

Benefits and barriers to children cycling for parents and carers

September 2022



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Executive summary

In May 2022, Transport Scotland commissioned Cycling UK to explore what is currently known about children cycling and the impact on parents and carers. The present research offers a literature review and qualitative research (14 semi-structured interviews) with parents in Scotland who all had children that cycled.

The literature review identified some existing data on the amount that children in Scotland are cycling, but none that focus on benefits for parents or families from children cycling. Existing research from elsewhere, while scarce, indicated potential benefits including enjoyment for the parent, fulfilment of a desire to teach children to cycle well, cycling more for leisure, and in some cases enabling quicker journey times.

The school run has been the focus on monitoring children's cycling in Scotland. However, more attention could be paid to monitoring of the other journeys that children make by bike as they are likely to be significant for families and children.

Parents prioritise benefits to the child from cycling

Parents put benefits to their child above their own in priorities and thought about benefits to their child both in the present and for the child's future. These included improving the **child's independence, health, wellbeing, connection to nature, reducing screen time and cycling skills**. As one parent put it, *"You don't need a password to operate your bike."* Parents perceived cycling as a **life skill** that would enable transport, improved opportunities and freedom in adulthood.

Children cycling independently helped families juggle activities and time pressures

Parents felt the benefit of saving time and stress on the school run but also for **extracurricular journeys** after school, on weekends and during holidays. Independent cycling improved access to non-school activities and gave parents fewer pressures when working. This particularly benefited parents of multiple children and single parent households.

Concerns for safety were the biggest barriers to children cycling

Reflecting findings in the literature review, safety was the main concern. **Other barriers were present**, including lack of school support, cycling skills, motivation of the child and whether existing forms of transport (e.g., walking or free bus travel) were satisfactory enough to not warrant a change.

Parents found benefits from both accompanied and independent cycling

Cycling – together or independently – saved money on fuel and car expenses, bus fares and as an alternative to more expensive days out. **Parents had a range of reasons to reduce car use**, including avoiding traffic and reducing the number of cars at school gates as well as environmental and financial motivations. Parents enjoyed spending quality time with their children cycling together as a family, and considered it saved them **money, time and reduced car use for short trips**. Cycling together could be **inclusive** for different ages and abilities within the family, including disabilities, with **mental and physical health benefits** for the parents as well as children.

Further factors in children's cycling included the price and quality of children's bikes, the impact of starting early with regular cycling and bike storage issues.

Introduction

The Scottish Government 2030 Vision for Active Travel is for “walking or cycling [to be] the most popular choice for shorter everyday journeys” (Transport Scotland, 2019a). This intention aligns with the government’s Climate Change Plan to reduce car kilometres by 20% by 2030 (Transport Scotland, 2022a). Alongside this, Scotland aims to become a Wellbeing Economy “that supports all of our communities across Scotland to access opportunities that deliver local growth and wellbeing.” (Scottish Government, n.d.). This research provides evidence and insight on where these policies intersect with the experiences of children and families cycling in Scotland.

In May 2022, Transport Scotland commissioned Cycling UK to deliver a piece of research with the following objectives:

- Ascertain the current background of relevant research that help shed light on what is already known about children cycling to school or other journeys, independently or accompanied, and the impact this has on family members’ lives
- Understand the potential benefits that might exist for parents from their child being able to cycle
- Understand the barriers for those whose children do not independently cycle.

The literature review provides a summary of what is already known about children cycling and any benefits it may bring to a family, particularly parents or carers. Secondly, the qualitative research conducted by Cycling UK included interviewing 14 parents of children who cycle to understand the impact on families of children cycling both accompanied and independently.

An evaluation of the processes, viability, scalability and cost has been conducted by Research Scotland on the Free Bikes for Children pilot scheme, which provides access to cycles and training in pilot projects across Scotland. The present study focused instead on exploring the benefits parents or carers find from children cycling, such as savings to time, money and improvements to wellbeing and family life.

In this report, the term “bike” or “cycle” is used to cover all types of bikes or cycles, including those that may have more than two wheels. “Cycling independently” refers to cycling without an adult but may include when children cycle with other children. “Accompanied cycling” is where children are cycling with an adult. The term “school trip” is used to refer to travel to and from school. Parents were asked about all of their children during research interviews, which in some cases included children aged over 18. Unless referring to a specific adult child of a parent, “children” is used to describe under 18s in this research.

The report presents the key findings from the literature review and interviews conducted. The data sheds light on parents’ experiences of having a child who cycles, what benefits they see from children cycling and what barriers they or their child experience for independent cycling. Insights useful to programs funded by Transport Scotland are outlined throughout the report to highlight learnings for the design and delivery of interventions and future research in this area.

Literature review

Introduction

This literature review lays out the current evidence on the levels of children cycling in Scotland, benefits to the child and the existing literature on benefits to parents and families. This review also outlines the key barriers to children's independent travel by cycle found in the existing research.

The literature review was carried out primarily in the search engine 'Google Scholar' where academic literature, professional body and industry reports were included. Official statistical releases were also sought from relevant government reports or active travel body releases.

Current levels of cycling among children in Scotland

Despite less consistent cycling monitoring for children compared to adults in Scotland, data from the last 20 years suggests high and most likely increasing levels of cycling among children in Scotland. There is a small amount of evidence around the range of journeys that children take by bike. Specific data collected around cycling to school indicates this high level of cycling does not currently translate into school commutes by bike.

In 2020, the Changing Gears report sampled 256 children in Scotland and found 82% of children cycling once a week or more (Children in Scotland, 2020). In this study, 33% of the children reported that they cycled four or more times a week. The research did not investigate what proportion of these cycle trips were local journeys compared to cycling as a leisure activity.

Similarly high levels of children's cycling were found by Cycling Scotland research with parents in 2019. In-street interviews were conducted with over a thousand people about their cycling attitudes. For the 24% of respondents that had children, they included questions about children's cycling. Cycling Scotland found that 78% of parents of children aged 6-15-years-old reported that their child cycled for fun or transport. Most (61%) of these parents stated that their child cycled at least once a week.

Older data indicates that while cycling has been a common pastime for children over the last twenty years, it appears to have become more popular. An Ipsos Mori (2010) study in Scotland that surveyed children aged 8-10 found that of the 456 in the sample who were able to cycle (97%), 55% of the children had cycled "in the last few weeks." Cycling was the second highest sport for participation for this age category. Sport Scotland data from 2003 to 2006 showed 51% of children (aged 8-15) had cycled in some form in the previous four weeks, making cycling the third most popular sport after football and swimming (Sport Scotland, 2007).

Journey types and independent cycling

Ipsos Mori's 2010 research gives some insight into the split between cycling for leisure and cycling as a mode of transport. The highest proportion (60%) of responses said they cycle to "play out with my friends/just cycle around", 41% said they cycle to friends' houses, 19% cycle to/from the shops and to cycle to/from school (15%). A quarter of

children said they cycled on the road, and children who cycled on the road were more likely to say that they cycle to get to and from the shops (26% compared to 19% overall) and more likely to cycle to friends' homes (49% compared to 41% overall) (Ipsos Mori, 2010).

Sustrans' 'Hands Up Survey' (2022) provides more up to date evidence for school travel. Reaching over 400,000 children in Scotland, their data shows that although 50.3% of children are actively travelling to school within Scotland, this figure mostly constitutes those that walk to school, with cycling only taking up 4%. The rates of children cycling changes at different ages, with 3.3% cycling to nursery school, 5.3% primary school and only 1.7% to secondary school. This data does not indicate how many of these children are cycling independently, but the age range of predominantly younger children would suggest that many will be accompanied. After active travel, bus was the most common mode of transport (5% of primary school trips and 31% secondary trips). Since January 2022, bus travel has been made free for under 22s with a concessionary pass (Transport Scotland, 2022b). Meanwhile, 26.5% of primary school and 13% secondary school children are being driven to school by car.

Neither data set exploring journey types gathered information on whether children were cycling independently (i.e. without an adult). Research by Sustrans on its UK wide 'Cycling Index' report (Sustrans, 2021) found that 12 is the average age when people living with children would let them walk or cycle independently in their neighbourhood. Similarly, a review of studies from across the world looking at children's physical activity in neighbourhoods concluded that adolescence "has been identified as a period of renegotiation of scope for independent mobility" (Carver, Timperio & Crawford, 2018, p. 224). However, there is no data to describe more precisely how many children are independently cycling in Scotland.

This research will explore all trips that children may be cycling including the school commute but also other local journeys. It will also examine the benefits parents find depending on whether children are cycling independently or accompanied to help fill the gaps in existing research.

