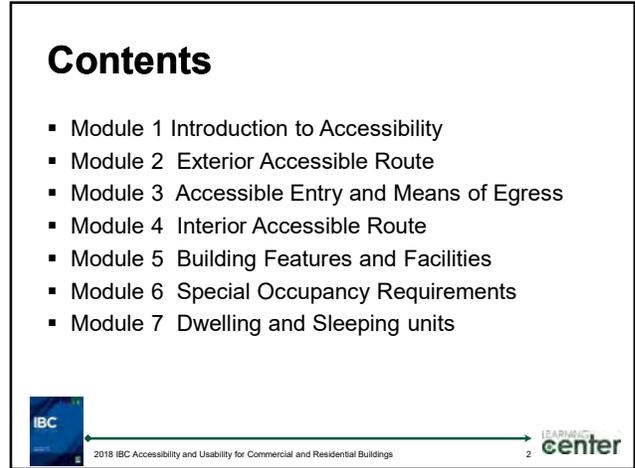




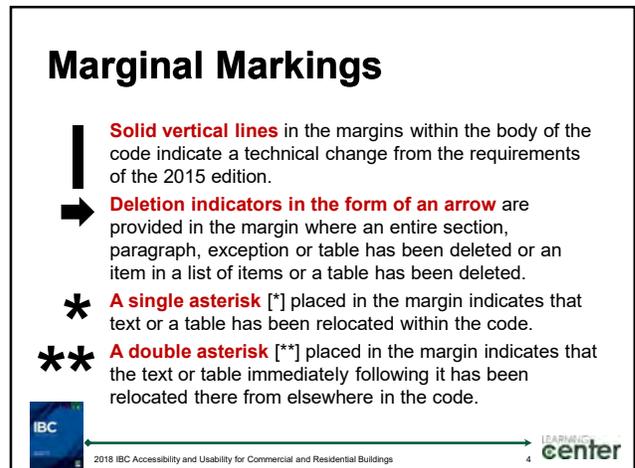
1



2



3



4

Marginal Markings

|| **CBC - Double Solid vertical lines** in the margins within the body of the code indicate a difference between the 2018 IBC and the Chicago Building Code.

IAC - Italics - difference between the IAC and the 2010 ADA Standard.

 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 

5

Accessibility in the Built Environment



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6

What are we talking about?

disability

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7

Module 1

Introduction to Accessibility

 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 

8

A Look at Accessibility

- Scope and Technical Requirements of Accessibility Provisions.
- Coordination with Federal Documents.



9

Disability Definition

“A physical or mental impairment which substantially limits one or more of a person’s major life activities.”



10

2018 IBC - Philosophy 101

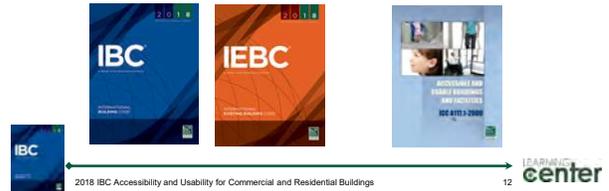
Everything must be accessible, and then allow for a degree of inaccessibility that is logical and reasonable.



11

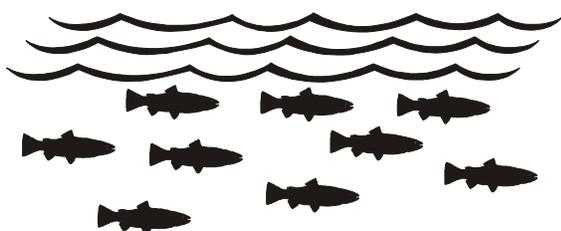
Requirements

- Scoping Requirements:
 - “What, Where and How Many”
 - (2018 IBC and IEBC)
- Technical Requirements:
 - “How”
 - (ICC A117.1-2009)



12

Mainstreaming



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IBC Appendix E



- Items in the 2010 ADA that are not typically within the purview of the code official.
- Appendix are enforceable only were specifically adopted
- Appendix E includes:
 - Communication features
 - Laundry
 - Mailboxes
 - ATM's
 - Telephones
 - Room designation signage
 - Transportation facilities

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Coordination Efforts

Federal laws



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ICC Goals

- Coordinate the building code requirements with the



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American's with Disabilities Act (ADA) - 1990

- Civil Rights law against discrimination for persons with disabilities.
- Consists of five areas:
 - Title I – Employment
 - Title II – Accessibility public transportation and governmental services
 - Title III – Accessibility to all other buildings
 - Title IV – Telecommunication
 - Title V – Miscellaneous



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American's with Disabilities Act (ADA) - 1990

Scoping and technical requirements found in:

- Originally in 1991 -
 - American's with Disabilities Act Accessibility Guidelines (ADAAG).
 - Uniform Federal Accessibility Standards (UFAS).
- Currently –
 - 2010 ADA Standard for Accessible Design
 - Previously called the 2004 ADA/ABA Accessibility Guidelines



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2010 ADA Standard for Accessible Design

- Dept. of Justice adopted July 23, 2010.
- Published in Federal Registry on Sept. 15, 2010.
- Requirements were mandatory for new construction started after March 15, 2012.



19

ADA & ABA Standards §207

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



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ADA & ABA Standards

- What about compliance with later editions?
- Permitted where equivalent or better (“equivalent facilitation” in the ADA Standards Section 103)
- IAC includes the accessible means of egress from the 2015 IBC

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Fair Housing Act (FHA) – 1968 & 1988

- Civil Rights law against discrimination in housing.
- 1968 - no discrimination on the basis of race, color, religion, sex and national origin.
- 1988 - amended to include disabilities and familial status.

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Fair Housing Act

- Covers all housing built for first occupancy after March 13, 1991.
- Scoping and technical requirements found in the Fair Housing Accessibility Guidelines (FHAG).

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"SAFE HARBOR"

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“Safe Harbor” means...

- that requirements in the document have been reviewed by HUD and meet or exceed the building construction requirements in the FHA.
- 2021 IBC and 2017 ICC A117.1 will be review by HUD.



