

Arbroath – A Place for Everyone

Accessible design focus group and interview report



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Executive summary

This report sets out the results of primary research carried out by Sustrans' Research and Monitoring Unit in Arbroath in 2022. Based on these findings, we recommend improvements to Arbroath's active travel infrastructure and suggest further use of the 'accessible design focus group and interview' method.

The infrastructure project

The 'Arbroath, A Place for Everyone' scheme is considered a 'once in a lifetime transformational project'¹ for the town, which will unlock active travel potential and considerably enhance accessibility and liveability throughout the town.

The redevelopment will reallocate road space from the existing dual carriageway and create a 1.5km active travel corridor. It will capitalise on the town's seafront and historic assets and bring green infrastructure into the centre of town with the creation of safe and connected active travel links and public areas.

The scheme is being delivered by Angus Council and is funded predominantly through the Scottish Government's 'Places for Everyone' grant infrastructure fund, which is administered by Sustrans Scotland on behalf of Transport Scotland.

Construction commenced in April 2024 and is projected to complete in Autumn 2025.

About the research

Research was carried out in 2022 by Sustrans' Research and Monitoring Unit in order to conduct baseline evaluation for the infrastructure scheme. We sought to understand the pre-construction status-quo, so that in the future (post construction) we can assess the impact of the scheme and its contribution

¹ [Arbroath, A Place for Everyone | Angus Council](#)

towards Transport Scotland's Active Travel Framework Outcomes².

We used our newly developed (2022) 'accessible design focus group and interview method' for understanding the current accessibility of infrastructure within Arbroath from the perspective of disabled people.

The method allowed us to capture perspectives from people with a variety of disabilities or conditions, including participants who were wheelchair users or have reduced mobility, participants living with sight and hearing loss, and participants living with Alzheimer's disease.

Key findings and recommendations

The research underlines the need for transformations to Arbroath's built environment in favour of inclusive and liveable spaces and travel options.

The discussions generated insights which were location-specific to Arbroath, as well as recommendations which are of transferable interest for improving the accessibility of infrastructure.

Overall, the discussions emphasise how low-quality or poorly designed and maintained pedestrian infrastructure disproportionately impacts disabled people if not up to standard. Other key issues experienced in Arbroath by participants were:

- **Crossing** the four-lane dual carriageway (and other roads) is currently a dangerous and anxiety-inducing experience for many. Participants felt there was a lack of controlled crossings and that those which exist do not have sufficient audio support or crossing time window.
- The proximity, speed and high volumes of **vehicles** makes active travel feel unsafe and unpleasant.

² [Active Travel Framework | Transport Scotland](#)

- The **pavement quality can be poor** and often renders walking and wheeling uncomfortable. Having surfaces which are even and with greater visual contrast would benefit all, and addressing insufficient widths and availability of clutter-free pavement space would particularly benefit wheelchair/mobility scooter users, or those walking with aid.
- **High-quality public spaces** would hugely enhance the attractiveness of active travel for the disabled community as well as the viability of these journeys. Places to sit and rest, accessible public toilets and greenery are top priorities.

Many of these changes will be delivered by the ‘Arbroath, A Place for Everyone’ scheme.

The report also contains a second set of detailed recommendations (made by RMU in our capacity as researchers) which pertain to the value of and future use of the method in the context of transport infrastructure design/delivery, and for infrastructure evaluation research.

“it was just a case of take your chance. Busy road, cars going fast, you have to be careful with those crossing – they really could do with traffic lights on them.”

Acknowledgement for participants

We would like to extend our gratitude to the participants who generously contributed their time and insights into the accessible design focus group and interview sessions. The engagement and willingness for participants to share their experiences of accessible active travel within Arbroath were instrumental for this report.

About the Infrastructure and Research projects

The Infrastructure scheme 'Arbroath: A Place for Everyone'

The 'Arbroath A Place for Everyone' project is an Angus Council scheme receiving funding from Sustrans Scotland via the 'Places for Everyone' active travel infrastructure grant fund. The project seeks to address the historic severance caused by the A92 dual carriageway in Arbroath. The project will reallocate the two southbound lanes of the A92 dual carriageway (Burnside Drive), to become a 1.5 km active travel corridor. With the creation of a new segregated cycling and footpath link along this road, this project aims to enhance east-west active travel links and reduce the current vehicle dominance.

Figure 1: A map of Arbroath, with the two southbound lanes of Burnside Drive outlined in black to become an active travel corridor.



The project was designed with the intention to improve walking, wheeling, cycling for all, and improve the accessibility and availability of green and public spaces. Plans additionally include replacing the existing roundabout at the Harbour entrance of Burnside Drive, with improved crossings and access for pedestrians and cyclists, and the redesign of Grimsby junction. Brothock Bridge will be enhanced with widened footpaths, attractive seating, and planting. Trees and planting along Burnside Drive will enhance biodiversity and screen the road.

Construction for the project commenced April 2024, with an expect completion date of end of 2025³.

³ See article [Work begins to make Arbroath A Place For Everyone | Angus Council](#) [Accessed June 2024]

Figure 2: An example of the proposed improvements within the scheme. Tree and wildflower planting at Guthrie Port and public seating areas. For a fly-through video of designs see - [Arbroath - A Place for Everyone \(youtube.com\)](https://www.youtube.com/watch?v=Arbroath-A-Place-for-Everyone)



Figure 3: Planned improvements include a bidirectional cycleway with strategic crossings at Brothock Bridge.



The research: Accessible design focus groups and interviews

Prior to construction commencing, Sustrans' Research and Monitoring Unit conducted accessible design focus groups and interviews with 30 members of Arbroath's disabled community as part of the evaluation of the scheme⁴. The aim of these sessions was to gain insight into what it is like to travel through and spend time in the project area for disabled people, with qualitative data providing a baseline for understanding the impact of the scheme.

The focus group and interview sessions examined the current accessibility of travel infrastructure and the built environment within Arbroath. This included discussions around the dual-carriageway (A92, Burnside Drive) and the surrounding streets and crossings, access to local facilities, and the use and enjoyment of public space within Arbroath. For further details on the recruitment, methodology and analysis of the focus group and interview sessions, please see the section [Methodology](#).

Follow up focus group and interview sessions are anticipated following the project's completion at the end of 2025. Adopting the same approach to the focus group and interview sessions discussed in this report, individuals living with a range of disabilities will be invited for participation. This approach aims to capture rich follow up data on people's journeys through Arbroath and its perceived accessibility following the improvements.

Purpose of this report

This report has been produced based on data collected during the design phase. The foremost purpose of this report is to allow a comparison to the pre-construction status quo to evaluate the impact of the scheme upon completion. It forms

⁴ Some participants travelled from other towns in Angus or Dundee to participate in the interview sessions.

part of a wider evaluation research project which draws together data from a large number of monitoring tools. We have produced this standalone report to demonstrate the value of accessible focus groups and interviews as a research method.

