Dementia-inclusive planning and design guidelines

Appendices

4

April 2023

Happy Cities

DemSCAPE

Appendix A:

Detailed methodology

Detailed methodology

The *Dementia-Inclusive Planning and Design Guidelines* (the Guidelines) are based on data from three main sources:
- A review of existing dementia-inclusive design guidelines and best practices (refer to Appendix B).
- Interviews with municipal planners across the Metro Vancouver area (refer to Appendix C).
- A half-day community forum in January 2023, during which the project team shared the draft Guidelines with participants to gather feedback on how to ensure the success and relevance of the Guidelines (refer to Appendix D).

Project steps:

Background review (Fall 2022):
Happy Cities conducted a background review of:
- Existing municipal, provincial, and federal policies;
- Age-friendly and dementia-friendly community strategies;
- Age-friendly and dementia-friendly design guidelines; and
- Select academic studies and scoping reviews.

Emphasis was given to documents that provided specific guidance around the design of outdoor built environments. For the research brief, refer to Appendix B. For a full list of references reviewed, refer to Appendix E.

Identifying dementia-friendly design principles (Fall 2022):
Based on the research completed during the background review, the project team identified six principles for dementia-friendly neighbourhood design to use in developing the final Guidelines. The six principles were originally proposed by Burton and Mitchell (2010), and have since been used across multiple different sources we reviewed.

Identifying built environment elements (Fall 2022):
Happy Cities reviewed resources from the background review to identify elements of the built environment that were commonly mentioned as important for people living with dementia. The project team categorized the identified elements into a draft set of strategies and actions to build the Guidelines around.

Interviewing municipal planners (Fall 2022):
Happy Cities interviewed municipal planners to understand priorities and challenges for designing dementia-friendly neighbourhoods. Refer to appendix C for detailed findings from the interviews.

Creating the design framework (Fall 2022):
Happy Cities classified the identified strategies and actions into three design realms. The realms help readers understand which design scale each strategy addresses. For instance, strategies and actions in Realm 1 can help inform high-level neighbourhood planning decisions, while those in Realm 3 provide guidance on detailed design decisions.

Creating the draft Guidelines (Winter 2023):
Happy Cities created the first draft of this Guidelines document, ensuring that we captured all the strategies and actions identified in the process so far. We translated each strategy and its associated set of actions into visual flashcards with images, which we used during the community forum to gather input on the draft Guidelines.

Community feedback (Winter 2023):
Happy Cities and DemSCAPE hosted a community forum in Vancouver, B.C. to gather in-depth feedback on the draft Guidelines from various stakeholders. This feedback directly informed the final Guidelines. Refer to Appendix D for detailed findings from the forum.

Finalizing the Guidelines (Spring 2023):
Working collaboratively with the DemSCAPE team, Happy Cities incorporated participant feedback into the final Guidelines document and created visual representations for actions, strategies, and realms.

Appendix B:

Research brief

Understanding existing planning and design guidelines

This research brief was prepared by Happy Cities in collaboration with the DemSCAPE research team at Simon Fraser University (SFU) to understand existing research and best practices for planning and designing urban environments for people living with dementia (PLWD). This preliminary research informed our interviews with selected municipal planners and draft planning and design guidelines in the following phases of work.

Types of references reviewed

We reviewed several types of references:

1. Municipal action plans, with a focus on cities in British Columbia

2. Municipal and Provincial checklists and toolkits

3. National and Provincial actions plans and guidelines

4. International guidelines, checklists, and action plans

5. Grey literature articles

6. Selected academic literature

Research questions

Based on the project goals—to develop planning and design guidelines to create better urban environments for PLWD—the key research questions that guided the review were:

1. What functioning and wellbeing values are important for PLWD?

2. What impact do neighbourhood planning and design have on the functioning and wellbeing of PLWD?

3. What are the planning and design principles for dementia-friendly neighbourhoods?

4. What planning and design elements are important to consider for dementia-friendly neighbourhoods?

5. What are municipalities in British Columbia currently doing to ensure neighbourhoods are dementia friendly?

6. What initiatives exist outside of Canada?

7. What are common barriers and challenges to dementia-friendly neighbourhoods?

8. What are the current gaps with existing policies and guidelines in B.C.?

1. What functioning and wellbeing values are important for persons living with dementia (PLWD)?

The wellbeing values for PLWD greatly overlap with age-friendly principles. Older adults, with or without dementia, can face similar challenges, including accessibility and social isolation (World Health Organization, 2017). People over 65 years of age spend 80 per cent of their time at home, and people over 85 spend 90 per cent of their time at home (Adams and White, 2006). However, reducing barriers to accessing the neighbourhood can increase older adults' independent functioning in the neighbourhood or community environment for access to services and amenities, increased social interactions, and civic engagement. This is important for older adults, health, functioning, and wellbeing.

Key facts about dementia
- Globally, 50 million people live with dementia. This number is expected to triple by 2050 (World Dementia Council, 2020).
- Dementia is a progressive disease that changes over time. Biological changes begin occurring before it can be detected clinically. After diagnosis, the progression varies between individuals, but in all cases, people's health and social needs change as the disease develops (World Dementia Council, 2020).
- There are currently no treatments to stop or slow it down, but there are medications to manage some of the symptoms (World Dementia Council, 2020).
- There is growing evidence that the prevalence of dementia can be lowered through public health measures (World Dementia Council, 2020).

- According to the World Dementia Council (2020), "No one participates in society solely as someone living with dementia. Most people living in the community with dementia are senior citizens. Around 95 per cent of people living in the United States and the United Kingdom with dementia are over 65." This quote highlights the overlap between age-friendly and dementia-friendly principles, considering the intersecting identities of PLWD and seniors.

Tenure (staying in place)
- The Canadian Institute for Health Information found that, in 2018, 61 per cent of people living with dementia lived in the community.
- Individuals diagnosed with dementia can continue to live independently during the early stages of the disease, and with support can continue to live in their homes (Standing Senate Committee on Social Affairs, Science and Technology, 2016).
- Housing choices should be adaptable to allow people to stay in place within their community (Miles et al., 2017).

Mental and physical health
- Lifestyle factors that can help delay the onset or progress of dementia include exercise, healthy diet, management of other chronic illnesses, intellectual stimulation, moderate alcohol consumption, not smoking, social engagement, and avoiding brain injury, stress, and depression (Standing Senate Committee on Social Affairs, Science and Technology, 2016; World Health Organization, 2017).
- Reducing stress and anxiety is crucial to PLWD (Standing Senate Committee on Social Affairs, Science and Technology, 2016).
- Dementia can impact mood and the capacity to be rational (Department of Health, 2015).

Social connectedness

- In the UK, a 2013 survey found that 40 per cent of PLWD feel lonely and 34 per cent don't feel included in their community (Department of Health, 2015).
- Peer support can be an effective way to reduce loneliness in PLWD (Department of Health, 2015).
- Caregivers play a key role in PLWD's ability to stay in the community (Department of Health, 2015).
  - The bond with caregivers helps provide comfort and familiarity through progression of disease.
  - Caregivers can also face barriers, including loneliness and isolation.

Equity

- Evidence shows that people of colour have lower rates of access to post-diagnosis services for dementia (Department of Health, 2015).
- Older men, especially those living with dementia, are at higher risk of social isolation (Dementia Australia, 2019).

Joy

- Maintaining regular leisure opportunities is important for person-centred care (Department of Health, 2015).

Dignity

- A dementia-friendly society includes an accessible and inclusive community and built environment that allows PLWD to participate and be safe (World Health Organization, 2017).

Safety and security

- Feeling safe plays a significant role in the perception of a dementia-friendly community (Local Government Association of the UK, 2015).

2. What impact do neighbourhood planning and design have on PLWD?

People experiencing dementia can face several challenges while navigating the neighbourhood built environment due to cognitive impairment and sensory loss (Walsh et al., 2020). These challenges include:

- Difficulty finding their way and navigating.
- Difficulty walking, standing, and sitting.
- Difficulty understanding their surroundings.

These challenges can become insurmountable if the urban environment does not meet their needs (Walsh et al., 2020). Biglieri and Dean (2022) examine the challenges and opportunities around the built environment for people living with dementia in the Canadian suburban context. They note that there is an knowledge gap about how community-dwelling individuals are impacted by the built environment in the North American context—in particular, how PLWD navigate environments that are already familiar to them. Gan et al. (2021) highlight how environments can impact social opportunities, wellbeing, and autonomy for PLWD. In a key study in the U.K., Burton et al. (2003) found that access to local streets had a positive impact on people living with dementia by providing freedom, autonomy, dignity, a sense of worth, physical movement, wellbeing, and social interaction.

Although the environment alone does not determine behaviour, neighbourhood planning and design are important for social connectedness and mental wellbeing. "Although the physical conditions do not determine social life, they afford, or offer resources for, certain forms of social activities more than others" (Henriksen & Tjora, 2014 quoted in Gan & Trivic, 2021). Further, "Evidence has shown that well-planned, enabling environments can have a substantial positive impact on the quality of life of someone living with dementia" (Karen Tyrell, quoted in Manasan, 2019).

The assumption that PLWD do not access the public realm has been rapidly changing in recent years (Imogen Blood & Associates, 2017; Chaudhury et al., 2020). Intentional design of the built environment can help support PLWD (Miles et al., 2017; Chaudhury et al., 2020). Familiar things and places can help spark memories and provide opportunities for social interaction in the community (Imogen Blood & Associates, 2017; Phillips et al., 2015; Chaudhury et al., 2020). There is emerging evidence that sense of place and belonging is important for resilience in PLWD (Imogen Blood & Associates, 2017; Chaudhury et al., 2020).