25

Role of the Code Official

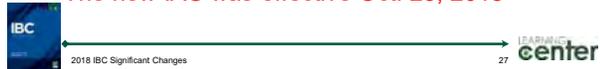


26

Environmental Barriers Act (EBA)



- The EBA is an Illinois anti-discrimination law for person with disabilities
- The scoping and technical for buildings is in the Illinois Accessibility Code (IAC)
- The Capital Development Board supports the EBA and the IAC
- IAC, April 24, 1997, was coordinated with the 1991 ADAAG
- The new IAC was effective Oct. 23, 2018



27

Environmental Barriers Act (EBA)



- The IAC is coordinated with the 2010 ADA Accessibility Standard, with *italicized* amendments where the IAC exceeds ADA (e.g., vertical access, parking)
- The IAC includes the accessible means of egress from the 2015 IBC.
- The IAC is **not** coordinated with the FHAG



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Local/State Law

- Illinois is a home rule state – check with the city/town
- State owned facilities and schools – 2015 IBC and 2015 IEBC
- The Chicago Building Code (CBC) is using the 2018 IBC, including Appendix E, and the 2018 IEBC with amendments to coordinate with the IAC.




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Enforcement of Federal Requirements



Complaints Inspection and Review Mediation

Through the courts




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Alternatives permitted

- IAC – 103 Equivalent facilitation.
- CBC -1102.1.1 Equivalent facilitation.
- IBC – 104.10 Modifications.
- ICC A117.1 - 103 Compliance Alternatives.




2018 IBC Significant Changes 31

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Technical Assistance

- ICC and A117.1 – ICC, (888)422-7233; www.iccsafe.org.
- ADA – Access Board, 800-872-2253(v), 800-993-2822(TTY), www.access-board.gov or email at ta@access-board.gov
- ADA – ADA Technical Assistance Centers (800)949-4232; www.adata.org
- Fair Housing – Fair Housing Accessibility First, (888)341-7781; www.fairhousingfirst.org.
- IAC - Capital Development Board, (217)782-8530; Felicia.Burton@illinois.gov
- MOPD - Mayor's Office for People with Disabilities MOPDCompliance@cityofchicago.org.

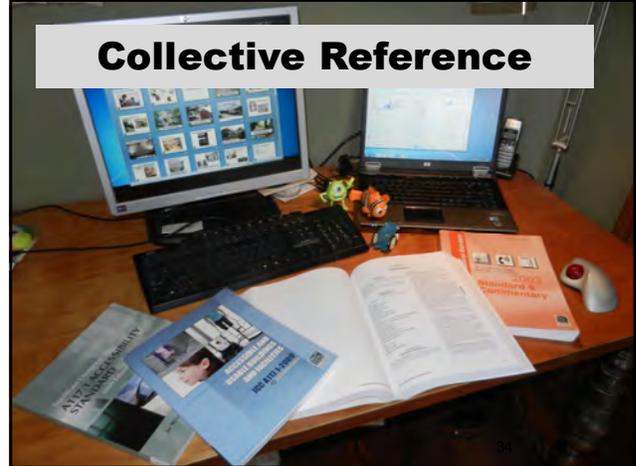



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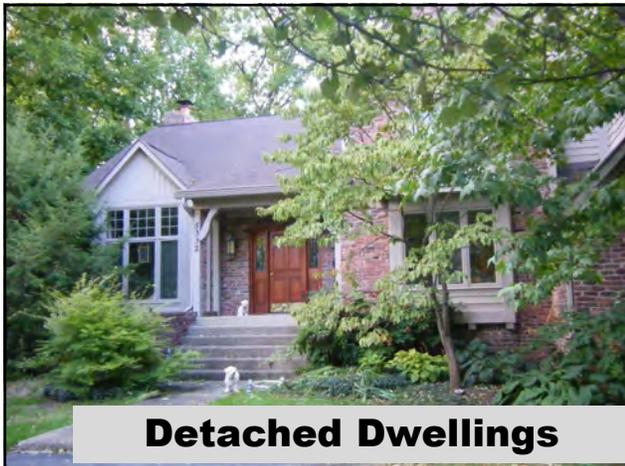
32



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34



35

Employee Work Area



- Approach, enter and exit only
- Elements for employees and only for work not required to be accessible

Exceptions:

- Work station < 300 sq.ft. in area and **required** to be elevated ≥ 7 inches

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Employee Work Area – Common use circulation paths



Common use circulation paths not required to be accessible:

- <1,000 sq.ft. areas
- Integral to equipment
- Exterior employee areas



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Walk-in Coolers and Freezers



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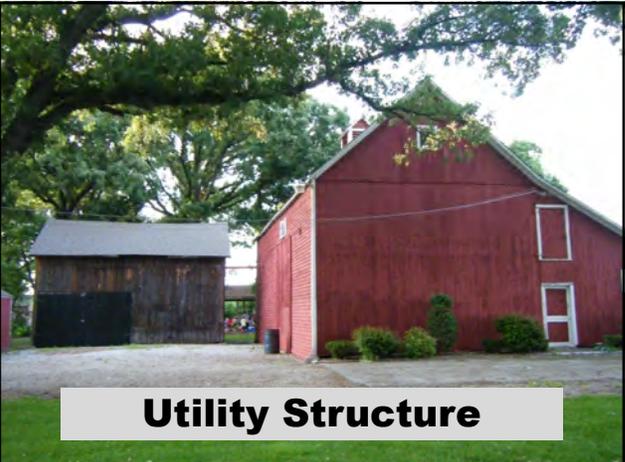
Areas in Places of Religious Worship

- Small areas used for religious ceremonies are now exempt from the access requirements.
- < 300 sq.ft. in area and elevated or lowered ≥ 7 inches
- **Removed in CBC**



