Universal Design

Guide Book

WISHCAMPER PARTNERS

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WISHCAMPER PARTNERS

Wishcamper Development Partners ("Wishcamper") is a real estate development company that operates exclusively in the field of affordable housing. Wishcamper's principals have over 80 years of combined experience across 23 states; having developed or redeveloped over 15,000 units of affordable apartment housing since the early 1970's. More can be learned at www.wishcamperpartners.com.

A CORE TENET: UNIVERSAL DESIGN

Environments that meet the principles of universal design are barrier-free, ergonomic, and accessible by all people.

When applied to the physical environment at the community scale, universal design takes mobility into account in every layout concept and every detail. Universal design is applied to streets and trails, homes, businesses, and civic facilities. It's an ethic as well as an aesthetic; when a community or a facility is designed to function for universal access, it communicates a welcoming and friendly spirit. An intentionally designed universal access community works for and welcomes people of all ages.

Universal design can apply to construction of new homes in the form of single level or stacked designs, as well as to the interior design of homes to incorporate features such as no-step entries, wider hallways, and bathroom fixtures that accommodate people with limited mobility.

Universal design can apply to the design of public facilities in the form of features such as a building entrance that is accessible from a generous ramp and integrated into warm and inviting architecture, rather than stuck on as an afterthought. As a community ethic, universal design can guide and energize social interaction.

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UNIVERSAL DESIGN—
WHAT IT IS AND WHAT IT ISN'T

- Philosophy: Universal Design means the comprehensive, holistic design of the environment for living from the individual dwelling unit to the entire community.
- Scale: Universal design at the community scale means from the street to the dwelling unit—it is easy and welcoming for everyone of all abilities to be mobile and access opportunities.
- It is more than elevators in buildings.
- It bridges the urban design of communities and the architectural design of buildings.
- It applies the best practices in health, health equity impacts, building design, transportation planning, urban design, and landscape architecture.

Universal Design is an approach to design that honors human diversity. It addresses the right for everyone — from childhood into their oldest years — to use all spaces, products and information in an independent, inclusive, and equal way. It is a process that invites designers to go beyond compliance with access codes — to create excellent, people centered design. – Elaine Ostroff

RELATED CONCEPTS

Related concepts that have been incorporated into this document:

Americans with Disabilities Act – A federal civil rights law that prohibits discrimination against individuals with disabilities and requires compliance in the design of all public and private places that are open to the general public.

Active living by design – Design of environments that makes it easy to exercise and incorporate healthy choices into daily life. You don't need to drive to the park with your children to play, for example—the community is set up to allow you to walk or bike. And the experience of walking or biking to the park is safe and easy, increasing the mental, social, and physical health benefits.

Visitability – Applies to the design of private residences and was first conceived of as a series of low- or no-cost improvements so that residents could easily be visited, reducing social isolation.

Equity and health impacts (CDC) – Centers for Disease Control has numerous programs and objectives for environmental design meant to reduce health impacts such as asthma, obesity, and diabetes through the design of living and public spaces.

Aging in Place – An approach to designing residential and public facilities so that as people age and their physical or mental abilities change, they can stay in their home or their community and prevent or delay institutionalization or medical care.

LEED-ND – Was one of the first rating systems to provide LEED credit for universal access.

A Pattern Language – Common sense patterns governing environmental design for dignity, safety, sociability and health

Housing as if People Mattered – Common sense design principles authored in the 1980s to guide the design of new or retrofitted public housing, and applies to public and private spaces.

Active Transportation – Similar to active living by design but applied to the public street and path system of an entire community or region; access to transit is built into Active Transportation guidance.

Defensible Space – Design principles (usually promoted by law enforcement professionals) to make it easy and natural for community members to passively monitor public areas.


The neighborhood


Street, trails, and paths


The building

Consider how spaces link together at the neighborhood scale to create a connected and cohesive experience for people. – page 6

Streets, trails, and paths are important to creating a connected network that maximizes access and mobility for users of all physical abilities. – page 14

Building designs, including entrances, transitions and wayfinding should be considered for all users. – page 22

The neighborhood

Consider how spaces link together at the neighborhood scale to create a connected and cohesive experience for people.

Photo credit: Otak, Inc

Mix uses

PROVIDE A DIVERSE MIX OF USES TO ENCOURAGE MOBILITY AND ACCESS

» The more schools, grocery stores, libraries, parks, homes, and other useful destinations in an area, the more likely people are to walk. Mixing land uses is important for encouraging mobility overall and specifically among elderly populations.

