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A collaborative program between the
ADA National Network and the
U.S. Access Board



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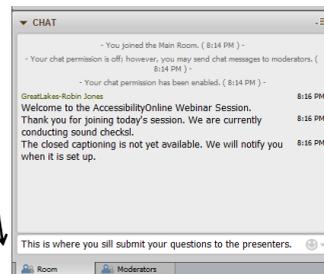
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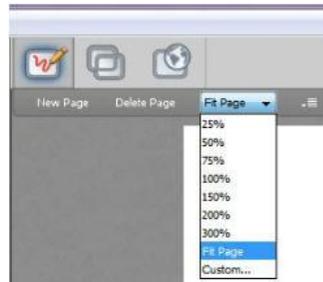
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 - Scroll down to “General”
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 - For Screen Reader User – Set preferences through the setting options within the Activity Window (Ctrl+slash opens the activity window)

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Harmonization between the ADA Standards and the IBC/ICC A117.1

A presentation based on the 2018 International Building Code and the 2009 and 2017 ICC A117.1 Standard for Accessible and Usable Buildings and Facilities

Presenters



Kimberly Paarlberg
International Code
Council (ICC)



Marsha Mazz
U.S. Access Board

International Codes – Code Change Process Logistics

- I-Code published every 3 years.
- One cycle of code development between editions.
- 15 codes split into two groups: A, B.
- Single cycle for each group comprised of both Code Development and Final Action Hearings.
- Next edition published.
- Repeat.
- 2018 available now.



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A117.1 Standard: Change Process Logistics

- Operated on a 5 year development cycle.
- One cycle of development between editions – changes and public comments.
- Typical cycle: Years 1 and 2: study groups, Years 3, 4 and 5 processing changes and publication.
- Repeat.
- 2017 A117.1 available now.



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Requirements

- Scoping Requirements:
 - “What, Where and How Many”
 - (2018 IBC and IEBC)
- Technical Requirements:
 - “How”
 - (ICC A117.1-2017)



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Accessibility

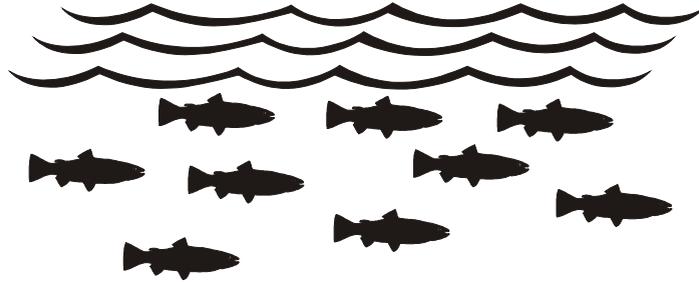
- Chapter 11 in the IBC contains many of the accessibility requirements.
- Appendix E (not mandatory) includes provisions found in the 2010 ADA that are typically not within the purview of the code official (e.g., phones, transportation facilities).
- The IEBC contains accessibility provisions for existing buildings.



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Mainstreaming

- Items related to accessibility, that are also related to public safety are mainstreamed into other Chapters



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Role of the Code Official

- Code officials enforce the locally adopted building code and any local or state laws.
- The code official does not enforce federal laws (ADA or FHA).



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**IBC and A117.1
Harmonization Objective**

**To Meet or Exceed
the Minimum Requirements
of the ADA Standards**

**Where IBC/A117.1 *Exceeds*
the 2010 ADA Standards**

Not Exempted Under IBC

Religious Buildings



Private Clubs



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Areas in Places of Religious Worship

Exceptions:

- Balconies with less than 25% of the total seating
- Small areas used for religious purposes.
 - < 300 sq. ft. in area
 - elevated or lowered ≥ 7 inches



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Pre-Planning for Emergencies

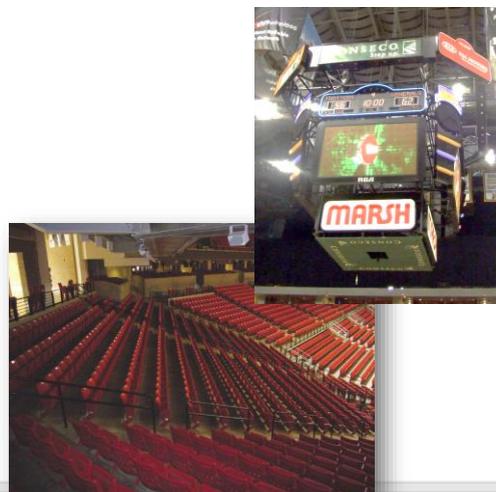
- Fire evacuation plans
- Fire safety plans
- Lockdown plans
- Associated drills
- Worked out with the building owner/renter and the fire department
- Updated annually or when necessitated by changes
- Available for review



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Notification & Communication

- Mass notification fire alarm signals in stadiums, arenas, and grandstands with more than 15,000 fixed seats now require captioned messages.
- Audible and visual alarms in public spaces and common spaces = ADA Standards



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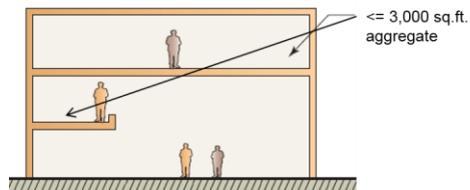
Signs

- Evacuation plans at elevators
- Signage at any non-accessible exits



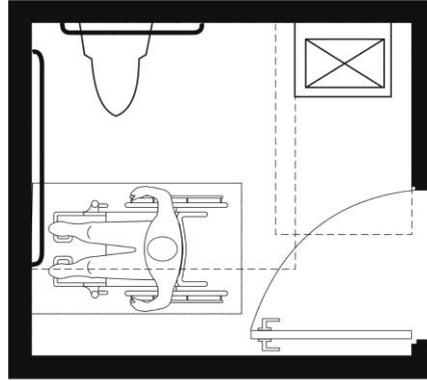
Accessible route between stories

- Section 1104.4 requires accessible route (e.g. elevator) to connect each accessible story and/or mezzanine.
- Exception 1: Aggregate area of stories or mezzanines \leq 3000 square feet except in:
 - Health care providers.
 - Multi-tenant mercantile.
 - Transportation facilities.
 - Government buildings.



