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Service Reliability and Sensory Choice in Neuroinclusive Public Green Space: A Constraint–Affordance Prioritisation of Bulltofta Park, Malm''o

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Abstract

Green-space assessments commonly document aspects like proximity, physical access, maintenance, ecological quality, and recreation provision. However, this list does not exhaust all factors that need consideration when determining whether or not a park can be used by autists reliant on sensory predictability, navigable routes, reliable services and limited social contact. This paper will apply Constraint–Affordance Prioritisation analysis to Bulltofta Park in Malmö, Sweden to identify factors that foster or hinder neuro-inclusive use of this site. For this purpose, both the documented place-quality record and Peaceful Path actions will be examined in relation to the use channels of sensory regulation, route confidence, bodily access and services, ecological engagement, and co-use predictability. What qualities of Bulltofta Park affect the reliability of neuro-inclusive use and which Peaceful Path actions most strongly help preserve its peaceful atmosphere and ecology? Nature is the most positive domain, scoring +85.7 for balance, with 6.5 supportive points against 0.5 pressure points. In addition, management is positively rated at +50.0. Accessibility is still positive (+16.7) and facilities show some support (+7.7). While the presence of benches, bins, barbecue places, spaciousness, and relatively low visitor density are positive, lack of toilets, lighting, winter restrictions for some narrow paths, off-lead dogs, and school-related crowd formation during certain hours weaken facilities' overall contribution to neuro-inclusivity. Scores within channels confirm this conclusion, indicating the dominance of ecological engagement (+100.0) and sensory regulation (+53.8), while bodily access and services score poorly (-20.0). Peaceful Path actions improve route confidence (+14.3 to +55.6) and bodily access and services (-20.0 to +6.7). Thus, Bulltofta Park's contribution to neuro-inclusion relies more on consistent maintenance, clear route description, moderate social engagement, sensory gradients, and availability of services than any special facilities.

Keywords: autism-friendly public green space; neuroinclusive landscape planning; sensory accessibility; urban park management; Bulltofta Park; service reliability

1. Introduction

Public greenspaces are expected to perform a variety of civic functions at the same time. This includes recreational uses, urban biodiversity support, heat and noise reduction, social engagement, and regular restoration experiences.

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Evaluation of their value usually includes green area size, proximity to residential areas, path connectivity, amenities, quality of views and maintenance. Such an evaluation is required, however, it cannot determine whether a location will be easy to use for those with specific sensory sensitivity, route predictability, social interactions, or pre-preparation needs. The park may be accessible publicly and have high-quality views, yet still be hard to use if there is an issue with finding accessible toilets, safe surfaces, route ambiguity, movement of off-lead dogs, and quiet places exposed to surrounding activity.

Neurodiversity creates challenges to public accessibility as autistic visitors have more complex needs in relation to their environment than other individuals. Preparation of a trip to a public park requires knowledge about arrival routes and parking possibilities, presence of toilets, availability of clear paths, opportunities for resting, expected number of visitors and associated overcrowding, lighting, and ability to exit the area without walking in crowded and stressful surroundings. Such a list is hardly superfluous for any trip and, for some neurodivergent visitors, its fulfillment decides whether the visit will happen at all. Thus, planning of a public space must evolve from thinking only about access to defining a set of sequential factors that should help to plan a comfortable trip: preparation, arrival, orientation, movement, sensory regulation, services, social interaction, and exit.

Scientific literature has shown that a green environment may support various processes of restoration, stress relief, and well-being of people [2, 11, 15, 28, 29]. Research on access to such an environment indicates that a close proximity to a green space does not imply an equal usage due to different factors such as maintenance quality, route quality, available services, social interactions and physical conditions of use [14, 25, 31, 32]. The third type of research on designing for autistic individuals highlights sensory regulation, spatial sequencing, retreat and transition, safety, and choice [1, 5, 27]. The complexity of these aspects in relation to an outdoor environment increases as it is neither a controllable internal nor a predictable environment; instead, it is dynamic, shared and natural.

Bulltofta Park in Malm"o presents an important example of a public greenspace that has both neuroinclusivity potentials and issues of reliability. Among positive environmental qualities, one can mention varied vegetation, Swedish whitebeam, man-made mounds, moderate biodiversity, presence of trees, natural materials, a pond, birdsong, wind movement, spaciousness, low visitors' density, benches, bins, barbecue facilities, accessibility for walking and biking, parking near the location, and many routes. At the same time, some negative factors have been identified: worn-out equipment, peripherally located site, major roads around, uneven surfaces, motorway noise, presence of off-lead dogs, smaller paths with not always removed snow, decreased access during nighttime, absence of toilets and possibility of crowding connected with schools. Peaceful Path interventions aim to tackle these issues by ensuring presence of toilets, fixing benches, creating a wheelchair-friendly barbecue place, pruning of branches, increased visibility of the paths, providing signs based on bollards, linking information via QR code and visitor guidance.

In this paper, it is necessary to consider how the positive qualities and interventions implemented in Bulltofta Park indicate a difference between environmental qualities and dependable neuroinclusiveness of public space. In this study, the analysis is done using the same CAP scoring logic: positive affordances and limitations are identified separately, transformed into channel levels and then translated into domain-level scores. While doing that, particular attention is paid to service reliability that makes the greenspace neuroinclusive and accessible for everyone.