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Utility Structure

40



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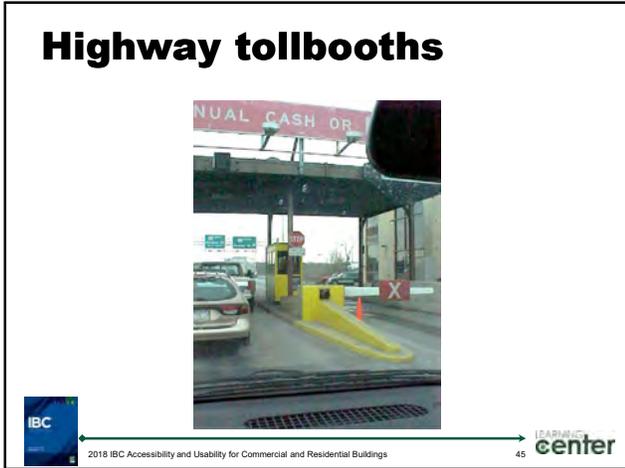
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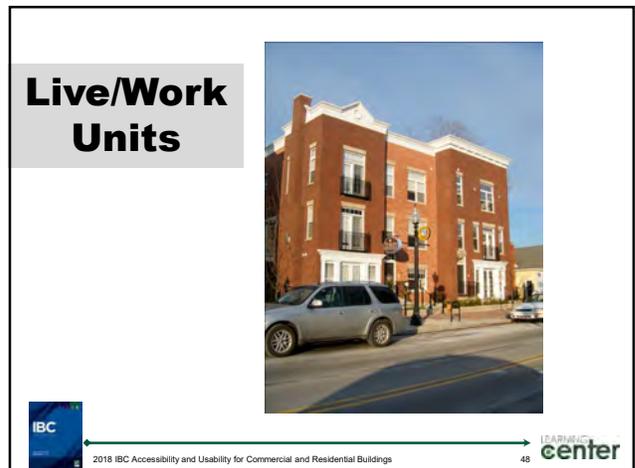
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Detention and Correctional Facilities



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Not Exempted Under IBC

- Religious Buildings
- Private Clubs



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Special Occupancies

Sections 1107, 1108 and 1110

- Group I.
- Group R.
- Assembly seating.
- Self-service storage areas.
- Judicial facilities.
- Recreational facilities.



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No accessible routes between levels (or when do you need an elevator?)

- Aggregate area of stories, mezzanines and occupied roofs \leq 3000 sq.ft. except in:
 - Health care providers.
 - Multi-tenant mercantile.
 - Transportation facilities.
 - Government buildings.
- Items specifically addressed in 1107 and 1108.
- Air traffic control towers.
- 2nd floors or mezzanines that are non-public areas with $< =$ 5 occupants.



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No accessible routes between levels (or when do you need an elevator?)

- Aggregate area of stories, mezzanines and occupied roofs \leq 1000 sq.ft. in **basements, one or two story buildings** except in:
 - Health care providers.
 - Multi-tenant mercantile.
 - Transportation facilities.
 - **Publicly owned** buildings.
- Items specifically addressed in 1107 and 1108.
- Air traffic control towers.
- **Stock rooms for business or mercantile between 1,000 and 3,000 sq.ft.**

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Press Boxes

- $<$ 500 sq.ft.
- Accessed from the bleachers
- A minimum of 12 feet elevation



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Existing buildings

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Existing Buildings

- Maintenance.
- Alteration.
- Change of occupancy.
- Addition.
- Historic buildings.



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Which book to use?

- Chapter 34 was deleted from the 2015 IBC
- The 2018 IEBC has three methods–
 - Prescriptive Compliance Method – Chapter 5
 - Work Area Method – Chapters 6 through 12
 - Performance compliance method – Chapter 13
- Accessibility provisions for all three methods in Section 305



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Extent of Application

Alterations are not required to exceed the accessibility that would be required for a new building.



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Alterations to Existing Buildings – Part 1

When altering an existing building, everything that is altered must meet new construction requirements for accessibility.



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General Exceptions

- Accessible means of egress.
- Technically infeasible.
- When historical significance is adversely affected.
- Type B units when the alteration is to less than 50% of the area of the building (Level 1 or 2)



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Technically Infeasible

- Removal or *alteration* of a load-bearing member that is an essential part of the structural frame
- Existing physical or site constraints



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Alterations to Existing Buildings – Part 2

- If the area being altered contains a primary function area, the route to that area and any toilet rooms or drinking fountains that serve that area must be evaluated for accessibility.
- If they are not accessible, additional improvements are required.



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Primary Function Area

- A major activity for which the facility is intended.
- **Can be multiple areas**
- **Not limited to public use**
- Excluding areas such as:
 - Mechanical room or boiler room
 - Supply storage
 - Employee lounge or locker room
 - Janitors closet
 - Entrances
 - Corridors
 - Restrooms (except where primary purpose – highway rest stops)



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Accessible Route Exceptions

- The cost of the accessible route exceeds 20% of the cost of the alteration.
- The alteration is limited to items that will not alter the physical configuration or use of the space.
- The alteration is to improve accessibility.
- The route is to Type B units only.



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Number 1 & 2 complaints in existing buildings

Parking



Toilet Rooms




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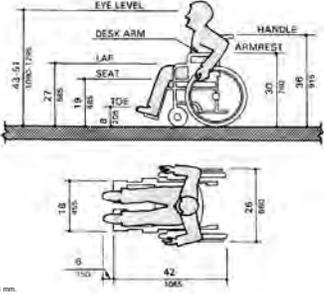


Basis for Technical Requirements


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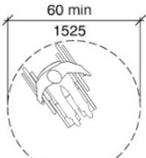
Dimensions of Adult-Sized Wheelchair



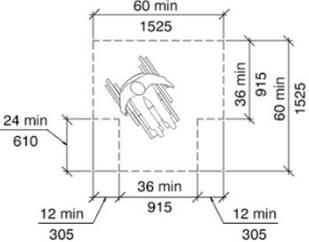

For SI: 1 inch = 25.4 mm.


