the importance of taking public views into account when designing initiatives. In particular, safety concerns of parents should be addressed. However, the study also recognised that over-emphasising safety issues may discourage cycling and walking by focusing on the risks involved and initiatives should also aim to help parents understand more about the benefits of walking and cycling to school.

Work Patterns

- 4.6.3 Parental influence on travel to school is also shaped by their employment patterns, and subsequent caring responsibilities. In the GCHP *Travel To and From School* (2012) study it was noted that mothers who work on a school day are more likely to drive their children to school than mothers who stay at home. The *Transport and Travel in Scotland 2013 Bulletin* identified convenience to be cited as the most common reason for travelling to school by car, with many feeling that *'it was too far to walk and car travel was both the safest and quickest mode of travel.'* Working patterns and whether the journey to work is attractive by an alternative to driving is therefore likely to have an impact on the mode of travel to school.
- 4.6.4 Furthermore, studies (such as Wong et al, 2011) show that there are transport mode choice differences between morning travel from home to school, and the afternoon return journey back home. This can potentially be attributed to different reasons. For example, anecdotal comments suggest that scooting to school is increasing as it offers more flexibility if the pupil is returning home by a different means as the parent can more easily carry a scooter away, whereas a bike is more cumbersome. In addition, wrap around breakfast and after school clubs also introduce flexibility which is potentially encouraging more pupils to travel sustainably in the morning but less so in the afternoon with parents opting to collect their children to ensure they do not arrive home first should they be delayed for any reason.
- 4.6.5 Gender related attitudes towards domestic and caring responsibilities are also a factor and highlighted in *'Honey, can you pick up the groceries on your way home'*, a household study conducted by the University of California Transportation Centre (Smart et al., 2014). The study investigated patterns and trends in household related travel, and the activities that influence particular types of travel. The findings support the principle that there are gender differences in what the researchers termed child-serving (i.e. school run) and household-serving (i.e. grocery shopping) trips that are in spite of household characteristics.
- 4.6.6 A comparison between different types of household provided some interesting insight on the cultural expectations of women's role in society. Where women in mixed-sex partnership households earned more than their male partner they were more likely to make more child-serving and household-serving trips. As a result, the cultural expectation of juggling the school run, the commute, the food shopping makes the car an attractive and importantly a convenient option. Indeed, the researchers found high levels of driving amongst middle-aged women. Therefore, the study concluded that gendered cultural norms have an influence in terms of shaping activity and travel patterns, rather than economic explanations to rationalise travel choices.

Household Car Ownership

- 4.6.7 Household car availability is also a potential influencing factor. [Table 6](#) shows travel to school by no. cars in a household. This illustrates higher levels of walking in non-car owning households, although walking still accounts for the greatest mode share even in households which do have a car. School bus travel is highest in car owning households, suggesting the influence of location in terms of distance travelled to school being potentially further in higher car owning households. Analysis undertaken as part of this study has indicated no relationship between car availability and car ownership levels in terms of pupils travelling to school by active modes. Analysis of individual car ownership rather than general local area wide ownership would serve to provide stronger insight to determine the relationship between car ownership and school travel at the household level.

Table 6. Travel to School by No. Cars/Household (Scottish Government, 2016)

NO. CARS	WALKING	CAR OR VAN	BICYCLE	SCHOOL BUS	SERVICE BUS	RAIL	OTHER
None	65.4%	1.7%	1.7%	13.2%	12.7%	0.6%	4.7%
One	50.8%	24.6%	1.3%	14.1%	5.6%	1.2%	2.4%
Two+	41.2%	35.3%	1%	17.1%	3.3%	1.2%	1%

4.7 A Travel System Approach

- 4.7.1 A travel system approach takes a whole system approach, which embraces road safety, public transport provision, route design, street design, travel planning and promotional measures. A wide-ranging look is taken at travel to school in New Zealand in the *Improving School Travel Systems Report* (New Zealand Transport Agency, 2010). This considered existing guidance from New Zealand and elsewhere, and travel to school from a system, human and socio-ecological perspective drawing on urban, semi-rural and rural case studies.
- 4.7.2 The study recommended that more strategic importance is attached to school travel, given the wide-ranging costs incurred and that a school travel system model should be adopted for use at strategic and operational levels, both nationally and regionally. Particular problem areas identified including cycling to school, door-to-door school bus safety and bus access, the environments around schools and routes to school and rural schools in high-speed environments.

5. SCOTTISH SCHOOL ACTIVE TRAVEL INITIATIVES

5.1 Introduction

5.1.1 There are a wide range and increasing number of initiatives undertaken in Scotland to promote active travel to school in Scotland. This section provides an overview of initiatives. Further details on each can be found via the references outlined in the Bibliography.

5.2 School Travel Plans

5.2.1 School travel initiatives, including those developed as part of a School Travel Plan (STP), are intended to increase the number of pupils who travel by active and public transport to and from school. They also seek to help educate children in the issues surrounding personal health, the environment and the benefits of sustainable transport, and to promote a more pleasant environment in the neighbourhood immediately surrounding the school.

5.2.2 There are still some questions regarding the effectiveness of STPs in increasing levels of active travel; and there have been several studies examining the effectiveness of Travel Plans in general, and STPs in particular. Most salient in a Scottish context, the GCHP 2012 *Building for Success: Active Travel To and From School* research found no evidence that Glasgow schools with Travel Plans had higher levels of active travel than schools without such a plan. The study recommended further local research to confirm the impact of STPs would be useful.

5.2.3 Research for the Department of Transport into the experience of School Travel Plans in English schools involved a survey of approximately 150 schools nominated by school travel experts as exemplifying good practice in school travel work followed by detailed interviews with 30 case study schools and associated stakeholders (Cairns and Newson, 2006). For the case study schools involved the average reduction in total car use was 23%, with some high performing schools cutting car use by more than half. Other benefits highlighted included safety improvements, reductions in congestion at the school gate, health and fitness benefits, improvements in attendance, punctuality and readiness to learn and benefits for pupils' personal development and for the wider community. The study showed that the most successful STPs typically focused on a variety of initiatives, included significant levels of awareness raising, and had mechanisms in place to ensure that they were sustained over time.

5.2.4 There is also acknowledgement that the success of a STP will depend on a number of contextual factors. These include the characteristics of the school and its catchment area (including crime rates and car ownership levels), the average distance between pupil's homes and the school, and the level of marketing/publicity given to a STP.

5.3 Training

Bikeability (Cycling Scotland)

5.3.1 Bikeability is Cycling Scotland's largest programme and generally involves a 6 to 8 week rolling block of training to give children the skills and confidence they need to cycle safely on road, and to encourage them to carry on cycling in later years. There are three levels of training:

- Level 1 (Primary 5) – delivered in a traffic-free environment, such as the school playground, with learning in basic bike handling skills and improved riding confidence.
- Level 2 (Primary 6) – on-road training delivered on quiet streets close to the school, providing training on how to cycle confidently on-road amongst real traffic.
- Level 3 (Primary 7) – delivered on roads with larger volumes of traffic travelling at higher speeds. Provides training on how to negotiate more complex junctions on a route of choice, usually your journey to school or work.

5.3.2 Cycling Scotland work with a network of local authority officers to deliver Bikeability. The network was traditionally Road Safety officers previously overseen by Road Safety Scotland, but there is now an increasing broader mix of officer background across, for example, Transportation as well as Education and Active School teams. There is no formal agreement in place between Cycling Scotland and local authorities, but Section 39 of the Road Safety Act 1998 places a duty of care on local authorities to provide road safety education. Most training is delivered to pupils in schools by Cycling Scotland accredited cycle training instructors and organised through local authorities. Cycling Scotland directly oversee the training of around 1,000 volunteers per year to become Bikeability instructors who work in schools with instructors including local authority officers, school staff and volunteers. Most Bikeability Scotland training is delivered to pupils in schools, organised through their local authorities. The training is often co-ordinated by Active Schools or Road Safety Teams, and sometimes by other teams including Education and Travel Planning.

5.3.3 In 2014-15, of the 29 local authorities participating in the Bikeability scheme, over 1,500 primary schools in Scotland were offered at least Level 1 Bikeability training out of a possible 2,044. Over 32,000 pupils participated in Bikeability Scotland across all levels in 2014-15, including Level 2 style playground delivery. Over 40% of primary schools in participating authorities offered Level 2 training in 2014-15 with participation showing an increasing trend as illustrated in [Figure 7](#). All but, three local authorities participated in 2014-15, although the percentage of primary schools taking part by local authority ranged from under 10% to over 90%.

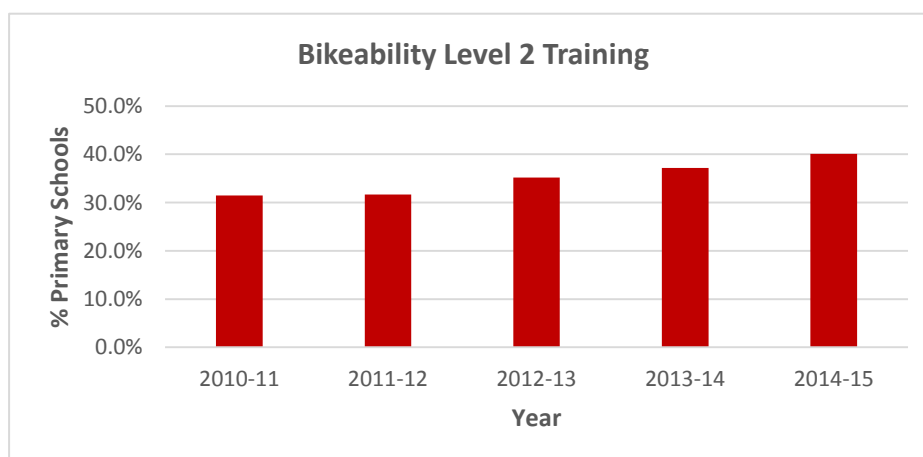


Figure 21.
Figure 7. Bikeability Level 2 Training

5.3.4

The evaluation of the 2016 Give Everyone Cycle Space campaign involved face-to-face on-street interviewing in ‘live’ areas (1,253 interviews across 6 local authorities) where local activities (including in-school) had taken place and ‘control’ areas (314 interviews in 3 local authorities) where no activities had taken place. The sample encompassed the general population and parents, as well as frequent drivers and infrequent/non-drivers. The parent sample (of children in P5 – P7) facilitated continued monitoring of attitudes and behaviours in relation to cycling to school. Questions were asked about Bikeability training, including uptake, attitudes towards the training and behaviour change after the training. The following key findings were noted:

- Just over half of total parents sampled (51%) reported that their child had received Bikeability Scotland training, with 52% reporting their child received on-road training. These levels of training were very similar to previous years;
- Parents in ‘live’ areas were more likely to report participation in training in the last year (40%) compared to those living in ‘control’ areas (18%);
- Bikeability Scotland training had a positive effect for the majority (approx. 75%) of children participating. For most, the training had improved their child’s confidence when cycling as shown in [Figure 8](#); and
- As in previous years, the vast majority of parents were more in favour of their child cycling following the training. The results for 2016 are similar to those for 2015, but higher compared to 2014 as shown in [Figure 9](#).

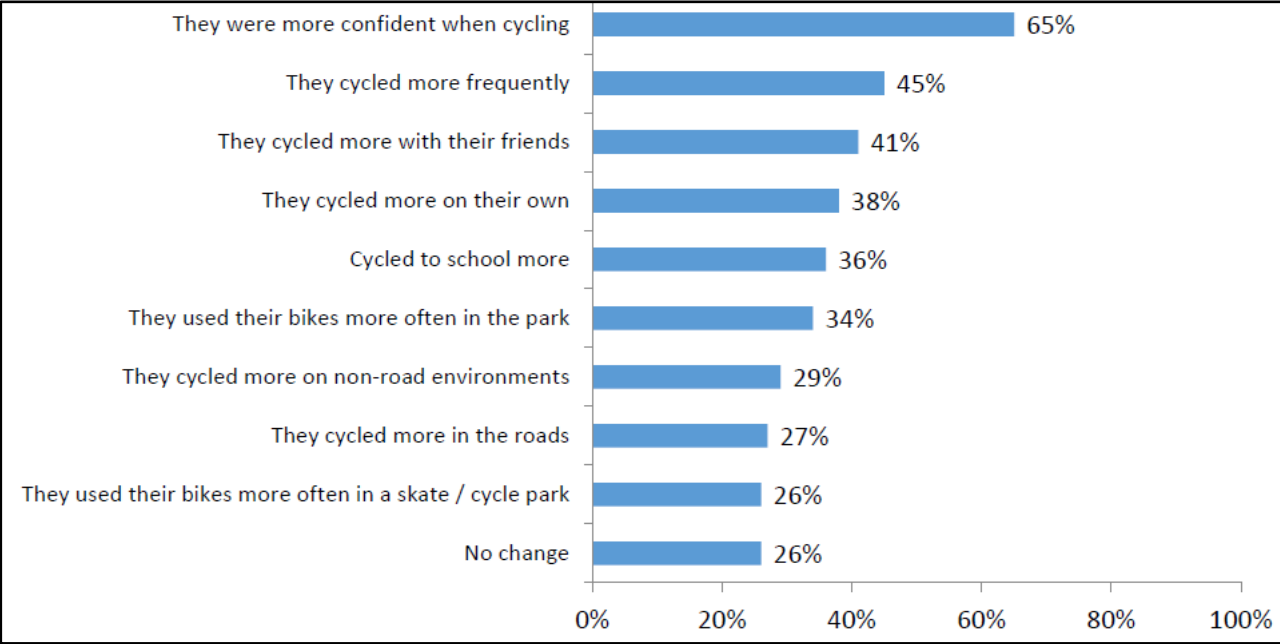


Figure 8. Behaviour Change after Bikeability Training (Cycling Scotland, 2016)