Modifications and changes to the built environment can be particularly unsettling for PLWD because of their reliance on familiar objects and landmarks to navigate the environment (Department of Health, 2015). Without intentional design, PLWD do not feel safe and cannot independently navigate their environment (Phillips et al., 2015). The built environment can help bring joy and help encourage PLWD to access the outside environment (British Standards Institution, 2015).

A scoping review by Sturge et al. (2021) presented several key findings in terms of the social importance of the neighbourhood for PLWD:
- Neighbourhood interactions can provide a sense of security and belonging.
- Some PLWD reported positive relationships with neighbours, while others are cautious and have limited encounters with them.
  - "Familiar strangers" can provide a sense of belonging.
  - Places to pause and interact with neighbours are important.

- Going for walks in the neighbourhood is an important part of physical health and socialization for PLWD.
- Some sounds can be positive, such as kids playing, birds, listening to the sea or running water. These sounds can help people navigate the environment. However, certain noises are perceived as negative such as traffic, screaming kids (Sturge et al., 2021; Houben et al., 2019).

A scoping review by Gan et al. (2022) found that:
- Literature on the impact of the built environment for PLWD has yet to be expanded into the design and planning fields generally.
- Most PLWD rely on walking and transit, spending much of their time "within 600 m of their homes".
- "Social participation in the community, for those who are able, maintains wellbeing and cognitive reserve for PLWD by retaining a sense of agency, providing respite for care partners, and reducing agitation" (Livingston et al., 2017).
- Actions that can help the neighbourhood adapt to PLWD include organizing peer networks, programming activities, and supporting wayfinding with technology.
- Accessing the neighbourhood for complete quick daily errands is beneficial for PLWD (Mitchell & Burton, 2006).
- Placemaking, such as public art, can provide positive benefits for PLWD (Kelson et al., 2017).
- PLWD are less likely to visit nature areas, indicating that access to these areas may be challenging for them. These issues may stem from accessibility concerns or lack of access to supportive facilities (such as washrooms).

3. What are the planning and design principles for dementia-friendly neighbourhoods?

Dementia-inclusive community initiatives have the opportunity to build on and complement existing initiatives, such as age-friendly communities. Age-friendly communities are defined by the World Health Organization and support active aging through both built environments and social communities (Government of Canada, 2019). The "dementia village" model provides insight into creating "**safe and secure environments** while encouraging **full social engagement** and **high quality of life**" for PLWD (Standing Senate Committee on Social Affairs, Science and Technology, 2016). In contrast to purpose-built dementia villages, general neighbourhoods have layers of complexity and considerations to navigate. There is a substantial body of research on the effect of the interior environments (especially in the care home setting) on the functioning and wellbeing of PLWD. However, research on the impact of urban outdoor environments is fairly recent and far less developed.

General design principles for PLWD (Fleming & Bennett, 2017; Dementia Friendly Australia 2019), include:

1. Unobtrusively reduce risks—safety features should feel integrated into the environment as not to cause frustration
2. Provide human-scaled surroundings
3. Allow people to see and be seen
4. Manage levels of stimulation, and reduce unhelpful stimulation
5. Support movement and engagement
6. Create a familiar place
7. Provide a variety of places to be alone or to be with others

Gan et. al (2021) identify five "planning & design principles":

1. Support participation in public spaces through: Walkable neighbourhoods, easily accessible social and retail spaces, dementia-friendly streets, emphasis on visual interest/distinctive buildings and landmarks.
2. Provide spaces to pause, rest, and orient: Benches, signage, parklets. Removing disorienting stimuli and creating pedestrian-oriented walking routes.
3. Reduce physical barriers: Traffic calming measures to reduce noise and insecurity, well-designed sidewalks with curb-cuts, good lighting.
4. Provide accessible resources, especially in rural areas: Community-based services and resources that are accessible to PLWD. Capitalize on existing community and trust networks.
5. Engage with residents on planning decisions: Input from PLWD can provide input on specific projects or land-use diversity.

Several other references state the following six principles for dementia-friendly environments (Mitchell & Burton, 2010; Yuen et al., 2020; Halsall & MacDonald; Wolfe, 2017):

1. Familiarity
2. Legibility
3. Distinctiveness
4. Accessibility
5. Comfort
6. Safety

Awareness and education

- An important component of dementia-friendly communities is an awareness and education campaign that helps businesses, transit workers, municipal staff, and the general public understand how to support PLWD who are living in their community (Standing Senate Committee on Social Affairs, Science and Technology, 2016; The Brenda Stafford Foundation, 2019).

Familiar environments

- Familiar environments are those that PLWD can easily understand (Prior, 2012).
- PLWD want to be treated with understanding, patience, love, and dignity. They want to be included and treated normally as much as possible (The Brenda Stafford Foundation, 2019).
- People want to live in their homes for as long as possible, to stay within a familiar environment (Miles et al., 2017).

Legible environments

- Legible environments allow people to know where they are and what is expected of them (Prior, 2012).
- Spatial recognition issues can lead to difficulties with directions and instructions (The Brenda Stafford Foundation, 2019).
- Colour coding spaces is important (British Standards Institution, 2015).
- Easy-to-read signage that is located at lower eyesight lines and uses images can help with legibility (British Standards Institution, 2015).

Distinctive environments

- Distinctive environments capture attention and help people navigate (Prior, 2012).
- PLWD face challenges recognizing their home (or front door) if they can't distinguish it from others. Wayfinding solutions such as colours, plants, or objects can help (Dementia Friendly Housing Charter UK).
- Colour contrast is important (British Standards Institution, 2015).
- Spaces should avoid black or shiny walking surfaces (Smith, 2017).

Accessible environments

- Accessible environments benefit both people living with dementia and people with other disabilities (Prior, 2012).
- Accessible environments consider that universal accessibility is an ever-changing concept, due to the diversity of needs within the population.
- Design for PLWD can benefit people with many different disabilities.

Comfortable environments

- It is easy to feel overwhelmed in public spaces. Providing wider circulation paths and places to sit and rest can help (British Standards Institution, 2015).
- With the right design interventions, people can feel at ease and enjoy staying longer in spaces (Prior, 2012).

Safe environments

- Safe environments allow people to navigate the space independently without experiencing real or perceived threats (Prior, 2012).

4. What planning and design elements are important to consider for dementia-friendly neighbourhoods?

Important elements for dementia-friendly neighbourhoods range from the macro to micro scale. Although many guidelines and toolkits focus on small, "low-hanging fruit"—such as signage—other guidelines address dementia-friendly neighbourhoods at the urban planning scale.
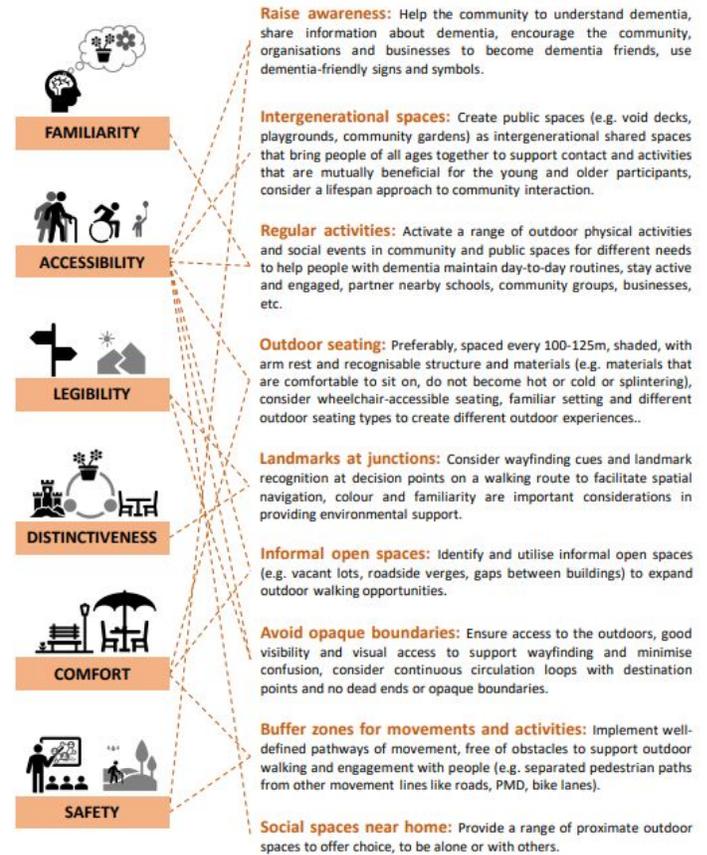

FAMILIARITY

Raise awareness: Help the community to understand dementia, share information about dementia, encourage the community, organisations and businesses to become dementia friends, use dementia-friendly signs and symbols.

ACCESSIBILITY

Intergenerational spaces: Create public spaces (e.g. void decks, playgrounds, community gardens) as intergenerational shared spaces that bring people of all ages together to support contact and activities that are mutually beneficial for the young and older participants, consider a lifespan approach to community interaction.

Regular activities: Activate a range of outdoor physical activities and social events in community and public spaces for different needs to help people with dementia maintain day-to-day routines, stay active and engaged, partner nearby schools, community groups, businesses, etc.

LEGIBILITY

Outdoor seating: Preferably, spaced every 100-125m, shaded, with arm rest and recognisable structure and materials (e.g. materials that are comfortable to sit on, do not become hot or cold or splintering), consider wheelchair-accessible seating, familiar setting and different outdoor seating types to create different outdoor experiences..

DISTINCTIVENESS

Landmarks at junctions: Consider wayfinding cues and landmark recognition at decision points on a walking route to facilitate spatial navigation, colour and familiarity are important considerations in providing environmental support.

