National SCIENCE Challenges

He Kāinga Whakamana Tangata Whakamana Taiao

BUILDING BETTER HOMES, TOWNS AND CITIES

INCLUSIVE PLACES ACCESSIBILITY TOOL

This tool has been created as a starting point for considering accessibility within the context of public and semi-public spaces. The intention is for those using the tool become more attentive to the perspective of those who face accessiblity barriers different to their own.

Instructions:
As you work through an area, think about what it would be like to engage with the area. Consider a range of perspectives and lived experiences as you work through the tool worksheet. It is always useful to follow up your work with relevant reading on accessibility, and consultation with people with lived experience. Not all questions will be applicable to the area being looked at.

Place

Time undertaken **Date**

Undertaken by **Weather**

Other notes

Map of the area

Are the pavements accessible and adequate? (Wide, clear of obstacles, appropriate curbs)

◯ Universally ◯ Mostly ◯ Partially ◯ Rarely

Additional notes

Are pedestrian crossings and entrances accessible? (Clear entrances, clear signage)

◯ Universally ◯ Mostly ◯ Partially ◯ Rarely

Additional notes

Are there accessible, gender-neutral, public bathrooms? (Note if there are family rooms)

◯ Yes ◯ No

Additional notes

Are there spaces for people to rest?

◯ Yes ◯ Some ◯ Inadequate

Additional notes

Is there shelter from the elements?

◯ Yes ◯ Some ◯ Inadequate

Additional notes

Is there adequate signage that communicates what is in the area?

◯ Yes ◯ Partially ◯ No

Additional notes

Are there nearby connections to public transport?

◯ Yes ◯ No

Additional notes

Are there quiet spaces nearby?

◯ Yes ◯ No

Additional notes

Is there appropriate information online about the area and nearby facilities?

◯ Yes ◯ Incomplete ◯ No

Additional notes

How are people getting to the space?

What makes the area welcoming (or not) to a diverse range of people?

How could young people spend time in the space?

How inviting is the area? (note any apparent hostile architecture present)

What is the green space like in the area?

What safety features are present in the area?

How safe does this make the area feel? (Consider different times of day)

What ways are there to engage with the area that don't have a cost?

How are people using the space while you are there?

What are the most important aspects that could be changed about this area to make it more accessible?

Any additional notes?

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GUIDELINES FOR THE INCLUSIVE PLACES ACCESSIBILITY TOOL

For each aspect of the tool, these guidelines provide a brief explanation and a set of references that users, advocates and decision-makers can draw on as needed. These references are useful as an evidence base when making a case for accessibility best practice, or writing submissions to local government. The most relevant references are placed after corresponding questions/prompts, though keep in mind that there is a great deal of crossover within these topics! It may be that references from other sections are useful to inform multiple aspects of access and inclusion.

Are the pavements accessible and adequate? (Wide, clear of obstacles, appropriate curbs)

Are pedestrian crossings and entrances accessible? (Clear entrances, clear signage)

These questions relate to the accessibility and usability of pavements and pedestrian crossings. This tool uses a broad definition of pavements that encompasses anywhere people will walk in a space. Accessible pavements and crossings are important to create walkable places for everyone (Ameratunga et al., 2019; Fauzana et al., 2020). Pavement quality and ability to cross streets safely is a significant reason behind whether people with mobility aids find spending time in a space pleasant (Marcheschi et al., 2020; Gleeson, 2001; Fauzana et al., 2020; Alfonzo, 2005). Inadequate entrances to buildings can prove a significant barrier to people using spaces; proper entranceways can have additional benefit to people with prams, cyclists, workers, and elderly people amongst others (Fauzana et al., 2020). Priority and adequate entranceways can provide a solution to these issues as people do not have to go out of their way to access them and feel welcomed immediately (Broyer, 2020; Pearson, 2018).

Some aspects that should be present for accessible pavements and pedestrian crossings are that they are obvious, clear of obstacles, usable by people with a variety of mobility needs, attractive, and have proper drainage (Marcheschi et al., 2020; Ståhl et al., 2008; Fauzana et. al, 2020; Alfonzo, 2005). Motor vehicles and other obstacles blocking streets or entranceways is also an important consideration.