Figure 1 provides a summary of the spatial qualities in Bulltofta Park. There are three panels that show the following conditions in the park: peripheral greenspace, vegetated route and a refuge next to the pond. These features are important as the significance of the park does not come from a single special element but rather from combination of qualities that allow to experience a natural environment in private way, observe diverse ecology, choose convenient routes and make pauses when necessary.

This paper considers the implications of neuroinclusive use of Bulltofta Park. Specifically, it discusses the park's accessibility record and evaluates it according to domain balance, channel balance, pressure–weight sensitivity and Peaceful Path analysis.

(a) Peripheral setting **(b)** Interior route **(c)** Pond-side refuge

Figure 1. Bulltofta Park setting.

2. Theoretical context

2.1. Green-space accessibility beyond proximity

There is ample evidence that urban greenery promotes human health. According to Kaplan's Attention Restoration Theory, restorative environments are associated with being away, extent, fascination and compatibility [15]. Several empirical studies have shown that natural settings can help to restore physiological and affective resources after experiencing psychological stress compared to urban views [11, 28]. Comprehensive review literature identifies the restorative value of green space in several pathways, such as physical exercise, socialization, stress recovery, environmental mitigation and immune system stimulation [2, 17, 20, 29]. Despite their importance for understanding the potential of green spaces in health promotion, these findings cannot address the issue of accessibility of green spaces, which depends on other factors than proximal exposure.

Accessibility studies have long criticized the oversimplified notion that green spaces are accessible if they are close enough. A nearby green space could be unusable because of its condition, security risks, lack of facilities, information and maintenance. Key concepts of universal design and disability studies can inform planning for inclusivity since they reorient focus from a person's functional impairments toward interrelations between bodies, tasks and environment [13, 14, 21, 23]. Green space planning should also recognize accessibility as a combination of surfaces, services, signs, seating, seasonal maintenance and the sociocultural climate [25]. Empirical evidence indicates that the access of people with disabilities to green spaces depends on spatial and non-spatial features [31, 32].

Furthermore, a large literature on landscape health emphasizes that the restorative effects of green spaces rely on sensory qualities experienced by visitors, not only on the quantity of green coverage on maps [8, 9, 24]. Such qualities include naturalness, variety, tranquility and aesthetic properties. The relevance of this point to the case of Bulltofta Park is that its naturalness consists in certain combinations of elements: grass, surrounding plants, water, birds, organic materials and lack of people. Moreover, the aim of multifunctional planning of green infrastructure is not only ecological benefits but also recreation and socialization. However, the inclusivity of park planning requires recognizing the adverse effect of increased activity at a quiet green space that provides relief in stressful situations [10, 26].

As illustrated by Bulltofta Park, a green space is not necessarily deprived of naturalness and spatial potential. Its domain record indicates high levels of naturalness, while the channel balance related to the ecological channel is maximum positive. Yet the channel concerning bodily access and services is negative since the basic access condition of visit reliability is not achieved. Therefore, a standard assessment based on distance or greenness measures misses the crucial issue of accessibility for the park. Namely, it is not the availability of naturalness but the ability of a person to safely use natural elements without any stress or uncertainties.

2.2. Sensory predictability in everyday outdoor use

Autism-oriented environmental design literature repeatedly suggests that sensory qualities determine the manageability of indoor and outdoor environments [1, 5, 27]. Outdoor designs for autistic children and adults also emphasize the need for a predictable environment that would allow for sensory regulation and choice in green spaces [5, 18]. In this regard, autistics' experiences are highly individualized, including diverse requirements regarding exposure to stimuli such as noise, lighting, texture, smell and social presence [22]. For instance, some autistic children prefer closed environments, while others like open spaces; natural sounds may relax one child but annoy another.

Thus, planning for inclusive green spaces should avoid simplifying autistic needs by creating a homogeneous setting of sensory qualities that exclude stimuli. A more realistic goal is enabling choices between different routes, areas and activities. For example, a neuroinclusive park should contain zones that differ by density of traffic and sound, the level of visual enclosure and availability of resting spots. Predictability is especially important since choice only becomes effective if users understand the consequences of each option. A network of branching routes offers many opportunities for choosing but creates cognitive strain if route information and exits are inadequate. A similar point applies to planning for neurodiversity in the urban environment, which requires understanding multiple cognitive processes in which cities are involved [16].

From the above perspective, Bulltofta Park offers several sensory features: low visitor pressure, space openness, vegetation, water, birds, leafy surfaces and organic materials. The motorway produces noise, yet it is described as relatively consistent. School crowds are more problematic, as they imply unpredictable presence of people and sound. This evidence confirms the importance of sensory gradients emphasized in the paper. A neurodiverse park does not need to eliminate stimuli but provide users with options for sensory regulation and avoidance of excessive demands.

2.3. Affordances, services and shared publicness

Affordance theory is a valuable conceptual tool for assessing public landscapes since it refers to action potentials of environmental features [7, 12]. Vegetation affords shading, navigation and tactile input. Seating affords sitting, observing and recovering from stress. An itinerary affords movement, escape and exploration. At the same time, the same affordance might imply some form of constraint: e.g., vegetation may create calming feelings but limit visibility; dog parks facilitate interactions but imply uncertain sensory events; quiet parks enable low-level public interactions but can be difficult to reach by public transport.

Public space design also recognizes the communal character of parks, emphasizing the need for seating, visual openness, choice, comfort, versatility and acceptable social contact [3, 6, 30]. Legibility of a park or urban environment is critical for successful design because it facilitates movement and makes decisions easier [19]. Thus, neuroinclusive design should refrain from creating a segregated environment but rather improve usual public space qualities such as signs, seating, clear paths, restrooms, sightlines, surfaces and maintenance. Such improvements will benefit not only autistic users but also other groups with similar accessibility requirements, such as elders, parents, persons with physical impairments, and visitors with anxiety disorders or fatigue.