Benefits from children cycling

Benefits for the child

There is a wealth of research showing there are physical health benefits from children actively travelling and that physical activity may protect from chronic disease in later life (Lindström, Hanson & Östergren, 2001). Health benefits outweigh any negative effects of increased exposure to air pollution (Unicef, 2018). Studies have shown that cycling the school trip specifically can contribute to higher cardiorespiratory fitness in adolescence (Cooper et al., 2008) and that policies that lead to a substantial uptake of cycling to school have important health and environmental benefits (Goodman et al., 2008).

The Changing Gears report in Scotland (2020) found that beyond health benefits, children and young people found cycling a fun and enjoyable activity to do with friends and family (Children in Scotland, 2020). Children reported seeing cycling as both relaxing and exciting as well as something that helped to keep them fit and healthy from a physical and mental health perspective. Children experienced barriers to cycling through safety concerns and the behaviour of drivers that could create a hostile environment.

Scottish data from Ipsos Mori (2010) found that when asked what children's reasons for cycling were, both parents and children reported similar answers. Most notably, 82% of parents listed "fun" as the reason their children cycled, followed by "to see friends" (50%) and health and fitness (36%). Children's responses similarly highlighted the importance of the social aspect of cycling to them. Most children said that they cycled to play (60%) and many said that they cycle to visit friends' homes (41%).

Dawn Rahman, a PhD student at The University of Westminster, is currently completing research exploring the experiences of mothers in the UK that are cycling with their children. Her research is awaiting publication, but she provided a summary of the key benefits she identified to parents of their child cycling:

"They [mothers] have noted how their children are more alert and ready to face the day from cycling in [to school]. Other benefits include their children having a better understanding of road safety and road awareness both for those who are cycled in child carrying cycles (i.e seats and cargo bikes) but especially those who ride their own bicycles." (D. Rahman, email correspondence, 2 August, 2022)

Her work will add alertness at school and improved road awareness from cycling either with parents on their own bike or in a carrying bike seat to the existing research on the benefits of children cycling.

Benefits for parents and families

Although there is a lack of research exploring the benefits that parents experience for themselves from their child being able to cycle independently, there is some relevant research exploring benefits to parents from accompanying their child by bike. There has been useful research looking at benefits for mothers cycling with their children. Women make more trips taking children to school than men, with evidence from England showing the highest number of trips to escort someone for education purposes being made by women aged between 30 and 49 (Department for Transport, 2014).

Australian research that interviewed mothers and grandmothers found cycling with children can act as an incentive for both generations of women to begin or return to cycling themselves (Bonham and Wilson, 2012). Mothers and grandmothers spoke about family bike rides and a desire to accompany their child on bike to school, the park or the playground. The interviewees spoke of wanting to share the experience of learning to cycle and take the opportunity to teach their child the rules of the road. This research indicated that parents have a desire to see their children improving their cycling skills and to be involved in this process.

In France, through a self-report study on time spent walking and cycling, having a child under the age of 14 (as opposed to having no child at all or an older child) was found to be positively associated with cycling for leisure, but no association was identified for cycling for work or errands (Menai et al., 2015). Since the majority (72%) of the participants for Menai's study were women, this suggests women potentially benefitting from increased leisure cycling when their children are younger.

Qualitative research from Canada described how women begin or maintain cycling during and following the time they have children living at home (Sersli et al., 2020). The sample focused on mothers who cycled with their child for leisure, with a mix of some of carrying

their children in child carrying cycles and others with older children cycling on their own bike. These mothers reported cycling to be an enjoyable and healthy family activity. It provided future life skills for their children but they found it harder to travel with their children for transportation. Some of the mothers in this study also said that spending time cycling with their children for leisure (carrying cycles or on their own bikes) increased their motivation to cycle themselves in other contexts, such as local journeys for errands.

Sersli et al. (2020) also found that mothers with teenage and older children said it was easier for them to cycle commute when their children were able to independently travel themselves. It should be noted that those interviewed in this Canadian study were pro-cycling in general, which is not true for all parents, who may not have the desire to commute to work by bike.

Dawn Rahman's summary of her upcoming research on mothers cycling with their children was also able to identify some benefits that relate to the parent:

"Mothers have cited the benefits of cycling with their children in relation to improved health (both physically and mentally), particularly for those cycling the school run... A number of mothers during interviews raised the point that having children who can cycle to school has reduced the journey time hence making it more convenient than if they were walking or driving." (D. Rahman, email correspondence, 2 August, 2022)

Overall, the existing data from other countries suggests that parents see a health benefit to themselves. There were examples where children cycling encouraged more parental cycling to accompany children and more widely. Rahman's future work will identify convenience as a benefit, although research from other countries has found cycling with children less convenient than transportation by car.

Barriers to children's cycling

To understand which groups are most in need and potentially receptive of support from programmes it is important to explore the barriers to children cycling independently or when accompanied. Research across the globe has identified various barriers to children cycling including road safety, access to bikes and finances, time and logistical constraints leading to car reliance, and the perceptions of parents.

Safety

Parents in Scotland have shown a clear concern about the safety of roads for children cycling. Cycling Scotland (2019) asked parents in Scotland to rate the safety of roads for children cycling on a scale from "1 – Extremely unsafe" to "10 – Extremely safe". They found that 59% of parents gave a score of five or less, with 28% rating roads as "1 - Extremely unsafe" for children to cycle. These ratings for safety for children cycling on roads were very similar to the figures produced by Cycling Scotland in 2017.

Children themselves also report a lack of "nice and safe" places to cycle. (Children in Scotland, 2020). Although children said that cycling is fun and enjoyable, they - like adults - have concerns over their safety.

Particularly for younger children, parents will often act as the "gatekeepers" of their child's independence by weighing up the benefits to independence with the safety risks

(Carver, Timperio & Crawford, 2018). Mothers reported finding that restricting their children's cycling felt contradictory to other good parenting values, because cycling was often seen as positive and healthy activity (Sersli et al., 2020). Parents feel a strong desire to keep children safe whilst also enable them to form connect socially and learn about their external environment (Bjorklund, 1992; The Children's Society, 2007). The net result is that parental safety concerns mean that children are often not permitted to cycle on the road (Lorenc et al., 2008; Christie et al., 2007). Other researchers have described this friction between safety and wanting their children to cycle as aiming for the "good parenting ideal" with parents striving to fulfil contemporary parenting norms (Holt et al., 2016, p.1).

Finances

There is little data specifically on how children's access to bikes and cycling in Scotland is impacted by family finances. Data is from Sport Scotland (2006) reported that only 32% of "children living inside SIMD areas [sic]" participated in cycling at all in the previous four weeks whereas 43% of "children living outside SIMD areas [sic]" cycled.¹

There is wider data on whether access to bikes is correlated with household income and household size. In Scotland, 73% of households with an income of £50,000 or more have access to one or more bikes (Scottish Household Survey, 2020). However, less than 30% of households on lower incomes (below £20,000 a year) have access to a bike. Parental access to economic and mobility resources will be a likely split along class lines (Sersli et al., 2020; Singleton and Goddard, 2016). Lack of access to a suitable bike will generate a barrier to children cycling.

Car reliance and extracurricular activities

Several pieces of research from a range of countries have reported that in the period before children became independently mobile, particularly as they started attending extracurricular activities away from home, cycling to escort children to activities was less feasible and taking the car became the norm for some families (Sersli et al., 2020; Lagrell et al., 2018; Hjorthol and Fyhri, 2009). Sersli et al (2020) found that mothers in Canada reported facing chronic time constraints when it comes to meeting both their needs and those of their children. The family specific time constraints were seen as incompatible with cycling for transport by mothers, and it also limited their opportunities to leisure cycle. They found that the mothers in their study dealt with time constraints by using cars, which they did not like to do, but felt they had few alternatives. They also found that some parents limited extracurricular activities that younger children could do because they did not have a car (Sersli et al., 2020).

In contrast, Lanzendorf (2010) conducted qualitative research on parents in Germany in which participants discussed the impact they experienced on their mobility after childbirth and when having young children. Lanzendorf noted that while parents *could* become more car dependent after childbirth and while children were young, it was found to be only one of the potential patterns a family go through in relation to mobility after childbirth. In some cases, reduction of car use was possible too.

¹ The Sport Scotland summary does not give a definition for inside/outside SIMD. It is most likely they referred to "inside" as living in the 10% or 20% most deprived areas of Scotland.

Overall, there is research that suggests managing extracurricular activities impact on rates of family cycling and is a factor in encouraging car use in some circumstances. The qualitative research undertaken in this study explores whether these findings are echoed in families in Scotland, including the relevance of non-school journeys for children who cycle.

Impact of skills and social influencing

Researchers in Belgium surveyed 850 parents to investigate what factors influenced whether 10-12 years old children were more likely to cycle to school for those living within 3km distance (Ducheyne et al., 2012). They found that children were more likely to cycle if their parents viewed them as having good cycling skills, being an independent child, had friends who encouraged them to cycle and if parents encouraged the child to cycle. The evidence demonstrates the importance of children being taught basic cycling skills and building a culture of cycling promotion among friends and family as influential factors beyond the basic safety requirements of physical infrastructure.

