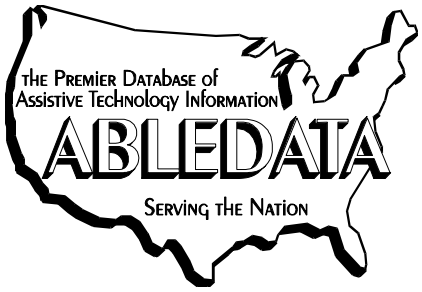

ABLEDATA Database of Assistive Technology

Informed Consumer Guide to Accessible Housing

January 1995

Introduction

For most people, a home is more than a building: it is a state of mind, an expression of personality, the one place where it is possible simply to be. The types of homes in which people live reflect their tastes and priorities. Deciding to change that home, whether through remodelling or relocation, is a major decision. Finding the right house or apartment requires attention to a myriad of details: price range, location, aesthetics, overall floor space, the number of bedrooms, and more. People with disabilities face the same considerations, but as important as they are, they are overshadowed by the need for housing to be accessible: housing that enables people with disabilities to live their lives as independently as possible.

If a house is inadequate for the needs of the people living in it, it never quite becomes a home. For people with disabilities, a dwelling must be fully accessible to become a home. The purpose of the Informed Consumer Guide to Accessible Housing is to examine what accessible housing is, to discuss the types of products available to achieve accessibility, and to offer resources to assist in this endeavor.

What is Accessible Housing?

Whether or not a home is accessible depends upon the nature and extent of one's disability. As a practical matter, an accessible home is one which enables an individual to do what he or she needs and desires to do as independently as possible. For some, access may be as simple as adding grab bars and a tub seat in the bathroom. For wheelchair users, access may require ramping entrances, widening doorways, lowering counters, adding lever or loop-style hardware to doors and drawers, and modifying storage areas.

Individuals with sensory disabilities also require accessible housing, although their needs are different from those of people with mobility disabilities. Individuals with hearing disabilities require visual adaptations for such items as the telephone ringer, the doorbell, and smoke alarms. People who are blind may require tactile marking of changes in floor level and stair edges and braille markings on appliances and controls. People with low vision may be accommodated with large print markings and displays, contrasting colors to distinguish changes in level or transition from one area to another, proper lighting, and reduced glare from lighting and windows.

Because the requirements of accessibility vary so widely, several terms have come into use. **Accessible design** generally refers to houses or other dwellings that meet specific requirements for accessibility. These requirements are found in state, local and model building codes, and regulations such as the Fair Housing Amendments of 1988, the American National Standards Institute (ANSI) Standards A117.1-1986, and the Uniform Federal Accessibility Standards (UFAS). These laws dictate standards, dimensions, and characteristics for such features as door widths, clear space for wheelchair mobility, audible and visual signals, grab bars, switch and outlet height, and more. The accessibility standards of the Americans with Disabilities Act (ADA) regulate the accessibility of public buildings and facilities.

Adaptable design allows some features of a dwelling to be changed to meet the needs of a person with a disability. Essential design elements such as wider doorways and halls and barrier-free entrances are included as integral features, while provisions are made to allow other features to be added as needed. To qualify as "adaptable," it must be possible for changes to be made quickly without the use of skilled labor and without changing the inherent structure or materials. Adaptable design allows the house or apartment to meet the specific needs of the user, while maintaining the appearance of the dwelling until more obvious accessibility features are needed. For instance, bathroom walls may be designed with additional supports to allow for the installation of grab bars in the future. Cabinets under sinks can be designed to be removable, allowing the storage space to be provided until such time as the knee space is required by someone using a wheelchair. Similarly, closet rods and counter tops can be installed on adjustable glides, allowing them to be positioned for the needs of the user. Criteria for adaptable housing are included in the ANSI standards and UFAS.

Universal design addresses the need for access by creating designs usable by all people, whether or not they are disabled. This is accomplished by designing wider halls and doors, barrier-free entrances, elevated electrical outlets, lowered switches, adjustable closet rods and shelves, adjustable counters, touch switches, and other features as inherent elements in the building. This type of design makes the home usable by all family members, and recognizes that human abilities change over the life span.

Access and Rental: The Fair Housing Act Amendments

It is not necessary to own a house in order to obtain accessible housing. The Fair Housing Act Amendments Act (FHAA), which became effective on March 12, 1989, extended the protections of the Civil Rights Act of 1968 to cover housing for people with disabilities. Under the FHAA, it is illegal to refuse to negotiate for the sale or rental of a dwelling, to refuse to process an offer, or to refuse a legitimate offer on the basis of an applicant's disability. It is also illegal to use differing applications or criteria for persons with and without disabilities or to segregate persons with disabilities to specific units or areas. Further, the Amendments render it unlawful to inquire as to whether the buyer or renter has a disability and as to the severity of the disability. These prohibitions apply to most housing options, including multi-family buildings, condominiums, cooperatives, and mobile homes. However, the FHAA does not apply to the sale or rental of single-family homes unless the owner owns more than three such homes at the same time and the sale or rental is conducted without the use of a real estate broker, agent, or salesperson. The Amendments also do not apply to multi-family dwellings of four or fewer units if the owner occupies one of those units as his or her place of residence.

Under the FHAA, it is illegal to refuse to negotiate for the sale or rental of a dwelling, to refuse to process an offer, or to refuse a legitimate offer on the basis of an applicant's disability.