Findings

The themes from the analysis are presented thematically below⁵. These are topics which emerged from the discussions with participants about their perceptions and experiences of Arbroath's active travel infrastructure. There is a theme summary at the start of each section and – where relevant – the section concludes with explaining how the topics will be addressed by the infrastructure redevelopment.

Theme 1: Accessibility and barriers to active travel

Theme summary

The broad theme of 'accessibility and barriers to active travel' concerns the overall quality of active travel infrastructure for disabled people in Arbroath, and how this can facilitate or impede walking or wheeling journeys. This was the major research theme where most of discussions centered.

The specific infrastructural elements within our discussions fell into two categories: **quality of journey for pedestrians⁶** and **road crossings**.

'**Quality of journey**' refers to how well the pavement infrastructure supports mobility.

The topics of discussion often corroborate the widely established understandings of how low-quality or poorly

⁵ See Table 2 within the [Analysis](#) section for a detailed outline of the themes mapped against the Places for Everyone outcomes.

⁶ While there is a reasonable focus on cycling within the literature on accessibility, including availability of space for adapted cycles, the experience of participants in our discussions meant the findings focus largely on walking and wheeling.

designed and maintained pedestrian infrastructure disproportionately impacts disabled people if not up to standard. Poor-quality surfaces that are uneven, slippery or cobbled were very challenging for participants with vision impairments, reduced mobility, or wheelchair users⁷.

Availability of space is another vital element of accessible environments, particularly for wheelchair users or those walking with an aid⁸. Participants felt this applied particularly along Burnside Drive towards the Harbour and at bus stops.

Discussions flagged the need to improve the presence and quality of features built specifically to support those with disabilities, namely the visual contrast of surfaces and dropped kerbs.

Crossing the road presents a particular point of vulnerability while walking or wheeling and is the most common physical barrier for disabled people⁹. Because of this, controlled crossings (i.e. those with traffic lights) within Arbroath were a significant point of discussion with participants who highlighted they were insufficient in number and did not always meet participants' needs for ease of use.

The findings across these two themes highlight that there are many differing experiences and perspectives within the disabled community (see the Discussion box: Accessible design across varying disabilities).

⁷ Transport for All, 2021. Pave The Way. [online] Available at: [Pave The Way | Transport for All](#) [Accessed 01 July 2024].

⁸ UK Government, 2002. Inclusive Mobility: a guide to best practice on access to pedestrian and transport infrastructure. [online] Available at: [Accessed 01 July 2024]

⁹ Living Streets, 2016. Overcoming barriers and identifying opportunities for everyday walking for disabled people. [online] Available at: [Resources | Living Streets \(ctidigital.com\)](#)

Quality of journey: pavements

General quality of pavements

Perceptions on the quality of pavements along Burnside Drive varied, with some participants noting that the quality of the pavement was adequate compared to other streets in Arbroath. However, individuals with reduced mobility reflected that while the paving slabs were generally smooth, broken slabs in places posed a trip hazard. Uneven pavements were a particular source of concern for some participants with reduced mobility, with the risks they pose exacerbated due to the proximity to the traffic of the dual carriageway. Proximity to traffic is discussed further in the section [Availability of space](#).

P¹⁰: “Burnside Drive’s actually not too bad...”

P: “... it’s actually not too bad.”

P: “Compared to some other streets.”

P: “Well, there are not many potholes on that road. That’s for a start, but you’ve got ... what would you call them? They’re like bricks that are ...I mean, they’re not lumpy or anything; you can walk smoothly over them.”

P: “Some of it’s OK but other bits you can see the broken slabs and you’ve got, like me, when I’ve gotta try avoid that. I’m learning to walk so I’ve got to pick my steps. Number of time I’ve bumped my toe and went flying.”

P: “Yeah, ‘cause some of them are loose and then some of them are broken.”

P: “And it’s dangerous then as well.”

10 Within quotes, the “P” refers to the participants, and the “I” the interviewer.

P: “You go over it and you think, ‘Oh god, here we go again.’”

P: “The pavements are uneven and I’ve gotta watch.”

P: “You’re next to the traffic. You’re on the pavement, you’re next to the traffic...”

Availability of space

Perceptions of pavement width along Burnside Drive were generally positive. While the presence of guard rails gave a sense of being “hemmed in” by some participants, they provided a reassuring degree of separation from the dual carriageway which was deemed necessary. One participant with sight loss however, reflected on the narrowing of pavement along Burnside Drive towards the Harbour, with the space constricted between the road and the stone wall.

P: “I found it was quite good because it was a wide pavement and I felt quite secure. Even though there was a lot of traffic, you know...”

P: “Oh, there. If you go along here, along by the dual carriageway... It gets narrower.”

P: “You think, ‘Well, I’m gonna go in the road here.’ You’re kinda thinking, ‘or I hit my hand off the wall’.”

A lack of space for wheelchairs at the bus station was noted as a barrier by a participant who used a wheelchair, a view shared by another participant with reduced mobility. Both participants experienced difficulties in navigating a wheelchair in getting onto the bus due to the narrow lanes. This potentially could impact people’s ability to access public transport and connect with the local and wider area.

P: “The only thing I said about the bus station I felt that, well, it’s all to do with the width of the pavement. If that’s the entrance to the bus station and these are the little islands that come out, they’re only just wide enough for the wheel so they wouldn’t be wide enough for someone behind you to push you onto the bus.”

P: “Yeah, the bus station overall is OK, but to get a wheelchair on a bus ... every bus has their individual lane that they go into. There’s a fence right against it, so when they put the ramp down, the wheelchair person doesn’t have the movement to get round, because of this fence-gate thing” ...

Figure 4: The bus station at Arbroath.



While Commerce Street is not directly within scope of the scheme’s planned improvements for Arbroath, participant’s had significant concerns around a lack of space when walking/wheeling here due to narrow and cluttered pavements. The issues experienced here are compounded by the speed and closeness of traffic on the one-way system, for example, one participant with reduced mobility described having to step onto the road to avoid them.

P: “My husband actually took a photograph of me walking up Commerce Street which sort of shows how narrow the pavement is. And again, if you were in a wheelchair or a

motor... well, you can't go up, you'd have to go up on the pavement with a disabled motorised buggy because it's a one-way street."

P: "Burnside Drive was busy, but it was quite open plan. It was quite a road, you didn't feel hemmed in. Whereas the little narrow street, it was a bit like a tunnel, high buildings on the pavement, the pavement was narrow and the cars were coming downhill and they were coming fast. It was not pleasant to walk along."

