Evaluation of School Travel Behaviour Change Programme

Report of 2023 Evaluation

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Summary

This report describes an evaluation of the Living Streets Walk to School programme (WOW). It refreshes and updates previous evaluations from 2017, 2019, 2020, 2021 and 2022 and adds recent qualitative research to identify potential ways for refining and improving the programme.

The context for school travel is changing, with structural employment, social, educational, environmental and health issues interacting in complex ways with travel supply and demand. There has been a steady rise in the number of children being driven to school, little change in walking to school except at schools with targeted walk to school programmes, and a decline in bus use.

Over the last decade a total of 528 primary schools, 26% of the total number of primary schools in Scotland, have had active participation in WOW at some point. In the 2022-23 school session, 219 schools participated from 24 council areas making the 2022/23 the largest WOW programme year since WOW was introduced in Scotland.

Sustained participation in WOW is associated with walk mode share between 5 and 9 percentage points more than for non-WOW schools, and active travel levels 12 to 20 percentage points higher. These broad ranges reflect the evolving characteristics of the sample of schools participating in WOW, the approaches to the implementation of WOW in each school, and the uncertainty associated with comparing participating and non-participating schools using the single survey day in the Hands Up Scotland Survey data.

WOW is delivered alongside many parallel programmes including: safe routes to school/school travel planning, bikeability, iBike, big walk and wheel, eco-schools, junior road safety officers, daily mile, and a wide range of other social and environmental educational initiatives. Schools find this range of initiatives confusing, and more equitable and responsive coverage across the country is needed with clearer signposting of resources and funding.

Current WOW incentives include national and regional leaderboards, but this works better for schools that have naturally higher levels of active travel to school than those with more dispersed or complex catchments. Schools suggest improved design of WOW league tables so that competition acts as an incentive, rather than a distraction from sustainable transport goals. This is particularly important for bus travel to ensure equitable coverage of WOW schools across the country. Although coverage of the WOW programme broadly reflects the range of characteristics of Scottish primary schools, schools with higher levels of bus travel are not represented. The recent shift away from bus travel towards car travel is a growing concern, so more equitable future delivery of WOW depends on better targeting and optimisation of WOW to reward travelling by bus, particularly where pupils walk significant distances to bus pickup points.

Surveys at schools, with local authority staff and other partners, identify strong support for WOW driven by perceptions of a need for change to car congestion at school gates. The Living Streets WOW programme uses peer support to help influence value systems amongst pupils as they seek to win WOW rewards and persuade their parents not to drop them by car at the school gate.

"Parents don't listen to the school, but they do listen to their own children" (Parent at WOW school)

The interaction between promotion of active travel and provision of infrastructure for safe travel has prompted many schools to prepare travel plans with clear deliverables to improve safety, particularly of walking routes. Through their travel plans, some schools require Bikeability training to be completed by pupils before they are permitted to cycle to school, and in one case Walkwise training was recommended for children walking to school.

"It does not seem right to promote walking without supporting children with the training they need to be able to walk to school safely" (Member of staff at WOW school)

Timed restrictions on the use of streets past schools, by some or all vehicles, were mentioned by many schools as ideas they would like to see implemented. To help manage social change within local communities one idea was that schools seeking such measures should be required to use WOW to ensure that clearer evidence of the benefits was available.

The WOW Travel Tracker does not currently monitor levels of socialisation on the school journey, but focus group discussions with children and parents suggested ways WOW might give additional rewards for pupils who travelled with others.

"If I could not walk with friends I would not walk" (Pupil at WOW school)

Children work hard on badge designs, thinking about the local environment and learning about art and design. Several schools commented that it was a shame there was no prize for their designs. More could be done to reward the efforts of schools in badge design.

WOW is a useful approach to assist education authorities to discharge their statutory responsibilities to ensure that every child can access education, but it is still more common for authorities to allocate school bus places or school crossing patrols and facilities based on legacy metrics, than to use best practice approaches such as a school travel plan with a personal journey plan for each child monitored through a system such as WOW.

Long term effects of WOW are not yet clear, but when schools leave the WOW programme, levels of walking decline by approximately 1 to 2 percentage points per year and levels of active travel by 2 to 4 percentage points. The relative stability of park and stride mode choices after schools withdraw from WOW may suggest a longer-term legacy where WOW has prompted the organisation of drop off locations at schools that continue to be used even when the promotion stops.

The monetisable benefits of WOW for the 2022/23 school year consist of benefits at schools participating in WOW for the first time, schools continuing to benefit from WOW and continuing to participate in the programme, and schools still benefitting from WOW but not using WOW in 2022/23. These total monetisable benefits are in excess of £3.5million well in excess of the costs incurred by Living Streets and others participating in implementing WOW.

Contents

1.0 Introduction

1.1 This report refreshes and updates previous evaluations of the Living Streets Walk to School programme (WOW). The programme started in 2012, with implementation approaches being developed particularly in the period to 2016. WOW is a pupil-led initiative where children self-report how they get to school every day using the WOW Travel Tracker. If they travel sustainably once a week for a month, they get rewarded with a badge.

1.2 This evaluation covers project delivery from 2016 to date including the school years 2019/20 and 2020/21 when education was particularly affected by the covid19 pandemic. The 2023 evaluation programme has included a more detailed qualitative research programme than in previous years to help to identify potential ways for refining and improving the programme.

1.3 Specifically, the work seeks to understand:

- The impacts of the overall programme and relate this to the characteristics of the schools taking part, to improve the programme to help target action at partner schools more effectively.
- The benefits and costs of the programme including the distribution of benefits by local authority and by socio-economic characteristics.
- Data sharing practices amongst local authorities and other partners to ensure public investment can be better planned.
- How best to target programme delivery for maximum impact based on type of school and type of location.
- Experiences of WOW for partners, participants and non-participants.

1.4 WOW is already supported by some of the most detailed evidence of any sustainable transport programme, and this evaluation is an opportunity to identify how stakeholders perceive these benefits compared to other programmes. The work seeks to support the further development, growth and optimisation of WOW to meet the future needs of Scotland.

Approach

1.5 This project has included:

- An update to the literature reviews to reflect the evolving policy context and recent relevant research on school travel.
- Interviews and focus group discussions with project participants and partners, staff at participating and non-participating schools.
- Analysis of the latest data on travel to school in Scotland including from WOW.
- An evaluation of the outcomes and impacts of WOW including the economic benefits.

1.6 This report briefly summarises key points from earlier evaluations as part of the literature review in Chapter 2 so it can be read independently of the previous reports.

1.7 The qualitative research is discussed in Chapter 3, the data analysis in Chapter 4, the evaluation results and recommendations in Chapter 5, and the conclusions in Chapter 6.

1.8 Reports of interviews and focus groups are summarised in Appendix A.

2.0 The Changing Context for School Travel

2.1 The transport policy context is changing. Climate change policies increasingly prioritise sustainable transport programmes, lifestyle change affects how people travel, and in the wake of the global pandemic travel patterns are stabilising at lower levels of bus and rail use and higher levels of car use than were typical over the last decade. This changing context offers opportunities for government and communities to organise new types of solutions to growing problems.

2.2 This review starts by summarising this changing context updating previous literature reviews undertaken as part of WOW evaluations[1], before looking in more depth at the evidence of change being achieved through parallel programmes to WOW.

How factors affecting walking to school have been changing

2.3 All travel choices take place within a changing economic and social context where employment, social, educational, environmental and health issues interact in complex ways with travel supply and demand. The net effect of these changes in recent years has been:

- A steady rise in the number of children being driven to school for all or part of their journey from 25% of school travel 10 years ago to 29% in the latest available data[2].
- Little change in walking to school except at some schools with targeted walk to school programmes[3]. Changes in levels of cycling have also been small with fluctuations in the proportion of pupils using this mode of less than 0.5% over the last 10 years.
- About half of pupils in all schools currently report travelling actively to school for some or all of their journey.
- Bus use has fallen over the past ten survey years, from about 19% 2013 to less than 16% in 2022. Bus use fell sharply during 2020 related to the covid pandemic response bus has recovered slightly since then.

2.4 Pressure for more car travel to school has come from changing educational needs and school locations, lifestyle changes, altered perceptions of risk of alternatives, changing family structures, settlement patterns, employment changes, and demographic changes. Cause and effect for these observed changes are not clear and likely to be a combination of factors.

2.5 The most important family and lifestyle factors affecting the propensity to walk are parental choice of travel to work or working from home, parental social attitudes including perception of safety walking to school, number of cars in households and distance from the school. Parental work schedules are a key factor affecting working and schedules have changed in recent years due to the covid 19 pandemic and the restructuring of the economy. Current influences on walking to school are a complex mix of legacy effects from past walk to school programmes, combined with changing demographic, lifestyle and educational factors as summarised in Figure 2.1[4].

[1] Walk to School Evaluation Scotland – November 2022. DHC for Living Streets Scotland
[2] Sustrans 2023. Hands Up Survey Scotland August 2023
[3] 2022 Evaluation of the Living Streets Travel to School Programme.
[4] Updated from the 2016 evaluation of the Living Streets Walk to School Programme

Figure 2.1 – Understanding Trends for Walking to School

More Walking	Less Walking
Transport Trends	
• Increased level of public policy and community of support for active travel solutions • Path networks are improving in some communities • More walking for parts of journeys • Proportion of travel to school by bus reducing partly as a result of cost pressures	• Higher car ownership making car more often a default choice • Busier roads leading to greater difficulties crossing roads • Door to door solutions for travelling with friends easier to arrange by car
Educational Changes	
• Children with additional support needs attending schools nearer home • Support for healthy choices by pupils in education programmes increasing including more support for walking	• New school buildings located further from their catchment populations than the schools they replace • Small school closures resulting in longer travel distances • Increasing specialisms in education provision requiring some children to travel further to specialist centres. • School schedules changing with more restricted opening hours to save money
Social Trends	
• Parental working patterns changing with more working from home and more flexible working hours	• More parents working and relying on childcare at ends of the school day and walk to school opportunities are secondary to other time pressures. • Expectations of personal security creating parental pressure to curb independence to protect children • People have become more accustomed to considering services and facilities further from home affecting travel choices in many ways including for school.
Economic Trends	
• Many families with children now less well off than previous generations so require cheaper transport	• Lack of flexibility in housing markets requiring people to make less than optimal travel choices for schools • Housing locational choices increasingly dependent on cars

The evolving policy context

2.6 National Planning Framework 4[5], published in February 2023, changes the focus of planning in Scotland towards sustainable place making, with local authorities charged with identifying approaches that encourage local living, including the ability of more children to walk to school. Some authorities have started consultations on how to achieve these changes with specific new school proposals to enable more walking[6]. Applying these principles to rural areas has also been the focus of new planning and research activities[7].

2.7 As part of the new interest in walkable neighbourhoods, some have tried to identify what would be culturally reasonable distance for walking to school for different age groups, with up to about a kilometre from home to school being suggested by some[8]. However, child-friendly neighbourhood design also needs to consider the quality of the footpath network,[9] with sufficient space to be able to socialise when walking on local streets, such as access for buggies and carers side by side with the children walking to school. Many local authorities have been reviewing the minimum distance to school above which they are prepared to fund school bus travel with distances of one mile being increased to two miles or more. Both of these thresholds are more than the culturally desirable threshold suggested above of one kilometre, with little clarity from most transport authorities about what travel options are preferred for people living more than an attractive walking distance from school and with no bus option. This policy gap appears to be fuelling demand for increased car travel.

2.8 A detailed review into how the current economic restructuring and social change might affect the transport sector[10] concluded that the centralising tendencies of government, to preserve what they know, has been the dominant feature of the government response to transport since 2020 – with the research illustrating their findings with quotes from local authorities such as “What does this mean for transport? We will continue to do what we're doing”. The research identified a pathway for change that started with increased general acceptance that: more active travel is essential; that current funding models which underpin investment in large transport infrastructure must change; and that a new dynamic between land use and transport has the potential to radically change the way people travel as part of their everyday lives. However, many practitioners considered the idea of an immediate and sustainable shift in transport policy fanciful, noting that those seeking a more progressive or radical policy environment were finding that their organisations are unable to change policy priorities, so more substantial change was only likely in the longer term.

2.9 The weak economic climate is expected to be the dominant influence on public policy for some time, and the climate change agenda may offer some potential to align recovery measures with an acceleration of the transition to zero carbon. However,

[5] https://www.gov.scot/publications/national-planning-framework-4/

[6] https://www.edinburgh.gov.uk/news/article/13222/developing-20-minute-neighbourhoods-to-meet-edinburgh-residents-needs-better-locally

[7] Hitrans 2022. Living Well Locally - 20 Minute Communities in the Highlands and Islands. Hitrans/Sustrans

[8] Sustrans 2023. Chrildrens’ 20 Minute Neighbourhoods.

[9] NACTO 2020 Designing Streets for Kids.

[10] Marsden G. and Docherty I. 2021 Mega-disruptions and policy change: Lessons from the mobility sector in response to the Covid-19 pandemic in the UK Transport Policy.

transport institutions still appear to be rooted in justifying infrastructure expansion through travel growth, and are expected to continue to delay progress towards lower travel demand futures[11]. The weak economy may also have positive impacts, since the relative impact of community-based solutions such as those organised through school communities, is increasing[12]. The new focus in public policy on placemaking, and on people centric solutions in communities, as envisaged in NPF4, sets a policy context more conducive to well supported school travel behaviour change programmes.

