

Inverness – Space by the Water

Baseline Monitoring Summary



[Publish Date]

To find out more, please contact: James Paton
james.paton@sustrans.org.uk

Sustrans is the charity making it easier for people to walk and cycle.

We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute.

Join us on our journey.

www.sustrans.org.uk

Registered Charity No. 326550 (England and Wales) SC039263 (Scotland).

Document details	
Reference ID:	SUSR2468
Version:	1
Circulation Status:	Final
Issue Date:	[Publish Date]
Author(s):	James Paton
Reviewed by:	Jess Acton
Signed off by:	Nigel Donnell

Contents

<u>1.</u>	<u>Scheme overview</u>	<u>4</u>
1.1	<u>Scheme description</u>	4
1.2	<u>Project outcomes</u>	7
1.3	<u>About Sustrans' Research and Monitoring Unit</u>	10
1.4	<u>Key contacts</u>	10
<u>2.</u>	<u>Monitoring</u>	<u>11</u>
2.1	<u>Monitoring tools summary</u>	11
<u>3.</u>	<u>Findings</u>	<u>12</u>
	<u>Summary of key findings</u>	12
3.1	<u>Encouraging active travel</u>	13
3.2	<u>Meet the needs of communities</u>	24
3.3	<u>Create an enabling environment for active travel</u>	30
<u>4.</u>	<u>Future monitoring</u>	<u>36</u>
<u>5.</u>	<u>Appendix</u>	<u>38</u>

1. Scheme overview

1.1 Scheme description

This baseline report covers two Places for Everyone projects:

- 1) Inverness – Space by the Water: Canal Connections
- 2) Inverness – Space by the Water: Merkinch Local Nature Reserve

These projects adjoin each other, with the dividing line being the rail crossing in the centre of the project. The paths are in an area of current geographic isolation which ranks highly on the Scottish Index of Multiple Deprivation (SIMD). A site visit highlighted that the existing paths on the canal and nature reserve are not ideal to use for people on wheels as they are gravel paths. Additionally, the passing points are inadequate, and the crossing is not as safe or easy to cross as it could be. These issues mean that the nature reserve is not as accessible as it could be, which the projects aim to address.

The projects seek to improve the path surfaces and improve accessibility (such as improving the rail crossing) to enable a wider range of residents and visitors to enjoy the green space and connect to other active travel routes.

1.1.1 Inverness – Space by the water: Canal connections

Canal Connections is centred around the Muirtown Basin, Merkinch and South Kessock areas of Inverness with a particular focus on improving walking and cycle path provision beside and between the River Ness and Caledonian Canal.

This Places for Everyone project aims to develop the existing canal towpath and an additional active travel path connecting the towpath to a nearby nature reserve. By improving the quality of both paths (e.g. resurfacing gravel paths with a semipermeable surface), it is anticipated they will become accessible to a wider demographic of route users. This is part of a bigger project to create an outdoor hub alongside the canal, a project which The Highland Council and Scottish Canals started in 2022.

Image 1: Canal connections



Key: the shaded blue area up to the rail crossing is the project area.

1.1.2 Inverness – Space by the water: Merkinch local nature reserve

The Merkinch Local Nature Reserve project aims to create an active travel route through the Reserve, which will link the community of South Kessock with the Caledonian Canal path network and key trip generators such as schools, places of employment, retail centres and medical surgeries at the Carse Industrial Estate and Merkinch. It will incorporate the replacement of an ageing boardwalk with an accessible new one, as well as providing new sealed surface paths along an existing route. It is part of a larger partnership project between The Highland Council and Scottish Canals to improve the paths network linking the green spaces which follow the river, seafront and canal located in the Merkinch area of Inverness, and to increase their accessibility to the surrounding communities.

Image 2: Merkinch local nature reserve



Key: The shaded blue area down to the rail crossing is the project area.

Table 1: Key features of Inverness Space by the Water

Key feature	
Level of investment (Canal Connections)	£687,432 project cost to date. The project has now finished construction.
Level of investment (Merkinch Nature Reserve)	£87,523 project cost to date. The project has not yet submitted a bid to the construction panel.
New route (currently not passable on foot)	No
Upgrade of existing route	Yes
Length (if linear / known)	1.1 km route (combined)
Is it a Safer Route to a School?	No
Estimated date of works starting	October 2021
Estimated date of works completion	Autumn 2023

1.2 Project outcomes

Though the projects are now Places for Everyone funded, they began as Community Links projects. For monitoring purposes they have kept the Community Links outcomes, which are:

- Create infrastructure that encourages people to cycle, walk or use another **active travel** mode as their preferred mode of travel for everyday journeys
- Meet the needs of **communities**: provide communities with the opportunity to shape their local environment and link the places people live in with the places they want to get to
- Encourage **innovation**: support partner organisations in raising the standard of infrastructure for walking and cycling in Scotland
- Encourage **placemaking** which facilitates greater use of public space and higher levels of active travel
- Create an **enabling** environment for active travel that limits the speed and volume of motorised vehicles while improving the walking and cycling experience, such as traffic calming measures and implementing filtered permeability.

Our monitoring and evaluation will focus on three of the outcomes listed above. Table 2 outlines the objectives, indicators, tools, stages and responsibilities associated with monitoring these outcomes. The other outcomes (Innovation and Placemaking) are not covered because the scheme was not focused on having impact on these other areas.

Table 2: Project Objectives, Outcomes, Indicators, Monitoring Tools, Stage and Responsibility

Outcome	Objective	Indicator	Monitoring Tools	Stage	Responsibility
Create infrastructure that encourages people to cycle, walk or use another active travel mode as their preferred mode of travel for everyday journeys.	Increased levels of walking and cycling	Increased levels of walking and cycling along towpath and nature reserve path	Route User Intercept Survey (RUIS) on towpath near the junction between main nature reserve and towpath Automatic counters on the Muirtown Basin (the canal path opposite the works)	Pre & Post	RMU
		Increased levels of active travel among local children	HUSS data from Merkinch Primary school	Pre & Post	RMU
Meet the needs of communities : provide communities with the opportunity to shape their local environment and link the places people	Community cohesion and livability	Perception of consideration of community needs and involvement of community members	Focus groups x 2 with local community groups	Post	RMU
		Community awareness of project	RUIS	Post	RMU
			Focus groups x 2 with local community groups	Post	RMU

live in with the places they want to get to.	Increasing inclusivity of active travel	Increasing demographic representativeness of active travel	RUIS demographic data	Pre & Post	RMU
		Children report that path feels comfortable to use	Pupil led cycle ride	Pre & Post	RMU
Create an enabling environment for active travel that limits the speed and volume of motorised vehicles while improving the walking and cycling experience, such as traffic calming measures and implementing filtered permeability.	Increased priority for walking and cycling	Improved route user experience at rail crossing	Pedestrian crossing video analysis at rail crossing	Pre & Post	RMU
	Accessible to users with disabilities	Perceptions of accessibility to users with disabilities	RUIS Access focus group with people with reduced mobility	Pre & Post	RMU
	Perceptions of safety	Improved perceptions of safety of the project area	Pupil focus group and RUIS safety questions results	Pre & Post	RMU

1.3 About Sustrans' Research and Monitoring Unit

The Sustrans Research and Monitoring Unit (RMU) aims to provide evidence on sustainable and active travel that is transparent and authoritative and which influences and shapes policy, practice and behaviour in Scotland and across the UK. To this end, the RMU works with Sustrans colleagues and partner organisations to monitor and evaluate the impact of specific projects, whether infrastructural or behavioural change based.

1.4 Key contacts

Table 3: Key contacts

Role	Name	Email address
RMU Project Manager	James Paton	James.Paton@sustrans.org.uk
RMU Project Director	Emma Jillings	Emma.Jillings@sustrans.org.uk
Sustrans Grant Advisor	Rachel De Oliveira	Rachel.deoliveira@sustrans.org.uk
Partner contact: Merkinch Local Nature Reserve	Claire Bell	Claire.Bell@highland.gov.uk
Partner contact: Canal Connections	Jennifer Graham	Jennifer.Graham@scottishcanals.co.uk

2. Monitoring

2.1 Monitoring tools summary

Table 4 shows when baseline monitoring took place. A timeline for future monitoring has not yet been agreed. Further detail about each of the monitoring tools used can be found in the appendix. Full details of monitoring plans are available within the separate document titled “Inverness Space by the Water Monitoring Plan.”