In summary, the current study is not focused on specialized solutions. Instead, it discusses the interaction of ordinary environmental conditions. Low visitor pressure is not a mere sign of underuse but an affordance for safety. Spaciousness is not a source of visual comfort only but also a protection from unwanted proximity. Toilets not only contribute to convenience but are part of accessibility. The CAP analysis helps to keep such relationships in mind.

3. Case materials and scoring procedure

3.1. Case record

The case data is made up of the reported quality record for Bulltofta Park and the Peaceful Path actions [4]. Data on four domains is provided: management, accessibility, nature and facilities. Management data refers to the proper

level of maintenance suitable for the present state of the park and its visitor numbers, together with a little pressure from aged equipment. Accessible data includes both walking and cycling access, convenient parking, several routes, shorter cuts, entry options for improvement, a peripheral edge state, major roads acting as barriers, and rough paths. Nature data comprises an odorless air environment, different types of vegetation, Swedish whitebeam tree, mounds, moderate biodiversity, trees, berries, sticks, leaves, deadwood, moss, pond, singing birds and wind blowing through leaves, and motorway noise as a key pressure. Facilities data includes spaciousness, low number of visitors, benches, bins, barbecuing space, picnic or playing possibilities, and all year-round accessible paths, as well as off-lead dogs, smaller paths that aren't snow-plowed in winter, poor visibility after dark, no toilet services, and possible crowdedness associated with school visits.

Peaceful Path actions make the intervention record utilized in the correction step. They include toilet accessibility, renovation of benches, re-establishment of the barbecue area for wheelchairs, pruning, improvement in sight lines, path cues using bollards, QR-connected information and preparation for visitors. Peaceful Path actions are viewed as targeted corrective measures of identified pressures rather than as an independent design programme. The visual map of domains shown in Figure 2 demonstrates their presence in the practical setting of a park.

(a) Management

(b) Access routes

(c) Nature setting

(d) Facilities

Figure 2. Four place-quality domains.

Figure 2 demonstrates how the four domains interact in practice. Management, access, nature, and facilities all influence each other. A bench may be viewed as a facility, but at the same time, it impacts access, sensory recovery, and co-use predictability. Vegetation is a resource within nature; however, it impacts sight lines and orientation. Pathway is an aspect of access, but the state of its surface and presence of appropriate lighting impact route confidence. Accordingly, the analysis procedure transforms evidence from one domain into use channels.

3.2. Evidence-to-channel coding

The CAP analysis transforms each evidence item into one or several use channels. Regulation of sensory experience includes calmness, pleasant smells, sound environment, exposure, and ability to reduce sensory overload. Route confidence consists of factors including legibility, possibility to choose routes, make shortcuts, get out of a situation, and prepare for moving. Access and services include surfaces of paths, benches, toilets, light availability, winter maintenance, parking facilities, and approach ways for pedestrians and cyclists. Ecological engagement consists of vegetation, biodiversity, presence of trees, dead wood, mosses, water, sounds of birds, presence of leaves and fruits. Co-use predictability includes presence of other visitors, social exposure, presence of dogs, use of site by schools, places for barbecues and picnics, and management of public activities.

Each piece of evidence received a rating in terms of how much the condition contributed to use channels. Positive evidence was coded +1 for strong support, and +0.5 for qualified support. Pressures were coded -1 for strong pressures, and -0.5 for qualified pressures. Zero values denoted the absence of any impact. The scale was selected intentionally small in order to reflect qualitative nature of the evidence base.

3.3. Balance estimation

For each channel, the supportive load and pressure load were calculated separately. If x_{ij} is the coded contribution of evidence item i to channel j, then the supportive load S_j and pressure load P_j are

$$S_j = \sum_i \max(x_{ij}, 0), \tag{1}$$

$$P_j = \sum_i \max(-x_{ij}, 0). \tag{2}$$

The channel balance B_j was then calculated as

$$B_j = 100\left(\frac{S_j - P_j}{S_j + P_j}\right). \tag{3}$$

Positive values indicate that supportive conditions outweigh pressures, while negative values indicate that pressures dominate. The same calculation was applied to the four place-quality domains. Pressure share R_j, which indicates how much of a channel remains constrained, was calculated as

$$R_j = 100\left(\frac{P_j}{S_j + P_j}\right). \tag{4}$$

A pressure-weight check examined whether the domain order depended on the relative importance given to limiting pressures. The pressure term was multiplied by λ, where $\lambda \in \{0.75, 1.00, 1.25\}$, and the domain balance became

$$B_{q,\lambda} = 100\left(\frac{S_q - \lambda P_q}{S_q + \lambda P_q}\right). \tag{5}$$

Action correction for the Peaceful Path focused on translating the statements of action into affected channels. Toilet provision, bench replacement, provision of wheelchair-accessible barbecues, pruning, sight line improvement, bollards, QR-based information, and visitor preparation material were viewed as reduction of pressure or addition of support in the respective channels. This step does not include any behavioural measurement. It questions how well the proposed actions are aligned with the deficits identified using the CAP scores.