Family/assisted use toilet rooms

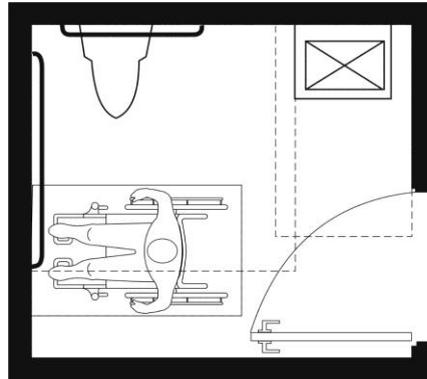
- Required in mercantile or assembly with 6 or more water closets required
- Where a tenant space has two single occupant toilet rooms, they are not required to be designated by gender (2015 IPC)
- All single occupant bathrooms not required to be designated for gender (2018 IPC)
- Can include a urinal or a child size water closet and lavatory



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Family/assisted use toilet rooms continued

- Required in mercantile or assembly with 6 or more water closets required
- Where a tenant space has two single occupant toilet rooms, they are not required to be designated by gender (2015 IPC)
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2017 ICC A117.1

- Many revisions based on a study sponsored by the Access Board on Anthropometry of Wheeled Mobility
- Including persons using scooters and motorized wheelchairs
- <http://www.udeworld.com/anthropometrics.html>



Human Factor Anthropometrics

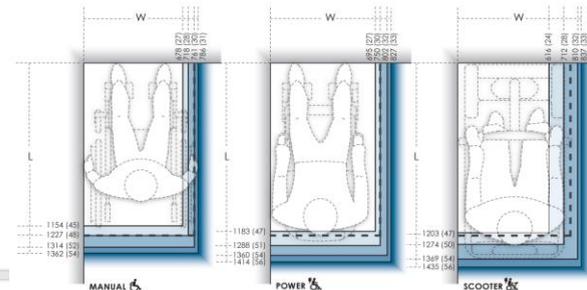
Clear Floor Space
Design Guidelines for People Using Wheeled Mobility Devices



MINIMUM CLEAR FLOOR SPACE REQUIRED

percent accommodated	W = floor space width, units: mm (in.), L = floor space length, units: mm (in.)		
	MANUAL	POWER	SCOOTER
< 50%	274 participants	189 participants	30 participants
≥ 50% & < 75%	W: 678 (27) L: 1154 (45)	W: 695 (27) L: 1183 (47)	W: 616 (24) L: 1203 (47)
≥ 75% & < 90%	W: 718 (28) L: 1227 (48)	W: 750 (30) L: 1288 (51)	W: 712 (28) L: 1274 (50)
≥ 90% & < 95%	W: 761 (30) L: 1314 (52)	W: 802 (32) L: 1360 (54)	W: 810 (32) L: 1369 (54)
≥ 95%	W: 786 (31) L: 1362 (54)	W: 827 (33) L: 1414 (56)	W: 837 (33) L: 1435 (56)

--- ADA-ABA requirement of 1200 (48) x 760 (30)



Existing building and facilities

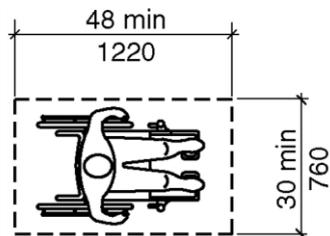
- The new sizes will not apply to existing buildings or facilities
- Will apply to new construction and additions
- The A117.1 definitions:
 - **existing building.** A building erected prior to the date of adoption of this standard, or one for which a legal building permit has been issued.
 - **existing facility.** A facility completed prior to the date of adoption of this standard, or one for which a legal permit has been issued.