2.10 Collaborative approaches to improving the journey to school using co-production techniques have been widespread in the UK for over 20 years, and these community planning approaches have been evolving[13] [14]. Collaborative walk to school programmes are widely implemented globally under programmes described as 'safe routes to school', including school travel plans involving a wide range of community stakeholders in the planning process. These plans are used to manage the delivery of improvements including[15]:

- Identifying champions within schools.
- Managing traffic and parking near schools.
- Infrastructure investment such as new road crossings, wider paths.
- Walking schemes to provide the guidance and social support to ensure safe walking opportunities are available for all (e.g. walking buses).
- Promotional activities to encourage people to develop a walking culture encouraging setting achievable targets such as walking once a week and incentivising managed growth using rewards.
- Promoting the personal benefits of walking for health, learning and the environment.

2.11 In Scotland, safe routes to school, including school travel planning, is once again being given a strong profile within the local transport policies of some transport authorities, supported by the growing national focus on placemaking and regeneration within planning policy[16].

2.12 Associated with the widespread adoption of working from home for at least part of the day, or on some days of the week, parents have more flexibility in their working hours allowing them to reappraise the support they offer to their children on school travel[17]. This may include some parents now being able to accompany children walking or cycling to school, when previously they needed to be travelling to a

[11] Brand, Anable, Ketsopolou Watson. 2020. Road to zero or road to nowhere? Disrupting transport and energy in a zero carbon world Energy Pol., 139

[12] Human Centric Transport Systems 2023. Edited by Bonin, Geurs, Reggiani, and Panayotis (2023) (forthcoming book from Elsevier with the proceedings of a Workshop in Seville in November 2022).

[13] Pemberton and Peel 2016 - New Models of Community based Planning in the Devolved UK https://planningexchangefoundation.org.uk/reports/Pemberton-and-Peel-Community-Planning-Project-Report-October-2016FINAL(DPSP).pdf

[14] Public Health Wales 2021. Active School Travel- A Route to Improvement.

[15] NICE 2012. Public Health Guidance PH41. Walking and cycling: local measures to promote walking and cycling as forms of travel or recreation

[16] Levelling Up the United Kingdom 2022. https://www.gov.uk/government/publications/levelling-up-the-united-kingdom

[17] Anable, J., Brown, L., Docherty, I. and Marsden, G. 2022. Less is more: Changing travel in a post-pandemic society. Centre for Research into Energy Demand Solutions. Oxford, UK. ISBN: 978-1-913299-15-6

workplace. Post pandemic travel patterns are still evolving, offering potential for new interventions to have a greater impact on household travel choices.

Effective practice in sustainable school travel promotion

2.13 In recent decades schools have been increasingly recognised as a key setting for embedding change towards sustainable transport attitudes and behaviour. Much of the literature on this has been discussed in previous evaluations of Living Streets school travel behaviour change programmes[18] showing that:

- Successful programmes to manage increases in active travel to school have depended on managing growth in walking to school systematically, so that all of the factors affecting school travel choices are tackled[19].
- Current influences on walking to school are a complex mix of legacy effects from past walk to school programmes, combined with changing demographic, lifestyle and educational factors, so the impact of any new programme depends on the local context and long term effects of previous interventions.
- Behaviour change occurs when management of improvements to paths, road crossings, traffic management and enforcement, are undertaken in parallel with the promotion of the benefits of these improvements.
- Leadership of walk to school programmes requires at least one local champion, with the determination to make a difference to co-ordinate partnership action to make improvements.
- To build understanding and trust in local communities, local evidence about experiences and demand for school travel is needed, to target active travel incentives, and ensure relevance to local people.
- Promotional activities that set and achieve goals with incentives and rewards are most useful for highlighting personal benefits.
- Flexible approaches are needed such as offering flexibility to accommodate working hours of parents.
- Investing in high quality local path networks on routes to school must be part of all school travel programmes, to ensure efficient management of traffic, parking, and road crossings.
- Aligning promotions with changing lifestyle needs, is achieved by associating active travel to school with the future of better personal health, education and an improved home and school environment.
- When schools view travel to school as a key part of the overall education experience, this helps to integrate transport goals for healthy active clean transport into the delivery of the education services. Travel to school is an important part of children's social experience, and journeys can contribute to a child's sense of belonging[20].

[18] Various reports published over the last five years including most recently Living Streets 2021 - Evaluation of School Travel Behaviour Change Programme. Report of 2021 Evaluation. DHC

[19] NICE 2012. Public Health Guidance PH41. Walking and cycling: local measures to promote walking and cycling as forms of travel or recreation

[20] Scottish Government 2013 – Going Smarter – Final Report on the Evaluation of the Smarter Choices Smarter Places Initiative.

- Walking to school is associated with improved academic performance, with meeting and talking to friends when travelling proving to be a positive factor supporting peer to peer learning and socialisation skills[21].
- Younger children who are wholly or partly responsible for directing their route to school by walking perform better in the classroom at tasks that require spatial skills[22].
- Many parents appreciate the quality time with their children when travelling together either from giving lifts to school or when accompanying walking trips[23].

Implementing WOW in Scotland

2.14 The Living Streets WOW programme combines local leadership through schools, supported by external teams within Living Streets using evidence led approaches and incentives for active travel to school. In Scotland, the WOW programme is delivered alongside many parallel programmes including: safe routes to school/school travel planning, bikeability, iBike, big walk and wheel (BWW), eco-schools, junior road safety officers (JRSO), daily mile, and a wide range of other social and environmental educational initiatives.

2.15 Having a range of resources available in schools can be helpful for reaching parent and pupils groups in different ways, but it can also be confusing, and divert focus from priority programmes. In 2020 Transport Scotland undertook research into the school travel programmes that they fund, with a number of conclusions relevant to the management of WOW alongside other parallel programmes including[24]:

- There is a need for a more clearly defined vision, scope and benefits of school travel programmes, and greater clarity is needed about the framework for Transport Scotland investment decisions, setting out how regional and locally led activities fit alongside and complement national initiatives.
- To improve communication about the wide range of school travel programmes the local points of contact used by different delivery partners should be systematically and regularly shared, alongside details of local champions working with each school to identify any overlaps, gaps or constraints in local capacity.
- Messaging about school travel programmes should be schools-focussed and linked to established online information resources, such as the national digital learning platform for Scotland GLOW.
- A more strategic approach is needed to reach schools to ensure more equitable and responsive coverage across the country, clearer signposting of resources and funding within delivery partners and across local and central government including co-ordination with Education Scotland, and clarity on links to the curriculum.
- Greater clarity is needed on the costs of programme delivery, and the sustainability of future funding to assist partners with delivery planning.

[21] Singh A, Uijtdewilligen L, Twisk JW, van Mechelen W, Chinapaw MJ. Physical activity and performance at school: a systematic review of the literature including a methodological quality assessment. Arch PediatrAdolesc Med. 2012;166(1):49–55.

[22] Davison P, Reed N, Halden D and Dillon J (2003) Children's Attitudes to Sustainable Transport. Final Report. Scottish Executive Social Research.

[23] AA 2000 – The Family and the School Run

[24] Transport Scotland 2021. Evaluation of Transport Scotland's Walking and Cycling Schools Programme.

2.16 There is no published research available exploring how the outcomes and impacts of different travel initiatives at Scottish schools are affected by the interactions between parallel programmes. Some of the individual programmes also appear to have very limited evidence about their claimed outcomes and impacts. Some interactions between WOW and other programmes is explored in Chapter 4 of this report, building from the available evidence about parallel programmes as follows:

- Eco-schools have been running for many years based on evaluations of their effectiveness[25]. A substantial transport component including walk to school promotion is included in some eco-schools initiatives, but other schools include no transport measures, concentrating entirely on other eco initiatives. An eco-school green flag award does not therefore signal any green transport activity at a school, but many schools undertaking other transport programmes, such as WOW, mention this in their eco-school submissions, so eco-schools could be helping to add value to WOW programmes.
- The Big Walk and Wheel (BWW) programme was a competition in March 2023 to see which schools could record the greatest number of pupils walking, using a wheelchair, scooting or cycling to school. Since 2011 the annual Sustrans Big Pedal competition has been arranged to raise awareness of cycling to school but for 2023 this event was expanded to include other active travel options. For trips to qualify for active travel to school in the BWW, participants needed to make at least 10 minutes of active travel journey by foot, using a wheelchair, scooter or cycle. A school's best five days were then used to determine their final position in the competition. Schools at the top of their leaderboards received a certificate. Higher levels of participation were also rewarded with prizes including cycle and scooter accessories. Levels of active travel recorded for the participating schools were published by Sustrans, so these can be compared with active travel recorded using other school travel programmes.
- It is estimated that over half of all Scottish primary schools currently use the Daily Mile to improve children's fitness. The Daily Mile was first developed at St Ninian's Primary School in Stirling in 2012 and its successful growth since then seems to be a result of its simplicity, the autonomy given to classroom teachers over how they apply it at their school, and the benefits observed anecdotally by children, teachers and parents[26].
- Safe Routes to School including school travel planning seek to systematically address all of the barriers to safe active travel to school. Effective management of school travel programmes through a site specific plan should help to ensure that all of the other initiatives being promoted are targeted and co-ordinated appropriately[27].
- Bikeability is a structured programme of cycle training managed across schools in Scotland including road awareness skills. Levels 1 and 2 are offered in many primary schools[28].

[25] Pirie et al 2006. Evaluation of Eco Schools Scotland. University of Glasgow.
[26] Ryde GC, Booth JN, Brooks NE, Chesham RA, Moran CN, Gorely T. The Daily Mile: What factors are associated with its implementation success? Van Horn L, ed. PLoS One. 2018;13(10) doi.org/10.1371/journal.pone.0204988
[27] Going Smarter 2013. Evaluation of the Smarter Choices Smarter Places Programme. Final Report. Scottish Government.
[28] https://www.bikeability.org.uk/

- iBike is a programme managed by Sustrans with classroom and outdoor activities to learn about sustainability, cycling and a range of related travel and environmental issues[29]. Sustrans report that it has been delivered within about 300 primary schools located across Scotland in about half of local authority areas.
- There are a range of road safety programmes being promoted by the national road safety agency Road Safety Scotland at primary schools. These include Junior Road Safety Officers, Roadstars and Ziggy training resources. Not all schools participate in these, but managing safe travel is a key part of active travel promotion.

Other related community led initiatives

2.17 School streets are programmes where temporary restrictions on motorised traffic are implemented at school drop-off and pick-up times. School streets are generally community driven initiatives, where groups such as parent teacher associations or local residents groups build sufficient local support to successfully promote and manage timed traffic restrictions[30]. The restrictions can apply to school traffic and/or through traffic, with the aims of creating safer, healthier and pleasant environment for children to travel to school.

2.18 Approximately 100 schools, mainly in South East England and including a F1 12.0 Tdyant

3.0 Understanding User and Non-User Perceptions of WOW

3.1 To understand perceptions and experiences of WOW, surveys were undertaken of schools, local authority staff and other partners. These sought to identify:

- Factors affecting participation in WOW.
- Using the WOW programme in practice.
- Travel and transport benefits.
- Social benefits.
- Ways that WOW is enhancing the educational experience.

3.2 In discussion with Living Streets, 21 schools were sampled for detailed survey. Staff were contacted initially by e-mail, and following e-mail exchanges, relevant staff for telephone interview were identified, with each interview leading to follow up correspondence with partners, to clarify specific issues and to ensure different perspectives were heard. Three schools were then selected for group discussions with pupils, parents and staff to add more depth and detail to the surveys in urban, peri-urban and rural settings. The participants in these surveys are described in Appendix A.

Factors affecting participation in WOW

3.3 Support for WOW from staff and parents at schools was strongly driven by perceptions of a need for change. Cars near the school gates dropping off children was the primary concern, with WOW offering a relatively simple approach to influence travel behaviour within the school community. Peer support within school classes is used to help influence value systems amongst pupils, as they seek to win WOW rewards and persuade their parents not to drop them by car at the school gate.

"Parents don't listen to the school but they do listen to their own children"
(Parent at WOW school)

3.4 Reducing travel emissions on the school journey was cited as a goal for many schools, with some noting the gap between children's support for environmental goals and parental attitudes.

3.5 The school children were strongly motivated by the competitive aspects of WOW, not only competing between classes in the school, but with other schools. Where participation in WOW demonstrated a sense of achievement for schools or classes, this helped to make WOW popular, encouraging schools to continue to use it to monitor school travel.

3.6 However, a corollary to this motivation was that the main reason for some schools not participating in WOW was that they had little chance of becoming competitive on active travel mode share. Schools reliant on bus or taxi travel, or simply with catchment characteristics that made park and stride options more complex, did not want the school to be regarded in any way as a lower performing school. Ensuring that these schools did not adopt WOW was a good way to protect the school against the pressure of unfair competition.

3.7 Even schools that perform well on active travel levels felt frustrated that other schools, with many fewer challenges to achieving high levels of active travel, were ranked higher in the Living Streets, national and regional leader boards. There were also good suggestions for how to overcome these problems. Being able to join a

league of schools with similar challenges and opportunities would enable more inclusive competitive opportunities than current competitions between schools allow. Children noted that competition at sports only worked if it was fair. Parents suggested "something like Duolingo leagues" where there was always an achievable but competitive challenge helping to motivate participation.

3.8 Several schools considered it unfair that those who arrived by bus or taxi were not able to get badges, so adopting WOW depends on overcoming these problems. Some schools suggest children who walk to bus stops should enter their trips as park and stride, whilst others ask pupils to enter walking if they have exercise during the day, as discussed below in para 3.12.

3.9 Maintaining support over time can be hard, so some schools suggested introducing awards to recognise long term commitment to WOW. Working hard over many years towards constant improvement is a more significant achievement than recording high levels of active travel that are easy to reach at some schools.

3.10 The use of themed weeks was welcomed in some schools as a good way of keeping WOW fresh. It was similarly important to refresh the rewards for pupils to keep them interested as they progress through the school. Alternative rewards to badges are needed for some older pupils.