References:

Alfonzo, M. (2005). To Walk or Not to Walk? The Hierarchy of Walking Needs. *Environment and Behavior, 37*(6), 808-836. https://doi.org/10.1177/0013916504274016

Ameratunga, S., Spray, J., Anderson, A., Wiles, J., Witten, K., Ofanoa, M., Peiris-John, R., Wade, J., Paul, D., Willing, E., & Burdett, B. (2019). Inclusive Streetscapes: Disabled People and Older Citizens Charting a Roadmap to Equity. *Journal of Transport & Health, 14*, 100729. https://doi.org/10.1016/j.jth.2019.100729

Broyer, n. R. (2020). Through the restroom mirror: accessibility and visibility in public space. *Disability & Society, 35*(9), 1483-1504. https://doi.org/10.1080/09687599.2019.1690978 https://doi.org/10.1016/j.jth.2019.100729

Fauzana, H., Hendrajaya Isnaeni, I., Enira Arvanda, S. T., & Nevine Rafa Kusuma, S. A. (2020). Obstacles as determining factors of independent wheelchair user's spatial experience at public transitional space. *IOP conference series. Earth and Environmental Science, 452*(1), 12123. https://doi.org/10.1088/1755-1315/452/1/012123

Gleeson, B. (2001). Disability and the open city. *Urban Studies, 38*(2), 251-265.

Marcheschi, E., Ståhl, A., Almén, M., Johansson, M., & Sveriges, l. (2020). A Theoretical Model for Urban Walking Among People With Disabilities. *Frontiers in Psychology, 11*(156), 156-156. https://doi.org/10.3389/fpsyg.2020.00156

Ståhl, A., Carlsson, G., Hovbrandt, P., & Iwarsson, S. (2008). "Let's go for a walk!": identification and prioritisation of accessibility and safety measures involving elderly people in a residential area. *European Journal of Ageing, 5*(3), 265-273. https://doi.org/10.1007/s10433-008-0091-7

Are there accessible, gender-neutral, public bathrooms? (Note if there are family rooms)

A lack of accessible, gender-neutral bathrooms in public spaces can be a significant barrier to people using spaces, especially if they are not properly equipped for people's needs (Wyatt, 2020). Bathrooms can serve as an important symbol of whether certain kinds of people – queer people, disabled people, women, families – are welcome within a space (Wyatt, 2020; Greed, 2016; Broyer, 2020); if people are not able to comfortably and safely go to the bathroom, they will likely feel less welcome in the space overall (Wyatt, 2020; Greed, 2016; Magni & Reddy, 2007; Broyer, 2020).

Some features bathrooms should have are accessible design elements, gender neutral, be clean, well maintained, and have child change facilities available.

References:

Broyer, n. R. (2020). Through the restroom mirror: accessibility and visibility in public space. *Disability & Society, 35*(9), 1483-1504. https://doi.org/10.1080/09687599.2019.1690978

Greed, C. (2016). Taking women's bodily functions into account in urban planning and policy: public toilets and menstruation. *Town Planning Review, 87*(5), 505-524.

Magni, S., & Reddy, V. (2007). Performative queer identities: Masculinities and public bathroom usage. *Sexualities, 10*(2), 229-242.

Wyatt, B. R. H. (2020). *Public Toilets and Women's Right to the City* University of Auckland. Tāmaki Makaurau.

Are there spaces for people to rest?
Is there shelter from the elements?

Places to rest and shelter from the elements can serve as important pieces of infrastructure to create pleasant, comfortable, welcoming environments for a diverse range of people (Blackman et al., 2010; Gehl & Svarre, 2013; Brorsson et al., 2011). Places to rest and shelter can give people a variety of ways to spend time in places which makes them more flexible and adaptive to peoples' needs (Mersch, 2008; Winge et al., 2020), and may include various pieces of urban infrastructure, such as bus stops for example (Lunke, 2020). These places should have accessible seating, attractive surrounding environments, and protection from the elements both weather-wise and also from surrounding noise (Rall & Haase, 2011; Mersch, 2008).

References:

Blackman, T. I. M., Mitchell, L., Burton, E., Jenks, M., Parsons, M., Raman, S., & Williams, K. (2003). The Accessibility of Public Spaces for People with Dementia: A new priority for the 'open city'. *Disability & Society, 18*(3), 357-371. https://doi.org/10.1080/0968759032000052914

Brorsson, A., Öhman, A., Lundberg, S., & Nygård, L. (2011). Accessibility in public space as perceived by people with Alzheimer's disease. *Dementia (London, England), 10*(4), 587-602. https://doi.org/10.1177/1471301211415314

Gehl, J., & Svarre, B. (2013). *How to Study Public Life*. Springer Nature.

Lunke, E. B. (2020). Commuters' satisfaction with public transport. Spring Nature. *Journal of Transport & Health, 16*, 100842.