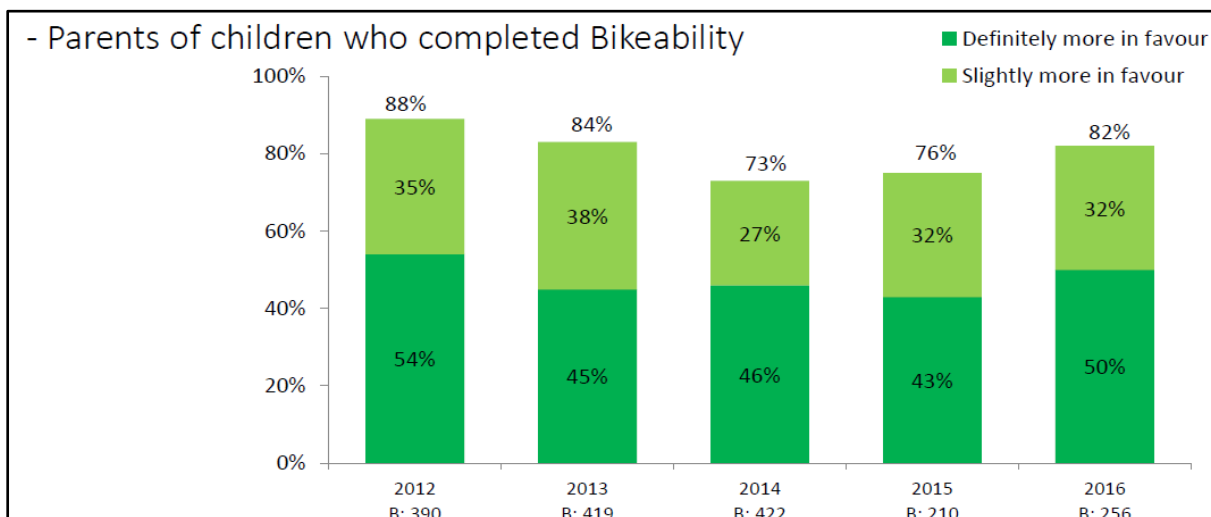


Figure 9. Attitudes Towards Children Cycling Following the Training (Cycling Scotland, 2016)

5.3.5 A number of other studies have been undertaken looking at the impact of Bikeability. Most recently, Hodgson and Worth in their research for the National Foundation for Educational Research (NFER) reported in 2015 on the impact of Bikeability training on the ability of children to perceive and appropriately respond to on-road hazards faced by people who cycle. The research involved pupils who were in year 5 in summer 2014 and tracked them as they moved into year 6 in the autumn term. A total of 668 pupils were involved in taking one or more on-screen quizzes and a questionnaire to find out about their attitudes towards cycling. The survey included both pupils participating in Bikeability and also schools where pupils had not received cycle training. The research identified that:

5.3.6 Children who participated in Bikeability Level 2 training scored significantly higher on the quiz than the children who had not received training. Interestingly, this effect was undiminished even when the children re-took the quiz more than two months later; and

5.3.7 Children who received training reported that they felt more confident when cycling on the road after training. This increase was found to be statistically significant.

5.3.8 A research study by the Department for Transport which evaluated the impact and perceptions of cycle training, with a specific focus on Bikeability also reported positive results. In summary, key findings included:

- 98% of parents surveyed said they were satisfied with the Bikeability scheme, of which 76% were very satisfied;
- The majority (93%) of parents whose child has taken part in Bikeability feel that it has had a positive impact on their child's safety when cycling on the road;
- 93% children who had taken part in Bikeability reported that they feel more confident about riding their bike generally and 86% when riding their bike on the road (86%); and
- In terms of what children had learnt – 68% stated 'to ride my bike more safely', 'to ride my bike safely on the road' (53%) and 'to ride my bike with confidence' (36%).

5.3.9 In terms of mode shift, the Department for Transport published research in 2012 which compared school census travel data with Bikeability delivery data in local authority areas with different histories of Bikeability delivery. The study reported

that apart from findings for Hertfordshire schools, there was little overall difference in pupils cycling to school (averaging 2% for all areas).

- 5.3.10 A local survey of over 200 hundred pupils in four primary schools where Bikeability is delivered in Cambridge found that more:
- Trained than untrained children cycle;
 - Trained than untrained children cycle to school and that girls demonstrate the greatest difference between trained and untrained children cycling to school;
 - Untrained pupils than trained children would prefer to cycle more than they normally do;
 - Trained than untrained children normally cycle to local places;
 - Trained than untrained children prefer to cycle to local places and out with their families;
 - Trained than untrained children cycle on the road and not on pavements; and
 - Trained than untrained children feel confident cycling on the road.
- 5.3.11 In a research study for Transport Scotland in 2011, *Cycle Training in Primary Schools*, consideration was given to attitudes to on-road training, planning and delivering on-road cycle training, barriers to on-road cycle training and overcoming these barriers. The study found that the single biggest barrier relates to attracting volunteers to deliver the training - *'On-road training is seen as requiring more volunteer resources than off-road training, to ensure a suitable ratio of adults to children. Volunteering as an on-road trainer is also seen as a significant responsibility.'* The research also concluded that support from Road Safety Officers and Active Schools Co-ordinators play a *'critical role in supporting and sustaining a shift'* to on-road cycle training, in terms of the support they provide to both teachers and parents.
- 5.3.12 Cycle training to school aged children, starting at a young age and then increasing in difficulty, has been identified as a common theme in other nations (e.g. the Netherlands and Denmark) where there are high levels of cycling, and over 40% of school aged children cycling to school. This is discussed further in Section 7.

5.4 Behaviour Change

Walk Once a Week (Living Streets)

- 5.4.1 The Walk Once a Week (WOW) programme has been running for over 20 years with the objective of encouraging school aged children to walk to school more often. Participation is encouraged by the reward of collectible badges which are awarded for all active travel journeys - cycling, scooting/skateboarding and park and stride as well as walking. While the scheme promotes walking at least once a week, the ambition is, however, for school children to walk as often as they can and is all embracing in terms of promoting and awarding travel by all modes of active travel.
- 5.4.2 An interactive online Travel Tracker ([Figure 10](#)) allows pupils to record their trips every day in the classroom. The mode choices match those used in the Sustrans HUSS, and the tracker provides for instantaneous and continuous data to be created, which can be analysed by Living Streets staff. Pupil-designed badges (chosen through an annual competition) are used to incentivise pupils to actively engage and participate in the programme. The Travel



Tracker is flexible in that schools can change the threshold for the award of badges. Information packs are issued to each School's WOW point of contact providing guidance and supporting materials.



Figure 10. WoW Travel Tracker (Living Streets, 2016)

- 5.4.3 WOW is also underpinned by a series of lesson plans which provide the basis for teachers to embed the initiative into classroom learning and in Scotland the tools align to the Curriculum for Excellence. The initiative is cost effective at less than £2 per pupil per year.
- 5.4.4 Press releases and media activity is undertaken to raise the profile of the programme and there is ongoing engagement at the school/grass route level such as school gate events. Strider visits to schools also help with increasing visibility and awareness.
- 5.4.5 A baseline number of schools are directly contacted each year by Living Streets and local authorities can also order more packs independently. In 2015/16 Term 1 there were 21 local authorities in Scotland actively participating in the scheme spanning 374 schools and involving over 62,000 pupils as summarised in Figure 11.

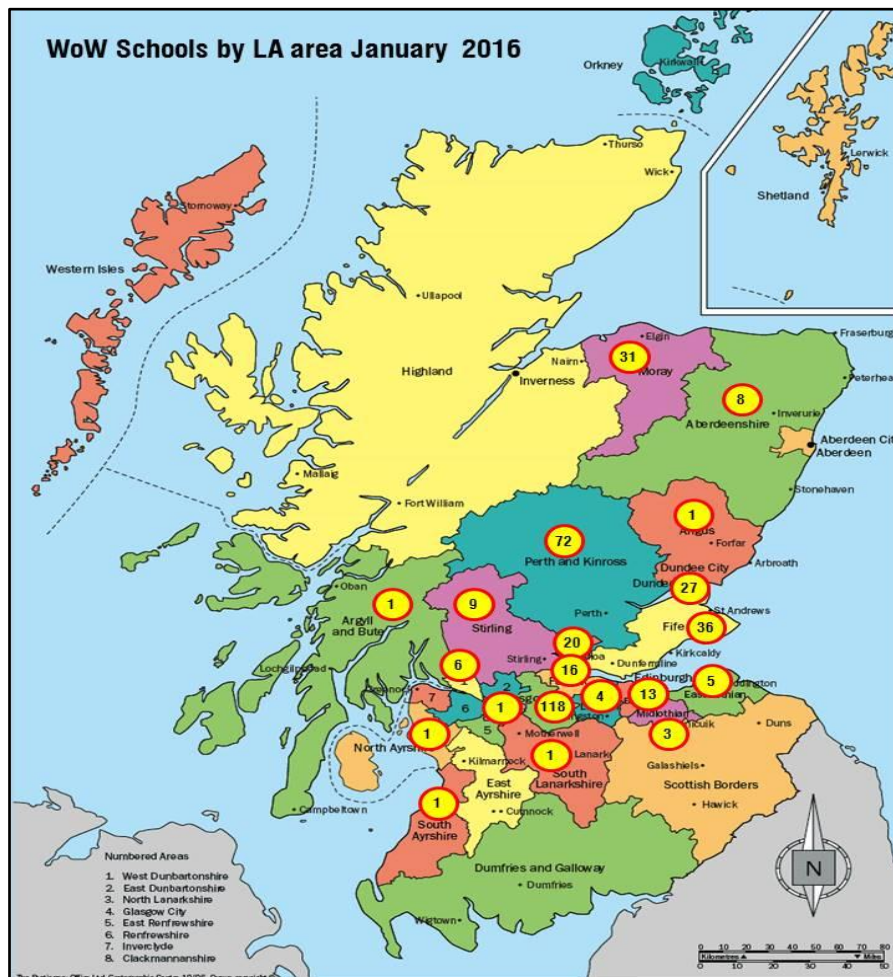


Figure 11. 2015/16 Term 1 WoW Schools by Local Authority Area (Living Streets Scotland, 2016)

5.4.6 In the academic 2014/2015 year 55,000 pupils in more than 351 schools were registered to take part in WOW. A breakdown of participation by school term is shown in [Table 7](#).

Table 7. Walk to School Outcomes Academic Year 2014/15 (Living Streets, 2015)

Sept 14 to June 15	Participants			Journeys			Impact			
	LAs	Schools	Pupils	Active trips logged	Inactive trips logged	Total	% Active	Baseline rate (Scotland)	% above baseline at WoW schools	Equivalent number of added active trips
Autumn	16	35	9055	152012	42139	194151	78.30%	58.20%	20.10%	39016
Winter	19	60	15280	243813	82678	326491	74.68%	58.20%	16.48%	53795
Spring / Summer	20	96	23860	292010	88830	380840	76.68%	58.20%	18.48%	70361
Year				687835	213647	901482	76.30%	58.20%	18.10%	163172

5.4.7 The implementation of the scheme is supported by 12 staff located across Scotland, including North Lanarkshire, Perth and Kinross, Moray and Fife.

5.4.8 The Centre for Local Economic Strategies (CLES) was commissioned by Living Streets in 2013 to evaluate the impacts of the Walk to School 2012 - 2015 programme in England. The evaluation was conducted over a 18-month period, involving a baseline, interim and final phase. Surveys were sent out to all primary and secondary schools nationally which had “intensive” status in 2013, for one form or class group to complete during the school day. Case studies of five local schools that participated in the Walk to School programme were also undertaken as part of the final evaluation.

- 5.4.9 The main findings reported by the evaluation noted:
- The programme had a significant impact on walking behaviours of school children, and become embedded across primary schools in particular;
 - The impact of activities within secondary schools had mixed success;
 - Other variants of walking to school, such as park and stride, are becoming increasingly significant; and
 - Engagement with parents was the biggest gap in the programme.
- 5.4.10 The evaluation also reported positive impact in terms of mode share. The national primary school survey undertaken as part of the final evaluation identified that 26% of pupils who were aware of WOW reported that they began to walk to school because of it. A further 14%, who were aware of WOW and already walked to school beforehand, reported that they increased the frequency of walking to and from school as a result of the scheme. Living Streets own surveys report that WOW typically results in a 25% increase in the proportion of children who walk to school.
- 5.4.11 WOW is also reported to demonstrate value for money. An economic appraisal conducted for Living Streets across a mix of primary and secondary schools in 15 local authorities in England in 2015 reported that for every £1 invested there is a return of £4.17. The majority of the benefits (66%) were attributed to journey time savings due to reduced congestion, followed by health benefits (19%) resulting from increased walking numbers for accompanying adults, and accident reductions (10%). In addition, a Social Return on Investment (SROI) study undertaken for Living Streets in England in 2015 considered the value of wider outcomes such as the value of increasing a person's self-confidence. The results suggested that for every £1 invested in primary schools receiving intensive support as part of WOW, there was £4.30 of social value created, although it was noted this was based on three schools receiving intense engagement and further research required to determine SROI in standard schools.
- 5.4.12 A further benefit of WOW is that for schools in certain regions (outside Scotland), it directly supports the Modeshift STARS accreditation.
- 5.4.13 In a Scottish context, an evaluation of WOW and Walk to School week in Scotland was undertaken and reported in 2013. Key findings highlighted:
- Statistically significant increases in recorded active travel rates in WoW schools between September 2011 to September 2012 using the Sustrans HUSS, which was not apparent in matched non-WoW schools starting at a similar level of active travel;
 - A sense that it was more common the WoW scheme rewarded a continuation of walking by pupils who already walked rather than resulting in a lot more children walking, however pupils were able to describe concrete examples of change;
 - The greatest impact reported by both pupils and teachers appeared to be on children who were driven to school choosing to be dropped off further away in order to walk the rest of the way to school (i.e. 'Park and Stride');
 - Qualitative data was supportive of a greater impact of WoW than short-term initiatives like Walk to School week or month;
 - Both pupils and teachers were very positive about the scheme as a whole, reporting that it was popular with pupils and staff;
 - There were mixed views about whether pupils were correctly and honestly reporting journeys. Most participants reported some issues with pupils misreporting. This may be mitigated to an extent in some classes through peer pressure if classmates knew that an incorrect report had been made;
 - Many staff reported that they did not feel very comfortable with pupils who have no option to travel actively to school being ineligible for a badge

reward each month and that they had or would let all pupils be given a badge; and

- There was insufficient evidence to report on any specific impact relating to traffic congestion, health inequalities, curricular links in line with Curriculum for Excellence or road safety. Further research would be required to draw any conclusions on these.

5.4.14 The evaluation made a number of recommendations, including:

- Introduction of class rewards (or prize draws) for the quality and completeness of recorded data to ensure that there is still the potential for a reward for pupils who cannot walk to school and to encourage regular recording;
- When pupils go for a walk after reaching school, it should be recorded separately, on the interactive whiteboard, and not as Park and Stride. Further consideration should be given as to whether such pupils should be given the same reward as those who have travelled actively, or something different, so as not to undermine the active travel goals of the scheme;
- Alternative rewards to badges should be considered for future years of the scheme to maintain levels of pupil enthusiasm; and
- Further clarification should be provided to schools and pupils on what the criteria are in terms of how far away a pupil has to be dropped off in order for a car journey to school qualify as 'Park and Stride'. This advice may need to be specific to each school in order to be meaningful for pupils.