Experiences using WOW Travel Tracker

3.11 There were no experiences reported where people had difficulty using the WOW Travel Tracker, but many suggestions about how reporting classifications could be changed to better reflect the complexities of journeys that rely on more than one mode.

3.12 Some children noted that they did not get rewarded with badges since they came to school by bus, even though their walk to the bus pickup point was a longer walk from home than many pupils who lived locally and only walked to school. These children feel left out if they do not receive badges. The families of these children have choices about whether to rely on buses or take children to school by car, so several schools were concerned about the lack of rewards for these pupils. Across the schools surveyed, teachers, children and parents all considered that the children relying on bus and taxi transport should get rewarded somehow. Currently some schools have implemented modifications to WOW, commonly recording the exercise that children achieve when completing a 'Daily Mile' route on the school campus. Some schools noted that they had agreed with Living Streets staff ways to achieve this that ensured continuity of badge supply. These modifications to WOW affect every school to a greater or lesser extent.

3.13 In all schools there were some teachers more enthusiastic about WOW than others. This shows through in the class by class reporting in each school with some classes not reporting every week. Some schools said they had overcome this challenge by getting selected pupils, often Junior Road Safety Officers (JRSOs), to take responsibility for the reporting. Enthusiastic JRSOs appear to be able to overcome any teacher reluctance in particular classes.

3.14 Sharing the results from the WOW Travel Tracker at school assembly was probably the most widely reported mechanism for celebrating achievements in active travel to school, but many schools also used school newsletters, including those with inputs from parent teacher associations, to ensure that everyone was aware of what was

being achieved. This was particularly important for disseminating messages about where to drop off children to keep cars away from the school gate.

"Pupils described their experiences such as a car reversing toward them and of air pollution where they were waiting for the bus, and the stories were displayed on the school notice board"
(Member of staff at WOW school)

3.15 In some schools, pupil councils were able to take responsibility for communicating results including the preparation of newsletters and videos describing what the children had achieved.

3.16 Some schools reported that badge supply continued to be erratic, and there were various perspectives on where the supply chains failed including: Travel Tracker reporting irregularities, policies for distributing badges being different in the school from the Living Streets expectations, and mail handling within the school.

3.17 The badges are hugely popular with children, and designing badges in class helps children to think about relevant topics related to school travel and sustainability. Schools are not clear why more different badge designs could not be featured to ensure that designs by local and regional schools are regularly featured.

3.18 Schools sometimes feel unsupported, although staff from Living Streets are often available to provide advice. More publicity about schools that are considered to be demonstrating the leading practice, would help schools that do not know where to start. Currently the Living Streets WOW pages on the website do not have as much detailed support as they could.

3.19 One of the strengths of WOW was that it can be applied in different ways at different schools. Some schools input data once or twice a week whilst others choose daily input as part of a regular daily routine.

3.20 Some schools mentioned that concerns had been expressed about the handling of WOW Travel Tracker data to ensure confidentiality of pupil data. Data security is always a sensitive issue, and it was suggested that better communication about data handling policies in publicity about WOW could help to ensure that misunderstandings are avoided.

3.21 The WOW Travel Tracker data was widely regarded as a greatly underused asset in most schools. Better use of the data in communication with parents and outside organisations can help with the planning of school activities for maximum impact. One particularly helpful use of the data was by Cycling Scotland for identifying in their annual cycle monitoring[32] how levels of cycling vary throughout the year and relate to interventions such as cycle training.

Travel and transport benefits

3.22 In the absence of traffic problems some teachers noted that it had been difficult to get support for using WOW within the school. For example, one small village school noted that local children all walked, and others were all brought in from the rural hinterland by car and taxi, so it was not clear what WOW could contribute.

[32] https://www.cycling.scot/mediaLibrary/other/english/Annual_Cycling_Monitoring_Report_2022.pdf

"As a small school with a car park, children are usually dropped off without too many problems"
(Member of staff at non WOW school)

3.23 However, most schools recognised the benefits of children being dropped off at least five minutes' walk from the school gate, keeping cars away from the school and ensuring that children benefitted from some exercise on the school journey. Children wanted clearer guidance on what length of walk was acceptable for a park and stride journey. Schools with school travel plans showing safe routes in active travel zones had clear frameworks for defining where parents should park, to ensure a suitable length of stride. However, many schools did not have these safe routes and active travel zones clearly designated. One option discussed in the focus groups, was that WOW league tables of schools should clearly separate schools with and without travel plans designating safe routes. Schools measuring compliance with designated safe routes through the WOW Travel Tracker monitoring were reporting something very different from schools measuring less well defined travel patterns.

3.24 WOW results were often used by schools to feed into school travel plans such as negotiating use of spare car parking spaces for drop off, based on known demand, in nearby car parks owned by sports clubs, recreational facilities, and offices. The WOW results have been used as evidence of demand for new drop off points, and assisted with local authority action to prioritise space in public car parks at specific times of day for pupil drop off.

3.25 The daily reporting of travel patterns was also used in some schools as an opportunity to log other travel problems, so that action could be taken. Pupil reports of broken streetlights, damaged signs or overgrown paths were then used by the responsible teacher to enter details in local authority reporting systems, such as Fix My Street, to prompt action. One school reported that a potential hazard identified as part of the regular WOW reporting on a school walking route was fixed by the Council within hours of being reported.

3.26 The loss of school crossing patrols, and rationalisation of some school bus services, was reported to be a problem at some schools leading more parents to rely on car travel to school. Some schools noted that the WOW data was being used to show how these changes were affecting travel. In one case a local private business sponsored an additional school crossing patrol.

3.27 Although many transport authorities have policies to allocate school bus places and school crossing patrols based on the availability and design of safe routes to school, there was no evidence from any of the schools surveyed of these policies being followed in day to day practice.

3.28 At most schools there are strong links with road safety programmes including using resources provided by Road Safety Scotland. Some schools do not encourage cycling until children have completed their Bikeability training. In one school Walkwise training was also supported to ensure that children gained the skills they needed to be able to walk to school safely.

"It does not seem right to promote walking without supporting children with the training they need to be able to walk to school safely"
(Member of staff at WOW school)

3.29 There was widespread concern about the growing levels of traffic on the road network, and the lack of action by local roads authorities to add pedestrian crossings, traffic calming and other road improvements to better manage the increased traffic.

Some schools were near areas of new housing that has resulted in major changes to the safe routes chosen by children for walking. Some schools found that communication with roads authorities was only achieved via local elected Council members, who were better able to initiate action. It seems that with current pressures on time, some local authority officers need clear guidance from elected members to be able to prioritise action on these issues.

3.30 Timed restrictions on the use of streets past schools, by some or all vehicles, were mentioned by many schools as ideas they would like to see implemented, but most schools were not sure how they would successfully get such changes made. Parents and teachers regularly noted that they had raised concerns with roads authorities, but had not received replies, so did not know what the next steps might be. Overall, many parents and teachers felt disempowered, and unable to prompt or lead change towards safer streets. The WOW data provides clear evidence at each school on how children travel, so was recognised as an under-used resource for empowering community action.

3.31 Some schools commented that there seemed to be many programmes to encourage active travel to school, but WOW was different because it continued all year round. Teachers noted that they were often not clear about the benefits of one-off events for sustainable transport promotion, but WOW was more like other core educational programmes where children learned over time by regular activities and monitoring to manage child development.

3.32 It was suggested that the organisations providing interventions at schools should prepare clear guidance to help schools navigate the available advice, and how it is resourced. Bikeability officers were embedded in some local authorities and iBike officers in others, so collectively there is a good reach for walk to school programmes across Scotland. A condition of awards for investment in schools, including infrastructure changes, could be that WOW is used to monitor the effects of the investment. Further work is needed to bring clarity to the organisation of investment in school travel, with clear protocols for joint promotion and collaborative delivery.

Social benefits

3.33 Walking to school was widely recognised as good for children's social development, and opportunities for socialisation on the school journey were seen by many as the strongest motivation for walking to school. For younger children accompanied by parents, socialisation opportunities on the school journey between parents and between children determined the choice of travel.

"If I could not walk with friends I would not walk"
(Pupil at WOW school)

3.34 The WOW does not currently monitor levels of socialisation on the school journey, and in the focus group discussions children and parents suggested ways WOW might give additional rewards for pupils who travelled with others. Parents and children placed a high priority on ensuring that everyone had a buddy to travel alongside, sometimes linked to participation in walking buses or encouraging travel in larger groups.

3.35 Links with health and wellbeing programmes are important in many schools, with the case for WOW being made based on its contribution to children's health. Schools are concerned that there are many potential programmes that they can choose between, but they are not best equipped to choose which one will work best for them.

The 'Daily Mile' is sometimes seen as a more inclusive approach to ensure all pupils get health exercise and the Big Walk and Wheel can be a good event to prompt short term interest in active travel. If schools had a clearer menu of what was available, and how it was designed to help them, they would be better placed to make better choices.

3.36 Several schools noted that support for WOW was highly dependent on parental pressure, and if the parents did not press for WOW to continue then the school would not prioritise it. Parents see a key role for schools as social leaders in their local community, with WOW being one proven approach to manage lower traffic levels and support walkable streets.

3.37 Some parents noted that they knew people who wanted their children to be seen in large smart cars as near to the school gate as a symbol of social status and power. WOW could be used much more effectively as a tool for helping to boost the social status of those who travel sustainably.

Enhancing the educational experience

3.38 The WOW programme can directly support educational objectives with useful support materials provided by Living Streets to help integrate WOW activities into the curriculum. However, no school could identify ways that local authority education officers had engaged with their WOW programme. Council involvement in these activities was much stronger from road safety, elected members, school transport and school crossing patrols and other related roads and transport issues. Council education officers able to better align WOW implementation with educational priorities could help schools to make the most of increasingly stretched school resources.

3.39 Schools highlighted many ways that WOW linked into other educational activities. Links with the eco schools programme were very common with WOW being included in many submissions for eco green flag status.

3.40 WOW was also highlighted as part of technology use and skills development, with one school noting it was featured in their digital leaders programme.

3.41 Children work hard on badge designs, thinking about the local environment and learning about art and design. Several schools commented that it was a shame there was no prize for their designs. More could be done to reward the efforts of schools in badge design.

Summary of key points from the surveys

3.42 WOW is regarded as a successful programme that has the potential to be improved and expanded. Children are highly motivated by competition, but also frustrated that anomalies in recording of active travel lead to unfair comparisons being made between schools, particularly for multi-modal journeys such as most bus and park and stride trips.

3.43 Most schools have found local adaptations to WOW are needed to fit their local situations, but some schools considering participation want to see these adaptations formally recognised and adopted into the programme design and software systems. Enhancing WOW to make more of the links to sustainable transport, social development, educational attainment, healthy lifestyles and environmental awareness will greatly assist in the expansion of WOW to more schools.

3.44 WOW is a useful approach to assist education authorities discharge their statutory responsibilities to ensure that every child can access education, but it is still more common for authorities to allocate school bus places or school crossing patrols and facilities based on legacy metrics, than to use best practice approaches such as a school travel plan with a personal journey plan for each child monitored through a system such as WOW.

3.45 Everyone was agreed that primary schools are amongst the most important organisations in society for managing social change, but teaching staff noted that demands on staff were currently unreasonable. Anti-social driving and parking behaviour are complex social problems reported at every school, that can partly be solved by children at school persuading their parents to adopt more socially designed practices. Participation in WOW with teamwork in the classroom on a competitive programme demonstrates how to manage change within local communities. Schools reporting successful engagement with local authorities and the police were all able to describe positive action by all stakeholders creating the required level of social support for changes towards sustainable approaches.

3.46 Parents want their children to do well, and develop strong friendships at school, but the WOW reporting mechanisms do not currently reward people for travelling with friends, compared to those who travel alone. Schools and classes competing through WOW to include more friends in their walking group could help to deliver multiple benefits with safe travel, incentives for buddy schemes at more schools, and support for families concerned about the welfare of their children on the school journey.

4.0 Travel to School Analysis

4.1 To complement analysis from previous evaluations in 2017, 2019, 2020, 2021, and 2022 this analysis focuses on:

- Participation in WOW by location type of school and year group
- The impacts of WOW on travel to school
- How WOW interacts with other school travel programmes
- Impacts of WOW by type of school and catchment

4.2 Based on this data analysis the impacts of the programme are then evaluated in Chapter 5.

Data assembly

4.3 The available national and local data had been assembled in a database as shown in Table 4.1.

Table 4.1 – Data Assembly

Dataset	Spatial detail	Years	Notes
Travel Tracker (TT)	Schools	2012-2023	Data obtained from Living Streets for the schools that have used the Travel Tracker within WoW programmes
Hands up Survey (HUSS)	Most schools but excluding some parts of Scotland	2009 to 2022	Data obtained from Sustrans for 30 out of 32 council areas. Two Councils: Stirling and South Ayrshire did not respond to requests for permission.
Population and population classes in the catchment for each school	Schools	2021	Calculated catchment populations from the mid year population estimates within 800 metres, 1.6km and 3.2km of schools[33]
School catchments by health, educational attainment, employment status, and crime rate	Schools	2016 and 2020	The Scottish Index of Multiple Deprivation (SIMD was comprehensively revised in January 2020)

4.4 Of the two Councils not authorising the release of the HUSS data, Stirling Council has five schools participating in WOW in 2022/23. South Ayrshire does not appear to be particularly active on school travel issues, but Sustrans report in their national HUSS results that 36 South Ayrshire Primary schools provided data on mode choice in the September 2022 HUSS survey.

