

Standards for Accessibility Where Are We?

Code Committee of AIASTL & the STL Professional Chapter of ICC
and
Missouri Association of Building Officials & Inspectors
and
Missouri Association of Code Enforcement

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Presentation Outline

The Basic Standards
A Bit of History & the Evolution of A117
Scoping vs. Technical Requirements
Evolving Standards – Status and Direction
Complex Issues & Common Points of Confusion



A Few Language Notes

- **Committee Name:** Consensus Committee on Accessible and Usable Buildings and Facilities
- **Committee Site:** [ICC \(ASC A117\)](#)
- Last publication: ICC A117.1-2017
- Previous publications: ICC/ANSI A117.1 (for 1998, 2003 and 2009)
- CABO/ANSI A117.1 for 1992
- ANSI A117.1 for 1961 to 1986 vintage

Note: the presentation includes some slides that are meant for reference only.



Types

Civil Rights:

- Enacted by federal and state governments by legislative acts.
- Applies to all buildings, not just to projects requiring permits

Building Codes

- Adopted by state and local governments by legislative actions such as ordinances and regulations. Adoption process usually involves some amendments.
- For today, concerned with requirements for permits



Types

Civil Rights:

- Enforced by federal and state agencies response to private and governmental inquiries, complaints and investigations.
- Cases in federal and state courts.

Building Codes

- Enforced by state and local "AHJs" through permits, inspections and complaints.
- Cases in state, county and city courts.



Civil Rights:

Relevant Standards & Requirements

Section 504 of the Rehabilitation Act of 1973 (504)
Architectural Barriers Act of 1968 (ABA)
Uniform Federal Accessibility Standards (UFAS) 1984
Fair Housing Amendments Act (FHAA) 1988
Americans with Disabilities Act (ADA) & the Architectural Guidelines (ADAAG) and other standards (1990 and 2010).
ABA 2006



Relevant Standards & Requirements

Building Codes

- Various editions of the IBC (primarily 2000 through 2018).
- Various editions of the A117 Standard
- Various state building codes and accessibility standards.
- Various local ordinances and amendments.

Conflicts between Civil Rights requirements & Building Codes requirements are normal – not exceptional.



Who is responsible for the standards?

Civil Rights:

Access Board, HUD, GSA, DOJ, DOI, DOT, DOD, VA etc. (partial list), various states (e.g. Texas, Illinois, California and others with state accessibility requirements).

Building Codes:

ICC and the A117 committee (ICC is the secretariat).



The Role of the Access Board

Access Board is responsible for the development (past and future) of standards for compliance with the ADA and ABA. Other agencies can (and do) amend the standards when they adopt them.

To date:

ADAAG 1991, ABA 2006, ADAAG 2010 (also called the 2010 Standards), Outdoor Recreation, State and Local Government, Children's Spaces, Passenger Vessels, Medical Equipment & Electronic Access (Section 508), etc.



The Architectural Barriers Act authorizes the Administrator of the General Services Administration, the Secretary of the Department of Housing and Urban Development, the Secretary of the Department of Defense, and the United States Postal Service to modify or waive the accessibility standards for buildings and facilities covered by the Architectural Barriers Act on a case-by-case basis, upon application made by the head of the department, agency, or instrumentality of the United States concerned. The General Services Administration, the Department of Housing and Urban Development, the Department of Defense, and the United States Postal Service may grant a modification or waiver only upon a determination that it is clearly necessary. Section 502(b)(1) of the Rehabilitation Act of 1973 authorizes the Access Board to ensure that modifications and waivers are based on findings of fact and are not inconsistent with the Architectural Barriers Act.



Role of Adopting Agencies

HUD: provided their own documents prior to the availability of the ADA. Published the Fair Housing Act Regulations and the Guidelines as "technical guidance".

GSA, DOI, DOJ, DOT, DOD, VA etc. (partial list) have adopted and amended the ADAAG and used independent standards in some cases (e.g. the VA).



Role of the ICC



The IBC/A117 Partnership

- ANSI A117.1 Standard is the consensus standard for the building industry that defines the minimum technical requirements for an accessible environment.
- ANSI is on a 5 year update cycle.
- Now called the ICC/ASA A117
- ICC/IBC is a model building code developed by the International Code Council (ICC) adopted by jurisdictions with changes as deemed necessary.
- ICC is on a 3 year update cycle.



Processes

A117.1

Development uses a consensus process that includes specific committee members. In addition, according to the ANSI due process model, any person, organization, company or governmental agency with a "direct and material" interest in a standard has the right to participate. The public is invited to all meetings and may participate throughout the process.

