

Recreation pathways (ASLA, 1975, p. 53)

Urban Design

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Attention to urban design can address many issues that arise in the planning process.

Urban design encompasses the physical features of the built environment. Planners, designers, architects, and decision makers all influence a community’s urban design features, although the effects of these designs are not always conscious or intended. Attention to urban design can address many issues and concerns that arise in the planning process. In creating age-friendly communities, design features that promote safety (3), recreation (5), accessible transportation (1, 6), and walkability (8) are of particular interest.

The design of space and objects determines who can access a space, and how we feel in a place. This document introduces several concepts of urban design that are important in creating age-friendly communities. Universal design describes features that are designed to be useable by the greatest extent of users, regardless of age, ability, or status (Story, 1998). The concept of universal design is not new, but many spaces and features of Canadian communities do not allow for a wide range of users. Crosswalks are a common consideration for age-friendly communities, but are exceedingly dangerous when universal design features are forgotten (Dumbaugh & Rae, 2009). Although curb cuts have become standard in many communities, a lack of alignment cues and other crossing indicators create a disadvantage for pedestrians who have limited mobility, or are vision or hearing impaired (Scott et al., 2011). Way-finding is a method of enabling navigation for those with dementia, or indeed anyone who may struggle to navigate a new environment (Mitchell et al., 2003). Designs that create safe, accessible, and comfortable pedestrian environments lead to communities to be enjoyed by all ages and abilities.

Universal Design

Universal design is guided by seven principles. The design should be of equitable use, flexible in use, simple and intuitive to use, communicate perceptible information, minimize hazards through a tolerance for error, operate by low physical effort, and provide an appropriate size and space for approach and use, regardless of the user’s body size, posture, or mobility (Story, 1998, pp. 7). Site design that follows the principles of universal design is an effective way of including many age-friendly characteristics in a community. Following are several examples of universal design principles applied to public spaces.

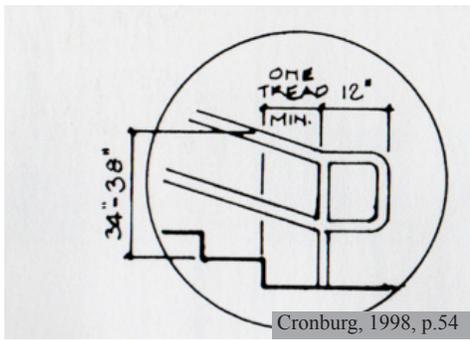


Figure 2: Handrails are required to have horizontal extensions beyond the bottom and top of stairs.

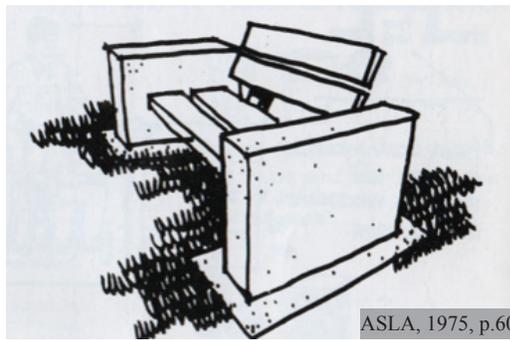


Figure 3: Seats should be smooth, and include back supports and arm rests.

Entrances should be designed to stand out as a main entrance. Light colour tones diffuse light and increase visibility (Canadian Human Rights Commission, 2006).

Signage should be large enough to read without squinting, and placed at a height that people of all heights, including seated, can read. When possible, images should replace text to accommodate for those with low literacy. Signs should be well lit, conveniently placed, and written clearly and in high-contrast text (American Society of Landscape Architects, 1976).

Street furniture should be smooth, without sharp edges or recesses that may hold water or food particles. The ideal seat height from the ground is 50 cm. Seats should include back supports, arm rests, and be able to support a minimum of 115 kg. Materials that do not retain heat or cold are preferable (American Society of Landscape Architects, 1976).