Further, the Fair Housing Amendments set out design and construction guidelines for multi-family residences begun or occupied for the first time after March 13, 1991. All units in a multi-family building of four or more units equipped with at least one elevator and ground-floor units in buildings of four or more units without elevators are required to be accessible. All such buildings must have at least one entrance on an accessible route (unless prohibited by terrain), have doors into and within all units wide enough to accommodate wheelchairs, have an accessible route in and through all dwelling units, have accessible switches and controls, provide reinforcement of bathroom walls for installation of grab bars, and have all public and common areas accessible.

Within all housing units, the FHAA requires that the landlord or rental agent not refuse to make reasonable accommodations in rules, policies, practices, and services required to enable a tenant with a disability to occupy and use a housing unit. Further, the law requires that the renter be allowed to make reasonable modifications to the dwelling at his or her expense to accommodate a disability. The landlord has the right to require that such modifications be accomplished in a professional manner, that the tenant acquire all necessary permits, and that the interior premises be restored to their original state upon termination of occupancy if such restoration can be readily accomplished and if the accommodations may interfere with a future tenant's use or enjoyment of the unit. For instance, the landlord may require that grab bars be removed and walls repaired, but not that the supportive blocking behind the walls be removed. Similarly, it would be considered unreasonable to constrain the tenant to restore doorways to their original width once they had been widened to accommodate a wheelchair. It is also considered unnecessary to restore exterior modifications because necessary modifications do not restrict future tenants' use of the dwelling.

Achieving Accessibility

While achieving accessibility may mean finding a new apartment or designing and building a single-family home to the specifications that meet the needs of a person with a specific disability, it is often possible to adapt or modify current and existing housing using various assistive technologies.

Hearing Disabilities

Although often overlooked as a population in need of housing adaptations, people who are deaf or hard of hearing require modifications in areas where audible signals are utilized. The most familiar adaptive device for people who are deaf are text telephones (also known as TT, TTY, or TDD); these devices enable people who are deaf or have communication disabilities to converse on the telephone using a keyboard and visual display. For those with less severe hearing disabilities, amplified handsets may suffice. However, access is also required for other systems in the home: Smoke alarms, security system alarms, doorbells, telephone ringers, and even knocks on doors should be converted to visual signals in order for people with hearing disabilities to fully and safely enjoy their homes.

Some signal systems are multi-purpose units, using microphones and transmitters to cause connected lights to flash or a bed or pillow vibrator to activate in response to doorbells and chimes, telephone ringers, burglar alarms, and door knockers. Some units are also designed to detect the sound of a crying baby. Most of these types of systems are equipped with adjustable sensitivity levels in order for ordinary sound and activity to be screened out. Still other systems are designed for specific purposes: interfaces connected to standard burglar alarms can cause lights to flash, and smoke alarms may provide both audible and visual warnings. Both permanent and portable systems are available.

Visual Disabilities

Accessible housing for people with visual disabilities may, in large measure, be achieved with relatively minor modifications. For example, clear travel paths in hallways and through rooms frequently can be achieved simply by rearranging furnishings. Furniture placement may also be used to facilitate establishing a route of travel from one room to another.

Safe travel from one room to another, or from one level to another, is also facilitated by the use of tactile warnings. Tactile warning strips may be used to mark abrupt changes in floor level, the edges of steps, and the transition from one area to another. For those with low vision, similar results may

be achieved using contrasting colors or tape markers on surfaces to indicate changes. In addition, door thresholds should be flush with the floor or fitted with small beveled ramps to eliminate tripping hazards.

Lighting and environmental controls also play a large role in making a home accessible to people with low vision. Lighting should be bright and at consistent levels throughout the home, but care should be taken to eliminate as much glare and reflection as possible. Lighting systems that sense people in a room, automatically turning lights on when someone enters a room and turning lights off when the room is unoccupied, are an option in lighting control. Computerized environmental control systems are also available, allowing lights, televisions, stereos, heating and cooling systems, security systems, etc. to be controlled from a computer keyboard, remote control units, switches, or via voice command.

"Low tech" solutions to environmental access are offered as well. Light switches can be marked using braille labeling tape or large print labels to indicate "on" and "off" positions. Using switches with definite on and off positions rather than rocker switches is also helpful. In addition, thermostats with tactile or large print markings and braille and large print appliance control overlays assist in making a home more accessible to those with visual disabilities.

Physical Disabilities

Adaptations such as the door sill ramps, environmental control units, and proper lighting mentioned above are also beneficial to individuals with mobility and other physical disabilities, but further accessibility measures are often required for walker and wheelchair users, as well as those whose disabilities affect the use of their hands.

Doors and Entrances

For persons with mobility disabilities requiring the use of wheelchairs and/or walkers, accessibility barriers frequently begin outside the home. The presence of even one or two steps can make entry impossible. Depending upon the severity of the incline, several options are available to overcome such barriers. For curb-height obstacles and small steps, several manufacturers offer a variety of wheelchair ramps, frequently made of aluminum or fiberglass, designed for temporary, semi-permanent, and permanent applications. For longer, steeper inclines, it may be necessary to construct a wooden or concrete ramp. Ramps should be at least 36 inches wide and have a maximum incline of 1:12 (12 inches of length for every 1 inch in rise). Exterior ramps in climates where ice and snow are common should have a more gradual incline, preferably 1:20. In those instances where the ramp has a rise of more than 30 inches, a landing platform should be constructed half way up. Additional safety requirements include handrails on both sides and a non-slip surface.