There are roughly 50 primary (voting) committee members representing 5 interest groups: Building Owner/Operator, Consumer/User, Professional, Producer/Distributor and Regulatory.

IBC

Development uses a consensus process that includes 19 code committees with wide variety of members. Changes can be submitted by anyone. Proposals are reviewed by staff, reviewed/acted on by the committee (approved, modified, disapproved), and passed on to the ICC voting membership for action. Public comments are allowed throughout the process.

Final vote rests with the ICC Governmental Member Representatives only.



ANSI History – A Framework for Understanding the Requirements



A bit of history – the common thread

- 1947-1948
- U of I hired their first Director of the Rehabilitation Education Center – Timothy J. Nugent

The Beginning...

A former Veterans Administration Hospital in Galesburg, Illinois, was converted into a satellite campus of the University of Illinois. This action was necessary to accommodate the many WW II veterans returning to the United States, who were seeking to utilize GI Bill funding to earn college degrees



Figure 35. A typical folding wheelchair from the period, Colson catalog, 1948. NMAH Trade Literature Collection, Smithsonian Institution, Washington, DC.

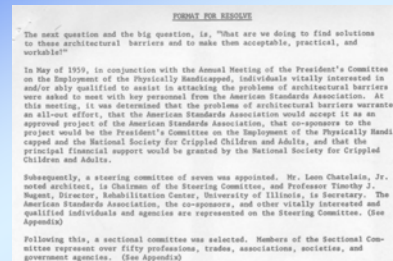


1949 - 1959

- Galesburg campus closed (1949).
- Students (through self-advocacy) got the "Rehab Program" moved to the Urbana-Champaign campus
- The program developed a series of research projects using academic standards to address the problems of access on campus and in other settings.



1959



Basic Research and Development

Basic research has been done which is applicable to this problem, although the research was not done for this purpose. The research was done to determine the physical characteristics of individuals who are physically disabled and to determine the physical characteristics of individuals who are physically disabled for the purpose of determining the physical characteristics of individuals who are physically disabled.

The physical characteristics of individuals who are physically disabled are determined by the physical characteristics of the individual and the physical characteristics of the individual's environment. The physical characteristics of the individual are determined by the physical characteristics of the individual's body and the physical characteristics of the individual's mind. The physical characteristics of the individual's environment are determined by the physical characteristics of the individual's environment and the physical characteristics of the individual's environment.

Figure 1. Ramp without rear platform.
Figure 2. Three around tables, one on floor and three accessible rear platform.
Figure 3. Straight-ahead crossover apron, using low entrance and platform.
Figure 4. Testing vertical reach of person in 1947 working space.

A CASE IN EXAMPLE

THE UNIVERSITY OF ILLINOIS AND COMMUNITIES OF CHANPAIGN-URBANA

During the 1959-60 school year, 181 severely, permanently, physically disabled students attended the University of Illinois as regular full time students. Of these, 122 were confined to wheelchairs all of the time. Many of these students had compounded disabilities such as totally blind with both arms amputated, paraplegia with amputations, subulatory hemiplegia with amputations, paraplegia with epilepsy, etc. This number included 61 females, 40 confined to wheelchairs.

These students lived in regular university residence halls, attended all regular classes, pursued over fifty curricular objectives in ten colleges and divisions of the University of Illinois, and participated in almost every phase of extra-curricular activity (newspapers, radio, television, musical and choral groups, fraternities, sororities, various campus governing groups, wheelchair-football, basketball, baseball, track and field, archery, swimming, square dancing, and more).

These students are not accorded any form of assistance or attendant help while on campus. Facilities have been designed and constructed for their independent function. Entrances, public telephone booths (air-conditioned), water coolers, residence hall desks and beds, showers and toilets, cafeteria service, dining areas, even library and laboratory facilities have been designed and constructed so that they are equally usable by the able bodied and the physically disabled.

The University of Illinois Rehabilitation-Education Program, now fourteen years old, is itself an ongoing research program. Over one hundred ramps have been built leading into university buildings, each with certain modifications and improvements and a few with factors of dissatisfaction. Countless other modifications have been made to even the oldest and most awkward buildings on campus. The University is continually engaged in finding ways to use commercially available products, through proper planning, that would be equally serviceable to disabled and able bodied alike.

