

*“We need you. We need your help and your understanding.  
Your world is not very open to us, we won't make it without your strong support...  
Be sad about that if you want to be sad about something.  
Better than being sad about it, though, get mad about it—and then do something about it.  
The tragedy is not that we are here, but that your world has no place for us to be.”*

Excerpt from Jim Sinclair's speech at the international conference on Autism in Toronto,  
published in the Autism Network International Newsletter,  
from the Book “Loud Hands, Autistic People Speaking” (2012)

## UNHEARD VOICES

### *Neurodiversity in the Urban Environment*

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In 2018, the Knowlton School of Architecture at the Ohio State University published *Autism Planning and Design Guidelines 1.0 (APDG)*. This document seeks to provide recommendations for the refurbishment of pedestrian and transportation infrastructure, recreational spaces, housing, better accommodations and anticipation of the needs of those within the neurodiverse community. To better understand these needs, the team conducted countless hours of focus group interviews, site visits, design charrettes, and public meetings over the course of three years. Informed by participant responses, the students developed the Six Feelings Framework—a metric for designers and planners to use during the design process to encourage more neuro-inclusive environments.

The Six Feelings are: feeling connected, free, clear, private, safe, and calm. Each feeling comes with a unique set of guidelines and principles to better understand ways in which autistic adults experience urban environments. To make this theoretical work more tangible, the team tested the Six Feelings Framework on Ohio State's campus.<sup>1</sup> The campus focus group of seven autistic adults, facilitated by OSU students, tested four common infrastructure elements: pedestrian paths, pick-up/drop-off areas, crosswalks, and a calming space designed and built for this study. Researchers augmented selected areas of the campus to determine the effects of the design recommendations of autistic participants with regard to their independence and sense of well-being. The framework was then revised with comments for future development.



Material changes convey information: along the main circulation route of the 606 in Chicago, Illinois (MVVA), strips of blue rubber indicate jogging lanes while marks on the pavement indicate bike lanes. (Property of author)

A key finding from this exercise, particularly as it relates to the neurodiverse community, is the necessity for full-scale mock-ups. While testing the four infrastructure elements, researchers asked the focus group to imagine them being reproduced in an urban environment or how changes to the design or color might affect the user experience. One participant responded, “I cannot imagine it like that; I need to see it or feel the material under my feet to tell you exactly how I would feel or react.”<sup>2</sup> Other participants agreed with this comment, stating that they can only judge based on experience and not on abstract imagery and situations—a tangible, tactile experience is required.

For decades, designers and planners have sought to create spaces welcoming to all. Yet, often the focus is on those that are physically disabled and not on those within the neurodiverse community. An estimated 5,437,988 (2.21%) of adults in the United States have ASD.<sup>3</sup> This number might be underestimated as Black, Hispanic, and female-identifying individuals are likely to be underdiagnosed. The Six Feelings Framework differs from policies such as the Americans with Disabilities Act (1990) or the Architectural Barriers Act (1968),<sup>4</sup> which provides legal protection against discrimination on the basis of disability, in that it is a flexible and nonprescriptive approach to design. The

Framework informs designers about the spatial needs of the neurodiverse user, encouraging them to craft design solutions that are welcoming to all.

### APPLICATION OF THE SIX FEELINGS FRAMEWORK IN LANDSCAPES

To illustrate the Six Feelings Framework and its application, we have provided examples of relevant design solutions: a series of recently built parks and public spaces. The critical importance of these spaces has been forcefully brought home by the coronavirus pandemic. In parts of Europe and Latin America, cities closed outdoor public spaces, in some cases building tall temporary fencing around parks for fear of contagion.

In the United States, some national parks were closed,<sup>5</sup> and cities closed roadways as a means to expand pedestrian access and encourage social distancing. Municipal parks, however, remained open, and these spaces had to suddenly function as public gyms, classrooms, offices, and boardrooms. The increased demand for public space and parks, paired with the increased knowledge of the unique needs of the neurodiverse community provides an opportunity for us as planners and designers to be more inclusive.



Top: Autistic research participants testing a calming space on the OSU campus. Chairs designed and assembled by students with the help of Better Block company. (Property of author)

Bottom: Autistic collaborators testing a pick-up/drop-off designated area on the OSU campus. Blocks designed and assembled by students with the help of Better Block company. (Property of author)



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### 1. FEEL CONNECTED

**The public realm is easily reached, entered, and leads to destinations.** Feeling Connected means that individuals can easily perceive ways in which to engage their environment. This can include clear connections to transportation networks, the built environment, or spaces that allow users to be physically separated but visually connected to the larger context.