67

Wheelchair Turning Space



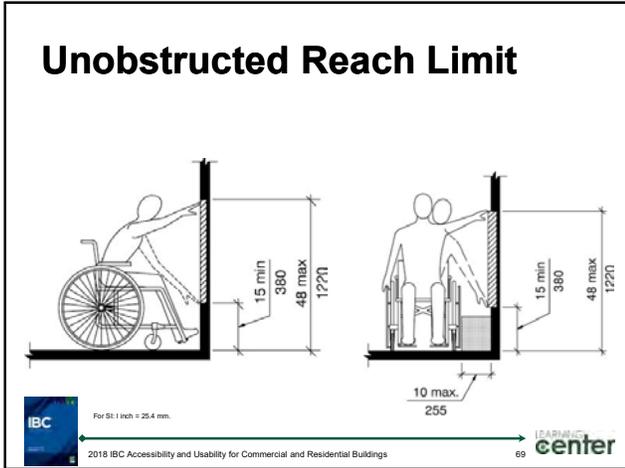
(a) Circular



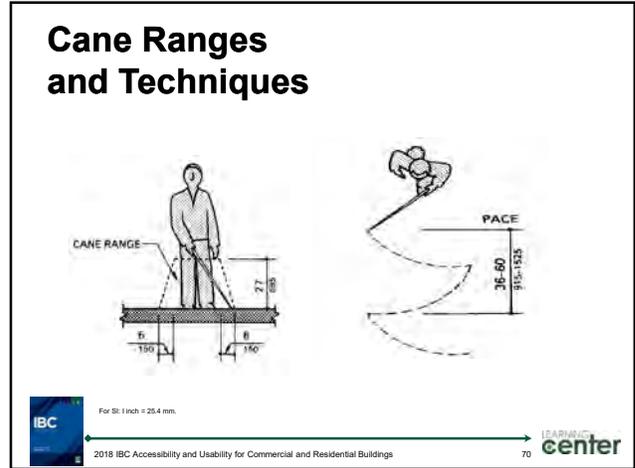
(b) T-shaped


For SI: 1 inch = 25.4 mm.


68



69



70

Children Requirements

| Unobstructed Children's Reach Ranges | | | |
|--------------------------------------|--------------|------------------|-------------------|
| Forward or Side Reach | Ages 3 and 4 | Ages 5 through 8 | Ages 9 through 12 |
| High (maximum) | 36 in. | 40 in. | 44 in. |
| Low (minimum) | 20 in. | 15 in. | 16 in. |

IBC For SI: 1 inch = 25.4 mm. 2018 IBC Accessibility and Usability for Commercial and Residential Buildings center 71

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2017 ICC A117.1

- Will **NOT** be referenced in the 2018 IBC
- Many revisions based on a study sponsored by the Access Board on Anthropometry of Wheeled Mobility
- <http://www.udeworld.com/anthropometrics.html>

IBC For SI: 1 inch = 25.4 mm. 2018 IBC Accessibility and Usability for Commercial and Residential Buildings center 72

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2017 ICC A117.1

Revisions include items such as

- 30"x52" clear floor space
- 67" turning circle
- 8" chamfered corners on turns for 36" wide aisles and corridors
- Changes to turning spaces allowances to use knee and toe clearances
- Will not be referenced in the 2018 I-Codes



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Module 2

Exterior Accessible Route

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Exterior Accessible Route

- Exterior Accessible Routes
 - Locations and Elements
 - Curb Ramps
 - Ramps
- Accessible Parking Spaces
- Passenger Loading Zones
- Signage.



75

Public Arrival Points

- Accessible routes start at public arrival points such as:
 - Accessible parking spaces
 - Bus drop offs
 - Public transportation stops
 - Where a building sidewalk connects to the public sidewalk



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Accessible Entrances

- Accessible routes connection public arrival points to accessible entrances





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Other elements on the site

- Accessible routes are required to all facilities offered on the site.
- Exception: Where the only access is by a vehicular route, then the accessible route can also be provided by that vehicular route.
- IAC/CBC – adds additional criteria for exception







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Minimum Clear Width for a Single Wheelchair

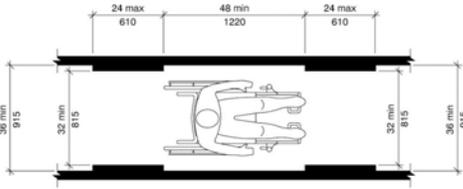


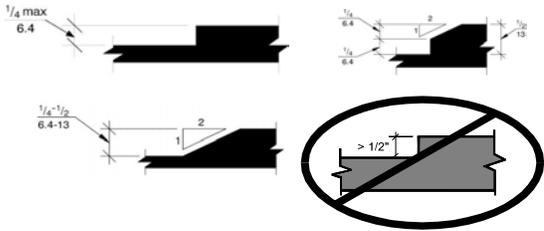
Fig. 403.5
Clear Width of an Accessible Route




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Changes in Elevation





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Hazards

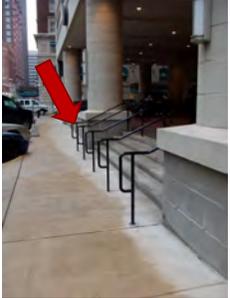
- Grates
- Platform edges
- Raised and marked crossings



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Protruding Objects



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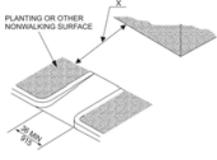
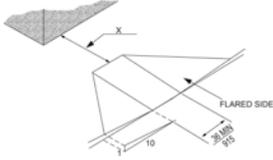
Protruding Objects



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83

Cut-in Curb Ramps



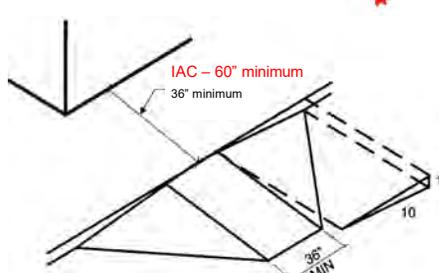
X = 36" minimum in new construction – IAC comply with ramp landing of 60" minimum

On existing sites, if landing is <36" then slope of flared sides shall not exceed 1:12.

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Built-Up Curb Ramps



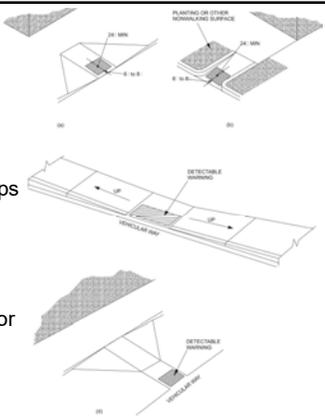
IAC – 60° minimum
36" minimum

On existing sites, if landing is <36" then slope of flared sides shall not exceed 1:12.