1960 – the very first draft standard

THE PROBLEM AND BACKGROUND

Need by Barbara and Steve

Alarming as it may seem, approximately one out of every six people in our nation has a permanent physical disability. Among these, are many different causes and manifestations of physical disability and each has its own particular associated problems.

The most frustrating of all problems to physically disabled individuals are buildings and facilities, supposedly created for the public, that are designed and constructed in such a manner that they prohibit the full participation of the physically disabled.

It is equally frustrating to professional people dedicated to rehabilitation to find that architectural barriers prohibit the disabled individual, however well rehabilitated, from pursuing his aspirations, developing his talents, and exercising his skills.

Contrary to what most people think, recent advancements in science and medical technology tend to magnify this problem. It is further evident that the situation will get much worse before it gets better. As an example, the telephone and the two-way radio, which most people consider to be far removed from this problem, coupled with modern transportation, bring the first echelon of medical care much closer to the incidence of disaster. In so doing, the lives of many people are saved and many of these become individuals with permanent physical disabilities. As another example, advancements in medical science now make it possible to save many lives, decrease the mortality rate at birth, and increase longevity, all of which greatly increase the numbers of individuals with permanent physical disabilities.

1961

1961

American National Standard

specifications for making buildings and facilities accessible to, and usable by, the physically handicapped

The First A117

- ANSI (American National Standards Institute)
- First issued in 1961 – became the first private sector model for a technical standard for accessible features.
- 6 pages of “standard specifications”.

So Where Did We Start?

- Walks that are 48" wide and that level out at driveway crossings.
- Ramps at 1:12 – with handrails and landings
- Doors with 60" square spaces (both sides) and minimum 32" clear width
- Toilet stalls (36" by 60") with rails and a seat at 20 inches
- Kneespaces and mirrors at lavs
- Drinking fountains, phones, controls, signs



1971 - 1974



Moving into the next edition..

- 1971 ANSI reaffirmed the 1961 A117
- 1974 HUD joined the committee and the secretariat, sponsored research
- 1975 (or so) GSA survey of federal buildings using A117 as the standard
- 1978 University of Buffalo, New York hired Ed Steinfeld who began the next major cycle of research
- 1979 Research began using a research sample of 60 individuals who used wheelchairs.



- Steinfeld, E., Schroeder, S., & Bishop, M. (1979b). *Accessibility for people with ambulatory and reaching impairments*. Washington, DC: U.S. Department of Housing and urban Development.
- Also - Accessible buildings for people with severe visual impairments (Syracuse University)



1980



1980


Major editorial changes that increased the scope of the items addressed and incorporated new technical requirements.

This edition is the basis of UFAS (replaced by ABA Standards in 2004/2006) and was adopted by the SBC in a number of local jurisdictions in the south, by UBC, and by various state legislatures.




1980

- New edition published that dramatically expands the scope of the original standard
- New format developed
- Housing covered for the first time
- Criteria based on systematic research wherever possible
- Adaptability concepts introduced
- New emphasis on accommodating disabilities beyond wheelchair use
- Extensive use of scoping criteria to insure full accessibility



1986





1986

1986 edition published with initial effort to remove scoping criteria


Minimal changes to technical criteria

1986 the edition recognized in the FHAA and initial fair housing regulations. Still used as part of active safe harbors.



1988 – Fair Housing

References and is based on the 1986 edition






The **Fair Housing Amendments Act (FHAA)** was signed into law on September 13, **1988**, and became effective on March 12, 1989. The Act amends Title VIII of the Civil Rights Act of 1968, which prohibits discrimination on the basis of race, color, religion, sex or national origin in **housing** sales, rentals or financing.





1990

The Americans with Disabilities Act (ADA) was signed into law on July 26, 1990, by President George H.W. Bush. The ADA is one of America's most comprehensive pieces of civil rights legislation that prohibits discrimination and guarantees that people with disabilities have the same opportunities as everyone else to participate in the mainstream of American life -- to enjoy employment opportunities, to purchase goods and services, and to participate in State and local government programs and services.

1992

- 1987 CABO assumed the secretariat –
- 1992 Edition first one referenced in all 3 model codes.
- Central concept was development of standard that would be compatible with the building code and its enforcement.