Walk to School Week (Living Streets)

5.4.15 Walk to School Week is an annual week-long event held every May in celebration of the walk to school. The challenge is for everyone, where possible, to walk (or cycle, scoot/skateboard, park and stride) every day during Walk to School Week. The week provides the option for schools to participate in promoting walking (and active travel more widely) who are unable, for different reasons, to take part in WOW. The week can also provide the impetus for schools to take part in WOW.

5.4.16 It is supported by a number of themed activities to encourage/maintain interest with 'Walk on the Wild Side' being the theme adopted for 2016 and integrated learning about animals and wildlife into activities. A classroom pack was developed which contained a series of challenges, focusing on a different animal from around the world each day to encourage learning through exploring the animals' walking habits and natural environment. Living Streets reported that 40,000 packs with themed diaries were issued in May 2016, achieving a coverage of 1 in 9 pupils.

5.4.17 Figure 12 summarises key information about the Walk to School Week in Scotland from 2013. This suggests a positive impact in terms of more travel by active modes being sustained beyond the actual week of activities.

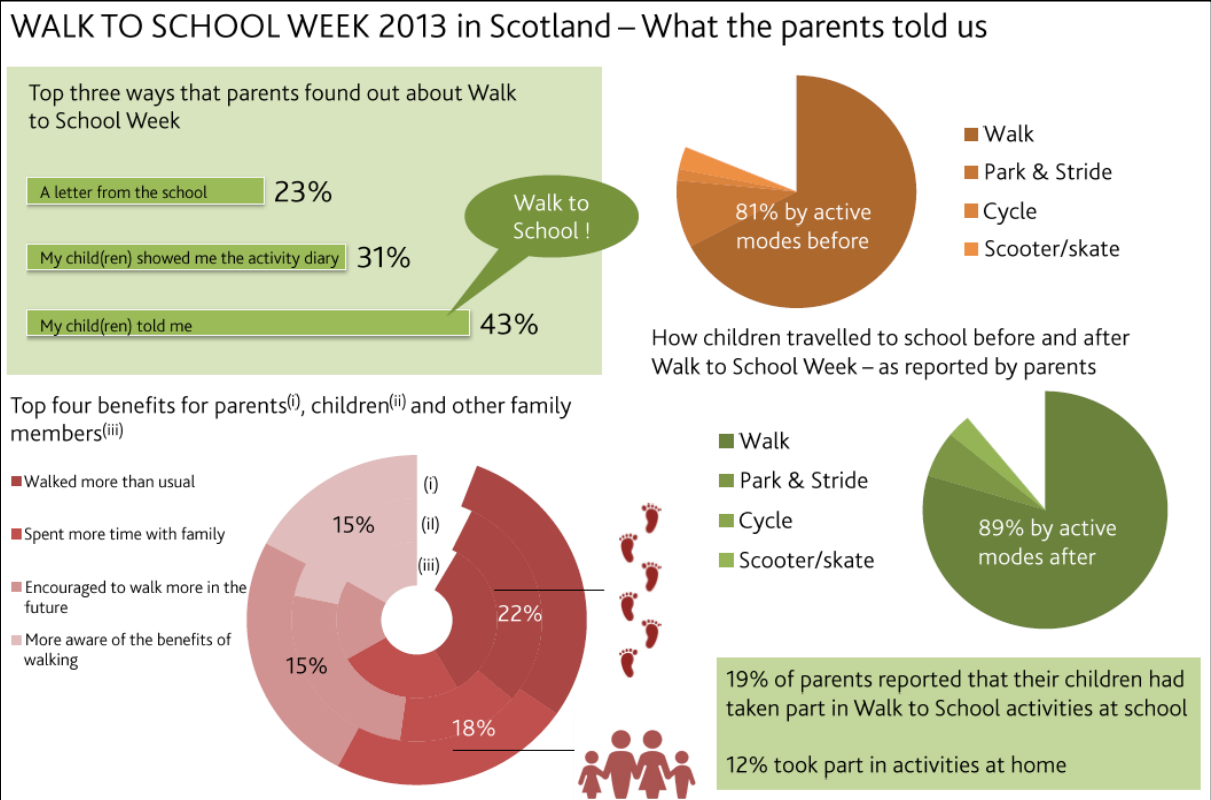


Figure 12. Walk to School Week 2013 in Scotland (Living Streets, 2013)

Walk of Fame

5.4.18 A Walk of Fame now also takes place during as well as the week before and after Walk to School Week. This has been developed to provide inter-school competition and proven to have positive impact in terms of promoting increased levels of active travel and to have a long-term impact in maintaining levels. Travel Tracker activity has shown a marked increase in levels of participation, with instances reported by Living Streets of 50% of the school role recording travel beforehand increasing up to 80 to 90% during Walk of Fame.

5.4.19 A short follow up survey about Walk of Fame was undertaken by Living Streets in 2014 and issued to participating schools with 17 responding. Key findings noted:

- There was strong support for the initiative in terms of raising awareness and driving up walking rates;
- It was viewed as a positive addition to the standard WOW programme;
- A longer-term impact in maintaining engagement at schools using Walk of Fame as indicated by the number of pupils recording their mode of travel to school each day on the Travel Tracker. Participation rates increased by 29% from 14% in April to 43% in June in Walk of Fame Schools while rates rose by 14% from 11% to 25% in non-Walk of Fame schools over the same period; and
- Travel Tracker data indicated that schools taking part had on average 11.8% lower active travel rates compared to non-Walk of Fame schools at the start. This subsequently decreased with both Walk of Fame and non-Walk of Fame schools increasing their active mode share by 7.3% and 4.8% respectively.

I-Bike (Sustrans)

- 5.4.20 I-Bike is an intensive pro-cycling curriculum linked programme to schools in Scotland which takes the form of a planned programme of activities competitions throughout the academic year and delivered by I-Bike Officers with the aim to bring about long term behavioural change. In 2016 the programme has expanded and in excess of 160 schools are enrolled, covering 13 local authority areas. The overarching aim is to increase the number of pupils cycling to school and in leisure time. Specific aims are to counter the decline in cycling levels as pupils move from primary to secondary school and to recognise and support the different needs of boys and girls.
- 5.4.21 Core monitoring tools include pupil surveys, activity logs, parent and carer surveys, teacher and partner surveys and focus groups. Based on data collected in I-Bike schools during the 2014-15 school year across the five participating local authorities (City of Edinburgh; Perth and Kinross; Fife; East Dunbartonshire and Dumfries and Galloway), pupil survey figures showed an increase in the number of pupils cycling to school following engagement in I-Bike:
- Increased regular cycling to school over a one-year period (3.1%), a finding which is supported by pupil surveys, parent and carer surveys, teacher surveys and partner surveys; and
 - Over a two year and three-year period regular cycling has increased from 11.5% to 13.4% and 12.1%, respectively.
- 5.4.22 Reported results suggest that the aim to increase active travel to school has been addressed in I-Bike schools:
- The number of pupils travelling to school by an active mode increased after one year of engagement with I Bike (2.3% increase);
 - Reduced the number of pupils being driven to school after one year of engagement (2.2% decrease); and
 - The project has also responded to the differing cycling needs of young boys and girls.
- 5.4.23 I-Bike officers have developed a number of activities which meet the aims of the project and are focused specifically on encouraging more girls to cycle to school. In addition, pupil survey results indicate:
- Increased regular cycling levels to I Bike schools in both female and male pupils by 2.6% and 3.7% respectively; and
 - Increased active travel to I Bike schools in both female and male pupils by 2.4% and 2% respectively.
- 5.4.24 Results from 2013-14 showed similar positive results. [Figure 13](#) summarises key headlines of the programme over this period.

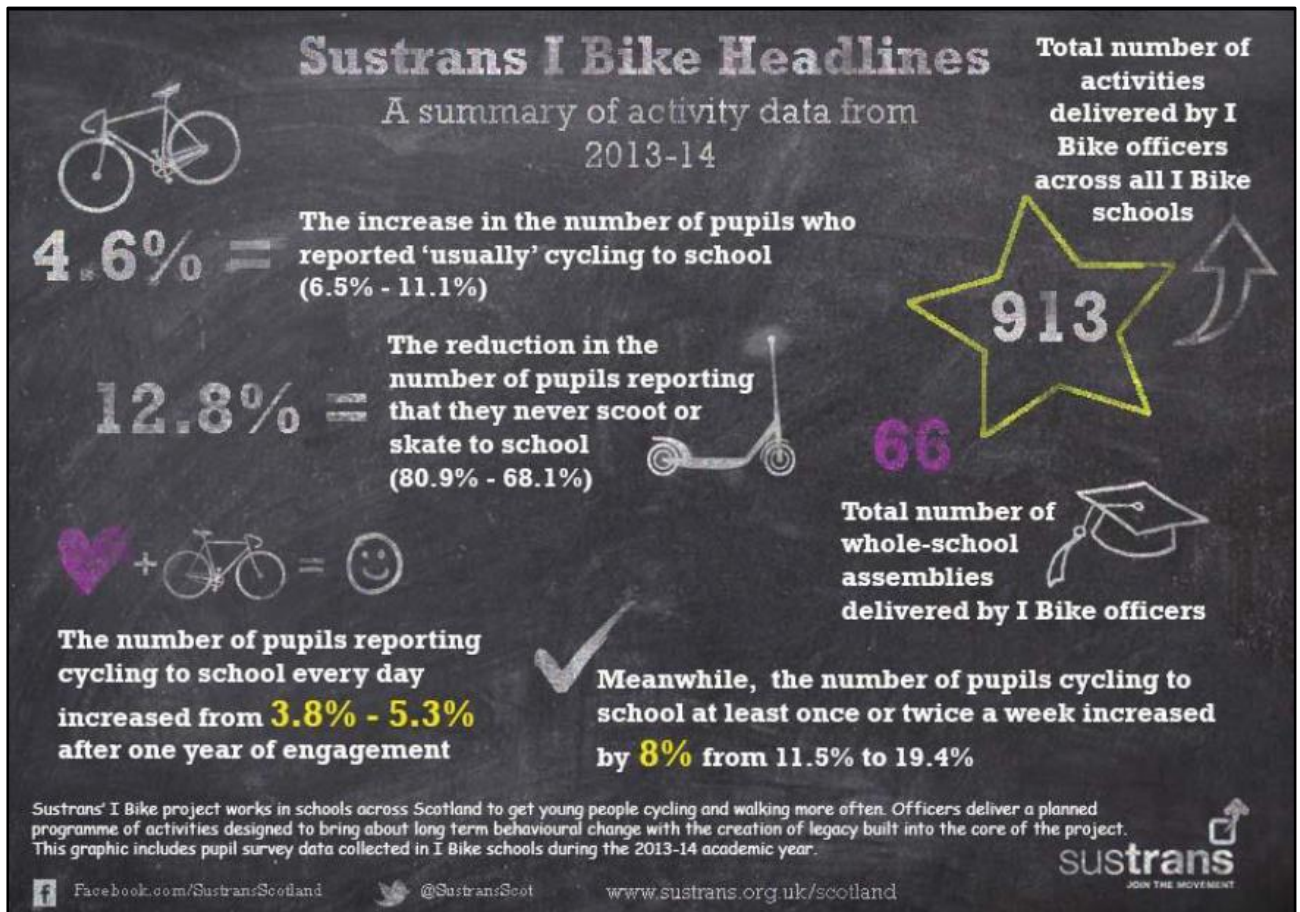


Figure 13. Sustrans I-Bike Headlines (Sustrans, 2015)

Give Everyone Cycle Space (Cycling Scotland)

- 5.4.25 Give Everyone Cycle Space is a Cycling Scotland road safety campaign asking drivers to give space to people on bikes, regardless of age or ability, with a focus on overtaking as the key message. The campaign works at a national and local level. At a national level, the Give Everyone Cycle Space message is visible on buses, bus shelters, billboards, online and on television. Locally, Cycling Scotland is working with 14 local authorities to deliver a range of activities including route planning workshops, lesson planning, led rides between primary and secondary schools and a cycle to school competition.
- 5.4.26 The campaign is primarily aimed at people in cars. Drivers are asked to be considerate of people on bikes and to give them plenty of road space when overtaking. There is also engagement with parents with the aim for them to see local activities in action and provide reassurance that the roads around their child's school are more cycle-friendly with the hope this will result in more children cycling to school.

Road Safety Scotland

- 5.4.27 Real and perceived issues around road safety can be a particular barrier to the uptake of more sustainable and active travel choices. Road Safety Scotland has developed a range of options for teachers to engage primary and secondary school pupils in learning about road safety.

5.4.28 Road Safety Scotland has developed a range of options for teachers to engage primary and secondary school pupils in learning about road safety. The different learning initiatives are summarised in [Figure 14](#).

Road safety learning at every level				
Early	P5 P1	Go Safe with Ziggy	streetsense2.com	School Travel Plans
First	P2 P3 P4	streetsense2.com		School Travel Plans
Second	P5 P6 P7	streetsense2.com	JRSO	Reaction Timer
		a2bsafely.com	School Travel Plans	
Third & Fourth	S1 S2 S3	Your Call	Reaction Timer (S3 only)	Theatre-in-Education (S1 only)
		a2bsafely.com	getinlane.com	School Travel Plans
Senior Phase	S4 S5 S6	Crash Magnets (S4 & S5 only)		Reaction Timer
		a2bsafely.com	getinlane.com	School Travel Plans
		Theatre-in-Education (S5 & S6 only)		

Figure 14. Road Safety Learning at Every Level (Road Safety Scotland, 2015)

5.4.29 Streetsense 2 is the core primary school resource, providing pupils with the opportunity to challenge and reflect on their own behaviour and attitudes. The Junior Road Safety Officer (JRSO) programme is also a key education programme aimed at upper years and puts pupils in control of highlighting road safety issues within their own school through different activities such as a safety noticeboard, presentations to classes or assemblies and running school road safety competitions. Other primary school age initiatives include:

- **The Junior Road Safety Officer (JRSO)** – pupils are put in control of highlighting road safety issues within their own school and senior pupils given the opportunity to become JRSOs for a year. Their task is to organise a road safety noticeboard, deliver safety presentations to classes or assemblies and run school road safety competitions; and
- **Theatre in Education** – theatre based drama to spread the road safety message. ‘The Journey’ is targeted at Primary 6 and 7 pupils across Scotland and encourages audience participation.