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Detectable Warnings at Curb Ramps



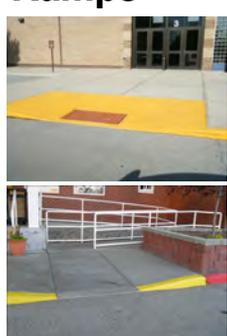
- Detectable warnings are not required on curb ramps by IBC or A117.1
- If a designer chooses to provide detectable warnings, then technical provisions are provided for area covered, location, pattern and contrast.

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Painting at Curb Ramps

- Surfaces are required to be slip resistant, so don't paint the curb ramp or flared sides
- If the curb is painted, then just the curbs on the flared sides are painted



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Curb Ramp Location

- A 36" minimum landing must be available at the top of the curb ramp
- A depressed sidewalk with curb ramps at each end is permitted
- Don't put a built up curb ramp overlapping the access aisle
- Locate so that they will not be obstructed by parked cars



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Curb Ramp Allowances

- Curb ramps can have a rise of more than 6 inches.
- Curb ramps do not have to have handrails.
- Curb ramps are not required to have flared sides.



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Signage

Where not all entrances are accessible

- At accessible entrances
- Directional signage at non-accessible entrances



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Accessible parking and passenger loading zones



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Accessible Parking Spaces



- Based on number of parking spaces provided.
- Number of parking spaces required per zoning ordinances.
- Accessible spaces required:
 - Table 1106.1 for general parking.
 - **2% for Group R-2 and R-3.**
 - 10% at hospitals facilities.
 - 20% at mobility treatment centers.
 - 1 of 6 accessible spaces sized for a van



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Dispersion by Type

- Parking lots
- Parking garages
- Carports
- Private garages
- Pay/free
- Employee/visitor only

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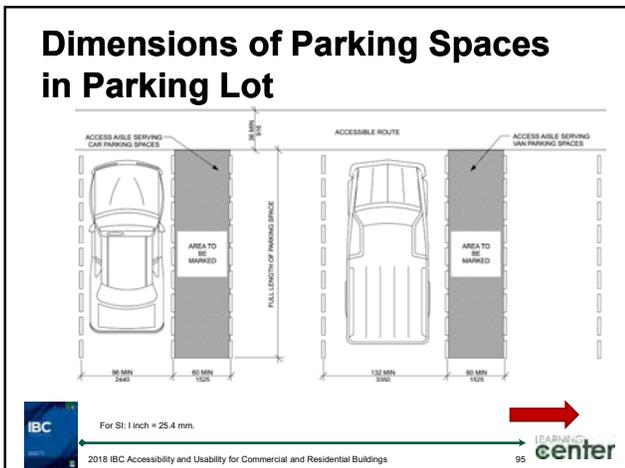
93

Parking Locations

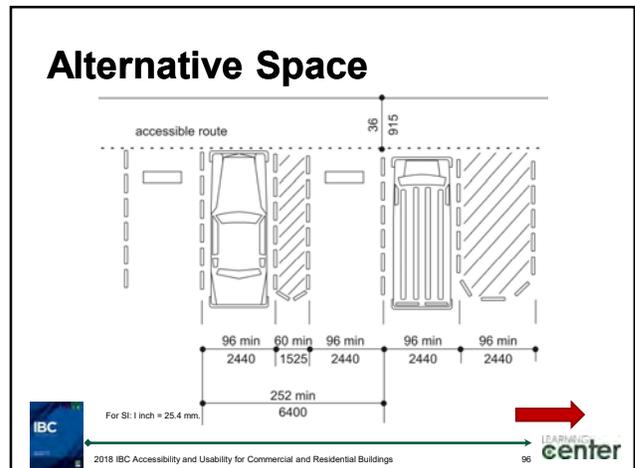
- Locate on the shortest accessible route to an accessible entrance.
- Multi-entrance building or multi-building sites – disperse spaces
- Exception:
 - Van spaces on ground level of parking garages (vertical clearance of 98 inches)
 - Grouped where better access is provided

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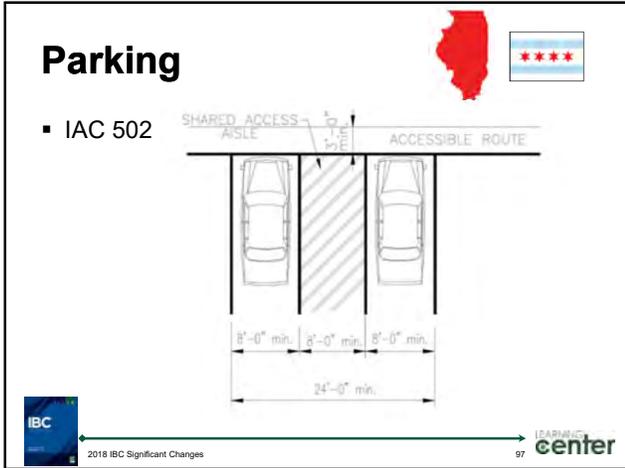
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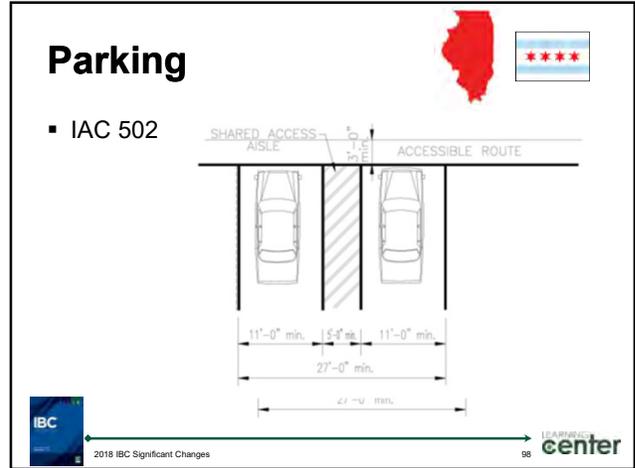
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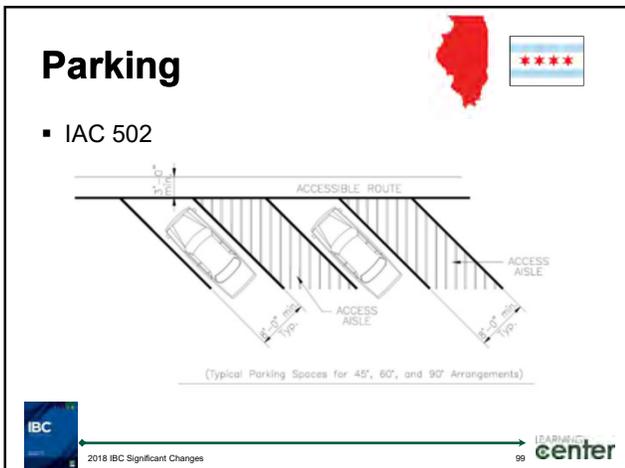
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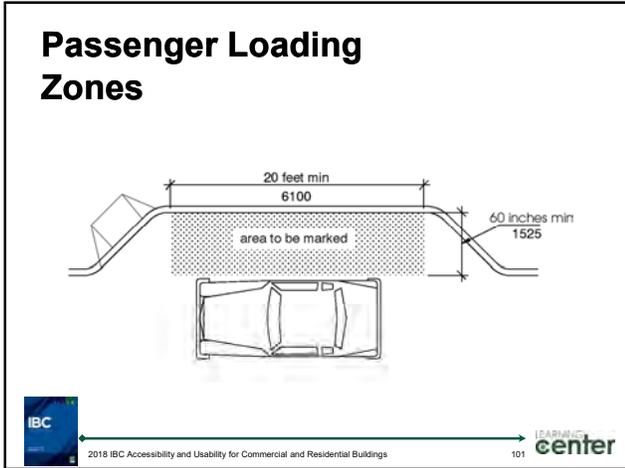
99