4.5 The wider access to HUSS data in this report than in previous years allows analysis from previous years to be refreshed, so even without additional new data from the HUSS surveys in September 2022 being added, there is also additional data for previous years that helps to make the analysis more accurate.

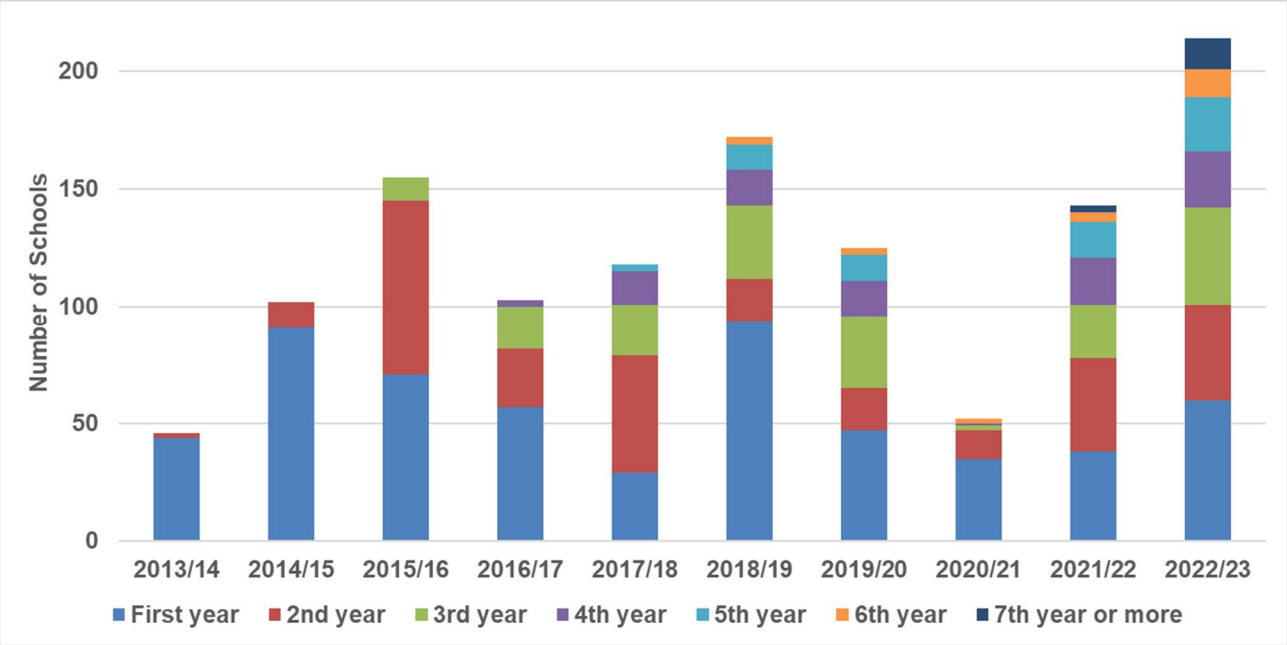
Participation in WOW

4.6 Over the last decade a total of 528 primary schools, 26% of the total number of primary schools in Scotland, have had active participation in WOW at some point.

[33] NRS 2021 – Mid Year Population Estimates - https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates/mid-2020

Figure 4.1 shows the number of schools with active engagement in WOW for each school year. Active engagement is defined as having 5% of more of the number of pupils on the school roll recording their travel in at least one month of the year.

Figure 4.1 – Number of Schools Engaging in WOW by School Session

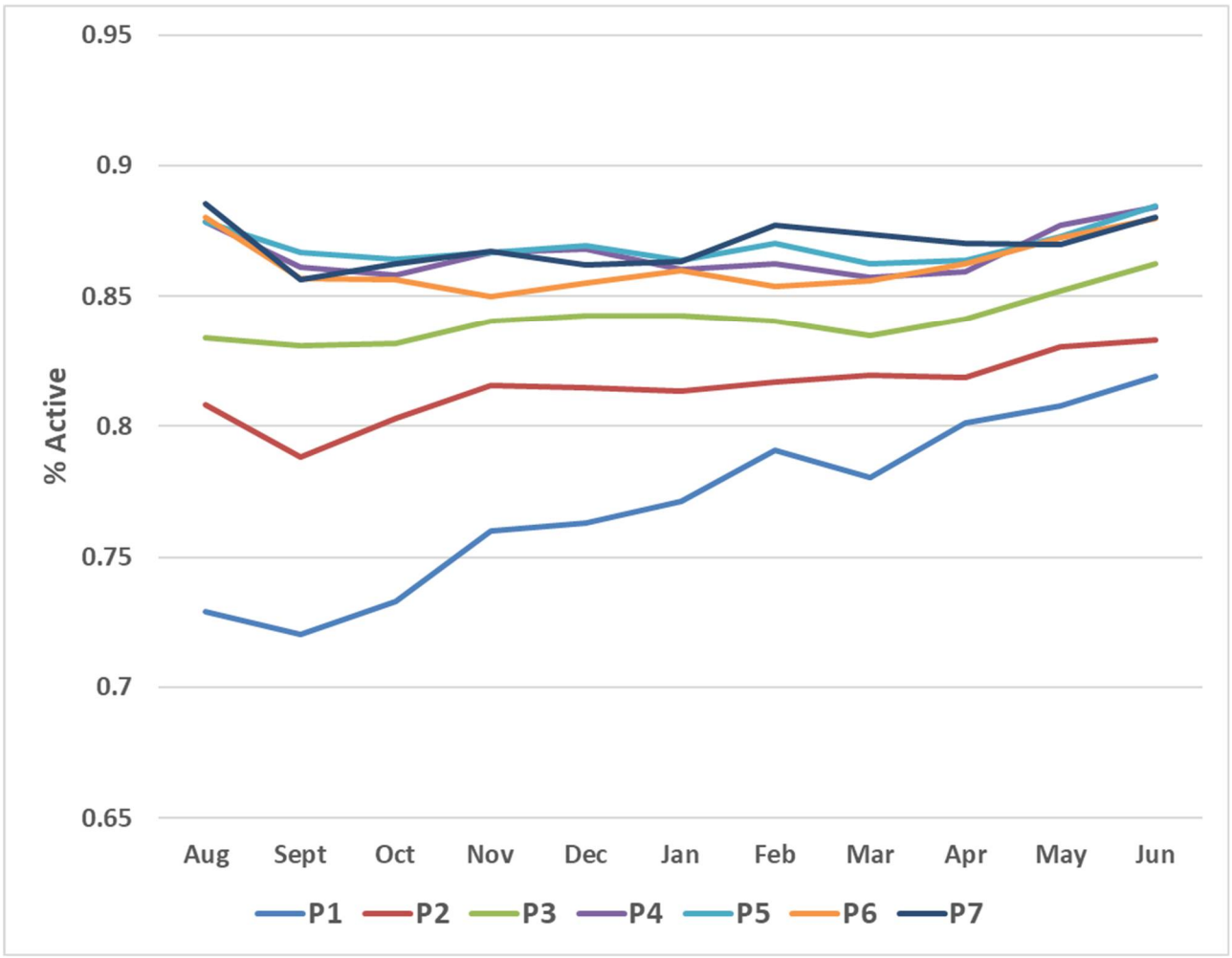


4.7 In the 2022-23 school session 219 schools participated from 24 council areas. This makes the 2022/23 the largest WOW programme since the programme started.

4.8 In Figure 4.2 the active travel levels are summarised by year group. As would be expected, the pupils at the top end of the school are able to maintain higher levels of active travel than the younger age groups. As each school year progresses, the younger children are able to work towards higher levels of active travel.

4.9 Primary 1 and Primary 2, and to a lesser extent Primary 3 have lower levels of active travel, particularly in the winter months. However, the more important effect is that pupils in Primary 2 start each new school session building on the progress towards more active travel learned in Primary 2 and similarly for the move from Primary 2 to Primary 3. From Primary 3 onwards fluctuations in national levels of active travel by school year are relatively small.

Figure 4.2 – Active Travel Recorded in WOW Travel Tracker Data Averaged Across Classes of Schools Participating in WOW the 2022/23 School Year

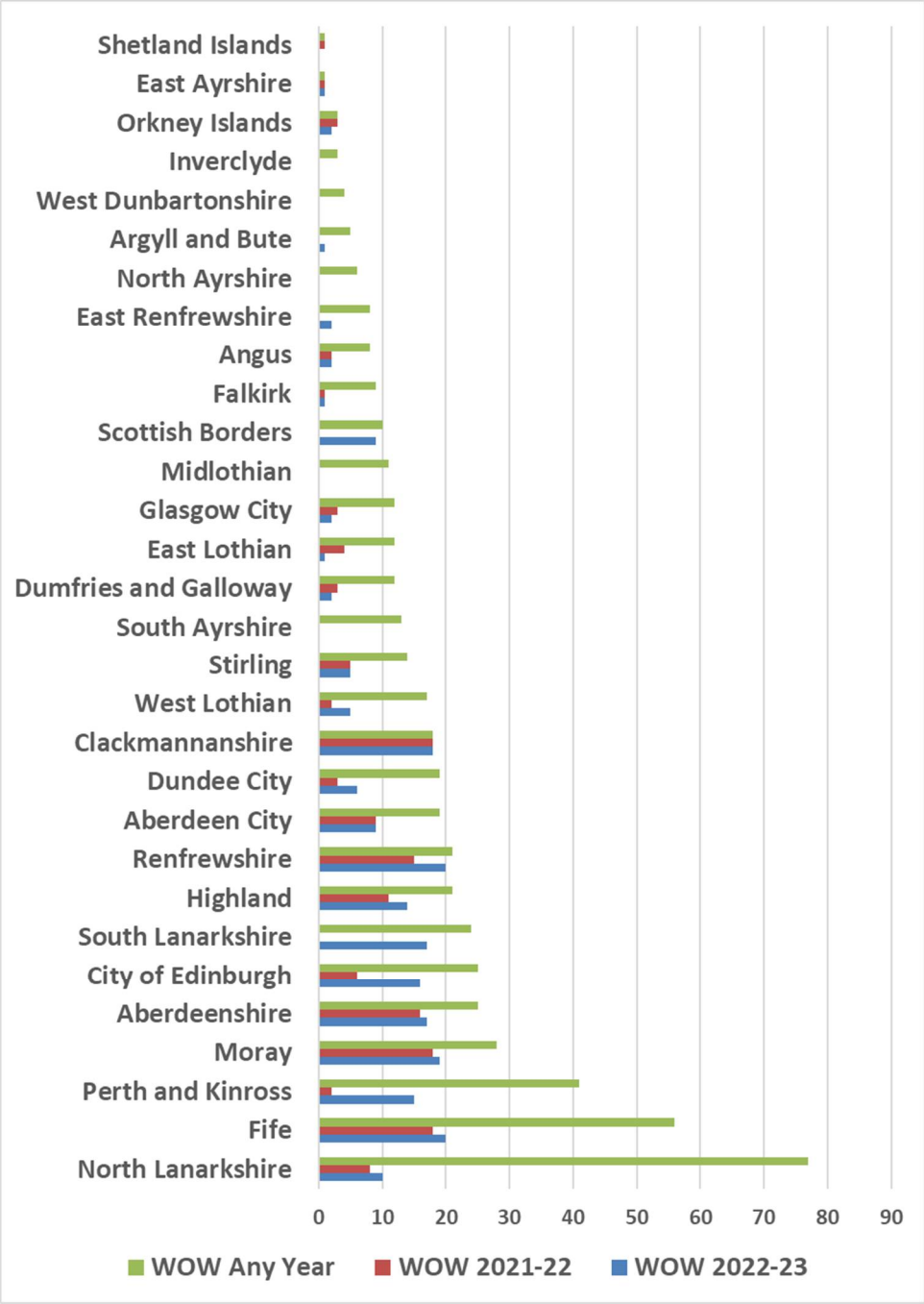


Coverage of WOW

4.10 Figure 4.3 shows that 21 local authorities participated in the programme in 2022/23. 30 of the 32 Scottish local authority areas have had schools participating in WOW, with only East Dunbartonshire Council and Western Isles Councils not yet having schools participating in WOW at any point.

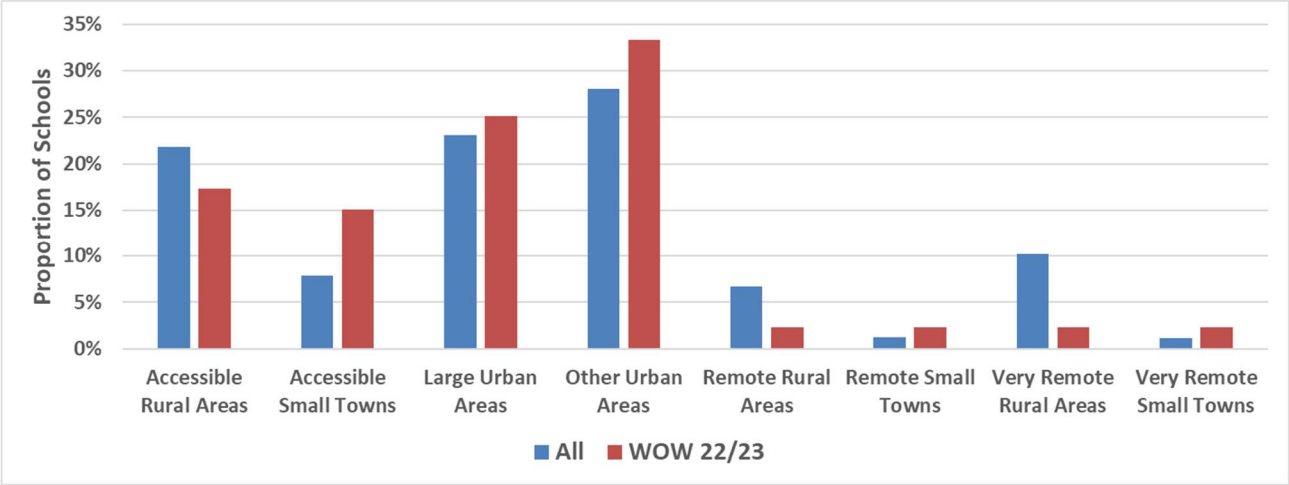
4.11 60 of the schools in the 2022/23 programme were new to the programme, the largest intake of new schools since 2018. Despite this large intake to the programme, 2022/23 was also the year with the largest number of schools that had been participating for three or more years, and 12% of the participating schools have been using WOW for six or more years.