5.4.30 Initiatives are also targeted at secondary pupils, including:

- **Your Call** – targets the 11 and 14 year old age group which is statistically more ‘at-risk’ on Scotland’s roads. A range of interactive activities are employed which explore risk taking, decision making, personal safety, pre-driver attitudes and peer pressure. Two feature films explore the impact a road accident on young lives – one from a pedestrian perspective for younger pupils and, for older pupils, one with a passenger theme. Pupils are actively encouraged to discuss and share experiences, reflect and challenge their own behaviour with a view to taking responsibility for their own safety and that of others. It is designed to link to health and well-being subjects with a flexible learning approach that aligns with the Curriculum for Excellence;
- **Crash Magnets** – this targets young people before they pass their driving test to try and ensure their well-being on the road by encouraging them to make the right decisions for themselves, and others. The online activities cover subjects such as driver distraction, speed, the cruise culture and

drink and drug driving. They are combined with DVD clips of other young people sharing their experiences; and

- **Theatre-in-Education** – productions include ‘The Nine Lives of Roddy Hogg’ for S1 pupils and ‘Friends Disunited’ for S5/6 pupils which follows secondary school friends whose lives are forever changed by the inexperience and over-confidence of one young driver.

5.4.31 Figure 15 illustrates how road safety learning at every level sits with the guiding principles of the Curriculum for Excellence.

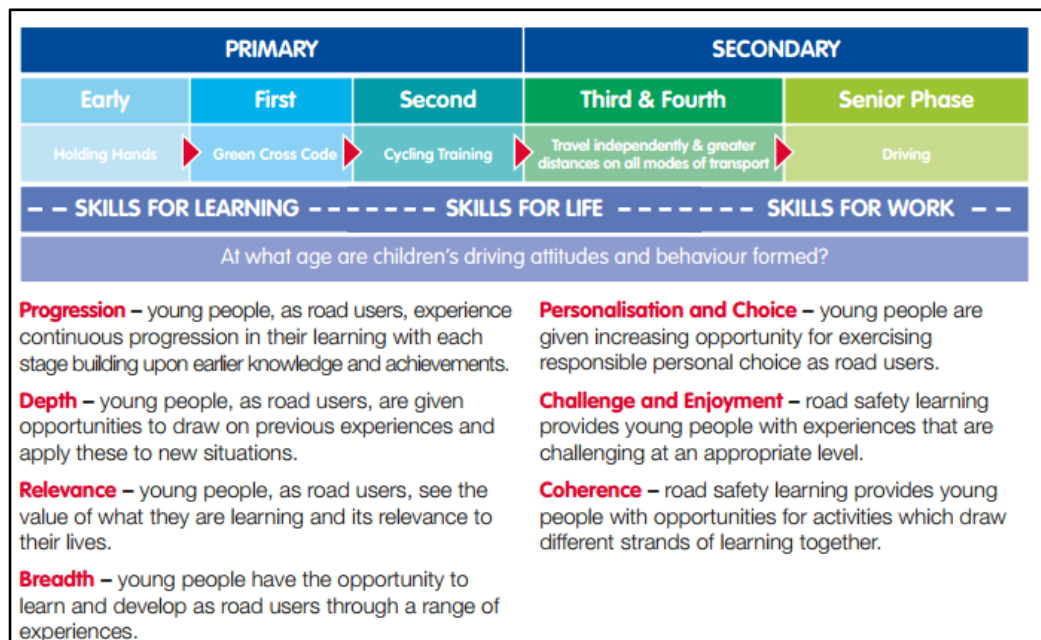


Figure 15. Road Safety Learning and Seven Principles of Curriculum for Excellence (Road Safety Scotland, 2015)

The Big Pedal (Sustrans)

5.4.32 The Big Pedal is an inter-school cycling and scootering challenge. On each day of the challenge schools compete to see who can record the greatest number of pupils, staff and parents cycling or scootering to school. Schools log their journeys on the Big Pedal website and are given a daily score to help mark their progress. During the Big Pedal 2016, 1,680 schools involving over 537,000 school pupils across the UK took part and recorded over 1.7 million journeys by bike and scooter in two weeks.

School Camps

5.4.33 Cycling Scotland School Camps are organised by Cycling Scotland and communicated to schools via local authority Physical Activity Lead Officers (PELOS) for S4 to S6 pupils to encourage them to become local cycle champions and implement cycling action plans in their schools. The programme has also been extended to S3 pupils in some locations. Inclusion of this year group extends out the programme and maintains involvement for longer where some pupils in older year groups may leave school soon after taking part.

5.4.34 Schools are invited to participate in a competitive process where project ideas to encourage fellow pupils to cycle to school are short-listed. Between 10 to 15 schools are invited to attend a residential camp in the October school holidays.

5.4.35 At the camps pupils further refine and develop their project idea which can range from purchasing and managing a bike pool for PE lessons to the mapping of cycle routes in the local school community. Each attending school is awarded

grant funding to deliver their project. Pupils also gain a variety of qualifications during the camp, including First Aid training, Cycle Maintenance as well as certified Cycle Trainer Assistance accreditation. At the end of the camp the pupils return to their school and implement the plan with progress monitored over a 6 and 12-month period by Cycling Scotland to see how things are progressing. Staff awareness and involvement is integral to the delivery of projects at the school level.

- 5.4.36 The camps aim to create a 'Cycle Hub' within each school with participating pupils returning to their school as Cycle Champions. Pupils are also encouraged to transfer their learning into the wider school community through, for example, assisting with the delivery of Bikeability in feeder primary schools. The programme also helps continue the cycle training work from primary schools. 'Peer to peer working and ownership' is integral to the programme and a key success factor.
- 5.4.37 Uptake of the programme by schools is not on a Curriculum basis, although some schools have embedded the programme into their learning. Rather the programme is promoted to offer wider learning and life skills, such as providing pupils with skills and experience to support UCAS applications and the basis for volunteering opportunities through the cycle training qualification which contributes towards award schemes such as the Sports Leader and Duke of Edinburgh.
- 5.4.38 In terms of impact, this is a relatively new initiative (entering its third year). Post-camp surveys have found that 72% of participants said they would cycle more frequently as a result of the camps, however the major impact of the Camps should be found in the success of the projects implemented by participants at their respective schools. Of the schools that have participated, follow-up progress is tracked as they deliver projects to make their school more cycle friendly. In addition to positive feedback received by participants on the courses, the progress of schools is monitored through the Cycle Friendly Schools Award and via HUSS. Ten of the participating schools have gone on to attain Cycle Friendly Secondary School Awards.

5.5 School Recognition Awards

Cycle Friendly Schools (Cycling Scotland)

- 5.5.1 Cycle Friendly Schools is a nationally recognised award which is open to every school in Scotland and designed to provide best practice guidance in the provision of facilities for those cycling to school as well as a form of recognition to incentivise schools (including staff, parents and volunteers) around Scotland committed to increasing cycling in schools and for it to become part of the school's culture. To achieve Cycle Friendly School Award status, it is a requirement for primary schools to deliver Bikeability Level 2 training.
- Improving the children's health;
 - Improving the school and surrounding environment;
 - Contributing towards Health Promoting School and Eco-School initiatives; and
 - Linking in with curriculum for excellence.
- 5.5.2 The application process involves online registration by the school of their interest and completion of an online assessment. Following this, Cycling Scotland provide recommendations prior to visiting a school where required or proceed directly to set up the next step and then undertake a school visit to carry out a short assessment and provide support if needed. If a school is successful in achieving Cycle Friendly status a framed certificate is issued in recognition. The award

status is reassessed after three years. Over 300 Cycle Friendly School awards have been made since 2008. The award is valid for three years. There are currently over 150 schools with a Cycle Friendly Award which is due for re-assessment between 2016 and 2019. Through this process some direct contact is established between Cycling Scotland and individual schools, but the local authority would also be involved so they are aware of the school's involvement in the scheme.

- 5.5.3 In terms of impact, mapping of participation undertaken by Cycling Scotland with HUSS data indicates there is approximately a 3% difference in levels of cycling between a Cycle Friendly School and one which doesn't have the award. In providing this figure, it was noted that attributing the specific contribution of individual measures to mode change is difficult, and it is more likely a combination of different measures which combine to result in a positive impact.

5.6 Infrastructure

Safer Routes to School

- 5.6.1 Safer Routes to School is a single year grant scheme for active travel infrastructure associated with school travel in Scotland. The scheme is managed by Sustrans and has been running since 2013 with the aim to:

- Create infrastructure that encourages people to cycle, walk or use another active travel mode as their preferred mode of travel for everyday journeys;
- Meet the needs of communities – provide communities with the opportunity to shape their local environment and link the places people live in with the places they want to get to;
- Encourage innovation – support partner organisations in raising the standard of infrastructure for walking and cycling in Scotland;
- Encourage place-making which facilitates greater use of public space and higher levels of active travel; and
- Create an enabling environment for active travel.

- 5.6.2 A budget of £1 million is available for the 2016/17 Safer Routes to School Fund. Funding awards for individual projects usually range between £10,000 and £300,000, however there is no limit on how much funding is available for a single organisation or for a single project. Safer Routes to School funding can provide up to 50% of project costs, with other sources to provide the additional funding required.

School Streets

- 5.6.3 School Streets schemes involve the prohibition of vehicular traffic on streets within proximity to schools during the school travel period. The benefits of implementing school streets are:

- Increase in walking and cycling and active lifestyles for pupils and parents/carers;
- Reduction in traffic speed, congestion and pollution around the school gates;
- Improvements in child obesity levels; and
- Responding to demand from parents and residents.

- 5.6.4 Schemes are administered through Traffic Regulation Order (TRO)s. Permits are issued to residents, local businesses, Blue Badge holders and other permitted vehicles, such as emergency services, exempting them from the prohibition.

- 5.6.5 East Lothian Council is the first local authority to introduce School Street TROs in Scotland. The TROs stop traffic from using the roads outside school entrances at three primary schools in Haddington. Following a Pilot, the scheme was made permanent in 2015 and a further pilot is now being trialled in Dunbar.
- 5.6.6 Other schools in East Lothian have been assessed to identify their potential for School Street TROs (ELC, 2015). Out of the remaining 38 schools, 18 were deemed unsuitable because the road which passed the entrance was a through road, while 16 were branded possible, with four schools given a priority branding of “probable”. None of the six secondary schools are considered to be in a suitable location for such a traffic order.
- 5.6.7 The City of Edinburgh Council (CEC) has also implemented a School Street Pilot. Six primary schools were included in the first phase introduced in October 2015 and the second phase introduced in March 2016 and involving three further primary schools. An Experimental Traffic Regulation Order (ETRO) was advertised and progressed for each school to enable the legal restriction of motor vehicles on relevant streets. As part of the Pilot, the schools spent a term using Living Street’s WOW resources that encourage pupils to walk, scoot and cycle to school.
- 5.6.8 The findings of an evaluation of the Pilot were reported by CEC in August 2016. The aim of the evaluation was to determine the success or otherwise achieved through the Pilot, and to inform a decision on whether to progress a permanent TRO at each location. The evaluation comprised ‘before’ and ‘after’ surveys including vehicle speeds and volumes, perceptions (including pupils, parents, teachers and residents as well as wider stakeholders such as Police Scotland and local community councils).

Key findings reported included:

- An average speed reduction of 1.2mph across School Streets and surrounding streets;
- Improvement in air quality in all streets;
- An indication of an increase in the number of children walking to school by 3% alongside a 6% reduction in the number of children being driven and 2% increase in Park and Stride, although cycling reported a 1% drop; and
- Improved perceptions of safety associated with the restrictions;

- 5.6.9 Improved perception of motorist compliance, especially amongst residents with a reduction in the level of perception that the restrictions are a difficulty.

- 5.6.10 Key lessons learned highlighted in the evaluation, include:

- School streets which act as a through road are more challenging and resource intensive to deliver and enforce; and
- There needs to be strong ongoing commitment from the school and school community.

- 5.6.11 The evaluation also identified road layout and enforcement related-issues which in turn informed recommended revisions and additions to the selection criteria, including:

- ‘Good infrastructure (i.e. surrounding streets can accommodate displaced traffic movements)’ amended to ‘good infrastructure provision: peripheral streets can accommodate displaced traffic movements, and contain appropriate parking capacity’;
- Schools are willing to formally sign a written commitment to ensure that they will pro-actively promote the scheme to parents, regularly ascertain

pupil travel data and facilitate the gathering of views from parents/the school community;

- Peripheral streets can safely enable new 'Park and Stride' movements via appropriate footways and crossing points;
- School Streets have little by the way of alternative trip attractors (i.e. homecare, doctors) that necessitate increased vehicle exemption permits; and
- School Streets offer sufficient space and visibility options for prioritising signs (entry and potentially internal repeater signs).

20MPH Speed Restrictions

5.6.12 Local authorities have a number of options available when considering introducing a 20 mph speed restriction, namely:

- 20 mph speed limit zones;
- 20 mph limits; and
- Variable and part time 20 mph limits

5.6.13 New guidance (*Good Practice Guide on 20MPH Speed Restrictions*) on implementing 20 mph speed restrictions was published by Transport Scotland in 2015. The Guide aims to provide clarity to local authorities on the options available to them and aid greater consistency on the setting of 20 mph speed restrictions throughout Scotland. It also aims to encourage local authorities to set 20 mph speed restrictions, where appropriate.

5.6.14 The guidance highlights good practice case studies, including Fife Council. In 2003 the Council's Environment and Development Committee approved a strategy to roll-out 20 mph speed limit zones in Fife. This was accompanied by a decision to put mandatory 20 mph limits around all schools. As the initiative progressed, the strategy was adjusted to include all residential streets and the roll-out of 20 mph speed limit zones to almost all urban residential streets in Fife is now almost complete. An evaluation of the 10-year programme is on-going. Before the introduction of lower speed limits 50% of traffic did not exceed 25 mph, after surveys indicate that 83% of traffic does not now exceed 25 mph.