In cases where ramping proves impractical due to terrain or where entries are too high to be accommodated, such as those above a walk-out basement or on a deck level, platform lifts and enclosed residential elevators provide an alternative. Models are offered to meet a variety of installation requirements, and are available with such features as powered doors, internal lighting, emergency systems, and custom controls and cabs. (These devices are also options in providing indoor access in multi-level dwellings).

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Once access is gained to the dwelling, the next barrier is frequently narrow doorways. In order to accommodate most wheelchairs and walkers, doorways should be a minimum of 32 inches wide to provide sufficient space for the wheelchair or walker width and allow ample hand clearance. In homes where moving walls to widen doorways is not an option, additional width may be gained by removing doors or installing pocket doors which slide into the wall when not in use. Another option is the use of offset hinges which allow the door to swing clear of the opening and provide up to two inches of additional space in the doorway. Also, wherever possible, small rooms should be fitted with doors and hinges that open outward to prevent the door from being blocked from the inside in case of emergency.

Door knobs and locks are another major consideration in accessibility. Standard round door knobs and other types of handles which require grasping, twisting, or pressure are often unmanageable for those who are unable to use their hands or who have diminished strength and grasping ability. Ideally, standard mortised lock and knob sets should be replaced with lever-style handles. In those instances where knob and lock replacement is not possible, several manufacturers offer lever handles that fit over the existing knob. Some of these devices are portable, allowing them to be moved from room to room or used when traveling.

Security is another consideration in knob and lock selection. Push-button locks which disengage when the door is opened from the inside are among the most accessible for people with disabilities, but may not provide adequate security. Some options include slide bolts, remote control locks, electronic keypad security systems, and in some instances, push-button padlocks.

Hallways, Baths, and Kitchens

Adequate space is of paramount concern in hallways, kitchens, and bathrooms. Hallways should be a minimum of 36 inches wide, and in hallways where turning around is required, a five-foot radius of clear space should be provided. That same radius of maneuvering room should also be available in kitchens and bathrooms to allow an individual to turn around and have full access to appliances and fixtures.

In order to be accessible to a wheelchair user, bathroom fixtures must be at the appropriate heights. Toilet seats should be at least 15 inches above the floor and equipped with

grab bars (floor- or wall-mounted or attached to the toilet itself). The necessary height can be achieved through the installation of a specially designed tall toilet, a wall-mounted unit, or with an elevated seat. It is also important to remember that the tissue holder needs to be mounted within convenient reach. Further, the sink should be mounted at a height that allows the wheelchair to roll underneath it, usually a 30-inch clearance. Frequently, this necessitates removal of below-sink cabinets, and care should be taken to cover exposed pipes and sharp edges and surfaces. Faucets should be within easy reach and easily operable with one hand. For individuals without the use of their hands or who have limited strength, faucets equipped with electronic sensors to automatically turn water on and off are available. Another access option is the installation of a faucet which can be activated using a single switch.

Access to bathing facilities is critical. In order to prevent injury and to facilitate transfers, enclosures should be free of door tracks or other obstructions and sharp edges. Further, tubs and showers should be equipped with grab bars and built-in seats or portable tub benches. Seats should be located opposite the controls and within easy reach. Offset controls which allow regulation of the water temperature from outside the tub or shower, anti-scald valves to prevent water temperature from exceeding a pre-set limit, and hand-held shower attachments are also beneficial.

Some of the same adaptations made to the bathroom are beneficial in the kitchen as well: removal of under-sink cabinets to allow wheelchair access, faucet control modification and anti-scald valves, and adequate floor space to facilitate turning and access to all fixtures and appliances. Cooktops with a 30-inch clearance and a separate self-cleaning oven at an appropriate height are also helpful. Both appliances should feature front- or side-mounted controls and be adjacent to counter space to facilitate moving and preparing food.

Another consideration in the kitchen is storage: at least one shelf in each cabinet should be a maximum of 48 inches above the floor. Where such a feature does not exist, or where more space is required, powered cabinets which lower the shelving unit to the countertop are available.

Storage and Laundry

When considering which areas of a home to make accessible, it is essential that the person with the disability evaluate the rooms and spaces in terms of usability: If the person with the disability needs or desires to use the space, it must be accessible. This includes living, family, and recreational areas, as well as closets and laundry facilities.

Frequently closets can be made accessible simply by lowering the hanging rods. When the existing rod is an integral part of the closet, a second one may be installed below it. Another option is the use of modular storage systems which include hanging rods, shelves, and drawers that can be configured to the specific requirements of the user. Powered units which raise and lower and/or rotate shelves and racks also are available.

Laundry facilities also need to be accessible if full independence is to be achieved. As with other areas, this involves providing sufficiently wide doorways, space for maneuvering, and suitable appliances. Most often, front-loading washers and dryers with easily operated, front-mounted controls provide the necessary access.