P: "The narrow pavement was bad and, as I say, there was a sandwich board was put out which you would never have got past it, and even walking past I had to step onto the road to get past it walking past. It's narrow, there's no rails there, even though it's a one-way street the cars come down so fast because they're coming down the hill and they know there's no give-ways until the end."

Accessibility for pedestrians with visual impairments

The visual contrast of surfaces within Arbroath and the presence and quality of tactile pavement (ideally also visually contrasted) were key discussion points across the sessions. These features have the potential to significantly impact the journey quality and perceptions of safety for people with visual impairments, particularly at crossings, steps, or shared-used paths¹¹. Creating and maintaining a strong contrast allows individuals to follow the edges of a path and interpret boundary lines on the ground¹².

11 GripClad, 2021. Tactile Paving Regulations | GripClad UK. [online] Gripclad. Available [here](#) [Accessed 19 June 2024].

12 Puech, B., 2017. Equality Impact Assessment for Designated Cycle Route Design Standards for Southwark's Parks; Quietway routes proposed for Burgess Park.

One participant who was a visual rehabilitation specialist observed that Arbroath's stone-coloured buildings results in lower visual contrast than in other towns, a view shared by a participant with sight loss. The specialist noted the well-maintained painted lines at the edge of the road carriageway offered good contrast, a view shared by a second participant, who further added that while the tactile pavements were less contrasted due to age, they were adequate.

P: "There wasn't much obvious contrast other than the yellow lines on the road, which were good... Visually I don't think there's a lot. I've seen a lot of places that have got the brighter coloured tactile paving; when the lines on the road are freshly painted they stand out really well or different shops have got different coloured fronts but there's not really much of that in the areas that we went. It's all stone colours, isn't it?"

P: "It's all grey."

P: "As I said, the tactile pavements are older and worn so it's not as orange as it once was but there's still a significant enough difference..."

P: "on the actual road there's the little markings and stuff, they're all easy to see and, as you said earlier in the Lidl car park, for example, the paint for the zebra crossing and stuff was very well kept up, which is good."

Presence and quality of dropped kerbs

For wheelchair users, a lack of dropped kerbs along pavements can severely restrict continuity of travel⁷. When present, dropped kerbs may not be built adequately flushed with the road which limits their effectiveness.

Dropped kerbs were a particular focus of discussion for participants who used a wheelchair, with the general view that there could be more dropped kerbs along Burnside Drive, and that the ones that do exist are not always to standard. One partner of a participant who uses a wheelchair highlighted how

in addition to causing discomfort, banging into a standard kerb can attract unwanted attention for wheelchair users and create a sense of social division.

I: “How easy is it getting around Arbroath in a wheelchair?”

P: “It’s fairly easy, apart from some of the dropped kerbs. Some of the dropped kerbs, they’re not dropped kerbs, they’re quite big, chunky things.”

I: “And then the dropped curbs on Burnside Drive?”

P: “Not enough.”

P: “Not enough of them.”

P: “Sometimes they’re not low enough and I’ve got to try and, like I bumped the wheelchair and it kind of bumped going up.”

P: “...I’m actively looking out for which bit of the curb is the lowest so I can make sure that the chair wheels aren’t just banging into the curb kind of thing. ‘cause it’s not nice for the person in the chair and if there’s other people around it can, again, draw unnecessary attention. It’s embarrassing, it’s like when you’re walking along the pavement and you catch your feet and you trip a little bit.”

Figure 5: Examples of the pavements and a dropped kerb in Arbroath.



Discussion box: Accessible design across varying disabilities

Discussions throughout the sessions highlighted the complexity of designing infrastructure that accommodates a wide range of accessibility needs. Features that offer accessibility for some disabilities can pose a barrier for others. Discussions across the sessions for example, emphasised how tactile paving is a vital safety feature warning individuals with sight loss of a crossing, but can hinder quality of journey for wheelchair users.

On the other hand, while dropped kerbs provides essential access for wheelchair users, the diminished boundaries can cause concern for individuals living with sight loss. This highlights the value in capturing the lived experiences of people with a range of disabilities when considering how accessible design is felt within the community.

P: “Sometimes bumpy bits are quite off-putting in a wheelchair, as well. I know they’re there for a reason.”

P: “I don’t like these dropped curbs where they’ve got the bobbles – I know they’ve got to be for visually impaired and all the rest of it so you can feel the bobbles but I don’t like them at all. I find they are uneven to walk on with my bad leg. OK for my COPD but not good for my bad leg.”

P: “Yeah, because the cane often doesn’t... I mean great that they’re smooth for wheelchair users but with a long cane and no vision it can be quite dangerous when you don’t pick up that actually it’s a road now and it’s not pavement anymore.”

Context box: the infrastructure scheme design

Proposed improvements: quality of journey

The scheme's proposed improvements aim to significantly enhance the availability of space for walking/wheeling within Arbroath.

Relocating the two southbound lanes of the dual carriageway at Burnside Drive to an active travel corridor will result in a segregated cycling and footpath link along a 1.5 km stretch of road.

The new constructed footpath will be sufficiently wide to accommodate for wheelchair users and those walking with a mobility aid, with a strong visual contrast to support those walking with reduced vision.

Figure 6: The current dual carriageway at Burnside Drive, with four lanes of traffic.



Figure 7: The proposed improvements under the Arbroath, A Place for Everyone scheme, with a single carriageway for vehicles, and a segregated cycle and pedestrian path.



Road crossings

Presence of controlled crossings

Across most sessions participants felt that there are currently not enough controlled crossings along Burnside Drive. The speed of traffic along the dual carriageway meant this absence was felt particularly acutely by those with limited mobility. The perceived danger is so great that some participants avoided active travel along this area in general, and they felt that the uncontrolled crossings would require extra caution for anyone using them.

P¹³: “I wouldn’t walk along Burnside Drive because there’s a lot less crossings and wider pavements etc.”

P: “Well, I just don’t go unless I’m with somebody or in a car.”

P: “There was one crossing point at either end but they weren’t controlled crossing at all, it was just a case of take your chance. Busy road, cars going fast, you have to be careful with those crossing – they really could do with traffic lights on them.”

One wheelchair user voiced how the additional journey time and exertion which is necessary to reach safe (controlled) crossing points renders short journeys inconvenient and burdensome. This view was shared by another participant with a friend with a wheelchair in relation to crossing Burnside Drive heading towards Market Place.

Despite these barriers, there was a prevailing consideration among participants for the impact of additional crossings inconveniencing car users, pointing towards the priority of motorists needs within the community.

P: "... whereas someone that's in a wheelchair then having to push themselves up 30 meters to then cross to then come back down the same distance just to go up that street that we went up, that is a significant inconvenience."

P: "Further along it's difficult to cross. If we could get along, my friend, she's disabled and she has a wheelchair and she finds it very difficult, she's got to go to the other end of the street to get across and then double back to go back again."