5.6.15 In March 2012, the City of Edinburgh Council introduced a 20mph Pilot and the outcomes reported in August 2013. Changes to vehicle speeds and volumes, road traffic incidents, and the attitudes of residents to walking, cycling, and the local environment were assessed within the Pilot area through 'before' and 'after' surveys. The surveys showed:

- The speed surveys demonstrated that the 20mph speed limit resulted in an overall positive drop in speeds in the majority of cases and an average of a 1.9mph reduction;
- The lower vehicle speeds can be expected to also reduce the number and severity of collisions;
- The main benefits of the Pilot, as viewed by residents, (in priority order) concerned safety for children walking around the area, safety for children to play in the street, better conditions for walking, less traffic accidents and better cycling conditions. Specific benefits of particular note to this study, include:
- The proportion of children (all school ages) walking to school increased marginally from 63% to 65%; and
- The proportion of children (all school ages) cycling to school increased from 4% to 12% in the 'after' survey; with increases notable amongst older primary school age children cycling to school (from 3% to 22%).

- 5.6.16 In January 2015 it was announced that 20 mph limits would be introduced to all residential streets, main shopping streets, city centre streets, and streets with high levels of pedestrian and/or cyclist activity. The Speed Limit Order to support 20mph speed limits was approved by the Transport and Environment Committee in January 2016 with a phased roll out commencing from summer 2016.

5.7 Programmes

Smarter Choices Smarter Places (Transport Scotland/Paths for All)

- 5.7.1 The Smarter Choices, Smarter Places (SCSP) initiative was established by the Scottish Government and COSLA in 2008 to combine measures to encourage travel behaviour change, with infrastructure and service improvement investment to encourage more people to reduce their car use in favour of more sustainable alternatives such as walking, cycling and public transport. Seven pilot areas received funding under the programme, and implemented local programmes between 2009 and 2012. These were Barrhead, Dumfries, Dundee, Glasgow East End, Kirkintilloch/Lenzie, Kirkwall and Larbert/Stenhousemuir. A total budget of £14.7 million was used to influence wider programmes in health, regeneration, roads, transport, and land-use planning. Provision of new infrastructure and services accounted for two-thirds of the funding, and promotion, organisation and management activities accounted for the remaining third.
- 5.7.2 [Table 8](#) shows the range of initiatives supported by the programme. This included school based activities, with nearly all of the SCSP projects including cycle training in schools.

Table 8. SCSP Initiatives (Scottish Government, 2013)

Pilot	Promotion, Organising and Management	Infrastructure and Service Provision
Barrhead (Branded as "GO Barrhead")	<ul style="list-style-type: none"> • School travel plan groups supported in all schools with rewards programme • Cycle training in three schools • Personal travel planning • Business travel planning • Information and publicity materials • Organised walks • Events 	<ul style="list-style-type: none"> • New pedestrian crossings and footpath improvements • Landscaping, paving and other improvements to the public realm • New off-road paths • Cycle parking installed at schools • New bus shelters installed
Dumfries (Branded as "GO Smart", "GO Bike", "GO Walk")	<ul style="list-style-type: none"> • Personal travel planning • Publicity and support materials for business travel planning • Business travel plans • Information and publicity • Cycle club established 	<ul style="list-style-type: none"> • Eight new buses • Bike-2-Go rental scheme • Four transport interchanges sites • Footway upgrades in area centre • Radial walking/cycling routes • Two 20mph zones
Dundee (Branded as "Dundee Travel Active")	<ul style="list-style-type: none"> • Personal active travel planning • Active travel promotion schemes • Cycle training delivered • School road safety programme • Air quality improvement programme 	<ul style="list-style-type: none"> • Improved signs and streetscape • Bike loan scheme • Cycle storage facilities installed
Glasgow East End (Branded as "On the Move")	<ul style="list-style-type: none"> • Travel behaviour change campaign • Community outreach programme • Bike loan scheme implemented 	<ul style="list-style-type: none"> • Cycle routes constructed • New signs installed for pedestrians and cyclists
Kirkintilloch/ Lenzie (Branded as "Healthy Habits")	<ul style="list-style-type: none"> • Healthy habits information centre • Information and publicity materials • Active travel promotion with GPs • School travel campaign • Workplace travel campaign 	<ul style="list-style-type: none"> • Close missing links in core path network • Cycle racks and storage installed • New signs installed
Kirkwall (Branded as "Kick Start Kirkwall")	<ul style="list-style-type: none"> • Personal travel planning • School travel programme • Cycle training • Car Wise Kirkwall campaign • Information and publicity 	<ul style="list-style-type: none"> • Footpath enhancements • New path to health completed • 20mph zone • Airport bus service and associated bus service improvements
Larbert/ Stenhousemuir (Branded as "Take the Right Road")	<ul style="list-style-type: none"> • Personal travel planning • Information and publicity • Health walk with football club • Cycle training • Schools projects • Hospital travel plan 	<ul style="list-style-type: none"> • Improvements to core path network • Cycle parking installed at schools

5.7.3 [Table 9](#) shows the change in mode share for different journey purposes in each of the Pilot areas between 2009 and 2012. In summary, the SCSP programme can be associated with an increase in active modes (especially walking) for the journey to work, to education, visiting friends and family and to a lesser extent shopping trips. Car reductions were especially strong for education and visiting friends and family.

Table 9. SCSP - Change in Mode Shift by Journey Purpose (Scottish Government, 2013)

		Walk	Bicycle	Bus	Car Driver	Car Passenger
To work	Barrhead	+11.3	+3.3	-2.2	-18.1	+6.8
	Dumfries	+2.5	+2.7	+1.1	-2.9	-3.8
	Dundee	-7.6	+1.2	-1.3	+5.2	+0.5
	Glasgow EE	+9.4	-0.7	+0.8	-11.7	+2.5
	Kirkintilloch/Lenzie	+0.4	+0.5	-7.3	+5.6	+4.2
	Kirkwall	+4.0	-0.9	-0.5	-1.9	+0.3
	Larbert/Stenhousemuir	+11.8	0.0	+3.1	-13.0	-2.0
Education	Barrhead	+15.0	0.0	+4.8	-18.8	-5.5
	Dumfries	+29.4	0.0	-5.5	-14.6	-9.3
	Dundee	+15.9	+1.0	-14.9	-6.6	+4.6
	Glasgow EE	+14.2	0.0	-6.5	-5.1	+6.5
	Kirkintilloch/Lenzie	+0.5	0.0	+8.5	-14.1	+5.1
	Kirkwall	-10.7	0.0	+1.5	+9.8	-2.1
	Larbert/Stenhousemuir	+26.6	0.0	+2.7	-28.8	+2.9
Shopping	Barrhead	+11.4	+0.7	+1.5	-15.7	+1.4
	Dumfries	+1.9	-0.2	+4.1	-1.9	-4.9
	Dundee	+4.0	-0.2	-3.5	-8.5	+6.1
	Glasgow EE	-1.3	-0.2	-2.0	+2.3	+2.4
	Kirkintilloch/Lenzie	-8.9	+0.7	+16.4	-5.3	-1.5
	Kirkwall	-1.2	+1.1	-2.2	-0.8	+1.6
	Larbert/Stenhousemuir	+27.1	-0.2	-3.2	-14.0	-9.7
Leisure	Barrhead	+20.8	-1.1	-1.1	-31.2	+3.3
	Dumfries	-2.2	+1.1	-4.7	-0.6	+4.8
	Dundee	+5.1	0.0	+0.6	-9.4	+2.4
	Glasgow EE	-1.6	-0.7	-4.2	+5.6	+2.4
	Kirkintilloch/Lenzie	-9.6	-0.5	+28.4	-25.0	+6.8
	Kirkwall	+0.3	-1.6	+1.7	+3.5	-0.9
	Larbert/Stenhousemuir	-3.5	+1.0	+2.4	-4.2	-0.2
Visiting Friends and Relatives	Barrhead	+14.0	-4.0	+10.1	-16.1	-5.1
	Dumfries	+14.0	+2.4	-0.5	-18.6	+3.3
	Dundee	-2.5	+2.9	-1.7	-5.7	+3.8
	Glasgow EE	+20.6	0.0	-12.6	-0.9	+1.2
	Kirkintilloch/Lenzie	+21.9	+0.9	-8.8	-12.2	+2.2
	Kirkwall	+0.8	-0.8	+2.2	-6.9	+3.3
	Larbert/Stenhousemuir	+35.4	+1.7	+1.2	-35.7	-3.4

2009 & 2012 travel diary samples (weighted) used as the base to calculate changes. All figures are rounded to the nearest 0.1 percentage points.

- 5.7.4 In 2015/2016, a wider roll out of behaviour change initiatives was undertaken in partnership with local authorities and the programme administered by Paths for All. The Scottish Government made £5 million available to encourage less car use and more journeys by foot, bicycle, public transport and car share. Funds were allocated on a population basis to local authorities. Of the £5 million available, approximately £660,000 was provided specifically to fund SCSP activity in schools across 17 local authorities.
- 5.7.5 A range of activities have been planned and implemented during 2015/2016 as summarised in Annex 2. Some of these involve programmes provided by other organisations, such as those initiatives discussed previously. Other interventions include Personalised Travel Planning (PTP), route assessments, social medial

marketing, education workshops and in-school engagement as well as tailored one-off events. An evaluation of the 2015/16 initiatives is in progress and due to report in Autumn 2016.

5.8 Curriculum and Wider Programme Links

5.8.1 Curriculum for Excellence is founded on the principles to achieve a coherent, more flexible and enriched curriculum for 3 to 18 year olds in Scotland and based around six levels – Early, First, Second, Third, Fourth and Senior. This new Curriculum approach has opened up opportunities to integrate different programmes into classroom learning, including initiatives with a transport theme. A number of the school based initiatives described above, such as Bikeability, WOW and JRSO, are complemented by classroom/teacher packs with suggested lesson plans linked to CfE. Further examples of wider learning programmes are described below.

Eco-Schools Programme

5.8.2 The Eco-Schools programme is an international initiative designed to encourage whole-school community action on sustainability learning and is managed in Scotland by Keep Scotland Beautiful. The Eco-Schools programme is made up of seven elements:

- Seven Elements diagram;
- Eco Committee;
- Environmental Review;
- Action Plan;
- Monitoring and Evaluation;
- Linking to the Curriculum;
- Involving the Whole School and Wider Community; and
- Eco Code.

5.8.3 Eco-Schools Scotland offers schools a choice of ten Topics. Litter is a mandatory topic and two others can be chosen by the school, including a transport topic which aims to educate the school and community on sustainable transport options. Through the transport topic pupils:

- Assess the impact of traffic on the local environment and the quality of people's lives;
- Make proposals to improve the local environment and take part in local community initiatives to implement the proposals;
- Use, interpret and draw maps, defining and using keys;
- Collect, interpret and present information, using ICT where appropriate;
- Communicate to a variety of audiences using suitable language; and
- Work co-operatively with others.

5.8.4 The Seven Elements together with Litter plus choice of two other topic areas form the basis of the Eco-Schools Award scheme which has three levels: Bronze Award, Silver Award and Green Flag Award with awards made depending on how thoroughly each of the seven elements have been established. A curricular audit is a requirement at Green Flag Award level for all secondary schools and schools with secondary departments.

Clear the Air

5.8.5 From a wider environmental perspective, Clear the Air is an educational programme targeted at 12 – 15 year old school pupils in Scotland with the intention to raise awareness of air pollution. The programme is designed to fit in to the Curriculum for Excellence, providing hands-on experience of air quality

monitoring and assessment to develop an interest in and understanding of the importance of science, technology, engineering and mathematics (STEM) subjects. The programme also encourages personal reflection and behaviour change.

- 5.8.6 Initiatives include a pollution checker for air quality monitoring sites where pupils live and go to school as well as an emissions calculator for pupils to calculate the emissions generated by their journey to and from school. An integral part of the programme is Citizen Science which is a project aimed at allowing pupils to collect and analyse air pollution data as a school project. It encourages involvement in learning about what the air pollution is like in the local area and how it impacts on pupils and their environment as well as how to change the way they travel to school and how this can have a positive impact on air pollution in their area.

Effectiveness of Scottish Initiatives

- 5.8.7 The Scottish Executive (2002) carried out a comprehensive study to review research on the factors affecting school travel and the effectiveness of school travel initiatives designed to address obstacles to efficient school travel. In terms of effectiveness, the study reviewed school travel initiatives, including public transport initiatives, infrastructure improvements and school travel plans. Community based approaches with safer routes to school initiatives are the most effective ways to ensure successful schemes and to build community ownership for the travel planning process. This review emphasised how success of initiatives depends on local circumstances, for example, the positive features of using bus travel from international research are not reflected in the way that bus travel is used and perceived in Scotland. Finally, this review identified the need for further research, both to understand why there are not more community based safer routes to school's schemes being implemented and the need for robust analysis when evaluating initiatives to provide transferrable lessons.
- 5.8.8 The Smarter Choices Smarter Places programme, previously discussed, also provides a review of the success of different initiatives in different settings.

Co-intervention Delivery

- 5.8.9 As part of this study and to supplement the literature review an initial high-level review was undertaken of the impact of co-intervention delivery. Co-delivery is defined as the delivery of more than one intervention for a single school since the start of HUSS in 2008. The analysis focuses on behaviour change interventions due to the small number of schools identified as receiving just a built environment intervention. The interventions considered include School Travel Plans, Sustrans I Bike and Cycling Scotland's Bikeability initiative. There is no differentiation between the interventions, the analysis is based on the number of interventions. The analysis also included consideration of the delivery of behaviour change interventions due to the small number of schools that can be isolated as exclusively receiving a built environment intervention.
- 5.8.10 Figure 16 shows the difference between the mode shift in active travel between intervention and non-intervention schools. The data show that non-intervention schools experienced a fall in active travel mode share, while active mode share at schools where an intervention had been delivered remained largely consistent over the data period.

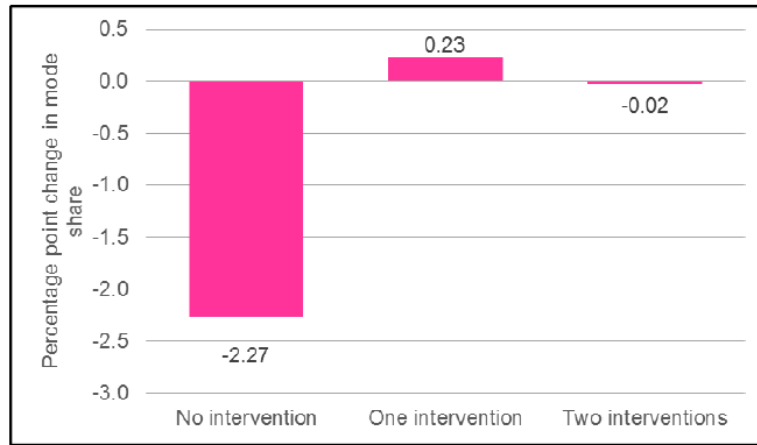


Figure 16. Median Percentage Point Change in Active Travel Mode Share Over Data Period by Behaviour Change Intervention

6. UK AND INTERNATIONAL SCHOOL TRAVEL INITIATIVES

6.1 Introduction

6.1.1 As well as studies in Scotland, wider UK and international studies can also inform on the type of initiatives and their effectiveness. The literature review has also considered international initiatives to encourage active travel to/from outside school. The focus has been on countries where the transfer of learning is most likely and also informed by locations identified by the Project Steering Group as well as stakeholders.