The best practice for handrails is determined to be two handrails, at approximately 70cm and 90 cm in height, in a contrasting colour to the surrounding surface. Handrails are required to have horizontal extensions beyond the bottom and top of the ramp or stairs (Canadian Human Rights Commission, 2006).

Paving is most accessible when it is smooth, anti-slip, and less than a 5% gradient. Drainage mechanisms should be flush with the surface, and not have bars with more than 2 cm gaps (American Society of Landscape Architects, 1976). Brick and cobblestone should be complimented with adjacent smooth paths (Cronburg, 1998).

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Crosswalks

Pedestrian safety and accessibility is a concern in many communities, especially for residents with limited mobility. Urban arterials and adjacent commercial developments are associated with increased incidences of traffic related injuries, while pedestrian-oriented (8) high-density communities were associated with fewer crashes (Dumbaugh & Rae, 2009, pp.309) (3,6). Traffic calming methods such as the use of speed bumps, curb bump-outs, and changes in line markings, paving, and orientations of parked cars, are used to slow vehicular traffic around high use pedestrian areas (Frank, Engelke, & Schmid, 2003).



Figure 4: Misaligned tactile paving may lead pedestrians into traffic.



Figure 5: Bar tiles that are parallel to the walking direction help align pedestrians with crosswalks.

There are several types of crosswalks that can allow for the safe navigation of pedestrians through traffic: unmarked crosswalks, marked crosswalks (with white or yellow angled or lateral zebra lines), signed and marked crosswalks, special cross walks (featuring over head signs), and signalized crosswalks (Braaksma, 1976). Pedestrians with vision impairments rely on audio and tactile signals to identify safe road crossings. Scott et al. evaluate six types of alignment cues: slope-only curb ramps, perpendicular bar tiles, parallel bar tiles, detectable warning with a bar tile, arrows, and returned curbs (for example, lined by planters) (2011, pp. 651 – 653). It was found that underfoot bars perpendicular to the desired walking direction, and simulated curbs oriented parallel to the desired direction of travel, were the most effective in orienting visually impaired pedestrians. Maintaining alignment is of equal concern, although currently less popular in research literature.

Guidelines that specify tactile paving as an age-friendly quality do not accommodate for the lack of standards regarding this sidewalk treatment. Misuse of tactile pavement includes using non-standard colours (red for controlled crossings, and other contrasting colours for uncontrolled crossings), too deep or too shallow blisters, slippery blister materials, materials which easily break apart, and placement of blisters in too close to vehicular traffic. It is recommended that tactile paving be considered early in the design process, and outlined in relevant policy documents (Towers, 2007).

Way finding

Urban design features that create familiarity, comfort, and safety have been shown to enable way finding.

Appropriate street scale increases comfort for pedestrians with dementia. Typical arterial streets are constructed at a vehicular scale, with buildings and signage spaced far apart and set back from the street (Frank, Engelke, & Schmid, 2003, pp. 163). This type of environment is extremely alienating at a pedestrian scale, and particularly difficult to navigate for those with memory loss. Instead, small blocks, connected routes, good visual access, varied urban form and architectural features, and distinctive, unambiguous environmental cues are urban design features that enhance orientation for people with dementia (Marquardt, 2011, pp.85). Using urban design features such as these to create familiarity, distinctiveness, accessibility, comfort and safety has been shown to enable way finding (Mitchell et al., 2003).

Urban design and age-friendly communities

It is important to remember the local context of any project. Universal design has been critiqued as being a top-down approach that assumes one solution will meet an entire spectrum of needs (Imrie, 2012). Solutions that involve local participation can inform communities about urban design solutions. One approach to promoting age-friendly strategies is to form a retail – community – university partnership (Price et al., 2004). Efforts to promote age-friendly communities increase awareness about urban design and positively shape the urban form of the local area. Urban design techniques can effectively and creatively meet many of the needs of age-friendly communities (Carman & Fox, 2008).

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