4. Results

4.1. Domain evidence and balance

The retained evidence is shown in Table 1. The management score is good but rather narrow. The current maintenance level matches the intended use of the park as well as the visitor numbers, thereby underpinning its calm public environment. Even though no safety concerns arise from the presence of worn-out facilities, it may influence visitors' perception since visible signs of wear decrease confidence in their performance.

Support in accessibility is strong, yet there is notable pressure as well. Access through walking and cycling, easy access to car parks, availability of routes and alternative pathways constitute a number of supports. At the same time, the edge position of the park, road obstructions, and uneven surfaces contribute to the low reliability of access. Such factors are crucial for visitors as they guarantee that the chosen path will not encounter any unforeseen physical or cognitive difficulties.

Evidences for nature form the strongest domain. They include diverse plant growth, Swedish whitebeams, hills, moderate biodiversity, trees, berries, leaves, dead wood, mosses, water, birdsong, and wind blowing through the leaves. All these elements ensure contact with nature, direction finding, natural exploration and sensory variation regardless of activities. In spite of the motorway sounds serving as a considerable pressure, its constant presence makes it less disruptive than irregular noise.

Facilities is the domain where the evidence is mixed most heavily. Space, small number of visitors, benches, littering receptacles, barbecuing possibilities, picnic or playing opportunities, and year-round main paths represent strong supports. Nevertheless, there is also quite a number of pressures: dogs running off the leash, non-prepared minor trails, lack of nighttime lighting, absence of toilet facilities, and possible overcrowding due to schools. Thus, the problem is not that the park is lacking some facilities but that it is equally rich in them and pressures.

Table 1. Place-quality evidence retained for CAP coding.

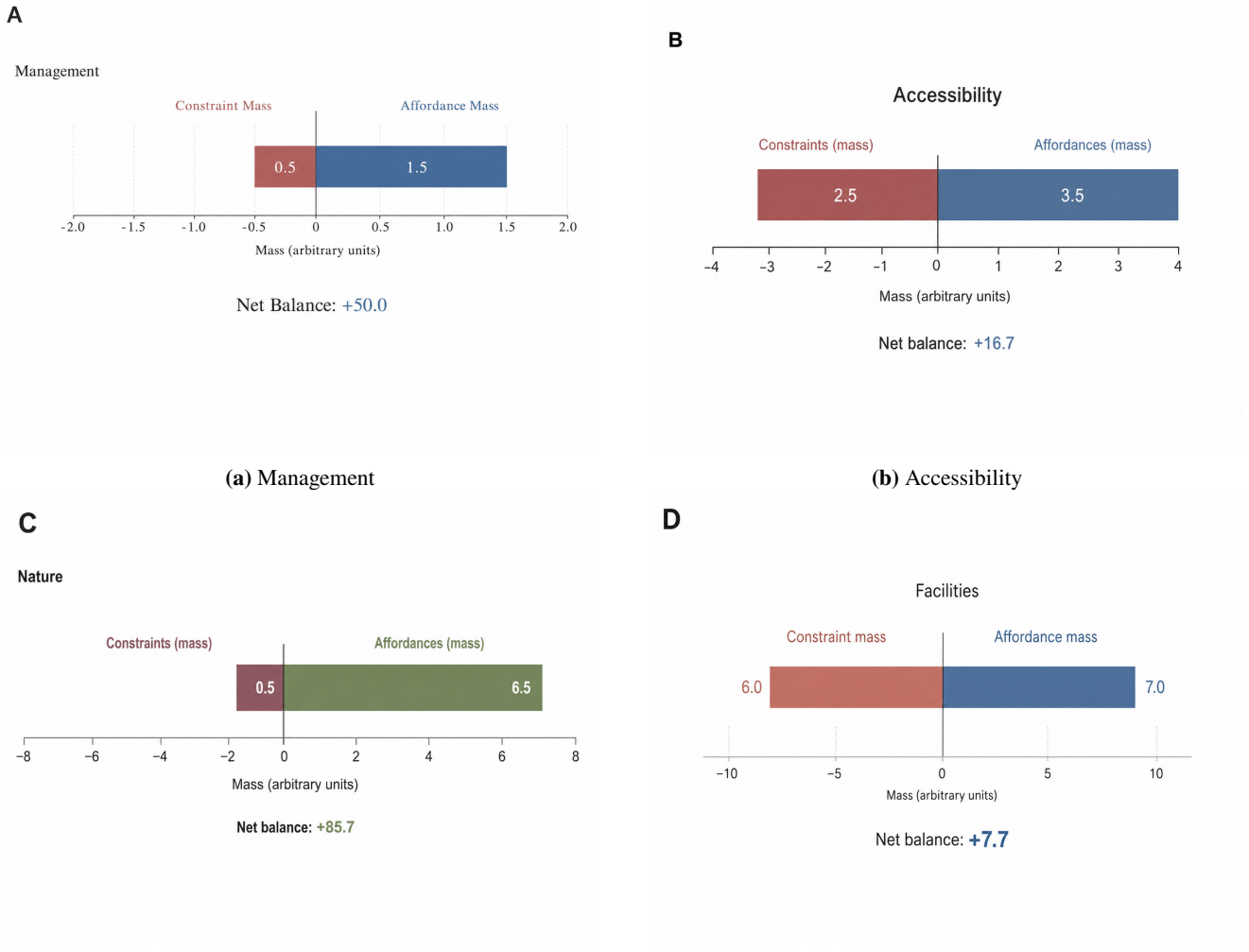
Domain	Supportive qualities	Limiting pressures	Meaning for use
Management	Maintenance level fits the current park function, visitor level and landscape character.	Equipment is worn, although no direct safety failure is identified.	Calm publicness is already supported, but repair affects confidence and comfort.
Accessibility	Walking and cycling access, nearby parking, multiple routes, shortcuts and entrances with improvement potential.	Peripheral edge location, major-road barriers to public-transport approach and uneven path surfaces.	Route choice exists, but approach and surface quality weaken dependable access.
Nature	Tolerable smell conditions, varied vegetation, Swedish whitebeam, mounds, moderate biodiversity, trees, berries, sticks, leaves, dead wood, mosses, pond, birdsong and wind in leaves.	Motorway noise, with a relatively continuous sound profile.	Natural qualities provide the strongest support for calm engagement.
Facilities	Spaciousness, low visitor frequency, benches, bins, barbecue area, picnic or play potential and all-year use of main paths.	Off-lead dogs, smaller paths not cleared in winter, limited lighting after dark, no toilets and possible school-related crowding.	Service reliability and co-use predictability need the most direct attention.