» In a universally-designed community the compactness and co-location of land uses encourages physical activities.

» Integrating playing fields, green space, trails, sidewalks, bicycle lanes, and multi-use paths into the universally designed community encourages physical activity, and contributes to vibrant and active public spaces.


Compact development and co-located uses


Integrated play areas

Maximize access for all users

ACCESS IS OPPORTUNITY: ESTABLISH A COMPLETE NETWORK OF STREETS, PATHS, AND TRAILS THAT PROVIDES A DIRECT, ACCESSIBLE PATH OF TRAVEL TO ALL FACILITIES

» A network of well-connected streets improves mobility by allowing people to travel more directly and by different modes. Direct and varied routes that are designed principally for people on foot increase accessibility for all users.

» A complete, universal-design network that integrates other transportation modes makes movement and use easy and legible between different modes. Sometimes multiple modes may overlap in a single space such as protected bike lanes, auto lanes, and sidewalks. In this case pathways can be separated with clearly marked boundaries, differences in pavement, and signage. At other times different users may be separated on different paths, streets, or trails. Points of connection are an opportunity to create a quality environment.

Safe and clearly marked crossings

Curbless street design

Curb ramps permit people using wheelchairs or pushing a stroller to cross more easily. Alternatively consider eliminating curbs altogether to allow unimpeded flow of pedestrians.

Public space design and access

PROVIDE PUBLIC SPACES THAT ALLOW FOR DIVERSE FUNCTIONS AND CONSIDER THE NEEDS OF VARYING MOBILITY LEVELS.

» A universal-design path is a public space as much as a pocket park, playground, plaza. The universal design approach treats the entire ensemble as a sequence of outdoor rooms deserving of the same attention to users, programming, adjacencies, and circulation as an architectural design for a building.

» Universal design of paths and places thinks about the needs of all users (e.g. pedestrians, bicyclists, motorists, transit riders, skaters, scooterists, the elderly, children, those with disabilities). Their needs should be factored into planning, design, and construction.

» Well-designed spaces feel safe for all users, especially women and girls traveling alone.

» Often physical separation of users through clearly marked zones such as pedestrian and bike pathways or buffered bike lanes help users feel safe and allow users of varying mobility levels.

» Shared streets or "woonerfs" can be used to create slow zones for cars and safe spaces for children to play or residents to walk or cycle.

» Instead of providing abrupt, awkward ramps to buildings as an afterthought, the universal design approach integrates smooth or paved pathways approaching buildings with gradual slopes that facilitate easy access for all users. This is the "ramp as plaza" approach to accessibility.

Generous ramps that invite use

Generous walkways and crossings

Streets, trails, and paths

Streets, trails, and paths are important to creating a connected network that maximizes access and mobility for users of all physical abilities.


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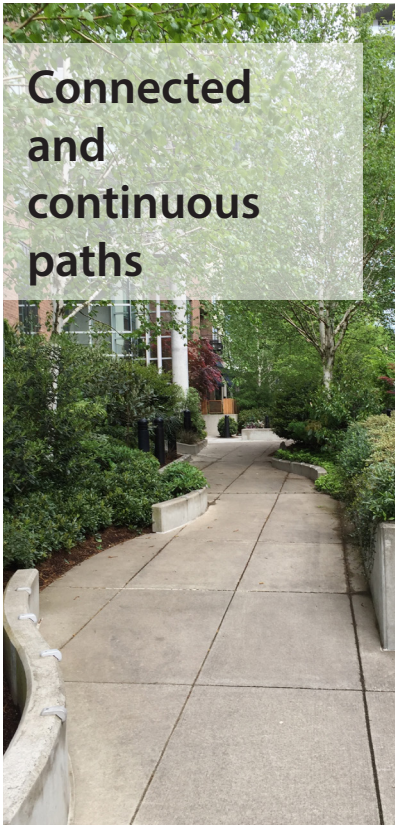
Seamless accessibility

PROVIDE CONNECTED AND CONTINUOUS PATHS TO AND THROUGH DEVELOPMENT.

» Whether it's a sidewalk on a public street or a paved walkway across a development site, facilities should be designed as one interconnected seamless network. For a resident or visitor walking through the neighborhood or accessing a building, the fact that the walkway is on a public street or a private site is not an important distinction. In a universally-designed community the experience of moving from one place to another is seamless, generous in spirit, and inviting.