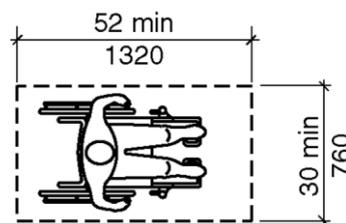
31

Clear Floor space

Existing



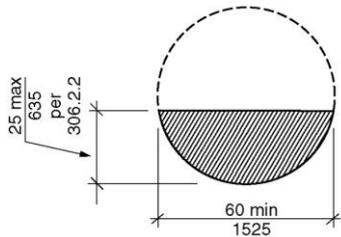
New



32

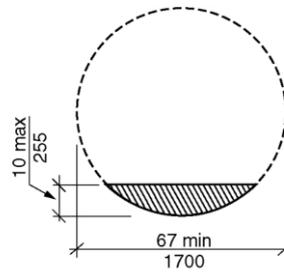
Circular turning space

Existing



Overlap of knee and toe clearance

New



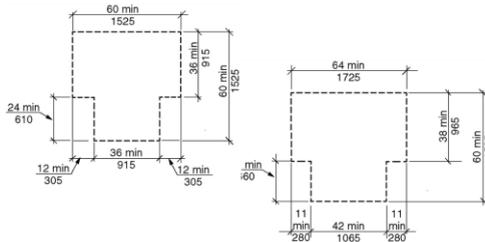
Overlap of knee and toe clearance



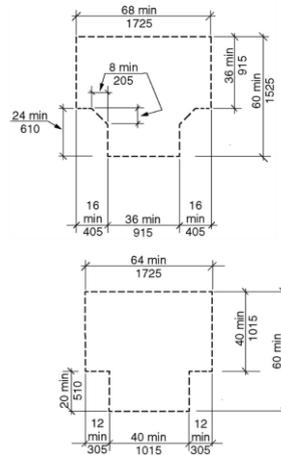
33

T-shaped turning space

Existing



New

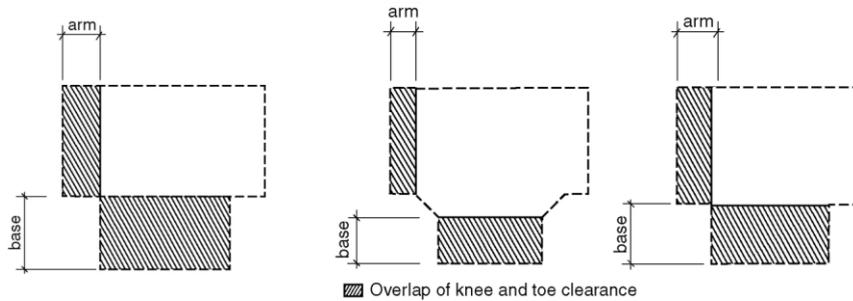


34

T-shaped turning space overlap

Existing

New

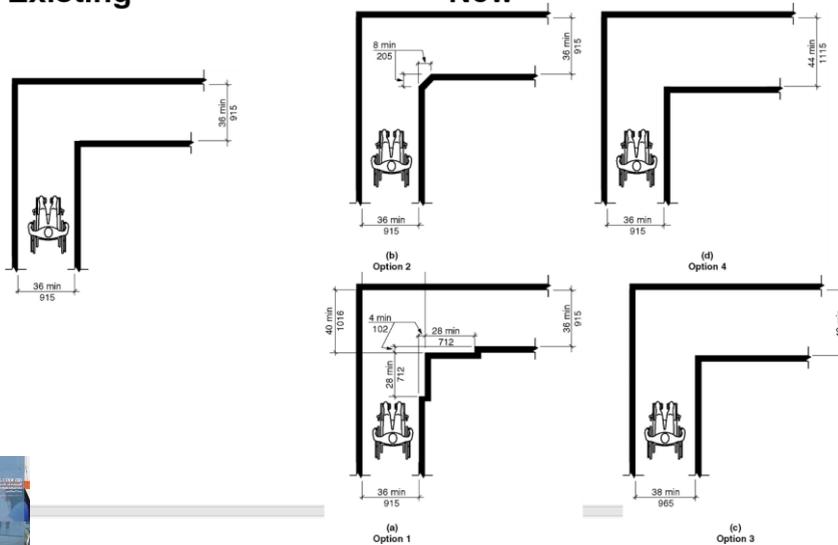


35

90 degree turn

Existing

New

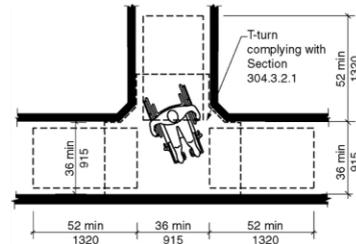
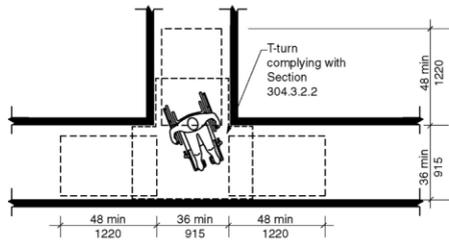


36

T-turn

Existing

New

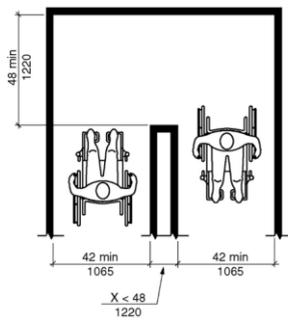


37

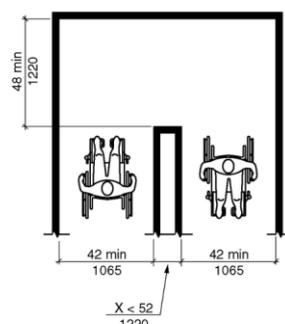
Turn around obstruction

Existing

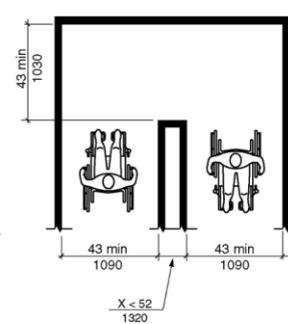
New



(a) 180 Degree Turn



(b) Option 2



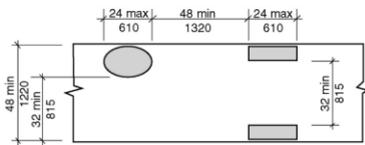
(c) Option 3



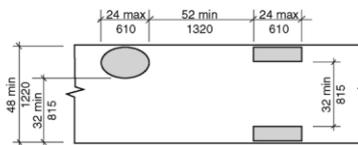
38

Exterior route

Existing

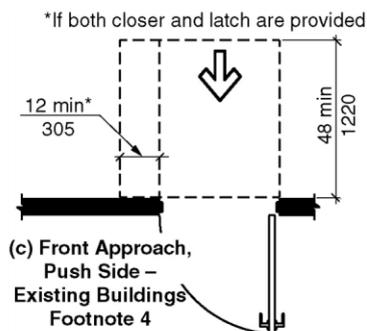


New

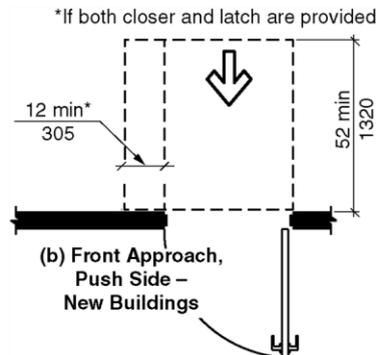


Door maneuvering size

Existing



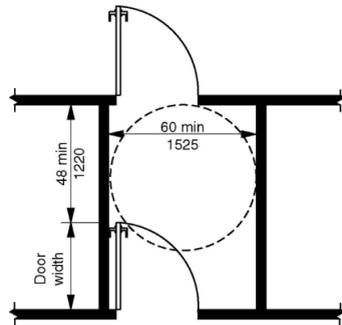
New



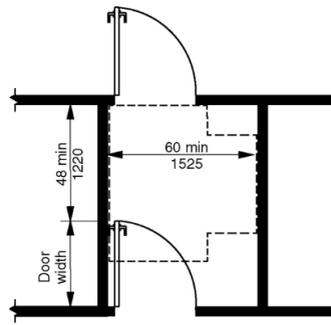
Vestibules

Existing

New



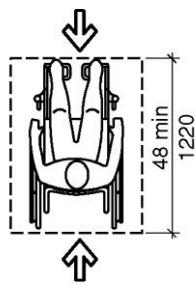
(f)