Figure 4.3 – Local Authorities with Primary Schools Participating in WOW



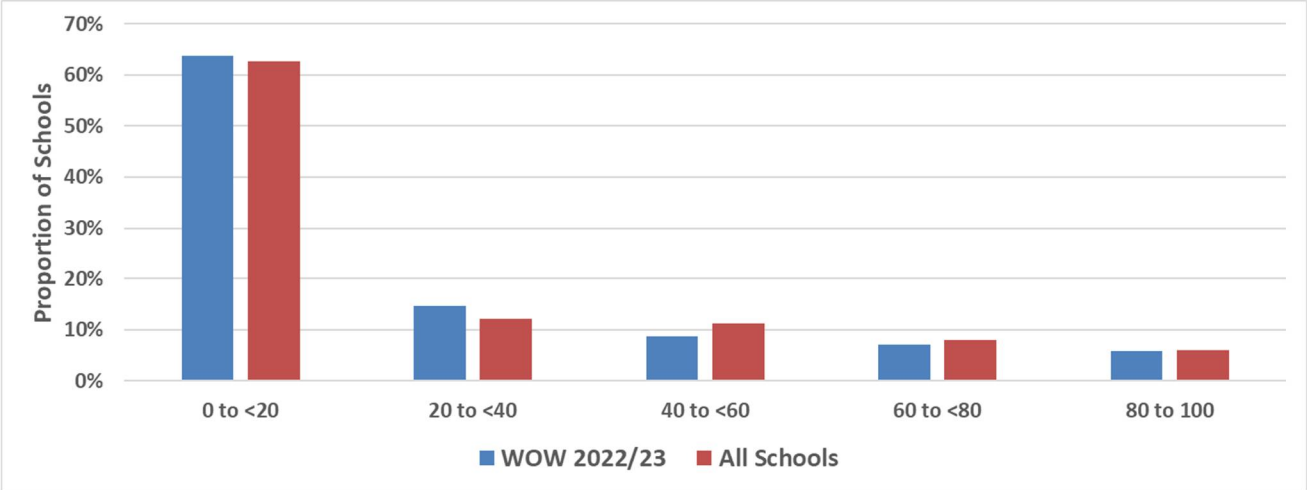
4.12 WOW schools participating in the 2022/23 programme are distributed across urban and rural Scotland in broadly the same proportions as for all schools. Figure 4.4 shows that accessible small towns such as Newtonhill in Aberdeenshire and Tillicoultry in Clackmannanshire are strongly represented in the WOW programme. In Chapter 3 the discussions with schools in accessible small towns revealed rapidly growing traffic problems, with high levels of new housebuilding in some of these towns. The higher than average deployment of WOW may in part be driven by the greater likelihood of schools in these areas to be facing particular challenges at present.

Figure 4.4 – WOW Schools in 2022/23 Programme by Urban Rural Classification Compared with National Levels



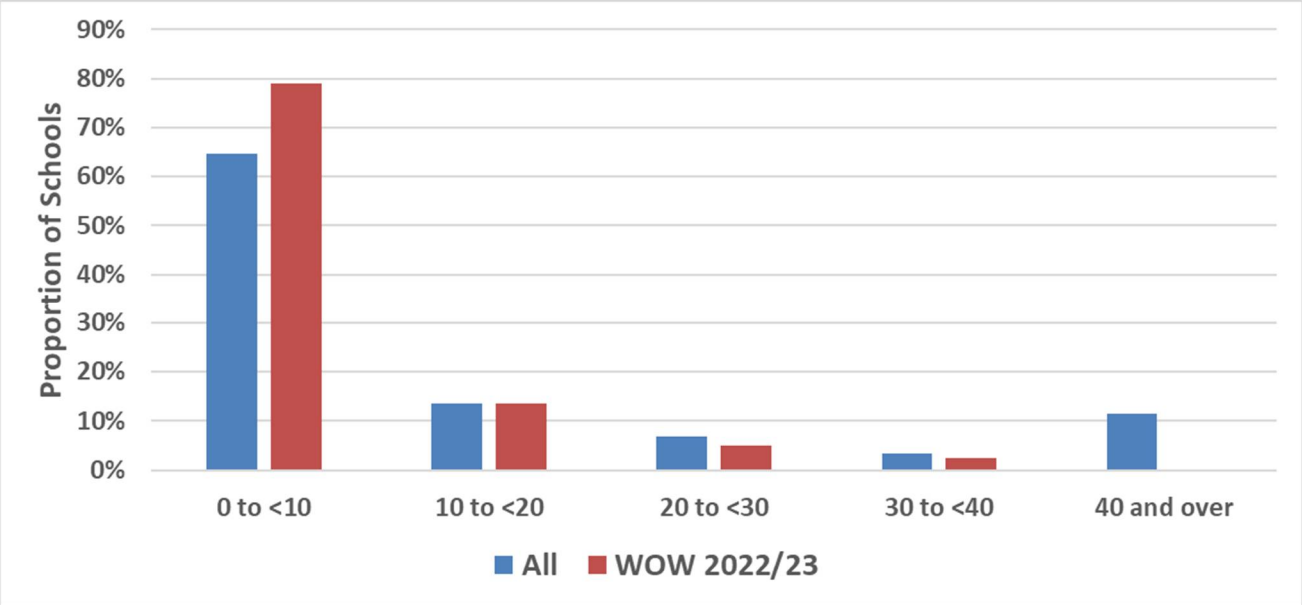
4.13 The WOW schools participating in the 2022/23 programme also closely match national deprivation characteristics with most schools being located in less deprived areas but with 6% of schools where more than 80% of households in the catchment are in the most deprived 10% of the population.

Figure 4.5 - WOW Schools in 2022/23 Programme by Deprivation Classification Compared with National Levels



4.14 Concerns about how to apply WOW in schools highly dependent on bus travel were widely expressed in Chapter 3. Figure 4.6 shows that the 11% of primary schools with more than 40% of pupils arriving by bus are not represented at all in the WOW programme. As noted in Chapters 2 and 3 there has been a shift away from bus travel to primary school towards car, which affects walking to school. The weak representation of WOW, in schools more dependent on bus travel, could be adversely affecting the ability of certain categories of school to use WOW effectively to promote walking.

Figure 4.6 - WOW Schools in 2022/23 Programme by HUSS Bus Mode Share Compared with National Levels



Changes in levels of walking to school

4.15 WOW provides the most detailed data on walking to school available for day to day management of travel within schools. Understanding these changes helps the schools to understand where they are achieving success, and what more needs to be done to support more pupils in the travel choice decisions. The overall level of change observed in the WOW Travel Tracker data also reflects the characteristics of the schools participating in WOW.

4.16 In order to identify the extent to which WOW is impacting on travel choices to school, the WOW Travel Tracker data needs to be compared with other comparator schools that have not participated in the programme. This is achieved by using the HUSS data. Although the annual HUSS surveys do not give such a detailed overview of changes in levels of walking at a school level, the HUSS data allows comparisons to be made between the sample of schools that participate in WOW and those that do not. In September, when the HUSS surveys are undertaken, pupils in each school year will only recently have returned from summer holidays with only a proportion of the travel behaviour change at the school carrying forward from the classes that participated in the previous school year to the new school year. To further complicate the analysis of the data, each year the sample of schools that participate in WOW changes. The average proportion of walking shown for the WOW school sample depends partly on which schools adopt WOW in any year.

4.17 HUSS measurements in September of a year depend partly on interventions through WOW in the newly started school year, and partly on WOW interventions in previous years. It would therefore be misleading to seek to correlate HUSS measurements in a school session with WOW measurements in the same school session. Instead, a more accurate approach is to study changes in levels of walking over time, measured

by the HUSS data for both WOW and non WOW school samples. This helps to identify what impact WOW participation is having on walking to school over time.

4.18 Table 4.2 summarises the proportion of pupils walking at WOW and non WOW schools by length of participation in WOW between 2016 and 2023. The sample sizes are small and broad averages cannot reflect the range of impacts observed during the period, which includes years when education was disrupted by the Covid pandemic. However, it can be seen that longer term participation in WOW is associated with higher levels of walking to school.

4.19 Some of the schools may choose to participate in WOW because they have higher levels of walking and wish to do more of what they are already good at, whilst others have chosen to participate in WOW because they perceive a particular need to take action. In Chapter 3 it was observed that many schools not participating in WOW had chosen not to do so because they did not see a need, whilst WOW schools noted the presence of problems such as road safety or car congestion. Without implementing the WOW programme, the WOW schools could have had walk levels below the 42% average for non WOW schools. Alternatively, if participation in WOW is more strongly related to the ability to achieve higher levels of walking, then the WOW schools might have had higher levels of walking without participating in WOW.

Table 4.2 – Sample of schools participating in WOW since 2016 including average proportion of pupils walking to school within each sample

	Number of schools in sample	% walk
Non WOW	1477	42
1 Year WOW	132	44
2 Years WOW	79	44
3 Years WOW	47	47
4+ Years WOW	56	49

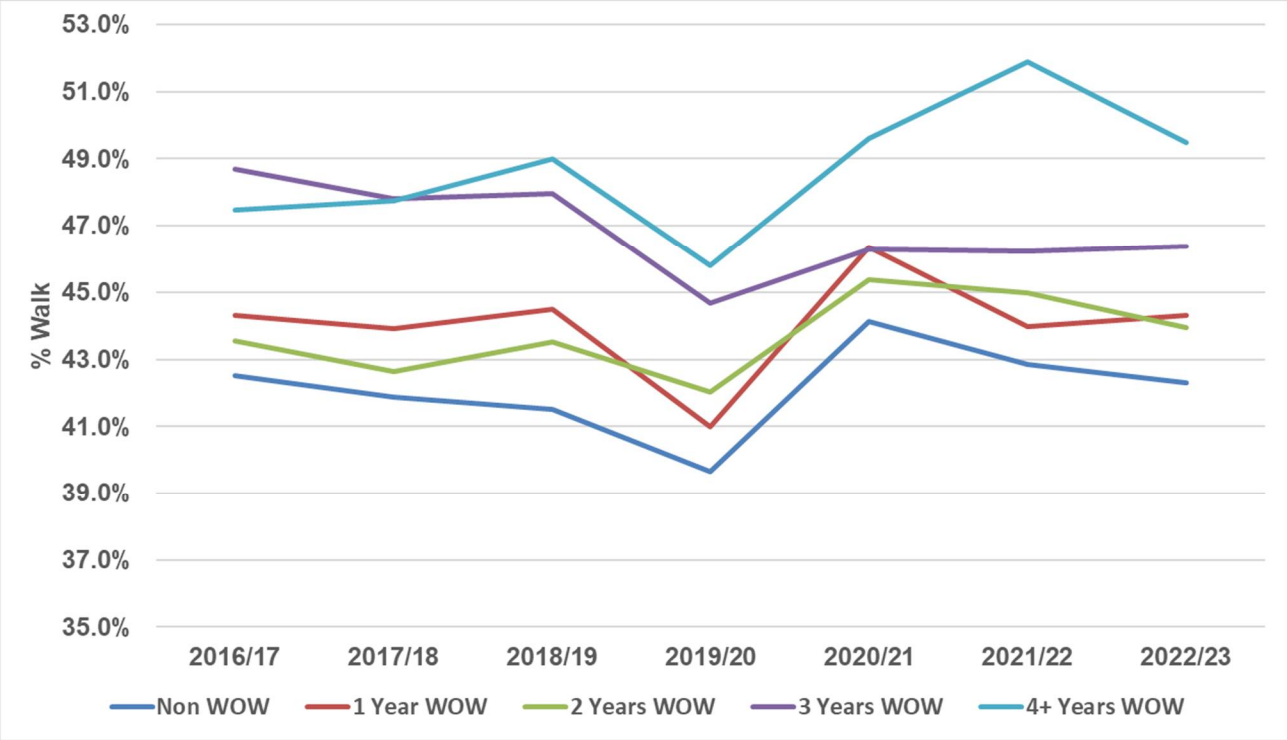
4.20 Averages can be misleading. Some schools will benefit much more than others from WOW if a lack of promotion of walking is the critical factor constraining walking, whilst schools with other barriers to walking may take longer to benefit whilst these wider factors are tackled using WOE evidence. To help assess the range of uncertainty, for the beneficial effect of WOW on levels of walking to school, the HUSS data for the sample of schools by length of WOW participation is shown by HUSS year in Figure 4.7. This view of the data also shows that participation in WOW has consistently been associated with a higher proportion of pupils walking to school, and that longer term participation in WOW is associated with higher levels of walking to school.

4.21 As noted above, HUSS 2022/23 data collected in September 2022 will not capture much of the impact of the expanded WOW programme over the 2022/23 school session, and HUSS 2016/17 data will include many schools that were already participating in HUSS before September 2016. Nevertheless, in the 2022/23 HUSS data, schools that had participated in WOW for 3 years between 2016 and 2023 had levels of walking nearly 5 percentage points higher than for non-WOW schools and

schools participating for 4+ years had levels of walking nearly 8 percentage points higher than for non WOW schools.