Brooklyn Bridge Park in Brooklyn, New York (MVVA) provides a multitude of spaces to satisfy nearly all types of park users. Formerly industrial docks, of particular note is the design of Pier 3 whose lawn provides an undulating edge, allowing park users to find their own space while simultaneously feeling connected to the larger landscape. In addition, clear wayfinding and connections to public transit provide additional resources to help park users feel connected. The park's designer, Michael van Valkenburg, has stated that he always considers under-represented and marginalized communities when designing a park, saying "Making a park is like cooking a holiday meal, you have to invite all of the relatives and there has to be a dish for everyone."<sup>6</sup>

### 2. FEEL FREE

**The public realm offers relative autonomy and the desired spectrum of independence.** Parks are generally flexible spaces and park users should feel as though all spaces are welcome for them to enjoy. However, spaces within parks that are dedicated to a single program for a specific population can be a deterrent. For example, traditional playgrounds in parks are well-suited to younger age groups but tend to alienate older groups. Creating moments of play and discovery for all age groups is something in which the designers of Hinge Park in Vancouver, British Columbia (PWL Partnership) were keenly interested. In lieu of slides and swings, the designers created a water feature which



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allows users to pump water into a series of moveable channels, redirecting the water as it cascades down the hillside and into the parks constructed wetland. Clear signage populates the wetland, informing park users of that specific ecology. In this way, visitors can play without fear of being stigmatized while participating in the larger ecosystem.

### 3. FEEL CLEAR

**The public realm makes sense and is not confusing.** Feeling Clear means that spaces are easily understood in terms of wayfinding and access through the landscape. The 606 in Chicago, Illinois (MVVA) is a park which occupies a former rail line. The park's linear nature (unsurprising given its previous use) allows for clear sight lines along the park's stretch. In addition, the designers created signage which helps direct visitors to one of twelve accessible entrance points, and maps which inform visitors about the ecologies, histories, and features of the park. Material changes also convey information: along the main circulation route, strips of blue rubber indicate jogging lanes while marks on the pavement indicate bike lanes.

### 4. FEEL PRIVATE

**The public realm offers boundaries and provides retreat.** For many, the opportunity to have a secluded, relaxing moment to themselves is a large reason to visit parks and public spaces. At the Novartis campus in Basel, Switzerland, the designers took a more creative approach. After interviewing the pharmaceutical company's employees, it was discovered that many of them feel they are constantly being observed and are unable to relax, even on their breaks. For the design of The Square (Good Form Studio), the landscape architect's solution was to provide small garden rooms created from clipped hornbeam tall enough to obstruct views into the rooms. For those wanting to conduct



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meetings outdoors, a glass pavilion occupies the middle of the square with crossvine growing horizontally along the ceiling to partially obstruct views from those in the adjacent high-rises.

### 5. FEEL SAFE

**The public realm diminishes the risk of being injured.** Everyone wants to feel safe in public. Part of the designer's role when creating parks and public spaces is to provide safe and accessible environments for public enjoyment. At the Parrish Art Museum in Water Mill, NY (Reed Hilderbrand), spaces as mundane as a parking lot have been thoughtfully and elegantly addressed with safety in mind. To avoid park users from walking through drive lanes, the designers created a circulation network that allows pedestrian paths to connect with each parking space, reducing conflict points. Walking to the car becomes an integral part of the museum experience as users navigate through bioswales and hedgerows of aspen, birch, and maple.

### 6. FEEL CALM

**The public realm mitigates physical sensory issues associated with autism.** Reducing sensory pollution such as excessive noise is often a goal when designing spaces in urban environments. Of the many challenges the designers of Brooklyn Bridge Park faced, one of the biggest was how to reduce noise levels from the thundering Brooklyn Queens Expressway that runs adjacent to the site. Their solution was to build tall, narrow, vegetated berms which help buffer noise while simultaneously blocking views of the expressway from the park. The noise level prior to the berms' construction was measured to be 75dB and measurements afterwards indicated that the berms reduced noise by roughly 75%.<sup>7</sup>

At the Prairie Line Trail in Tacoma, Washington (PLACE), an



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urban space which functions dually as a public park and campus greenspace for the University of Washington, the designers were interested in reducing vibrations experienced by users in wheelchairs. Their solution was to design a paving block with a minimal edge bevel and thereby a tighter joint. By reducing the width of the joint, wheels are able to roll more smoothly across the surface, resulting in an improved experience for individuals in wheelchairs as well as reduced noise levels from students rolling suitcases during moving days.

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Each of these spaces have radically different contexts but represent ways in which designers made efforts to create inclusive environments. This focus on inclusivity is at the core of the Autism Planning and Design Guidelines. The APDG continues to be developed and tested with the intent to provide policy recommendations to municipalities across the country on how to plan for and with autistic adults. These recommendations contribute to the existing policies associated with the Americans with Disabilities Act and will thereby improve the ease with which neurodiverse people can maneuver the public realm.

### ENDNOTES

1 <https://www.housingonline.com/wp-content/uploads/2019/11/Autism-Planning-Design-Guidelines-December-2018.pdf>

2 From October 2018 research testing exercise on the OSU campus.

3 <https://www.cdc.gov/ncbddd/autism/features/adults-living-with-autism-spectrum-disorder.html>

4 <https://www.access-board.gov/law/aba.html>

5 <https://www.nytimes.com/2020/03/24/us/coronavirus-national-parks-closed.html>

6 "Making a park": Michael Van Valkenburgh, in discussion with author, July 19, 2018.

7 <https://www.brooklynbridgepark.org/about/sustainability/>