Table 4: Monitoring tool deployment summary table

Monitoring Tool	Purpose	PRE (2019-21)
Route User Intercept Survey (RUIS)	To count users (RUIS) and gather data on active travel behaviour and perceptions of the route from users. Annual Usage Estimates have been calculated from count data.	April/May 2019 and June 2021
Automatic Counter	Continual collection of data on number of pedestrians and cyclists to see patterns in usage over time. Annual Usage Estimates have been calculated from count data.	2019 - ongoing
Video Monitoring (Pedestrian Crossing Analysis)	To gather data on the impact of rail crossing improvements on crossing times.	May/June 2019
Pupil Focus Groups	To understand the experience of route users.	14 May 2019
Hands Up Survey Scotland	Mode share for travel to school.	2011, 2014, 2017, 2019

3. Findings

Summary of key findings at Baseline

Levels of walking and cycling

- Currently, we estimate that 138,000 active travel trips are taken on the route annually, with the majority of these made by walking (88%) and 12% made by cycling
- At three automatic counters on or around the project route, our baseline monitoring highlighted peaks in walking and cycling during 2020, in particular during the summer months. This data will be important for post-construction monitoring comparisons

Levels of active travel among local children

- 80% of the children in the school closest to the route (Merkinch Primary School) already use active travel to get to school. These levels of active travel are high compared to the national average which was 48% in 2019

Community awareness of project

- A survey of route users found that almost three-quarters had heard of Sustrans' routes, programmes, projects or schemes

Demographic representativeness of active travel

- Survey data highlights that at pre-construction, 52% of route users are male whilst 47% are female. This compares reasonably closely to the 49% male and 51% female recorded in the 2011 census for Inverness
- Most route users are aged 16-64 (76%), whilst 14% are aged 65+ and 10% are under 16. Compared 201 census data, pre-construction monitoring suggests that younger (under 16) and older (65+) people are currently under-represented amongst route users
- On other demographics, nearly a quarter (24%) of route users are limited by a disability. This compares to 18% for the wider Inverness population according to 2011 census data. The majority of route users (95%) are White – British, compared to 91% for the wider population
- Within a 10 minute walk of the scheme, the majority of the population (87%) reside in the most deprived Scottish Index of Multiple Deprivation quintile (SIMD1). However,

postcode data suggests that these residents are under-represented amongst route users

Children's perceptions of comfort levels of path

- Children identified a range of things they liked and disliked about the route and area. A common theme was they disliked certain parts of the route i.e. uphill/train track sections were difficult to cycle on and the requirement to dismount and remount at the train track.

Route user experience at rail crossing

- The rail crossing at the centre of the route is currently causing around a quarter of users to pause or hesitate inside the barrier. The crossing itself is a safety concern due to the lack of appropriate signage, as highlighted by the pupil focus group.

Perceptions of accessibility to users with disabilities

- Whilst no route users disagreed with the statement that the path was easily accessible, those with a disability (10%) were more likely to be neutral than users without a disability (1%).

Perceptions of safety of the project area

- The majority (88%) of survey respondents felt the route was safe. No one felt the route was unsafe.
- The pupil focus group (led cycle ride) also highlighted that some areas are difficult for young people to cycle on due to the competing interests of route users. Other difficulties include the uneven gravel path surface, handlebars getting stuck in boardwalk railings and safety concerns related to the rail crossing through the middle of the route.

3.1 Encouraging active travel

This outcome is concerned with **creating infrastructure that encourages people to cycle, walk or use another active travel mode as their preferred mode of travel for everyday journeys**. Our baseline monitoring establishes pre-construction levels of walking and cycling, including amongst children, which we will re-visit for monitoring at post-construction.

3.1.1 Levels of walking and cycling along towpath and nature reserve path

3.1.1.1 Route User Intercept Survey – Annual usage Estimates

We estimate that just over 138,000 trips are made using active travel along the towpath based on counts done in June 2021. The vast majority of these are walking trips at 87.8%. Cycling accounted for 12% of trips and only 0.2% are made using other forms of active transport (including wheelchairs and mobility aids).

Table 5: Route User Intercept Survey annual usage estimates for 2021 and mode share

Mode	Annual Usage Estimate 2021	Mode share
Walking	120,000	87.8%
Cycling	17,000	12.0%
Other	295	0.2%

Six 'other' users were recorded when conducting the RUIS. All were wheelchair users.

3.1.1.2 Automatic Counters

The number of people using the route and being counted by the walkway counter and the railway crossing counter may have been affected by removal of the ramp access on the boardwalk in September 2020 and path and railway crossing closures during Scottish Canals work and a period of diversion on the tow path between August-December 2021 and in March 2022¹.

Walkway Counter

A Highlands Council walkway automatic counter is located on the route towards the eastern end of the walkway (see appendix 5.1.2). It provided monthly median daily totals (MMDT) which when averaged for 2022 estimated usage at 90 people per day. By multiplying the average MMDT by 365 we arrive at an annual usage estimate of 33,000. The majority of trips on a median day in 2022 were made by pedestrians, at 89, the other trip was made by 1 cyclist. According to this counter, the number of pedestrians and cyclists increased from 2019 to 2020 then fell for the next two years (see Table 6).

¹ August-December 2021 (6/8/2021-17/12/2021) and in March 2022 (18/03/2022-26/03/2022)

Table 6: Automatic counter annual median daily totals and annual usage estimates - walkway

Mode	Average MMDT 2019	AUE 2019	Average MMDT 2020	AUE 2020	Average MMDT 2021	AUE 2021	Average MMDT 2022	AUE 2022
Walking	76	28,000	106	39,000	94	34,000	89	33,000
Cycling	13	5,000	16	6,000	5	2,000	1	500
Total	89	32,000	122	44,000	99	36,000	90	33,000

The Walkway counter in January to April 2019 and November and December 2022 had insufficient data to meaningfully calculate the Monthly Median Daily Totals, so all of these months are excluded from the graphs below. October and November 2020 also had insufficient data, so a trend line has been plotted on this part of the graphs. Additionally, August and September 2020, September 2021 and September and October 2022 did not have sufficient data for cyclists so a trend line has been plotted on these parts of the cyclist graph.

The median monthly daily total changed throughout the year for pedestrians and cyclists. The trends for both show that in general there are more people walking and cycling on the canal in the summer than the winter.

Figure The median monthly daily total changed throughout the year for pedestrians and cyclists. The trends for both show that in general there are more people walking and cycling on the canal in summer than in winter.

Figure 1: Automatic counter monthly median daily totals for pedestrians - walkway