Passenger Loading Zones

- At least one in Group I-1 and I-2
- At the entrance where valet parking is provided
- Where passenger loading zones are provided, they must be accessible

Diagram illustrating Passenger Loading Zones. A red map of Illinois and a four-star rating are in the top right. The IBC logo and '2018 IBC Accessibility and Usability for Commercial and Residential Buildings' are in the bottom left, and 'LEARN MORE center' is in the bottom right.

100



101

Allowances

- Passenger loading zones do not have to have a confined length. The intent is to allow for a location where people can transfer in safety.
- Vertical clearance is 114" minimum

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Valet parking

- 1106.7.3 Valet parking.** A passenger loading zone shall be provided at valet parking services. **If at-grade parking is provided, at least one accessible space for self-parking of a vehicle shall be provided.**

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Signage

- Accessible parking must have a sign
- Exceptions:
 - Fewer than 4 total parking spaces
 - In Group I-1, R-2, R-3 and R-4 where parking is assigned to residents
- Access aisles should be marked to discourage parking on them
- The space is not required to be marked
- Accessible passenger loading zones must have a sign

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Good or Bad?



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Good or Bad?



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Good or Bad?

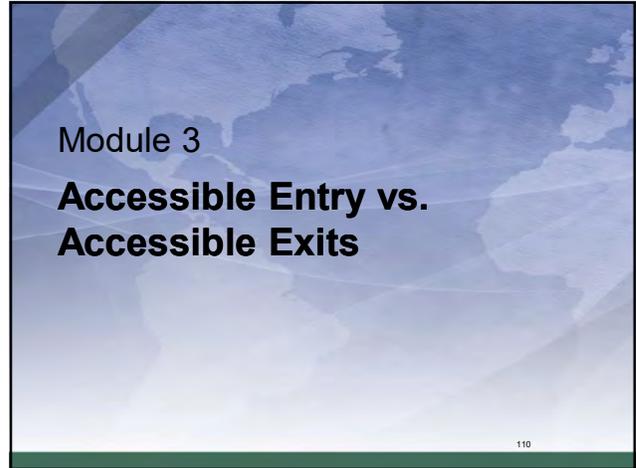


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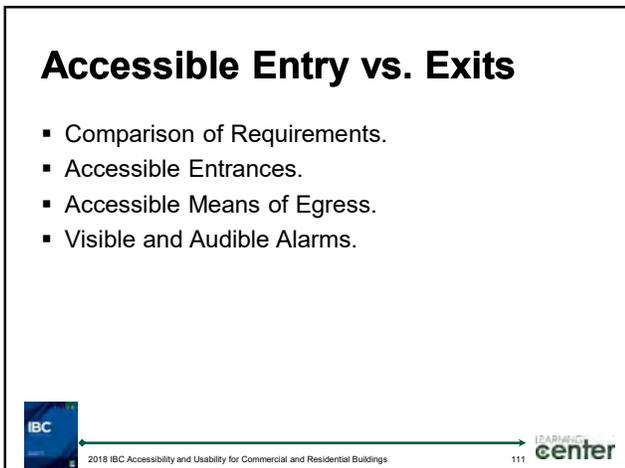
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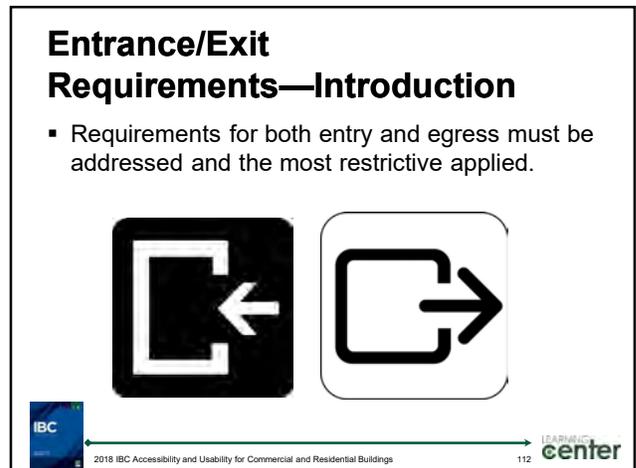
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110



