Photo by Oxana Melis

Guide for Accessible Housing: Building Housing Designed for All

by the City of Pasadena Accessibility and Disability Commission

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The Information provided in the Guide for Accessible Housing by the City of Pasadena Accessibility and Disability Commission is intended for general informational purposes only. It does not constitute legal advice and should not be relied upon as such. For advice regarding your specific housing plans, please consult with a qualified legal counsel and/or a Certified Access Specialist (CASp). The City of Pasadena Accessibility and Disability Commission does not assume responsibility or liability for any actions taken based on the information contained in this guide.

Introduction

More than one in four Americans lives with some sort of disability. In a world that is finally beginning to place more value on the diverse people who live in it through inclusive measures, it is crucial to address the lack of affordable inventory of accessible housing.

Although most cities have supportive housing and other similar housing models, many disabled individuals live and work independently. Housing affordability is especially important for disabled people: about a quarter of all people with disabilities have incomes below the poverty line, whereas the poverty rate for people without a disability is about 11.5%. The lack of affordable and accessible housing compounds the disadvantages and barriers faced by people with disabilities.

The purpose of this guide is to help homeowners who are considering either making renovations to their property or building an Accessory Dwelling Unit (ADU). By prioritizing universal, visitability and human-centered design principles, we can create living spaces that accommodate the unique needs of those living with various disabilities, including physical disabilities, blindness or low vision, neurodiversity, and others.

An accessible living space will be more welcoming to friends, family, and any other guests who need accommodation, including disabled people in your community or region who might have evacuated from a fire, flood, or other natural disaster. Increasing the number of homes with accessibility features will also help prepare our towns and cities for the growing number of aging Baby Boomers, who will benefit from housing accommodations.

We hope you will join us in making a commitment to building and retrofitting homes that prioritize human-centered accessibility and foster a society where everyone can experience the joy and comfort of living authentically in a home that fits their needs.

This guide is divided into two sections. Section 1 is focused on modifications that will make a living space more accessible to a person with mobility disabilities, including someone who uses a wheelchair. Section 2 expands the list to include more, and more detailed, suggestions for both interior and exterior. In addition, Section 2 includes modifications that will support individuals with vision and hearing disabilities and with sensory processing issues.

An essential fact to understand about the population of people with disabilities is that we are incredibly diverse in our capacities, our limitations, and our needs, including our accommodation needs. A person with mobility disabilities may use a wheelchair, walker, or cane all the time, or some of the time, or just now and then. A person with visual disabilities may not be able to legally drive a car but may still be able to ride a bicycle. A person with sensory or processing issues may need quiet in order to function. A person with chemical sensitivities may need to avoid certain paints, carpets or cleaning products.

Any individual disabled person will be the expert on their own life and their own situation and needs. While it is important to respect people's privacy, if you are considering or have been asked to retrofit a living space, the first step should be to ask, “What do you need?”

Why This Guide is Needed

Promoting Inclusivity: Our communities are healthier and more prosperous when they are inclusive of all types of difference. An inclusive society is one where all individuals can access suitable and accessible housing that meets their specific requirements, regardless of their disability.

Enhances Well-Being: Accessible Housing promotes residents’ physical and mental safety and well-being, allowing them to thrive and maintain a higher quality of life.

Empowers and Increases Independent Living: By providing accessible homes, we enable individuals to live independently and with dignity, reducing the need for costly institutional care.

Future Planning: As populations and demographics change, accessible housing will become more essential than ever. We hope to help build a future where accessible homes are the norm.

Who Will Benefit

We all benefit from having an abundance of accessible housing. Disability does not discriminate, and disability intersects all other demographics.

Disabled individuals: This guide offers education in support of housing solutions that enhance the comfort and convenience of disabled individuals, fostering a sense of belonging and self-reliance.

The Senior Population: The vast majority of seniors prefer to stay in their homes as they age. This guide promotes aging-in-place standards that encourage independent living and enable seniors to keep their homes and personal living spaces as they choose.