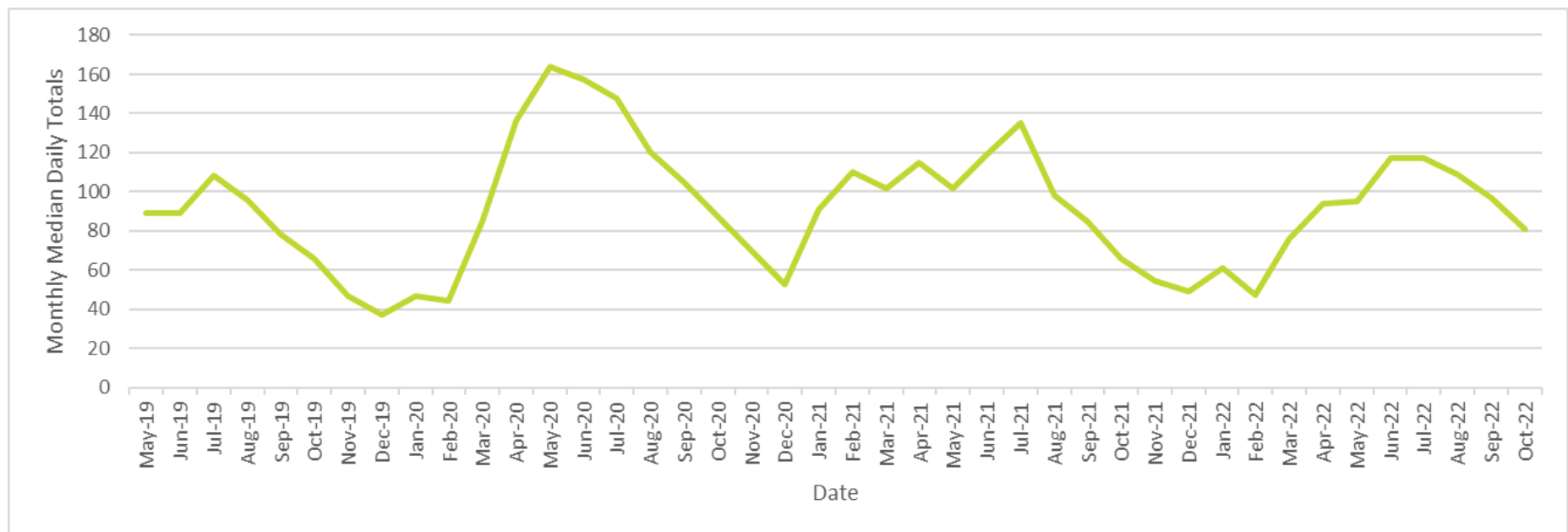
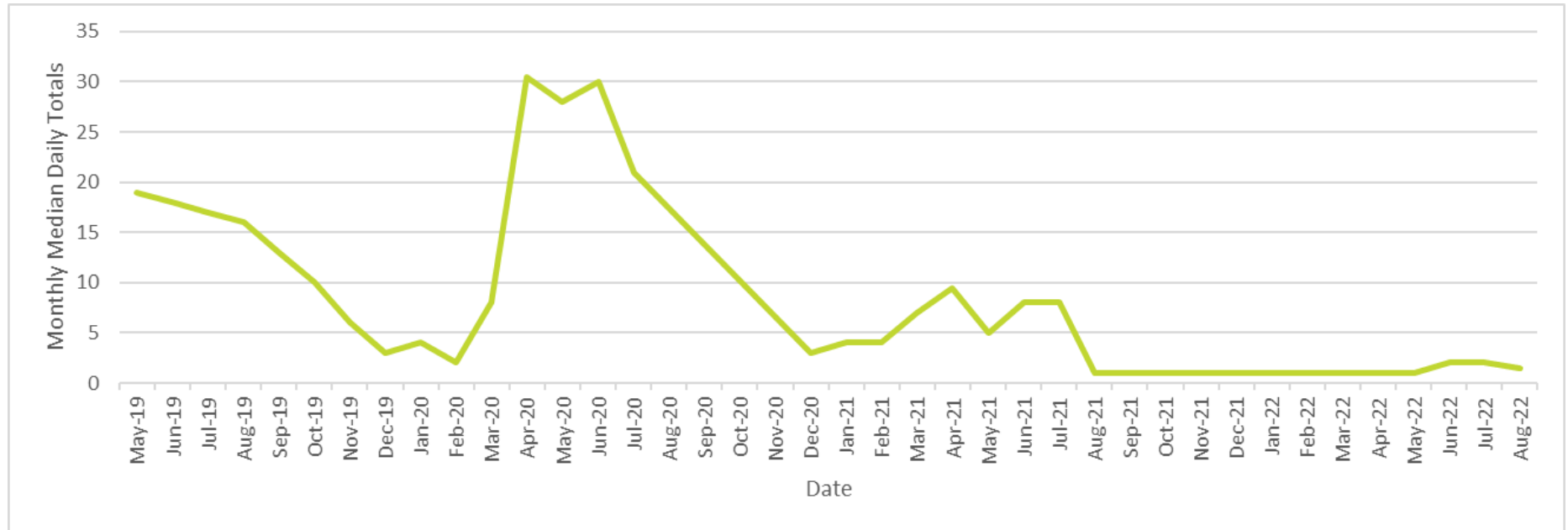


Figure 2: Automatic counter monthly median daily totals for cyclists - walkway



Railway Crossing Counter

A second Highlands Council walkway automatic counter is located on the route at the railway crossing (see appendix 5.1.2) and it provided monthly median daily totals (MMDT) for 2022 which when averaged gave an estimate of 187 daily users. By multiplying the average MMDT by 365 we get an annual usage estimate of 68,000. The majority of trips on a median day in 2022 were made by pedestrians, at 155, the rest were made by 32 cyclists. The number of pedestrians increased from 2019 to 2020 and remained consistent in 2021 and 2022. The number of cyclists went down from 2019 to 2020 then back up to similar levels in 2021 and 2022 (see Table 7).

Table 7: Automatic counter annual median daily totals and annual usage estimates – railroad crossing

Mode	Average MMDT 2019	AUE 2019	Average MMDT 2020	AUE 2020	Average MMDT 2021	AUE 2021	Average MMDT 2022	AUE 2022
Walking	124	45,000	181	66,000	152	55,000	155	57,000
Cycling	28	10,000	21	8,000	29	10,000	32	12,000
Total	152	55,000	202	74,000	181	66,000	187	68,000

As with the Walkway counter, the Railway counter in January to April 2019 and November and December 2022 had insufficient data to meaningfully calculate the Monthly Median Daily Totals, so all of these months are excluded from the graphs below.

The median monthly daily total changed throughout the year for pedestrians and cyclists. The trends for both show that in general there are more people walking and cycling on the canal in the summer than the winter.

Figure 3: Automatic counter monthly median daily totals for pedestrians – railroad crossing

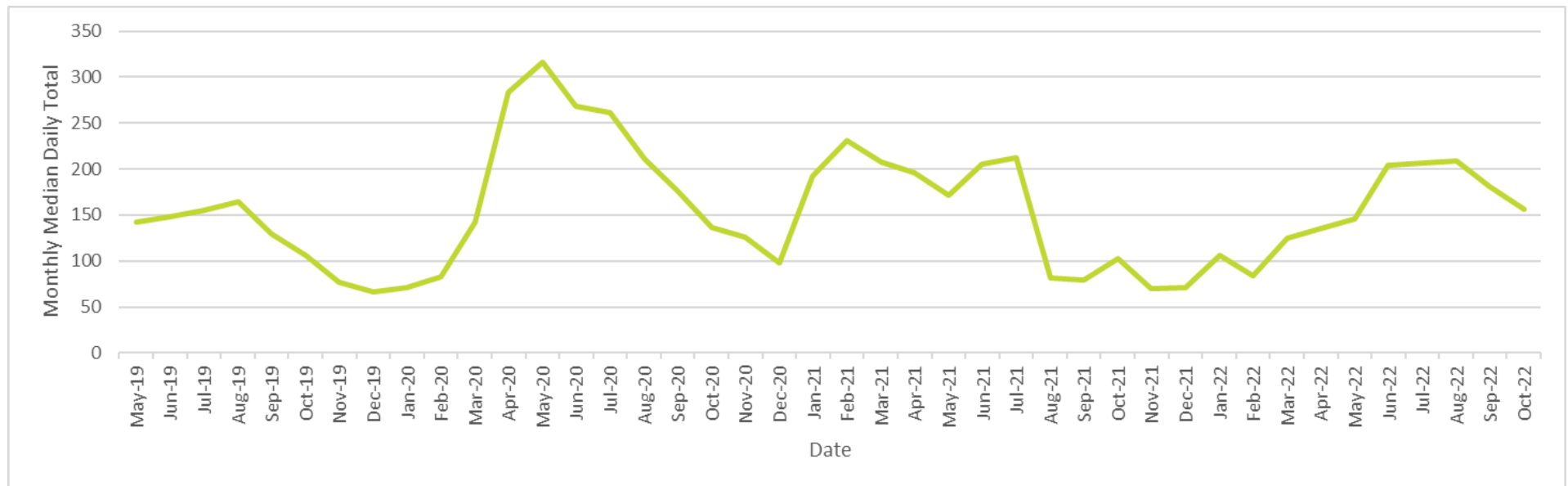
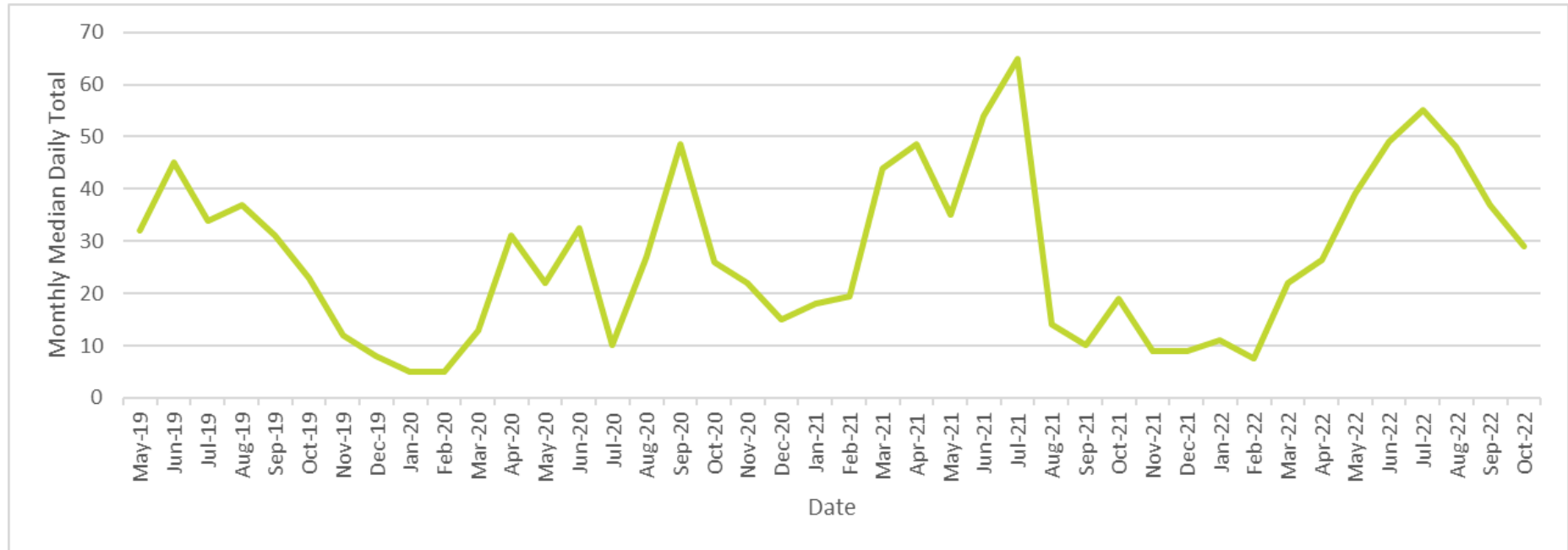