Rall, E. L., & Haase, D. (2011). Creative intervention in a dynamic city: A sustainability assessment of an interim use strategy for brownfields in Leipzig, Germany. *Landscape and Urban Planning, 100(3),* 189-201.

Winge, L., Wagner, A. M., & Lamm, B. (2020). Play as a Player in Design. Rethinking a 'Curious Practice' for Co-designing Public Space. *The Journal of Public Space* (Vol. 5 n. 4), 25-44. https://doi.org/10.32891/jps.v5i4.1312

Are there quiet spaces nearby?

Presence of quiet spaces can be important for people who have different sensory and processing needs (Mostafa, 2008; Gaines et al., 2016). Providing separate spaces can also ensure that people who desire different atmospheres are also able to enjoy places. Design elements that reduce stimulation through light and sound dispersion may also be helpful in reducing stress and making places more welcoming. Quiet spaces can take the form of entirely separate spaces, such as individual rooms indoors, or open areas (Gaines et al., 2016), as well as quiet times for semi-public spaces such as supermarkets and museums (Mostafa, 2021; Kerr, 2020).

References:

Gaines, K., Bourne, A., Pearson, M., & Kleibrink, M. (2016). *Designing for Autism Spectrum Disorders:* Routledge.

Kerr, C. J. (2020). *Experiences of Public Space Built Environment Connectedness and the Autism Spectrum,* University of Tasmania.

Mostafa, M. (2015). An Architecture for Autism: Built Environment Performance in Accordance to the Autism ASPECTSS™ Design Index. *Design principles & practices, 8*(1), 55-71. https://doi.org/10.18848/1833-1874/CGP/v08/38300

Mostafa, M. (2021). The autism friendly university design guide. *Dublin City University, Dublin*.

Is there adequate signage that communicates what is in the area?
Is there appropriate information online about the area and nearby facilities?

The question related to signage is intended to cover both navigational signage as well as informational signage. This means there should be signs and information boards that inform people what facilities are in a place or nearby – such as bathrooms, locations of interest, and other important facilities – as well as communicating historical, cultural and community information (Wu & Wang, 2017; Awatere et al., 2010; Trinch & Snajdr, 2020). Information boards can be important to raising awareness and educating people about the history of places, and serve to create a stronger sense of place and connection with the area (Harland, 2016; Awatere et al., 2010; Project for Public spaces, 2008). Providing multi-lingual signage and materials can help people to feel comfortable and supported in an environment, even if they have strong English language skills (Eizenberg et al., 2022).

Ensuring that there is adequate information available online can also greatly improve the accessibility of an area (Kotus et al., 2022). As more people can access the internet wherever they are, it is important to ensure that information is available in a variety of formats and to people before they visit places. Having information such as the presence of bathrooms, family rooms, facilities to support people with mobility disabilities, information relating to events, and maps or photos of the places themselves available can all serve to ensure that people are properly informed (Kotus et al., 2022;). However, spaces should also be designed in a manner that it is easily navigable using information that is present within the space and not entirely reliant on digital information.

References:

Awatere, S., Rolleston, S., & Pauling, C. (2010). Developing Māori urban design principles. In K. Stuart & M. Thompson-Fawcett (Eds.), *Tāone tupu ora: Indigenous Knowledge and Sustainable Urban Design*. New Zealand: New Zealand Centre for Sustainable Cities.

Harland, R. (2016). *Graphic Design in Urban Environments*. London, [England]: Bloomsbury Academic.

Kotus, J., Rzeszewski, M., & Olejniczak, A. (2022). Material and digital dimensions of urban public spaces through the lens of social distancing. *Cities, 130*. https://doi.org/10.1016/j.cities.2022.103856

Project for public Spaces. (2008). Signage. Retrieved from https://www.pps.org/article/signage-guide

Trinch, S. L., & Snajdr, E. (2020). *What the Signs Say: Language, Gentrification, and Place-making in Brooklyn*. Nashville, Tennessee: Vanderbilt University Press.

Wu, K.-C., & Wang, H. (2017). Inclusive Design Thinking for Accessible Signage in Urban Parks in Taiwan. *In Universal Access in Human–Computer Interaction. Human and Technological Environments* (pp. 335-347). Cham: Springer International Publishing.

How are people getting to the space?

The ways people travel to the space is important to understand how accessible the places are from a mobility perspective. This question also hopes to shift the focus away from predetermining that cars are the only way that people will reach a space and acknowledge alternatives such as public transport or active modes of travel. Facilities can include secure bike parking, close public transport connections, and locating spaces in a walkable area. Marginalised communities are more likely to be impacted by mobility inequalities (Hidayati et al., 2021).