Caregivers: Caregivers, Care Partners, or Personal Assistants are a big part of the home healthcare equation, and the design of independent living spaces must also include their needs.

Homeowners and Renters:
Homeowners and renters alike will benefit from accessible homes.

Photo by Rollz International

Input from People with Lived Experiences

In creating this Guide, members of the Pasadena Accessibility and Disability Commission conducted a survey and a town hall meeting to collect feedback from individuals in the local disabled community in order to ensure that this document would reflect the lived experiences of people with disabilities.

Commission members also received input from Cozy Stylish Chic and Décor Revolution, two interior design studios in Pasadena. We extend our thanks to everyone whose knowledge and experience contributed to this Guide.

Photo by Centre for Ageing Better

Section 01: **Key Modifications for Mobility Disabilities**

General Recommendations

- **Zero-Step Entry**: Ramps, not steps, for all paths/access to the dwelling.
- **Widen Hallways**: Paths, hallways, and room openings should be at least 36 inches wide to accommodate wheelchairs, with 42 inches or wider being ideal.
- **Widen Doorways**: Doorways should have at least 32 inches of clearance
- **Door Levers**: Replace traditional door knobs with lever door handles, which are much easier to operate, do not require tight grasping or twisting of the wrist, and can be operated with a loose grip or closed fist.
- **Door Opening Force**: 5 pounds maximum, can be measured with a door pressure gauge
- **Non-Slip/Carpet-free Surfaces**: Remove rugs and carpet wherever possible and replace them with smooth, non-slip surfaces like cork, rubber, or linoleum. If you do have carpet, it should be low pile and backed by a ¼ inch pad.
- **Place Blocking in Walls**: Adding extra support in the areas where grab bars could be attached. (Especially in bathrooms or possible hallways)
- **Wall Blocking for Future Support Features**: Install reinforced backing (blocking) in walls, especially in bathrooms and hallways, to support the future installation of grab bars or other assistive devices

Bathroom

- **Grab Bars:** Install grab bars near the toilet and sink, as well as in the shower/bathtub.
- **Roll-in Shower:** A stand-alone shower should be curbless, to allow a wheelchair user to roll in.
- **Shower Seat:** A built-in shower seat adds greater safety and comfort.
- **Shower Head:** A handheld showerhead allows for greater flexibility and control.
- **Vanity/Sink with Knee Clearance**: The sink should have space for a wheelchair to roll up to and fit under, with 29 inches of clearance.

Kitchen

- Pull-out cutting boards and work surfaces
- Sink with knee clearance
- French Door oven
- Pantry with pull-out shelves
- Under-counter storage mount
- Be thoughtful about appliance placement, for example, microwave in a pull-out drawer

Photo by Point3D Commercial Imaging Ltd.

Section 02:
Indoors and Outdoors

Garage & Gate

- A minimum of 9 feet of open vertical clearance from the finished floor is needed to accommodate wheelchair-accessible vans.
- Electric garage doors and front gates, preferably hard-wired and not reliant on wireless networks or an Internet connection.

Parking Spaces

- Accessible parking spaces should be at least 8 feet wide with an access aisle providing 5 feet of clearance. The access aisle may be on either side of the vehicle space.
- Van-accessible spaces are at least 11 feet wide with an access aisle providing 5 feet of clearance (placed on either side) for unloading mobility devices. Alternatively, van-accessible spaces may be at least 8 feet wide with an access aisle providing at least 8 feet of clearance for unloading mobility devices.

Photo by Steve DiMatteo

Photo by Ahmad Juliyanto

Walkways & Paths

- No steps or stairs.
- All walkways and paths should have a clear line of sight to the dwelling.
- All paths and walkways should be well-lit and well-defined.
- Walkways between the front door and parking areas/garages should be at least 36 inches wide, ideally 48 inches wide.
- Consider motion-activated lights, which will both assist anyone traveling on a path, walkway or ramp and also can alert people inside that someone has arrived.
- All porches should have handrails.