6.2 Green Schools Programme – Ireland

6.2.1 The National Transport Authority in Ireland has been working, in conjunction with An Taisce and the Department of Transport, Tourism and Sport, with the Green Schools (Eco School based) programme to establish and oversee a school travel module with a focus on addressing congestion associated with the school run. As at September 2010, 850 schools and approximately 180,000 pupils were involved in the travel module. Recent surveys of over 10,000 pupils identified a 27% drop in car use and a correspondingly significant increase in the numbers of pupils walking and cycling to school. Furthermore, Green-Schools research has shown that 80% of Irish pupils have a desire to travel to school sustainably.

6.2.2 The success of the Green School travel module is attributed to two factors. The first is that it is delivered through the effective '7 Step' methodology, which acts as a guide to teachers and pupils/students. The seven steps are as follows:

- 1. Establish a Green-Schools Committee;
- 2. Carry out an Environmental Review of current travel patterns;
- 3. Devise a Travel Action Plan;
- 4. Monitor and Evaluate progress;
- 5. Identify Curriculum Links;
- 6. Inform and Involve the Wider Community; and
- 7. Develop a Green Code.

6.2.3 The second success factor is that experienced An Taisce Green-Schools Travel Education Officers are on hand to assist schools interested in changing travel behaviour. They offer resources, advice, and the opportunity to network with other schools.

6.2.4 A toolkit has also been prepared by the NTA for use by schools who are currently not engaged with the Green Schools programme and who wish to promote sustainable travel for the school journey. The guide outlines the positives of sustainable modes and tips to promote and encourage sustainable travel by mode. It also includes useful information, such as insurance clauses for car sharing, cycle to work scheme information as well as ideas and suggestions around incentives such as a Golden Boot Award and Green Tree. The guide also includes examples of how thinking about the journey to school can be linked directly to the school curriculum as well as three case studies of schools which have successfully experienced a change towards more sustainable travel by pupils.

6.2.5 The Eltis Urban Mobility Observatory highlighted St Joseph's Boys National School in Terenure Village. The school often experiences congestion at opening and closing and is encouraging independent initiatives to promote sustainable travel, including adopting the 'Green Tree' idea. The Green Tree identifies those

pupils who walk or cycle to school each day, as pupils who do so will place a green leaf on their tree. Leaves are then counted to give the numbers cycling or walking to school.

6.2.6 The school is actively promoting WOW (Walk on Wednesday) to encourage pupils to walk to school each Wednesday. The class with the most walkers and cyclists each month will receive the 'Golden Boots' award, donated to the school by a local shoe shop. A school committee carries out spot checks every week on a Monday or Friday to assess the number of students who are walking and cycling.

6.2.7 Between March 2006 and May 2007, it was found that the numbers of school children being driven to school fell by 25% with a corresponding increase in numbers walking. While the focus is predominantly on walking to school, there has also been an uplift in cycling, and the school subsequently provided additional cycling parking to meet increased demand.

6.3 Rural Safer Routes to School Programme – Northern Ireland

6.3.1 In 2005, the Department for Regional Development (DRD) Roads Service implemented a 'Travelwise Safer Routes to Schools' Programme that sought to *'tackle the issue of the school run by raising awareness of its impact on congestion, road safety, health and the environment.'* Under this programme, selected schools received a range of education and awareness materials on sustainable travel issues and, where appropriate, physical infrastructure improvements mainly within the school grounds and in the immediate area of the school were implemented.

6.3.2 The two-year programme had the aim to 'Benefit children's health and the environment by providing pupils with the opportunity to walk or cycle to school in safety, thereby reducing the number of children driven to school in cars'. In the delivery of this aim, the programme sought to work directly with exclusively rural schools that were keen to increase levels of walking and cycling, and help them to create a pro-walking and cycling culture, which would continue and grow in the future. A total of 17 schools participated in the programme.

6.3.3 The programme provided two levels of support – i) the employment of two School Travel Officers to work with schools to promote walking and cycling as well as help with the early set-up of a School Travel Group and ii) funding for the implementation of improved infrastructure along the entirety of school travel routes. In addition, the added value of the programme, through its complementarity and use in delivering the curriculum was one of the key messages delivered at the first School Champion Training session. Examples of this were evident in the 'Around the World Challenge' which involved maths at all levels from counting to miles, to estimating how long it takes to travel a certain distance and calculating how many days it would take to finish the course.

6.3.4 Initiatives implemented at participating schools included:

- On-road cycle training;
- Parents fun bicycle training session;
- Bike Doctor maintenance sessions;
- Overall Rural Safe Routes to Schools launch event;
- School launch events; and
- Ongoing communication via Newsletters.

6.3.5 An evaluation of the programme was undertaken on behalf of the DRD involved a face-to-face consultation with School Travel Champions and focus group with a

selection of primary 6 and 7 pupils. Notable outcomes of the programme included:

- Modal shift amongst the school children, in terms of reducing car journeys and increasing walking and cycling, with a 21% reduction in the level of pupils travelling to school by car in May 2010 compared to May 2007;
- The success of the project was underpinned by a dual approach, whereby schools were intensively supported to develop and implement their School Travel Plan, with the 'promise' of improved physical safety for the longer term benefit of school pupils;
- Activity levels were maintained in just two of the 17 participating schools. Typically, the schools are offering a weekly Walking Bus, with themed events varying in frequency, with all continuing to take part in Travelwise events. This would suggest that the sustainability of the activities supported during the programme delivery period relies very much on the personal commitment and buy-in from the School Travel Champions;
- Linking the fun aspect of the programme from a pupil's perspective to the curriculum. As well as the maths example described, this was further promoted through a Carbon Saving Day event, which effectively linked car emissions to greenhouse gases in a fun and memorable way. The programme also linked with science through 'Curriculum Walks' involving nature trails and seasonal walks;
- Increased road safety awareness demonstrated by children, in turn led parents to feeling more confident to allow their children to walk or cycle to school, albeit this was often limited to participation in Walking Buses;
- The installation, at an early impressionable age, on children of the fun and feel good factors associated with exercise through walking or cycling; and
- Unexpected benefits arose. These included improved pupil relations with parents through time spent walking/cycling to school together, support from the private sector and increased visibility of schools within the community.

6.3.6 A key recommendation emerging from the study was the need to provide a longer timeframe for implementation – it was suggested that the timing for a dual programme, involving travel planning and infrastructural works, requires at least two school years to enable the commitment of schools to be demonstrated through the Travel Plan, Working Group and preliminary actions. The two years also provides a better timeframe to consider modal shift across a suitable duration.

6.4 Cycling International Comparator Study

6.4.1 An International Comparator Study, commissioned by Cycling Scotland, and published by Urban Movement and European Cyclists' Federation, in late 2015, aimed to identify progress over time that key European comparator countries (Netherlands, Denmark, Germany, Spain and Austria) made in increasing cycling mode share. The report looked at evidence of change; evidence of change clearly driven by policy; common trends; and possible lessons for Scotland.

6.4.2 Across the five countries, the report authors identified a clear sequential development that underpinned the growth of cycling over time: political commitment, increased funding, improved infrastructure, leading to an increase in the amount and mode share of cycling.

6.4.3 The four causal factors that the comparator study focused on included:

- Cycling policies and funding programmes;
- Provision of cycling infrastructure;
- Provision of cycle training; and
- Promotional programmes and events.

- 6.4.4 The report identified seven lessons for Scotland - the most relevant amongst these in terms of reducing car use on the school run would be that *'training for school age children would be an important part of the package for growing / maintaining cycling.'* In both the Netherlands and Denmark, heavy emphasis is placed on cycle training for children, starting at an early age, and then growing in complexity, so that by the time schoolchildren enter secondary education, they have been training in cycling in complex traffic situations.

6.5 Active Access Initiative

- 6.5.1 Active Access was an EU initiative to encourage short trips by active travel to improve health and the local economy. The key objectives of Active Access were to reduce energy consumption by 10-20% in the activities carried out as part of the project; save energy in the order of 6.5 million litres of fuel, improve health and tackle obesity by increasing those taking regular exercise in target populations by 10%, strengthen local economies by making residents aware of the local facilities.
- 6.5.2 Pilot interventions were staged across a mixture of eight old and new EU members, with measures including STPs, 'bicycle school', film, games, Personalised Travel Planning and inter-school mobility challenges.
- 6.5.3 In a summary of the Active Access project results, it was found that campaigns in schools/kindergartens saw an increase of up to 55% more children walking or cycling to school.

6.6 Canada Walks

- 6.6.1 Active and Safe Routes to School is a provincial initiative hosted by Canada Walks and forms part of a national movement of practitioners and programme of initiatives to engage students and encourage walking to school. Initiatives include:
- School Travel Planning;
 - International Walk to School Day/Month;
 - IWALK Month Activity Ideas;
 - Walking and Wheeling to School;
 - Wheeling to School Activities;
 - Walk/Wheel on Wednesdays;
 - IWALK/IWHEEL Club;
 - Walking School Bus;
 - Winter Walk Day;
 - Winter Walk Day Ideas;
 - Spring Into Spring;
 - Idle Free School Zone; and
 - High Schools and Active and Safe Routes to School.
- 6.6.2 A study of the School Travel Plan (STP) initiative was undertaken in 10 Ontario communities (Metrolinx, 2013). Analysis indicated significant shifts towards active travel, upwards of a 20% increase in walking in one instance and drop in car travel by the order of over 10%. Particular STP success and sustainability factors that were common across many or all communities included:
- **Stakeholder engagement and commitment** - all of the communities profiled had strong STP stakeholder groups (e.g. teams, committees) with diverse representation from public health, transportation, traffic, planning, police, the school, parents and students. Many committees also included representation from school boards, student transportation consortia, municipal politicians, local not-for-profit organizations, GIS professionals

and crossing guard services. Having diverse representation of stakeholders ensures a comprehensive School Travel Plan is written and implemented;

- **Dedicated facilitator support** - there was agreement among STP stakeholders that it is critical to have one or more Facilitators in a community who are dedicated to co-ordinating the STP process, providing an essential link between the school, stakeholder group and wider community. STP Facilitators ensure the process moves forward, coordinating and guiding stakeholder efforts. Who undertakes the role of STP Facilitator and how the position is funded varied from community to community. For example, some were funded from a variety of sources including grants and contributions from city authorities and school boards. The role was sometimes adopted by existing staff within the local or regional municipality and/or public health unit, shared jointly by professionals or undertaken on a volunteer basis;
- **Enthusiastic champions** - internal champions are needed at each school, ideally the principal, teachers, parents and students. Schools cannot rely solely on the STP Facilitator for the momentum necessary to achieve success and sustainability; and
- **Connection with existing programs and objectives** - several stakeholders mentioned how STP fits well with environmental education and health and physical education curriculum, and existing programmes and objectives, such as Eco Schools, Healthy Schools, and Safe Schools initiatives, thereby supporting work that is already being done in schools.

6.6.3 A challenge facing Canadian schools in promoting active travel is an increasing incidence of school closures. This is occurring in favour of larger, multi-purpose schools on the edges of communities, resulting in routes that are beyond a reasonable walking distance.

6.7 National Walk to School Programme – USA

6.7.1 There have been many initiatives implemented in the USA, with varying degrees of success. An evaluation of the United States National Walk to School programme found getting all the necessary groups involved in the initiative was critical to expanding the program's reach and engagement. Involving schools, parents, and community members can be challenging, but may be an essential component in the effectiveness and sustainability of the intervention. The Safe Routes to Schools program operates in schools across the USA. Results found travel behaviour was strongly influenced by the distance between home and school. A significant proportion of very short trips were completed by car. Parents of children living within 800m of school cited safety as the primary issue for not allowing them to walk or cycle.

6.8 Walking School Buses – Auckland, New Zealand

6.8.1 A Walking School Bus (WSB) is when children walk to and from primary school under the supervision of adult volunteers (often parents), who act as the walking school bus 'driver'. Children are collected from stops along a planned route and dropped off at the school gate. Along the way they learn how to safely negotiate the road as well as to socialise with others. WSBs contribute to several outcomes, including reducing the amount of traffic around schools, and instilling walking habits from a young age.

6.8.2 In Auckland alone (population 1.3 million approx.), there are more than 350 active WSBs, with over 4,000 children walking to school, according to Auckland Transport. Of the primary schools in the Auckland region that had a school travel plan in 2009, 42% incorporated a WSB.

6.8.3 Collins and Kearns (2009) undertook a longitudinal assessment of WSBs in the Auckland region. The assessment examined the development of WSBs drawing on five annual surveys. The analysis revealed sustained growth in the number of routes over four years, and in levels of participation, although activity remained concentrated in the most affluent neighbourhoods. Parent coordinators identified four key benefits to WSBs:

- The sense of community;
- Opportunity for exercise/health promotion;
- Reduction in car use and local congestion; and
- Reduced injury risk for child pedestrians.

6.8.4 The study noted that attitudes towards WSBs reinforced gender stereotypes, in that it was usually the mother acting as 'driver'. The report concluded that *'WSBs can and perhaps should be regarded as stepping stones towards two broader developments: increased independent mobility for children for a range of neighbourhood-level journeys; and significantly reduced car use, speeds and density in suburban neighbourhoods.'*

6.9 Australia

6.9.1 Successful initiatives in Australia have mainly focused on increasing the levels of pupils walking to school. Three studies that resulted in an increase in children walking to school all included elements of preparation, promotion and programs (Merom et al. 2005, Wen et al. 2008, Zaccari and Dirki 2003). These initiatives were delivered as part of a whole school approach, integrating health-promotion approaches across the curriculum. Schools were provided with a range of materials including promotional material, such as posters and stickers, travel diaries and ideas for activities, such as assemblies, newsletters and mapping school routes. These studies focused on children living within close proximity to the school, highlighting the importance of accounting for distance when implementing initiatives. These studies were in an urban setting, and so may be applicable to schools in Scotland that are in a similar setting. It remains unclear whether the studies would be transferrable to schools in more rural settings.

