



Leeds & Bradford Parks Accessibility Index

User Guide

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Foreword: Bradford Metropolitan District Council



Bradford District welcomes the opportunity to continue to build upon the legacy we have enjoyed with our partners at Leeds University, in identifying and delivering initiatives and innovative improvements designed to make our parks and greenspaces better and safer places to visit and enjoy.

We would like to thank all the people across our District who shared their insights when they completed the survey last year. These lived experiences inform how we and our partners can improve our parks and greenspaces for the benefit of everyone.

Cllr Ian Walker

*Executive Member for Neighbourhoods and Communities
Bradford Metropolitan District Council*



Foreword: Leeds City Council



I would like to thank the University of Leeds for undertaking this important research on the use and accessibility of our local parks, and to thank all the residents who took the time to share their experiences through the survey

The insights gathered through this research will help shape our ongoing work to improve and protect Leeds' green spaces, ensuring they remain accessible, inclusive and valued by residents now and in the future.

Cllr Gibson

*Executive member for environment
Leeds City Council*



About the GreenAWARE Project and the Parks Accessibility Index

The GreenAWARE project (Greenspace Access, Wellbeing, and Resident Equality) is a collaborative initiative involving academics at the University of Leeds, Leeds City Council, City of Bradford Metropolitan District Council, and community stakeholders. The project seeks to understand how green spaces in Leeds and Bradford can be made more inclusive and beneficial, and how they can better meet the needs of diverse local communities. It examines patterns of greenspace access across a range of social and spatial contexts, applying established research methods to advance academic understanding alongside the development of practical, evidence-based strategies to improve accessibility, safety, inclusion, and welcomeness across parks and green spaces.

The Leeds and Bradford Access to Parks and Green Spaces Survey was conducted between April and June 2025 to collect residents' experiences of accessing and using local parks and green spaces. The survey gathered information on park use, perceived accessibility, barriers to access, priorities for improvement, and respondent characteristics. In total, 2,682 valid responses were received across Leeds and Bradford.

The Parks Accessibility Index (PAI) was developed using data from this survey. It is a park-level measure of perceived accessibility that brings together residents' experiences and perceptions to provide a comparable assessment of accessibility across 54 parks in Leeds and Bradford. Rather than focusing solely on physical access, the PAI reflects how people experience parks in practice, incorporating aspects of accessibility, safety, inclusion, and overall ease of use. The Index is intended to support evidence-based decision making by helping identify strengths, inequalities, and opportunities for improvement across parks and green spaces.

To ensure statistical robustness and reliability, the PAI includes only parks for which a minimum of 10 valid survey responses were received. As a result, 54 parks are included in the Index, comprising 36 parks in Leeds and 18 in Bradford. The smaller number of Bradford parks reflects the lower number of survey responses received overall, meaning that fewer parks met the minimum threshold for inclusion.

A map of the parks included in the PAI is provided in Figure 1 and illustrates the spatial coverage of the index across Leeds and Bradford.