The numbers shown in Table 2 clearly demonstrate that there is no way to perceive the park as deficient in any sense. The numbers for nature are 6.5 for the supporting loads and 0.5 for the pressure loads, making the resulting number +85.7. For management, the result is +50.0. The accessibility category still holds positive numbers: +16.7 because the supporting loads are higher than pressure loads. Facilities yield +7.7 because the useful load is almost equal to the pressure load.

Table 2. Domain-level balance scores.

Place-quality domain	Supportive load	Pressure load	Balance
Management	1.5	0.5	+50.0
Accessibility	3.5	2.5	+16.7
Nature	6.5	0.5	+85.7
Facilities	7.0	6.0	+7.7

The domain pattern is visualised in Figure 3. Nature appears as a strongly support-dominated domain, whereas facilities show a nearly even pull between supportive and limiting conditions. This distinction matters because a general inventory of amenities could make the park appear well provided. The balance calculation shows that the practical value of those amenities depends on toilets, lighting, winter access, dog management and crowding information.



(a) Management **(b)** Accessibility

(c) Nature **(d)** Facilities

Figure 3. Domain balance.

4.2. Use-channel reliability

Table 3 is the primary data supporting the study. First, ecological engagement is at +100.0 due to the high amount of nature-related affordances and lack of pressure due to no directly ecological pressure in the evidence selected for retention. It is necessary to highlight that nature in itself is not a positive component everywhere. However, the

park contains numerous opportunities for low-demand ecological interaction through trees, water, bird singing, leaves, dead wood, mosses and other types of vegetation.

Secondly, sensory regulation reaches the score of +53.8, while the share of pressures is 23.1. The presence of low visitation rates, spaciousness, vegetation, good smells, and constant background noises rather than sudden ones contribute positively. The only pressure here consists of motorway noise, dogs, and potential crowding, resulting in the asset which can be used effectively provided that the visitors learn how to choose quieter pathways and avoid times of higher demand.

Third, the channel of route confidence scores +14.3, with a share of pressures of 42.9. There are multiple route options available to make them more appealing to visitors by shortening or varying routes. The main problem here is related to unevenness, as well as winter issues and lack of lighting which make people feel less confident. An option for an autistic user to take a different route depends on its visibility and consistency. Thus, hesitation at junctions or worries regarding the surface reduce the motivation to go further.

Fourth, the negative channel consists of bodily access and services, scoring at -20.0, with the pressure of 60.0. This is the key result. Even though there are ecological affordances, calmness and routes, it is the lack of bodily access and services which make the place unattractive. Surfaces, toilets, lighting, chairs, winter clearance and entrances determine the overall experience. Predictability of co-use is relatively high, being +33.3 due to the low number of visits and spatial spaciousness.

Table 3. Use-channel balance and pressure share.

Use channel	Supportive load	Pressure load	Balance	Pressure share
Sensory regulation	5.0	1.5	+53.8	23.1
Route confidence	2.0	1.5	+14.3	42.9
Bodily access and services	3.0	4.5	-20.0	60.0
Ecological engagement	4.5	0.0	+100.0	0.0
Co-use predictability	4.0	2.0	+33.3	33.3

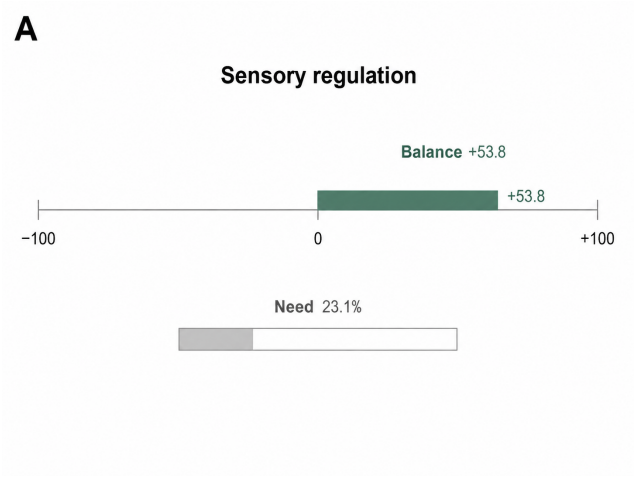
The condition profile in Figure 4 clarifies why the broad accessibility domain is not enough. Accessibility as a place-quality domain is positive, yet bodily access and services are negative. The implication is practical: the first priority should not be additional attractions or ecological enrichment, because ecological engagement is already strong. The first priority is service reliability, especially toilets, surfaces, lighting, seating and seasonal continuity.