P: "I think because the traffic lights, where you're gonna be stopped at the traffic lights not 30 meters later, stopping for three seconds to let somebody past if it was a zebra crossing isn't gonna inconvenience the motorists... to anger them or that."

Figure 8: Burnside Drive is a long stretch of dual carriageway. While controlled crossings do exist along it, participants felt they would benefit from additional crossing points.



Accessibility of crossings for pedestrians with visual impairments

Participants with sight loss highlighted that the lack of audio support on the controlled crossing is a problem. One participant described relying on the assistance of passer-byes to help them in crossing the road. This situation not only creates a sense of vulnerability but also can prompt a negative sense of social positioning amongst disabled individuals, who feel that

inadequate infrastructure highlights their differences within the community.

P: “There’s one crossing at Morrison’s but you can’t hear the bleep.”

P: “Yeah, it’s the driver, you’re not sure if they’re gonna keep going or if they’re gonna stop.”

P: “There’s no sound when you press the button to get across the road.”

P: “I’ve got to sometimes ask people if it’s safe to cross the road... it makes them like, ‘Oh, you’re different from...’”

Time to cross

Due to the width of the dual carriageway at Burnside Drive, most participants with reduced mobility discussed the time taken to cross the road. Many expressed unease with crossing the four lanes of traffic safely within the single crossing window. Some participants with sight loss shared this view, with added concerns that while the traffic island broke up the crossing journey, there was no clear indication beyond this point for whether the crossing window had closed (for example Figure 9).

P: “I would say on Burnside drive the double dual carriageway I was struggling, between the four/six lanes of traffic plus the central island bit. I didn’t think there was quite enough time to cross, but then I can’t walk quick.”

P: “You’d feel pretty vulnerable in the middle.”

P: “You have to keep going at a fair speed ‘cause otherwise you might get stuck in the middle and there’s no way to stop traffic ‘cause there’s no button in the

middle. Also, as you're crossing there's no way to see if the green man is still lit because the only two screens are facing entirely away from you."

P: "it's not that you can stop and push the button in the middle, 'cause quite often with the larger crossings, in the busier areas, you'd have a separate crossing in the middle. So depending on how much time it gets, you get to cross over before the lights change. It can be quite stressful for someone with low vision or a visual impairment. There's not even, whilst you're crossing if you're fully sighted there's no way of seeing when the lights are changing for the traffic."

Figure 9: A controlled crossing point at Burnside Drive, where no crossing button is available on the island between the dual carriageway arms.



Context box: the infrastructure scheme design

Crossings: current layout and proposed improvements

Currently the four-laned dual carriageway creates significant severance and is considered a dangerous and unpleasant space to be travelling actively, either alongside or across. Participants highlighted the insufficient controlled crossings, time taken to cross four lanes of traffic, and lack of support for those with visual impairments. The scheme's reduction of Burnside Drive to two lanes along with improved crossing points should address these barriers and improve access to the bus centre and train station.

Along with additional signage and pedestrian crossings at Guthrie Port Roundabout, the existing roundabout at Harbour side will be replaced with improved pedestrian crossings. This area was highlighted by the focus group of individuals with visual impairments as particularly troublesome, due to the lack of controlled crossings and speed of vehicles entering the dual carriageway from the harbour.

P: "See that's a very bad bit, as you come up from the harbour to go left onto the dual carriageway, but as the traffic's coming along here there's nothing to stop them, they just come whizzing past, and if you're not paying attention..."

P: "I don't drive so we just walk, but the traffic does come up at full speed from the right hand side. I mean there's no signs for it to slow down, nothing, they just come. But if it was a safer speed.... and if you're sat waiting to get across you have to go that bit further along to the crossing."

Figure 10: The current roundabout at Harbour side, where plans include improved crossings for pedestrian access.



Figure 11: Proposed improvements at Harbour side near Ladyloan Primary School, with improved crossings for pedestrians and cyclists.¹⁴



Theme 2: Quality of public realm

Theme summary

A broader definition of accessibility considers the ability to access facilities alongside the accessibility of physical design. Facilities refers to aspects of the public realm such as seating,

¹⁴ For a walk-through of the proposed improvements see [YouTube fly-through video of the Accessible Arbroath designs](#)

planting and toilets, which support and encourage active travel, but which fall outside travel-infrastructure oriented guidance.¹⁵

Under the Arbroath A Place for Everyone scheme there will be a number of public-realm transformations. Discussions therefore extended beyond the design of travel infrastructure to explore how people experienced and perceived the comfort and quality of public places within Arbroath.

While **public facilities** are key components of good quality public space for all, the discussions underlined how Arbroath's lack of public facilities is felt more acutely by disabled people, particularly a lack of seating, shelter, toilets, and water fountains¹⁶. For participants, the proximity of such facilities can significantly increase both attractiveness and accessibility of public place. In terms of the **quality of the urban natural environment**, the discussions focused on the importance of greenery and nature in contributing to people's enjoyment of the outdoor urban environment.

Public facilities

Burnside Drive and surrounding areas

When discussing facilities, common suggestions across the sessions included water fountains, both standard and accessible toilets, and additional seating for rest points. One participant with reduced mobility and stamina highlighted how the disconnect between the built environment and accessibility needs can pose a sense of social as well as physical discomfort as they felt additional resting places would allow them to dwell without drawing attention to themselves.

¹⁵ Core guidance in the UK for accessible design is [Cycle infrastructure design \(LTN 1/20\) - GOV.UK](#); [Gear change: a bold vision for cycling and walking](#) & [Inclusive Mobility. A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure](#)

¹⁶ Mackett, R., 2021. Mental health and travel behaviour. *Journal of Transport & Health*, 22, p.101143.

P: “Water fountains would be good but I’m not sure how, after COVID, I’m not sure how much people will use them. I know in Edinburgh, even in Perth there’s water fountains but I’m not sure how popular they would be.”

P: “We could do with water fountains in the town ...”

P: I don’t think I’ve seen any water fountains, definitely not.”

P: “And another thing is toilets. They should be updated so they’ve got hoists in them, so that you can toilet the person as well, in case that they’re full-body hoist or anything.”

P: “Knowing that there is a toilet nearby is always helpful, just in case and that they’re accessible as well.”

P: “But yes, some seats of some description for rest areas or even just a little view point, ‘cause sometimes I find it, not embarrassing, but more awkward sitting down all the time and sometimes I’ll just stand and take in the view, which can look a little bit odd if you’re just standing looking around but if you’ve got a little information point or a view point it doesn’t look so bad.”