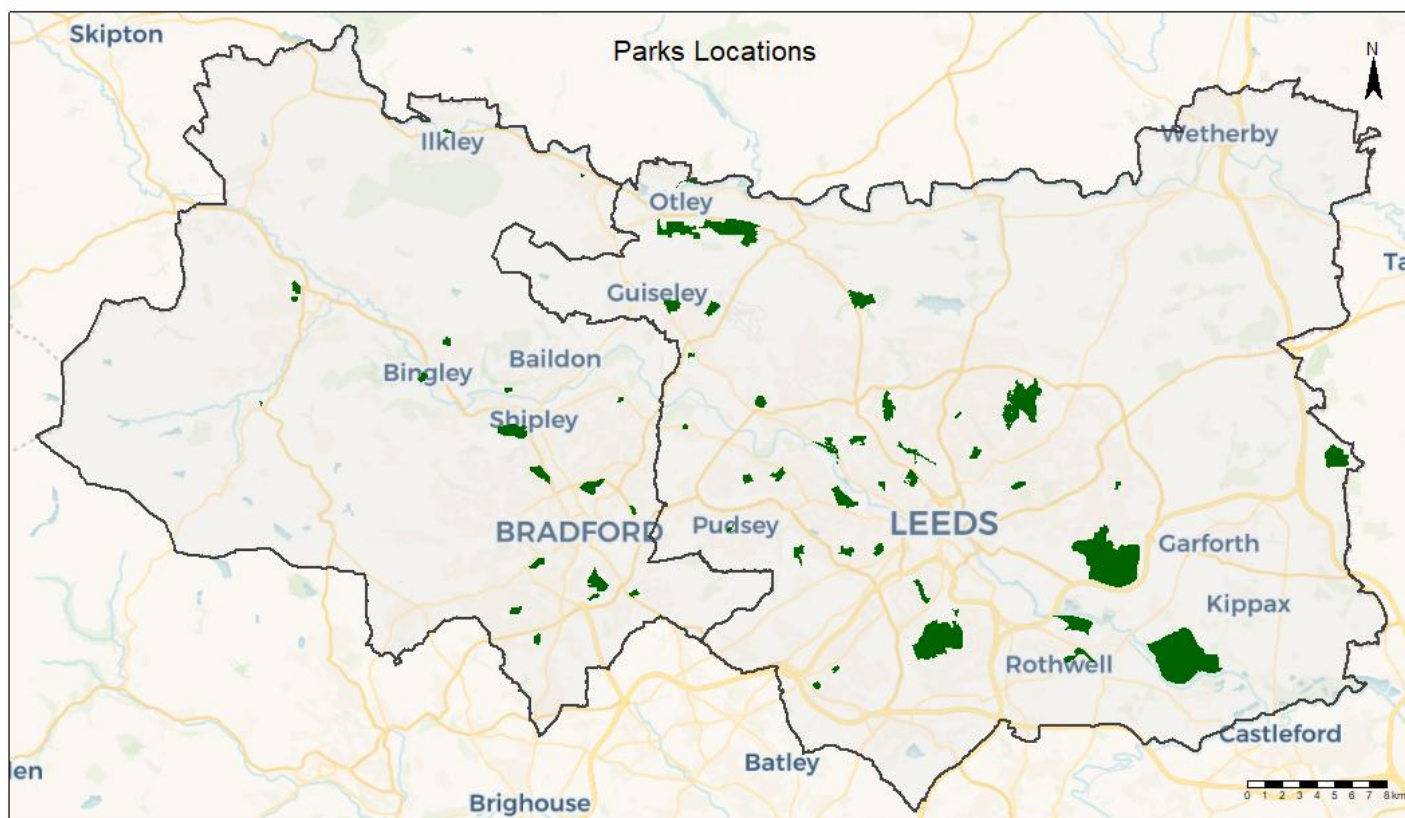


Figure 1: Parks included in the Leeds and Bradford Parks Accessibility Index (parks with 10 or more valid survey responses).

This User Guide accompanies the [Leeds and Bradford Parks Accessibility Index \(PAI\)](#) and is intended to support its interpretation and practical application. It explains how Index scores should be read, compared, and used, highlighting where they can inform planning, prioritisation, and discussions around equitable access to parks and green spaces. The guidance emphasises the importance of using the Index alongside local knowledge and context, qualitative evidence, and relevant policy context, and clarifies both the appropriate uses and limitations of the PAI. A separate [Technical Report](#) is also available, which provides a full explanation of the methodology underpinning the Index.

1. Introduction

The Leeds and Bradford Parks Accessibility Index (PAI) is a practical tool that helps users understand how accessible parks are to the residents who use them. The Index is built on resident perceptions and experiences gathered through the Leeds and Bradford Access to Parks and Green Spaces Survey, meaning that the scores reflect lived experiences at each park within the Index.