Ramps

- All ramps must rise no more than 1 inch per foot of length.
- All ramps must be at least 48 inches wide for wheelchair accessibility.
- All ramps longer than 30 feet must have a middle landing for resting and for maneuvering wheelchairs.
- All ramps must have handrails.

Doorbell and Mailbox

- The doorbell should be chair height, which is 15 - 48 inches.
- The doorbell should be loud enough to be heard throughout the home. A doorbell should also include a flashing light option which is easy to activate and deactivate to accommodate different people's needs.
- Similar to doorbells, emergency alarms should have a flashing light option.
- The mailbox or mail slot should be chair height, which is 15 - 48 inches.
- Consider intercoms with both video and audio capability.

Front Door Area

- Step-free entrance.
- The door handle should be easy to grasp, single lever, and operable with one hand (closed fist or loose grip) without requiring tight grasping, pinching, or turning of the wrist.
- The front door deadbolt should have a dual-function release mechanism. This mechanism has a plate connecting the lever and deadbolt so that when an individual with disabilities turns the interior lever, both the bolt and latch will be opened with the same movement/opening force.
- The front door must be at least 36 inches wide with a minimum of 32 inches of clearance from the face of the door to the frame with the door open 90 degrees.
- The door height must be at least 80 inches.
- The exterior door opening force must be no more than 8.5-10 pounds.
- Any front stoop should measure at least 5 feet by 5 feet.
- Each exterior door should have a threshold no higher than 1/2 inch.
- All porches should have handrails.

General Interior Guidelines

- Hallways and room openings should be at least 36 inches wide to accommodate wheelchairs, with 42 inches or greater preferable.
- Doorways should have clearance of least 32 inches wide.
- All doorway thresholds should be no higher than ½ inch.
- Replace traditional door knobs with lever door handles, which are much easier to grasp and operate.
- All door handles should be mounted at a height of 34-48 inches above the finished floor.
- Remove rugs and carpet wherever possible and replace them with smooth, non-slip surfaces like cork, rubber, or linoleum. If you do have carpet, it should utilize a level loop, textured loop, level cut pile, or uncut pile texture with a maximum pile height of ½ inch.
- Replace traditional toggle light switches with easy-to-use rocker panel switches mounted 14-48 inches from the floor.
- All window controls should be 15-48 inches from the floor.

Front Door Area

- All electrical outlets should be grounded and mounted 12-16 inches from the floor.
- Utility, power and fuse boxes should be installed no more than 15-48 inches from the floor and in an area with clearance around it for wheelchair accessibility.
- Install handrails in hallways and on staircases, especially between bedrooms and bathrooms.

Photo by Shyam

Bathroom

- The bathroom door should have at least 32 inches of clearance.
- The bathroom door handle should be easy-to-grasp, single lever, and operable with one hand.
- The space inside the bathroom should be adequate for a 60 inch diameter circle or there should be a T-shaped space to allow a wheelchair to easily turn around.
- The bathroom walls should be reinforced to accommodate grab bars and wall-mounted shower seats.
- Consider using paint and tile colors on the walls, floors and ceilings that have sufficient contrast from one another so a person with low vision or sensory processing differences can better understand the space.
- Consider that matte finishes are generally easier to process than glossy ones.
- Install grab bars in the tub or shower and on either side of the toilet.

Toilet

- The toilet grab bars should be mounted 33-36 inches from the floor to the top of the gripping surface.
- The toilet seat should be 17-19 inches from the floor to the top of the seat.
- The path to the toilet should be at least 36 inches wide.
- Consider installing a bidet, especially one with a hot water supply and ensure there is an electrical outlet near the toilet.
- The grab bar behind the toilet should be 36 inches long. This grab bar may have 12 inches minimum on the wall side, with 24 inches minimum on the open side.
- The grab bar beside the toilet should be 42 inches long, with a maximum of 12 inches between the side grab bar and the wall.