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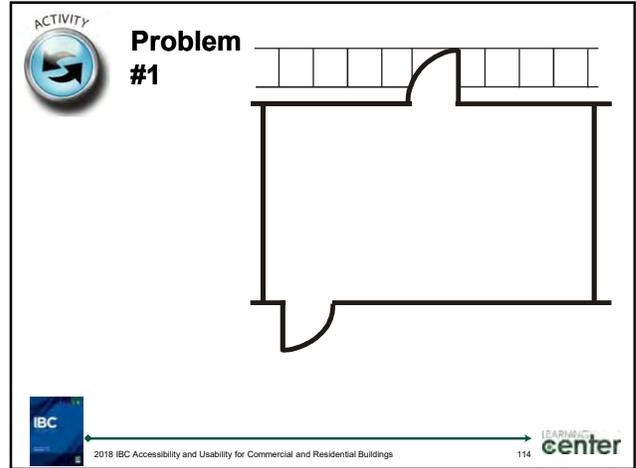
112

Accessible Entry vs. Accessible Exit

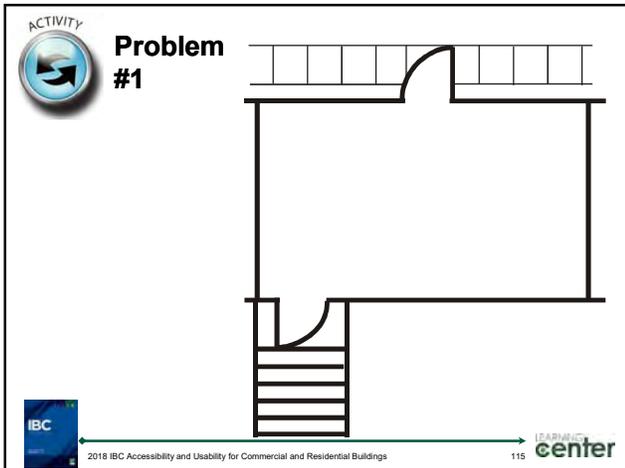
| TERM | DEFINITION | EXAMPLE | REQUIRED # |
|------------------|--|---------------|-------------------------------|
| Accessible Entry | Consists of: <ul style="list-style-type: none"> •Exterior accessible route. •Accessible entrances. •Interior accessible route. | Elevator | 60% of the entrances |
| Accessible Exit | Consists of: <ul style="list-style-type: none"> •Exit access via interior accessible route. •Area of refuge/Exit. •Exit discharge. | Exit Stairway | 1 with 1 MOE 2 with 2+ MOE |

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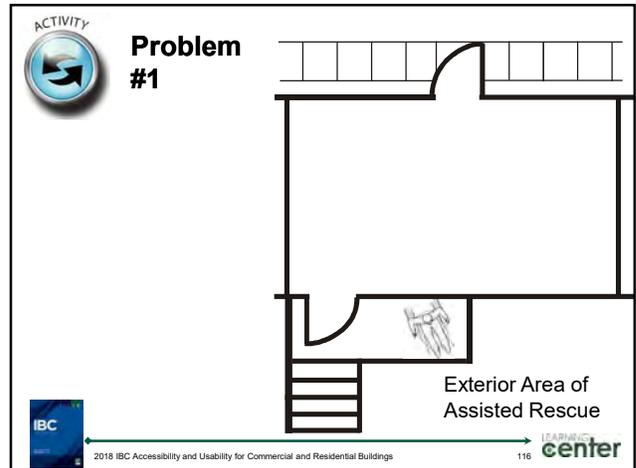
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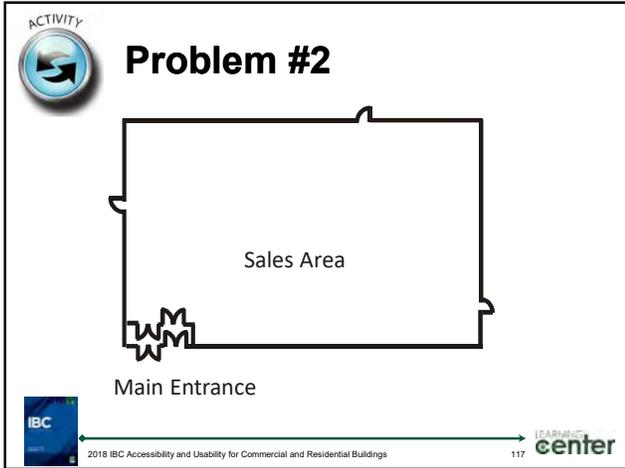
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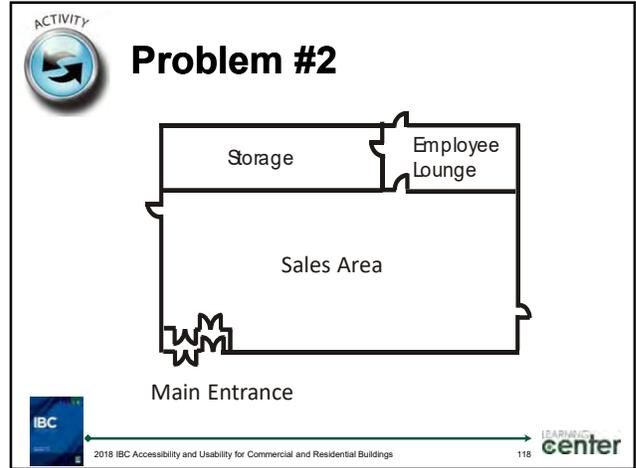
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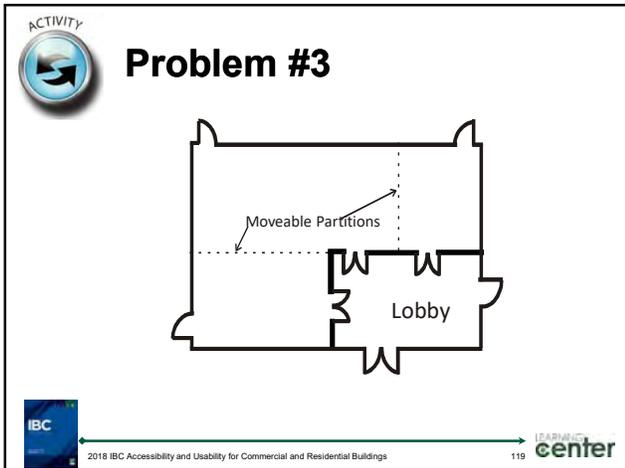
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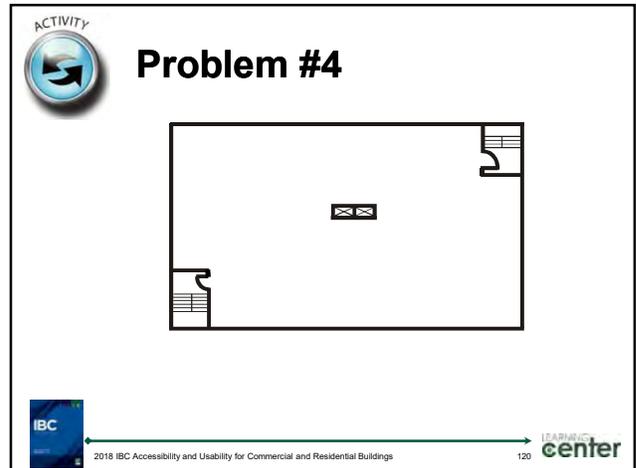
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118