4.22 Overall, looking at HUSS data from all of the years, despite the variations observed over time, it can be seen that participation in WOW is associated with the higher levels of walking, and that the gap between levels of walking at WOW schools and non WOW schools is greatest amongst the schools that continue participation in WOW over many years. Participation in WOW for three or more years is associated with a walk mode share to school between 5 and 9 percentage points more than for non-WOW schools.

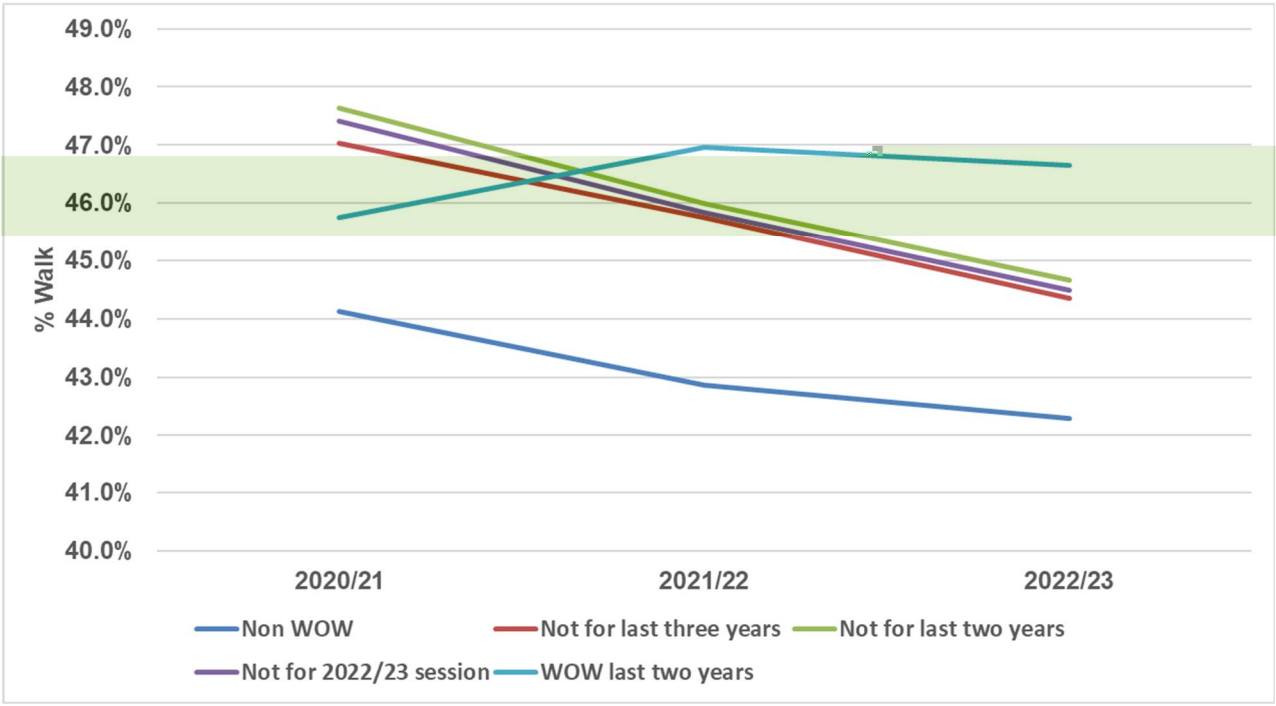
Figure 4.7 – Walk Mode Share from HUSS data and Duration of Participation in WOW since 2016 from WOW Data



4.23 To explore how long schools that participate in WOW continue to show higher levels of walking before the level of walking falls, schools currently participating in WOW were compared with schools that participated in WOW in previous years, but no longer do so. Long term trends are not yet clear since all schools were disrupted during the covid pandemic but Figure 4.8. suggests that WOW leaves a legacy with positive effects that decline over time.

4.24 The gap in walking levels between schools that have never participated in WOW and schools that formerly participated was over three percentage points in 2020/21. This gap had reduced to around two percentage points by 2022/23.

Figure 4.8 – Walk Mode Share from HUSS Data and Schedule for Participation in WOW since 2016 from WOW Data



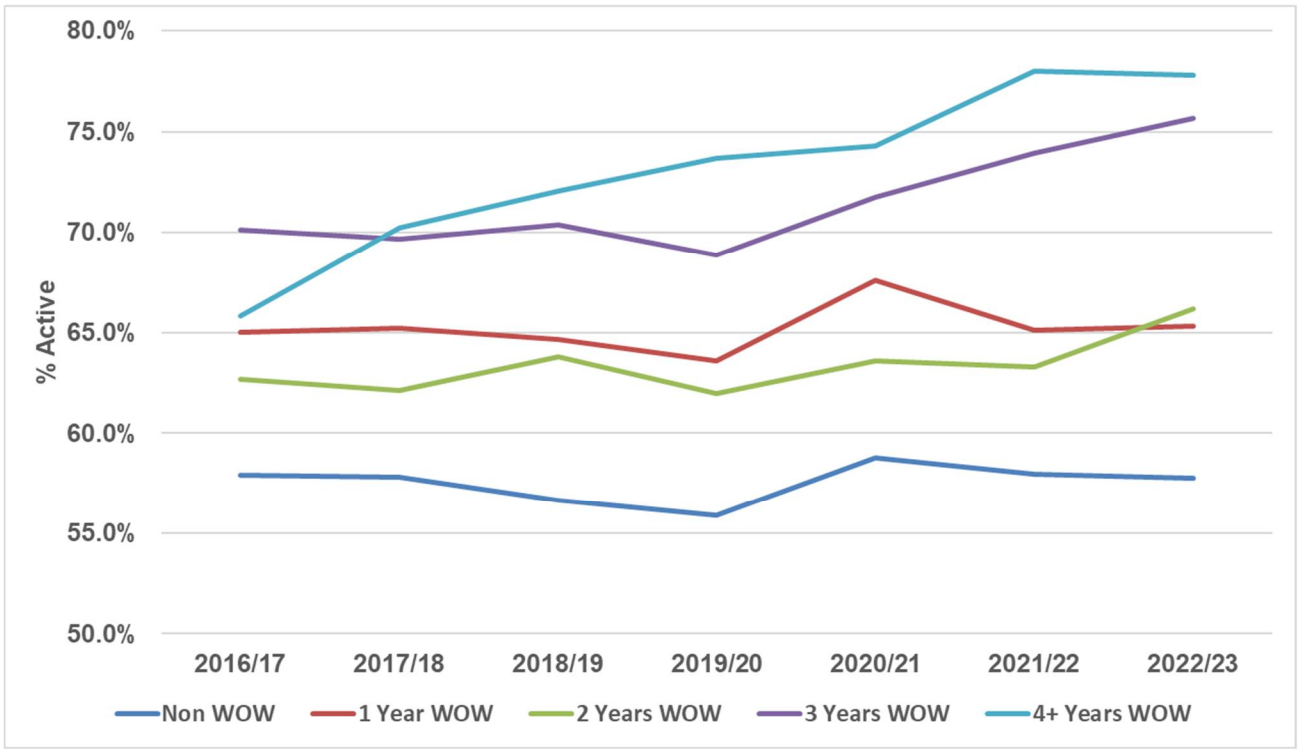
Changes in levels of active travel to school

4.25 Figure 4.9 shows that growth in active travel at primary schools is even more strongly associated with the duration of the participation in WOW than for walking. The sample sizes for the participating school are as shown in table 4.2, and average active travel levels recorded between 2016 and 2023 are 57% for non WOW schools, 72% for schools participating for 3 years and 73% for schools participating for 4+ years.

4.26 The 56 schools that have participated in WOW for four or more of the last seven years had an active travel mode share of 78% in 2022/23 school year compared to 58% for non-WOW schools, a 20 percentage point difference. Active travel includes walking, cycling, scooter, skateboard, wheelchair, and park and stride.

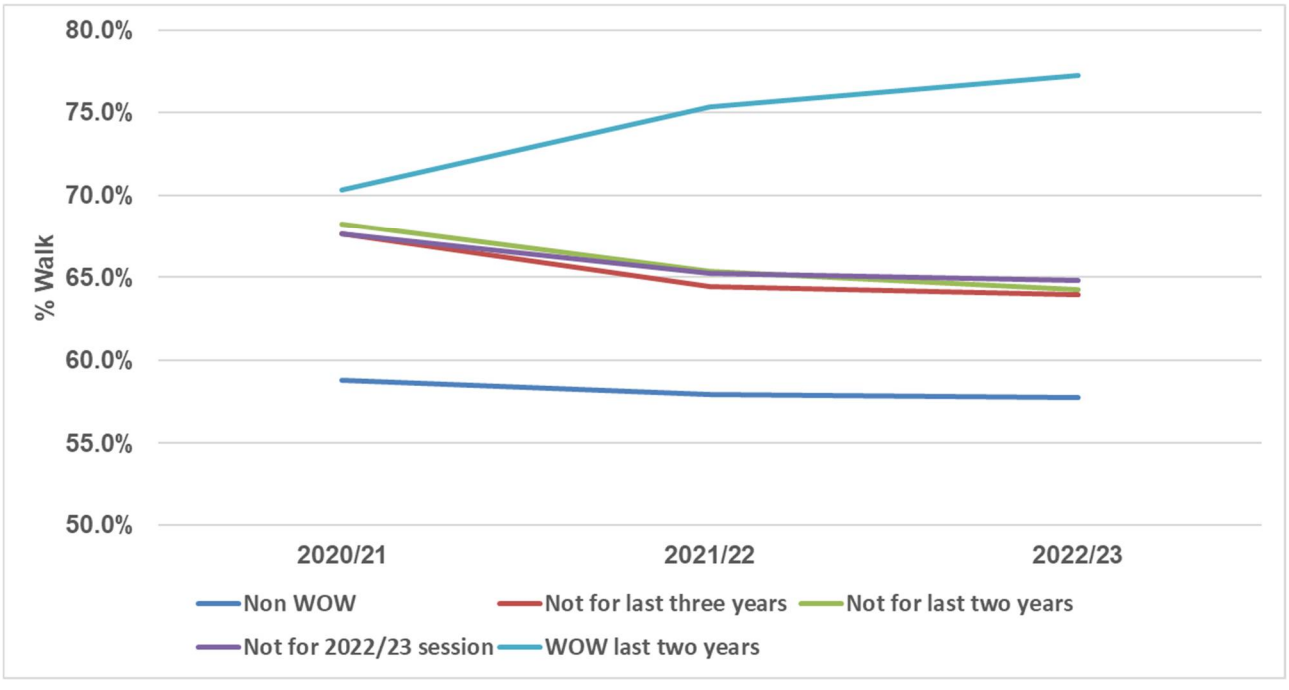
4.27 The schools that have participated in WOW for three years have an active mode share of 76% with the shorter participation of one or two years still associated with a 66% active mode share in the 2022/23 school session, 8 percentage points higher than for the average of schools not participating in the WOW programme.

Figure 4.9 – Active Travel Mode Share and Duration of Participation in WOW since 2016



4.28 Figure 4.10 shows that the benefits of participating in WOW continue after participation in WOW ceases, though some residual effects may remain for some time.

Figure 4.10 – Active Travel Mode Share from HUSS Data and Schedule for Participation in WOW since 2016 from WOW Data



4.29 Overall, participation in WOW for three or more years is associated with active travel levels 12 to 20 percentage points higher than for non-WOW schools. Some of the difference in active travel levels between WOW and non-WOW schools could be accounted for in the sample of schools that participate in WOW, but the widening gap between the active travel levels at schools that continue to participate in WOW and non-WOW schools appears to be directly related to the implementation of WOW.

4.30 Active travel levels are heavily influenced by levels of park and stride, and it may be that clarifying park and stride policies at a school for a WOW programme could result in the continuation of higher levels of active travel even after the WOW monitoring through the Travel Tracker has been discontinued.

4.31 Even if such residual effects occur, Figure 4.10 suggests that continuing to implement WOW is associated with at least a 10 percentage point uplift in active travel levels.

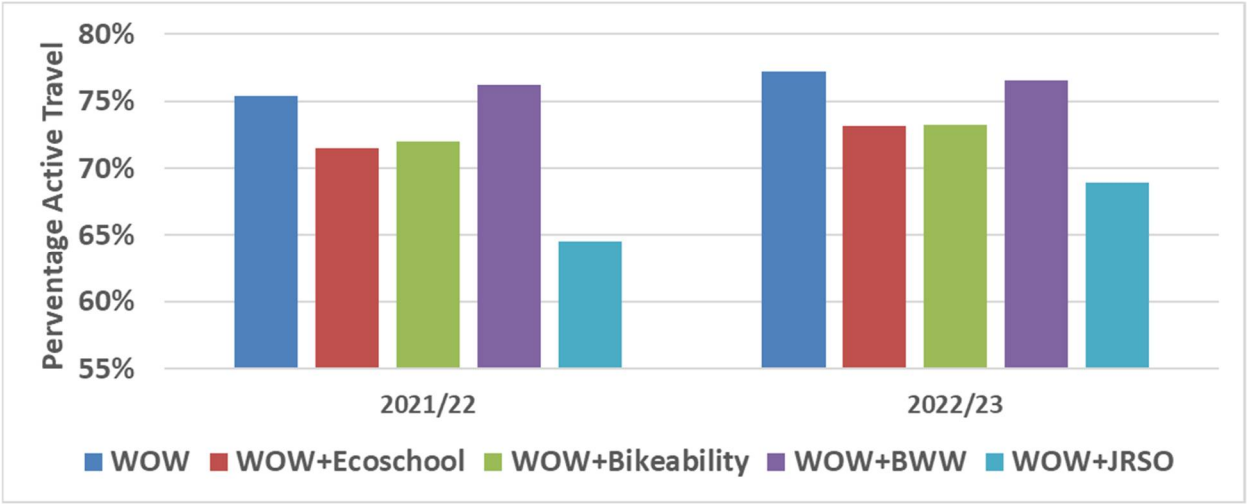
WOW and other promotional programmes

4.32 Figure 4.11 compares active travel levels at WOW schools taking account of the complementary programmes being implemented alongside WOW at these schools.