Visit continuity is shown in Figure 5. The panels follow the stages of a park outing: preparation, arrival, route choice, pause, service use, continuation and exit. This sequence explains why ordinary service items have high neuroinclusive importance. A missing toilet can invalidate the outing. An unclear path can make continuation difficult. A bench can support regulation, but only when it is located where a visitor can pause without feeling trapped or exposed.

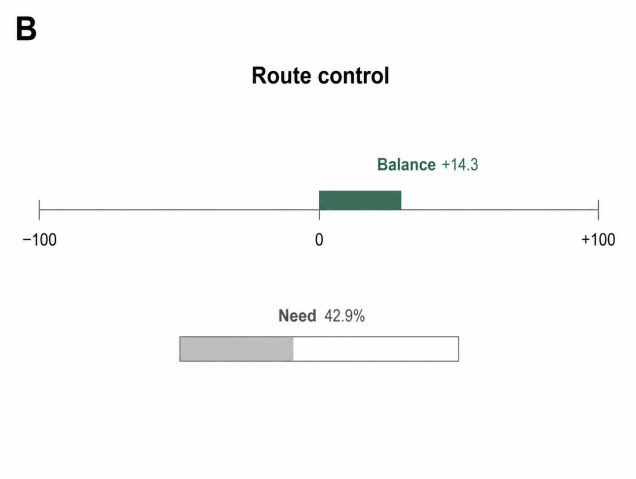
4.3. Pressure-weight sensitivity

The pressure-weight check is reported in Table 4. The domain order remains stable across $\lambda = 0.75$, $\lambda = 1.00$ and $\lambda = 1.25$. Nature remains strongest, management remains positive, accessibility weakens but stays above zero, and facilities remain close to neutrality under heavier pressure weighting. The result strengthens the interpretation that facilities are the fragile domain. The weakness does not depend on one scoring assumption; it persists because multiple pressures accumulate within the same practical area of use.

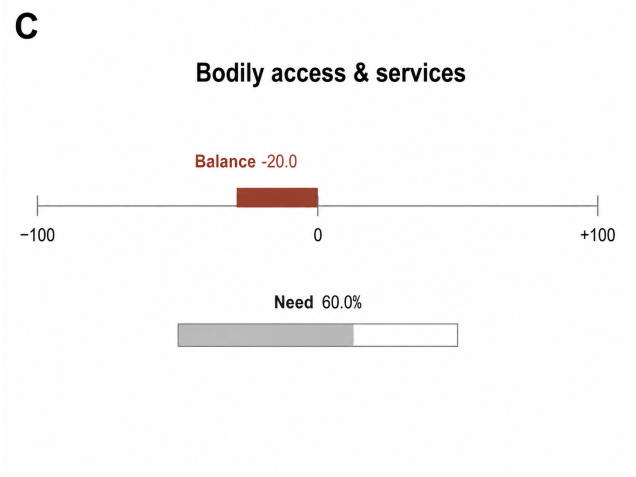
The three visual panels in Figure 6 accompany the sensitivity check by representing progressively stricter pressure settings. The numerical values, rather than the imagery itself, carry the analytical result. As pressure weight increases, facilities approach neutrality and accessibility becomes fragile, while nature remains strongly positive.



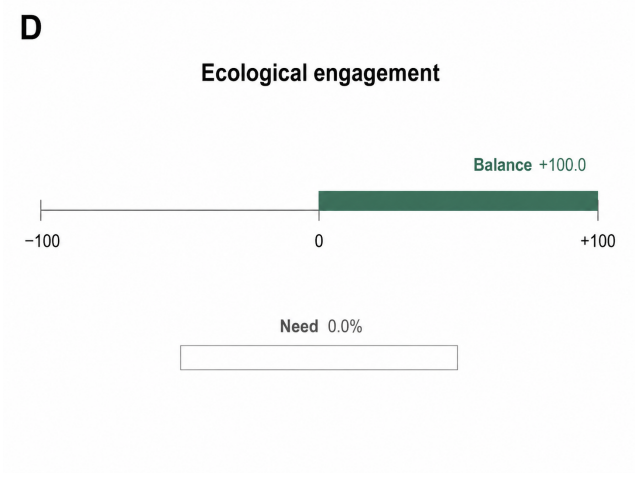
(a) Sensory regulation



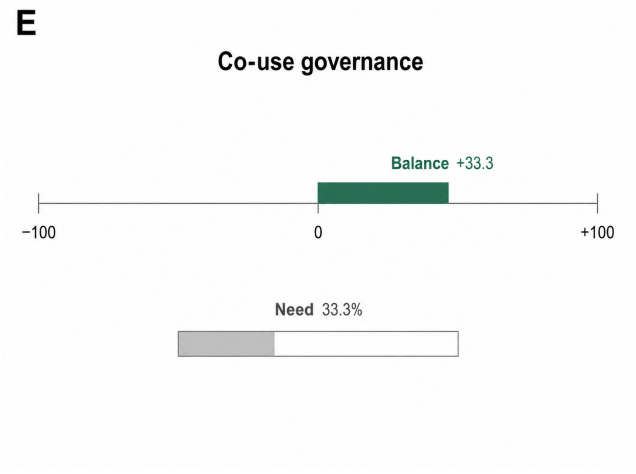
(b) Route confidence



(c) Bodily access



(d) Ecological engagement



(e) Co-use predictability

Figure 4. Use-channel profile.