Brothock Bridge

Brothock Bridge is a main public square in Arbroath which will benefit from a number of improvements under the scheme. Participants were asked about their perceptions of comfort and enjoyment within this specific area. Numerous participants reflected upon the potential of Brothock Bridge as a local sunspot with greenspace. There was, however, a consensus across the sessions that additional seating is required for it to be a more accessible space for dwelling, something which was especially prominent in the focus group with members of the Alzheimer’s society.

P: “I think you could probably do with some seats just for a sit down, just as a rest. ‘cause the problem I have is I can’t walk very far without having to basically to stop and catch my breath and just to rest basically. Some seats there it was calling out for them there ‘cause it is actually quite a little nice area. I think it was sunny there as well when we were there so it was in the sun as well. So yeah, some seats round there.”

P: “Big open space, lovely open space, you’ve got places where the sun’s clearly shining, there’s lots of things you could do here so people can enjoy the space and spend time. At the moment there’s nothing, there’s no bench, there’s nowhere to sit down or relax, so yeah, you could have quite a few things there for people to spend some time in that area.”

I: “What would need to change there, Brothock Bridge, to make it a nice space where you’d like to spend time?”

P: “Well it’s a nice space, it just needs seats!”

Figure 12: Brothock Bridge, a public square for dwelling among residents of Arbroath.



Context box: the infrastructure scheme design

Proposed improvements: quality of public space

In terms of facilities within Arbroath, the main enhancements intended under the scheme are the addition of public seating, benches, and tables. This includes seating along Burnside Drive, towards Guthrie Port roundabout, benches and tables near Queen's Drive and Ladyloan Primary School, and attractive seating at Brothock Bridge.

Figure 13: The existing arrangement at Guthrie Port roundabout.



Figure 14: Proposed improvements, public seating areas and tree and wildflower planting at Guthrie Port.



Figure 15: The existing arrangement at Queens Drive/ Arbroath FC.



Figure 16: Proposed improvements at Queens Drive/Arbroath FC, showing public seating and tables.



Quality of urban natural environment

Greenery and planting

The presence of greenery significantly enhances the quality of environment and enjoyment of public spaces. Research consistently highlights the benefits of green surroundings on mental well-being¹⁷ yet also highlights how disabled individuals may face additional barriers in accessing green spaces because of reduced mobility^{18, 19}.

Throughout the discussions participants remarked on the pleasantness of Brothock Bridge, and the potential for it to be further enhanced as an urban green-space with more diverse and attractive planting.

P: “And some people that’s just a pleasure route that they do, it’s not that they’re needing to go to the shops or to

¹⁷ Houlden, V., Weich, S., Porto de Albuquerque, J., Jarvis, S., & Rees, K. (2018). The relationship between greenspace and the mental wellbeing of adults: A systematic review. *PLoS one*, 13(9), e0203000.

¹⁸ Burnett, H. (2023). *Exploring barriers to green space use and how these differ by chronic health condition* (Doctoral dissertation, University of Glasgow).

¹⁹ Corazon, S. S., Gramkow, M. C., Poulsen, D. V., Lygum, V. L., Zhang, G., & Stigsdotter, U. K. (2019). I would really like to visit the forest, but it is just too difficult: A qualitative study on mobility disability and green spaces. *Scandinavian Journal of Disability Research*, 21(1).

work, but it's just somewhere nice to sit and relax and get out of the house. It has got lots of potential."

P: "And when you were saying just to make it a wee bit more inviting, you could do the simplest things, like where you have flowerbeds made out of railway sleepers."

P: "Well just bushes of some kind, something nice."

P: "Yeah, I think that would be really good, say for people, 'cause it's something nice to look at. It could be volunteer work with doing the flowerbeds, also good for the environment 'cause it'll bring insects and birds and stuff into the area. I think it would be a bit nicer than just an expanse of grass."

One participant with sight loss explained how they could hear traffic while resting within this area, and therefore the addition of planting would help absorb traffic sounds and introduce sounds of nature, assisting in providing a more restful space for those with sight loss.

P: "I sat there last week. Yeah, sat there for a wee while actually. Quite busy with traffic though. When you're sitting there and you're going, 'Yeah, well, I know there's cars going passed but I can't really see them.'"

Context box: the infrastructure scheme design

Proposed Improvements: quality of environment

There are substantial plans to enhance the comfort and quality of space at Brothock Bridge under the scheme. This includes increased pedestrian priority, widened footpaths, additional, attractive seating, and planting and greenery.

While most of the discussion for greenery and quality of environment was centred around Brothock Bridge, a number of participants also expressed that greenery could be incorporated along Burnside Drive. Trees and planting along Burnside Drive are proposed, which is intended to develop biodiversity, provide a screen from traffic for those walking, wheeling, and cycling, and enhance the overall enjoyment of travelling along this central route.

P: “D’you know what would be nice though? Beside your traffic lights; nice flower arrangement.”

Figure 17: The existing space at Brothock Bridge, Arbroath.



Figure 18: The proposed improvements for Brothock Bridge, including widened footpaths, additional planting, and attractive seating.



Figure 19: Enhanced biodiversity along Burnside Drive towards Ladyloan Primary School, with community garden space.



Theme 3: Vehicle dominance

Theme summary

Throughout the focus group and interview sessions, participants reflected on the dominance of traffic along the dual carriageway at Burnside Drive and its surrounding areas. The discussions focused on the negative impact that the proximity and speed of vehicles has walking/wheeling through Arbroath.

Participants conveyed that in the absence of segregation high levels of traffic and proximity to vehicles makes active travel feel unsafe and unpleasant, particularly for people made more vulnerability by a disability, to the point that they may avoid travelling on certain pavements or crossings.

These location-specific reflections from participants chime with other research findings on disabled people's active travel experiences.²⁰

Proximity and speed of vehicles

The dual carriageway

Many participants highlighted the concerning speed and proximity of vehicles on the dual carriageway of Burnside Drive. They attributed the high traffic speeds to the road layout, noting that vehicles tend to accelerate upon entering.

P: “ It’s the speed the cars go round the dual carriageway where it’s a 30 mile an hour speed limit and...”

P: “They’re definitely not doing 30 miles an hour, and as soon as they get to the end of the bit or they think they’re

²⁰ For example: [Disabled Citizens' Inquiry - Sustrans.org.uk](https://www.sustrans.org.uk/); [Wheels for Wellbeing Quick Guide to Accessible Active Travel](#); [Active Travel | Transport for All](#)

coming to the end of the bit that's the dual carriageway, they put their foot down. It's not good".

Participants anticipated that the reduction of Burnside Drive to a single carriageway for vehicles in each direction would positively impact their journeys, as it would reduce the sense of vehicle dominance and of speeding.

P: "I think it might help slow them down a bit, with it not being a dual carriageway because then they don't have the option to overtake.

P: "That's right, there's not the space".

