

McP

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McP ideas

Planning and design for diverse minds

Introduction

For years, my children have grappled with the significant impact of neurodivergence and associated mental health challenges, withdrawing from school and regressing to the safety of home. This led me to investigate the role of the urban environment, in supporting, or excluding, anxious neurodivergent individuals, and how the evolving city is contributing to these outcomes.

This article introduces the context of built environment design for neurodivergent experiences, drawing on the extensive resources available, and introducing concepts as a prompt to consider, explore and implement design and planning strategies to better accommodate diverse user groups.

Urban Design is a public discipline, focused on the public realm, and the community as the primary 'client' or stakeholder. We design for people - but the 'typical' person does not capture the multiplicity of experiences of the urban environment.



Figure 01: 'Restorative Ground' installation, New York City, designed by WIP Collaborative (photo: Meghan Marin, sourced from Curbed)

Context for neurodivergence

An estimated 15-20% of the global population is neurodivergent, described as when the neurological ways information is processed in our brains is different from the majority population¹. This is comparable to the 21.4% of Australians with disability² (noting potential overlap in these categorisations), but these rates are increasing. The number of Autistic Australians increased by 42% in four years to 2022³, while media reported that nearly one in four, or almost a million Australian school students need extra support because of a disability. Social and emotional disability categories (including autism, ADHD, behavioural disorders) have grown at nearly 10% per year — far outpacing general school enrolment growth⁴.

Over half of all autistic people meet criteria for an anxiety disorder, and multiple studies have now found links between anxiety and sensory reactivity⁵, while social anxiety is a much broader phenomenon in the post-Covid world⁶.

Neurodivergent experiences of the urban environment

We constantly take in highly complex sensory information, which increases in intensity as urban areas grow and develop – more people, traffic, noise, signals. The neurodivergent brain has different reactions and responses to stimuli in the environment, such as light, sound, colour or smell⁷.

While experiences vary greatly, sensory overload can cause overwhelm, while confusing spatial layouts cause anxiety, which is related to sensory differences⁸.

Unmet sensory needs, potential overwhelm, feeling unsafe and unbearable uncertainty, can lead to social exclusion for some parts of the community, from the public realm, events, employment and education.

I have seen this manifest in my family as a fear of leaving the home, a distinct unease in busy settings, and panic at certain, sudden noises.

However, the range of impacts, needs and limitations is also highly diverse and personal, requiring planning and design to respond not to specific individual requirements, but to create places that reflect the extensive community diversity, ensuring that more people can feel comfortable using them⁹.

¹ Australian Disability Network, 'What is neurodiversity?', 2024

² Australian Bureau of Statistics, 'Disability, Ageing and Carers, Australia: Summary of Findings', reference period 2022, released 4/07/2024

³ Australian Bureau of Statistics, 'Autism in Australia, 2022', released 11/10/2024

⁴ Agestrong Health Group, 'The Hidden Crisis for Neurodiverse Australians', November 2025

⁵ *Autistica Inclusive Spaces Plan*, Autistica, autistica.org.uk

⁶ *Autistica Inclusive Spaces Plan*, Autistica, autistica.org.uk

⁷ Craig Sheach, 'Designing for diversity: Embracing neurodiversity in urban spaces', *Building Design*, <https://www.bdonline.co.uk>, 21 December 2023

⁸ Neurodiversity in Planning (UK), 'Designing for neurodiversity – making places for every mind', 2025

⁹ Craig Sheach, 'Designing for diversity: Embracing neurodiversity in urban spaces', *Building Design*, 21 December 2023

Implications for Urban Design principles

Our cities are necessarily moving towards intensification, of housing, populations and activities, with more people occupying less space. Bustling, vibrant cities and towns are important for economic prosperity and avoiding desolate streets, but these come with increased stimulation – more sounds, lights, signals and messages - bringing a substantial cost of over-stimulation and exclusion for some people.

We design for safety, through intensive development, 'active' building frontages, avoiding concealment spaces, and supporting passive surveillance or 'eyes on the street'. But what we think of as safe, doesn't feel safe for all of us. For some, a busy street, playground or event space feel very *unsafe*.

Further, being seen or looked at can be something to be avoided, to regress from. An adult friend explained to me that she will visit bathrooms during events or outings, just to be out of sight, to mentally re-regulate in an enclosed, secluded space.