Informal open spaces: Identify and utilise informal open spaces (e.g. vacant lots, roadside verges, gaps between buildings) to expand outdoor walking opportunities.

COMFORT

Avoid opaque boundaries: Ensure access to the outdoors, good visibility and visual access to support wayfinding and minimise confusion, consider continuous circulation loops with destination points and no dead ends or opaque boundaries.

Buffer zones for movements and activities: Implement well-defined pathways of movement, free of obstacles to support outdoor walking and engagement with people (e.g. separated pedestrian paths from other movement lines like roads, PMD, bike lanes).

SAFETY

Social spaces near home: Provide a range of proximate outdoor spaces to offer choice, to be alone or with others.

Table (below): Recommendations from Burton & Mitchell (2006), grouped thematically by Biglieri (2021)

Image (above): Diagram from Yuen et al. (2021), which outlines key design interventions at the urban scale and how they relate to the six design principles for dementia-friendly communities.

Walkability and land use strategies	• Mixed use areas • Small blocks + irregular grid pattern • Hierarchy of streets • Gentle winding streets • Varied urban form
Wayfinding	• Clear signs • Landmarks + places of activity • Distinctive features at junctions • Buildings with obvious entrances + facades
Urban design for comfort and safety	• Frequent + safe road crossings • Enclosed bus shelters • Wide smooth paths • Accessible public toilets • Marked level changes + handrails • Buffer zones • Frequent seating

Design categories from the Moonee Valley Design toolkit (Architects Johannsen + Associates, 2016):

- **Planning & layout:** A well-designed street layout will encourage people of all ages to use it.
- **Risk reduction:** Perceptions of safety, including the prospect of falling or getting lost, can pose challenges.
- **Pets:** Provide many positive benefits, making pet-friendly spaces important
- **Built environment:** Attractive and distinctive streetscapes stimulate the senses and improve the vitality of an area.
- **Landmarks:** Distinctive elements and experiences help with wayfinding and reduce the fear of getting lost. Landmarks also provide areas to pause and interact.
- **Open spaces:** A well-located outdoor space that is accessible year-round will attract people of all ages. Having a view or a place to sit are important incentives for an older person.
- **Trees and planting:** Greenery offers aesthetic appeal, shelter, and positive sensory stimulation.
- **Footpaths:** Safe and well-maintained footpaths are essential, especially for people who use different forms of mobility assistance.
- **Level changes:** Stairs and different surfaces can have a major impact on people's ability to navigate the environment.
- **Crossings:** Older people prefer separated car, bike, and foot traffic. Road crossings can be scary and dangerous for older people.
- **Entrances:** Entrances that are poorly located or awkward to negotiate discourage people from going out.
- **Seating:** Places to sit, rest, talk, gather are important. Well-placed and comfortable seating is a big motivator for older adults to experience the built environment.
- **Toilets:** Finding a toilet can be a regular challenge for older people, preventing them from staying in a space.

- **Signage:** Clear, familiar signage can make a big difference to confidence and independence.
- **Lighting:** Can provide enhanced sense of safety and security. Lighting needs for older people are unique.

Additional notes on planning and design elements that impact dementia-friendly neighbourhoods:

Transit infrastructure
- Transit systems provide autonomy and independence for PLWD (Sturge et al., 2021).
- PLWD face safety and accessibility challenges when trying to navigate transit systems (Sturge et al., 2021).
- Simplified transit schedules with clear language and easy-to-follow signage can help PLWD navigate transit (Government of Canada, 2019).
- Seating and shelter at major bus stops is critical (British Standards Institution, 2015).

Buildings & architecture
- Architectural features and street furniture with familiar designs are easier to understand (Burton et al., 2004).
- Entrances to places and buildings need to be clearly visible and obvious (Burton et al., 2004).
- Varied urban and building form can help PLWD navigate the neighbourhood (Burton et al., 2004).
- Architectural features with varying styles, colours, and materials can help PLWD find their way (Burton et al., 2004).
- Active ground floors with commercial and community spaces on the ground floor allow PLWD to access services independently. Local facilities can help with wayfinding (Pani, 2016).
- Common spaces that allow people to meet outside their home are important (Pani, 2016).
- Lighting is an important consideration. Building entries should avoid pools of bright light and deep shadows (Hampshire City Council et al., 2012).

Streets

- PLWD face several challenges when navigating streets, including:
  - Not knowing which way to look when trying to cross, navigating complex streets networks, identifying where a street begins or ends, or navigating areas with several connecting streets (Sturge et al., 2021).
  - Busy traffic, crowds, parked cars, and poorly maintained sidewalks are also challenging (Sturge et al., 2021).
- Straight, connected streets help with mobility and provide better visibility, while angled dead-end or curbed streets produce frustration (Biglieri & Dean, 2022).
- Research shows that looped streets that are irregular and gently winding are appreciated by people living with dementia (Biglieri & Dean, 2022; Burton et al., 2004).
- Residential and mixed-use areas were described as safest to navigate while walking (Biglieri & Dean, 2022).
- Commercial streets and arterials can be overwhelming (Biglieri & Dean, 2022).
- Short and narrow streets are easier to navigate (Burton et al., 2004).
- Forked and T-junctions are easier to navigate than crossed roads (Burton et al., 2004).
- Streets with latent cues positioned where visual access ends—especially at decision points, such as junctions and turns—help PLWD navigate their environment safely (Burton et al., 2004).

Pedestrian infrastructure

Sidewalks and walkways

- Public walkways should be clear, uncluttered, and pattern-free (Government of Canada, 2019; Local Government Association of the UK, 2015).
- In the dementia-village model, pathways lead back to the central area. Pathways are looped to encourage safe physical activity (Standing Senate Committee on Social Affairs, Science and Technology, 2016).
- Matte-finish floor surfaces, solid crosswalks, and even pavement are important for accessibility (Smith, 2017; Dementia Friendly America, 2022).
- Separated bicycle pathways help PLWD feel safer while walking (Dementia Australia, 2019; Pani, 2016).
- Street clutter, such as excessive signage, music, advertisements, and bollards, should be minimized (Dementia Australia, 2019).
- PLWD prefer a trail network for walking (Biglieri & Dean, 2022).

Crossings

- PLWD need ample time and space to make decisions. Pedestrian crossings should give enough time and be easy to comprehend. Zebra crossings can alter depth perception and lead to confusion (Smith, 2017; Biglieri & Dean, 2022).
- Traffic calming measures support PLWD to feel safe (Smith, 2017).
- Pedestrian crossings should be frequent and functional for people with different abilities (Dementia Australia, 2019).
- PLWD prefer clearly marked crossings, timed and controlled traffic lights (Sturge et al., 2021).
- Building pedestrian islands in the middle of roads helps PLWD cross safely (Manasan, 2019).
- PLWD prefer to cross the street in areas with protected pedestrian infrastructure (Biglieri & Dean, 2022).

Access to services

- The proximity of a space or service to home is critical to accessibility for PLWD. Proximity can range from 200 metres to four kilometres (Biglieri & Dean, 2022).
- The Blue Umbrella program has businesses place a blue umbrella symbol in their window to show that employees have been trained to provide dementia-friendly service. Similarly, PLWD can wear a blue umbrella pin on their clothing so that employees can easily identify them (Standing Senate Committee on Social Affairs, Science and Technology, 2016).
- Regular activities that are inclusive to seniors and partnerships with different community groups can benefit PLWD (Pani, 2016).
- Shops are the most visited locations for PLWD. PLWD prefer bright and spacious areas with lots of seating and not too many people. Local shops are very important (Sturge et al., 2021).
- Primary services should be located within 500 metres of home, and secondary shops within 800 metres (Pani, 2016).
- Walking to shops and services maintains independence and autonomy for PLWD (Manasan, 2019).

Access to green spaces and nature

- Access to green space and nature has particular benefits for PLWD, including improved mood, memory and communication, and concentration (Smith, 2017; Sturge et. al, 2021).
- PLWD prefer quiet and wide open spaces (Smith, 2017).
- Designated quiet spaces and enclosed areas are important (Dementia Friendly America, 2022; Dementia Australia, 2019).
- Drop off and pick up points are critical for PLWD to access a space independently (Local Government Association of the UK, 2015).
- Intergenerational spaces, such as community gardens, are important (Pani, 2016).

- A review of PLWD in the Netherlands, Norway, U.K., U.S., and Canada found that community gardens, care farms, and green spaces reinforce identity and belonging, and enable meaningful engagement (Mmako et al., 2020).
- A cohort study in Australia found that increasing tree canopy cover within the residential environment may help to reduce the risk of dementia (Astell-Burt et al., 2020).

Public spaces

- PLWD should have access to a variety of welcoming, open spaces nearby, including squares, parks, and playgrounds (Burton et al., 2004).
- Public spaces should consider (British Standards Institution, 2015; Dementia Australia, 2019):
  - Wide pathways and even surfaces without confusing patterns or reflections.
  - Positive sights, sounds, and smells without causing sensory stress or confusion.
  - Available seating, including shade, and shelter from the weather.
  - Available and accessible activities.
  - Available and accessible receptions, toilets, restaurants, entertainment spaces, and workplaces.

Seating

- Seating should look like seating in a traditional sense, as creative benches can be confusing (Smith, 2017; Hampshire City Council et al., 2012).
  - Seating should be placed every 100 to 125 metres and include arm rests (Pani, 2016).
  - PLWD prefer to sit in informal spaces rather than traditional squares (Pani, 2016).