Physical barriers separating motor traffic

When discussing walking or wheeling along Burnside Drive, participants attributed a core sense of safety to the presence of guard rails. Some participants felt that the guard rails along the dual carriageway offer a reassuring separator from passing vehicles. However, there was still a sentiment that a sense of safety could be aided further by increased distance from traffic, particularly for wheelchair users.

P: "Yes. I certainly wouldn't like to walk it without guard rails there. It did make me feel safer, yeah. Quite frankly it did. If I was walking that, even with the guard rails, to be fair, I was walking on the far side of the path, so as far away from the traffic as possible. But no, I would not like to walk that and I certainly would not like to be in a chair going down there without guard rails, not in the slightest."

One participant with reduced mobility shared that narrowing the road to a single carriageway would substantially enhance their sense of safety, to the point where they would no longer consider the guardrails necessary and would enjoy using the route more.

P: “if you took the road down to one carriageway, yeah, you probably wouldn’t need the railings then and it would certainly look a lot better. The cars wouldn’t be going so fast if there’s only one lane of cars going up and down, so from a safety point of view maybe you’d get off without the railings. It would look nicer without the railings ‘cause you do feel hemmed in but you’re hemmed in for safety reasons”.

Areas surrounding the dual carriageway

Vehicle dominance was also an issue for participants when thinking about Burnside Drive’s neighbouring streets: Commerce Street and High Street. Participants felt particularly vulnerable navigating these areas due to fast-moving traffic, narrow roads and pavements.

P: “It’s narrow, there’s no rails there, even though it’s a one-way street the cars come down so fast because they’re coming down the hill and they know there’s no give-ways until the end.”

P: “I’m well into walking, yes, after getting an amputation, so I’ve gotta use that wheelchair. [Commerce] Street, I don’t go near it now because I’ve gotta go in the road and most of the time the cars come speeding down and I think, ‘Oh god, I’m gonna get clobbered.’”

P: “I didn’t like that crossing at all, because again, they’re coming down Commerce Street to go onto the dual carriageway, so they’re coming down at quite a speed there and there’s nothing to slow down the motorist.”

P: “it’s going down a hill and the cars are just flying along there, and even on two feet it was really intimidating the speed the cars were crossing at.”

Figure 20: Commerce Street, Arbroath



Context box: the infrastructure scheme design

Proposed improvements: vehicle dominance

The planned improvement anticipated to have the most impact in addressing vehicle dominance under this project is the conversion of Burnside Drive's two southbound lanes into a 1.5 km active travel corridor. This reallocation is expected to substantially reduce vehicle dominance in the area, and enhance accessibility for walking/wheeling and cycling for all.

Although not a direct focus of the scheme, the anticipated reduction in vehicle traffic and speed following the changes to Burnside Drive may positively affect surrounding areas. This may include the neighbouring streets identified by participants as particularly traffic heavy, Commerce Street and High Street.

Alongside discouraging active travel, vehicle dominance is a common barrier to enjoying public space, and proximity to traffic can disproportionately impact those with disabilities or mental illness²¹. While Brothock Bridge was positively reflected on by numerous participants as a place of potential for dwelling, some expressed how the surrounding traffic impedes enjoyment of this space.

Reduced vehicle dominance of Burnside Drive, alongside planned improvements for Brothock Bridge including widened footpaths, planting, and seating, may provide the desired seclusion from traffic required for individuals to enjoy this space.

P: "Too much traffic."

...

P: "...with the main road and the amount of traffic that's going through, I would maybe stop for five minutes and have a sandwich or something like that... You will have more families there so it does need to be more secure."

Theme 4: Scheme engagement

To close the discussions, participants were asked if they had heard of or engaged with the project prior to the invitation to participate in the focus group/interview. Only some participants had previously heard of the scheme, via a local news item or through Facebook, although it is worth noting that not all participants live in Arbroath. One participant joined the street trial, a four-week test run of the scheme delivered by the council in June 2021. The trial included temporary lane restrictions, and the setup of cycle and pedestrian paths, with an online survey allowing local residents to provide feedback on their experiences.

P: “I think I saw something actually on the news about it last week in The Courier. That was the first I’ve actually heard of it...”

P: “It comes up on Facebook.”

P: “No, I haven’t. It was just through my manager that asked if I would be interested in joining the focus group.”

When discussing their opinions on the scheme, participants largely agreed that the reduction of the dual carriageway at Burnside Drive will have a positive impact on the community due to the reduction in traffic, with one contrasting perspective concerning the allocation of money to the scheme. The participant who took part in the street trial, who is a wheelchair user, expressed they felt it fair that space be reallocated from vehicles to wheelchair users and cyclists.

P: “It was just saying they’re going to be doing improvements on Burnside Road. Basically I think they’re aiming to make it not so busy, not such a fast road, which is fair enough ‘cause it is quite a fast road. It’s the

²¹ Mackett, R., 2021. Mental health and travel behaviour. Journal of Transport & Health, 22, p.101143.

equivalent of the bypass round the town. I can see that, I think that's a good idea. 'cause I think even if you're able bodied walking along those roads, the traffic can be a little bit overwhelming."

P: "That didn't bother me, reducing it down to one lane; you had only one lane for your cars, and the rest were for cyclists or somebody that was in a wheelchair. You know, fair's fair; we don't need two lanes."

P: "I just think it's a waste of money doing that."

Most participants across the discussions expressed an interest in being kept informed of the scheme's progress, and to receive a report of the focus group sessions²².

²² Alongside this version of the report, an adapted version is expected to be released and will be shared with all individuals who participated across the sessions.

Recommendations

The research underlines the need for transformations to Arbroath's built environment in favour of inclusive and liveable spaces and travel options. Many of these changes will be delivered by the 'Arbroath, A Place for Everyone' scheme.

Two groups of recommendations arise from the research.

Firstly, there are findings which emerged from the data which are specific suggestions on improving the accessibility of Arbroath's active travel infrastructure and public spaces. These insights on people's experiences of infrastructure and recommendations for improvement should be of transferable interest.

Secondly, in our capacity as researchers we make recommendations based on this project, which pertain to the value of and future use of the method.

1. Participant recommendations for improving accessibility in Arbroath

The research underlines the need for transformations to Arbroath's built environment in favour of inclusive and liveable spaces and travel options. Many of these changes will be delivered by the 'Arbroath, A Place for Everyone' scheme.

The findings from this study in many cases corroborate well-established themes from research on the barriers to active travel experienced by disabled people, as well as potential infrastructural improvements. What is valuable about these findings is that they associate general topics (such as safety) with specific infrastructure features and locations in Arbroath.

- Overall the discussions emphasise how low-quality or poorly designed and maintained pedestrian infrastructure disproportionately impacts disabled people if not up to standard. This was a cross-cutting theme.