Figure 4: Automatic counter monthly median daily totals for cyclists – railroad crossing



Scottish Canal Counter

Data from a Scottish Canals automatic counter that is not on the route but located near the route (see appendix 5.1.2) provided monthly median daily totals (MMDT) for 2021 which when averaged gave an estimate of 232 daily users. By multiplying the average MMDT by 365 we get an annual usage estimate of 85,000. The majority of trips on a median day in 2021 were made by pedestrians, at 202, the rest were made by 30 cyclists. Though the counter is not on the route, it is connecting to the route so any difference in the number of people using the upgraded route will likely show here in future monitoring. There was an increase in the median daily total number of people walking and cycling between 2019 and 2020, then the median totals fell slightly from 2020 to 2021 (see Table).

Table 8: Automatic counter annual median daily totals and annual usage estimates – canal

Mode	Average MMDT 2019	AUE 2019	Average MMDT 2020	AUE 2020	Average MMDT 2021	AUE 2021
Walking	161	59,000	215	79,000	202	74,000
Cycling	19	7,000	35	13,000	30	11,000
Total	180	66,000	250	91,000	232	85,000

The median monthly daily total changed throughout the year for pedestrians and cyclists. The trends for both show that in general there are more people walking and cycling on the canal in the summer than the winter.

Figure 5: Automatic counter monthly median daily totals for pedestrians - canal

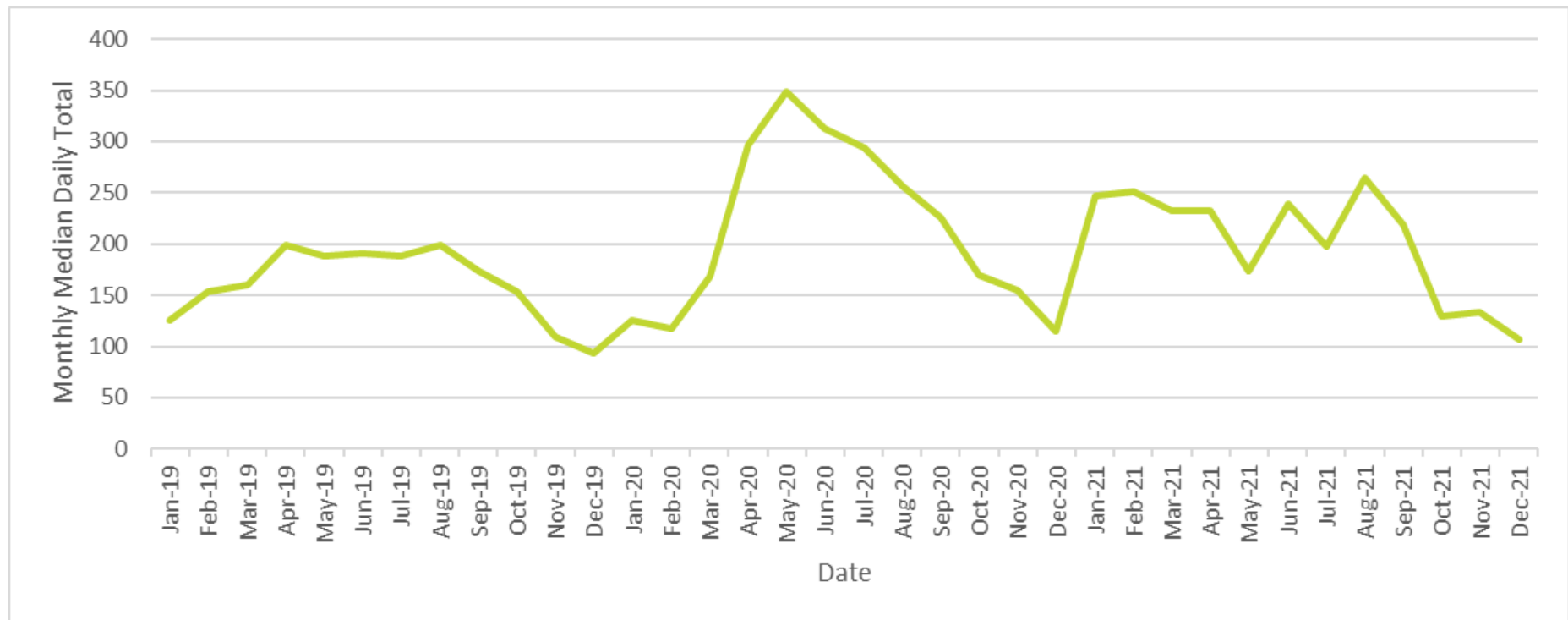


Figure 6: Automatic counter monthly median daily totals for cyclists - canal



3.1.2 Levels of active travel among local children

3.1.2.1 Hands Up Scotland Survey

80% of pupils travel actively to school according to Hands Up Scotland Survey (HUSS) Data for Merkinch Primary School from 2019 (see Table 9). These active travel levels in 2019 were 5% higher than in 2017 (75%). These levels of active travel are high compared to the national average which was 48% in 2019.

Due to the location of the path improvements and the already high levels of active travel amongst school children, it is not necessarily expected that the path upgrades will lead to increased levels of active travel amongst children travelling to school but this will be measured at post-construction with reference to HUSS data.

Table 9: Hands up Scotland Survey results for 2017 & 2019 from Merkinch Primary School

Mode	2017 Mode Share	2019 Mode Share
Walk*	64%	63%
Cycle*	9%	13%
Scooter/Skate*	2%	4%
Park & Stride	6%	3%
Driven	18%	15%
Bus	0%	0%
Taxi	0%	2%
Other	0%	0%

* Active travel modes

3.2 Meet the needs of communities

This outcome seeks to understand the extent to which project delivery **provides communities with the opportunity to shape their local environment and link the places people live in with the places they want to get to**. Our baseline monitoring helps us

understand community awareness of Sustrans, the profile of route users and perceptions of the user experience at pre-construction.

3.2.1 Community awareness of project

Our Route User Intercept Survey (RUIS) in June 2021 found that almost three-quarters of route users had heard of Sustrans' routes, programmes, projects or schemes. At follow-up we will re-run the RUIS and assess if awareness of Sustrans' work in the project area has increased.

Table 10: Have you heard of Sustrans' routes, programmes, projects or schemes?

Answer	Percentage
Yes	74%
No	26%

The response to the above question split by gender is given below. This shows women were more likely to be aware of Sustrans' routes, programmes, projects or schemes.