Conclusion

From data gathered over the last 20 years, significant numbers of children in Scotland are cycling on a regular basis. The limited amount of research that explores types of journeys undertaken by children suggests that while cycling to school is not common, accessing out of school activities, visiting friends and family or other local journeys may be more frequent. There is no evidence specifying how much children cycle independently.

The benefits of cycling for children are significant in terms of both physical and mental health benefits, but also as perceived by children and their families as something that was fun and an important life skill for the future. The benefits for parents have not been an area with significant research, but evidence suggests that parents find health and wellbeing benefits for themselves by cycling with children. In future UK-based research, cycling with children could be a convenience for parents to manage the school run. Mothers are identified to be an important stakeholder in the mobility of care, with the benefits of children cycling potentially accruing more to women as the primary adult accompaniment on journeys.

In terms of barriers to children cycling, parents in Scotland are concerned about road safety and this has been shown in research from elsewhere to be a significant barrier to allowing children to cycle. In studies from other countries, families have reported the time constraints caused by the juggle of multiple activities as an influential factor in relying on cars and reducing cycling. There was a lack of research investigating the connection between family finances and child cycling, but data on household finances indicated those on lower incomes had less access to bikes. Rates of children cycling was also found to be influenced by parents' perceptions of their child's skill level as well as social factors that encouraged cycling.

Methodology

<p>Design</p>	<p>Literature review of relevant research to show what was already known about the benefits to families of children cycling and barrier to child independent cycling.</p> <p>Two pilot interviews with Cycling UK staff members in Scotland with children who cycle to inform interview structure and content (not used in analysis).</p> <p>14 qualitative semi-structured exploratory interviews conducted with parents/carers of children in Scotland who cycle for any journeys.</p>
<p>Recruitment and sample</p>	<p>Recruitment: Online information flyer shared through the delivery partners of the Free Bikes for Children programme and Cycling UK Scotland projects. A £30 online high street voucher was provided as an incentive and a thank you for interviewee's time. Participants could express their interest either over email or a short screening survey.</p> <p>The flyer indicated that potential interviewees should express interest if they are living in Scotland, have a child or children between the ages of 8 and 16 and their child/children cycle.</p> <p>It was made clear that it was a voluntary opportunity, that data would be anonymised and there was compensation for their time being interviewed.</p> <p>Sample: A short screening survey via a webform assisted to select a pool of participants for the interviews to ensure a diverse range of individuals.</p> <p>Factors that were considered when selecting participants included: location (local authority, urban/rural index, Scottish Index of Multiple Deprivation), gender of the parent/carer, age of child/children, number of children in family, child cycling frequency and type of journeys the child undertakes by bike.</p>
<p>Procedures</p>	<p>After participants registered their interest by completing the screening survey and being asked for interview, participants had to complete a consent form to agree to recording and transcription of their responses.</p> <p>The 14 interviews conducted lasted between 30-45 minutes and were recorded and transcribed online via Microsoft Teams.</p>
<p>Interview plan</p>	<p>Research Scotland kindly shared their interview questions from the evaluation of the Free Bikes for Children pilot evaluation to reduce crossover and ensure a relevant focus for the current research.</p>

	<p>Opening questions confirmed the family size, cycling frequency and location. Introductory questions explored the general themes of active travel and the school run. Section two looked at the benefits and barriers that parents/carers had around their child cycling independently or accompanied for each journey type that the child did. A question around household finances was asked in interviews which led onto discussing how their child cycling benefits the family economically. Before interviews ended the participant was given an opportunity to reflect on and summarise the key benefits and barriers they felt as a parent to their child cycling.</p>
<p>Analyses</p>	<p>Inductive thematic analysis was performed on the interview transcriptions, with a second reviewer aiding the final theme analysis.</p>

Analysis

This analysis section explores the benefits that parents identified from their child cycling, either with the parent or independently. This included travelling for the school trip, to get to activities, for leisure or any other trip they cycle. This section starts with the benefits to the child, as this was the primary focus of parents throughout interviews. This is followed by benefits identified to the parents and families from journeys that were either accompanied or independently cycled by the child.

As independent travel was a key focus, the third area explores the specific benefits found by families of children who cycle independently. This is concluded with barriers that parents listed to independent travel by cycle, taken from those who did and those who did not allow their children to cycle independently. The final two sections give insight into relevant factors identified in cycle ownership by parents and a feedback section specific to the Free Bikes for Children programme, as these arose in interviews.

At the end of each section there is an “insight for programmes” section to identify key learnings for the Free Bikes for Children scheme or other policy interventions.

Participant coverage

All 14 interviewees were parents of children who cycled, covering a total of 31 children aged 2 to 25. Most children were in primary and secondary education, with three families where some of their older children were now over 18. Most children were boys, with 5 children being girls.

The majority (11) of the families included children who cycled at least every week. All parents reported that their children cycled for leisure and at least one other journey type. Eight out of 14 were parents of children that cycled independently in some way.

Family sizes ranged from one child up to four, two families were single parents with the rest being a two-parent household. There were two families who had one child each who they considered disabled. Interviewees were 11 women and three men, and all described themselves as parents rather than carers.

Two families lived in rural areas and the rest in suburban or urban areas in a mix of Scottish towns and cities.

Table 1: Participant details

Code	Interviewee Details				Children's Cycling Purpose				
	Parent Gender	Location	Children Gender & Ages	Child Cycling Frequency	Independent Cycling (Yes/No)	For leisure/ fun	To/from school	To visit friends/ family	Other trips
A	Female	Falkirk	Boys: 6, 8	Every week	No	X			X
B	Female	Inverness	Girl: 9 Boy: 3	More than once a week	No	X	X		X
E	Female	Highlands	Boys: 8, 10	Fortnightly	No	X	X	X	X
D	Female	Highlands	Boys: 9, 14	Every other month	No	X		X	X
F	Female	Edinburgh	Boy: 9	Every week	No	X			X
L	Female	Edinburgh	Boy: 13	Every week	No, starting next term	X	X	X	X
S	Male	Falkirk	Boys: 6, 11, 16	More than once a week	Yes, for 16 year old	X	X	X	
K	Female	Dundee	Boy: 13	More than once a week	Yes, started age 11	X	X	X	X
P	Male	Edinburgh	Girl: 5, Boys: 7, 11	More than once a week	Yes, for 11 year old (started age 7)	X	X	X	X
C	Male	Falkirk	Boys: 8, 13	More than once a week	Yes, for 13 year old	X	X	X	X
G	Female	Inverness	Boy: 2, Girls: 13	More than once a week	Yes, for 13 year old (started age 11)	X	X	X	X
J	Female	Edinburgh	Girl: 16, Boy: 21	More than once a week	Yes, 16 year old (started younger)	X		X	
H	Female	Motherwell	Boys: 14, 18, 23, Girl: 25	Every week	Yes, adult children when were younger	X			X
M	Female	Dundee	Girl: 11, Boys: 17, 19, 21	Monthly	Yes, but not 11 year old	X		X	X

Benefits present across all child cycling journeys

The following themes represent the benefits that were found to be present in some way across all child cycling journeys – whether accompanied by an adult or cycling independently or with friends. There were many benefits to parents that were universal to any form of child cycling.

Table 2: Total number of quotes per interviewee per theme

Themes in benefits to children cycling	Number of quotes	Number of interviewees supporting theme
Benefit to child	83	14
Strengthening family relationships	31	13
Saving money	20	10
Reducing car use	19	11
Saving time	18	10
Benefit to other family members	16	7

These overarching themes demonstrate the motivations of parents and families to support their children to cycle. This evidence is useful to highlight the key messages that may be most persuasive to non-cycling families, or to those with potential to cycle more and for a wider range of journeys.

Benefits to child

When asking parents about the benefits of children’s cycling, all interviewees referred to the benefit cycling had directly to their child. Doing something positive for their child was framed by them as a benefit to them as parents because their motivation was for their child to be happy and healthy. The benefits to their children that parents described have been split into those benefits that take effect in the present and those that are in the future of the child’s life.

Present benefits to child

Benefits in the present included improving the child’s independence, health, connection to nature, reduced their screen time, mental wellbeing and cycling skills. All 14 interviewees mentioned a present benefit to their child as something they considered important to them as a parent.

Nine interviewees said there was a benefit to their child’s independence. Parents spoke about how they could see that cycling was one of the ways their child gained a sense of independence as they grew up. They saw this as something natural that they wanted to encourage.