Funding Sources

Whether one is building an accessible home or modifying an existing residence, the cost can be prohibitive. A home equity or other bank loan may be one financing alternative. Depending upon one's circumstances and the nature of the disability, assistance may also be obtained through medical insurance, medical and social services, income support, or vocational services from any of a number of different resources. Consumer-oriented disability organizations and rehabilitation facilities may also provide information resources on funding assistance available in the local community. Additional information on funding accessible housing is available in a number of the publications listed in the Resources and Recommended Additional Reading section at the conclusion of this Guide, as well as in ABLEDATA Fact Sheet No. 14 Funding Assistive Technology.

Conclusion

This ABLEDATA Informed Consumer Guide is a broad introduction to the legal and practical aspects of accessible housing. It is designed to enable the reader to consider what can be done and what needs to be done to make a home accessible. More detailed discussions of particular issues can be found in the following resource list. However, specific questions need to be addressed by legal, medical, and rehabilitation professionals. These are the people who can address issues unique to particular municipalities, and help determine the best course of action to meet the needs of specific disabilities.

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Once the kinds of modifications needed are determined, information about specific products to help achieve the goal of accessible housing is available from the ABLEDATA database of assistive technology which provides information about and descriptions of more than 20,000 products for people with physical, sensory, or cognitive disabilities. Information Specialists are available to help provide specific information about a particular device or type of device or manufacturers and distributors of assistive technology. ABLEDATA can be reached by calling 800/227-0216 or 301/588-9284 (both are voice/text telephone). Computer users may also search the database themselves and download the search results using the ABLE INFORM computer bulletin board service (BBS). ABLE INFORM can be accessed via modem at 301/589-3563 (8-N-1), or through the Internet. A no graphics option (#2) is

offered on the initial screen, enabling the BBS to be compatible with screen readers. There is no charge for this service except long-distance telephone charges for calls placed from outside the metropolitan Washington, D.C. area. Finally, the database is available for purchase on CD-ROM in DOS and Windows formats. For more information about the CD-ROM or to place an order, contact the ABLEDATA staff.

Resources and Recommended Additional Reading

Home Modification/Design and Accessible Housing

Chen, V.T., Baruch, L.D., Scharf, P.T., Tanner, R.W., & Edlich, R.F. (1990). "Burn Rehabilitation Forum: Adaptive Housing: Remodeling Considerations for the Disabled." Journal of Burn Care & Rehabilitation, Vol. 11 No. 4, July/August 1990, p. 352-360. Journal. NARIC Accession number: XJ17821.

A discussion of remodeling considerations that apply in adapting housing for the disabled. The main body of the paper concerns the evaluation of housing and the design criteria that apply. Addressed are the evaluation process itself and the accessibility of various rooms, especially the bathroom, bedroom, and kitchen. Illustrated designs are offered. Also addressed are the geometry of access ramps and stair lifts.

Cocke, E.A. (1992). "Housing Modifications for Persons who are Blind or Visually Impaired." Re:view, Vol. 24 No. 1, Spring 1992, p. 23-28. Heldref Publications. 6p. See Publisher. NARIC Accession number: XJ22781.

The article discusses issues that must be considered by consumers and builders or remodelers when doing housing modifications for individuals with blindness or visual impairments. It examines new construction and remodeling, focusing on the types of modifications needed for people with visual impairments. Also included are suggested modifications for various areas of the home.

Design for the Life Span of All People? Spotlight on Adaptable Housing. Rehab Brief, Vol. 10, No. 12, p 1-4. Falls Church, VA: PSI International, Inc., 4p. NARIC Accession number: XO08668.

Examines problems of accessibility in the home for people with physical disabilities. Discusses reasons why accessible design has not been popular among architects and the concepts of universal design, life span design, and adaptable housing. It also presents examples of universal design features, permanent accessibility features, and accessibility options that can be implemented as needed.

"Less Restrictive Housing Environments. Examples, Methods, Designs, and Guidelines for Improving New and Existing Housing." PART II OF II. Design File. 1990. NARIC Accession number: XR05715.

Presents second part of two-part final report on three-year project about least restrictive housing environments funded by National Institute on Disability and Rehabilitation Research. Project was collaborative effort between Barrier Free Environments, Inc., and several subcontractors. Seven chapters focus on vehicular transporation and parking, entrances and site design, windows, kitchens, bathrooms, and bedrooms.

Long, R.G. (1992). Housing Accessibility for Individuals with Visual Impairment or Blindness: Final Report, July 1992. Center for Accessible Housing, School of Design, North Carolina State University. 27p. see publisher. NARIC Accession number: XO10964.

Final report from a project studying features of housing environments that enhance or limit the everyday functioning of persons with blindness or low vision. Two focus groups were conducted, one composed of working age and older adults with visual impairments and the second composed of professionals who serve infants and preschool age children with visual impairments. This report presents the results of the focus group discussions, recommendations concerning housing design for persons with visual impairments, and list of additional readings.

Lynch, R.D. (1993). "Karl's House." Technology and Disability, Vol. 2 No. 4, Fall 1993, p. 30-39. Andover Medical. 10p. See Publisher. NARIC Accession number: XJ26203.

Presents the story of the architectural home modification of one family who had a 10-year-old son with spinal cord injury and paraplegia following an automobile accident when he was 2 years old. After the accident, the parents began to work with representatives of the insurance company, the county orphans court, and the bank trustee to make accessibility changes in their home. The architectural basic services consisted of five phases, including schematic design, design development, construction documentation, bidding and negotiations, and construction contract administration. The article discusses accessible outdoor space, appearance of the home, exterior safety, elevator, bathrooms, laundry/pantry, and other areas.