Table 11: Have you head of Sustrans' routes, programmes, projects or schemes? - Gender

Answer	Men	Women
Yes	74%	80%
No	26%	20%

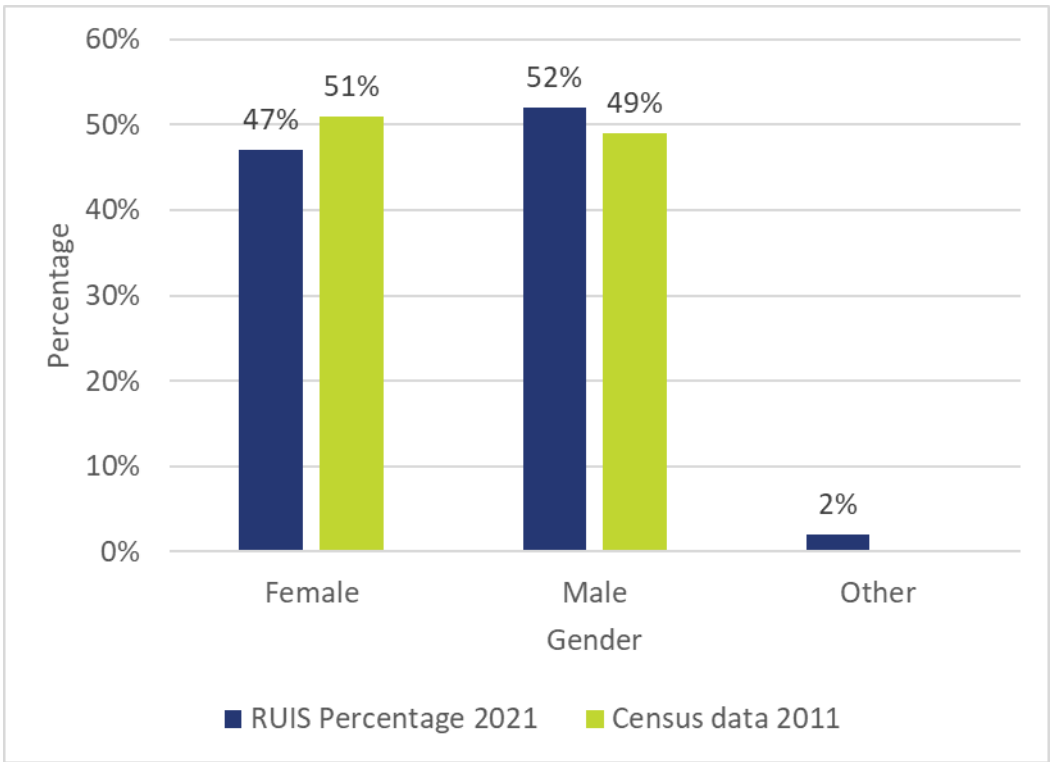
3.2.2 Demographic representativeness of active travel

RUIS data highlights that 52% of route users are male, 47% are female and other genders made up 2%. This compares to 49% male and 51% female in the 2011 census for Inverness. The questions asked in the RUIS and Census are methodologically different² so whilst not

² the RUIS asked participants to select their gender whereas the Census asked for participants to select their sex. Sex is biologically determined and is usually male or female and gender is socially constructed and, on a spectrum, however there is often overlap between the two.

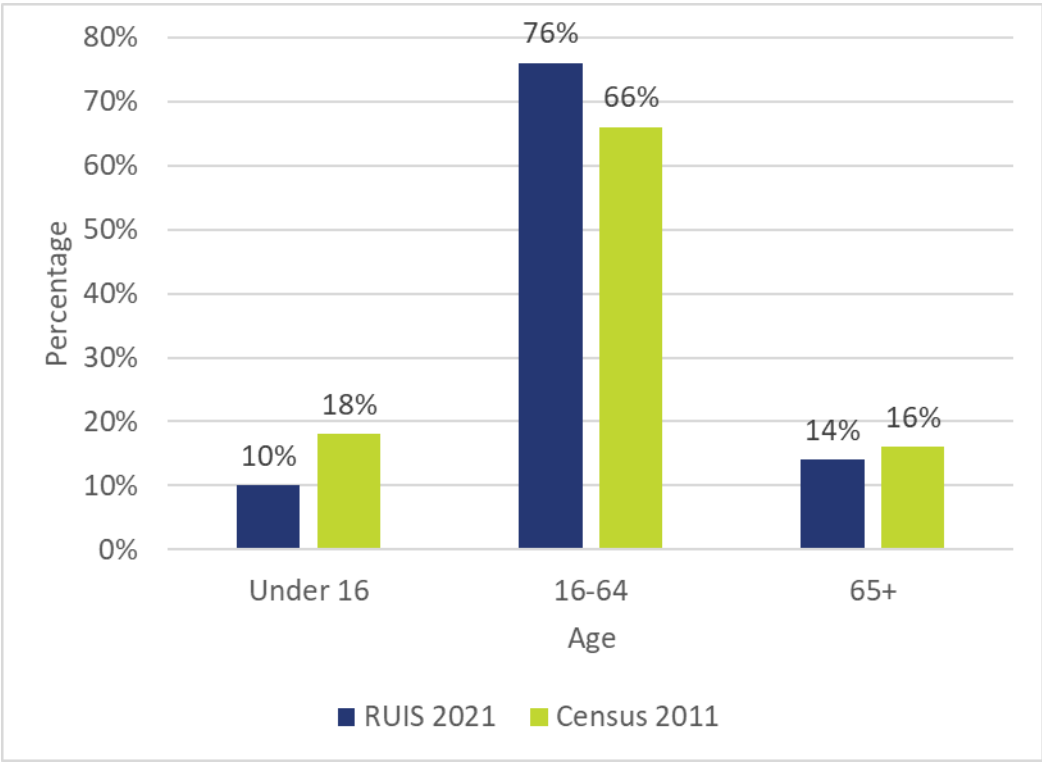
directly comparable, seeing the results side by side (see Figure 7) gives an indication of demographics of route users compared to the local population.

Figure 7: Route user intercept survey gender estimates compared to Census



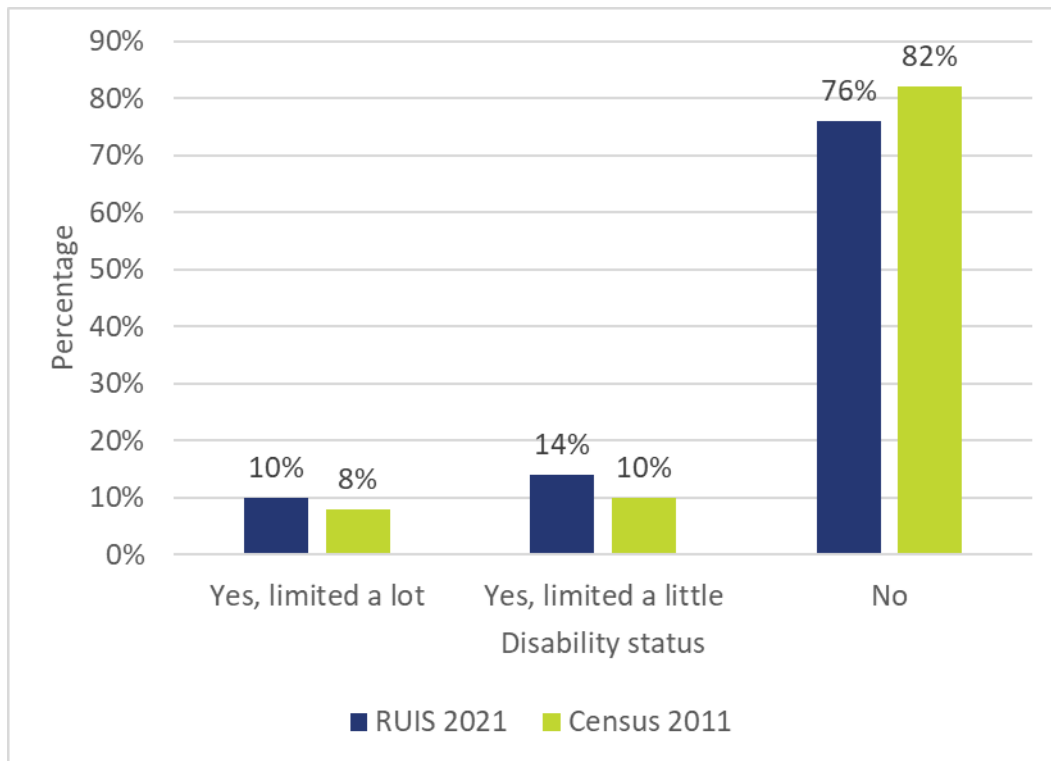
RUIS data suggests that most Route users are aged 16-64 (76%), whilst 14% are aged 65+ and 10% are under 16. This compares to 66% aged 16-64 in the 2011 census, 16% aged 65+ and 18% aged under 16. This comparison suggests that younger (under 16) and older (65+) people are currently under-represented amongst route users (see Figure 8).