“He’s obviously getting to that stage. He’s gonna be 16, getting more into adulthood. So, a lot more independence, wants to go out and

venture further. I'm absolutely fine with that as long as I know he's safe." – Interviewee S

Where independence directly meant cycling independently rather than just developing life skills and confidence, it had the dual benefit that the child became less reliant on their parents for transport. This will be discussed further in the “Benefits to independent cycling” section below.

Seven interviewees said cycling for journeys was beneficial to their child’s cycling physical health and fitness. Interviewees talked about how seeing their child improve in these areas was a specific goal of theirs. A mother whose son participated in the Free Bikes for Children programme explained:

“A great opportunity [cycling] for him I think to become more athletic, I guess because in his case he's not a child of great athleticism.” – Interviewee A

Seven parents expressed a key benefit to their child was that cycling helped reduce distractions and screen time, linked more broadly to benefits for the child’s mental health and wellbeing. Many parents felt screen time was a significant battle they faced as carers of the current generation, with cycling forming a relief from this.

And because [the children are] focused on something [when cycling] and you're not being distracted, there's no phones, there's nobody having to shop for something or log into something. You don't need a password to operate your bike. – Interviewee E

This theme was often accompanied by parents reflecting on how cycling increased the child’s access to nature. For instance, the same mother as quoted above talking about screens, who was living in the rural Highlands, also expressed the below:

“The places that we go on our bikes, it's quiet or there's spectacular views and I'm always so proud that my younger boy, he's 8, he'll say, ‘just look at that view I could look at that all day Mum’ and you just think ‘yes, we won, we won the battle’, when they say that.” – Interviewee E

Six parents spoke about how cycling together could open up different conversations, provide a space for children to express their feelings about harder topics. This was said

by parents of both primary and secondary school children. Several who had teenage children felt this was a particular advantage during a “challenging time”:

“Things come up in the day. Like my older child, might express how he's feeling about something in the week. Because it is unscheduled time... Because we are riding along as we are going in pairs, you get that dedicated time and the mind is freed up somehow. And my children might open up about something.” – Interviewee E

Another parent mentioned that because you did not have to look at each other while cycling this “took the pressure” off the need to have to talk, which paradoxically made it easier for the child to open up.

Finally, parents saw getting their children cycling as the opportunity to develop specific cycling skills including road sense and bike handling:

“There's something to work towards... it is helping him to develop his cycling skills... road sense, physical strength and his bike handling skills” – Interviewee C

This connects to the future benefits from cycling, discussed in the following section.

Insight for programmes

When asked “how does your child cycling benefit you?”, parents interpreted this through prioritising the benefits to their child. Parents put the child’s advancement as a key priority, often above their own. The rest of the report will show there are benefits directly to parents. However, framing the benefits of cycling from understanding that parent priorities will tend to be to the child first can help to match the way that parents and carers will prioritise their decisions around their children.

Future benefits to child

11 interviewees mentioned a benefit to their child that would be felt in the child’s future was important to them as a parent. They perceived cycling as a life skill and something that their children would use into adulthood.

Parents felt that their children were “gaining a life skill” that would enable them to cycle as adults. Parents saw it as a form of future transport, independence, and a potential money saver for their children once they became young adults and beyond. One mother of 9- and 13-year-olds, neither of whom currently independently cycled, said that she wanted her children to cycle now so that as adults they could cycle alone:

“If they're cycling when they're kids, they're more likely to cycle when they're grown up. If they don't cycle as kids, they're probably not gonna cycle when they're adults... if they're confident cycling, then they've got

a free and healthy mode of transport...and a low carbon way of getting around.” - Interviewee B

Parents of adult children demonstrated the truth of this aspiration for their families. One mother of four spoke about her adult son’s benefit from gaining confidence to cycle as a child:

“[Cycling] still gives him [adult child] the flexibility, the freedom. He can shoot over to his friends, he can get himself into work as he's working in the city centre. And actually, he always cycles to that just because it's impractical to take the car in, you know, because you can't park where he's working and you'd be longer for him to walk from there” – Interviewee S

Another parent saw that his son’s ability to know local routes would impact on his son’s ability to independently cycle in the future.

“It gets [my son] knowing his local countryside and it gets him recognizing landmarks and places and things like that, so he knows eventually how to get to places under his own steam” – Interviewee P

Parent’s perception of their child’s confidence and cycling skills is an important factor in child independent cycling, which will be discussed in the “Barriers to independent cycling” section below.

Insight for programmes

Some parents perceived cycling as part of their child’s future, a key skill and an opportunity supporting them to become successful young adults. Parents of adult children attested to the fact that their children were able to commute to work or higher education because of cycling as a child.

Strengthening family relationships

All but one of the 14 interviewees detailed the benefit of cycling to building the different relationships within the family, beyond the benefits to the child individually.

Cycling could be a shared experience for the family, according to the parents interviewed. Parents expressed that cycling enabled them to spend quality time together as a family, which can often be hard to find, particularly in an active way:

“Well, it's nice to do things together. It's always nice to have something that you can talk about and even if on those when it rains or something happens. Then we've been in it together and we can talk about it

afterwards. Shared experience. That is not just like, watching telly.” – Interviewee G

Though often parents of multiple children expressed that ‘togetherness’ was a benefit, they also said cycling was a way to spend time with just with one child, which could also be harder to achieve in a larger household.

Cycling was viewed as an inclusive family activity, which was a particularly significant impact on families with disabled children. A mother of four children, one of whom has Down’s Syndrome which impairs his physical and visual capacities, and grandmother of one, explained:

“Well, I think for me it's the fact that all my kids, all ages, all abilities, and soon my grandkids will be able to go out for the day. Despite the big age differences [Children ages 14, 18, 23, 25]... I still have the baby bike seat so I can take my grandson on the back of the bike and it doesn't stop us going out as a family. There's very few things that we can do as a whole family.” - Interviewee H

Another mother describes how her son developed a life altering hip condition, and that without an adapted bike he would have been entirely inactive:

“He got a hip condition when he was seven, so he couldn’t walk, but he could sit down on an adapted hand cycle. He spent two years in a wheelchair, he used a handcycle for that time... other kids with his condition just sit for two years. His whole world changed, our whole world changed. He couldn’t really do any exercise, he had to stay seated. The hand bike opened up a whole new world for us.” – Interviewee L

[Insight for programmes](#)

Parents valued how cycling together strengthened family bonds. It provided a shared experience that was inclusive for different ages and abilities, including children with disabilities.

[Saving money](#)

Finances were an important factor to explore within this research. Parents identified a range of ways they saved money thanks to their children cycling: saving money on fuel, bus fares, as a cheap activity and from not buying a car. Overall, ten parents spoke about how their child cycling saved them money as a family.

However, despite this range of savings, financial benefits were not upmost in the mind of parents when they thought about cycling for their children. During interviews, these realisations all came after some time talking and reflecting with parents.

As part of the sampling of participants for this research, two indicators were used to give an indication the economic situation of families. When located by zones in the Scottish Index of Multiple Deprivation, half of respondents were from the 50% more deprived and half were from the 50% least deprived areas of Scotland by postcode. One interviewee was from zone 1 (most deprived 10% of the country) and another from zone 2. Four respondents were from zones 9 and 10, the least deprived 20% of the country.

A question from the Scottish Household Survey (Transport Scotland, 2019b) to monitor living standards via the financial situation of the household was used during the interview. When asked about the financial situation of the household, three interviewees said they “get by alright”, three others said they “manage quite well” and the rest of interviewees said they “manage very well”. This indicates some range in the financial situations of the households, although none identified themselves to be financially struggling within the interview.

Those that said their child cycling saved them money were a mix of living in both deprived and non-deprived areas with a range of responses to the question about the financial situation of the household.