Mace, R (ed). (1993). Grab Bars. TECHPACK # 1.10. Center for Accessible Housing, NC State University. See publisher. NARIC Accession number: XR06433.

Pamphlet provides information on grab bars, with federal standards provided. Installation is described covering diameters, spacing, and reinforcement requirements. The types of grab bars available are illustrated. A product resource list is provided.

Overton, J. (1993). "Resources for Home-modification/Repair Programs," Technology and Disability, Vol. 2 No. 4, Fall 1993, p. 80-88. Andover Medical. 9p. See Publisher. NARIC Accession number: XJ26208.

The article examines funding for home modification and repair problems for the elderly individuals who have disabilities. The paper discusses funding sources; legislation; city and county funds, and state funds; block grant programs foundations; charitable contributions; publications relating to home modification, and more. A resource summary is provided.

Rigger, R. (1989) "A Barrier-free House: Accommodating a Wheelchair Calls for Careful Planning Inside and Out." Fine Homebuilding, No. 53, April/May 1989, p. 67-71. The Taunton Press, Inc. Journal. NARIC Accession number: XJ11625.

Describes the custom construction of a house designed to accommodate the needs of a wheelchair user. Includes an copy of the floor plan and several photographs illustrating selected features. An addendum to the article provides suggestions for modifications to entries, bathrooms, and kitchens.

Rigger, R. (1989). "Design Lines Spotlight. A Barrier-free House, Part 1." Paraplegia News, Vol. 43 No. 8, August 1989, p. 39-42. Paralyzed Veterans of America, 4p. Journal. NARIC Accession number: XJ13845.

Describes home modification for people with disabilities who find too many barriers in conventional homes. Looks at one home in particular with a barrier-free one-story design. A special central space (a bridge) offers electronic controls for lights and appliances and affords view of kitchen, dining room, living room, entry way, and back yard. Attached garage provides convenient parking and ramp access to kitchen door. Basement has electric stair lift, utilities, and plenty of storage.

Salmen, J.P.S. (1991). The Do-able Renewable Home: Making Your Home Fit Your Needs. American Association of Retired Persons. 36p. Consumer Affairs Section, American Association of Retired Persons, 601 E Street, NW, Washington, DC 20049. NARIC Accession number: XR06495.

Book providing practical information on adapting home environments to meet the individual needs of older persons with physical limitations. The book explains design concepts, products, and resources to help make an existing home more liveable for older individuals with limitations in movement, strength, dexterity, eyesight, or hearing. The accompanying illustrations show how to make your own modifications and also serve as a guide for designers and building contractors.

Specialized Housing Inc. and Living Design. (1991). The Accessible Home: First Edition. 32p. Fulfillment Department, Living Design, 1514 Columbia, Vancouver, WA 98660; (206)695-4684 or (503)286-5356; (206)695-4793 Fax.

Book providing sketches and plans for 13 multi-resident and 13 single-family homes. Each entry includes brief descriptions of notable or unique features. An order form for blueprints and specification books is included.

Stevens, J H. (1990). A Barrier-free Home: Considerations and Recommendations for Design. 12p. NARIC Accession number: XR05744.

A guidebook for the disabled prospective homeowner on design considerations for a barrier-free home. Addressed are preferred home designs, lots, and site locations, design elements in the construction of foundations, doorways, door hardware, closets, bathrooms, water controls, kitchens, flooring, and other elements. Appended is a list of 10 questions to consider before designing and constucting the home. Also appended is a suggested reading list.

The Universal Home Series. Homes for Living, Homes for Life. Center for Accessible Housing, NC State University. 12. See publisher. NARIC Accession number: XR06435.

Pamphlet describes the Universal Home model which meets all accessibility standards and codes. Descriptions and views of the total house floorplan and kitchen and bathroom features are presented. Standard and optional features are listed.

Watzke, J.R. & Kemp, B. (1992). "Safety for Older Adults: the Role of Technology and the Home Environment." Topics in Geriatric Rehabilitation, VOL 7 NO 4, JUNE 1992, p. 9-21. Aspen Publishers, Inc. See Publisher. NARIC Accession number: XJ22789.

Article examines the role of technology and the home environment in safety for older individuals, noting most antifall interventions are not high technology: safe mobility, environmental control, and future needs.

Legal Issues

Boakley, T.J. & McDonald, R.D. (1989). Barrier-free Design: the Law. Volume I. 1989. Eastern Paralyzed Veterans Association, approximately 200p. NARIC Accession number: XR05550.

Presents information on accessibility for people with physical disabilities. The Architectural Barriers Act of 1968 as amended August 12, 1968; uniform federal accessibility standards; local laws of the City of New York for the year 1987 no. 58 effective September 1, 1987 (includes amendment local law no. 65, effective November 4, 1988); and American national standard for buildings and facilities are discussed.

Center for Accessible Housing Factsheets. Center for Accessible Housing, School of Design, North Carolina State University. 23p. see publisher. NARIC Accession number: XR06275.

Information packet contains eight fact sheets about housing for elderly peope and people with disabilities. Provisions of the Fair Housing Amendments Act of 1988; the Federal National Mortgage Association home financing program for older people; definitions of the terms accessible, adaptable, and universal as they refer to the design of housing for people with disabilities; benefits of accessory unit housing for elderly persons and persons with disabilities; and financing sources that can help renters and homeowners pay for accessibility modifications to their homes.