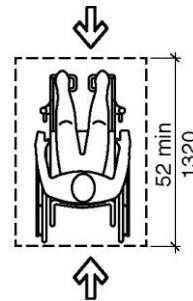
(c)



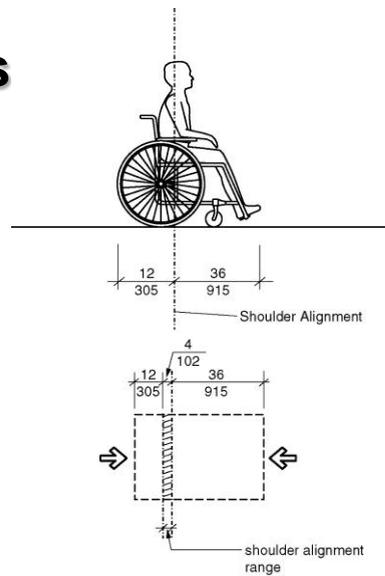
Wheelchair space in assembly spaces



(b) Front or Rear Access Existing Building



(a) Front or Rear Access New Buildings

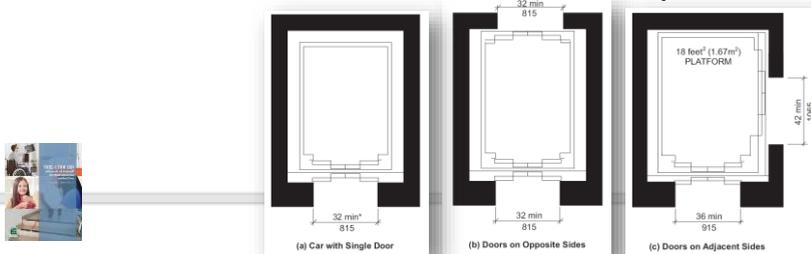


(b) Front or Rear Approach New Buildings and Facilities



LULA Elevators:

- Provides additional options regarding the location and size of doors.
- Allows doors on adjacent sides where the size of the elevator car is increased and a larger door is provided on the long side.
- Increase size for new clear floor space



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Electric vehicle charging stations

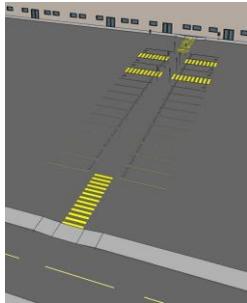
- Clear floor space
- Reach ranges
- Operable parts
- Route not obstructed by cord or barriers



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Routes across parking lots

- Protected accessible route across parking lots



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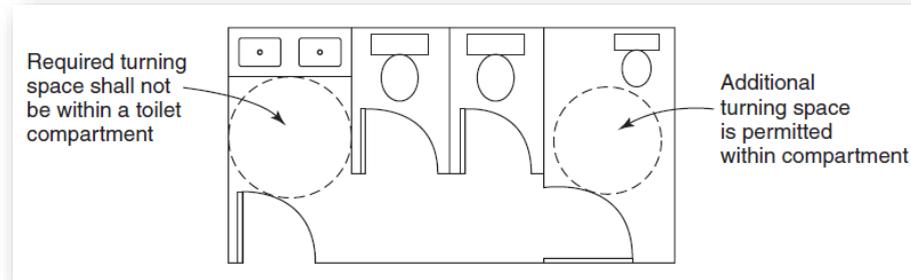
Bottle filling stations



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Toilet and Bathing Rooms

- The required turning space shall not be located only within a toilet compartment and potentially unavailable for use.



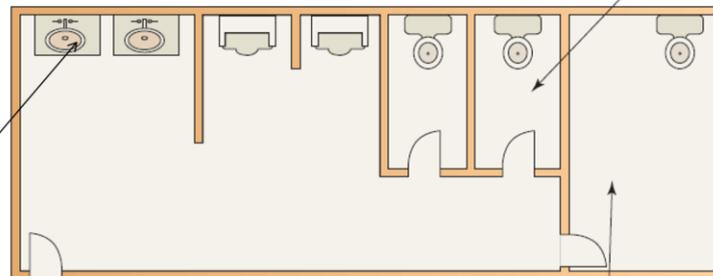
47

Accessible water closet compartments and lavatories

At least 5% of the lavatories must be accessible. If 6 or more lavatories, at least one with enhanced reach range.

At least 5% of compartments must be ambulatory accessible compartments where room has a total of six or more water closets and urinals.

- Previously only one was required
- Result is additional requirement if total >20



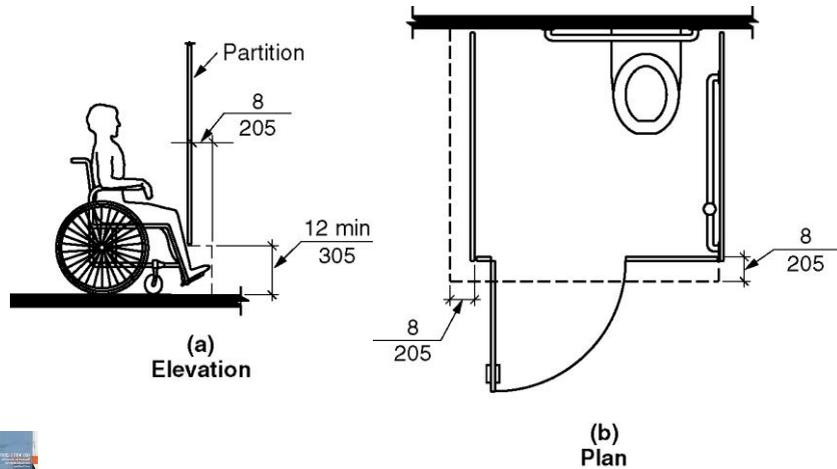
At least 5% of the water closets compartments must be wheelchair accessible.