Saving money on fuel

Five interviewees, including the two living in more deprived areas, talked about how their child cycling saved them money on fuel for their car. Interviewees noted how this was becoming more relevant with the increased price of fuel. Interviewee “K” who answered “get by alright” regarding her financial status said the following:

“The cost of petrol and things as well. You know it's better not to use the car, the less you use the car, the less petrol you're using, less money.” – Interviewee K

Saving money on days out

Five interviewees said that their child cycling saved them money because it provided a means of a “cheap day out”. Parents explained that cycling could fill a day of activity for the child, either with or without their parents and was a low-cost option in comparison to other costly activities, such as the cinema. Parents expressed how this was particularly true during the holidays or weekends when costs could easily build up:

“When they decide to go out on the bikes, you're not having to pay for another activity to keep them entertained during holidays or weekends...and financially as well when they're doing something like that, you're not then having to find something else for them to do so. For example... we'll go to the cinema, then obviously that costs a lot of money.... and then I don't mind that [expense]... But if it was every day

*then that becomes costly, especially through the holidays.” –
Interviewee K*

Saving money from not buying a car

Three interviewees said their child being able to cycle meant that either they did not have to buy a car for the family (one parent) or that they hoped they would not have to buy a car for the child when they were old enough to drive (two parents). All three parents said the main goal for not buying a car was the financial saving. In reference to future car needs from children, one parent explained:

*“Ultimately, it's important that they don't rely on us to buy them a car...
The distances up here pretty much preclude commuting by bike, but
they don't preclude being able to just at least get yourself from one side
of town to the other... or take a bike on the train into Inverness.” –
Interviewee D*

For the family who had avoided buying a car, a single parent household, the mother explained the benefit this saving had made to the family's living conditions:

*“Because I didn't have a car for years and I think not having a car saved
so much money that meant I was able to do other things like living in
nicer houses and things like that...When [we] moved here, I was able to
rent somewhere and I wouldn't have had the savings behind me to be
able to do that, I would not have had the savings if I had a car.” –
Interviewee G*

Previously saving money on bus fares

Three interviewees said that before the free under 22 bus passes were brought in, their child being able to cycle was a money saver. Interviewee M, a mother of four, explains below how saving money was a consideration when there was not a free bus for her older children who could cycle independently:

*“So, before this came in [the free bus pass] they [the children] did think
about taking the bike rather than taking the bus... So they definitely
would have said "Ohh I'll take the bikes and that way I don't take the
bus".” – Interviewee M*

Insight for programmes

There are a range of ways that parents can save money because of their child being able to cycle for any type of journey. Though saving on fuel is the most obvious, parents also

reported saving on days out and avoiding purchasing cars altogether. Leisure time savings were relevant, as well as focusing specifically on the transport or school run options when parents reflected on the financial elements of cycling. Parents also identified ways in which they hoped that cycling would save them money as their child became a young adult. Drawing more attention to the savings both now and in the future may raise interest for parents' encouraging children to cycle, but they are not the benefits that are most obvious to parents when thinking about cycling for their children.

Reducing car use

Ten parents saw it as a benefit that they could reduce their car use due to cycling. Cost was one motivator, as discussed in the previous section. However, some parents also had other reasons to reduce car use that influenced their interest in encouraging their children to cycle for local journeys. This included environmental reasons related to air pollution and climate change, not wanting to get stuck in traffic, saving time and that it avoided issues of difficult parking at the school gates.

"G" single mother of two, spoke how initially she had started cycling to save money by not using a car, but in more recent years the environmental benefit had become apparent to her:

"It just it doesn't feel like the right thing to do to use a car when I could use a bike...yes, it is environmental [reasons] now" – Interviewee G

Parents reflected on climate change and air pollution as environmentally motivating factors. For others, it was a dislike of driving itself with "the hassle of sitting in traffic" which could be a particular issue around school pick up and drop off times. Another father of three who cycled to and from school with his children focused on the situation outside the school gates as the motivating factor:

"Parking at the school, that's actually highlighted to me in a major way by cycling the kids into school. I can see the craziness of everyone just parking at the school at the same time." – Interviewee P

On the school journey, the quantity of traffic and poor driver behaviour at the school gates was also a safety concern for some parents which meant they did not want their children to cycle the school run independently. This is discussed below under "Barriers to independent cycling."

Insight for programmes

Reducing car use was a relevant goal for parents with a range of motivators beyond financial elements including climate change and air pollution, avoiding traffic and issues around school parking. Programmes could seek to understand and tailor programmes by aiding participants to use the car less in line with a broad range of rationales that families may have.

Quicker or more reliable to cycle

Three parents noted that cycling could save time even if that journey was accompanied rather than independently cycled by the child. One parent living in around 1 mile from his children's school mentioned that due to long-term road works it was quicker for him to cycle with his children to school than use the car to drop them off. This had the extra benefit of reducing car use, but his main motivation was saving time.

Another parent living within 1 mile of their child's school expressed that it was quicker for him to cycle alongside his young son (also cycling) where his alternative would be to walk the child to school. One mother who did not own a car similarly said that *"walking to school is 25 minutes but riding to school is 8 minutes. So, I mean it's just saving time"*. All these parents had jobs that enabled them to do the school trips with their children and lived between 1-2 miles from their child's school. They benefitted from the journey being quicker by bike.

One mother also talked about reliability also being a factor in favour of cycling:

"[Cycling is] Very good transport really for the young man, right, getting to school, getting to your clubs and stuff... The buses in Falkirk they're not extremely reliable... we don't own a car so we use public transport. It's a challenge because they don't always come on schedule." – Interviewee A

Insight for programmes

For certain locations and circumstances, likely those under 3 miles, accompanied cycling can prove attractive as a time saver or more reliable mode compared to walking, driving or public transport. However, the likelihood of cycling being quicker will be influenced by traffic, terrain, roadworks, local public transport options and distance to school and other amenities.

Mental and physical health benefits for parents/other family members

Seven parents mentioned benefits to either the parent or other family member's mental or physical health from their child cycling because of accompanied cycling with the child.

Five parents expressed that cycling with their child improved their own mental health. A further three parents reported a sense of enjoyment from cycling with this child.

"It's a really relaxing thing. So, for me, when I'm cycling it massively de-stresses me and it's a really way good way of literally blowing off steam". – Interviewee M

Improvement to their own physical activity levels was mentioned by two parents. These two said that being able to cycle with their child encouraged them to do more cycling:

“I don't exercise very much at all and so just doing the cycling, doing an hour and a half with my son. Actually, it makes me want to feel better and about myself” – Interviewee H

However, when asked about health or other benefits, most the parents spoken to thought of themselves as fairly active people. Many expressed that this was the reason their child cycling did not have as much impact on their physical activity as it might do for others who were less active.

Insight for programmes

Parents benefit mentally and physically from being able to cycle with their child. Programmes could look to monitor parent’s levels of physical activity and mental wellbeing to explore impacts in these areas. There may be more scope for impact with those who are initially less physically active but want to start cycling with their child.

Benefits to independent cycling

Though there were many benefits that were experienced by families whether their children were cycling independently or accompanied, there were also specific benefits parents saw from children cycling independently. These benefits will be discussed in two categories; benefits from independently cycling the school trip and benefits from independent cycling for non-school journeys.

There were eight parents who had at least one of their children cycling independently. The present ages of these children ranged from 11 to 17 years old, with most starting to cycle independently around 11-13 years old. The youngest that any parent reported allowing independent cycling was seven years old. This was to allow the child to cycle to their after-school activities while the parent took his other children home.

More families used independent cycling for extracurricular activities than for the school run specifically. See the Table 3 for a list of journey types that children cycled independently.

Table 3: Parents whose child cycles independently, by purpose

Child independent cycling purpose	Interviewee Codes
For school	K, G, J, H, P
Cycling for leisure/fun	K, C, S
Other local journeys e.g. attending sports clubs, seeing friends	K, G, J, H, P, S, M

Saving time on the school run

Five parents allowed independent travel for the school trip, however only two of those children cycled most days. Both of these families were single parent households, where the parent significantly benefited from the child travelling independently as one put it "because I'm on my own and I wouldn't be able to drive her everywhere."

All five parents reported that independent travel to school by at least some of their children made the “*morning rush*” easier. It gave time for the parents to look after other children, get to their own activities or work and feel less pressure. A single mother with a teenage daughter that cycles to school and a 2-year-old son talked about how this helped her:

“It’s a lot easier in the morning because she just gets up and does [her]self. She doesn’t need any input because she can get school in her own, so she doesn’t even need me to get up, you know if I’d had a really terrible night with the baby.” – Interviewee G

Other parents talked about how the child cycling to school made mornings less “*stressful*” because they are no longer relied upon to take control of the child’s morning, on top of their own.

Three parents also referred to benefits in the afternoons, as children cycling independently back from school meant they did not have to interrupt other tasks - whether working inside or outside the home or other caring responsibilities. A mother of two highlights how her children cycling independently had altered the employment opportunities available to her:

“The big benefit is that from quite an early age I could leave them to do their own thing and get in of their own steam so I didn’t have to fit it around my work. So there are less stress and less limits on what I was able to do...It was a timing thing, that they probably went to school earlier actually than I was starting work.” – Interviewee J

This parent was able to take work that required hours that would not fit around the school drop off and pick up times. However, for many parents of younger children, “doing the school run” was something parents expected to account for as part of any job they had or when coordinating childcare for their child.

[Insight for programmes](#)

This research shows that parents can save time by their child cycling the school journey alone. This was particularly emphasised by single parents. In addition, children cycling independently took the stress out of mornings for parents in a range of family types and enabled an opportunity for employment that did not need to fit around school pick up and drop off. These benefits were related to the independent nature of the journey rather than specifically the modal choice of cycling and were influenced by the age at which parents were comfortable with children travelling alone.