- **Accessibility and barriers to active travel:** Crossing the four-lane dual carriageway is currently a dangerous and anxiety-inducing experience for many. Participants felt there was a lack of controlled crossings and that those which currently exist do not have sufficient audio support or crossing time window.
The pavement quality is variable and often renders walking and wheeling uncomfortable. Having more even pavement surfaces, well-flushed dropped kerbs and greater visual contrast would benefit all participants. Alterations to enhance pavement widths and availability of clutter-free space (especially around bus stops and at the bus station) would particularly benefit wheelchair and mobility scooter users, or those walking with an aid.
- **Facilities & quality of environment:** High quality public spaces hugely enhance the attractiveness of active travel for the disabled community as well as the viability of these journeys. Participants emphasised the importance of having somewhere to rest and being able to access core facilities such as toilets, benches and water fountains, and how highly they valued urban green spaces (naming Brothock Bridge as a prime place to improve within Arbroath).
- **Vehicle dominance:** Walking and wheeling provision in areas which are adjacent to fast and busy roads require particular attention: the proximity and speed of vehicles dominates the current experience of active travel and creates a sense of vulnerability.

2. The value of the method and suggested use

This research employed Sustrans' Research and monitoring unit's newly developed 'Accessible design interview and focus group' method. The experiences of doing so have highlighted the potential of the method for involving and elevating the voices of disabled people in infrastructure delivery and research. There have been many calls for improving the

involvement of disabled people in active travel research²³, however the sector is limited by capacity shortages which restrict the use of research methods such as used here. This report therefore offers an approach which can be replicated and can be used in the dual contexts of engagement and evaluation.

The method allowed us to capture perspectives from people with a variety of disabilities or conditions, including participants who were wheelchair users or have reduced mobility, participants living with sight and hearing loss, and participants living with Alzheimer's disease.

We recommend employing this method as part of (a) community engagement and (b) evaluation research.

A) Using the method for engaging with disabled members of the community

Discussions with participants regarding their engagement with 'Arbroath, A Place for Everyone' provided valuable insights into how future projects could engage more effectively with disabled community members. Although participants were eager to share their experiences of accessibility when walking and wheeling in Arbroath and expressed support for the scheme, many had not engaged with or were unaware of the project prior to these sessions.

For future engagement, we recommend that a similar focus group approach be adopted for consultations with disabled members of the community at an earlier stage in the project's design. Attending regular meetings held within disability groups will likely yield valuable insights from disabled members of a community.

²³ See for example: [Disabled Citizens' Inquiry - Sustrans.org.uk](#); [Wheels for Wellbeing Quick Guide to Accessible Active Travel](#); [Active Travel | Transport for All](#)

B) Using the method for monitoring and evaluation research

The accessible design focus group method provides a useful tool for gaining insight into disabled people's experiences of particular places and the applicability of general research literature at a local level. We therefore recommended that this tool be used as an evaluation method for all high-value infrastructure projects, or those with a focus on accessibility. Current active travel evaluations rarely include these dimensions, often due to the resourcing requirements of qualitative research. Sustrans RMU has developed guidance to promote the use of this method more widely within their work, to which this report is a complementary output for addressing this by providing a structure and a set approach for carrying out research engagement with members of the disabled community.

Used here, the tool provided rich insights into barriers to walking and wheeling along Arbroath's infrastructure, and how members of the disabled community variously perceive the comfort and quality of public space. This provides valuable baseline data to evaluate the impact of the improvements upon completion of construction. We recommend that the use of this method by other projects aim to carry out the interviews/focus groups during design stages so the findings can directly inform the interventions.

Methodology

Accessible design interviews/focus groups

The approach used was a trial of novel methodology for accessible design focus groups which was developed in 2022 by Sustrans' RMU²⁴. The aim of this method is to evaluate accessibility of infrastructure from the perspective of a disabled person, using focus groups and interviews.

There were three different versions of the focus group/interview which were used across the sessions in order to prioritise flexibility and participant needs.

- The first two approaches involved a walk/ wheel and talk approach for the interview sessions. The participants walked/wheeled a pre-determined route within Arbroath, covering areas to be impacted by the project, followed by a semi-structured interview.

There were two options for the format and structure depending on what the participant felt most comfortable with. It either comprised an in-person walk/wheel where the participant and interviewers walked the route with discussions throughout the journey recorded. Or it was a self-led walk/wheel where participants were instructed on the route to take ahead of participating in an online discussion.

- The third approach was a focus group session conducted with members of disability-focused community groups, within their usual place of meeting. As this approach did

²⁴ Guidance available here [035. Accessible Focus Group and Interviews Delivery](#) (internal to Sustrans)

not contain a walk along element, knowledge of the route and area was a prerequisite for participation.

Recruitment

Participants were recruited to capture a broad range of accessibility needs and experiences. Market research organisation Taylor McKenzie was largely used to recruit participants, along with internal recruitment by Sustrans colleagues within the Research & Monitoring Unit. The Angus Disability Forum agreed to distribute flyers to their members, outlining the details of the scheme, the planned focus groups and interviews, and inviting members to participate.

Table 1 **Error! Reference source not found.** summarises the participants involved in the focus group and interview sessions, and the approach adopted for each session.

Table 1: A summary of the participants involved in the focus group and interview sessions, and the approach adopted

Session type	Participant detail	Meeting format
Focus group (15 group members, 3 staff members)	Individuals living with Alzheimer's disease	A focus group session held as part of a weekly social for Alzheimer's Scotland members
Focus group (10 group members)	Individuals living with visual impairment/ hearing loss	A focus group session held as part of a monthly meeting within North East Sensory Services
Interview	An individual living with reduced mobility and stamina	A self-led walk/wheel followed by a virtual (Zoom) session.

Session type	Participant detail	Meeting format
Interview	An individual living with reduced mobility and stamina	A self-led walk/wheel followed by a virtual (Teams) session.
Interview	A wheelchair user	An in-person walk/wheel and talk
Interview	A Visual Rehabilitation Specialist, for Guide Dogs UK	An in-person walk/wheel and talk
Interview	A wheelchair user	An in-person walk/wheel and talk

Topic guide

A topic guide was used to focus the discussions using a semi-structured format, which was informed by a Sustrans (internal) literature review²⁵ for accessible design focus groups. The literature review covered key physical elements and design of infrastructure that affects accessibility and disabled people's ability to move around. This includes:

- Segregation and protection between vehicles, cycles, and pedestrians and wheelchairs.
- Presence of physical obstacles.
- Quality of surfaces.
- Navigation and continuity, such as quality of signage and maps, or a lack of.

²⁵ Available [on Sharepoint \(published internally within Sustrans 2022\)](#)

- Space, including pavement and path widths.
- Presence of facilities such as seating and toilets, and their accessibility.
- Crossings.
- Accessibility of connecting to public transport.
- Quality of public space.