Figure 8: Route user intercept survey age estimates compared to Census



RUIS data suggests that 10% of route users are limited a lot by a disability, 14% are limited a little and 76% are not limited. This compares to 8% of the wider population who are limited a lot by a disability, 10% who are limited a little and 82% who are not limited. This comparison suggests that 24% of route users have a disability compared to 18% of the wider population.

Figure 9: Route user intercept survey disability estimates compared to Census



RUIS data suggests that 95% of route users are White–British, 1% are from another white background and 1% are from an Asian Pakistani background. A further 3% preferred not to give their ethnic origin. This compares to 91% white British in the 2011 census (83% white Scottish and 8% white other British), 1% white Irish, 3% white Polish and 3% white other. Asian, Asian Scottish or Asian British were 2% of the population and other ethnic groups made up 1%. This shows that the route users are broadly representative of the population of Inverness however there are more white route users than would be expected.

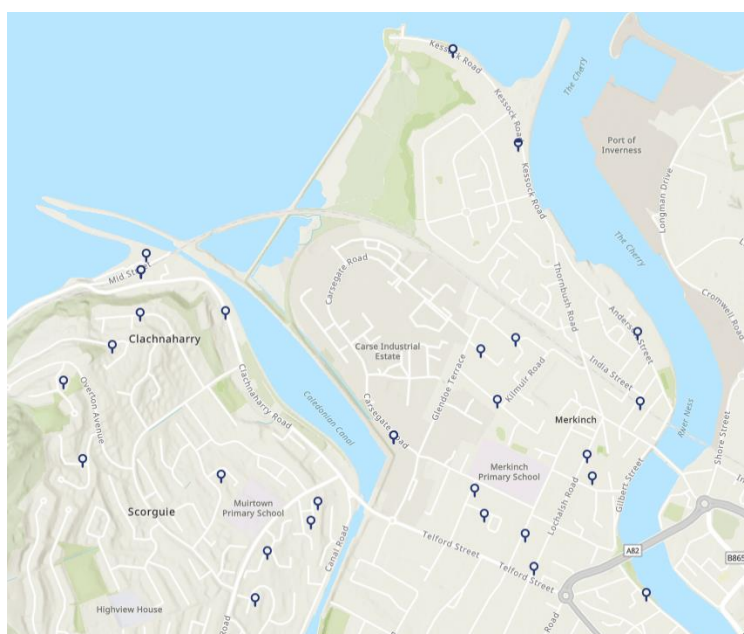
From the postcodes of route users, we can map where users are coming from and their home areas level on the Scottish Index of Multiple Deprivation (this map is given in Image 3). This has come from a combination of postcode data collected in the RUIS conducted in 2019 and 2021. There is a higher percentage of people using the route from the most deprived quintile of neighbourhoods (SIMD1 = 30%) than the least deprived quintile (SIMD5 = 12%).

Table 12: Route User Intercept Survey Scottish Index of Multiple Deprivation

Quintile	Count	Percentage	Percentage of area within a 10 minute walk
1 (Most deprived)	18	30%	87%

2	4	7%	0%
3	12	20%	0%
4	19	31%	13%
5 (Least deprived)	7	12%	0%

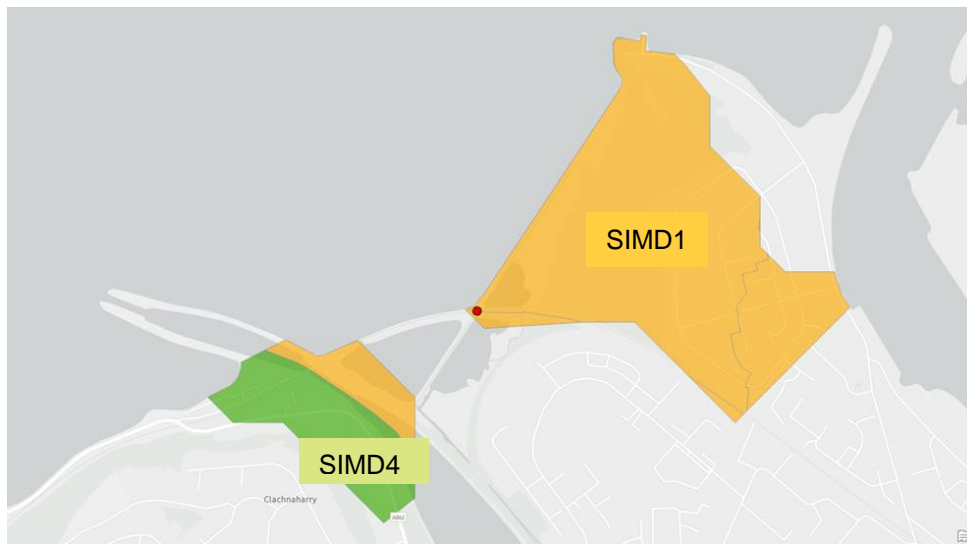
Image 3: Postcodes of route users



Key: The blue pins represent the home postcodes of the survey respondents (not all survey respondents are from within the map view).

As can be seen in Image 4 within a 10-minute walk from the rail crossing (roughly the centre point of the schemes) the majority of the area resides in a SIMD1 area (87%). This data suggests that residents from SIMD1 areas are under-represented amongst route users.

Image 4: SIMD zones within a 10 minute walk



Key: Red dot is point from which 10 minute walk is calculated, yellow shading is SIMD 1 and green shading is SIMD 4.

3.2.3 Children's perceptions of comfort levels of path

The pupils' discussions in the focus group (led cycle ride) reflected tensions between different uses of park areas. The children were asked about what they found interesting/not interesting and what their favourite/least favourite part of the led ride had been. This led the children to give some reflections on both physical comfort and also reflections more to do with social security.

Pupils' interests highlighted the importance – but also the controversy – of a diversity of route users, including dog walkers (and their dogs), people using the path for picnicking (for example a man drinking on the beach was both highlighted as interesting but also as some pupils least favourite part of the ride), and cyclists, including themselves. That various pupils identified different user groups as among their favourite and least favourite parts of the excursion highlights differences in interpretation. One pupil highlighted the need to keep getting off their bike at road crossings on their way from the school to the nature reserve and canal path as their least favourite part. Some of the aspects the children found challenging were the road, uphill sections of the path and going over the train tracks. Though the number of children that found each aspect difficult varied.

3.3 Create an enabling environment for active travel

This outcome aims to **limit the speed and volume of motorised vehicles while improving the walking and cycling experience, such as traffic calming measures and**

implementing filtered permeability. Our baseline monitoring focus on route users experience at the railway crossing as well as perceptions of accessibility and safety. These key indicators will be revisited in post-construction monitoring.

3.3.1 Route user experience at rail crossing

Pedestrian crossing analysis was carried out at baseline to understand route users' experience and behaviour when crossing the rail tracks. Current designs have not suggested any major changes are made to the crossing, therefore, although monitoring is currently planned, we may not observe any significant changes to route users experience at the rail crossing post-construction. There are further reflections on the route user experience of using the crossing in section 3.3.3.2 when discussing the safety of children at the junction.

The angle of the monitoring camera meant that it was difficult to accurately categorise route users. However, it was still possible to determine if cyclists got off their bike to cross the rail line, which 73% of cyclists did. This demonstrates that the crossing is a barrier to continuous cycling on the route.

To maximise user-friendliness, pedestrian users of the crossing should not have to hesitate or stop inside the gate next to the train track before crossing, as it would be clear before they enter whether there was a train coming (as would be the case if there was a traffic light or an alarm). This is referred to as taking no action in the table below. Of the users crossing from South-North, 24% hesitated or stopped and looked when they reached the track even though no train was approaching (see Table 13). This shows that just under a quarter of people are delayed in their journey - as it is not clear if there is a train coming or not.