Intensively developed, 'urban' environments comprise streets and spaces which are more hard-edged, spatially contained, with less greenery, and less open to the sky or wider outlook. These conditions can add to psychological pressure and discomfort, to a sense of unwanted enclosure or containment.

Urban Design and Planning must therefore recognise that not all people will seek vibrant settings, or want to be seen by others, but still need access and inclusion. New strategies are required to design-in a sense of inclusion, safety and comfort for all.

Resources and references

Stadiums typically provide Sensory Rooms and offer information and tools for sensory needs, to help people prepare for and enjoy the experience. Sensory Rooms provide a place of quiet, calm respite in an otherwise intensive, crowded, noisy, bright and eventful setting.

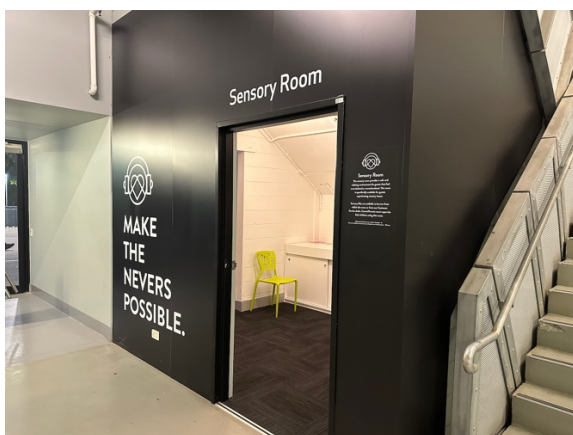


Figure 02: 'Make the nevers possible': Sensory Room entrance, AAMI Park, Melbourne

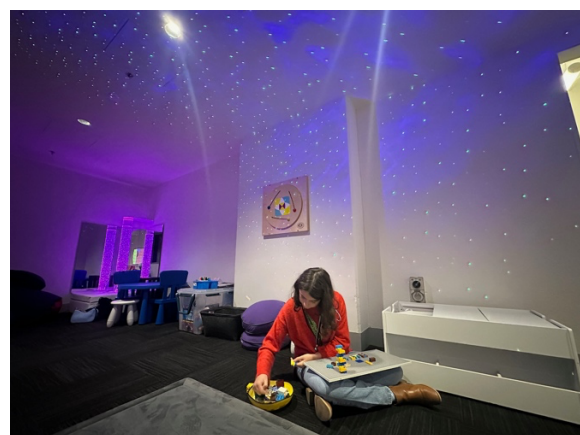


Figure 03: Sensory Room interior, AAMI Park, Melbourne

Activity Centres within the city are also typically crowded, loud and visually stimulating. This raises the prospect of a ‘Sensory Room’ infrastructure for urban centres and busy streets.

Cities provide access to large parks, river corridors and other quiet places, but it is the smaller scale, ‘fine grain’ network of places for respite which may address this essential need, within the fabric of the city.

The UK has developed the world’s first PAS 6463:2022 *Design for the mind – Neurodiversity and the built environment* standard¹⁰, to guide site and building layout, facades, wayfinding, external spaces and internal layouts.

A similar, but more compact, guidance document for Australia, is currently in development¹¹.

Dublin City Council has committed to ambitious plan to become the first Autism Friendly Capital in the World¹², including to:

- Enhance public knowledge and understanding;
- Improve infrastructure to become more inclusive and safe;
- Celebrate the Autistic community and their strengths; and
- Promote inclusive workplaces and strengthen pathways to employment.

The New York City installation ‘Restorative Ground’ designed as a distinctive, engaging ‘landscape of choice’ accommodating a range of activities/uses, informed by research into neurodivergent experiences, to make the city more enjoyable to more people¹³.



Figure 04: Restorative Ground, a playful New York City streetscape installation inviting varied modes of use by the public. Images sourced from Curbed online publication.

¹⁰ British Standards Institute, PAS 6463:2022 *Design for the mind – Neurodiversity and the built environment – Guide*.

¹¹ Anthony Burke, *By Design: Why neurodivergent minds need better design — and how our spaces exclude them*, ABC Listen (radio), 28 April 2026

¹² Dublin City Council / As I Am, *Your Voice, Our Action: A Commitment to make Dublin City the First Autism Friendly Capital in the World 2026-2028*

¹³ Diana Budds, ‘A Napping Corner in Hudson Square (That’s Also a Playscape and Lunch Spot)’, in *Curbed*, 11 August 2021.