6.10 Promoting Public Transport – Rome, Italy

6.10.1 The TAPESTRY (Travel Awareness Publicity and Education Supporting a Sustainable Transport Strategy) was an EU based project with the aim to increase knowledge and understanding of how to develop effective communication programmes to support sustainable transport policies in Europe. The project ran from 2000 to 2004 and involved 16 case studies, one of which was the promotion of public transport to school children in Rome. The study aim was to reduce the use of travel to school by car through changing personal travel behaviour towards an increase in the use of public transport modes.

6.10.2 The method chosen by the local transport authority to address the problems experienced in Rome involved an awareness campaign to a sample of 1,200 pupils drawn from 30 different schools across Rome. Pupil participants were aged between 9 to 15 years old. Prior to the campaign starting, information about existing infrastructure, travel between home and school, and views of the transport network was gathered and analysed.

6.10.3 The campaign message addressed educating children about the problems causes of congestion and related impacts, as well as encouraging pupils to change from travelling to school by car to using the public transport instead. The message was also indirectly aimed at the parents of pupils.

- 6.10.4 The campaign itself comprised of arranging a visit for children to one of four public transport depots in the city as well as providing children with a CD-ROM game involving role-play as either a driver, a passenger or a service operator; and holding an art competition based on the theme 'Why should we pick public transport?'. Branded campaign merchandise was also developed.
- 6.10.5 The campaign was successful, with an increase reported in the numbers of pupils agreeing that the best way to reduce pollution and traffic problems in their neighbourhood was to use public transport. Use of public transport was 12% higher after the campaign (with mode share increasing from 72% to 84%).

6.11 School Recognition Awards

Modeshift STARS

- 6.11.1 Established in 2007, Modeshift is a national organisation that specialises in active and sustainable travel. It is owned by its local authority members and operated by the Modeshift Management Board, comprising a team of 14 volunteers who are transport practitioners and leaders in the field of sustainable travel.
- 6.11.2 An objective of Modeshift is to offer services to schools, higher education establishments and workplaces to support sustainable travel delivery. A key part of this is Modeshift STARS (Sustainable Travel Accreditation and Recognition for Schools) - a national school awards scheme that has been established to recognise schools that have demonstrated excellence in supporting cycling, walking and other forms of sustainable travel.
- 6.11.3 STARS was set up during the Department for Transport's Travelling to School Initiative. This was in response to the recognition that schools needed more than just a Government grant to maintain their School Travel Plans. In 2014 STARS became the National STARS School Travel Awards with support from the Department for Transport and a range of key stakeholders. A grant award of £184k in 2014 from the Department for Transport supports the delivery the STARS scheme to all schools in England and also includes the provision of a STARS officer to facilitate the running of the scheme and awards events to recognise the top schools in the country.
- 6.11.4 As of March 2016, 55 organisations representing around 11,500 schools in England are signed up to Modeshift STARS. Local Authority members of Modeshift can register to use the scheme for a fee of £499 per annum.
- 6.11.5 Any type of school eligible to work towards achieving accreditation with the only requirement being a commitment to supporting cycling, walking and other forms of sustainable transport. There are three levels of accreditation:
- **Gold** – schools that demonstrate a commitment to promoting sustainable transport by conducting an annual survey, identifying travel issues and solutions and delivering a range of travel initiatives;
 - **Silver** – schools that achieve a reduction in car use on the journey to school, deliver a whole-school approach and deliver above and beyond what is normally expected of a school; and
 - **Bronze** – schools that have excelled with promoting sustainable travel and achieved a noticeable reduction in car use on the journey to school by fully embracing sustainable travel as the norm throughout the entire school community.
- 6.11.6 In the first year of the National STARS School Travel Awards, 346 schools achieved STARS accreditation in 2015 which represented a 37% increase in the

number of accredited schools nationally compared to 2014. In total, 406 schools nationally have been accredited since the inception of Modeshift STARS.

6.11.7 Each year, the best schools in the country are recognised for their efforts through the National STARS School Travel Awards. In the autumn term, those schools that have achieved the Gold level of STARS are put forward by their local authorities to be considered for the Regional and National Awards. In 2015, 33 schools were nominated by their local authorities with 19 eventually recognised as schools of excellence in a range of sustainable transport categories. At three regional events, 6 STARS Schools of the Region were identified and put forward for the National STAR Schools Award in March 2016.

6.11.8 A delivery report on the impact of STARS towards encouraging more sustainable travel for the school journey, reported:

- Between 2013/14 and 2014/15, average cycling levels for all STARS accredited schools increased from 3.7% to 5.1% - an increase of 38%;
- STARS accredited schools reduced car use by an average of 16% between 2013/14 and 2014/15; and
- Average walking levels for schools that have achieved STARS is significantly above the national average at 46.9%.

Sustrans School Mark

6.11.9 Sustrans School Mark has been running in England and Wales since 2013, and a new version launched in April 2016. It is a similar award based initiative to Modeshift STARS, but with engagement at the school rather than local authority level. Through School Mark direct support is provided to schools via a dedicated officer in the school and free at point of use. The scheme is based on involving the school community and establishing a working group to deliver an integrated set of initiatives with gold, silver and bronze level awards based on achieved mode shift.

6.12 Infrastructure

6.12.1 Through the Links to Schools programme administered by Sustrans over 400 miles of new or improved infrastructure has been delivered during the past seven years benefiting over 1000 schools in England. The primary aim is to connect young people to their schools by traffic-free and traffic-calmed walking and cycling routes, creating a safe and attractive environment to give parents the confidence to allow their children to travel to school by foot and bike.

6.12.2 A review of the Links to School programme (Sustrans, 2014), highlighted:

- Safer routes for walking and cycling can substantially increase the numbers of children walking and cycling to school - more than half of children counted using Links to Schools routes were recorded during school commuting times;
- Safer routes for walking and cycling that serve schools can also make a major impact on local travel patterns in the communities through which they pass - route user surveys undertaken to monitor Links to Schools schemes suggest that the routes are used for a diverse range of journeys;
- The combination of infrastructure with soft measures, such as Bike It, can serve to further enhance route usage, and to lock-in the benefits; and
- The effect of a safer route extends beyond the school journey with occurrence of a growth in commuting and leisure usage as well as school travel, suggesting the wider effect of the Links to Schools scheme.

6.13 Programmes

- 6.13.1 In 2004 the Department for Transport (DfT) published *Smarter Choices: Changing the Way We Travel* (Cairns et al. 2004) which reported on a worldwide literature review and 24 in-depth UK case studies, on the impact of smart measures to achieve travel behaviour change. The study concluded that, if implemented in a supportive policy context and over a period of 10 years, substantial changes in travel behaviour and reductions in traffic could be achieved.
- 6.13.2 The DfT subsequently allocated £10 million funding for the implementation of large-scale Smarter Choice Programmes in the towns of Darlington, Peterborough and Worcester. This five-year project, which ran from April 2004 until April 2009, aimed to understand and demonstrate what effect could be achieved from a sustained package of smarter choice measures, complemented by improvements to infrastructure. A study was undertaken (DfT, 2008) to assess the extent the investment in smarter choice measures in the three towns had achieved the potential identified in the original (Cairns et al, 2004) smarter choices study.
- 6.13.3 Initiatives introduced as part of the *Sustainable Travel Towns* included school based initiatives underpinned by School Travel Plans. The profile of all three towns (i.e. the proportion of schools with reductions in car use, and the proportion where car use fell by 0-20% and over 20%) was found to be similar to the range identified by Cairns et al. (2004). The overall percentage reduction in car use across all schools was also very similar in Darlington and Peterborough, and slightly higher in Worcester.
- 6.13.4 Other benefits highlighted from a school perspective included:
- **Road safety** – overall there was a decline in the number of children killed or seriously injured after the Sustainable Travel Towns programme was implemented. Although it was not possible to attribute these changes in casualties directly to the town's work on school travel, the data gave no suggestion that increases in walking and cycling were causing a rise in child casualties. In Peterborough, European Urban II funding had been used for infrastructure improvements in low income areas, which generally have a higher risk of child pedestrian road casualties. Officers noted that since a higher proportion of children in these areas already walked to school (as compared with more affluent areas) the benefit of this school travel work was primarily one of road safety rather than modal shift. There was also an instance where a pupil survey had shown that moving a school crossing patrol would pick up an extra 40 children, thereby increasing road safety;
 - **Educational benefit** – some school travel work, such as sustainable travel incentive schemes, had the explicit aim of improving attendance. At infant schools, the introduction of a 'walking train' led to an expansion in the school's breakfast club from a day a week to every day, as attendance improved and an informal walking bus assisted in addressing truancy issues. There were also initiatives to teach pupils about looking after equipment and providing orientation around their home locations; and
 - **Health benefits** – interviewees considered that in encouraging children to travel on foot or by bicycle and so travel more actively, there were self-evident health benefits; and
 - **Other positive effects** – included more interaction between parents and better relations between schools and local residents who were concerned about parked cars blocking the streets.

6.14 Curriculum and Wider Programme Linkages

- 6.14.1 *The Road Injury Prevention: Resources to Support Schools to Promote Safe Active Travel* (PHE, 2016) provides advice and information for teaching staff, parents and carers highlighting the importance of supporting effective road safety education.
- 6.14.2 The guidance notes that road safety should be taught ‘through a spiral programme across all key stages in a way that ensures learning is revisited, reinforced and extended in age and stage-appropriate contexts, and links should be made with other relevant subjects to ensure consistency and continuity for pupils. Road safety education should take account of pupils’ prior learning and experiences. It should reflect universal and specific needs of children and young people in the school.’
- 6.14.3 Guidance is provided on learning across the key stages 1-4 of the national curriculum in England. Teaching packs have also been developed to support effective road safety.
- 6.14.4 The guidance also provides example case studies of schools implementing initiatives to promote safe active travel around the themes of:
- Developing a school travel plan;
 - Promoting safe cycling;
 - Working with parents/carers and the community to promote safe active travel; and
 - Working in partnership with the local authority to promote safe active travel.

6.15 Effectiveness of Initiatives

- 6.15.1 Research for the Department of Transport into the experience of School Travel Plans in English schools involved a survey of approximately 150 schools nominated by school travel experts as exemplifying good practice in school travel work followed by detailed interviews with 30 case study schools and associated stakeholders (Cairns and Newson, 2006).
- 6.15.2 For the case study schools involved the average reduction in total car use was 23%, with some high performing schools cutting car use by more than half. Other benefits highlighted included safety improvements, reductions in congestion at the school gate, health and fitness benefits, improvements in attendance, punctuality and readiness to learn and benefits for pupils’ personal development and for the wider community.
- 6.15.3 The study showed that the most successful school travel plans typically focused on a variety of initiatives, included significant levels of awareness raising, and had mechanisms in place to ensure that they were sustained over time. In terms of promoting individual modes, the study also showed the importance of:
- Cycle parking and off-road cycle lanes to promote cycling;
 - Specific walking initiatives at primary level (including walking buses, walking incentive schemes and park and walk arrangements) to promote walking; and
 - New or enhanced bus services, low fares or fare reduction schemes, and (at primary level) specific arrangements to make services more child friendly, to promote bus use.
- 6.15.4 The National Institute of Clinical Excellence (NICE, 2007) produced a review of background evidence for promoting active travel to school. 17 studies were included that were categorised into four approaches: cycling promotion, safe

routes to school/school travel plans, walking buses and walking promotion. In total, 14 of the studies reported an increase in active travel modes. Five UK studies showed that cycling promotion can lead to large self-reported increases in cycling. Characteristics of successful interventions included the involvement of external agencies to facilitate schools to promote and maintain cycling, with the support of parents and the local community.

- 6.15.5 One study showed that safer routes to school travel planning did not increase self-reported levels of walking. However, there was evidence from two studies that a mixture of a mix of promotional measures including curriculum, parental and community promotions (e.g. mapping safe routes to school, walk and bike to school days) can increase self-reported walking and cycling.
- 6.15.6 Three UK studies showed that walking buses led to an increase in self-reported walking to school levels and reduced car use levels. It was noted that walking buses are commonly delivered in the UK but their applicability remains uncertain, as they may only be applicable to specific populations and locations.
- 6.15.7 There was evidence from one Australian and three UK studies to suggest that walking promotion schemes, involving promotional materials, incentives and rewards, travel diaries for children and parents and provision of 'park and walk' parking areas close to school and restriction of parking outside of schools, can lead to increases in self-reported walking to school and reduced car use. Evidence from one Australian and two UK studies suggest that targeting families who live one mile or less from school may support interventions to encourage increase walking levels for the school journey.
- 6.15.8 The review concluded that initiatives which involved the school, parents and the local community, often supported by an external coordinator, and that engaged the children were most likely to demonstrate short and long-term changes in travel behaviour.
- 6.15.9 Chillon et al. (2011) conducted a review of interventions for promoting active transportation to school. The review identified 14 interventions that were heterogeneous, varying in size, scope and focus. Interventions with the highest effectiveness had strong involvement of schools through teachers working actively in the intervention, and parents receiving specific materials and being encouraged to walk. Evidence presented in the review also suggests that interventions with a focus on a particular goal may be more effective than those with a broader focus. The review highlighted the need to improve the quality of the studies in order to increase the effectiveness of the interventions. For example, only one study, based in Scotland, mentioned targeting interventions to children that lived within three miles of their school. Whilst other studies may have also have targeted families within close proximity to the school, especially those promoting walking, distance was not specified

7. SUMMARY AND CONCLUSIONS

7.1 Summary

7.1.1 This literature review has drawn on a wide range of sources to identify factors influencing school travel choices and initiatives to promote sustainable travel. In summary:

Influencing Factors

7.1.2 There are many and wide ranging factors which influence travel choices for the journey to school. These range from the individual level in terms of pupil and parent perceptions and travel distances through to the school in terms of how active travel is viewed and promoted. Wider local and national policy is also key in terms of home to school transport provision to wider considerations pertaining to planning concerning school location and also site design with the end user in mind.

7.1.3 Wider aspects in terms of linkages between school travel and the environment and health are more widely recognised. The intricate linkage between the school run is however more far reaching. Busy lifestyles and demands on time can influence travel behaviour as can flexible working practices and school wrap around breakfast and after school clubs. This can have an influence on travel choices through, for example, the trip chaining of the journey to school with another purpose such as a work or shopping trip.

7.1.4 Furthermore, planning in terms of not just school location but also the design of the school site has been identified as an important factor at the design stage when decisions can be influenced. This would help to support design for access by walking, cycling and public transport and provide a platform from the outset to encourage sustainable travel choices.