The design of the Parks Accessibility Index is grounded in the 6A Framework for Equitable Greenspace Accessibility (Gray et al., 2025), which conceptualises accessibility as shaped by a range of physical, social, cultural, environmental, and experiential conditions. These conditions are operationalised as six domains of accessibility (the “6As”), adapted from Penchansky and Thomas’ (1981) five As of Accessibility and Saurman’s (2016) addition of a sixth A, and translated in the 6A Framework specific to greenspace contexts.

Together the six As of Accessibility are: 1) *Availability*, 2) *Accessibility*, 3) *Accommodation*, 4) *Affordability*, 5) *Acceptability*, and 6) *Awareness*, and they form the theoretical foundation of the Leeds and Bradford Parks Accessibility Index. The Index therefore provides an indication of the extent to which a park is usable, welcoming, safe, affordable, well-equipped, and visible.

The User Guide explains how to interpret the Index, how to understand strengths and weaknesses, and how to use the results to inform decision making. A separate [Technical Guide](#) explains the data sources and analytical methods in full.

2. The 6A Framework

The Index is structured around six domains, each representing a different dimension, or ‘A’ of accessibility, from the perspective of park users. This data is gathered from the Leeds and Bradford Parks and Green Spaces Survey, which took place April – June 2025.

Availability

The *Availability* of a park refers to not only whether a park is available, but whether it is sufficiently sized, not empty or isolated, or overcrowded. *Availability* therefore reflects the basic capacity of the space to support its neighbourhood, and visitors comfortably.

Accessibility

Park *Accessibility* refers to the ease for users in both reaching and moving through the park. This includes navigation via walking routes, road crossings, and whether parking is available at the destination, as well as the internal paths, slopes, and layout of the park.



Accommodation

The *Accommodation* of a park refers to the extent to which its facilities and features meet diverse user needs. This includes facilities like public toilets and accessible toilets, social seating and picnic benches, natural areas, and events and activities suited to different demographics.

Affordability

The *Affordability* of a park refers to whether activities and events in the park are financially accessible. High scores indicate that parks offer inclusive and low-cost opportunities.

Acceptability

The *Acceptability* of a park refers to how ‘acceptable’ the park feels to use. It includes perceptions of safety in and around the park, the cleanliness, upkeep, and maintenance of the park, and whether users feel welcome, and socially and culturally included. Indicators of *Acceptability* therefore include perceptions of crime, lighting, noise levels, and representation. At its foundation, *Acceptability* is how comfortable and included users feel in the park.

Awareness

Park *Awareness* refers to how visible and easy to find the park is. This includes wayfinding to and within the park, signage, publicity for events, and general visibility. This domain represents the fundamental awareness a user does or does not have of either the park or the route to it, its facilities, functions, and events.

Each domain score reflects how users experience the park, with high scores indicating strong performance, whilst low scores indicate the presence of barriers.

3. Understanding the Scores

Indicator Scores

Indicators describe a specific aspect of accessibility, and are each grouped into one of the six accessibility domains. They are scored from 0 to 1, with higher values indicating stronger performance on that individual element, or indicator, of accessibility.

For example, the *Availability* domain consists of four indicators:

- 1) The park is large enough,
- 2) The park is not too far away,
- 3) The park is not empty or isolated, and
- 4) The park is not overcrowded.



Domain Scores

The domain score is the normalised average of its indicators, with each domain scoring between 0 and 1. These scores can be interpreted as:

- **0.70 to 1.00:** High accessibility
- **0.40 to 0.69:** Moderate to good accessibility
- **Below 0.40:** Low accessibility, where under 0.30 reflects a critical failure.

A low score signals a clear barrier within that domain, to which the individual indicators will provide information as to which element(s) of that 'A' of accessibility park users may struggle with.

Overall PAI Score

The overall Parks Accessibility Index (PAI) score is the sum of the six domain scores. It therefore has a total maximum score of **6**, with higher scores indicating higher overall accessibility, and lower scores therefore indicating lower levels of accessibility.

The maximum overall score of any park in the index is **4.70**, which shows that while it does have a good level of accessibility, it still has room for improvement.