The planning implication is that service and access corrections should be prioritised before any intervention that adds new stimulation or increases visitor intensity.

(a) Prepare **(b)** Arrive **(c)** Choose **(d)** Pause **(e)** Services **(f)** Continue **(g)** Leave

Figure 5. Visit continuity.

Table 4. Domain balance under pressure weighting.

Domain	$\lambda = 0.75$	$\lambda = 1.00$	$\lambda = 1.25$
Management	+60.0	+50.0	+41.2
Accessibility	+27.1	+16.7	+5.7
Nature	+89.7	+85.7	+81.2
Facilities	+13.4	+7.7	+2.6

(a) $\lambda = 0.75$ **(b)** $\lambda = 1.00$ **(c)** $\lambda = 1.25$

Figure 6. Pressure-weight settings.

4.4. Peaceful Path service corrections

Peaceful Path actions coincide quite well with the weak channels. Access to toilets resolves the issue of the bodily service channel deficit. Bench restoration supports rest, recovery, and bodily confidence. The restoration of wheelchair accessibility for the barbeque resolves an existing facility issue, instead of building an intense attraction. Pruning enhances bodily pathways and sightlines. Bollards are silent cues for routing. QR code access to information and preparation material helps understand the route beforehand and while visiting.

The shifts in balance presented in Table 5 reflect improved confidence along the route of +41.3 points, from +14.3

to +55.6. The shift is biggest here, as it addresses cognitive and physical uncertainty concerning the route. Body access and services change from -20.0 to +6.7, turning the channel into marginally support dominated. Sensory regulation improves to +57.1 from +53.8 due to more clearly defined routes, proper seating, and improved sightlines. However, the low intensity of the park is kept intact, so no additional stress is introduced. Co-use predictability increases to +50.0 from +33.3 due to better sightlines and information. Finally, ecological engagement remains at +100.0 as no modification of the channel is needed.

Table 5. Use-channel balance after Peaceful Path actions.

Use channel	Initial balance	After stated actions
Sensory regulation	+53.8	+57.1
Route confidence	+14.3	+55.6
Bodily access and services	-20.0	+6.7
Ecological engagement	+100.0	+100.0
Co-use predictability	+33.3	+50.0

The physical action components are presented in Figure 7. The panels show route information, toilet access, route cues, barbecue renewal, bench renewal and route boundary management. Together they show that the intervention logic is not based on adding spectacle. It is based on ordinary but consequential improvements that make existing calm and ecological affordances easier to use.

(a) Route information

(b) Toilet access

(c) Route cue

(d) Barbecue area

(e) Bench renewal

(f) Route boundary

Figure 7. Peaceful Path actions.

The implementation assets in Figure 8 extend the same result into management practice. Toilets, information,

seating, small paths, access edges, QR support, main routes and shared-use areas are the physical carriers of the calculated improvements. These assets should be treated as neuroinclusive infrastructure because they determine whether the park's natural qualities become usable in practice.

(a) Toilets **(b)** Information **(c)** Seating **(d)** Small paths

(e) Access edge **(f)** QR support **(g)** Main route **(h)** Shared use

Figure 8. Implementation assets.

5. Discussion

5.1. Service reliability and visit feasibility

The Bulltofta findings demonstrate that neuroinclusive use requires reliability prior to any form of enrichment. The park already features many of the conditions found in low-demand outdoor spaces: vegetation, bird song, natural textures, space, infrequency of visitors, route alternatives and water-edge shelter. Such conditions need to be maintained. They would be harmed by a definition of park improvement based on programming or increased destination marketing. The negative rating on bodily access and services indicates that the need is simpler and more practical than that.

Service reliability is usually considered to be a minor issue in park planning. But, according to the channel scores, it takes centre stage in neuroinclusive use. Not only is a toilet a resource; it enables the trip for support teams and visitors with bodily needs. Not only is a bench furniture; it is a stopping point. Not only is a flat path a surface; it enables security and body rest. Not only is lighting and winter route clearance an operational requirement; it maintains route optionality through time and season. These conditions relate directly to the social model of disability because the disabling aspect is not simply the visitor but the inability of the environment to facilitate the trip [13, 21].

The effectiveness of the Peaceful Path approach is rooted in addressing reliability without disrupting the park's

character. Route information, preparation guidance and QR-code support decrease the cognitive load. Toilet availability and new seating decrease practical risks. Pruning and sight-line modification help visitors anticipate other visitors. Each of these modifications strengthens qualities important not only to autistic visitors but also to other users.

5.2. Public tranquillity and sensory gradients

A low visitor frequency is often considered underuse. In the case of Bulltofta Park it is a positive condition. It allows visitors to avoid close proximity, maintain lower social demands and choose their routes without rushing. Low visitor frequency does not mean that the park needs to be socially inactive and empty. It means that an inclusive urban green-space network requires variety in its publicness. Busy parks with programming can fulfill some of the needs of autistic visitors, but not all. Parks that have spaciousness and low crowding can be particularly valuable due to their tranquil qualities.

The positive sensory findings suggest caution against an automatic assumption that all natural environments are equally restorative. Nature can also include insects, uneven surfaces, unpredictable sunlight/shade, moisture, odour, leaf noise, or seasonal fluctuations. The excellent ecological and sensory ratings achieved by Bulltofta Park depend on the many gentler features present in the evidence provided. Instead of increasing natural intensity arbitrarily, the design solution lies in maintaining the gradient of sensory demand. Some areas should offer low stimulus levels and ease of leaving them. Other areas could allow more engaging interaction with nature. And routes should connect these two kinds of spaces without forcing visitors through the high-stimulation ones.