Initiatives

7.1.5 The literature review has identified a wide range of initiatives at the school level in Scotland and also across the wider UK and internationally with the aim to increase travel to school by more sustainable modes of transport. Table 10 presents a high-level summary of the different initiatives.

7.1.6 National level programmes in Scotland include Walk Once a Week (WoW), I Bike, Bikeability with participation from schools across Scotland and which is growing. There are also more local initiatives such as transition workshops targeted at the primary-secondary school change stage, awareness raising through games, music etc. Some primary analysis undertaken as part of the study suggests a co-intervention approach delivers more success, although more detailed analysis would be required to identify the significance of trends and potential for variations in terms of geography etc. Furthermore, a multiple approach combining infrastructure, behaviour change initiatives and persons on the ground is expected to have greatest impact. Changes in other dimensions, in particular the Curriculum for Excellence and increased flexibility have introduced the opportunity to integrate programmes with a transport theme into classroom learning such as through the Eco-Schools programme and Road Safety Scotland school based activities. Furthermore, programmes have also been developed which provide a basis to introduce and raise awareness of pupils to the connection between how they travel and wider impacts such as the environment with the Clear the Air programme providing a platform which links air quality through to transport emissions in a hands-on way through assessing pollution levels.

- 7.1.7 The incentivising of participation and change as well as visible recognition of efforts at the school level is also an aspect of some initiatives. The badges introduced through the WoW initiatives have proven to be popular with pupils, although there is recognition of perhaps a different type of incentive for older pupils and refresh in time to avoid pupils being less captured by the badges. The Cycling Scotland 'Cycle Friendly School' award is another example of a visible commendation for schools and their efforts with a focus on promoting cycling. National award schemes are a more common platform outside of Scotland to provide recognition in a bigger and higher profile setting for the commitment of schools and their success in raising awareness and bringing about a change in travel within the school community.
- 7.1.8 Inter-school challenges and competitions, such as the Walk of Fame run by Living Streets during the national Walk to School week, have also proven popular with schools as well as having a positive impact in terms of effecting long-term and sustained change at the school, regional and national level.

Table 10. Initiatives Overview

INITIATIVE	PRESENT IN SCOTLAND	MODE		TYPE OF INITIATIVE				CURRICULUM LINK	WIDER POLICY DRIVER (E.G. HEALTH, ENVIRONMENT)
		ACTIVE TRAVEL	PUBLIC TRANSPORT	INFRASTRUCTURE	AWARENESS/ BEHAVIOUR CHANGE	TRAINING	INCENTIVISE/ AWARD		
Walk Once a Week	✓	✓			✓		✓		
I Bike	✓	✓			✓	✓			
Bikeability	✓	✓			✓	✓			
Cycle Friendly School	✓	✓		✓	✓	✓	✓		
Give Everyone Cycle Space	✓	✓			✓				
School Streets	✓	✓		✓	✓				
20mph Zones	✓			✓	✓				
Safer Routes to School	✓	✓		✓					
Eco-Schools	✓	✓	✓				✓	✓	✓
Clear the Air	✓	✓	✓					✓	✓
Road Safety Scotland	✓				✓	✓		✓	

INITIATIVE	PRESENT IN SCOTLAND	MODE		TYPE OF INITIATIVE				CURRICULUM LINK	WIDER POLICY DRIVER (E.G. HEALTH, ENVIRONMENT)
		ACTIVE TRAVEL	PUBLIC TRANSPORT	INFRASTRUCTURE	AWARENESS/ BEHAVIOUR CHANGE	TRAINING	INCENTIVISE/ AWARD		
Links to Schools (England)		✓		✓	✓				
Modeshift STARS (England)		✓					✓		
School Mark (England & Wales)		✓					✓		
Rural Safe Routes to Schools (N. Ireland)		✓		✓	✓	✓			
Green Schools Programme (Ireland)		✓	✓		✓		✓		
Active Access		✓							
Canada Walks		✓			✓				
Walking Buses (NZ & Oz)		✓							
PT			✓		✓				

INITIATIVE	PRESENT IN SCOTLAND	MODE		TYPE OF INITIATIVE				CURRICULUM LINK	WIDER POLICY DRIVER (E.G. HEALTH, ENVIRONMENT)
		ACTIVE TRAVEL	PUBLIC TRANSPORT	INFRASTRUCTURE	AWARENESS/ BEHAVIOUR CHANGE	TRAINING	INCENTIVISE/ AWARD		
Promotion									

7.2 Conclusions

7.2.1 Tackling the School Run requires a cross-cutting multi-disciplinary approach. This is reflective of the different factors that influence school travel choices with an integrated approach required across different aspects. The literature review highlights that targeted initiatives have a positive impact on the school run, but sustained intervention is required to engender a step change that reduces the number of pupils being driven to school. This includes providing the necessary joined up policy drivers at a local and national level across transport, planning, education, health and environment. Both infrastructure/physical interventions will only be effective if the necessary behaviour change initiatives are embedded in the school culture, local community and as part of a wider active travel strategy. This could extend beyond the school gate and into the workplaces of parents and carers responsible for the school run.

7.2.2 In summary, important factors which have an impact on school travel choices and school run include the:

- Catchment area of the school and distance pupils have to travel;
- Provision of infrastructure and the surrounding built environment to complement awareness raising and behaviour change focused initiatives;
- School culture and integration with classroom learning;
- Perceptions of parents, particularly in relation to safety;
- Partnership working between school, pupils, parents and wider stakeholders; and
- Wider policy linkages between travel behaviour and, for example, health and well-being and the environment.

7.2.3 These aspects will be included for further exploration as part of the school case study fieldwork. Also, although many of the initiatives will point to degrees of success in reducing travel to school by car, increasing levels of physical activity, and residual effects such as increased levels of concentration and confidence amongst pupils, the cost effectiveness of initiatives is less apparent. This is also an important aspect when making decisions on how and where to focus limited resource to achieve the greatest impact on influencing school travel choices to reduce the impact of the school run on the road network as well as the environment and health and well-being of school pupils across Scotland. Exploration of funding consideration will therefore also be incorporated into the stakeholder discussions as part of the fieldwork.

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ANNEX 2: 2015/16 SMARTER CHOICES SMARTER PLACES - SCHOOL ACTIVITIES (SEPT 2015)

LOCAL AUTHORITY	ACTIVITIES
Aberdeenshire	<ul style="list-style-type: none"> • Fraserburgh Academy cluster schools and Fishermoss (Portlethen) started with the Walk Once a Week (WoW) programme. Inverurie, Huntly and Ellon schools to commence WoW after the October holidays. • I-Bike maintenance classes are under development with the first group (Huntly) booked for the October holidays comprising teachers and pupils. • The Gordon Schools (Huntly) have their own fleet of bikes which they use for cycling projects. • We are also supporting a recycling bike project in Fraserburgh to train young people to become qualified bike mechanics, training to be held during November. • Ellon Primaries Travel Plan and setting up of a schools walking bus. • A schools ITT information and resource pack has been prepared for all Academy and cluster primary schools. This pack will equip schools with a number of tools to help support a move towards sustainable school travel. This pack will be formally launched in the winter term with support from council officers to allow schools time to programme in activities for the spring and summer terms. • The Council will be developing a programme which will aim to reduce car use while encouraging more responsible driving to and parking at school when trips by car are necessary. This will include the development of marketing materials, a video, school presentations and will make use of the already established 'one second one life' brand successfully developed previously by Aberdeenshire Council.
Angus	<ul style="list-style-type: none"> • Education and promotion to develop and promote behaviours relating to travel to the campus by public transport, walking and cycling.
Clackmananshire	<ul style="list-style-type: none"> • 50% of schools registered and plans to implement an additional support resource in the form of a 'WoW Activity Co-ordinator' for schools which will enable the project to be supported in all schools. The co-ordinator role will be provided by a Living Streets associate from December 2015 for a period of 4 months. Co-ordinator will liaise with schools with a view to having at least 75% of schools running WoW during spring term. • Additional promotion of the WoW initiative planned in local press in December 2015 with promotion of a 'Strider' visit to local schools on December 9th.

LOCAL AUTHORITY	ACTIVITIES
	<ul style="list-style-type: none"> The launch of our other SCSP projects, the Active Travel Promotional Campaign and installation of network interpretation boards are programmed to get under way in March to coincide with the official openings of our 2015/16 Community Links infrastructure projects. The local media coverage that these events are expected to generate will allow us to launch our 2016 'WoW' campaign at this time and build some momentum for the start of the summer term.
Dumfries & Galloway	<ul style="list-style-type: none"> Expertise on app development is available from internal source but limited and currently working on a high priority corporate project. Discussions to release capacity and commence app scoping are on-going.
Dundee	<ul style="list-style-type: none"> 13 out of 35 schools are currently participating in WoW and using Travel Tracker, with the expectation that most of the remaining 23 schools will begin engagement by the end of the autumn term 2015. Some schools have expressed inability to engage with WOW and this will be pursued further to try and support future engagement. School travel plans to be developed and updated by end of autumn term. Audit of cycle infrastructure to identify areas for future development/investment.
East Renfrewshire	<ul style="list-style-type: none"> School travel behaviour change an incidental benefit from the Go Newton Mearns community wide PTP programme.
Falkirk	<ul style="list-style-type: none"> May Walk to School Month: Delivered – 48 out of 50 primaries take part plus 1 nursery. October Walk to School Month: School materials will be delivered to schools w/b 28 September 2015. 49 primary schools in Falkirk Council area taking part, along with three nurseries.
Fife	<ul style="list-style-type: none"> 13 schools are registered and uploading data onto the Travel Tracker website. 3 schools are registered with class lists uploaded but have not recorded data yet. 13 have registered but still need to upload their class lists. 4 schools have not yet registered on the website. 6 schools have withdrawn and are to be replaced. 1 school has not replied to confirm participation.

LOCAL AUTHORITY	ACTIVITIES
Midlothian	<ul style="list-style-type: none"> • Cycle Promotion Campaign in the Newbattle and Dalkeith areas of Midlothian, including the Sustrans I Bike Project. • 12 schools: 2 secondary schools (Newbattle & Dalkeith High Schools) with their associated primaries. • Cycling infrastructure around the schools, including routes and storage. Newbattle High School is getting a new building and we're keen to have excellent cycle links to school and a generous allocation of cycle storage included. • Both locations have large catchment primary schools and the campaign would therefore reach significant numbers with many of them having considerable school gate parking issues currently, again a real opportunity to promote modal shift. Both school locations include areas of deprivation so an active travel promotion is therefore inclusive to all pupils.
Moray	<ul style="list-style-type: none"> • Provision of Travel Tracker in Moray primary schools and a programme of educational shows promoting sustainable travel to encourage more active travel to school. Programme to be introduced from the start of the summer term with an aim for all schools to be participating by start of academic year 2015/2016.
North Ayrshire	<p>All schools</p> <ul style="list-style-type: none"> • Baseline active travel surveys with 20 schools. • Development, production and delivery of Travel Smart game and educational materials for 20 schools. • Development of Travel Smart Character. • Development and production of Travel Smart play and activities for 20 schools. • Develop and produce Schools travel smart promotional materials. • Delivery and promotion of 20 bike maintenance sessions for 20 schools. • Delivery and promotion of 20 Travel Smart awareness raising events for 20 schools and families. • Develop, implement and promote cycle kits for 20 schools within the three geographic areas • End of project active travel surveys with 20 schools

LOCAL AUTHORITY	ACTIVITIES
	<p>Kilbirnie</p> <ul style="list-style-type: none"> • Sustainable and active travel training with 7 schools. • Production of Garnock Valley specific Travel Smart materials. • I Bike Officer. Develop and deliver 3 awareness raising and functional walking and cycling events.
North Lanarkshire	<ul style="list-style-type: none"> • Social Marketing. • Marketing Information and Publicity. • Travel Planning Implementation.
Perth and Kinross	<ul style="list-style-type: none"> • Schools Transition Workshops (Primary School Phase) promoted under the Schools on the Go banner. • Worked with primary schools within the PKC area where pupils had a choice of travel modes as we wished to get across an active and sustainable travel message. • Visited 12 schools within the PKC area and delivered workshops to approximately 400 P7 pupils in 16 different classes. • Provided individual travel planning advice to enable pupils to plan an active and sustainable route to their new secondary school using both online journey planning software and hard copy maps. • Hands up surveys were also taken of current methods of getting to their primary school and their intended method of getting to their secondary school. • Follow up work with secondary schools is currently being undertaken but preliminary results would indicate a high percentage of pupils travelling actively and sustainably.
Scottish Borders	<ul style="list-style-type: none"> • Developed and promoted two cycling events at Duns and Selkirk.
South Lanarkshire	<ul style="list-style-type: none"> • Delivery of a programme of primary schools workshops in South Lanarkshire designed to raise awareness of air quality issues and to promote active and sustainable travel options. • Organise, promote and administer a Walk to School Week in late October.

LOCAL AUTHORITY**ACTIVITIES**

Stirling

- Plans in place to increase local activity throughout October to encourage registrations and participation. This is expected to bring the project back in line with the plan.
- Local training taken place, distribution of resources and 50% schools register.
- Cycle Safe School.
- Cycle Safe Schools programme to take place following the Bikeability training.
- We have now started to engage with several schools and are in the process of scheduling the training.
- Majority of training will be taking place in Spring 2016, due to weather and lighting.

West Dunbartonshire

- Create and refresh school travel plans.
- Five schools have completed travel plans (either written for the first time or refreshed).
- Four schools are close to finalising their travel plans and are expected to do so within the programme period.
- Three schools have yet to prepare their travel plan; each are at varying stages of engagement in travel planning activity however discussions are ongoing with all three to support them to prepare their plans.
- Walk on Wednesday (WoW) initiative.
- All 12 schools have signed up to the initiative and have received travel tracker and supporting materials;
- Schools are at varying stages of engagement with the initiative; although not all teaching staff are using the tracker to record journeys, it has been reported by schools that journeys are being recorded manually. Consideration will be given to how to support those schools to start using the tracker consistently amongst staff.
- Three schools have established a regular WOW club to help pupils and parents to walk as an organised group from identified pick up locations, and a further three schools are keen to set up their own group.
- Route assessments for WoW routes.
- Risk assessments for all routes were completed in August 2015 and route maps have been produced.

LOCAL AUTHORITY**ACTIVITIES**

- Maps and risk assessment information will be provided to each of the schools.
- Personal Travel Planning workshops.