The Fair Housing Amendments Act. Adapt to a Better Design. Eastern Paralyzed Veterans Association. 20p. See Publisher. NARIC Accession number: XR06296.

Discusses the importance of adapting housing for individuals with disabilities, looking at the Fair Housing Amendments Act of 1988 (FHAA). Included are an ntroduction to adaptable housing: advantages and benefits of adaptable design; FHAA requirements; a summary of guidelines for new construction; and recommendations of the Eastern Paralyzed Veteran's Association.

General Resources

HUD User. P.O. Box 6091, Rockville, MD 20850. 800/245-2691 (V); 800/877-8339 (TT); 301/251-5154 (V). 301/251-5747 (fax).

Established in 1978, HUD USER is a research-information service sponsored by the Office of Policy Development and Research (PD&R), U.S. Department of Housing and Urban Development. Among its many reference and referral services, HUD USER maintains a bibliographic database of research literature on housing and urban development topics. Subject areas include accessible design, building technology, community development, economic development, fair housing, energy and urban infrastructure, and housing for the elderly and people with special needs. Personalized searches of the HUD USER database are available, and printouts contain information on how to obtain copies of documents. While most of the publications contained in the HUD USER database are geared to professionals, many titles are designed for lay people. Copies of some documents may be obtained from HUD USER. Fees are charged for document handling and computerized literature searches. Prepayment is required.

National Housing Directory for People with Disabilities. Grey House Publishing, Pocket Knife Square, Lakeville, CT 06039. 800/562-2139.

With 25,000 listings, this directory is a detailed source on housing information for professionals to make informed housing recommendations. Two sections in each state chapter concentrate on the government agencies that manage housing in the state. In addition, a chapter on federal and national organizations provides a brief profile of the area of responsibility. Three additional sections in each state chapter describe the housing units themselves—large, residential, intensive care facilities in the state; group homes; and independent living facilities.

Organizations

Adaptive Environments Center. 374 Congress Street, Suite 301, Boston, MA 02110. 617/695-1225 (V/TT). 617/482-8099 (fax).

The Adaptive Environments Center, a nonprofit organization, offers consultation, workshops, courses, conferences, and resource materials on accessible and adaptive design and accessibility legislation, standards, and guidelines. The center's library contains a comprehensive collection of materials on accessible design and is open to the public. The Center's publications are also available for purchase.

Barrier Free Environments (BFE). P.O. Box 30634, Water Garden, Highway 70 West, Raleigh, NC 27622. 919/782-7823 (V/TT).

Barrier Free Environments (BFE) is a design firm specializing exclusively in the design of products and buildings to be used by aging people and people with disabilities. Product designers, architects, interior designers, and housing designers practice "universal design," in which all features are designed for use by all people to the greatest extent possible. BFE provides designing and consulting services to individuals, families, corporations, small businesses, and institutions on home and building modifications for accessibility; design or redesign of consumer products and equipment for use by people with disabilities and aging people; and business services. Also provides programs and seminars on accessible design, home modifications, products, equipment for accessibility, and training on issues relating to design for people with disabilities and aging people.

Center for Accessible Housing. North Carolina State University, Box 8613, Raleigh, NC 27695-8613. 919/515-3082 (V/TT).

The Center for Accessible Housing was established in 1989 by the National Institute on Disability and Rehabilitation Research (NIDRR) to improve the quality and availability of housing for people with disabilities. The center provides assistance and information to individuals and industry through research, collaborative efforts with manufacturers, training, and information services.Information services include an information and referral service, a technical design assistance service, and publications. Training is provided directly to people with disabilities, disability advocates, designers, professionals in the building industry, housing providers, and design students at the post-secondary level. A complete publications list is available.

Eastern Paralyzed Veterans Association (EPVA). 75-20 Astoria Boulevard, Jackson Heights, NY 11370. 718/803-3782 (V); 718/803-2472 (TT); 800/444-0120 (publications).

The Eastern Paralyzed Veterans Association (EPVA) is a private, nonprofit organization dedicated to serving the needs of its members, as well as other people with disabilities, to lead full and productive lives. EPVA currently has the following programs: benefits service, hospital liaison, sports and recreation, wheelchair repair, architecture, research and education, program counsel, legislation and advocacy, social services, communications, library and information services, public affairs, and administration.

Housing for Elderly and Handicapped People Division. 451 7th Street SW, Room 6116, Washington, DC 20410. 202/708-2866.

The Housing for Elderly and Handicapped People Division administers the Section 811 Program — Supportive Housing for Persons with Disabilities. This program provides capital advances to private, nonprofit organizations for the development of housing with supportive services for people who have physical or developmental disabilities or who are chronically mentally ill. Project rental assistance funds are also provided so that residents pay no more than 30 percent of their adjusted incomes for rent. Housing includes small group homes serving a maximum of 8 people and independent living facilities consisting of individual apartment units for no more than 20 people per facility.

National Handicap Housing Institute, Inc. (NHHI). 4556 Lake Drive, Robbinsdale, MN 55422. 612/535-9771.