Signage

- Signs should be clear and in bold typeface with good contrast between text and background. Ideally, text should be black and lowercase (Smith, 2017; Hampshire City Council et al., 2012).
- There should be contrast between the sign and the surface it is mounted on (Smith, 2017; Dementia Friendly America, 2022; Hampshire City Council et al., 2012).
- Signs should be fixed to the doors they refer to—not on adjacent surfaces (Smith, 2017).
- Signs should be at eye level and well-lit (Smith, 2017; Hampshire City Council et al., 2012).
- The use of highly stylized or abstract images and icons as representations on signage should be avoided (Smith, 2017; Hampshire City Council et al., 2012).
- Signs should be placed at key decision points for someone who is trying to navigate the premises for the first time (Smith, 2017; Hampshire City Council et al., 2012; Sturge et al., 2021).
- Signs for toilets and exits are particularly important (Smith, 2017; Hampshire City Council et al., 2012).
- Glass doors can be confusing and should be clearly marked (Smith, 2017; Hampshire City Council et al., 2012).
- Spaces should provide easy-to-read maps and appropriate voice prompts and announcements where possible (Dementia Friendly America, 2022).

Landmarks

- PLWD use landmarks to navigate: The more attractive and interesting the landmark, the easier it is to use as a landmark (Smith, 2017; Prior, 2012; Hampshire City Council et al., 2012; Dementia Australia, 2019).
- PLWD use a variety of landmarks—including historic and civic buildings, and distinctive structures and places of activity—to navigate (Burton et al., 2004; Sturge et al., 2021).

- PLWD identify many different types of landmarks beyond visual markers, such as places to purchase and browse, places of purpose, places to recreate, and places to pause and interact (Biglieri & Dean, 2022).
- Places and buildings that are long established should be retained, and change to neighbourhoods should be incremental (Burton et al., 2004).
- Distinctive, small-scale urban elements—such as art work, post boxes, trees, a rock garden, shops, and urban furniture—can aid in wayfinding (Pani, 2016; Manasan, 2019; Sturge et al., 2021; Biglieri & Dean, 2022).
- Placemaking and community art enable positive social interactions, while also serving as landmarks. Kelson et al. (2017) emphasize the importance of public art for PLWD through observations of "Paul's Club", a walking group for PLWD in Vancouver.

5. What are municipalities in British Columbia currently doing to ensure neighbourhoods are dementia friendly?

Dementia affects approximately 70,000 people across British Columbia. Around 60 per cent of people living with dementia live by themselves or with a caregiver in B.C. (Alzheimer Society of British Columbia, 2022). Through the dementia-friendly communities initiative, the Alzheimer Society of British Columbia (ASBC) provides tools and education for local governments, the professional sector, community groups, and the general public to become dementia friendly. Dementia-friendly communities in B.C. focus on:

- Stigma reduction and inclusion of people living with dementia.
- The three pillars of people, policy and practice.
- Inclusion, accessibility, safety, distinctiveness, familiarity, and comfort in the built environment.

Cities across British Columbia created dementia-friendly and age-friendly community action plans. These action plans follow a similar structure, and include similar processes. Most plans include:

- Creation of a working group or committee in the community that includes city staff, people with lived experience of dementia, local seniors groups or advocacy organizations, ASBC, and local Health Authorities
- Community focus groups
- Walking interviews with PLWD
- Staff focus groups
- Community forums or town halls
- An action plan with implementable actions and timelines

Many action plans follow the categories set by the World Health Organization, including eight topic areas:

1. Outdoor spaces & buildings
2. Transportation
3. Housing
4. Respect & social inclusion
5. Social participation
6. Communication & information
7. Civic participation & employment
8. Community support & health services.

Since the focus of our research is on planning and design guidelines, we prioritized the first three categories listed above for the initial review of the action plans.

We looked at action plans for dementia-friendly communities from the following municipalities:

- City of Burnaby Dementia-Friendly Community Action Plan (2017)
- City of Richmond Dementia-Friendly Community Action Plan (2019)
- City of New Westminster Dementia-Friendly Community Action Plan (2016)
- North Shore Dementia-Friendly Action Plan (2018)
- Township of Langley Age- and Dementia-Friendly Action Plan (2021)

We also looked at a sample of age-friendly action plans, which overlap with the dementia-friendly communities principles:

- City of Prince George Age-Friendly Action Plan (2017)
- City of Vancouver Age-Friendly Action Plan (2013)
- Town of Oliver Age-Friendly Oliver Assessment & Action Plan (2021)
- City of Quesnel Age-Friendly Assessment and Action Plan (2018)
- City of Port Moody, Age-Friendly Assessment and Action Plan (2020)
- City of Nanaimo Age-Friendly City Plan 2019-2023 (2019)
- City of Victoria Seniors' Action Plan 2020: Roadmap for an Age-Friendly Community (2020)
- City of Maple Ridge Age-Friendly Community Action Plan (2016)

Key findings from the Age-Friendly and Dementia-Friendly Action Plans:
Following our analysis of these 13 municipal action plans, we summarized common action items from the documents (outlined below). In general, there was substantial overlap among the different action plans.

Awareness of dementia

- Promote the action plan and awareness about age-friendly and dementia-friendly communities.
- Increase the understanding of dementia among municipal workers and the wider community, and include training to provide better service to seniors.
- Consolidate and share resources across the community.
- Encourage businesses to become dementia-friendly by creating an accreditation system and providing training for staff.
  - Provide incentives to encourage participation in the program.

Co-benefits of age- and dementia-friendly actions
- Understand that dementia-friendly community features can benefit people of all ages and abilities by improving safety and wayfinding.
- Encourage intergenerational spaces and programming.
- Encourage intercultural connections.

Design and planning processes
- Create partnerships between municipalities, community groups, and public institutions.
- Co-develop assessment tools to make spaces more welcoming to PLWD and their caregivers.
- Use different perspectives and lenses when creating plans for the built environment, and include people with lived experience in the planning process.
- Connect decision-makers with community groups who are advocating for PLWD already.
- Partner with other levels of government and non-profit organizations to improve housing and services.

Civic participation
- Create communication and processes that PLWD and seniors can easily participate in.
- Create opportunities for one-on-one communication at larger events.
- Improve the clarity and simplicity of information conveyed.

Housing
- Provide diverse and inclusive housing options for seniors and PLWD.
- Increase the percentage of adaptable units.
- Create visitable housing.
- Improve housing options that allow people to age in place.
- Increase affordable housing geared towards seniors and older adults.
- Increase affordable housing options that are intergenerational and intercultural.
- Increase pet-friendly housing options.
- Increase supportive housing options.

Programming
- Develop activity and social engagement to support mental and physical health and slow down disease progression.
- Promote activities that are intergenerational and inclusive of PLWD and other seniors.
- Create programming that allows caregivers to easily and unobtrusively accompany someone with dementia.
- Create programming for dementia-friendly walking groups, such as a memory art trail or mobile library.
- Create opportunities for peer-to-peer connections.
- Improve access to community gardens and community kitchens.
- Create seniors hubs that can support PLWD.
- Create social programming in seniors' focused housing for residents who cannot easily leave their home.
- Expand recreational programming in parks and outdoor spaces.
- Designate off-leash areas for small dogs, catering to seniors.

Accessibility
- Understand that universal accessibility is an evolving concept, and that engaging with people in the community is necessary to understand what works and what doesn't.
- Ensure adequate space to manoeuvre around and access public buildings.
- Provide barrier-free and universally accessible greenspaces.

Land use and urban form
- Plan for compact, walkable areas, which help seniors and PLWD to navigate the community.
- Provide access to outdoor areas and parks of all scales.
- Include diverse and unique retail opportunities in a compact area.
- Provide mixed-use development with connected streets and access to destinations on foot.

Wayfinding

- Understand that cognitive changes, as well as changes in depth perception and gait, can impact PLWD's ability to navigate familiar environments, reinforcing the importance of clear, simple signage at different heights and locations.
- Provide walkability route maps that are co-created with the community.
- Create signage strategies that are clear, visible, and increase ease of navigation.
- Install signs showing locations and walking distances.
- Reduce complex wording in signage.
- Ensure signage has good contrast, clear fonts, and uses pictures where possible.
- Increase directional signage to civic facilities and points of interest.
- Develop maps and wayfinding in larger community parks.
- Add information maps or kiosks at key locations across the city.

Importance of landmarks

- Include public realm features, such as mailboxes and benches, to serve as navigational cues.
- Explore ways to retain connections to familiar landmarks in new developments.
- Explore how public art can play a significant role in creating distinct environments and landmarks.
- Create distinctive architecture to help PLWD navigate the environment.
- Retain heritage buildings that can serve as important landmarks.
- Explore how placemaking (murals, parklets, art) can help people navigate the environment.

Comfort

- Provide quiet areas at events and in public spaces so that people can get away and recharge if they become overwhelmed.
- Provide access to public washrooms—this benefits people of all ages and abilities.
- Increase access to drinking fountains.

Seating

- Provide seating opportunities that look like seating, as creative approaches to benches can result in confusion.
- Provide seating options with armrests.
- Analyze the spacing and location of seating with community members, identifying areas where it could be improved.
- Create parklets with accessible seating and landscaping in busy areas to provide a safe place to rest.

Public transportation

- Add street location signage to bus shelters.
- Increase access to supported transportation options, such as Translink's HandyDart.
- Provide real-time bus arrival information at stops.
- Locate transit stops and align schedules around key resources for seniors.
- Provide seating and shelter at transit stops.

Cycling infrastructure

- Improve separation and safety around bike paths.
- Encourage the use of e-scooters, e-bikes, and adult trikes, such as by offering charging stations and secure places to lock up.
- Separate bikeways to improve bike and pedestrian safety.