Avoiding “juggling” trips to non-school activities

Seven parents said they found a benefit in their child cycling independently for non-school journeys. More families made use of cycling independently for extracurricular activities than for the journey to or from school on a regular basis.

Parents saved time by not having to wait around for activities to finish, to rush back after work to drop children at after school activities or be interrupted at work to “taxi” children around, especially in the holidays. It helped parents of multiple children to have one less child to transport to activities, friends’ houses or other locations.

The benefit of children cycling independently for extracurricular activities was particularly reported by parents that had multiple children (six of the seven who mentioned this had more than one child), as the need to “juggle” different extracurricular activities was even more prevalent. A mother of four children describes this:

“I think it's sometimes a bit of a juggling, because there might be more than one child that needs to go somewhere, or I need to go somewhere. So, it's nice that that they're able to sort of do things independently of me.” – Interviewee M

One father of three described how having one child who could get to their activities independently was a benefit to the other children, as he could take younger children home directly without making them wait for the eldest to also finish activities.

Similarly to those that let children cycle home from school, when children cycled independently for after-school activities parents said it helped that they “*did not have to be interrupted*” when working. This was of particular relevance during the school holidays, when children had more time to fill. Where children could take themselves off to an activity, holiday club or friend’s house it helped parents to manage holiday working calendars.

One parent that worked outside the home said that it was valuable to not have to rush off to take their child to after school activities soon after getting home from work, as it was often a tight turn around. They appreciated the moment of peace in a hectic schedule:

“It just gives us a bit of time just for us just to chill or watch a TV program... in peace... even if only half an hour it's time to stop and breathe” – Interviewee S

Insight for programmes:

Children cycling the school trip independently is not the only way parents benefit. Cycling to and from non-school activities is an important component of travel for children. Parents of multiple children in particular benefit from their children being able to cycle independently for extracurricular activities. This was of extra benefit across all family

types during holidays when children's schedules changed. This has implications for ensuring access and storage at a range of community locations is suitable for cycles.

Barriers to independent cycling

The analysis below explores the barriers parents gave for the children that did not cycle independently. Some parents, whose children were a mix of ages, let older but not younger children cycle independently. There were also situations where parents were comfortable with children cycling some local journeys but not others, depending on distances, family schedules and infrastructure.

Safety concerns for all ages of children

Seven parents said safety was a main reason they did not let their child cycle. This was the largest theme across those interviewed that did not allow independent cycling, particularly those that did not allow any of their children to cycle independently.

Safety concerns related to dangerous car driving, traffic in rural areas, lack of cycling infrastructure and traffic at the school gate.

Two parents spoke about the "fiddly" infrastructure and lack of bike paths. Three of the parents of older children (13 and 14 years old) who were not allowed to cycle alone spoke of specific traffic and infrastructure concerns that stopped them encouraging their children from cycling alone.

"So the road layouts pretty like 'twisty turny' and the High Street itself is busy with the cars. So it's not [a] pedestrianised High Street, it's just a straight through cars going through the middle part, tricky hill starts tricky little one way streets and junctions and stuff... there's no cycle paths at all anywhere around town. – Interviewee D

Specific to the school run, traffic around schools generated by families dropping off or collecting children was a barrier to independent cycling for three parents.

"I prefer my boys to walk rather than cycle [to school] because of the... safety issues because of the chaos adjacent to the school"
– Interviewee E

For journeys to other destinations, the same parent attributed her fear to the speed and type of traffic found due to living in a rural area.

"Where we live it's like the timber lorries, tractors, quad bikes, the Land Rovers, the rural traffic and it's a very busy landscape and because the roads are all 60 miles an hour, although they're beautiful. ... I can handle it [cycling], but with the kids, it's terrifying, certainly in terms of unaccompanied journeys. Even though they're ten and eight, I would

*still feel quite apprehensive I think about giving them that permission.”
– Interviewee E*

Fears around safety were still a concern for parents who did let their children cycle independently, including the parents of grown-up children. One parent admitted she still “worried” about her older children cycling, even though they were now 17, 19 and 21 years old. Though all children were still living in the family home, their mother said that as two of them were now adults, she could no longer dictate their travel choices like she still could for her 11-year-old. She did not allow the 11-year-old cycle independently due to safety concerns.

Insight for programmes

Existing cycle friendly infrastructure and lower traffic levels are key factors in parent’s decisions around child independent cycling at all ages observed. Areas that have cycle paths and lower traffic will likely see higher impact from programmes that give children access to bikes.

Cycling skills

There were two parents of children aged 8, 9 and 14 years old who felt that their child did not have enough “road sense” to cycle independently.

“They [younger children] just don't have the self-awareness to know when to stop. Slow down and you know, cross the road without the lollipop lady.” – Interviewee C

While some of this is age related as the child develops their general skills, the parent of an adult child also noted that one of her children aged 21 lacked the “confidence” to cycle on roads. Cycling skills training for children and young people is a key step in allowing them to make use of cycling as a means of independent transport.

Insight for programmes

A child having “road sense” and the confidence to cycle are factors in whether parents allow children to cycle. Confidence and skills continue to be a prerequisite to determine whether people of any age take up the possibility of cycling as a mode of transport.

Lack of school support

The interviews showed that schools play an important role in how families get their children to and from school. There were several factors that parents spoke of regarding schools.

Five parents mentioned that too many cars try to drop off their children at school at once, causing a dangerous situation as a cyclist. Most of these parents also felt that the schools could do more to encourage cycling and dissuade driving:

“I don't think that schools advocate as much now [to cycle to school]. I think as a society we're too busy rushing off to work. So, we drive our kids to places and we drop them off and we drive on.” – Interviewee H

Additionally, two parents reported lack of safe storage for bikes at schools and felt not enough was provided by schools to avoid theft and vandalism. This was more strongly feared for secondary schools.

Insight for programmes:

Encouraging schools to provide safe cycle storage for children's bikes and discourage parents from driving or at least dangerous parking will be an important factor in engaging a community to cycle.

Child's lack of motivation

Five parents expressed that their child did not always want to cycle independently when the opportunity arose and as a parent it was not something they wanted to force their child to do.

Of these five parents' children, some children would cycle to school independently or with friends sometimes but would not on days when it was not practical. Reasons children would cite included that their bag was too heavy, the weather was bad, steep hills or that they were too tired. One mother of children that would sometimes cycle the school trip independently describes why this did not regularly happen:

“So, they have done it [cycling to school] it's up a very steep hill. My daughter used to do it. She met her friend. My son did it a few times, but not that consistently. They'll love coming down. But they hated the going up”. – Interviewee H

The motivation level was also a reflection of the alternatives available to children. The same mother later described how previously her children had not been interested in cycling independently for any journeys until a change in family circumstances forced their hands:

“I wasn't allowed to drive for two years, so it [cycling] gave them a way to continue their life because there is nothing in our village, so they had to go to the other villages. My husband does drive but he was working down in Manchester at the time.” – Interviewee H

After this change the children started to cycle alone to access activities and meet up with friends.

There were two children (from two interviewees) whose parents felt that they were old enough to cycle alone but they did not cycle independently at all. The parents understood this as a self-confidence to cycle alone from the child or a lack of desire to go without parents organising a family ride.

“I could say to them or ‘why don't you go and play in the street [on their bikes], but they don't. They've got everything in place in terms of access to bikes, they're competence and skill is all there. They still don't take part for fun unless it is all set-up for them, and that's all like ‘get on your cycling gear, we are now going for this allocated cycling time’ sort of thing.” – Interviewee E

Combined, these quotes represent the importance of alternatives available and the motivation of the child themselves to cycle independently, as well as the relevant benefits there may be to the parent.

Insight for programmes:

As with adults, enabling children to cycle more independently may require provision of bike accessories, such as pannier racks to carry heavy items more easily. As with all activities, there will be personal preferences that mean some individuals are more eager to participate than others.

Existing transport to schools is satisfactory

Three interviewees mentioned their child's school was so close it would be more effort to get the bike out than just walk a few minutes:

“And so, they actually can walk to school very easily and they could cycle, but it's actually so close that they don't”. – Interviewee E

Additionally, three interviewees mentioned that since the free bus pass for under 22-year-olds, their children use the bus to get to school and there is not a financial motivation to encourage them to do otherwise. Two parents said money would have been a factor in their child cycling more before the introduction of the free bus pass.

Insight for programmes:

Not all school commutes or local journeys are more convenient to cycle rather than walk or take public transport. Programmes that focus on a wider range of local journeys by bike that children can do independently will provide more scope for behaviour change and better reflect the lives of children and families.

Further factors in family cycle ownership and use

Beyond the benefits and barriers to independent cycling, three further themes emerged from the interviews that were relevant to understanding the uptake of cycling for children and parents' experiences of encouraging their child to cycle.