References:

Hidayati, I., Tan, W., & Yamu, C. (2021). Conceptualizing mobility inequality: Mobility and accessibility for the marginalized. *Journal of Planning Literature, 36*(4), 492-507.

What makes the area welcoming (or not) to a diverse range of people?

How could young people spend time in the space?

How inviting is the area? (note any apparent hostile architecture present)

What is the green space like in the area?

This set of questions relate directly to how the place feels to spend time in. These questions are connected to each other because the answers are likely to be similar to and intersect with each other. For example, creating a welcoming environment for a diverse range of people likely means that it is an inviting space and has ways for young people to spend time in the space. While this overlap will not always be the case, the questions prompt those using the tool to consider other people's perspectives.

These questions are also related to creating a sense of place that recognises a diverse range of people. Building communities that are inclusive where a variety of people are able to participate, facilitates increased understanding of others experiences and less prejudiced attitudes (Sandberg & Rönnblom, 2016; Kitchin, 1998; Gleeson, 2001). Some of the ways that this sense of place can be built is through public art, taonga, information boards, visual representations of place and connection with the surrounding environment (Awatere et al., 2010; Winge et al., 2020; Gorgul, et al., 2017). Features can also take the form of wheelchair accessible playgrounds, places to sit, and place-specific accessible activities. People with mobility disabilities have noted that even just having these options available can encourage them to use a space (Clarke et al., 2008; Jian et al., 2020). Efforts to increase representation positively relate to creating safer environments within which marginalised people can participate (Sandberg & Rönnblom, 2016; Wyatt, 2020).

Greenspace can play an important role in creating areas of connection both to people and the environment - as well as a range of wellbeing and health benefits (Menconi et al., 2021; Winge et al., 2020; Ekkel & de Vries, 2017). Quality greenspace will look different in different places, and it is important that greenspace is not exclusively comprised of parks (Littke, 2015). Some factors that could show quality are the extent to which the greenspace is maintained, whether it is designed at a human scale, accessible, and located nearby (Littke, 2015; Aalbers & Sehested, 2018; McCarthy et al., 2020).

References:

Aalbers, C. B. E. M., & Sehested, K. (2018). Critical upscaling. How citizens' initiatives can contribute to a transition in governance and quality of urban greenspace. *Urban Forestry & Urban Greening, 29*, 261-275. https://doi.org/10.1016/j.ufug.2017.12.005

Awatere, S., Rolleston, S., & Pauling, C. (2010). Developing Māori urban design principles. In K. Stuart & M. Thompson-Fawcett (Eds.), *Tāone Tupu Ora: Indigenous Knowledge and Sustainable Urban Design*. New Zealand: New Zealand Centre for Sustainable Cities.

Clarke, P., Ailshire, J. A., Bader, M., Morenoff, J. D., & House, J. S. (2008). Mobility Disability and the Urban Built Environment. *American Journal of Epidemiology, 168*(5), 506-513. https://doi.org/10.1093/aje/kwn185

Ekkel, E. D., & de Vries, S. (2017). Nearby green space and human health: Evaluating accessibility metrics. *Landscape and Urban Planning, 157*, 214-220.

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Gorgul, E., Luo, L., Wei, S., & Pei, C. D. (2017). Sense of place or sense of belonging? Developing guidelines for human-centered outdoor spaces in China that citizens can be proud of. *Procedia Engineering, 198*, 517-524.

Jian, I. Y., Luo, J., & Chan, E. H. W. (2020). Spatial justice in public open space planning: Accessibility and inclusivity. *Habitat International, 97,* 102122.

Kitchin, R. (1998). 'Out of Place', 'Knowing One's Place': Space, power and the exclusion of disabled people. *Disability & Society, 13*(3), 343-356. https://doi.org/10.1080/09687599826678

Littke, H. (2015). Planning the Green Walkable City: Conceptualizing Values and Conflicts for Urban Green Space Strategies in Stockholm. *Sustainability (Basel, Switzerland), 7*(8), 11306-11320. https://doi.org/10.3390/su70811306

McCarthy, K., Ballog, M., Carranza, M. M., & Lee, K. (2022). Doing nonbinary gender: The occupational experience of nonbinary persons in the environment. *Journal of Occupational Science, 29*(1), 36-51. https://doi.org/10.1080/14427591.2020.1804439

Menconi, M. E., Sipone, A., & Grohmann, D. (2021). Complex Systems Thinking Approach to Urban Greenery to Provide Community-Tailored Solutions and Enhance the Provision of Cultural Ecosystem Services. *Sustainability, 13*(21), 11787.