Table 13: Pedestrian crossing analysis at rail crossing results

Behaviour	Percentage
Hesitated	16%
Stopped and looked	7%
Stopped due to passing train	2%
No action (no hesitation or stopping)	74%

3.3.2 Perceptions of accessibility to users with disabilities

The RUIS for 2021 asked all survey respondents how much they agreed or disagreed that the path was easily accessible. The results below are shown by those who said they were

affected by a disability either a lot, a little or not at all. Though no one thought the path was not easily accessible the percentage who were neutral (10%) (n=2) was higher amongst respondents with a disability when compared to those without any disability (1%) (n=1).

Table 14: How much do you agree or disagree with the following statements about the path? Is easily accessible - Disability

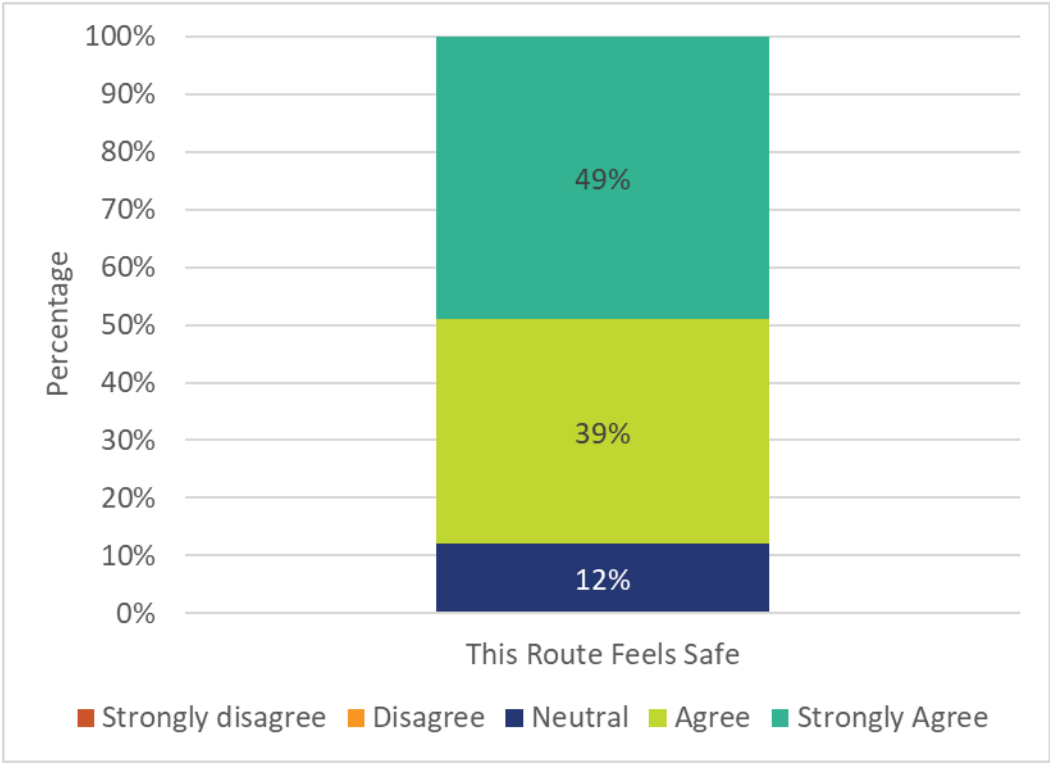
Answer	Affected by a disability a little or a lot	No disability
Strongly agree	43%	60%
Agree	48%	39%
Neutral	10%	1%

3.3.3 Perceptions of safety of the project area

3.3.3.1 Route User Intercept Survey - perceptions of safety

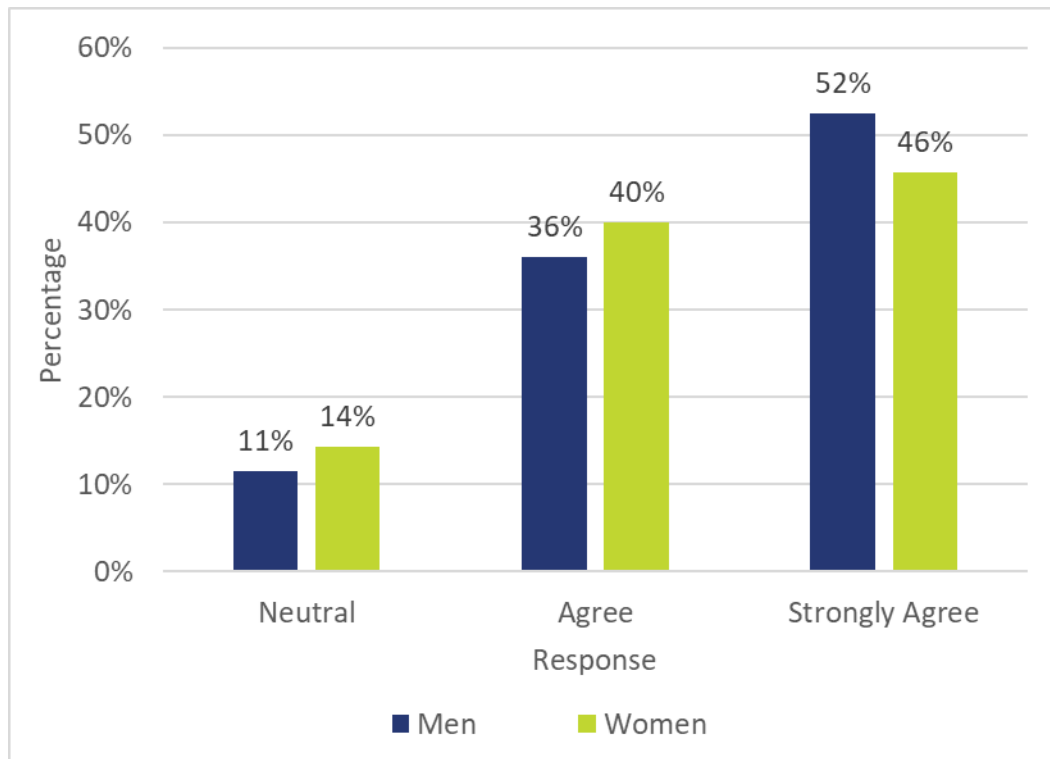
The majority (88%) of RUIS respondents felt the route was safe, whilst the remaining 12% were neutral. No-one felt the route was unsafe.

Figure 10: To what extent have the following factors influenced your decision to walk, cycle or use wheelchair today? This route feels safe



Perceptions were similar between men and women though men felt slightly safer (89%) compared to women (86%). The split by gender is given below which shows women are less likely to strongly agree that the path is safe and are more likely to be neutral.

Figure 11: To what extent have the following factors influenced your decision to walk, cycle or use wheelchair today? This route feels safe – gender



3.3.3.2 Pupil focus group

The experiences of the pupil focus group (led cycle ride) emphasised the danger posed by the rail crossing as it currently exists.

During the led cycle ride there was an incident at the rail crossing which dominated the pupils' experience in the Merkinch Nature Reserve. This involved a train arriving faster than expected and separating the group. It is striking that pupils mentioned the incident in every set of questions (for example favourite and least favourite part of the ride), underscoring its impact on their experience. This train was not the only one that passed through the area during the led ride; and during the less than one hour spent in the nature reserve, the RMU Officer counted three trains that went through the crossing, creating a potential hazard to anyone accessing the reserve through the canal connection. This hazard is more likely to impact on school groups, children, and people with disabilities using the space. There is a lack of a warning system other than a sign encouraging those crossing to 'Stop, Look, Listen': which is exclusionary to people with difficulties seeing or hearing.

One pupil also found that their handlebars kept getting stuck in the boardwalk railings (this would not happen to a user of an adult cycle however the railings were low enough for this to affect children's bikes). Two of the children said that their parents would not allow them to cycle here alone. These experiences highlight that the route is not currently completely safe

for children and once the improvements have been made to the site, we will revisit with another group of pupils to see if they feel safer.

4. Future monitoring

Now that construction is complete (completed around autumn 2023) further monitoring will take place to see the impact of the work against the scheme outcomes and indicators. Below is the list of indicators and a description of the monitoring work that will begin in Spring 2024 (subject to both projects completing construction as planned).