Price & quality of bike

The price and quality of a child's cycle was discussed by three interviewees as an important factor in enabling and motivating a child to cycle.

One parent interviewed helped to train children to cycle through her business. She reported that many parents were unaware of what a difference a good quality bike could make. In her experience, even those with the means to more easily afford a good quality cycle would often purchase aesthetically pleasing bikes that were heavy and with no features that enabled the child to extend the seat as they grew. She indicated that this had a negative impact on the child's motivation to cycle, but that a higher quality bike could see children readily learning and engaging in sessions:

"All the parents when I teach their kids to learn to ride, that's the first thing they always ask about. "Where can I get a good bike?" And unfortunately, the cheaper bikes are all super heavy, which is a massive barrier for kids learning" – Interviewee L

This interviewee's experience draws parallels with two interviewees whose children attended the Free Bikes for Children programme. Both commented on how impressed they were with the quality of the bikes provided by the scheme. They mentioned the quality of the bike was higher than their children had previously experienced, with both finding this had a significant impact on the child's motivation to cycle:

"Its beautiful bike it's very comfy... And it's the first bike because back in Ukraine he had one, it was a used one, it wasn't really perfect. This one is really perfect, just fitted him and he enjoys doing it" – Interviewee A

For some families, they felt the decision to spend the money hinged upon whether the child would enjoy and use the cycle regularly which could be hard to know in advance. For instance, interviewee 'K' said *"it's an investment"* when explaining why she bought her son a "good" bike, saying that because he had shown that he does a lot of cycling they wanted to encourage that with a high-quality bike. As recognised by the Free Bikes for Children scheme, not all families are in a position to make the investment even if they do see the longer term value in a better quality cycle.

The two mothers who had a child with a disability both mentioned the extremely high costs of adapted cycles. Interviewee 'H', a mother of a 14-year-old boy with Down's Syndrome spoke about their initial search for a trike:

"We were looking at adapted trikes for two and a half thousand pounds, so I didn't want to spend that if he wasn't going to actually enjoy it." – Interviewee H

The mother went on to say that to her great relief, her son was able to learn to ride a standard bicycle with the help of instructors, saving her the £2,000 payment for an adapted trike.

Insight for programmes

Beyond the fact many parents struggle to afford a bike for their child, parents may also be unaware of the impact of a low-quality bike or be able to identify what to look for in a good quality bike for children. Programmes can help overcome these hurdles by educating families on quality bike features. Families of children who are not able to ride a standard cycle (whether through disability or for other reasons) face much higher financial barriers to cycling.

Impact of starting early with regular cycling

Getting children learning to cycle when they are young and getting them into the habit of cycling was seen to enable future cycling, including independent cycling. One mother of four mentioned this would be “harder” to accomplish when they are teenagers:

“The thing that helped was doing it regularly since they were little... I think it would be harder to do those things if they’d started when they were teenagers” – Interviewee M

A father who regularly cycled to school with his children talked of the importance of cycling becoming the default option for journeys:

“The best thing is that it's a habit... I think just getting to that point where it has become that sort of a habit and there not being an alternative.” – Interviewee P

Insight for programmes

These insights stress the long-term impact early intervention cycling programs (such as Play Together on Pedals with under 5s or Bikeability with 6-13 year olds) can have. It is also relevant to consider how habits over the longer term can be maintained during or after an intervention.

Bike storage issues

Particularly for families that have multiple children, storing bikes easily and safely was identified as a challenge. All of the participants in this research had found ways to manage, but even with their enthusiasm they still encountered difficulties. One mother described how the only place they could store the bikes was in a location only her husband or elder sons could reach. She was too short to get out the children’s bikes herself. A parent of two spoke about the difficulty of storing both her and her children’s bikes when living in a flat. Finding safe storage was a concern and the combination of multiple bikes made this harder for parents.

Insight for programmes

Determining with families where storage will be viable that allows for access and security is an important factor in the use of bikes. For some families this might be possible inside private or shared residences, for other situations this may require consideration of on-street or shared storage solutions.

Free Bikes for Children programme feedback

This section includes feedback from the two interviewees that had taken part in the Free Bikes for Children pilot programme, both in Falkirk. Evaluating the programme was not the aim of this research, but these insights may be useful as additions to the wider programme evaluation.

Impact of receiving a free bike

One mother had recently fled Ukraine with her husband and two children. They were living in free accommodation provided to them and felt that although they were “*doing okay*” overall, there was a need to prioritise their finances:

“We couldn’t have afforded a £300 bike...because we’ve just come in here and we are kind of running from the not very great circumstances, so it was a really really good deal.” – Interviewee A

The other interviewee ‘S’ was a father of three whose 11-year-old son participated in the programme. This parent felt that although he could have afforded to buy his son a bike, he had not prioritised it because the son in question was against cycling before attending the programme. ‘S’ explained that when he was younger, his son had had an unpleasant crash on his bike that put him off cycling or learning to cycle well.

“And I could quite easily went and bought another bike. But I’m like, well, he’s no willing to learn, so you know, is there much point you buying a bike just for it to maybe not get used?” – Interviewee S

When parents deciding what to spend money on, it is unlikely that purchasing a bike, an expensive outlay, is going to be a priority if the child is not seen as interested in cycling.

Additionally, this father stated that for them the main appeal of the programme was the free cycling lessons with trained instructors. He reported that the key benefit was that the instructors had more “*patience*” than he had when trying to teach his son to cycle. He also thought it was positive for his son to learn alongside others his own age.

Since joining the programme the child had overcome his negative associations with cycling and now actively chooses to cycle, including cycling independently for local journeys. Father ‘S’ spoke warmly about the significant impact the programme had on his son and family.

“I know it's a lot of money for these schemes to happen... but if it can make as much difference to everybody else that has to me and us as a family, then it's absolutely huge.” – Interviewee S

“Earn a bike” programme design

The Free Bikes for Children programme has tested different models of delivery across delivery partners. In Falkirk, where both interviewees accessed the scheme, it was structured so that the child only received the free bike after having to attend a series of cycle training sessions, whilst using the same bike they would eventually own. One parent saw this as a benefit from the child having to “earn” the bike by attending a set of cycling sessions first:

“I really, really liked it [the programme]. It was done very, very well. it's just right, with the right pace, with the right demands on the child. So, it's [the bike] not, just given away it's something that you earn” – Interviewee A

She expressed how as a parent you want to teach your child the value of hard work but that it is best when they can learn through situations that demonstrate the importance of it. This mother also said that bike being of a high quality was important, as it increased the desire her son felt to earn it.

Summary of insights

Insights for each section are provided within the Analysis chapter. This chapter summarises the relevant insights found across the analysis and brings overarching themes from the research together.

Parents prioritise their children's wellbeing

When asked “how does your child cycling benefit you?”, parents interpret the question through prioritising their identity as parents and reflecting on the benefits to their child. Parents put the child's advancement as a key objective, often above their own needs. Framing the benefits of cycling from understanding that parent's priority will tend to be to the child first can help to match the way that parents and carers will prioritise their decisions around their children. The benefits that parents found for their children included improving the child's independence, health, mental wellbeing, connection to nature, reduced their screen time and cycling skills.

Parents perceived cycling as part of their child's future, a key skill and an opportunity supporting them to become successful young adults. Parents of adult children attested to the fact that their children were able to commute to work or higher education because of cycling as a younger child.

Non-school journeys should be an important future focus

Children being able to cycle independently made life easier for families as it reduced pressure on the household. This was relevant on school mornings or for juggling accompaniment to activities, visiting friends or family, shops or for cycling as an activity itself. Children, like adults, move between a range of destinations beyond their (school) commute. Independent cycling allowed parents time for work and other caring responsibilities, as well as making life a little easier. While the school journey was relevant for releasing morning pressure, many families discussed independent travel for non-school journeys as a significant benefit from children cycling. This was of particular relevance to single parent households, households with multiple children and families with working parents during the school holidays.

It should be noted that these benefits were because the child did not need accompaniment, rather than because they were cycling for those journeys. Other forms of independent travel (walking, bus etc) will provide some of the same benefits by helping parents trying to manage complex family timetables. However, the health and wellbeing benefits that parents also prioritised for their children were specific to getting exercise and improving their cycling skills.

The value of children cycling for journeys other than the school commute suggests it would be beneficial to give more attention to non-school journeys in future policy decisions. This could include more data collection around children's cycling beyond the school journey and ensuring the needs of children and young people are considered for infrastructure destination decisions e.g., planning around 20-minute neighbourhood principles. Where schemes are delivered through schools, there can be incorporation of route planning and encouragement for local journeys beyond the school commute when supporting children to cycle.