» On-site pathways should function as extensions of public sidewalks, encouraging continuity and increasing opportunities for walking. If systems of streets, trails, and paths are identifiable and understandable, it will be easier for all users.


Connected
and
continuous
paths


Accessible
pathways
Esther Short Park

An invitation to move

SEAMLESS MOVEMENT

» In a universally-designed community there is no distinction between movement for commuting or movement for recreation. A sidewalk to the park or the bus stop, a trail to the library on the next block over—these area all invitations to move and incorporate the benefits of exercise into daily life.

» A universally designed community provides variety and choice for getting from A to B. The more variety and options in walking routes, the more fun and interesting is getting out and around.

An invitation to incorporate exercise into daily life

Active transportation for commuting and recreation

Inviting design

WELL-DESIGNED SPACES ENCOURAGE USE AND SOCIALIZING

» The location where trails, paths, and sidewalks meet, and where they cross vehicular streets or driveways, should clearly prioritize pedestrian movement.

» Curb ramps permit people using wheelchairs or pushing a stroller to cross vehicular streets more easily. Alternatively consider eliminating curbs all together to allow unimpeded flow of pedestrians.

» Paths should be smooth, sufficiently wide, and allow for adequate turning radii of wheelchairs or walkers. Design paths in such as way that water does not pool on surfaces, and surfaces are slip resistant.

» Well-designed paths not only improve pedestrian orientation but also encourage social interaction. Amenities such as benches along walkways can help enhance these functions.

» Multiple entries along a street or path help activate it and facilitate a social environment as does maximum transparency of the ground floor. Porches, stoops, and terraces foster a sense of security while also contributing to the character of a space.

» To increase clarity, provide a comprehensive sign system that includes directories, maps, and graphics.

» Make use of landmarks such as plazas, fountains, artwork, etc. to serve as identifiable features to aid navigation.


Mark transitions with different materials


Benches and lighting along a path

The building

Building designs, including entrances, transitions and wayfinding should be considered for all users.

Building circulation

IT SHOULD BE EASY AND COMFORTABLE FOR ALL USERS TO MOVE THROUGHOUT A BUILDING

ADA guidelines and universal design strategies generally focus on elevator use as the primary means of vertical circulation, but universal design should be more than elevators in buildings.

As envisioned by this document, universal design is an ethic and approach to the built environment that goes beyond "checking the box" for accessibility. It integrates "Active Design" approaches into the programming and function of a building. Active design strategies applied to the built environment support daily physical activity, active transportation, active movement in buildings, and active recreation.

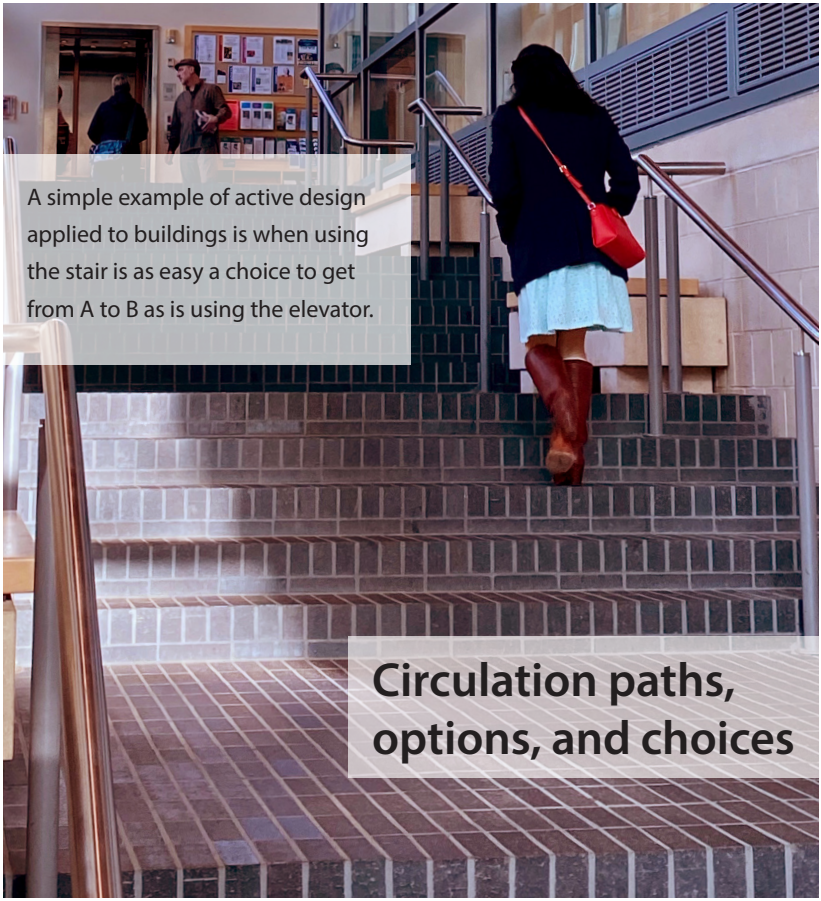
Universal design acknowledges that accessibility and active design strategies work together to support people at all stages of their lives. After all, everyone's physical ability changes throughout their lives. Residents of a building or members of a community are at a various levels of physical ability at any given time. Universal design does not segregate users by physical ability.