1998

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1998 Edition

- 1998 first to try to harmonize with ADAAG and first referenced into the first ICC/IBC editions
- Used (by reference) in several FHAA safe harbors
- Was the basis of the CRHA 2000 (Code Requirements for Housing Accessibility)
- Referenced in IBC 2000 and IBC 2003

● ■ ▲

Highlights

- Toe clearance separated from knee clearance
- Clarified requirements for handrails in seating areas, assembly aisles
- Bus stop pads
- Addressed automated doors
- Reduced ALL reach ranges to 48 maximum, including at unobstructed side approach
- Recognized the 16-18 inch toilet centerline
- Recognized alternate shower style
- Requires thermal shock protection at showers
- Clear addition and definition of Accessible, Type A and Type B unit requirements

● ■ ▲

2001

- **Workshop #1: The Anthropometrics of Disability (2001)**
- **Sponsored by the Access Board**

● ■ ▲

2003

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2003 Edition Changes

Referenced in the 2006 and 2009 ICC/IBC

- Changed the Unit outlet requirements
- Added requirements for children's environments
- Enhanced reach range criteria
- Added transportation facilities
- Additional requirements for assembly areas
- Began to re-examine harmonizing with ADA

● ■ ▲

Vertical Grab Bar

- Vertical grab bar next to toilet for persons who need help standing up and sitting down.
- Vertical grab bar at tub and transfer shower to assist getting in and out



Also in 2003

- Second workshop on Wheeled Mobility Requirements resulting in a Report and funding for a serious research project concerning modern wheelchairs and wheelchair users.
- By Dr. Ed Steinfeld



2009

2009 referenced in the 2012, 2015 and 2018 editions of ICC/IBC. 2009 is not a recognized safe harbor for FAAA compliance – it may, however, be considered a comparable standard.



Changes in the 2009 edition

- Clarified side reach range requirements
- Unobstructed reach may be as much as 10 inches away from the side of the clear floor space.
- Obstructed reach at washers and dryers may be 36 inches above the floor.



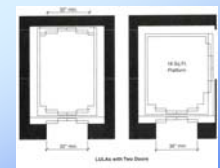
Changes in the 2009 edition

- Defines the edge protection at a ramp as either a minimum 4" curb or a barrier that prevents the passage of a 4" diameter sphere.

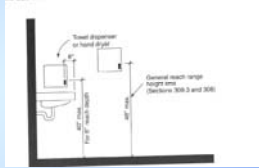


Elevators

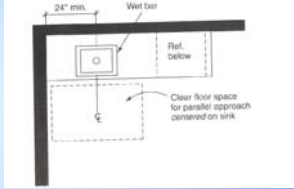
- Defined door widths and cab sizes at LULA elevators
- Began recognizing destination elevators
- Required an audible or mechanical signal when calls are registered.



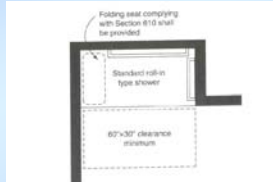
- Parallel approach to drinking fountains is not recognized.
- Added requirements addressing diaper tables
- Clarified locations for dispensers
- Revised locations for toilet paper dispensers



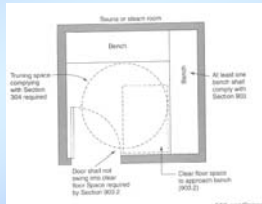
- Clarified requirements for parallel approach to various sinks.



- Requires fold down seats at roll-in showers



- Added requirements for sauna and steam rooms




- Added requirements for VMS (Variable Message Signs)



- Added requirements for:
 - Telephone entry systems
 - Operable windows required for emergency egress

- Changed requirements for kitchenettes



Exception: Spaces that do not provide a cooking or conventional range shall not be required to provide an accessible work surface.

804.4 Sinks. Under the sink shall comply with Section 806.

804.5 Storage. At least the percent of shelf space to cabinets shall comply with Section 806.


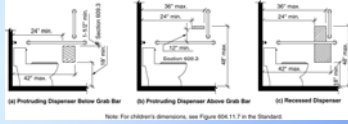
804.5 Appliances. When provided, kitchen appliances shall comply with Section 804.5.

804.5.1 Clear Floor Space. A clear floor space complying with Section 806 shall be provided at each kitchen appliance. Clear floor space is permitted to overlap.

Dispensers:

Water Closets and Toilet Compartments

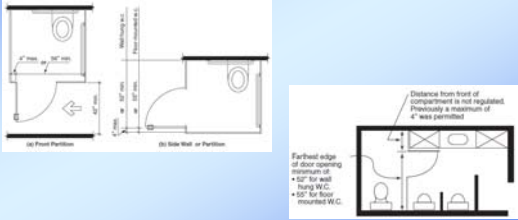
- Allowance for recessed fixture
- Correct measurement for megarolls – to paper outlet

Note: For other dimensions, see Figure 104.11.7 in the Standard.