- Previously only one was required
- Result is additional requirement if >20 water closet compartments



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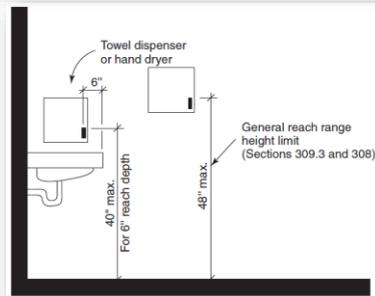
Partition



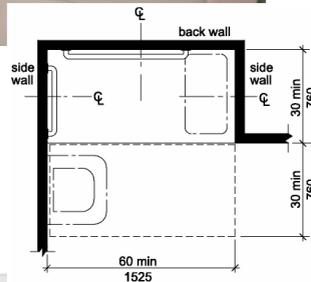
Towel Dispenser & Hand Dryer: Operable Parts

TABLE 603.6 606.7 Maximum Reach Depth and Height

Maximum Reach Depth	0.5 inch (13 mm)	2 inches (50 mm)	5 inches (125 mm)	6 inches (150 mm)	9 inches (230 mm)	11 inches (280 mm)
Maximum Reach Height	48 inches (1220 mm)	46 inches (1170 mm)	42 inches (1065 mm)	40 inches (1015 mm)	36 inches (915 mm)	34 inches (865 mm)



Roll-in Shower Compartment Size



Note: inside finished dimensions measured at the center points of opposing sides

- Roll-in showers will now require seats.
- Controls within reach of seat
- Option for permanent seat in larger showers.
- 48" long maximum on rear grab bar
- No far wall grab bar in larger showers.



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Vertical Grab Bar

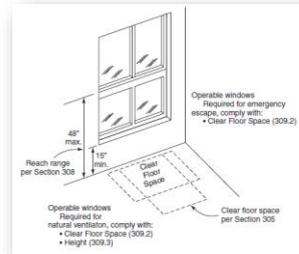
- Vertical grab bar next to toilet for persons who need help standing up and sitting down.
- Vertical grab bar at tub and transfer shower to assist getting in and out.



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Windows

- Four forces on a window – locking, unlocking, opening and closing
- One window in each room except kitchens and bathrooms
- Pick the windows required for emergency escape and rescue and natural ventilation
- Locking and unlocking to comply with operable parts
- Opening and closing to comply with new standard, *AAMA 513 Standard Laboratory Test Method for Determination of Forces and Motions Required to Activate Operable Parts of Operable Windows and Doors in Accessible Spaces*



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Variable Message Signs

This section provides technical requirements for Variable Message Signs (VMS) signs, such as those found in airports displaying flight arrival or gate information, and addresses both low and high resolution signs.



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Video relay service

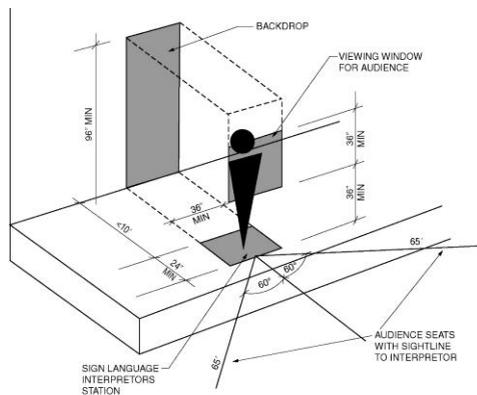
- Seating
- Privacy enclosure
- Two-way video communication system
- Background



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Sign language interpreters stations

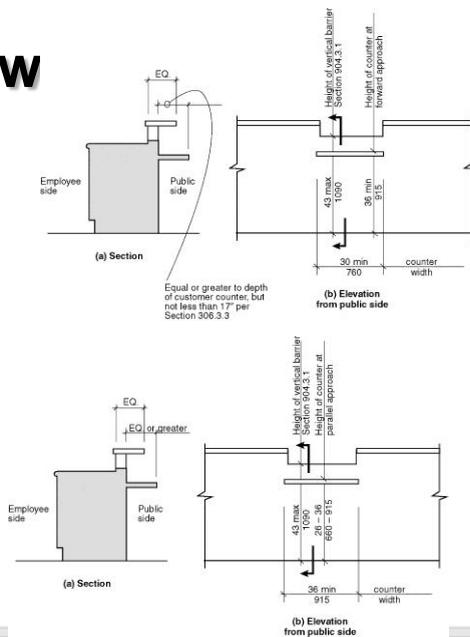
- Area to stand
- Viewing angle for audience
- Illumination
- Backdrop



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Service window

- Clarification that this is applicable to public side (not employee side)
- Side or front approach – equal customer counter
- Maximum barrier height to allow for face-to-face contact between employee and customer
- Allowance for security windows



Classroom acoustics

Classrooms <20,000 cubic feet

Classroom Acoustics Requirements

Learning Space	Greatest one hour average sound level of exterior source background noise	Greatest one hour average sound level of interior source background noise	Maximum reverberation times for sound pressure levels in octave bands with frequencies of 500, 1000 and 2000 Hz.
Classrooms with an enclosed volume of <= 10,000 cubic feet	35 dBA/55 dBC	35 dBA/55 dBC	0.6 seconds
Classrooms with an enclosed volume of > 10,000 cubic feet and <= 20,000 cubic feet	35 dBA/55 dBC	35 dBA/55 dBC	0.7 seconds



Gaming machines and tables

- Space next to gaming table or machine



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Access to Beds: In Accessible Units

- Provisions address the scoping, clear floor space around the bed and require an open bed frame to permit the use of a lift.