Universal design integrates ADA accessibility requirements and active living by design strategies into the build environment, and does so with intention and creativity. These design strategies provide circulation paths, options, and choices—and honors each choice—so that getting from A to B can be achieved in a variety of ways within a building or a building complex.

A simple example of active design applied to buildings is when using the stair is as easy a choice to get from A to B as is using the elevator. Such an approach is feasible in buildings under four stories. Rather than placing the stair in an out-of-the-way enclosed stairwell, the stair is incorporated into the lobby and public circulations areas, and provides an ever-present and easy option.

When stairs are located next to the elevator bank, are well-lit, prominent, and inviting, then by their location and their design they welcome use as an alternative to the elevator.

Design that serves people at all stages of life



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Circulation paths, options, and choices

STAIRS AND ELEVATORS

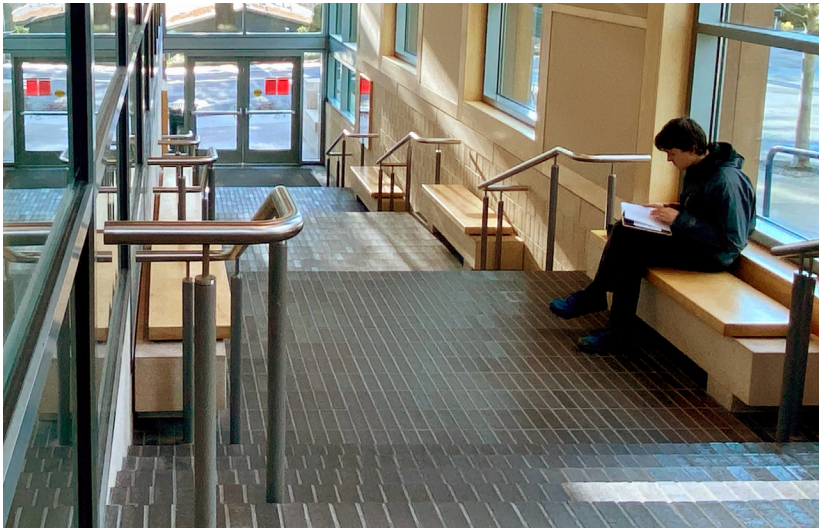
» Design stairs to be more visible in order to encourage their everyday use.

» Make stairs wide enough to accommodate travel in groups and in two directions, and design stair risers and treads that are comfortable and safe.

» Widening stairs, having fewer steps per flight, and providing intermittent landings between floors also makes the use of stairs more feasible and comfortable for those who have some physical challenges, such as the elderly and those carrying packages.

» In order to accommodate people who find stair use physically challenging, provide at least one intermittent landing between floors, and with fewer risers between landings.

» Include visual cues and signals that enhance stair usage, such as lighting, paint, and art and design visible, appealing, functional stairs.



HALLWAYS

» Design hallways, corridors, and stairways to be wide enough for two people traveling in opposite direction to comfortably pass one another, even if one is pushing a stroller or using a walker or a wheelchair.

ENTERING AND EXITING

» Design building entrances so they can be easily identified and navigated by a range of users. Use materials, color, and form to differentiate the entrance from the rest of the building

» Wider openings and maneuvering clearances at doors allow different users access. A person in a wheelchair, a person with a guide dog, a child in a stroller, or an adult carrying bags of groceries—all have equal access.

» Automatic doors, either by sensor or push pad, are preferred at all entries. At a minimum ideally one automated door would be provided at the entrance closet to parking or public transportation.