4.33 The samples of schools with combined programmes are small with:

- 95 schools combining WOW with Bikeability
- 58 schools combining WOW with Big Walk and Wheel (BWW)
- 42 schools combining WOW with eco schools
- 22 schools combining WOW and JRSO

Figure 4.11 – Active Travel at WOW schools with complementary promotional programmes



4.34 Data is not available on the duration of the JRSO, Bikeability and Eco Schools programmes but these are all long running programmes that are more likely to have started prior to WOW. The interviews with schools discussed in Chapter 3 indicated that schools with road safety concerns tended to focus on road safety perspectives

such as JRSO, and the schools with greater interest in environmental issues focused on eco schools. The lower levels of active travel at these schools on average possibly reflects these greater concerns about safety and the environment.

4.35 To investigate if there was evidence that combining WOW with other programmes influenced overall active travel levels it would be necessary to understand what impacts the non-WOW programmes were considered to have. Unfortunately, as discussed in Chapter 2 there is a general absence of outcome and impact measures in the evaluations of these programmes, though participation levels are widely reported including in the recent national research. This means it is not possible within the scope of this work to assess the impacts of combining WOW with these other programmes. However, as noted in Chapter 2 Cycling Scotland identified in their annual report that using the WOW Travel Tracker data could enable other analysis and evaluation possibilities. These possibilities would include answering research questions that would help improve the effectiveness of many interventions at schools such as optimal times of year for Bikeability training to embed higher sustained cycling levels to school.

4.36 The weekly WOW reporting for the 58 schools combining WOW with the BWW show no clear uplift in active travel on average during March 2023 when the BWW competition took place. The separate evaluation of BWW did not identify if levels of active travel during the competition were higher than at other times of year, but the levels of active travel in the BWW challenge are not directly comparable with the Hands up Survey Scotland data (HUSS) nor with the WOW data since the active travel component of active travel in park and stride for BWW needed to be at least 10 minutes, higher than the 5 minutes typically used in the other school travel programmes.

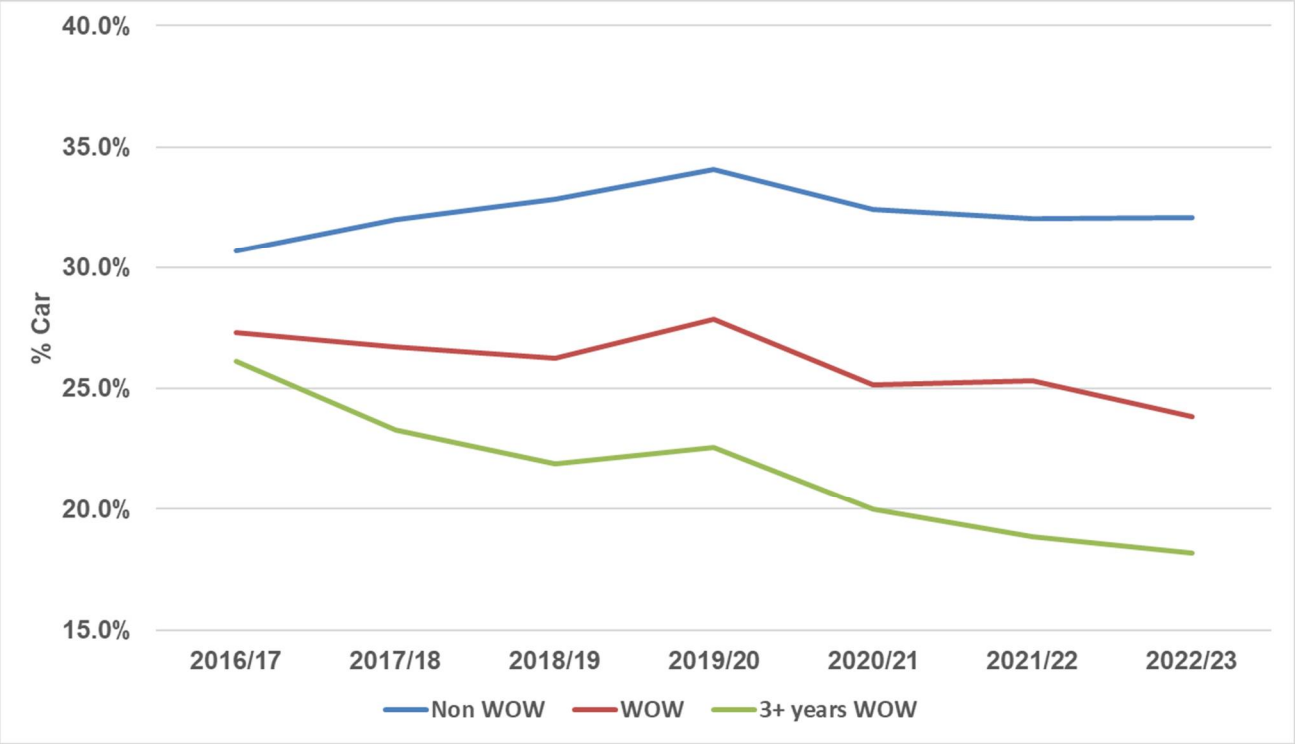
Impacts on car travel to school

4.37 The increased active travel levels are matched by associated changes in levels of car travel to school as shown in Figure 4.12.

4.38 For car travel, participation in WOW is associated with car mode choice of between 5 and 14 percentage points depending on the length of time schools have been participating in WOW. Schools that have participated in WOW[34] at any time since 2016 are associated on average with 8 percentage points less car travel than non WOW schools, and schools participating in WOW for three or more years are associated with up to 14 percentage point lower levels of car use.

[34] Schools with more than 5% of the school roll participating in WOW at any time since 1996

Figure 4.12 – Proportion Travelling to School by Car at WOW and non-WOW schools



Where does the WOW programme have the greatest impacts?

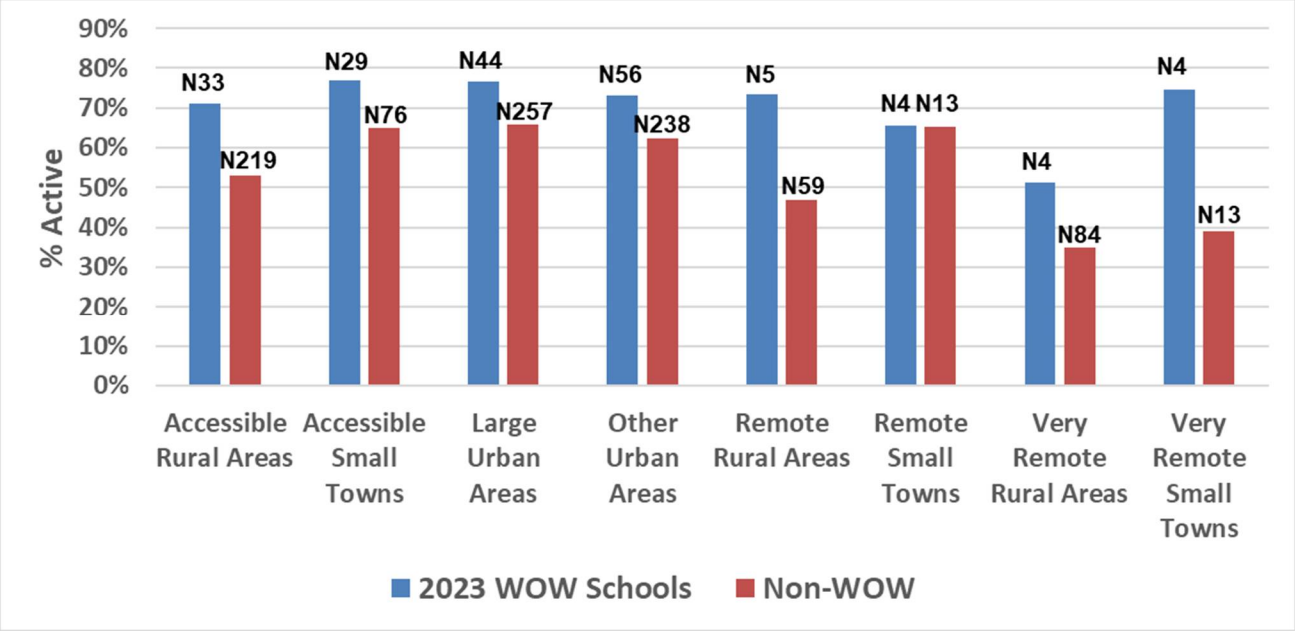
4.39 The 219 schools in the 2022/23 school session were disaggregated by type of school catchment and area of Scotland to investigate what types of schools and areas benefit most from implementing WOW[35].

4.40 Figure 4.13 shows that on average schools in all types of area benefit regardless of the urban/rural classification. Some of the samples are quite small such as in the very remote rural areas. However even in this small sample of WOW very remote schools three of the schools have levels of active travel greater than the average for the non-WOW schools.

4.41 The remote small towns are the only category to show no overall impact but this appears to be simply a factor of the five schools in the 2022/23 session where some schools such as Newhill in Blairgowrie have active travel levels well in excess of the average and low levels of bus travel to school, whilst others such as St Dominic's in Crieff have higher levels of bus travel (17%) and as a result much lower levels of active travel than the non-WOW school average.

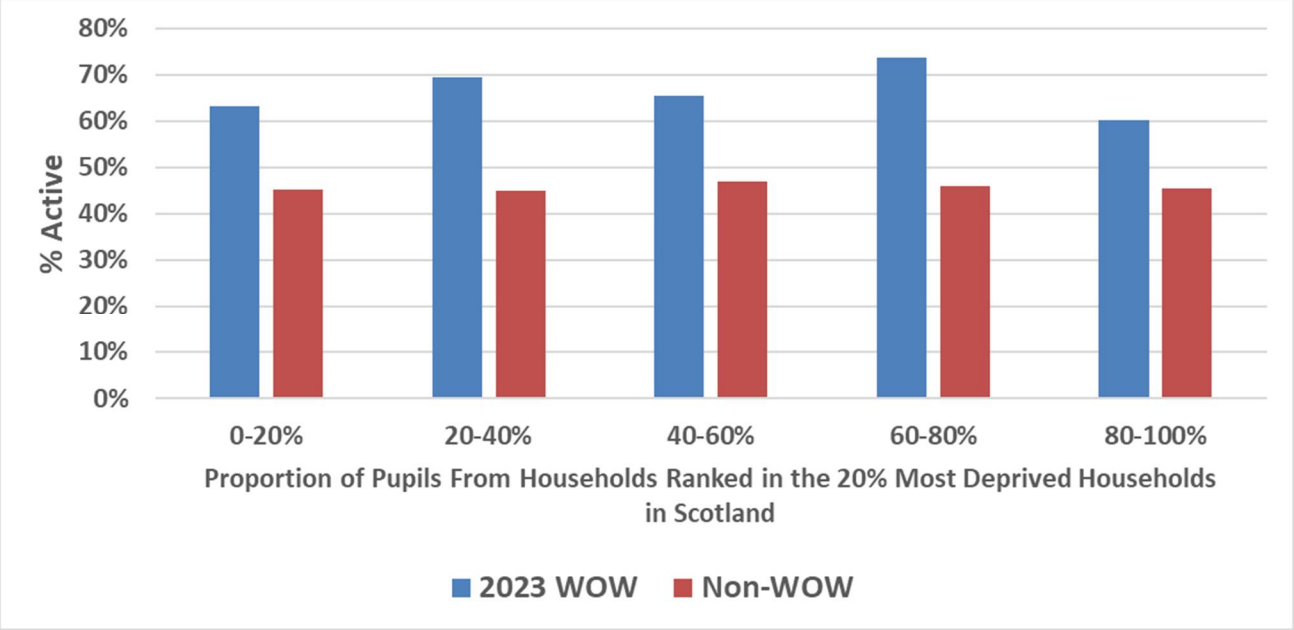
[35] Schools with more than 5% of the school roll participating at any time in WOW in the 2022/23 school session.

Figure 4.13 – Mode Share by Urban/Rural classification for Active Travel in 2022/23 WOW Schools Compared with Non-WOW Schools



4.42 Figure 4.14 shows that WOW also appears to be impacting positively on levels of active travel at school regardless of the deprivation category of the area. As noted in previous evaluations of WOW, the potential for mode shift to active travel is lower in the most deprived areas where car ownership is lower, but even in these more deprived communities WOW still appears to be associated with higher average levels of active travel.

Figure 4.14 – Active Travel Mode Share by Deprivation Classification in 2022/23 WOW Schools Compared with Non-WOW Schools



4.43 With 219 schools in the programme, and 32 local authorities, the sample sizes are too small in most local authority areas for meaningful comparisons to be made about how the different local authority administration approaches affect WOW's ability to influence travel behaviour.

4.44 The discussion in Chapter 3 is a more helpful guide to the factors that affect how WOW affects travel behaviour. Perhaps the most important issue from these discussions is that WOW is not currently well tailored to schools relying on bus travel to school. Though many of the students arriving by bus walk longer distances to their bus pickup points than other pupils who live close to schools and walk the short distance, the current administrative procedures for WOW depend on choice of mode rather than distance walked.