Saving money and driving less

There were a range of ways that parents saved money because of their child being able to cycle. Though saving on fuel was the most obvious financial benefit for families with cars, parents also reported saving accompanying bus fares, the comparative cost of alternative days out on weekends or holidays and avoiding purchasing cars altogether. Leisure time savings were relevant with cycling identified as comparatively cheap family or children's activity. Parents could also think about saving money in the future of the child's life on avoiding future car purchases and associated costs. Drawing more attention to the savings both now and in the future may raise interest for parent's encouraging children to cycle, but they are not the benefits that are most obvious to parents when thinking about cycling for their children.

The introduction of free bus travel for under 22s made an impact in how much money families saved through cycling where previously the cost of child bus tickets had been a barrier.

Beyond the cost saving element, parents had other reasons to want to reduce their car use. For some this was related to climate change and air pollution, whereas for others it was to avoid getting stuck in traffic, saving time and avoiding school gate stress. Messaging that speaks to the range of factors influencing decisions around car use may be successful in motivating behaviour change among families.

Barriers to independent cycling

In line with the research around independent cycling discussed in the literature review, parents in Scotland are likely be more open to independent cycling from around the start of secondary school age. Both safe infrastructure and the child having "road sense" and confidence to cycle are factors in parent's willingness to allow their children to cycle independently.

Existing cycle friendly infrastructure and lower traffic levels are key factors in parent's decisions around child independent cycling at all ages observed. Areas that have cycle paths and lower traffic will likely see higher impact from programs that give children access to bikes. Ensuring provision of cycle skills through early years settings and schools will enable children to engage with cycling.

Supporting schools to discourage parents from driving or at least dangerous parking will be an important factor in engaging a community to cycle. Enabling children to cycle may require provision of bike accessories, such as pannier racks and bags to carry heavy items more easily, as will providing safe cycle storage at school and other community destinations.

Wellbeing and relationships: the benefits of accompanied cycling

While independent cycling offered benefits explained above, there were also benefits from accompanied cycling. Depending on alternatives, cycling together could be the quickest or more reliable form of transport as a family. This was of particular relevance where children are younger and unlikely to cycle independently. Parents also valued how cycling together strengthened the family bond. It provided a shared experience that was inclusive for all ages and abilities, including for families of disabled children.

Parents benefitted mentally and physically from being able to cycle with their child. This wider impact could be monitored by programmes in their evaluation. There may be more scope for impact with those who are initially less physically active and want to start cycling with their child.

Further factors in family cycle ownership

Beyond the fact many parents struggle to afford a bike for their child, parents may also be unaware of the impact of a low-quality bike or be able to know what a good quality bike looks like for children. Programmes can help overcome these hurdles by educating parents on good quality bike features, directing them to second hand sales or providing high quality cycles to children. Families of children who are not able to ride a standard cycle (whether through disability for other reasons) face much higher barriers to cycling.

Supporting families to develop children's cycling skills at primary age and building in cycling as a habit into their lives are key steps to making cycling a likely mobility choice as they become teenagers and adults.

Determining with families where storage will be viable that allows for access and security is an important factor in the use of bikes. Provision of storage in communities for those who do not have suitable home storage options and at destinations popular with children will support families to cycle.

Conclusion

This research offers an insight into current knowledge around levels of children's cycling and the amount children are cycling to school and for other journeys. The new data presented from 14 qualitative interviews explores the benefits to families in Scotland of children cycling, benefits specific to children cycling independently, and the barriers to this. Other factors in family bike ownership and reflections on the Free Bikes for Children scheme also appeared in the data and are reported.

Literature review of relevant research

The literature review demonstrated that there are significant levels of cycling among children in Scotland. There has been consistent research on children cycling the school run but limited monitoring of children cycling for other journeys. From the evidence available, this indicates that a significant amount of cycling for local journeys by children is not being captured. There was also no research in Scotland that explored rates of children cycling independently.

Though there was some indication of what types of benefits parents or carers might have from a child cycling, existing research tended to focus on accompanied cycling. There has not been previous research exploring the experience of families in Scotland specifically, where most research has focused on benefits for children. Literature from across the globe indicated that parents benefited in terms of their health and wellbeing, through enjoyment of the family time together and achieving their hopes for their child. These benefits were reflected and added to in the present study's findings.

Existing literature showed that in terms of barriers to children cycling, parents in Scotland are concerned about road safety and this has been shown in research from elsewhere to be a significant barrier to allowing children to cycle. There is reduced access to bikes for those on lower incomes, likely impacting on children. In studies from other countries, families have reported the juggle of multiple activities as an influential factor in some cases for relying on cars and reducing cycling. Rates of children cycling was also found to be influenced by parents' perceptions of their child's skill level as well as social factors that encouraged cycling.

Benefits for parents from their child being able to cycle

The parent's interviews showed a tendency to prioritise benefits to the child, and to perceive this as a benefit to themselves as a parent. As indicated in the literature, parents put the child's advancement as a key priority, often above their own. Parents viewed cycling in childhood as important for the child's independence, health, wellbeing, connection to nature, reducing screen time and cycling skills. It was also seen as a step in developing the skills, habits, and confidence to cycle in adulthood, with some parents of older children able to see this in action.

The literature review touched on some of the identified benefits relating to general parental wellbeing and enjoyment of family time. The present study adds significant detail to the benefits that parents experience. Parents identified that their children cycling improved their family cohesion, saved money (on fuel, days out, bus fares, buying a car), could provide quicker and more reliable transport and reduced car use. It also

provided mental and physical benefits for parents and other family members accompanying children to cycle.

Benefits for parents from their child independently cycling

Interviewees whose children were independently cycling found important benefits focused around saving time and stress on journeys to a range of locations, including but not limited to school. Though the school run may be an everyday occurrence it is not the only journey made by children. Children who were not cycling the school run were still taking other journeys independently by bike, to the benefit of their families. Children being able to cycle independently made life easier for families as it reduced pressure on the household. The “juggling” of a complex web of family commitments, paid or unpaid work and children’s activities was made easier through children’s independent cycling. Reducing the need to accompany children was specifically noted as a benefit by single parents and parents of multiple children, where time constraints were potentially greater. This included school mornings, but also after school, weekend and holiday time coordination. Independent cycling allowed parents to manage family timetables and to access work that would not be possible if they were accompanying children on school or extracurricular journeys.

Previous research in other countries indicated that for some, car use provided a solution to the time pressures parents felt. However, this research indicated that for some families with children who cycle, especially independently, a bike provided a better solution to time pressures.

Children being able to cycle independently as a leisure activity was also highlighted as a benefit by some parents. Cycling was identified as a cheap and easy way for children to spend their leisure time that did not require expensive tickets or coordination by parents.

Barriers for those whose children do not independently cycle

Parents of children who did not independently cycle, or who only cycled independently for some journeys, identified a range of barriers for their child cycling. As in the existing literature, safety was the most significant concern making them reluctant to allow or encourage independent cycling. The present study found that safety concerns were more influential for younger children though still present for older children. Other barriers to children in Scotland independently cycling were the lack of support and cycle friendly features from schools and ensuring the child has sufficient cycling skills and confidence. The child’s own motivation and alternative travel options available are also relevant factors. Satisfaction with an alternative form of transport, such as attending a school within walking distance and free bus travel, will reduce the motivation to cycle for specific journeys. Equipment to cope with the topography and carrying heavier items and the child’s own preferences are also relevant.

Further factors affecting family bike ownership

There were several bike ownership factors that related to the likelihood of children cycling. The quality of the bike a child has can enable and motivate the child to cycle more, and price and parental awareness of bike features is a mediating factor in this. Starting early with regular cycling as a habit was seen as important by parents who had children who cycled. They judged that when children are older it is harder to introduce cycling, with a knock-on impact on independent cycling. Bike storage became an issue

for parents, particularly those with multiple children, as storing bikes in a safe and easy to access place could prove a challenge.

Free Bikes for Children programme feedback

Feedback from the two parents on the Free Bikes for Children programme was overwhelmingly positive, with real impact seen in both families' lives. Parents described circumstances where they could not afford a quality child's bike and uncertainty about the child's interest in cycling meaning they had not wanted to invest in a bike as their child grew. The feedback suggested that the 'earn a bike' programme design with cycle training as a requirement to participation worked well. Increasing the confidence of one child through cycle classes was crucial to getting him cycling again. In the other family, the parent appreciated the life skills built into the sense of needing to "earn" the bike through commitment from the child, and the high quality of the bike being a motivating factor for the child to stay engaged.

Overall, this research presents new insights into the benefits and barriers of children cycling for parents, carers and families. Gaps in monitoring children's cycling journeys underrepresent the range and number of journeys that children in Scotland take by bicycle. Accompanied as well as independent cycling can provide significant benefits to families in terms of wellbeing as well as practicalities. Deeper understanding of the experience of families who cycle can help design and target effective interventions in the future.

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