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Charging stations; Mattress height

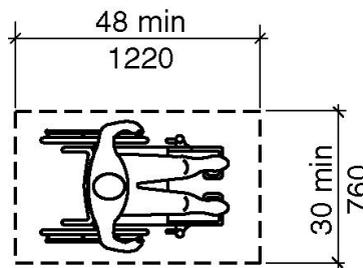
- Charging Station:
 - Allow for someone to charge their motorized wheelchair
 - Option at assembly wheelchair space
 - Same space as next to bed in Accessible hotel or dorm rooms
- Mattress height



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Type B units

- Keep old size
- Match FHA



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Type C (Visitable) Units:

- Provides technical requirements for dwelling units that are not regulated by Fair Housing such as single family homes and townhouses.
- Jurisdiction needs to specify scoping.



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Type C (Visitable) Units:

- The intent is so that the homes will both accommodate visitors with disabilities and promote the aging in place concept so people may enjoy their homes without requiring major modifications when they, family or friends face short- or long-term mobility constraints.



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Type C (Visitable) Units

- Be able to get to one entrance without steps – front, back or through the garage.
- Enough space for a wheelchair to move throughout the ground level.
- A living space on the ground floor.
- A toilet room on the ground floor.
- Access to most lighting controls and receptacles.
- Access to food prep area if it is located on the ground floor.

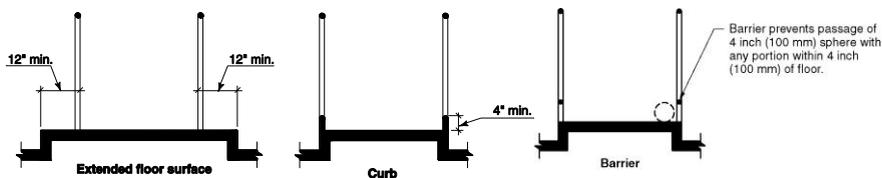


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**Where A117.1 is More Explicit
than the 2010 ADA Standards**

Ramp Edge Protection: 405.9 Along the Sides of Ramp Runs

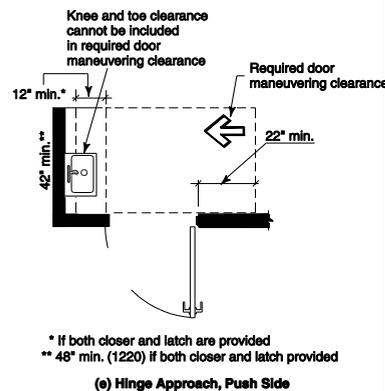
- Three distinct options: extended floor, curb or barrier.
- The height of a curb serving as the edge protection is specified as 4 inches.



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Doors: 404.2.3 Obstructions to the Maneuvering Clearance

- Expressly prohibits the use of knee and toe clearances (i.e., under sinks or counters) when overlapping maneuvering space at a door.
- The intent is that users do not need to reach over an obstruction to operate the hardware.



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Kitchens

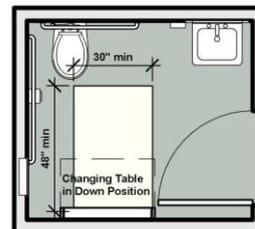
- Changes are applicable to both kitchens and kitchenettes
- Applies within public spaces (offices, churches, etc.) and also to Accessible dwelling units.
- Elimination of a 50% percentage of cabinet space for required accessible storage.
- Adequate access to cabinets is provided with requirements for access to appliances. Requirements for storage would not work with upper cabinets or very small kitchens.



69

Diaper Changing Tables

- Diaper changing tables must comply with both the operable parts and work surface requirements.
- Can overlap other clearance when in open position.



70

Cooktops and Ovens

- Coordinate the cooktop and oven requirements.
- Clarifies that a conventional range must meet both cooktop and oven provisions.



71

Entry to a sleeping unit

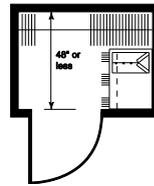
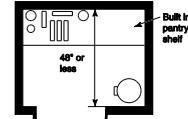
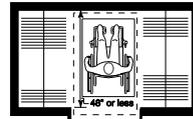
- If the only entry is directly into the bedroom, that is acceptable.
- When can access through a bathroom or closet is acceptable.



72

Turning Space in Rooms

- Exception 2 - applicable to closet or pantry 48 inches or less in depth.
- 48 inch depth coordinates with clear floor space and limits potential to become trapped.
- Addressed when does a closet become a room and therefore require a clear floor space.

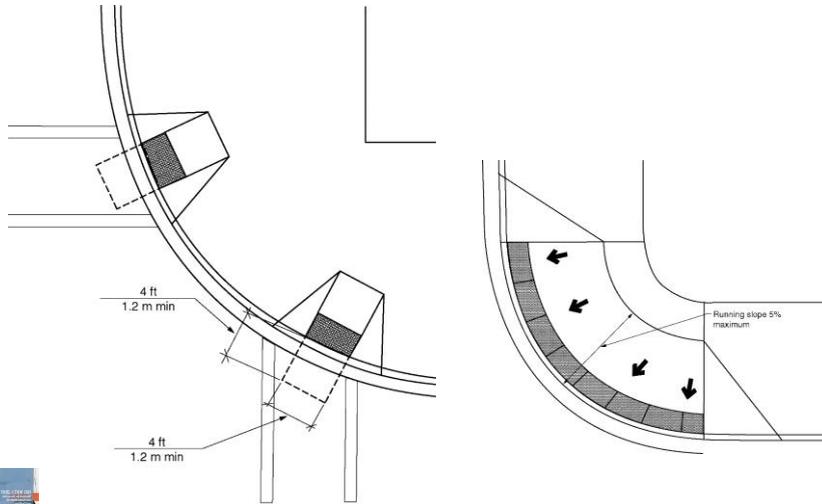


A turning space is not required in closets or pantries not deeper than 48 inches.