4.45 Similarly for many other schools, one of the most successful effects of implementing a WOW programme has been to keep cars away from school gates, with most schools able to implement successful park and stride programmes. However, the benefits of park and stride are highly dependent on the length of the stride, with some pupils achieving substantial benefits when they are dropped at locations some distance from school, so that they can walk with friends to school from the drop off points.

4.46 More equitable approaches to the implementation of WOW would also make it easier to promote the programme nationally drawing from the conclusions of this work that WOW is currently able to make an impact anywhere, provided the school and Living Streets staff tailor the programme to local circumstances.

5.0 Monetisable Benefits of WOW

5.1 Many of the benefits of WOW are not easily quantified, such as the skills children learn when travelling actively, the opportunities for pupils when travelling to socialise and share learning when walking to school, and the safety in numbers created by more children walking reducing the risk of road accidents. However, some benefits can be quantified and monetised using standard transport appraisal approaches as follows:

- Parents and carers saving money from lower motoring costs and bus fare costs.
- Emissions savings from a cleaner environment and fewer greenhouse gases resulting from less car travel.
- Health benefits from more active lifestyles.

5.2 The results of the analysis in Chapter 4 are used to measure these monetisable benefits as follows:

- WOW is contributing to an increase in walking of between 5 and 9 percentage points and an increase in active travel of between 12 and 20 percentage points.
- The impacts of WOW on walking to school after the programme ceases to be implemented decay on average by about 2 percentage points in the first year after the scheme stops. The level of decay in subsequent years is not yet clear but there may be some residual effects after several years particularly for active travel where establishing drop off locations for park and stride to enable walking within an active travel zone around school may continue to influence future travel choices in favour of this mode.

5.3 There is very little comparative cost-benefit evaluation of active travel programmes. Even when making recommendations for a very large increases in active travel investment, the largest recent national review did not quantify cost-benefit ratios for competing approaches to active travel[36]. The largest recent published evaluation of school programmes also used participation in programmes as the main metric for quantifying benefits, with little exploration of the extent to which the participation in activities had influenced behaviour[37]. The most recent analysis of active travel programmes that enable benchmarking of cost effectiveness suggested that rates of return on active travel investment of between 3 and 7 are achievable across well designed programmes, well in excess of the rates of return being achieved on the larger transport infrastructure programmes that dominate spending by Transport Scotland[38].

Saving Money

5.4 The average distance to school at each participating school has been estimated as follows:

- Calculate the distance from each population neighbourhood to the nearest school.

[36] Transport Scotland 2022. Strategic Transport Projects Review STPR2 – Final Technical Report
[37] Transport Scotland 2021. Evaluation of Transport Scotland's Walking and Cycling Schools Programme
[38] Scottish Government 2013 – Going Smarter – Final Report on the Evaluation of the Smarter Choices Smarter Places Initiative

- Take neighbourhood populations from the 2021 mid year population estimates for Scotland[39] and weight the catchment populations for each school to estimate an average distance travelled to each school participating in WOW.
- Factor the average distance travelled by the number of car vehicle trips and the average cost of a car trip per mile[40].
- Calculate the difference between the costs of the car mileage before and after WOW interventions based the levels of car mileage reduction shown in Figure 4.12. The reductions estimated this way are 8% car mileage reduction for WOW schools participating for less than three years, and 14% car mileage reduction at WOW schools participating for three or more years.

5.5 Many people do not attend their nearest school so the actual distances to school will on average be higher than those estimated using this method.

Reduced Emissions

5.6 The reduction in car mileage calculated for the cost savings above was used to estimate the average vehicle emissions saved by the reduced car travel based on 119.7g per km[41].

5.7 Based on the total carbon saved, the monetised value of this was calculated using an estimate of £204.12 per tonne of CO2[42]. This central estimate of the value of carbon has decreased in the July 2023 revision to ensure consistency with the UK Treasury Green Book values, reflecting that the UK is no longer part of the EU carbon trading scheme. Values of carbon per tonne necessary to achieve the required level of behaviour change to meet climate change policies much larger so looking forward the monetised value of the carbon saving could be expected to be two or three times higher than using current appraisal standards.

5.8 Other emission saving benefits have not been included in the analysis as they will be relatively small compared with the carbon saving.

Health benefits

5.9 UK transport appraisal guidance references the World Health Organisation HEAT tool to obtain an order of magnitude measure of the value of additional walking. This tool does not identify benefits for children, but it does cover the health benefits for

[39] Although overall 2022 census data for Scotland was published in the summer of 2023 the most recent population estimates available that are compatible with datazones in other analysis are the 2021 mid-year population estimates https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates

[40] For short distances typical of journeys to primary school bus and taxi travel are more expensive than car travel so as a conservative estimate of the financial savings it is assumed that all new active travel journeys replace car mileage. Car fuel consumption and non-fuel operating costs were calculated using average values for the car fleet from the July 2023 DfT TAG databook. Congestion can impact on vehicle operating costs, since fuel consumption varies according to the speed of the vehicle, but in the absence of detailed speed flow relationship for the locations around schools this was not considered.

[41] The latest estimates for new cars in the UK car fleet from https://www.statista.com/statistics/299282/average-co2-emissions-from-new-cars-in-the-united-kingdom/ will be an underestimate of the actual car emissions in any local area, particularly lower income areas where more polluting older vehicles are much more common. However, a more detailed analysis of the vehicle fleet composition in the catchment area of each school would be needed to make more precise estimates.

[42] The central estimated carbon value recommended in Scottish Transport Appraisal Guidance (STAG) as taken from the November 2022 DfT TAG databook revision to values

parents who accompany their children to school. HEAT is highly sensitive to the input assumptions about the change in activity levels of the parents who accompany their children. If these adults are already active and healthy then the marginal benefits of walking more are more limited than if the parents are otherwise inactive. To ensure a conservative estimate of the health benefits it has been assumed that 10% of children travelling actively to primary school are accompanied by parents or carers, which will be a large underestimate for early years at primary school but more typical for later years. The adult age group walking with the children is assumed to be largely in the range 20-44 and HEAT assumes that before the intervention activity levels amongst this group are typical of activity levels for this group in the UK.

5.10 Applying the HEAT online resource using these assumptions results in present value benefit for the health effects of the investment as shown in Table 5.1.

Quantifiable benefits

5.11 The benefits being achieved in the 2022/23 school year consist of:

- Benefits from schools participating in WOW for the first time.
- Schools continuing to benefit from WOW and continuing to participate in the programme.
- Schools still benefitting from WOW but not using WOW in 2022/23.

5.12 In addition, there are future year benefits that will occur without any further action on WOW.

5.13 Using the methodology described above Table 5.1 summarises the financial savings made by households, and the value of the health benefits and carbon emissions savings estimated by HEAT.

Table 5.1 – Monetised Benefits of the WOW Programme in 2022/23

Monetised Benefits	Savings (£k)		Total Savings for all (£k)
	Already achieved	Forecast based on legacy	
Parents and carers saving money	1,491	1,118	2,609
Emissions savings	327	425	572
Health benefits[43]			353
Total	**1,818**	**1,363**	**3,534**

[43] Estimated by HEAT tool https://www.heatwalkingcycling.org/tool/ include assumptions about future health benefits of current activity. In this analysis little is known about the ages of the parents and their activity levels before WOW. The results from HEAT are highly sensitive to the input numbers so if more accurate assessment of health benefits is needed then surveys of parents at schools is recommended.

5.14 There are many other benefits, particularly for the children participating in WOW, that cannot be monetised with the available data, so the true benefit of the WOW programme will be well in excess of this lower bound estimate.

Programme costs and benefits

5.15 It is not appropriate to directly compare the monetisable benefits in Table 5.1 with the monetised costs of delivering the programme, since as a highly integrated delivery approach there are many complementary costs incurred in transport, education and other service delivery that are pre-requisites for the WOW programme to be able to achieve the identified benefits. Also, the financial costs of delivering WOW will be contributing to meany non monetised benefits.

5.16 The costs incurred by Living Streets in delivering the 2022/23 programme have been estimated by Living Streets at approximately £550k. For that investment, a wide range of unquantified social and economic benefits have been achieved as discussed in Chapter 3 together with some quantified outcomes in Chapter 4. Chapter 2 references many programmes with similar aims, including large potential programmes in Transport Scotland's strategic projects review, where further work is needed to identify how to target investment to achieve the greatest benefit for the least cost.

5.17 In order to assess how the value for money for the £550k in the Living Streets programme relates to other competing public spending, it would be necessary to look at marginal costs and benefits of different approaches to managing school travel. Children need to get to school, and there are high costs delivering education and transport services to enable safe and healthy access to school. It is beyond the scope of this work to undertake a thorough review of school travel, but the evidence from the interviews in Chapter 3, together with the international research findings summarised in Chapter 2, suggests that shifting the focus from legacy travel to school programmes to smarter approaches such as WOW could help to achieve substantial improvements in the value for money of school travel programmes.

5.18 There is also potential for better integration of WOW with other school travel programmes, but much more detailed evidence is needed about the benefits of these other programmes to enable the design of these more optimal and better value implementation approaches. Based on the available evidence, the current implementation costs for the WOW programme appear to be successfully growing coverage across Scotland and maintaining the high level of benefits identified in previous evaluations.

6.0 Conclusions

6.1 The transport policy context is changing as the economy restructures and society evolves to match changing opportunities and perceptions. Current influences on travel to school are a complex mix of legacy effects from past walk to school programmes, combined with changing demographic, lifestyle and educational factors. The new national policy context raises the priority given to local placemaking including routes to school with child friendly neighbourhood design.

6.2 The Living Streets WOW programme is delivered alongside many parallel programmes including: safe routes to school/school travel planning, bikeability, iBike, big walk and wheel, eco-schools, junior road safety officers, daily mile, and a wide range of other social and environmental educational initiatives. Schools find this range of initiatives confusing and more equitable and responsive coverage across the country is needed with clearer signposting of resources and funding.

6.3 Surveys undertaken at schools, with local authority officers, and with other stakeholders identify a clear consensus that WOW is highly successful, but has the potential to be improved. Enhancing WOW to better manage competition incentives, recognise the achievements of those travelling by bus, recognise those who organise journeys to travel with friends, and make more of the data to organise improvements to transport, placemaking and community development, will greatly assist in the expansion of WOW to more schools.

6.4 WOW schools demonstrate many successful examples of community leadership to manage successful engagement with public bodies, such as local authorities and the police, and with local communities to help lead social change in attitudes to travel. Children achieve confidence and social status through roles such as JRSOs and Eco Warriors including helping to administer WOW within schools.

6.5 Over the last decade a total of 528 primary schools, 26% of the total number of primary schools in Scotland, have had active participation in WOW at some point. In the 2022-23 school session, 219 schools participated from 24 council areas. This makes the 2022/23 the largest WOW programme since the programme started.

6.6 The coverage of the WOW programme broadly reflects the range of characteristics of Scottish schools. 30 of the 32 Scottish local authority areas have had schools participating in WOW, distributed across urban and rural areas. The WOW schools in the 2022/23 the programme reflect national patterns of deprivation and a growing focus has become responding to tackle growing traffic problems in accessible small towns on the periphery of major urban areas.

6.7 There has been a national shift away from bus travel towards car travel to school, yet WOW has not been adopted by the schools most heavily dependent on bus travel. More equitable future delivery of WOW depends on better targeting and optimisation of WOW to reward travelling by bus, particularly where pupils walk significant distances to bus pickup points.

6.8 Participation in WOW for three or more years is associated with a walk mode share to school between 5 and 9 percentage points more than for non-WOW schools and levels of active travel 12 to 20 percentage points higher than for non-WOW schools.

6.9 Schools that have participated in WOW at any time since 2016 are associated on average with 8 percentage points less car travel than non WOW schools and schools

participating in WOW for three or more years are associated with 14 percentage point on average lower levels of car use.

6.10 Long term effects of WOW are not yet clear, but when schools leave the WOW programme, levels of walking decline by approximately 1 to 2 percentage points per year and levels of active travel by 2 to 4 percentage points. The relative stability of park and stride mode choices after schools withdraw from WOW may suggest a longer term legacy, resulting from the organisation of drop off locations at schools that continue to be used even when the WOW promotion stops.

6.11 The monetisable benefits of WOW for the 2022/23 school year consist of benefits at schools participating in WOW for the first time, schools continuing to benefit from WOW and continuing to participate in the programme, and schools still benefitting from WOW but not using WOW in 2022/23. These total monetisable benefits are in excess of £3.5million well in excess of the costs incurred by Living Streets and others participating in implementing WOW.

7.0 Appendix A – Survey programme

Schools selected for interview programme

- Banchory Primary School, Aberdeenshire
- Birkhill Primary School, Angus
- Bishopmill Primary School, Moray
- Callander Primary School, Stirling
- Chapelside Primary School, North Lanarskshire
- Chatelherault Primary School, South Lanarkshire
- Dalbeattie Primary School, Dumfries and Galloway
- Davidson Mains, Edinburgh
- Fraserburgh South Park Primary School, Aberdeenshire
- Gilcomstoun Primary School, Aberdeen City
- Hilltop Primary School, North Lanarkshire
- Inchinnan Primary School, Renfrewshire
- Kingsford Primary School, Aberdeen City
- Mile End Primary School, Aberdeen
- St Anthony's Primary School, Renfrewshire
- Townhill Primary, South Lanarkshire
- Tulloch Primary School, Perth and Kinross
- Uryside Primary School, Aberdeenshire
- West Coats Primary School, South Lanarkshire
- Woodmuir Primary School, West Lothian
- Westpark Primary School, Aberdeen City

Schools selected for focus groups

- Birkhill Primary School, Angus
- Mile End Primary School, Aberdeen
- St Anthony's Primary School, Renfrewshire