Sink

- The sink should be mounted no more than 36 inches from the floor.
- The sink faucet should be single-lever and operable with one hand.
- Use a floating vanity or one that has knee clearance to allow a wheelchair to slide underneath. There should be at least 29 inches of clearance under the front edge of the sink for wheelchair access.
- There should be space of at least 30 inches by 48 inches in front of the sink for a person using a wheelchair to maneuver.
- The towel bar should be mounted 36 inches from the floor.
- The bottom shelf of the medicine cabinet should be no higher than 40 inches from the floor.

Photo by Ricardo Gomez Angel

Photo by Sandphin

Shower/Tub

- All shower stall units must have 32 inches clearance at their entry.
- Add a fold-down seat, chair, or stool to the tub or shower. For fold-down seats, the seat should be secure in both the open and closed positions, with an operable open and closing force of no more than 5 pounds. Shower seats must be at least 21 inches wide.
- Include a handheld shower spray unit with a hose that's at least 60 inches long.
- Stand-alone showers should be roll-in showers (zero-entry), free of doors, curbs, or lips at their entrance, as well as considering the placement of the drain and selection of floor tile to allow for safe operation. The slope of the shower floor should not exceed a 1:48 (1/4inch per foot), with the recommendation of a ratio of 3/16inch per foot for wheelchair use.
- A shower seat should be 17-19 inches from the floor in roll-in showers.
- Each side of the bathtub should have horizontal grab bars that are at least 24 inches long.

Kitchen

- Opt for easy-to-use lever faucet handles or a hands-free faucet.
- Consider a chair-height island, possibly on wheels, to provide maneuvering space for wheelchairs.

Cabinets

- The lowest shelves of the upper cabinets should be no higher than 48 inches.
- Upper cabinets should be mounted 15 inches above the countertop.
- Lower cabinets should have full-extension drawers and fixed shelves without doors.
- Use looped cabinet pulls instead of knobs.
- Install cabinets at an overall height of 32½ inches and with a 9-inch toe kick. Many kitchen design professionals recommend installing cabinets at varying heights (between 30 inches and 36 inches), which allows people of all abilities to use the cabinets.

Photo by Joffre Essley

Countertops & Sink

- L- or U-shaped countertops are easier to maneuver around.
- U-shaped kitchens should have 60 inches of clearance between work areas.
- Provide 30 inches of counter space around the cooktop and sink.
- Include pullout cutting boards in the lower cabinets.
- The sink should be no higher than 34 inches off the floor.
- The kitchen faucet should be single lever and high-arc with a pull-out spray head.
- Consider adjustable countertops that can range from 28 inches to 36 inches in height.

Photo by Masterpiece Cabinets Universal Design

- Consider leaving open space of at least 29 inches below sinks and at least some countertops so a person in a wheelchair or seated in a chair can use them .

Appliances

- The appliances and sink should be operable from chair height, which is 48 inches.
- Install appliances with controls in the front to eliminate the need to reach across hot burners.
- Consider a dishwasher with a pull-out drawer-style opening rather than a hinged door.
- Microwaves should be installed below countertop height for wheelchair accessibility.
- Wall-mounted ovens should be installed so that the controls are no more than 48 inches from the floor.
- The dishwasher should be mounted at least 6 inches from the floor.
- Wall switches and wall outlets should be no more than 32-36 inches from the finished floor.

- Depending on the disability, some people find knobs easier to use (for example, people who are blind or low vision) and others find touch screens more accessible.

- Mount the kitchen exhaust fan control switch at the front of the counter or in another location no more than 48 inches from the floor.

Bedroom

- The bedroom door should have at least 32 inches of clearance.

- The bedroom door handle should be easy-to-grasp, single lever, and operable with one hand.

- There should be a pathway that is 36 inches wide on each side of the bed and at the foot of the bed.

- All thermostats, drapery wands, and lamp controls should be within 48 inches of the floor.

- Some individuals with mobility impairments need assistance getting out of bed. If necessary, ceilings should be reinforced to accommodate pulleys for lifting mechanisms.

Closet

- Closet doors should be bi-fold or slide models for easy opening, or simply remove them.

- If there are closet doors, there should be a minimum front clearance of 48 inches of clear space from the opened door's edge.