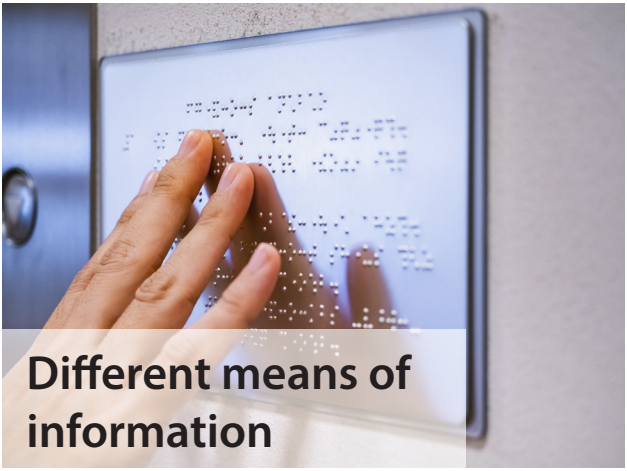
WAYFINDING

- Physical access within a location is not always the only obstacle. Once inside a building, users should be able to easily determine where to go and what services are available.

- Multiple different means of information throughout a building can serve a full range of users and several senses – touch, feel, and sight.

- Landmarks that make visual and physical connections between the site and the building can aid in orientation.

- Maps, directories, diagrams, and information displays are useful tools to help users find their destinations easily.



Landmarks that make visual and physical connections

Parking lots and garages

EASE, SAFETY, AND COMFORT

» A parking lot is a storage space for cars, and should provide secure storage. It is also a place where everyone is a pedestrian while getting to or from their car. Therefore it should be designed primarily for the ease, safety and comfort of a person rolling or on foot.

» Parking lot pathways should be designed as part of the seamless accessibility network described on page 16.

» Clearly defined pathways through parking lots and garages to building entrances, surrounding sidewalks, and transit stops enhance pedestrian safety. These pathways also provide an opportunity to improve the appearance of parking lots.

» Design parking lots and garages so that vehicles are not the dominant feature.

» A universal design approach that incorporates active transportation places bicycle parking in privileged locations close to building lobbies, in areas that are well-lit, attractive, and secure. To encourage bicycling as a mode choice, bike parking areas should include bike repair, maintenance, and cleaning stations.

» Consider designing dwelling units to accommodate bicycle storage inside. This includes designing for easy transport of a bicycle from ground floor lobbies to upper unit floors.

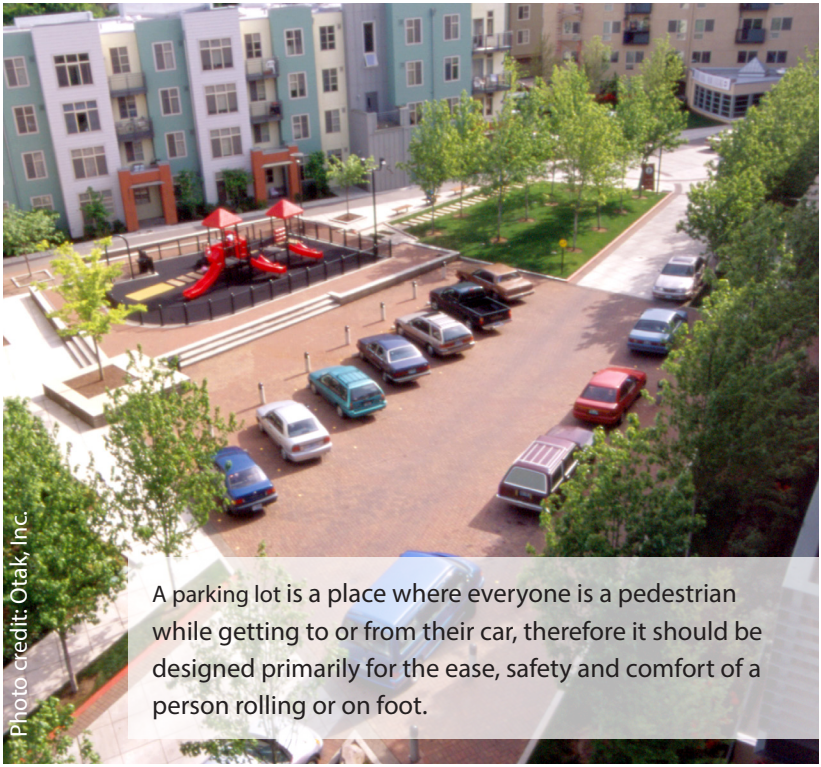


Photo credit: Otak, Inc.

A parking lot is a place where everyone is a pedestrian while getting to or from their car, therefore it should be designed primarily for the ease, safety and comfort of a person rolling or on foot.