Quintiles

Parks are grouped into quintiles to summarise their position relative to all other parks included in the Index. Quintiles are used in preference to deciles due to the relatively small number of parks available for comparison ($n=54$), for which finer categorical breakdowns become unstable and less informative (Benette and Vickers, 2012). Given the polarity of the domain-level and overall PAI scores, lower quintiles correspond to lower scoring parks, while higher quintiles correspond to higher scoring parks.

Under this classification, Quintile 1 represents the 20% of parks with the lowest PAI scores, while Quintile 5 represents the 20% of parks with the highest PAI scores. Quintile groupings are intended to support relative comparison and communication of results, but should not be interpreted in isolation. Quintile assignment involves a loss of information, and if being used, should therefore be reported alongside the PAI and Adjusted PAI scores to preserve transparency and analytical detail (Altman, 2005).

The Minimum Domain Threshold

To prevent high scores in one or more domains from masking weaknesses in others, a Minimum Domain Threshold is applied. This threshold is set at 0.30 and is used to identify parks with serious deficiencies, or 'failures', in at least one domain.

Based on the observed distribution of domain scores, values below 0.30 represent critical failures, indicating substantial and meaningful user reported barriers. Where a domain score falls below this threshold, a penalty of 0.30 is applied to the overall Index.



This is operationalised by subtracting 0.30 from the PAI score for each domain that fails to meet the minimum standard, producing an Adjusted PAI Score that more accurately reflects severe domain level shortcomings.

Key points:

- The adjustment does not replace the original Parks Accessibility Index score, but is provided as an additional measure
- Due to the summative nature of the PAI score, it helps to identify parks where a critical issue is hidden by strengths in other domains
- It focuses attention on structural weaknesses
- It supports equity focused decision making

A park can score moderately overall yet still have a serious problem that needs immediate attention, and the Adjusted PAI score helps to identify this. Alongside the Adjusted PAI Score, also provided for further information are the Number of Fails, Failed Domains, and the Adjusted Quintile.

A total of 15 parks, around a third of all 54 included, fail in at least one domain. Four, or around 7%, fail in at least two. Most failures occur within the *Awareness* domain, highlighting significant, and structural issues in overall user awareness of parks and their events and or facilities.

Confidence Intervals

Each domain score, and the overall PAI score, is reported with 95 percent confidence intervals, reflecting uncertainty around the observed value. The upper and lower bounds indicate the range within which the true score is expected to fall with 95 percent certainty, showing how far above or below the observed score the true value may plausibly lie. An Interval Width is also calculated, with wider intervals indicating greater uncertainty. Results with wide intervals, particularly where fewer than 20 responses are available, should therefore be interpreted with care.

Large confidence intervals, however, should not automatically be read as a weakness of the Index. Given that the Index is based on subjective survey responses, wider intervals may reflect substantial variation in how different individuals experience the same park, rather than imprecision in measurement. Where users report highly divergent levels of access, comfort, or usability, the uncertainty captures this variation rather than obscuring it.

Such divergence may arise from demographic and intersectional differences, including age, disability, gender, caring responsibilities, ethnicity, or socio-economic position. In these cases, wide confidence intervals can signal within-park inequality, highlighting places where access is uneven or experienced very differently across user groups.



Interpreted in this way, confidence intervals provide additional insight into the distribution of experiences within a park, rather than simply indicating lack of precision.

4. What the Index Can Tell You

The Leeds and Bradford Parks Accessibility Index (PAI) have clear boundaries in terms of what it can and cannot be used for. The lists below provide non-exhaustive examples.