While the topic guide ensured key features of accessible design were covered across the discussions, a flexible approach was conducted. Conversations were largely driven by the participant's experiences of their walk of the route and/or their lived experiences in Arbroath, and tailored to their specific accessibility needs. Lastly, participants were asked about their prior awareness and engagement with the Accessible Arbroath scheme.

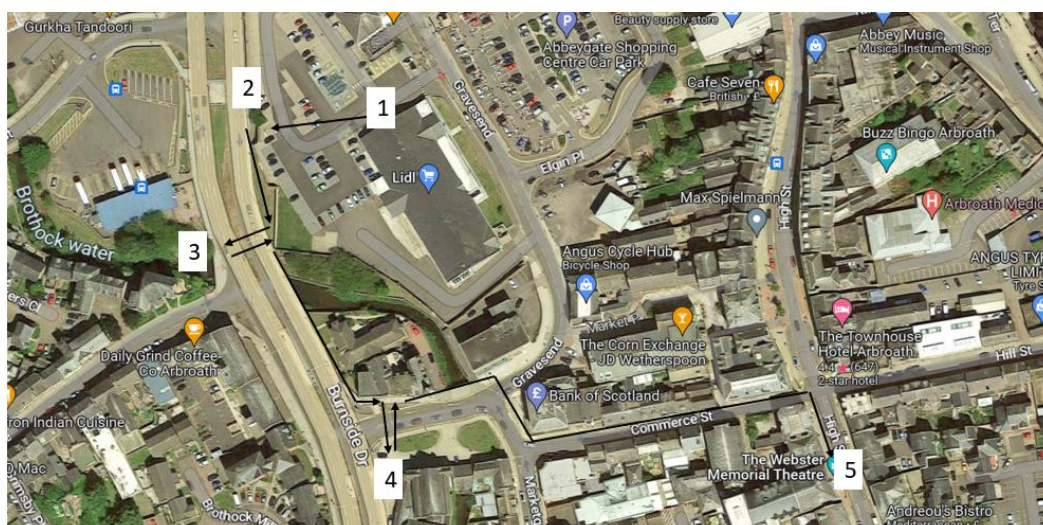
Delivery

The walk and talk

Figure 21 outlines the route chosen for the walk/wheel and talks. The route length was approximately 0.3 miles, chosen due to its relevance to the planned improvements, and covering numerous infrastructure themes. These include infrastructure features such as dropped kerbs, differing pavement widths and gradients, and availability of facilities. For the in-person walk and talk, it took approximately 30-45 minutes to walk/wheel the route, including five stop points where participants were invited to share their impressions on a particular feature of the route.

Prior to its selection, the route was assessed for available benches for rest points. A risk assessment of the route for walking and wheeling was conducted prior to the sessions, with the route checked for sufficient space to safely accommodate wheelchair users and their carers. The follow-up discussions were held within a meeting space a short distance from the end point of the walk, checked beforehand for meeting accessibility conditions.

Figure 21: The route taken through Arbroath, for the in-person and self-led walk and talks. The first square signals the starting point, with the sequential numbers indicating subsequent stop-points.



Two Sustrans colleagues were present for the in-person walk/wheel, a facilitator who asked the questions, and a note taker. For two of the three in-person walk/wheel and talks, participants were accompanied with one or two carers, who were partners or family members of the participant, and who also provided input throughout the discussions.

For the self-led walk and talk, the two participants were provided with clear instructions of the requested route, before completing the journey in their own time. During these journeys, both participants took photos of the route and particular points of interest, for use in the follow-up online discussions. During their journeys, participants were accompanied by family members. The follow-up discussions were held online on a separate day after the participant's walk.

The focus group sessions

The focus group sessions were conducted within a familiar and regular meeting space for the participants, with two Sustrans' colleagues in attendance, a facilitator and notetaker. This was the local library for the discussion with members of North East Sensory Services, with the discussion lasting just short of an hour. For the session with Alzheimer's Scotland, a regular social meeting space for members was used, with the session

lasting just under half an hour, as part of a weekly social gathering.

Analysis

The recordings were transcribed intelligent verbatim by an external transcription company. The subsequent transcriptions were anonymised and checked for accuracy before being analysed within Excel.

Prior to analysing the transcripts, an initial set of themes and code categories were developed based on the topic guide, which was informed by the accessible design literature review. The coding process was then adapted during an initial read through of each transcript. Whilst reading, additional recurring thoughts were noted as additional categories alongside the existing themes and codes and were developed as the process progressed. Once all the transcripts had been read, the codes were finalised and consolidated.

Themes were selected due to their relevance to accessibility of active travel infrastructure and public space, within the context of Arbroath. Upon reviewing the data, an additional theme was added relating to participants engagement with the scheme.

The themes were arranged according to the Sustrans Places for Everyone monitoring and evaluation outcomes²⁶. This provides baseline data from the analysis, against which the scheme will be evaluated following its completion. These objectives, outcomes and subsequent indicators are provided in Table 2 and are mapped against the specific themes identified throughout the analysis.

²⁶ For further information on Sustrans Place for Everyone and its impact see [Latest Places for Everyone annual impact report released - Sustrans Showcase \(showcase-sustrans.org.uk\)](https://www.showcase-sustrans.org.uk/)

Table 2: The Places for Everyone objectives, outcomes and indicators used mapped against the analysis themes

Objective	Outcome	Indicator	Focus group analysis theme
Facilitate independent walking, cycling and wheeling for everyone - Improve accessibility for people with protected characteristics.	Accessible for disabled people.	Improved perception of access for disabilities. Reduced identification of barriers after construction compared to baseline.	Crossing, quality of journey
Communities collaborative design. Ensure communities are proactively engaged in project development and decision making.	Meaningful community consultation.	The community got to voice their opinions.	Scheme engagement
Enjoyable comfortable spaces - Improve the quality of place, green infrastructure, provide dedicated, safe spaces for people to walk, cycle and wheel through	Improve the quality and comfort of the built environment	Improved perceptions of quality and comfort	Quality of public realm
Enjoyable comfortable spaces - Improve the quality of place, green infrastructure, provide dedicated, safe spaces for people to walk, cycle and wheel through	Improve safety	Improved perceptions of safety (personal safety and from vehicles and cyclists on pavement)	[Throughout]
Reallocation of road space	Reduced vehicle dominance	Perceptions of reduced vehicle presence, traffic speeds and volume	Vehicle dominance

Initially a stand-alone theme, issues of safety, was found to be an integral topic interwoven throughout the discussions. It was therefore determined that code categories relating to safety be applied across multiple themes. This particularly includes crossing, vehicle dominance and quality of journey themes.

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