The National Handicap Housing Institute, Inc. (NHHI) was incorporated in 1975 as a tax-exempt charitable organization providing services related to the development of barrier-free housing for young adults with physical disabilities. NHHI has developed, codeveloped and consulted on the development of 1,065 units of barrier-free housing for low income young adults with mobility impairments. In addition, NHHI has provided design-related services and/or marketing consultation for the successful development of other units. The institute has conducted research on barrier-free housing design and developed architectural and product specification standards that are functional and affordable. The institute provides information and referral on the availability of barrier-free housing in the Minneapolis/St. Paul, Minnesota area to a major degree and to out-state Minnesota to a lesser degree. Information on various housing assistance programs that people with disabilities may be eligible for, as well as design and product information, is also provided.

ABLEDATA IDENTIFIERS

The following is an excerpt from the list of identifiers (terms used to describe products) found in ABLEDATA for home accessibility products.

ARCHITECTURAL ELEMENTS

HOUSES

- house plan
- mobile home
- prefab house

INDOOR

- Bathrooms
  - Bathtub Accessories
    - bathtub insert
    - bathtub shortener
    - corner splash guard slip resistant coating for bathtub
    - whirlpool
  - Bathtubs General
    - bathtub
    - bathtub cabinet
    - cushioned bathtub
    - elevated bathtub
    - inflatable bathtub
    - portable bathtub
    - shower bathtub
    - whirlpool bathtub
  - Bidets
    - bidet
    - sitz bath
    - toilet bidet
  - Grab Bars
    - floor mounted grab bar for toilet
    - grab bar for bathtub
    - installation of grab bar
    - wall grab bar
    - wall grab bar for bathtub
    - wall grab bar for shower
    - wall grab bar for toilet
    - wall to floor grab bar
  - Handshowers
    - handshower on adjustable bar
    - handshower wall hanger
    - handshower with faucet fitting
    - handshower with flexible hose
    - handshower with soap dispenser
    - portable handshower
    - showerhead on adjustable arm
  - Plumbing Accessories
    - electronic faucet
    - extended lever for toilet handle
    - foam faucet protector for tub
    - hot water heater
    - knee action mixing valve
    - lever tap handle
    - push button faucet
    - shower control system
    - showerhead on adjustable bar
    - single lever faucet
    - soap lotion dispenser
    - tap turner
    - water flow control
    - water temperature control
  - Showers
    - corner shower seat
    - folding shower seat
    - portable shower
    - roll in shower
    - shower bathtub
    - shower cabinet
    - shower doors
    - shower ramp
    - shower with built in grab bar
    - shower with built in seat
    - showerhead on adjustable bar
  - Sinks
    - accessible sink
    - accessible vanity
    - adjustable height sink
    - portable sink
  - Toilets
    - electric elevating toilet
    - portable toilet
    - powered elevating toilet seat lift
    - tall toilet
    - toilet bidet
- Doors
  - Door Handles
    - door handle lever
    - door knob
    - panic bar
  - Door Locks
    - chain lock
    - door lock light
    - exterior door lock with lever handle
    - keyless door lock
    - remote control door lock
  - Door Operators
    - door closer
    - door opener
    - powered door operator
  - Doors General
    - accessible revolving door
    - accessible threshold
    - door curtain
    - door hinge
    - doorstop and holder
    - exterior door
    - peephole
    - protective panel
    - space saving door
- Floors
  - anti skid tape

non slip floor covering
non slip rug mat
non slip stair tread covering
textured paint additive

Kitchens
accessible kitchen components
adjustable kitchen components
below counter refrigerator freezer
electronic recycling machine
kitchen faucet
kitchen sink
kitchen sink accessory
kitchen storage system
lever tap handle
shallow sink
single lever faucet
soap lotion dispenser
tap turner

Storage
cabinet door opener
cabinet organizers
hanger with extended hook
kitchen storage system
low clothes bar for closet
motorized clothing rack
pegboard accessories
slide out drawer for cabinet
storage shelves

Walls
hand rail
railing guard

Windows
accessible window
window opening aid

LIGHTING
adjustable arm lamp
adjustable height low vision lamp
automatic night light
battery operated lamp
high intensity lamp
lamp light sensor control
lamp motion sensor control
lamp switch extension lever
light switch extension
lighting control system
sound activated light switch
strobe light
tabletop lamp dimmer
touch light

OUTDOOR

Furniture
wheelchair picnic table

Playground
back support for swing
climbing structure
jungle gym
platform swing
playground equipment
reclining swing
swing
wheelchair exercise course
wheelchair jungle gym
wheelchair mobility training track
wheelchair picnic table
wheelchair swing

Surface Materials
beach mat
cushioned rubber mat
ground retention grid
wood fiber mat

SAFETY AND SECURITY

Alarm and Security Systems
burglar alarm
closed circuit tv system
distress flag signal
emergency alarm
emergency alert system
emergency evacuation system
peephole
power failure alarm system
safe with keypad access
security system
signal system
smoke alarm
timing switch
wandering patient system

Child Proof Devices
childproof cabinet lock
childproof electrical plug adapter
protective corner pad

Electric Cords
childproof electrical plug adapter
electrical outlet cover
storage reel for appliance cord

Lights
automatic night light
door lock light
flashlight with alarm
magnetic flashlight
motion sensor light
security power failure light
strobe light

Locks
magnetic padlock
tactile padlock

SIGNS
access sign
ADA compliance sign
area of rescue sign
bilingual sign
braille sign
car emergency sign
parking area marker
tactile sign
talking sign