This analysis is consistent with more general urban public-place theory, which asserts that good public spaces allow visitors choice, comfort, observation opportunities, and flexibility [3, 6, 30]. When it comes to autistic visitors, these aspects become more specific: choice is legibility-based, comfort becomes sensory-based, observation includes safe sight lines, and flexibility involves the possibility of altering or ending the route early. Bulltofta Park possesses the spatial qualities of such public space, but these qualities will become dependable only if route reliability and service reliability are taken care of first.

5.3. Management implications

The practical priorities derived from the findings start with toilets, seats, flat walking surfaces, sufficient lighting and route reliability in winter. These conditions should be considered the primary neuroinclusive infrastructure rather than mere conveniences. Second, the priority would be route confidence: legible route markers, closed loops, recognizable exits, QR information links, and route-preparation resources. Third, it would be protecting the sensory gradient: keeping the peaceful spaces tranquil, offering orienting vegetation, and having rest places where visitors feel safe enough not to be disturbed by the presence of others. Fourth, the priority is predicting co-use by communicating dog visits, school trips, shared barbecue areas and picnic places.

This order is realistic for municipal decision-makers since it addresses the typical park management tasks rather than requiring a completely new language for a special category of visitors. The measures listed are equally beneficial to older adults, young children, family members, visitors with anxiety, visitors with limited mobility, or anyone else depending on reliable services and tranquil paths. The CAP calculation establishes the order for ordinary tasks by showing what conditions block the use of the park the most.

The order also prevents the municipality from being mislead in a very common way. A park with relatively low visitor frequency can be considered underperforming and requiring activation. Likewise, a park with abundant vegetation can be seen as requiring further ecological development. The results from Bulltofta show that neither approach is appropriate. Activating the space might increase both social and sensory loads. Adding ecological features would not help to alleviate the negative bodily-services channel. The correct response is to ensure reliable functioning of the existing tranquil environment: fixing paths, providing toilets, marking the routes clearly, adding benches, and maintaining tranquil areas and clear pre-visit information.

In this way, the findings give landscape managers an opportunity to defend their choices to keep parks quiet as an integral part of the public good rather than something to improve upon.

Participatory calibration is critical. Autistic visitors, family members, support personnel, and local maintenance workers might rate the pressure of various conditions differently. The former might consider dogs the most pressing problem, while the latter would worry about toilets and route markers. The procedure allows for such variations in ratings, but only if the scoring process itself is used as the tool for conversation, not an end in itself. Thus, Bulltofta park assessment serves both as the basis for action and calibration.

5.4. Evidence limits and validation

Place evidence and balances, in this context, are qualitative in character. They do not assess stress, dwell time, route completion, satisfaction, sensory load or return visit rates. Accordingly, the results should be interpreted as evidence about park design and use conditions, not proof of behaviour or experiences of autistic individuals. Validation would have to consider actual walk-throughs with supported participants, interviews with both autistic visitors and their care-givers, maintenance reviews, route choice observation and follow-up on the experience of using the Peaceful Path.

Evaluation could address how well the Peaceful Path serves the needs of autistic people at the stages of preparation before arrival, route following, pauses on the route, use of toilets, meeting dogs or groups, interruptions by sensory factors, exit confidence and desire to visit again. The analysis also has limits in terms of generalisation and cannot speak to all autistic park visitors due to the diversity among people with neurodevelopmental disorders. Enclosures, tactile stimulation and acoustic preferences differ, for example. The significance of CAP for this project is not in establishing an autism-friendly park design, but in assessing the qualities and pressures present within this particular public space and showing that small steps make reliable use possible without eroding its low-intensity nature.

6. Conclusion

This analysis showed what aspects of Bulltofta Park's qualities determine the reliability of the neuroinclusive use and which low-interruption actions can enhance it. The results were unambiguous in domain and channel terms. Bulltofta Park was distinguished by the strength of ecological and sensory resources, but it depended on reliable services. Nature was the best domain at +85.7, management next with +50.0, and accessibility last at +16.7. As for the facilities, they remained very poor (+7.7), being neutralised by the lack of toilets, limited lighting, wintertime restrictions to small paths, off-lead dogs and school crowding issues. Channel-wise, ecological engagement was best at +100.0, sensory regulation was next with +53.8, while bodily access and services scored -20.0.

The actions suggested for the Peaceful Path improved the weakest channels without over-programming the park landscape. Providing access to toilets, renewing benches, adding wheelchair accessible barbecue facilities, pruning, improving sight-lines, providing visual cues and linking the information online as well as pre-visit material allowed for an increase of route confidence from +14.3 to +55.6. Moreover, they raised bodily access and services scores from -20.0 to +6.7. Thus, Bulltofta Park provided valuable qualities and could support autistic visitors if only it was equipped with more accessible toilets, surfaces, chairs and lighting, provided seasonal stability and reliable information and created safe conditions for multi-user interaction.

In this sense, the contribution of this paper can be described as specific planning advice: autism-friendly green spaces should not be designed as special places of interest and labelled sensory zones. For Bulltofta Park, the solution was clear. It consisted in preserving the park low-intensity characteristics while addressing the weaknesses in its service infrastructure. Such a recommendation was explicitly practical and could help park administrators justify the need for basic maintenance measures. The future research could involve interviews and observations with autistic individuals in the park, but the current analysis clearly shows the priority in managing it.

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