Pedestrian infrastructure

- Understand that neighbourhood walkability is a main form of exercise for seniors, and that perceptions of decreased safety, sidewalks that impede mobility aids, a lack of seating, and crosswalks that are difficult to navigate can all deter older adults from walking in the community.
- Improve safety and accessibility through maintenance and design.
- Provide regular curb-cuts to improve accessibility.
- Create sidewalks and trails that are smooth, wide, and well-lit.
- Ensure that pathways to key locations are clear of snow and ice.
- Provide flexible and affordable transit options that cater to seniors.
- Adjust pedestrian crossing times to allow for more time to cross.
- Provide mid-block crosswalks and median rest stops.
- Ensure good visibility at pedestrian crossings.
- Create sidewalk mindfulness safety training programs.

Safety

- Provide well-lit areas and mitigate urban noise to boost PLWD's sense of safety.
- Consider community protocols for missing persons, especially seniors with dementia.
- Consider emergency response protocols, including protocols for checking in on vulnerable residents, such as seniors.
- Use traffic-calming measures to slow down drivers.

6. What initiatives exist outside of Canada?

In this section, we have noted selected initiatives outside of Canada. We did not conduct an extensive search of these initiatives as part of this review. Select international initiatives include:

- The World Health Organization (WHO) launched the global Age-friendly Cities project in 2006. Canada joined the initiative in 2007, launching the Age-friendly Communities initiative.
- The Dementia-Friendly Communities (DFC) movement started in Japan. It is active in the United Kingdom, Europe, Australia, and North America.

The U.K. launched a national challenge to combat dementia in 2012—an unprecedented program of action "to deliver sustained improvements in health and care, and create dementia friendly communities, and boost dementia research (Department of Health, 2020)."

- There are 82 dementia-friendly communities established across the UK (as of 2015).
- A Publicly Available Specification (PAS) for dementia-friendly communities was developed by the British Standards Institute, which will support this designation.
- Plymouth was the winner of Alzheimer's Society Dementia Friendly City Award in 2016, and has implemented five dementia friendly parking spots (British Standards Institution, 2015).

In Cavan, Republic of Ireland, the local dementia-friendly communities initiative is creating a public reminiscence walking trail, which stops at key points. The project is intergenerational and engages local students (Imogen Blood & Associates, 2017).

Australia has produced several documents around dementia-friendly communities.

- One notable Australian initiative is called Men's Sheds. Older men, especially those with dementia, are at high risk of social isolation. In Australia, Men's Sheds are spaces that allow them to come together to work on practical projects with other community members (Dementia Australia, 2019; Imogen Blood & Associates, 2017).

Mapping Dementia-friendly Communities across Europe (2016) outlines several examples of initiatives from across Europe. The document found that:
- There was no single agreed upon initiative for what a dementia-friendly community is.
- Many of the programs were led by NGOs.
- Most dementia-friendly community activity was taking place at regional, municipal, or local levels.

7. What are common barriers and challenges to dementia-friendly neighbourhoods?

Barriers to a dementia-friendly community can be grouped into three categories (Alzheimer Australia, 2014; Miles et al., 2017).
1. Physical environment (places): Poor signage, lack of seating in public areas, and unhelpful public transportation staff.
2. Social environment and inclusiveness (people): Businesses and services staff who are not helpful, and stigma and negativity from community members.
3. Health and community support (processes): Health staff not knowing about dementia and not treating people without respect.

Creating a dementia-friendly community requires support from many different partners and stakeholders (The Brenda Stafford Foundation, 2019).

In particular, creating a dementia-friendly community requires collaboration among multiple municipal departments, who often operate in silos. Creating an "action plan" is often the first step; however, challenges arise with implementation, which require capital expenditures to address.

As noted under Question 4, many design elements that impact PLWD fall under the urban scale. These include urban planning, land use, density, and road networks. For established and existing neighbourhoods, these elements can be difficult to change. Therefore, planning and design guidelines for PLWD should include considerations for both new communities and existing communities. For example, urban infill development and adding mixed-use density to suburban neighbourhoods can have a positive impact on PLWD, even if the road network might not be ideal for PLWD.

8. What are the current gaps within existing policies and guidelines in BC?

Several dementia-friendly planning and design considerations align well with guidelines for universally accessible, compact, and walkable communities. There is no comprehensive, detailed toolkit that has been created within the context of British Columbia. Several studies noted research gaps in the North American context.

Currently, dementia-friendly and age-friendly action plans in British Columbia do not address details around neighbourhood planning and design. Design guidelines can be challenging to create and incentivize because municipalities work within existing policies and plans. There is also the need to understand where incentives are required for developers to take up the guidelines.

References reviewed

Refer to Appendix E.

Appendix C:

Synthesis of interviews with municipal planners

Goals of the interviews

Happy Cities conducted interviews with five municipal planners between November 2022 and January 2023. The purpose of the interviews was to understand current dementia-friendly initiatives across Metro Vancouver, with a focus on how municipalities are implementing their action plans and where gaps still exist.

By collecting qualitative information from these interviews, we sought to ensure that the final Dementia-Inclusive Planning and Design Guidelines acknowledge municipal constraints and best practices within the context of British Columbia. This document synthesizes key information from the interviews and integrates the interview data throughout.

Interview participants

The following individuals participated in a one-hour phone interview, conducted by Madeleine Hebert of Happy Cities:

- Karen Lai, Accessibility Planner at the City of Vancouver (CoV)
- Joanne Franko, Social Planner at the City of Vancouver (CoV)
- Rebekah Mahaffey, Social Planner at the City of Burnaby (CoB)
- Patrick Ward, Social Planner at the Township of Langley (ToL)
- Anthony Kupferschmidt, Social Planner at the City of Richmond (CoR)

Interview questions

The following interview questions were used to guide conversations with each interview participant.

Topic 1: Existing initiatives
- Are there any existing dementia-friendly community (DFC) initiatives in your municipality?
  - Are there any initiatives your municipality is currently developing or planning to develop?
  - What other initiatives intersect with DFC (for example, family-friendly communities, age-friendly communities, equity-focused planning, and universal accessibility)?

Topic 2: Impacts of the built environment on people living with dementia (PLWD)
- How do you think PLWD in your municipality are limited or impacted by the urban environment (for example, streets, sidewalks, public spaces, transit, housing)?
  - Are there any particularly challenging areas?
  - Are there any areas that work well?

Topic 3: Best practices
- Are there any guidelines, municipalities, or examples that you look to for innovative practices around dementia-friendly communities?

Topic 4: Guidelines for design and planning
- How would you use the DFC guidelines?
  - Where and how would you implement DFC guidelines?
  - What level of detail would be helpful for you?

Topic 5: Implementation and incentives
- How could you incentivize and encourage dementia-friendly neighbourhood design in your municipality?

Topic 1: Existing initiatives

The municipalities interviewed were all at different stages of implementation for their dementia-friendly action plans and other dementia-friendly initiatives. Although PLWD are often engaged under the umbrella of seniors, age-friendly, or accessibility considerations, PLWD also have unique needs that are not always addressed through these broader lenses.

City of Vancouver (CoV):
The City of Vancouver is currently involved in the following DFC initiatives and actions:
- The City released the Accessibility Strategy Phase 1 in Summer 2022.
  - As part of the process of creating the Strategy, CoV hosted focus groups for seniors and people with disabilities, including people living with dementia.
  - The City is currently working on its Accessibility Strategy Phase 2.
  - Although the needs of people living with dementia overlap with other disabilities, especially cognitive disabilities, there are some unique accessibility needs.
- Currently, CoV does not have a comprehensive dementia-friendly strategy.
  - The City's age-friendly policy is outdated.
  - The City considers some age-friendly policies in the Accessibility strategy, Equity strategy, and Greenest City Framework.
- CoV is considering hiring a dedicated age-friendly planner.
- CoV is interested in participating in more regional conversations around age-friendly and dementia-friendly communities.

- The Community Centre strategy addresses the design of the built environment (for Community Centres specifically) for PLWD and cognitive impairments.
  - Areas of focus include signage and wayfinding. The strategy explores how design can be leveraged to help people orient themselves in and around public buildings.
- CoV has good transit accessibility, compared to other areas in B.C., through services provided by Translink. There is still room for improvement to accommodate more diverse needs.

City of Burnaby (CoB):
The City of Burnaby is currently involved in the following DFC initiatives and actions:
- The Dementia-Friendly Action Plan is the central policy document at the City of Burnaby for DFC initiatives.
- CoB has an advisory group for accessibility that includes PLWD as members.
  - The advisory group has a budget in place to improve mostly civic facilities.
  - The advisory group reviews plans for new civic developments from an accessibility lens (including dementia).
- In addition, there is a community group that reviews pedestrian infrastructure standards, such as curb cuts and town design standards. This group also conducts walkthroughs of neighbourhoods to identify challenges.
- The City is working on customer service training with front counter staff (in the property tax department in particular).
  - CoB is working with the Alzheimer Society of B.C. to develop the training best practices.
- CoB is working with its Parks & Recreation Department to train staff on adapted programming for PLWD.
- A dementia café operates in Burnaby. The café is funded by CoB and operates in a city-owned space

Township of Langley (ToL):

The Township of Langley is currently involved in the following DFC initiatives and actions:

- ToL created an exploratory committee in 2010 with a dementia-friendly taskforce.
- ToL updated its [Age- and Dementia-friendly Action Plan](#) in late 2021, working with the Alzheimer Society of B.C.
  - Through this experience, ToL has learned the importance of differentiating between actions for age-friendly cities and dementia-friendly cities, recognizing the unique needs of PLWD.
- Currently, ToL is revising signage guidelines for public facilities to improve wayfinding.
- ToL is proposing to pilot parts of the Age- and Dementia-friendly Action Plan in certain neighbourhoods.
  - Through this process, ToL has found that it can be challenging to translate policy into action with limited staff and financial resources.
- ToL is updating its web pages to link to dementia resources.
- ToL is considering PLWD in the update of the Emergency Response Plan for extreme heat events and other emergencies.
- ToL wants to implement staff training.
- Currently, ToL staff lack tools to assess the impact of their DFC initiatives.
  - Understanding the needs of care partners and implementing programming for PLWD would be an important next step.
- ToL plans to focus on parks in the near future, such as updating signage and seating.
- ToL is in the early stages of a new transportation and mobility strategy. The municipality plans to include a dementia-friendly approach in this planning process.