Parking areas for people

Common areas

COMMON AREAS SHOULD BE LOCATED AND DESIGNED TO ENSURE PARTICIPATION OF ALL USERS REGARDLESS OF AGE, GENDER, OR PHYSICAL ABILITY

» Common areas that include and address the needs of everyone are preferred to spaces that segregate groups from one another. When designing for recreation users, accessibility is ensuring that each part including activities, events, and natural features can be experienced in a variety of ways.

» Create environments that include the needs of everyone rather than cloister and segregate one group from another.

» Make amenities easy to locate and accessible by everyone.

» Consider not only the mobility and access needs of different populations but also the age of users, from small children to older adults.

» Provide areas or subareas of activity that ensure participation by all users regardless of age or physical ability, and that allow users of different ages to comfortably use the space simultaneously.

» Make entering and exiting as effortless as possible, and provide multiple ways to move to and through a shared space.

Subareas of activity that ensure participation by all users

Private spaces and visitability

VISITABILITY

- A dwelling unit is visitable when it can be lived in or visited by a person who has trouble walking, trouble with steps, or uses a wheelchairs or a walker. A private unit that is designed for visitability reduces social isolation.

- There are four elements making up the concept of visibility. These include zero-step entrance to units, easy access to amenities within the unit, living area with space to entertain and socialize, and one main bathroom on the main floor that can be used by someone with a wheelchair.

- Consider specific dimensional standards that have been adopted by a number of municipalities:

    - A zero step route and entry to ensure easy access to the unit.

    - Bathroom (sink and toilet) on the floor with the visitable entrance. The bathroom must be designed to accommodate an unobstructed circle that is at least 60-inches in diameter.

    - Doorways that are at least 34 inches wide. This provides adequate clearance considering the width of the door itself when open.

Accessible entrances and easy access to indoor spaces

Renovations + additions

MAKE EXISTING BUILDINGS MORE ACCESSIBLE

» Provide flexibility to accommodate trends in the evolution of wheeled mobility devices. Flexible designs will allow spaces to be re-designed in the future to accommodate new users and advances in technology.

» If for practical or cost considerations automatic doors are not initially provided, their future installation can be easier if an electrical supply and junction box are provided adjacent to door jambs.

» Alterations and additions can provide improvements to the usability of existing buildings by focusing on strategic insertions of vertical circulation. Also, improvements in horizontal circulation can improve access to older buildings to bring them up to universal design objectives.

Programmatic + operations considerations

UNIVERSAL DESIGN CONSIDERATIONS SHOULD NOT ONLY BE ADDRESSED DURING THE INITIAL DESIGN PHASE OF A PROJECT BUT REFLECT A COMMITMENT OVER THE LIFETIME OF A PROJECT.

» If designs address those facing the most or highest barriers, the resulting baseline solutions will be stronger. Often barriers to access disproportionately impact income-constrained and physically-impaired populations.

» Monitoring and evaluating design efforts to provide universal access not only holds one accountable for taking effective measures, but if shared with the public builds a cooperative and trusting relationship.

Checklist

THE NEIGHBORHOOD

- ☐ Useful destinations in close proximity
- ☐ Compact development and co-located uses
- ☐ Activity areas connected by accessible paths
- ☐ Network of streets, paths and trails for walking and rolling
- ☐ Outdoor spaces and paths designed with as much care as rooms in a building
- ☐ Consideration for all users
- ☐ Subareas for users of different abilities
- ☐ Shared street designs with slow zone for cars
- ☐ Plazas as ramps, rather than ramps as afterthoughts

STREETS, TRAILS, AND PATHS

- ☐ Network of connected streets, paths, and trails
- ☐ On-site pathways that function as extensions of public sidewalks
- ☐ No distinction between pathways for commuting and pathways for recreation
- ☐ Wide and smooth paths
- ☐ Activities along paths and paths designed to encourage social interaction
- ☐ Clarity through wayfinding
- ☐ Identifiable features to aid navigation

Checklist

THE BUILDING

- ☐ Stairs and elevators that are equally viable choices
- ☐ Wide and generous hallways
- ☐ Accessible and easily identifiable entrances and exits
- ☐ Integrated wayfinding throughout
- ☐ Parking lots designed for pedestrians
- ☐ Access to and through parking lots and garages part of a seamless street, path and trail system
- ☐ Bicycle storage designed to encourage active transportation
- ☐ Dwellings that are accessible to visitors of all abilities

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