The Index Can:

- Identify strengths and weaknesses for each park
- Highlight which domains drive poor or strong performance
- Reveal systemic issues such as low *Awareness* across many parks
- Identify clusters of disadvantage across neighbourhoods
- Support prioritisation of investment
- Inform planning, park management, and service improvement
- Provide evidence for community engagement and strategic planning
- Represent perceived park accessibility of the users in which they serve

The Index Cannot:

- Replace a physical site audit
- Measure biodiversity or ecological quality
- Capture all parks a resident might use
- Provide a complete view of *Affordability* due to limited data
- Determine the true relative importance of each domain
- Predict future park usage
- Inform accessibility beyond any of the 54 parks included in the PAI

Understanding these boundaries helps to ensure that the Index is used as intended.

5. How to Use the Index for Decision Making

The Leeds and Bradford Parks Accessibility Index (PAI) can support decision making at both the local authority level and the individual park level. The Index, domains, and indicator scores together show where strengths and weaknesses exist and what actions may be needed.

Identify Parks Requiring Attention

Start by looking at the overall PAI score, then examine:

- Any domain failures (below 0.30)
- Any domain scores below 0.40 indicating low accessibility
- Wide confidence intervals indicating uncertainty, or a large variation in the user's perceived accessibility, which may indicate within-park inequality



- Clusters of low scores in specific neighbourhoods
- Patterns across similar parks with similar characteristics

Indicator scores should also be reviewed at this stage. Low indicator values point directly to the precise barrier(s) within a domain, such as poor lighting, difficult crossings, or insufficient parking, in which is driving the low domain and overall PAI scores.

Interpret Domain and Indicator Weaknesses

Each weak domain points to a specific type of barrier. The related indicators show exactly which component is contributing to the problem. For example:

- **Low Availability:** small size, crowding, empty or feels isolated, too far away from the communities which they serve
- **Low Accessibility:** difficult walking routes, busy or unsafe roads, unclear or uneven layouts, lack of transportation options, no parking available
- **Low Accommodation:** lack of public and or accessible toilets, insufficient seating, limited facilities, diverse user needs unmet, lack of nature, lack of events, lack of interesting or enjoyable activities and events
- **Low Affordability:** costly events, limited free or low-cost options
- **Low Acceptability:** concerns about safety, unwelcome atmosphere, poor cleanliness, unsafe in the daytime and or after dark, poor user satisfaction, poor park condition, poor lighting, fear of crime and or antisocial behaviour, fear of harassment, poor representation, too noisy
- **Low Awareness:** lack of information about events, difficulty in finding the park, and worried about getting lost to, from, or within the park

Indicator scores allow the PAI user to distinguish between these specific issues within each domain. For example, a park may have a low *Accessibility* score driven primarily by unsafe crossings rather than internal paths, on which it may score more highly.

Choose Actions Based on Domain and Indicator Needs

Actions should be guided by the specific domains and indicators where a park is underperforming. The aim is not only to raise scores, but to address the underlying barriers experienced by different groups of users.

The 6A Framework for Equitable Greenspace Access (Gray et al., 2025) is grounded in Fredman's theory of substantive equality (2016). Substantive equality moves beyond the idea that fairness means treating everyone the same. Instead, it recognises that people start from different positions and face different constraints. Achieving equality therefore requires targeted, and sometimes unequal, responses.

In practice, substantive equality asks four key questions:



- **Redistributive equality:** Are resources fairly distributed, especially where there has been historic under-investment?
- **Transformative equality:** Do policies and designs challenge existing barriers and dominant norms?
- **Recognition equality:** Are different identities, cultures, and needs acknowledged and respected?
- **Participatory equality:** Are affected communities involved in decisions that shape green spaces?

The 6A Framework links these forms of equality directly to each accessibility domain, helping practitioners identify actions that respond to both practical barriers and wider structural issues. Examples are provided below.

Availability

Issue addressed: There are too few parks, or parks are too small or overcrowded.

Targeted actions: Increase the size of existing parks where feasible, reduce overcrowding through improved provision, or create pocket parks in areas with limited access to greenspace.

Substantive equality lens - redistributive: Low *Availability* often reflects long-standing patterns of under-investment. Action should prioritise areas that have been historically underserved, recognising how classed, racialised, and gendered planning decisions have shaped current provision. The goal is to redistribute space and investment where need is greatest, not simply to add more parks overall.