City of Richmond (CoR):

The City of Richmond is currently involved in the following DFC initiatives and actions:

- The [Dementia-Friendly Action Plan](#) was released in 2019, intended as a five-year action plan.
- Richmond has released a new [10-year Seniors Strategy](#) with enhanced design guidelines.
  - The Strategy includes an accessibility lens.
  - One goal of the Strategy is to integrate actions from the Dementia-Friendly Action Plan.
- CoR had a six-month gap in staffing around seniors' social planning, so staff are behind in implementation.
- The municipality has an important role to play in convening and connecting with other municipalities and organizations. Even among people working on DFC initiatives, there are still silos.
- The City also has opportunities to test ideas in specific neighbourhoods or provide grants for organizations supporting PLWD.
- The City is planning on offering training opportunities to help care partners and employees better navigate municipal systems.
- The City is also convening all staff who work with seniors to understand what each person is working on and how they can collaborate across municipal departments.
- CoR will likely create a document that helps staff navigate interactions with PLWD.
- The interview participant strongly supports the idea of a network across the Lower Mainland of staff who are working on aging and dementia issues.

Topic 2: Impact of the built environment for PLWD

Municipalities should focus on making neighbourhoods recognizable, memorable, and intuitive to navigate. These goals are challenging to implement in a rapidly changing community.

Building edges: Building edges should be easy to read and recognize.
- The facades of buildings should be designed to show what their function is (ToL).
- Buildings with facades that are entirely glass (such as Edmonds Community Centre) can make it difficult for visitors to find the entrance (CoB).

Changing city: Navigating the city is challenging because cities are constantly under development.
- Construction sites are required by bylaws to create safe pedestrian pathways with signage and accessibility features, but this is difficult to enforce (CoB).
- Pedestrian infrastructure (such as sidewalks) can be inconsistent across a block. Often, the cost of sidewalks and bike lanes is covered by developers. This means that as each site gets redeveloped along a street, the infrastructure slowly gets improved over time. It can be difficult to create consistent and connected infrastructure in the short term (CoB).
- Long-time residents don't recognize the community anymore because everything has changed so quickly due to development (ToL).

Pedestrian infrastructure: Municipalities need to look at pedestrian infrastructure, such as transit shelters and pedestrian crossings with a detailed lens (CoR).

Wayfinding and signage: Municipalities need to make it easier for people with cognitive impairments, including dementia, to navigate the neighbourhood environment. Newcomers or visitors also benefit from clear signage. Important considerations include:
- Lowering the level of signage so that it is at the eye level (CoV).
- Creating signage with good colour contrast between background materials and lettering (CoV).
- Placing directional signage at critical decision points (CoV).

Community awareness: Everyone, but particularly municipalities, can play a stronger role in ensuring that public-facing staff are aware of PLWD in the community and know how to help.
- People in cities have grown reluctant to approach someone and offer help, especially with the rising homelessness and addictions crisis (CoV).
- Training for people working in public facilities and core services is essential (CoV, CoR).
- PLWD need help if they become disoriented (CoV).
- Cities should consider testing or piloting an emergency missing persons system (silver alert). These systems have both successes and challenges (CoR).
- Cities need to ensure that they are considering PLWD in their emergency planning. There is currently a big push around emergency planning, and often the needs of people living with dementia are not considered (CoR).

Community-based services: Community services are critical to support PLWD and caregivers.
- Seniors centres in Vancouver work well to support PLWD (CoV).
- Seniors programming in recreation centres could be further enhanced (CoV).
- Community organizations (e.g., West End Seniors' Network) are vital to support PLWD and their care partners (CoV).
- Municipalities and designers should engage with PLWD and care partners when designing community centres (CoR).

City topography: Level changes can make it challenging to navigate the environment.
- For example, the locations of Vancouver City Hall and General Hospital (at the top of a hill) make it challenging for wayfinding and difficult to access from other parts of the city (CoV).
- Vancouver is a difficult city to navigate in general because of the topography (CoV).

Bike lanes: The location of bike lanes can be dangerous for PLWD.
- For instance, when the bike lanes are between the road and a critical drop-off area, they pose a risk to older adults and PLWD (CoV).
- In some cases, PLWD need to cross a bike lane to access a transit stop, which can pose risks and challenges. This can be mitigated through careful design (CoV).

Parking and drop-off: Having safe drop-off areas is crucial for PLWD and their care partners (CoV).
- For example, it can be difficult to drop someone off in Vancouver, as there are not a lot of spaces to pull over. For a caregiver of a person living with dementia, the lack of drop-off spaces can be very challenging (CoV).
- Thinking about the design of drop-off areas for senior-oriented housing is very important (CoV).

Housing:
- Cities need more affordable, appropriate, available housing to support PLWD (CoV, CoB).
- Creating more intergenerational housing can help caregivers to support their family (COV).
- Adaptable housing unit requirements don't specifically consider cognitive impairments. These design guidelines are restricted by the B.C. Building Code and funder requirements (for example, BC Housing or CMHC) (ToL).

Public washrooms (COB, TOL):
- Safety and maintenance for public washrooms tend to be challenging for municipalities. If maintenance isn't done regularly, then the spaces aren't usable (CoB).
  - Several public washrooms end up being locked because they are seen as unsafe by members of the public due to poor maintenance (CoV, CoB).
- Public washrooms require obvious signage so that people know that they can access a washroom nearby (CoR).

Local, small-scale commercial spaces:
- Small-scale commercial spaces (e.g. corner convenience stores, community coffee shops) serve as landmarks and help residents access services near their homes (CoB).
- Municipalities are focusing development of mixed-use buildings on arterial roads, but we also need to think about infrastructure in existing neighbourhoods (CoB).
  - In particular, there are a lot of single-family zoned neighbourhoods in Metro Vancouver that prohibit any kind of other use other than residential.

Quiet areas to regroup:
- Creating quiet and safe areas for PLWD to rest if they feel overwhelmed is important for both exterior and interior public spaces (ToL, CoR).

Topic 3: Best practices

Municipal planners identified the following documents for best practices through the interview process:

- B.C. Accessibility Plan
- Documents from the United Nations
- The North Shore Dementia-Friendly Action Plan is a good example of a partnership between three municipalities.
- The British Standards Institute Publicly Available Specification (PAS) Code of Practice for the Recognition of Dementia-friendly Communities is a good resource.
- The AskSARA website has information about assistive technology, such as aids and adaptations in housing.
- Alzheimer Society of B.C. Dementia-Friendly Communities Local Government Toolkit

Topic 4: Guidelines for design & planning

Municipalities need clear guidance on neighbourhood design:

- Currently, urban planners and developers don't have the right structures in place to maintain sustainable, dementia-friendly communities (CoV).
- There is a knowledge gap around the built environment. Action plans don't get specific in terms of design (ToL).
- There is need for clear guidelines for designing the physical environment around the needs of PLWD and caregivers (CoV).
- Municipalities need clear, comprehensive guidelines to uphold development and building requirements for improved accessibility (CoV).
- Clear guidelines could be incorporated into other documents, such as the Seniors Housing Strategy, Age-Friendly Strategy, and Accessibility Frameworks (CoV).

Guidelines should tie into existing accessibility goals and policies (CoB):

- Dementia-friendly community initiatives should tie into physical accessibility goals. By identifying where there are overlaps, municipalities can ensure that changes benefit more people and face less pushback (CoB).

Topic 5: Implementation & incentives

Involving PLWD and care partners in the planning process:

- Municipalities need guidance on including PLWD in public consultation processes (CoB).
  - For example, the public hearing process tends to be combative and challenging for staff to navigate with equity in mind.
    - Allowing space for PLWD and other vulnerable groups to give input is challenging and needs to be done with proper consideration and sensitivity (CoB).
- Planning should involve people living with dementia (and their care partners) in advising on new developments and making others aware of the issues that people with dementia face in accessing the built environment (CoB, CoV).
- There needs to be an accountability framework that accompanies strategies and includes public feedback mechanisms (CoV).

Funding for community organizations:

- Municipalities should improve funding to support organizations that provide direct, community-based services to people living with dementia and their care partners (CoV).

Awareness:
- Municipalities should raise the profile of DFC initiatives to increase reach and awareness to different groups in the community, including municipal employees.
  - For example, housing planners can learn what adaptations can support people living with dementia to age in place.
  - Transportation planners can consider the needs of people living with dementia in the development of their services so people will continue to have the confidence to travel and ask for help when required (CoV).
- A municipal awareness campaign can make a positive impact and reach a lot of local community groups (CoR).
- Municipalities should liaise and communicate with community organizations, such as libraries and community centres (CoR).

Design and planning requirements for developers:
- It takes time for new design standards to actually influence the built environment (CoB).
- Municipalities have many hurdles to overcome in order to translate design guidelines into policies (CoB).
- Existing requirements, such as building codes, take precedence over design best practices (CoB).

Dementia-friendly business recognition programs:
- Business recognition programs are run by municipalities and provide a small recognition-based incentive that shows customers that a business is age-friendly or dementia-friendly (CoV).