This small-scale intervention provides an accessible place for movement or play, sitting or contemplation, with 'separation' from the contiguous street environment.

Therefore, spatial diversity or variance, and places for respite and seclusion are valuable not just in stadiums, but in busy city environments. This spatial diversity may be seen as a form of urban infrastructure, a 'layer' of the city which is evident and accessible at regular intervals.

Strategies

Providing detailed and accurate **information** about the environment and potential barriers to empower neurodivergent people to prepare, choose and navigate with confidence.

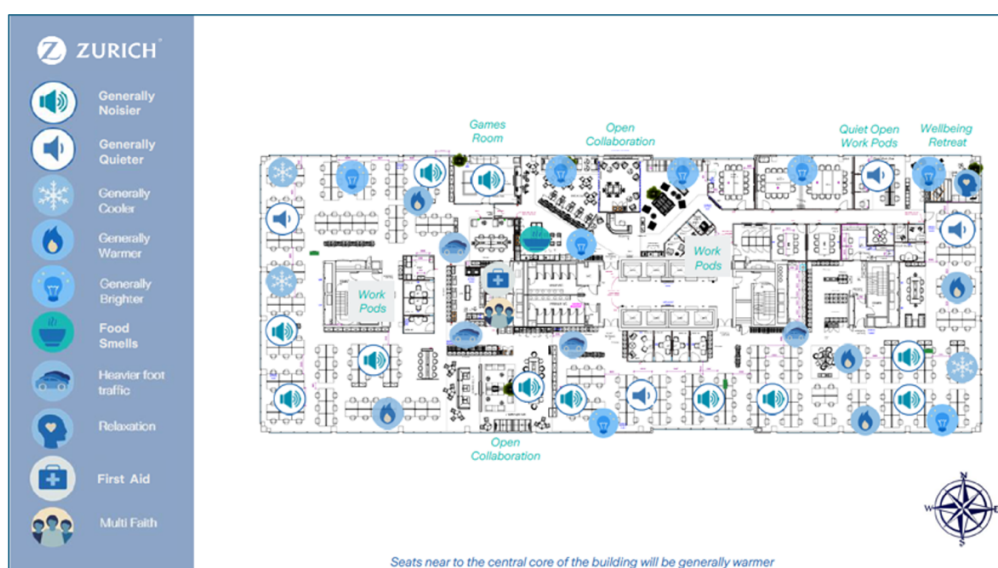


Figure 05: Office Sensory Map example, providing information for occupants about what to expect in different areas, allowing for choice and preparedness. Image sourced from HR Magazine.

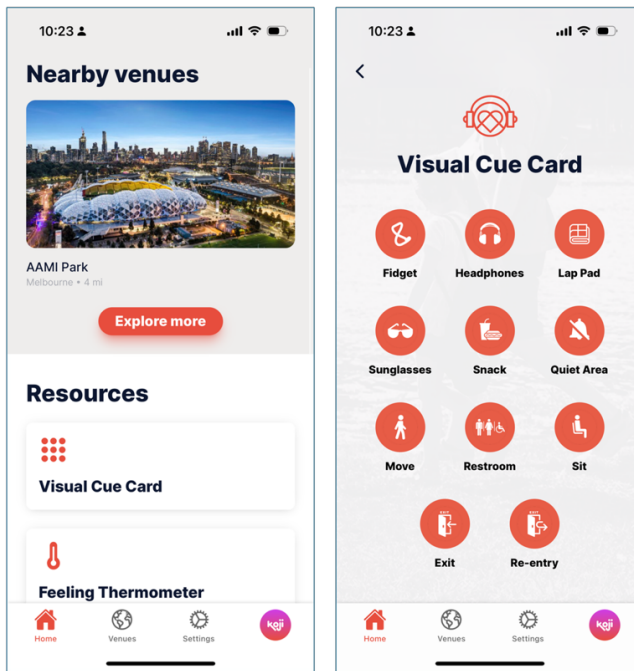


Figure 06: Screenshots from the Kulture City app (Australia), which provides information about stadiums for those with sensory needs.