Accessibility

Issue addressed: Difficulty reaching or moving through the park.

Targeted actions: Improve pedestrian crossings and increase the width of pavements on busy routes to the park to improve safety and the ease of navigation by walking and wheeling. Improve the internal path quality, and navigation within the park by resurfacing.

Substantive equality lens - redistribution and transformative: Barriers related to distance, traffic-dominated streets, limited transport options, and uneven terrain create unequal access for different users. Addressing *Accessibility* means removing practical and environmental obstacles while also challenging assumptions about whose mobility needs are prioritised in transport and urban design. This includes supporting the redesign of routes and spaces, so they are usable for a wide range of abilities, and modes of travel.

Accommodation



Issue addressed: Park facilities do not meet diverse and changing needs.

Targeted actions: Increase the number and quality of accessible public toilets, seating, play facilities, community spaces, sensory features, and areas for quiet or nature-based use.

Substantive equality lens - transformative, recognition, and participatory:

Accommodation requires questioning whose needs are embedded in current design standards. Action should recognise cultural, religious, gendered, sensory, and disability related needs as essential, rather than optional or desirable. Actively involving under-represented groups in co-design and decision-making helps to ensure that parks respond to their lived experience. Consider that these experiences and needs can change and adapt over time.

Affordability

Issue addressed: Financial and time costs limit who can use the park.

Targeted actions: Provide free, low-cost, subsidised, or sponsored events and activities, scheduled at times that suit the intended audience. Design programmes that consider caring responsibilities, working patterns, and energy demands.

Substantive equality lens - redistributive: Recognise how *Affordability* reflects wider socio-economic inequalities. Action should consider transport costs, time constraints, childcare needs, and local *Availability*. Advocate for targeted investment to reduce these hidden barriers and address economic and time poverty and associated inequalities.

Acceptability

Issue addressed: Users feel unsafe, unwelcome, or out of place in the park, during both daytime and evening use.

Targeted actions: Improve lighting along paths, entrances, and key areas, and increase visible staff or community steward presence at appropriate times. Introduce inclusive signage, public art, or welcome messages that reflect the diversity of local communities and clearly signal that different identities, cultures, and uses are welcome in the park.

Substantive equality lens - recognition and redistributive: Feelings of safety and belonging are shaped by racism, classism, sexism, homophobia, and ableism, as well as by dominant norms about who “belongs” in public space. Improving *Acceptability* requires recognising whose presence and practices are marginalised, and redistributing resources such as lighting, staffing, and maintenance accordingly. Policies, rules, and design choices should be reviewed for embedded assumptions that render certain



users or behaviours “out of place”, with the aim of challenging stigma, and supporting more inclusive use of green spaces.

Awareness

Issue addressed: Local residents have limited knowledge of park locations, facilities, or activities held at the park.

Targeted actions: Improve wayfinding to and through the park via appropriate signage, and sufficiently promote events and activities held within the park.

Substantive equality lens - participatory: Low *Awareness* often reflects digital exclusion, cultural distance, or limited engagement with institutions. Building *Awareness* should involve community-led approaches, trusted local networks, and co-designed communication, supporting voice, empowerment, and long-term inclusion rather than one-way information provision. Consider the literacy and language of local residents.

Indicator scores help to prioritise these actions by showing which specific problems are the most significant, as determined via actual user perceptions and experience, and which interventions would have the greatest impact.

Use Spatial Patterns

Maps reveal broader patterns that are not always visible when looking at parks individually. They can show:

- Hot spots where accessibility is consistently high
- Cold spots where multiple parks score low
- Links between park accessibility and deprivation
- Spatial concentrations of barriers that may reflect systemic inequities
- Priority areas for investment or partnership working

These insights support strategic planning that goes beyond individual sites and help to identify neighbourhoods where coordinated action may be needed.