Appendix D:

Community forum findings

Community forum summary

The community forum took place on Jan. 31, 2023 at SFU Harbour Centre. The forum was a half-day event. Happy Cities and the DemSCAPE team co-facilitated the session.

The community forum had three goals:
- **Goal 1:** Provide attendees with an overview of why the neighbourhood built environment is important for persons living with dementia, based on research and lived experience.
- **Goal 2:** Get feedback on the draft Planning and Design Guidelines for dementia-friendly neighbourhoods.
- **Goal 3:** Raise awareness about the needs of persons living with dementia in the community and provide guidance to municipalities and organizations in adopting the findings of this research.

The event was attended by the following stakeholders:
1. Joanne Franko, City of Vancouver
2. Maita Santiago, City of Burnaby
3. Anthony Kupferschmidt, City of Richmond
4. Cleo Breton, City of Surrey
5. Heather Cooke, Alzheimer Society of B.C.
6. Dhruva Aggarwal, Alzheimer Society of B.C.
7. Sana Aziz, Alzheimer Society of B.C.
8. Jen Lyle, Alzheimer Society of B.C.
9. Abdul Zahir, Civic Innovation Lab
10. Aleix Haig, TAPS at Burnaby Neighbourhood House
11. Faryar Mohammadi, Burnaby Seniors Outreach
12. Mario Gregorio, Person with lived experience
13. Luz Cruez, Community advocate
14. Sam Cheng, Community advocate
15. Myrna Norman, Person with lived experience
16. Lynn Jackson, Person with lived experience
17. Mohammad Javad Nouri, Simon Fraser University

Session agenda

Time	Activity
9:05 - 9:25	Introductions and background - presentation
9:25 - 9:40	Ice breaker activity
9:40 - 9:55	Learning about the guidelines - presentation
9:55 - 10:05	First break
10:05 - 10:45	Breakout activity 1
10:45 - 11:00	Second break (and switching tables)
11:00 - 11:40	Breakout activity 2
11:40 - 11:55	Sharing with the whole group
11:55 - 12:00	Closing statements
12:00	Lunch and photo exhibit

Breakout discussions

During the breakout activities, participants were split into five groups.

- The goal of Activity 1 was to explore all the proposed design elements in the draft Guidelines at a high level. Participants were provided with a deck of cards showing all the draft strategies and actions, including images and text descriptions. Participants were encouraged to draw on both personal and professional experience to discuss the Guidelines, and select their top (most important) three to five strategy cards as a group.
- The goal of Activity 2 was two-fold. The first was to dive deeper into understanding how the Guidelines could be implemented at the municipal level. The second was to continue to explore the proposed strategies and actions through the lens of lived experience.

Summary of findings

In general, participants were supportive of the guidelines, agreed with the chosen strategies and actions, and offered many related ideas and examples

The top three strategies selected by table groups were:

- 2.1. Pedestrian paths and sidewalks
- 3.4. Public toilets
- 3.5. Signage

Participants from municipalities identified the following broad challenges and considerations for implementation:

- Financial considerations
- Integration with existing municipal plans and processes
- Education and awareness among municipalities and staff
- Adaptability and flexibility of the Guidelines
- Universal Design
- Comprehensiveness
- Political will
- Diverse end users for the Guidelines

Participants with lived experience and community advocates identified the following broad challenges for PLWD:

- Education and awareness
- Stigma
- Limited resources
- Social connection
- Changing urban environments
- Urban design and moving around the city

Through a "magic wand" exercise, where participants were asked about what they wish they could immediately change in their community, participants discussed ideas and solutions around three further topics:

- Greater education and awareness around living with dementia
- More community spaces (indoor and outdoor)
- More community services (and funding)

Summary of breakout activity #1:

The following strategy cards were each identified as top priorities by:

Three groups:

- 2.1. Pedestrian paths and sidewalks
- 3.4. Public toilets
- 3.5. Signage

Two groups:

- 1.1. Land use designation
- 2.3. Building edges and entrances
- 3.1. Seating

One group:

- 1.3. Building form
- 1.4. Transit routes
- 2.2. Pedestrian crossings
- 2.4. Transit stops
- 3.2. Public Art
- 3.3. Placemaking
- 3.8. Lighting
- 3.10. Vegetation

Summary of breakout activity #2:

Groups 1 & 2: Municipal planners / policy

Challenges and considerations for implementation

Financial considerations:
- Municipalities have limited funding, and may need to allocate funding to adapt the guidelines for their communities.
- Municipalities need funding for age-friendly community initiatives with a dementia-friendly focus.
- Investing in dementia-friendly communities can save costs for governments (i.e., in public health spending). There is a need to demonstrate the economic side to convince decision makers and politicians.

Integration with existing municipal plans and processes:
- Official community planners may use the guidelines as a specific plan.
- There will be a lot of overlap between these Guidelines and others. The document's distinctiveness for PLWD should be very clear and relevant.
- Municipalities internally need to discuss how to implement these guidelines
- It is helpful for staff to have very concrete examples to point to.
- There is great need for more affordable housing.

Education and awareness among municipalities and staff:
- Municipalities could train staff to implement a dementia-friendly lens on all work, including:
  - Examination of development applications
  - Neighbourhood planning guidelines
  - Official Community Plan (OCP) planning processes

- Representatives should come to explain and present the Guidelines to important stakeholders once they are published, including municipal planning departments (interest from City of Surrey). This presentation could include:
  - Sharing best practices from the Guidelines, which are relevant to both program planning and urban planning.
  - Informing different teams about the pieces that directly apply to them.
- Following this presentation, an internal process would follow within the municipality (if there is political will) to see what staff should do with the guidelines and how the municipality can enhance policies in place according to best practices.
- There is a need for education around dementia-friendly communities more broadly, such as around building design:
  - For example, sometimes developers come to the city with plans, and it's too late to ask for significant changes. Cities need something to point developers to and say, "this is what you need, and why."

Adaptability and flexibility:
- Guidelines that apply in Vancouver might not apply in Surrey (which as very different density, land use, street grid, block size, etc.).
- The Guidelines can indicate applicability of different strategies to different contexts, or how the strategies can be adapted to meet local needs.

Universal Design:
- Using the "universal" language is also relevant. Dementia-friendly is everyone friendly (e.g., universal public washrooms; transportation, etc.).
- The Guidelines should communicate that this is one step closer to being an accessible city.

Comprehensiveness:
- It is helpful to include a wide range of actions, offering flexibility for cities to pick and combine different elements.
- We saw that different principles and strategies were meaningful to different people today at the community forum. What speaks to a person depends on their personal experience.
- Many strategies need to be used together or in combination

Political will
- Action plans are often created, but an important question is how to ensure they are implemented.
- Municipal staff don't have the power to decide whether to implement a plan on their own.
- Dementia-friendly planning needs to be on the mayor and Council's agenda. The community needs to ask for it, too (ties back to education and awareness-building piece).
- Ideally, municipalities can consider hiring a designated planner for seniors or PWLD. Someone needs to have the role of holding the municipality accountable. Hiring depends on financial resources, however.

Diverse end users for the Guidelines:
- Guidelines can be for residents, too. For example, one participant lives in a co-op. If they had more resources, they could do the placemaking in their community. Resident groups need knowledge, and then support to implement.

Items that would be useful to include in the Guidelines:
- Case studies
- Data to help planners to know which policies will work for their community
- Step-by-step guide on how to integrate these guidelines into work
- Stories from PLWD and concrete things cities can do to improve people's lives

Groups 3, 4 & 5: Lived experience

Existing challenges for PWLD:

Education and awareness:
- Dementia has no visible signs.
- People don't know what dementia is, or may only know about Alzheimer.
- People may misunderstand PLWD.
- Wearing signs to indicate to people that someone has dementia can be helpful (although not everyone may want to wear a sign).
  - Visible signs can be useful when PLWD get on the bus or run errands.
  - However, PLWD may worry how others will see them if they wear signs.
  - In the U.K., they have sunflower signs (indicating invisible disabilities), helping people to understand.
  - There is a YVR sunflowers lanyard (green vest YVR will walk you through, all the way until you are safely seated).
- PLWD can experience denial or lack of understanding from their families.
  - For example, families may stop PLWD from doing daily activities.

Stigma:
- There are barriers for people to come out.
- The diagnosis itself can be self-stigmatizing.
- Different cultures may have varying levels of stigma and perceptions of dementia.
- One generation will affect how the next generation feels or perceives dementia.
- People often hear the word "Alzheimer" and think of negative things. They don't see there's life after the diagnosis. You can still exist.
- People that are recently diagnosed with dementia may have specific needs.

Limited resources:
- There are people who are on the waiting list for the dementia friendly cafés.
- Organizations always need more volunteers.
- There is not enough funding for events for PLWD and their caregivers.
  - For example, there is an organization that has been around for seven years. There are events held every month for PLWD and caregivers to be meaningfully engaged, but it is very difficult to find funding. There are about 20 people who are caregivers, and they do fun activities (e.g. go to movies). Caregivers and PLWD want to live normal lives and have fun.
  - Lack of funding leads to fewer events, creating a negative impact on accessibility to social engagement opportunities for PLWD and their caregivers. A local seniors network gives space, but that is not enough.

Social connection:
- It's hard for PLWD to keep socially engaged.
- PLWD face challenges in reconnecting with people since COVID-19:
  - Programs shifted from in-person to online.
  - Event organizers identified that for PLWD, the disease has been progressing in months.
- PLWD lack ideal social spaces for events:
  - For example, at North Burnaby, organizers face barriers including no amenities, and not enough chairs or sitting areas.
  - With more and more extreme weather conditions (e.g. very hot/cold/rainy), people easily feel stuck in their own apartment.
  - Many people have limited access to open green space.
    - We have parks for children and dogs; there should be a park for PLWD.
  - Some local seniors networks provided space, but that is not enough.