Quiet, **restorative spaces** or retreats can reduce the impact of otherwise hostile environments. Providing discreet, dignified places for rest and recovery in a neutral sensory setting supports a safer environment for neurodivergent people¹⁴ ¹⁵. However, opportunities for retreat and seclusion must also be designed for physical safety and security, management and maintenance, and shared, equitable access.



Figure 07: Restorative places for respite in busy urban environments, as well as movement, play and connection with nature. Flinders Lane plaza space (rear of 1 Spring Street), Melbourne.



Figure 08: Flinders Lane plaza space (rear of 1 Spring Street), Melbourne.

¹⁴ *Autistica Inclusive Spaces Plan*, Autistica, autistica.org.uk

¹⁵ ASPECTSS The Autism Design Index, <https://www.autism.archi/aspectss>



Figure 09: Russell Street, Melbourne.



Figure 10: Capel Street, North Melbourne

Flexible and varied settings (rooms, streets, public spaces) provide choice to avoid over- or under-stimulating environments, to suit individual needs.

Clear wayfinding through visual signs, landmarks and consistent, clear layouts reduces anxiety and builds confidence. **Spatial sequencing** (logical ordering of spaces or activities), **compartmentalisation** (of sensory environments) and **transition spaces** in between, allow adjustment and recalibration of senses between different levels of stimulus¹⁶.

Traffic calming and other initiatives to reduce noise and chaos on streets, provide benefits for the whole community, while reducing the impact for those with sensory challenges.

These strategies support lower anxiety, more independence, greater wellbeing, and better urban spaces for everyone¹⁷, but their implementation in evolving cities and urban centres requires careful design consideration and clear delivery mechanisms, within the public realm and on private land.

An outline way forward

Complex, busy, intensive places are likely to present challenges for the experience of many people – as our cities actively plan for widespread intensification.

In Victoria, recent initiatives for increased housing-led development provide a picture of future urban environments in and around Activity Centres.

The Train and Tram Zone Activity Centres program seeks to deliver more than 300,000 new homes across 60 centres, and *vibrant places where people shop, work, access public transport, connect with family and friends, as well as live... and enjoy parks and open space*¹⁸.

¹⁶ ASPECTSS The Autism Design Index

¹⁷ Neurodiversity in Planning (UK), 'Designing for neurodiversity – making places for every mind', 2025

¹⁸ Department of Transport and Planning, 'About the program', <https://www.planning.vic.gov.au/guides-and-resources/strategies-and-initiatives/train-and-tram-zone-activity-centres/about-the-program>

The program is, therefore, strongly built form focused, and applies to expansive areas in each centre, facilitating substantial change in the urban character of these places. While this brings many benefits, it will also present impacts for some.

As an example, the new plan for Thornbury facilitates 6-8 storey built form along High Street (with limited sites up to 12 storeys), for a length of around 1.25 km – a significant intensification relative to existing conditions¹⁹.

Open space improvements, shown as 'indicative', are limited and removed from the High Street corridor. The corridor itself, and a short connecting length of most side streets, are indicated for 'opportunities - streetscape improvements'. Associated Strategies include:

- *Support improved opportunities for play and recreation and maximise greening, use, access, and enjoyment of public space by everyone.*
- *Support thriving activity centre cores that encourage social life and activity and are greener and cooler places where people are safe and welcome to shop, socialise and dine.*

However, these are described as a *flexible system (of) indicative improvement opportunities, which could be rolled out in the short, medium or long-term*²⁰.

A similar strategic basis underpins planning for the Suburban Rail Loop (East) precincts. It is encouraging that the Urban Design Principles include (in summary): *Diverse (welcoming, inclusive), Connected (legible, green networks), and Accessible (universally inclusive)*²¹.

These principles are less definitive and tangible, and more complicated to implement, than the built form controls, but will be increasingly important as precincts evolve and intensify, and should inform their design and assessment, as they develop.

Conclusion

The growing awareness and identification of neurodivergence in the community is coupled with expanding knowledge and understanding of how the urban/built environment impacts, or supports, these experiences.

As our cities experience continued growth and intensification, these planning and design considerations become increasingly important, to making the urban environment safe and accessible for all.

¹⁹ Department of Transport and Planning, *Thornbury Train and Tram Zone Activity Centres Plan*, February 2026.

²⁰ Department of Transport and Planning, *Thornbury Train and Tram Zone Activity Centres Plan*, February 2026.

²¹ Suburban Rail Loop East, *Urban Design Strategy*, 2025.