Wheelchair-Accessible Compartments Doors

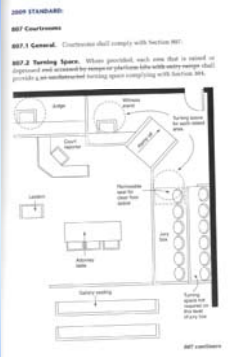
- No change for minimum size stalls
- Allows for design options without decrease in access



Distance from front of compartment is not regulated. Previously a maximum of 4" was permitted.

Farthest edge of door opening minimum of:
 • 12" for wall-hung W.C.
 • 15" for floor-mounted W.C.

- Clarified courtroom requirements



2009 STANDARD
 807 Courtrooms
 807.1 General. Courtrooms shall comply with Section 807.
 807.2 Seating Space. When provided, each row of seats in a courtroom shall be provided with wheelchair spaces that comply with Section 805.

Assembly Areas: 802



- Guidance regarding the requirements and locations for wheelchair spaces within assembly areas.
- A consistent terminology that distinguishing between a “wheelchair space” and “wheelchair space locations.”

Assembly Areas: Definitions

- **wheelchair space:** A space for a single wheelchair and its occupant.
- **wheelchair space locations:** A space for a minimum of a single wheelchair and the associated companion seating. Wheelchair space locations can contain multiple wheelchair spaces and associated companion seating.

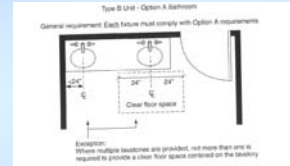
Beds

- Defined clear spaces next to beds
- Requires that at least one bed per unit have an open bed frame.



Type B Units – Option A

- Exception for multiple lavatories in a bathroom.
- Recognizes 16"-18" range for locating the toilet off the sidewall



Added Type C units (Visitable)

- One entrance
- Entry level to include a toilet room or bathroom
- Kitchen requirements
- Doors and doorways
- Outlets and switches

And added Chapter 11 – Recreational Facilities



Department of Justice ADA Standards (2010)



2011

G l p h q v l r q d c # W r d u d q f h v # l q # F r q v w x f w l r q d q g # i r u # v x u i d f h # D f f h v v l e l o w |

Final Report to the Access Board
January 2011
prepared by:
David Kent Ballast
Architectural Research Consulting



Anthropometry of Wheeled Mobility Project



Prepared for the U.S. Access Board
December 31, 2010
Center for Inclusive Design and Environmental Access (IDEA)
School of Architecture and Planning
State University of New York
The State University of New York
SUNY, NY 14216-3000

2011

Publication of the Access Board research report on the Wheeled Mobility Project



Clear Floor Space

Design Guidelines for People Using Wheeled Mobility Devices

MINIMUM CLEAR FLOOR SPACE REQUIRED

percent accommodated

clearance	MINIMUM CLEAR FLOOR SPACE REQUIRED		
	MANUAL ♿	POWER ⚡	SCOOTER ⚡
30%	W: 678 (215) L: 1134 (442)	W: 693 (227) L: 1183 (447)	W: 614 (241) L: 1203 (447)
50% & 75%	W: 718 (285) L: 1207 (448)	W: 730 (300) L: 1268 (511)	W: 712 (285) L: 1274 (503)
75% & 90%	W: 761 (300) L: 1314 (512)	W: 802 (320) L: 1360 (546)	W: 810 (320) L: 1369 (546)
90% & 95%	W: 786 (311) L: 1362 (541)	W: 827 (330) L: 1414 (546)	W: 837 (330) L: 1433 (546)

W = floor space width, units (mm) (ft); L = floor space length, units (mm) (ft)

Accessible Pathway & Corridor

Design Guidelines for People Using Wheeled Mobility Devices

MINIMUM CLEAR FLOOR SPACE REQUIRED FOR 360-DEGREE TURN

percent accommodated

clearance	MINIMUM CLEAR FLOOR SPACE REQUIRED FOR 360-DEGREE TURN		
	MANUAL ♿	POWER ⚡	SCOOTER ⚡
30%	140 (55)	150 (59)	210 (83)
50% & 75%	170 (67)	170 (67)	230 (91)
75% & 90%	190 (75)	210 (83)	238 (94)
90% & 95%	210 (83)	210 (83)	250 (98)

W = floor space width, units (mm) (ft)

Which brings us to the 2017 ICC/A117 and the present...