Changing urban environments:
- Cities are growing fast, and new growth doesn't always align with what PLWD need.
  - Signage changes often.
  - Construction is constant.
  - Densifying can lead to increased noise and business.

Urban design and moving around the city:
- Lighting:
  - Lighting is poor in residential areas
- Transit:
  - Many groups and participants mentioned that it's hard to find bus stops that are not clearly marked, or have small or unclear signage.
    - PLWD rely on public transit to maintain and enhance their social connection.
  - Need more transit options at community scale (around campus, Specific areas)
- Wayfinding:
  - Need more clarity and intuitiveness
- Pedestrian paths:
  - Not enough sidewalks (some streets don't have any)
  - Sidewalks are too narrow
  - Tree roots can make sidewalks uneven and difficult to walk on
  - Extreme weather (e.g. snow)
  - Construction blocks sidewalks
- Crosswalks:
  - Not enough time for to cross the road
  - Crosswalks are too far away from each other
- Topography:
  - For those living up a hill, it is difficult to get into town.
- Lack of Universal Design (e.g., clarity, intuitiveness, language choice):
  - Some things just need small tweaks to be more accessible
  - Old buildings don't abide by new standards

Education and awareness around living with dementia:

Participants identified the following elements as impactful in increasing education and awareness:

- City planners can work with ASBC in partnership to increase education and awareness.
- Public community events to connect people can showcase positivity and remove stigma. These events can:
  - Include different generations.
  - Show how people living with dementia still can actively participate in the society: "I am still able".
  - For example, there is a Japanese dementia restaurant, where people coming in will understand about dementia (an initiative by municipalities)
- Environments where people feel safe will encourage more people to come out.
- Community effort (e.g., volunteers)
- Messaging (give the sense of hope and positivity)
- Funding
- Culturally relevant activities
- Partnerships with art gallery or museums for PLWD
- Partnerships with municipalities: Cities plan events/ initiatives and invite people with dementia and care partners
- Partnerships with business community

Community spaces (indoor + outdoor)

- PLWD need access to more accessible community spaces for social connections.
- Communities can identify safe spaces for caregivers and PLWD.
- More outdoor spaces (e.g., parks, green spaces)
- More indoor spaces:
  - Some social rooms in towers are not always used. It would be great if PLWD could utilize them for events, which improves social inclusion.

Community services

- PLWD would benefit from 24-hour community service. Examples given by participants include:
  - Support for seniors who cannot sleep well at night, whether due to feeling stressed or anxious. It would be nice if they have places to go and can do something to pass the long night time.
  - It will also be great if they have someone to talk to and share their experiences or challenges with.
  - There could be mobile service provided in a portable vehicle in each city for seniors to access to services.
- Community centres need to have something for everyone, including PLWD. It would be good to know about this in the Guidelines.

All comments related to specific strategies and actions were integrated into the final version of the Guidelines.

Appendix E:

References

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The following tables summarize general references for each realm and strategy contained within the Guidelines. For actions that cite a particular numeric value (for instance, sidewalks that are 1.8m wide), references are included in the table below. The information for all other actions was derived from the resources listed under the strategies, and/or data collected during interviews with municipal planners and at the community forum.

Document section	Key references
Impact ("By the numbers" infographic)	Alzheimer Society of Canada. (n.d.); World Dementia Council (2020)
Six principles for dementia friendly neighbourhoods	Burton & Mitchell (2010); Dementia Friendly Australia (2019); Fleming & Bennett (2017); Wolfe (2017); Yuen et al. (2020)
Realm 1: Neighbourhood scale	Burton & Mitchell (2006); Burton & Mitchell (2010); Gan et al (2021); Manasan (2019); Mmako et al. (2020); Walsh et al. (2020).
Strategy 1.1. Land use designation	Architects Johannsen + Associates (2016); Biglieri (2021); Burton & Mitchell (2006); Gan et al. (2022)
Action 1.1.1: Provide walkable access to primary services	Biglieri & Dean (2022); Pani (2016)
Strategy 1.2. Street grids	Architects Johannsen + Associates (2016); Biglieri & Dean (2022); Burton et al. (2004); Halsall & MacDonald
Action 1.2.2: Create small street blocks	Architects Johannsen + Associates (2016); Burton & Mitchell (2006)
Strategy 1.3. Building form	Architects Johannsen + Associates. (2016); Biglieri (2021); Burton & Mitchell (2006); Burton et al., 2004; Dementia Australia (2019); Hampshire City Council et al. (2012); Smith (2017); Prior (2012); Sturge et al. (2021)
Strategy 1.4. Transit routes	Architects Johannsen + Associates (2016); Gan et al. (2022); Government of Canada (2019); Sturge et al. (2021)
Strategy 1.5. Open spaces	Architects Johannsen + Associates (2016); Astell-Burt et al. (2020); Burton et al. (2004); Gan et al. (2022); Mmako et al. (2020); Yuen et al. (2020)
Action 1.5.3. Design frequent parklets or small-scale green spaces	Architects Johannsen + Associates (2016); Pani (2016)

Document section	Key references
Realm 2: Street scale	Biglieri & Dean (2022); Burton et al. (2004); Local Government Association of the United Kingdom (2015); Sturge et al. (2021)
Strategy 2.1. Pedestrian paths and sidewalks	Architects Johannsen + Associates. (2016); Biglieri & Dean (2022); British Standards Institution (2015); Burton & Mitchell (2006) Government of Canada (2019); Local Government Association of the UK (2015); Standing Senate Committee on Social Affairs, Science and Technology (2016)
Action 2.1.1. Design wide sidewalks	Architects Johannsen + Associates (2016); City of Boston (2013); City of Vancouver Accessible Street Design Guidelines (n.d.); I'DGO (2013)
Strategy 2.2. Pedestrian crossings	Architects Johannsen + Associates (2016); Biglieri (2021); Biglieri & Dean (2022); Burton & Mitchell (2006); Dementia Australia (2019); Dementia Friendly America (2022); Manasan (2019); Smith (2017); Sturge et al. (2021)
Action 2.2.1. Create frequent pedestrian crossings	Stangl (2014); National Association of City Transportation Officials (2016)
Action 2.2.3. Provide pedestrian islands in the middle of busy roads	Architects Johannsen + Associates (2016); National Association of City Transportation Officials (2016)
Strategy 2.3. Building edges and entrances	Architects Johannsen + Associates (2016); Biglieri (2021); Burton et al. (2004); Burton & Mitchell (2006); Miles et al. (2017); Pani (2016); Prior (2012)
Strategy 2.4. Transit stops	Architects Johannsen + Associates (2016); Burton & Mitchell (2006); Biglieri (2021); British Standards Institution (2015)
Strategy 2.5. Parking and drop-off	Architects Johannsen + Associates (2016); Local Government Association of the UK (2015)

Document section	Key references
Realm 3: Detailed design scale	British Standards Institution (2015); Gan & Trivic (2021); Houben et al. (2019); Kelson et al. (2017); Matthews et al. (2022); Prior (2012); Sturge et al. (2021)
Strategy 3.1. Seating	Architects Johannsen + Associates (2016); Biglieri (2021); Burton & Mitchell (2006); British Standards Institution (2015); Dementia Australia (2019); Hampshire City Council et al. (2012); Smith (2017); Yuen et al. (2020)
Action 3.1.1. Create accessible seating	Architects Johannsen + Associates (2016); British Columbia Office of Housing and Construction Standards (2020); I'DGO (2013)
Action 3.1.3. Place seating frequently and strategically	Architects Johannsen + Associates (2016); I'DGO (2013); Pani (2016)
Strategy 3.2. Public art	Architects Johannsen + Associates (2016); Kelson et al. (2017)
Strategy 3.3. Placemaking	Architects Johannsen + Associates (2016); Biglieri & Dean (2022); Kelson et al. (2017); Manasan (2019); Pani (2016); Sturge et al., 2021; Yuen et al. (2020)
Strategy 3.4. Public toilets	Architects Johannsen + Associates (2016); Biglieri (2021); British Standards Institution (2015); Burton & Mitchell (2006); Dementia Australia (2019)
Strategy 3.5. Signage	Architects Johannsen + Associates (2016); British Standards Institution (2015); Dementia Friendly America (2022); Hampshire City Council et al. (2012); Smith (2017); Sturge et al. (2021)

Document section	Key references
Strategy 3.6. Ground treatments	Architects Johannsen + Associates (2016); Smith (2017)
Action 3.6.1. Choose flat, smooth, non-slip paving	Architects Johannsen + Associates (2016); British Columbia Office of Housing and Construction Standards (2020)
Action 3.6.2. Ensure grates and drains are flush with paving	Architects Johannsen + Associates (2016); British Columbia Office of Housing and Construction Standards (2020)
Strategy 3.7: Grade (level) changes	Architects Johannsen + Associates (2016); British Columbia Office of Housing and Construction Standards (2020)
Action 3.7.1. Create gentle level changes	British Columbia Office of Housing and Construction Standards (2020)
Strategy 3.8: Lighting	Architects Johannsen + Associates. (2016); Hampshire City Council et al. (2012); Figuerio (2001)
Strategy 3.9: Acoustics	Architects Johannsen + Associates (2016); British Standards Institution (2015); Dementia Australia (2019); Houben et al. (2019); Sturge et al., 2021; Yuen et al. (2020)
Strategy 3.10: Vegetation	Architects Johannsen + Associates. (2016); Astell-Burt et al. (2020); Mmako et al. (2020)