Increased levels of walking and cycling along towpath and nature reserve path

A follow up RUIS will be completed in the same location as the baseline to allow for comparable results. The automatic counters will continue to collect data on the number of cyclists and pedestrians that cross the site. Both will be used to present evidence on whether an increased number of people are now walking and cycling along the towpath and nature reserve.

Increased levels of active travel among local children

HUSS data from the years after construction will be used to determine if a greater number of children are using active travel to get to school. Merkinch Primary Schools response has been patchy and we only have data from 2017 and 2019 which might mean a different data source is needed to measure the impact on levels of active travel among local children.

Improved route user experience at rail crossing

Follow up pedestrian crossing analysis at the rail crossing will evaluate whether the changes made to the crossing have had a positive impact on the user experience. This would be shown if the number of people delayed at the crossing by needing to stop inside the gate to check for trains went down. However, if it becomes clear that there are limited improvements made at the crossing then we may not go ahead with monitoring.

Perception of consideration of community needs and involvement of community members

Two focus groups will be arranged with local community groups. These groups will be able to confirm if scheme sponsors and contractors were seen to consider the needs of the community and were seen to involve the community.

Community awareness of project

The focus groups mentioned above will also be able to provide some indication as to if the community was aware of the project, including major milestones.

Perceptions of accessibility to users with disabilities

An access focus group made up of members who have reduced mobility will be invited to consider if the scheme meets their accessibility needs.

Increasing demographic representativeness of active travel

A follow up RUIS will be used to monitor any changes in the demographic representation of people using the route. The demographics that will be considered will be the same as at baseline, which are gender and age.

Children report that path feels comfortable to use

A repeat of the pupil led cycle ride will monitor if the improvements to the route have led to children reporting that the path feels more comfortable to use than the group that cycled it before the work began.

Improved perceptions of safety of the project area

The follow up RUIS will be used to compare if the project has improved the perception of safety in the project area. Additionally, the pupil led cycle ride will be used to collect information on children's perception of safety.

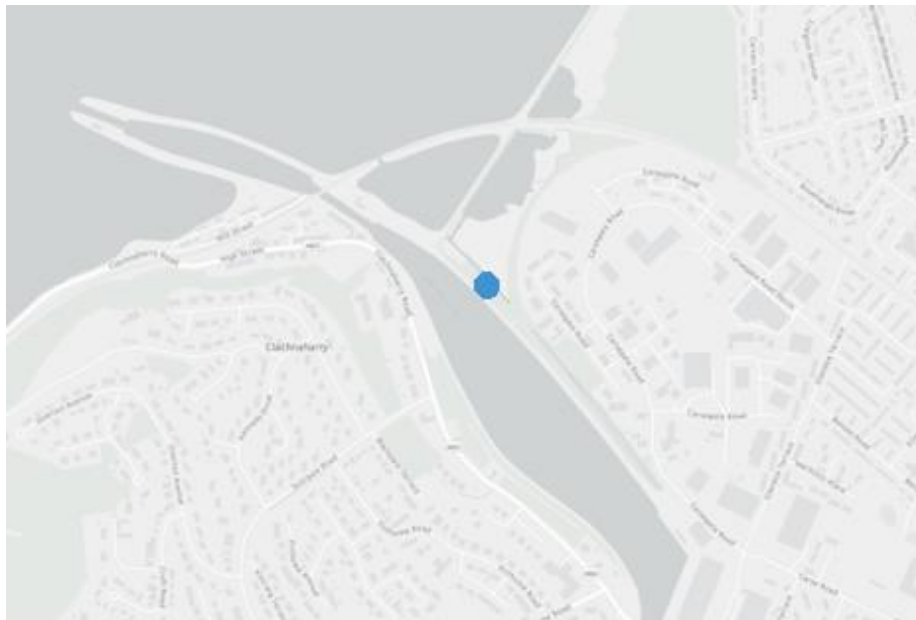
5. Appendix

5.1 Monitoring tools

5.1.1 Route user intercept survey

The Route user intercept survey (RUIS) is a standard tool used by the Research and Monitoring Unit. The RUIS has two main functions: to estimate annual route usage based on pedestrian and cycle counts and demographics of users, and to survey users about their usage of the route. The RUIS was conducted on the canal towpath.

Image 5: RUIS location



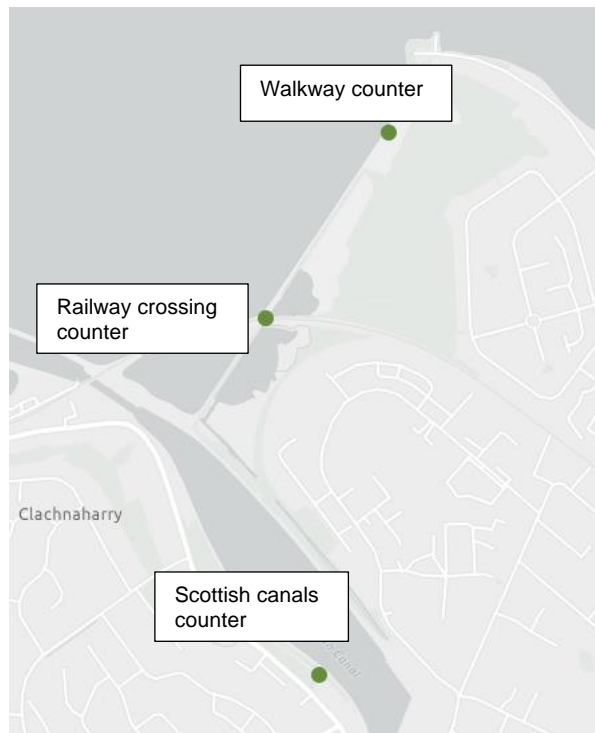
Key: Blue dot is location the RUIS was conducted

5.1.2 Automatic counters

Data from automatic counters provided counts on the number of people on foot and the number cycling on the route as well as close to the route. From this data, annual median daily totals were produced for pedestrians and cyclists and an annual usage estimate made from this figure (by times it by 365). The Monthly Median Daily Totals were also produced and

graphed illustrating this over time for both pedestrian and cyclist channels. Though one of the counters is not on the route that is being upgraded, it is connected to the route and therefore it is likely to show a difference in users if there is one. It also has a more continuous data set than the two that were on the route.

Image 6: Automatic active travel counter locations



Key: Green dots are where automatic counters are

5.1.3 Video monitoring (pedestrian crossing analysis)

We used video monitoring to consider the experience of crossing the rail tracks, an identified barrier to active travel on the route. Ideally users of the crossing would not have to hesitate or stop inside the gate next to the train track as it would be clear before they enter whether there was a train coming (as would be the case if there was traffic light or an alarm.) We have adapted the Pedestrian Crossing Analysis which is normally used for road crossing for the rail crossing setting. We monitored whether pedestrians stopped to check for trains, the length of the delay and the number of route users which trains delayed.

5.1.4 Pupil focus groups

Focus groups with community members can be used to collect in-depth qualitative feedback on the experience of traveling through an area, their perceptions of safety and the extent to

which they felt consulted in the design and construction process The Inverness I Bike Officer arranged a led ride in May 2019 for 20 pupils in years P6/7 (age approx. 9-11) along the canal and into the Merkinch Nature Reserve, the key portions of the two Space by the Water schemes. A member of RMU accompanied the pupils, along with their teacher, an I Bike volunteer and the Inverness I Bike Officer on the ride. During a break toward the end of the ride, while still in the nature reserve, the RMU officer asked pupils a series of prepared questions regarding their experience on the ride. Some of the questions were 'hands up' style to ensure the participation of more of the group. Both the RMU Officer and the I Bike Volunteer took notes of the pupils' qualitative responses. These notes were written up alongside the reflections of the RMU Officer into a summary of the focus group. This focus group may not be repeated exactly as is due to the rail crossing incident however a similar exercise including children will be carried out.

5.1.5 Hands Up Survey Scotland (HUSS)

The Hands Up Scotland Survey is an annual survey of school pupils and nursery children in Scotland. The survey is designed to provide reliable and up to date information on mode of travel to school in Scotland. The question posed to all school pupils and nursery children is, 'How do you normally travel to school?' with a choice of travel modes. We have included data from the 2017 and the 2019 survey (the two most recent years available before construction) from the Merkinch Primary School.