Sandberg, L., & Rönnblom, M. (2016). Imagining the ideal city, planning the gender-equal city in Umeå, Sweden. *Gender, Place & Culture, 23*(12), 1750-1762.

Winge, L., Wagner, A. M., & Lamm, B. (2020). Play as a Player in Design. Rethinking a 'Curious Practice' for Co-designing Public Space. *The Journal of Public Space* (Vol. 5 n. 4), 25-44. https://doi.org/10.32891/jps.v5i4.1312

What safety features are present in the area?

How safe does this make the area feel? (Consider different times of day)

Safety in the context of this framework broadly considers how safe people generally feel; the question is left broad to allow users to answer as they see best fits the place where the tool is being used. The predominant focus, however, is on feeling physically safe with an emphasis on safety from others and safety from vehicles. Users should consider others' perspectives as there is a range of different embodied experiences of places in regard to safety and safety perceptions.

There are also safety benefits in creating a stronger sense of community across these differences, which can both make people feel safer in a place and also break down existing prejudices (Sandberg & Rönnblom, 2016; Wyatt, 2020). Some of the safety features that have been shown to provide feelings of safety are proper lighting, safety from motor traffic via separated infrastructure, properly maintained places, a sense of community, and safe social environments (Cozens & Love, 2015; Kearl, 2010; Ståhl et al., 2008; Beebeejaun, 2017).

References:

Beebeejaun, Y. (2017). Gender, urban space, and the right to everyday life. *Journal of Urban Affairs, 39*(3), 323-334. https://doi.org/10.1080/07352166.2016.1255526

Cozens, P., & Love, T. (2015). A review and current status of crime prevention through environmental design (CPTED). *Journal of Planning Literature, 30*(4), 393-412.

Kearl, H. (2010). *Stop Street Harassment: Making Public Places Safe and Welcoming for Women*. Santa Barbara, Calif: Praeger.

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Wyatt, B. R. H. (2020). *Public Toilets and Women's Right to the City,* University of Auckland.

What ways are there to engage with the area that don't have a cost?

How are people using the space while you are there?

Providing opportunities for people to use places without cost means that a broader range of people can use those places (Kohn, 2004; Gehl Architects, 2009). These questions also closely relates to many of the other questions such as the presence of greenspace, the existence of places to rest, and the availability of public bathrooms. To better understand a space, it is important to recognise the ways that people actually use the space and not just what it was designed to do (Gehl & Svarre, 2013). Recognising the way that people are currently using the space may also reveal things that may not be seen just through looking at the infrastructure that is – or is not – present.

Places that hold free events can bring people into spaces that they would otherwise be unwilling to visit or spend time in, as cost is often a significant barrier for families and young people (Slaug et al., 2017), and young people have found interactive public spaces pleasing places to spend time (Pawlowski et al., 2017; Winge et al., 2020). Cost-free opportunities to engage with places can look like free events, greenspaces, public play spaces, and well-maintained open public places (Kohn, 2004; Chiodelli & Moroni, 2015; van Eck & van Melik, 2022).

References:

Chiodelli, F., & Moroni, S. (2015). Do malls contribute to the privatisation of public space and the erosion of the public sphere? Reconsidering the role of shopping centres. *City, Culture and Society, 6*(1), 35-42. https://doi.org/10.1016/j.ccs.2014.12.002

Gehl, J., & Svarre, B. (2013). *How to study public life*.

Kohn, M. (2004). *Brave New Neighborhoods: The Privatization of Public Space*. New York, NY: Routledge.

Pawlowski, C. S., Winge, L., Carroll, S., Schmidt, T., Wagner, A. M., Nørtoft, K. P. J., . . . Troelsen, J. (2017). Move the Neighbourhood: Study design of a community-based participatory public open space intervention in a Danish deprived neighbourhood to promote active living. *BMC Public Health, 17*(1), 481-481. https://doi.org/10.1186/s12889-017-4423-4

Slaug, B., Chiatti, C., Oswald, F., Kaspar, R., & Schmidt, S. M. (2017). Improved housing accessibility for older people in Sweden and Germany: Short term costs and long-term gains. *International Journal of Environmental Research and Public Health, 14*(9), 964.

van Eck, E., & van Melik, R. (2022). 'Soft'privatization of public space: autonomization of outdoor retail markets in the Netherlands. *European Planning Studies,* 1-20.

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