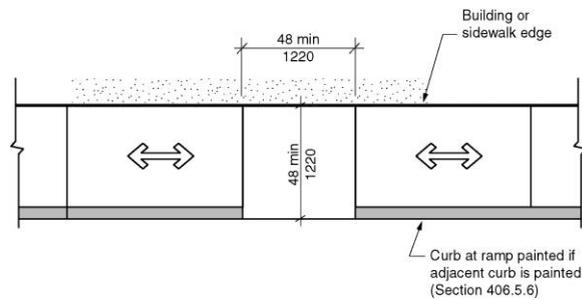
Revisions based on the Access Board's Public Rights-of-Way Proposed Rule

Curb ramps & blended transitions



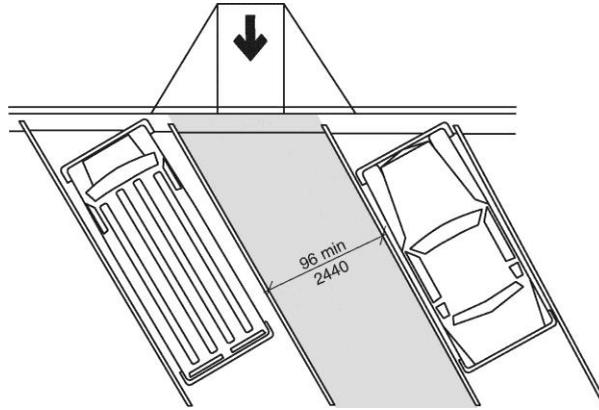
75

Perpendicular curb ramps



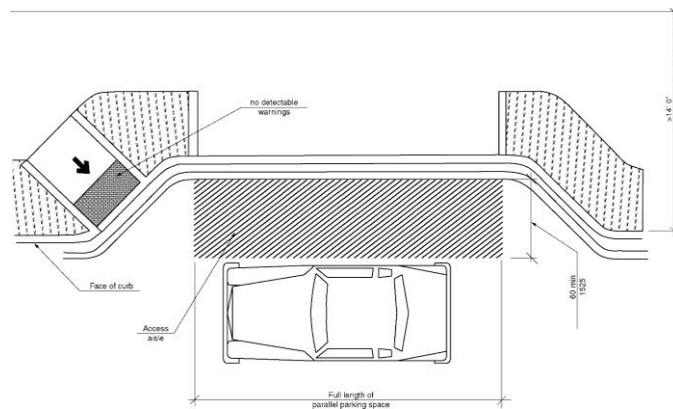
76

Angled street parking



77

Parallel street parking



78

Parking meters and pay stations

- Clear floor space
- Reach range
- Operable parts
- Displays



79

**Where IBC/A117.1
Potentially Meets or Exceeds
the ADA Standards**

LULA Elevators:



- Limited Use/Limited Application Elevators
- Considered a type of passenger elevator
- ASME A17.1.
- ICC A117.1.
- Application limited by product:
 - Limited capacity.
 - 25' max. travel.
 - Slow speed.



81

Chapter 11 (Previously Chapter 10)

- The requirements for the three levels of accessibility for dwelling and sleeping units (i.e., Accessible, Type A and Type B) have been coordinated to create a logical 'step down' of accessibility requirements.
- Nothing in a less accessible unit would exceed requirements in a more accessible unit.



82

308.3 Groups I-1 Occupancy Classification

- > 16 care recipients
- Custodial care
- May need a limited degree of verbal or physical assistance when responding to a fire or other emergency situation.



83

308.3 Groups I-1 Occupancy Classification continued

- Now divided into two types of occupant capabilities:
 - Condition 1: no assistance required to respond
 - Condition 2: limited verbal or physical assistance required
- Condition 2 allows for aging-in-place or alzheimer/dementia facilities
- Condition 1 – 4% Accessible units
- Condition 2 – 10% Accessible units



84

Group R-4 Facilities

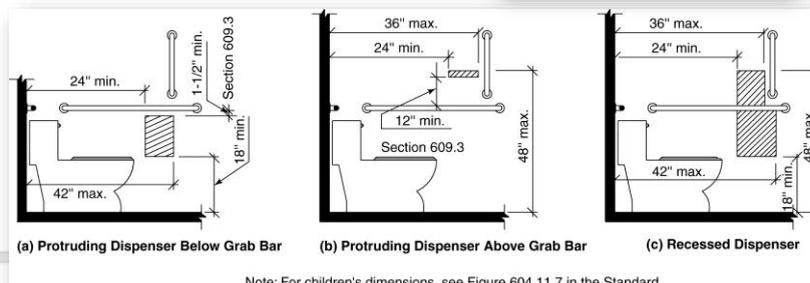
- Same as Group I-1 except 6-16 care recipients
- Custodial care
- May need a limited degree of verbal or physical assistance when responding to a fire or other emergency situation.
- Condition 1 - capable of responding to emergency without any assistance
- Condition 2 - may need assistance
- Condition 1 – One Accessible units
- Condition 2 – Two Accessible units



85

Dispensers: Water Closets and Toilet Compartments

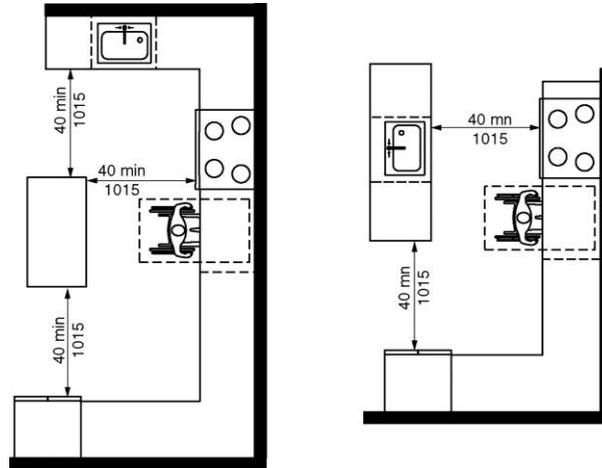
- Allowance for recessed fixture
- Correct measurement for megarolls – to paper outlet



Note: For children's dimensions, see Figure 604.11.7 in the Standard.

86

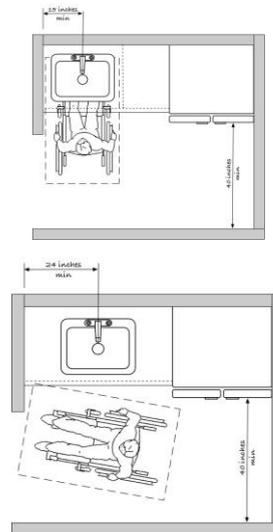
Kitchen Island



87

Kitchenettes

- Clarify kitchenette requirements for all type of units
- Requires 40 inch minimum clearance between cabinets, appliance and any walls at kitchenettes.
- Pass thru not required for kitchenette.
- Work surface not required in kitchenette.
- Parallel approach at sink.