- Swing or bi-fold doors require a maneuvering space that's the same width as the door opening when extended 48 inches minimum perpendicular to the doorway.

- Closet rods and shelving should be within 48 inches of the floor.

- Closet shelves should be no more than 18 inches deep.

Sound Dampening

- Consider dual pane windows, insulation, heavy curtains, doors with high sound resistance, and slightly thicker or more dense drywall to reduce interior noise. Windows and doors are more likely to transmit sound.

- Acoustic panels can also be helpful to reduce noise inside a living space.

Reducing Visual Noise

- Consider avoiding high-contrast stripes and busy or geometric patterns on wallpaper, wall and window coverings, carpets, upholstery, and decor that can cause sensory overload.
- Soft or muted paint colors make it easier for people to see and process visual information.

Smart Technology to Consider

- Door locks
- Lighting
- Thermostats
- Smoke/carbon monoxide detectors
- Appliances (e.g. stoves, refrigerators, or laundry machines)
- Virtual assistants (e.g. Amazon Echo, Google Home, or Siri)
- Home security systems

Photo by Guardian Security

For reliability, hard-wired systems will fail less often than systems that rely on a working wireless network or Internet service. Installing high capacity conduits will make it easier to install data wiring.

Photo by Mair Agency

Conclusion:

Thank you for considering making your living space more accessible to people with disabilities. It's important to remember that anyone can acquire a disability at any given time. Access requirements can change unexpectedly, and the person you provide access to today could very well be yourself tomorrow.

This guide serves as a living document. If there are suggestions for additions or improvements to the guide, please provide comment to the City of Pasadena Accessibility and Disability Commission: https://www.cityofpasadena.net/commissions/accessibility-and-disability-commission/

For further reading, we offer these additional resources:

References and Additional Resources:

- The U.S. Department of Justice, Civil Rights Division oversees compliance with the Americans with Disabilities Act. The Division created standards for accessible design in 1991 and updated them in 2010. You can learn more about those standards here: https://www.ada.gov/law-and-regs/design-standards/

- The U.S. Department of Housing and Urban Development oversees compliance with laws regarding fair housing. Their Fair Housing Act Design Manual was published in 1996 and updated in 1998. You can get a copy here: https://www.huduser.gov/portal/publications/PDF/FAIRHOUSING/fairfull.pdf

- The Kelsey is a nonprofit organization founded by and named for Kelsey Flynn O'Connor, an advocate for disabled inclusive and affordable housing. They develop and advocate for accessible housing. You can get a copy of their Design Guide here: https://thekelsey.org/design/

- University at Buffalo's Center for Inclusive Design and Environmental Access (part of the university's School of Architecture and Planning) creates and implements inclusive design policies, practices, environments, and products. They have many resources, including training and downloadable guides: https://idea.ap.buffalo.edu/

- The Autism Network created a design guide oriented to supporting neurodiversity communities: https://www.autismhousingnetwork.org/resource/the-kelsey/

- Erika Zelaya of the Urban Institute, "Designing Accessible Housing for People with Disabilities," from 2023, includes the seven principles of Universal Design and several links to local government policies: https://housingmatters.urban.org/articles/designing-accessible-housing-people-disabilities

- Kit Un of the Metropolitan Area Planning Council (Massachusetts) discusses standards for "visitability." This piece is marked as needing updating but it does include some links to local policies outside and inside Massachusetts: https://www.mapc.org/resource-library/increasing-accessible-housing-through-visitability-and-universal-design-standards

- Fatimah Aure and Caroline Bas of The Kelsey, “Cross-Disability Design Makes Housing Better for Everyone,” June 13, 2023, part of a Shelterforce series on disability and housing justice. The article is focused on the process and design principles for affordable and accessible housing development: https://shelterforce.org/2023/06/13/cross-disability-design-makes-housing-better-for-everyone/

- Anne Riggs of David Baker Architects, “Accessibility and Inclusion in Housing Design,” a brief essay published in Design Museum Magazine, January 2024, about the process of Inclusive Design.

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