6. Indicator and Domain Interpretation Guide

Strong Scores (0.70 to 1.00)

- Strong performance, with residents reporting positive experiences
- These parks are often well known, well used, and well maintained

Moderate to Good Scores (0.40 to 0.69)

- Mixed experiences
- Improvements may be needed but are not urgent
- Use domain indicators to identify the specific issues causing the lower scores



Low Scores (Below 0.40)

- Clear barrier for users
- Requires targeted intervention
- Monitor changes over time via site audits or equivalent, to assess improvement

Failed Domains (Below 0.30)

- Serious barrier
- Should be prioritised for action
- Indicates a structural weakness within the park's accessibility

7. Case Studies

To provide an example of how the Parks Accessibility Index (PAI) can be used, two brief case study examples are provided below. These illustrate how domain and indicator scores translate into interpretation and action.

Beckett Park

- **Overall PAI score:** 3.16
- **Strengths:** *Acceptability* and *Availability*
- **Weakness:** *Awareness* (failed domain)
- **Adjusted PAI score:** 2.86

Interpretation: The park is well sized, familiar to residents, and experienced as safe and clean, which supports strong usage. However, the failed *Awareness* domain shows that many residents either struggle to find the park, are not aware of what it offers, or lack information about events and activities. This suggests that the issue is not the quality of the space, but how visible and well communicated it is.

Recommendation: Improve visibility, signage, event and activity promotion, and navigation information. A park with strong *Acceptability* and *Availability* is well placed to benefit quickly from improvements in communication and wayfinding.

Knowles Park

- **Overall PAI score:** 3.35
- **Strengths:** *Acceptability*
- **Weaknesses:** Multiple failed domains including *Availability*, *Accommodation*, *Affordability*, and *Awareness*. *Accessibility* is also close to failing.
- **Adjusted PAI score:** 0.43

Interpretation: The presence of several failed domains indicates a combination of structural and compounding barriers. Low *Availability* suggests limited usable space or



crowding, while low *Accommodation* and *Affordability* point to a lack of facilities and limited low-cost opportunities. Low *Awareness* further suggests that users may not know what is available, or when events occur. Together, this pattern indicates a park that struggles to meet diverse user needs, and where barriers are likely reinforcing one another.

Recommendation: A coordinated, multi domain intervention is likely required. This may include improving facilities, increasing low-cost activities, addressing space or crowding issues, and strengthening communication and wayfinding. Because many domains fail simultaneously, small, isolated improvements are unlikely to produce meaningful change without a broader plan.

St Aiden's Nature Reserve

- **Overall PAI score:** 4.39
- **Strengths:** *Accommodation, Affordability, Acceptability, and Awareness*
- **Weaknesses:** *Availability* (almost a failed domain)
- **Adjusted index score:** 4.39

Interpretation: *Availability* is the weakest domain. Although the score of 0.31 is not a failed domain, it sits very close to the 0.30 Minimum Domain Threshold and can be considered a near fail. The indicator pattern shows that this relates to perceived size. This does not mean the reserve is physically small, it is not. In large or well-loved sites, residents sometimes express a desire for more accessible or usable areas because they enjoy the space and wish they could explore more of it. This suggests that the score reflects how users experience the size and usability of the reserve rather than its actual area. Local knowledge and context are important for interpreting this result.

Accessibility is moderate, which may reflect long travel distances to the site or the fact that it is not within easy walking or wheeling distance for many users. All other domains are strong, indicating that once users reach the reserve, they experience it positively.

Recommendation: Improve clarity of routes, walking and wheeling access, and public transport information. Enhance communication about the areas and extent of the reserve that is accessible, and consider improving the usability of key areas to support perceptions of *Availability* and reachability.

8. Summary Checklist

A quick reference for reviewing a park:

1. Check the overall score
2. Check for any failed domains



3. Look for domain scores below 0.40
4. Review the individual indicator scores
5. Check the width of confidence intervals
6. Compare with nearby or similar parks
7. Look for neighbourhood level patterns
8. Identify which improvements align with the weakest domains

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