88

Dining and Work Surfaces

- Exception for knee and toe clearance at dining surfaces.
 - 12-inch maximum depth drink rail.
 - Side table.



89

Dinner Theaters & Lecture Halls



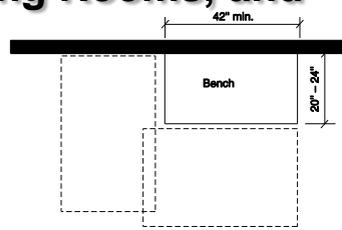
- Dispersion based on assembly seating to view an event rather than work surface or dining room dispersion throughout



90

Benches: In Locker Rooms, Fitting Rooms, and Dressing Rooms

- Clear floor space to access the bench is no longer required to be at the end of the bench.
- Parallel approach to the front of the bench is now permitted.



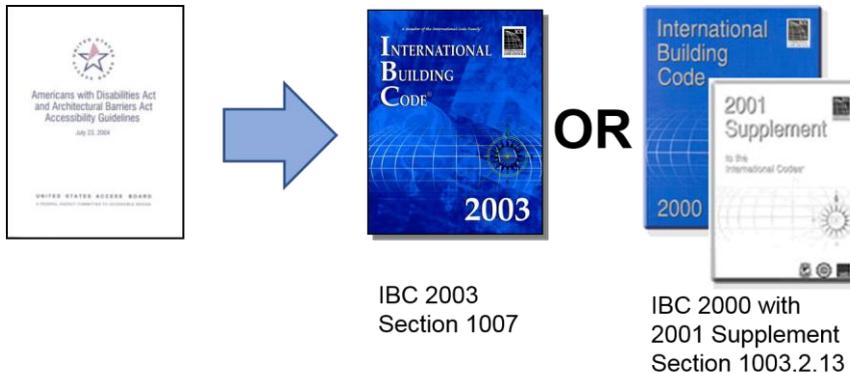
91

IBC Referenced by the 2010 ADA Standards

- Accessible means of egress

ADA & ABA Standards §207

- Require compliance with the International Building Code (IBC) for accessible means of egress



93

ADA Standards

- What about compliance with later editions?
- Permitted where substantially equivalent or greater accessibility and usability (equivalent facilitation) is achieved
 - ADA Standards §103



94

Accessible MOE

- Self-evacuation where possible
- Assisted rescue when necessary
 - Defend in place (i.e., hospitals, jails)
 - Assisted evacuation at stairways
 - Assisted evacuation at elevators with standby power



95

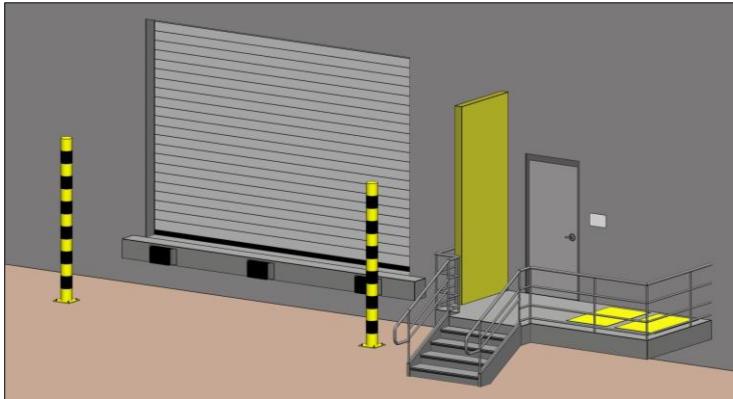
Two-way Communication

- Within areas of refuge
- At elevator lobbies in sprinklered buildings (2009, 2012, and 2015 IBC)
- Variety of options
- Allow for communication and feedback between emergency responders and people who need assistance



96

Exterior Area for Assisted Rescue



Drawing courtesy of Access Board

2012 IBC: New provision for alternative protection
from opening on one side



97

Upcoming initiative?



98

Coordination proposals to IBC



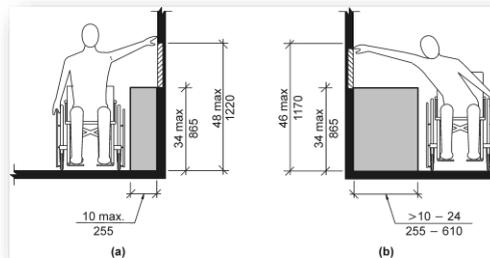
- Code change proposal for 2021 IBC and IEBC for new items in 2017 A117.1
 - Classroom acoustics
 - Sign language stations
 - Street parking

99

Reach over counters



- Reach for electrical outlets and switches in common use, Accessible and Type A kitchens?



100

International Codes – Proposing a Change

- Anyone can propose a change
- Deadline for submittals is Jan. 8, 2018
- Hearing will be in Columbus Ohio on April 15-25, 2018.

101

Assisted toileting and bathing

- Concern in nursing homes and hospitals
- Safety of residents and staff
- Study funded by the Mayer-Rothschild Foundation led by Jon Sanford at Georgia Tech
- Need toilet away from wall
- Need seat in shower away from wall



102

Contrast



- How to measure contrast



103

Questions?

**You may type and submit questions in the
Chat Area Text Box or press Control-M
and enter text in the Chat Area**



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Continuing Education



AIA Provider Number: I017

Course Title: Harmonization Between the ADA Standards and the IBC/ANSI A117.1

AIA Course Number: GL20171102

Date: November 2, 2017

Credits earned on completion of this course will be reported to **AIA CES** for AIA members. Certificates of Completion are available upon request.

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**Thank you for participating
in today's webinar**



Next session:

December 7, 2017

Looking Ahead - "Frontier Accessibility Issues"

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