SPECIALTIES
accessible fountain
ADA compliance evaluation software
ADA reference
electronic recycling machine
electronic thermostat
low vision thermostat
room air conditioner
snow melting system
tactile thermostat
telephone enclosure
voting booth
voting booth accessory

VERTICAL LIFT

Elevators
dumb waiter
elevator
home elevator

Ramps
curb ramp
folding tracks
handrail for portable ramp
modular ramp
portable ramp
ramp
telescoping tracks
van ramp

Stair Lifts
exterior seat lift
exterior wheelchair lift
interior seat lift
interior wheelchair lift
wheelchair lift enclosure

HOME MANAGEMENT

FOOD PREPARATION

Appliances
braille overlay for controls

Cooking
knob turner

Measuring
kitchen scale
low vision timer
tactile kitchen scale
timer

FURNITURE

Bedroom
trapeze

Trays and Tables

Tables
accessible table
adjustable height desk
adjustable height tilt top work table
adjustable height work table
computer table
cut out table
folding table

kidney shaped table
powered adjustable height work table
rotating round table
table adapter
tilt top table
Furniture General
accessible bedroom furniture
accessible wardrobe

HOUSEKEEPING

Housekeeping General
dumb waiter
folding cart
magnetic flashlight
pull out tray for mailbox
rolling cart
Laundry
braille overlay for controls
clothes dryer
clothes washer
large knobs for washer

PERSONAL CARE

BATHING

Bath Lifts
hydraulic bath lift
mechanical bath lift
powered bath lift
powered bath lift for hydrotherapy
transfer lift bathtub adaptor
water hydraulic bath lift
water inflatable bath lift
transfer seat
Bathtub Seats
Bathtub Benches
bathboard
shower tub trolley
transfer bench
Bathtub Seats General
bath seat
bath sling
bath support
bathtub caster board
bathtub shower frame
bathtub stool
child bath chair
child bath support
reclining bath seat
Shower Chairs
caster shower chair
caster shower commode
shower chair
shower stretcher
wheelchair shower commode
Shower Stools
corner shower seat
folding shower seat
folding shower stretcher
shower bench
shower stool

HOLDING

Holding General
ceiling mounted adjustable suspension cable
Non-Slip Surfaces
anti skid tape
non slip matting

TOILETING

Commodes
Commode Chairs
adjustable height commode
caster commode
child commode
commode with removable arms
commode with seat lift
fixed height commode
folding adjustable height commode
folding fixed height commode
self contained commode
wheelchair commode
Shower Commodes
caster shower commode
wheelchair shower commode
Toilets
Safety Frames
adjustable safety frame
safety frame
safety frame with elevated toilet seat
safety frame with toilet seat
unilateral safety frame
wall mount safety frame
Toilet Seats
Elevated Toilet Seats
elevated toilet seat
molded elevated toilet seat
powered elevating toilet seat
lift wall hanger for elevated toilet seat

SENSORY DISABILITIES

BLIND AND LOW VISION

Kitchen Aids
braille overlays for controls
low vision timer
tactile kitchen scale
Labeling
aluminum clothing tags
braille dial
braille labeler
braille labeling sheets
braille labeling tape
clothing marker
keytop overlay
large print embossed labels
low vision marker
magnetic labeling tape
raised dot maker
tactile food labels
talking file card
Orientation
key holder with beeper
signal beacon
tactile compass
talking sign
voice output compass
Telephones
braille telephone device for the deaf
raised face plate
voice activated telephone
voice output telephone
voice output telephone aid
Time
Auditory
auditory timer
chiming clock
voice output alarm clock
voice output clock radio
voice output clock
voice output digital clock
voice output stopwatch
voice output timer
voice output watch
Calendars
braille calendar
cassette calendar for versabraille
low vision calendar
voice output calendar
Low Vision
low vision alarm clock
low vision digital clock
low vision timer
low vision wall clock
low vision watch
Tactile
tactile alarm clock
tactile clockface
tactile desk alarm clock
tactile pocket watch
tactile stopwatch
tactile timer
tactile watch

DEAF AND HARD OF HEARING

Amplification Systems
amplification system for radio

- amplification system for television
- amplifier
- amplifier telephone
- audio loop amplification system
- FM amplification system
- induction loop amplification system
- infrared amplification system
- personal amplification system
- transmitter for FM amplification system
- vibrotactile amplification system
- wireless microphone

Signal Systems
- bed vibrator
- doorbell signal
- fire safety system
- flashing light signal
- pillow vibrator
- remote control receiver for light signal
- security system
- smoke alarm
- sound monitor
- tactile paging system
- telephone signal
- wireless signal transmitter

Telephones
- amplifier
- amplifier telephone
- auxiliary bell
- braille telephone device for the deaf
- conference call system for tdd
- expanded keyboard for tdd
- handset amplifier
- printer for telephone device for the deaf (tdd)
- signal amplifier
- tdd answering system
- tdd monitoring system
- telecommunication device for the deaf (tdd)
- telephone adaptor for hearing aids
- telephone signal
- telephone signal indicator
- text telephone or TT
- touch tone message decoder
- voice amplifier

Time
- bed vibrator
- digital alarm clock
- flashing alarm clock
- pillow vibrator
- timer
- vibrating alarm clock

DEAF BLIND
- braille telephone device for the deaf
- communication device for the deaf blind
- tactile paging system
- tactile scale

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http://www.abledata.com.