119



120

ACTIVITY

Problem #4

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121

Accessible Entrance

- Special entrances – at least one:
 - Parking garages
 - Tunnels
 - Elevated walkways
 - Restricted
 - Inmates or detainees
- Public entrances – 60%.
 - Individual entrance
 - Tenants
 - Accessible Group I and R dwelling and sleeping units

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122

Exceptions

- Areas not required to be accessible.
- Doors that serve as means of egress only.
- Service entrances that are not the only entrance to a tenant.

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123

Accessible Entrances

- IAC & CBC - In *multi-story housing*, at least 50 percent of all *public entrances*
- CBC - An entrance with a weather overhand and a passenger loading zone
 - In Group I-2 occupancies
 - Group B ambulatory care facilities
- CBC - A power operated door
 - Governmental facilities which contain or provide administrative services available to the general public.
 - Museums with a gross floor area of 5,000 square feet (465 m2) or more.
 - Passenger terminals.
 - High-rise buildings containing Accessible units or Type A units.
 - Group E-1 occupancies.

IBC 2018 IBC Significant Changes 124 LEARN MORE center

124

Interior Routes

- Connect accessible entrances to accessible spaces within the building
- The accessible route must allow for unassisted access

Ramps



Horizontal surfaces



Platform lifts



Elevator



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125

Additional Routes

- Connections between dwelling and sleeping units and all shared facilities (e.g., dining halls, lobby, laundry, mailrooms).







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126

Planning



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127

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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128

Pre-Planning for Emergencies

Required in:

- Assembly
- Churches over 2,000 occupants
- Educational
- College dormitories
- High Hazard
- Institutional
- Hotels
- Group homes



129

Pre-Planning for Emergencies

Required in:

- High-rise buildings
- Covered malls > 50,000 sq.ft.
- Mercantile & Factory (> 500 occupants on the 1st floor and basements or 2nd floor > 100 occupants)
- Underground buildings
- Assembly, Educational and Mercantile with atriums



130

Fire Evacuation Plans

- Emergency routes
- Strategy - Evacuation or defend in place
- Critical equipment operation
- **Assisted rescue procedures**
- Verifying full evacuation
- Emergency responders
- Notification of occupants
- Notification of fire department
- Emergency voice/alarm communication system



131

Fire Safety Plans

- Reporting emergency
- Evacuation or relocation of **all** occupants
- Site plans – occupancy assembly point, fire hydrants, fire truck route
- Floor plans – exits, routes, **areas of refuge**, fire alarm, extinguishers, fire hoses
- Major fire hazards
- Persons responsible



132

Lock-down plans

- Occupant notification
- Emergency responders notification
- Accountability
- Recall
- Communication
- Coordination
- Training



133

Emergency Drills

- Assembly – quarterly
- Business – annually
- Educational – monthly
- Factory – annually
- Institutional – quarterly on each shift
- Hotel - quarterly on each shift
- Apartments/dorms – 4 times annually
- Group homes - quarterly on each shift
- High rise - annually



134

Notification & Communication

135

135

Signage

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



136

Signage

- Visual exit signs at stairway entrances
- Tactile exit signs at stairway entrances



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137

Signage

- Visual signage within the stairway
- Tactile signage indicating floor levels
- Tactile signage at the door leading to the exit discharge



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138

Two-way Communication

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



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139

Two-way Communicatic



- Communication between 2-way and the *fire command center* or a central control point location acceptable to the *fire code official*.
- Where the central control point is not a *constantly attended location*, a timed automatic telephone dial-out capability to a monitoring location or 9-1-1.
- Both audible and visible signals.
- If a handset is provided, the handset cords shall be at least 29 inches (735 mm) long.

IBC 2018 IBC Significant Changes 140 IBC center

140

Audible and Visible alarms

- Installed in accordance with NFPA 72.
- Manual fire alarm pull stations must be accessible.



141

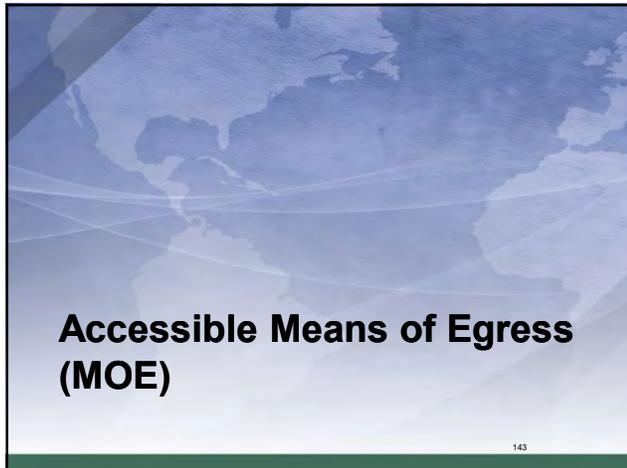
Visible Alarms

- All public spaces.
- All common spaces.
- Group I-1 (assisted living) and R-1 (hotel) units per Table 907.9.1.3.
- Future expansion for:
 - Individual employee work areas.
 - Smoke alarms in Group R-2 (apartments) units.



142

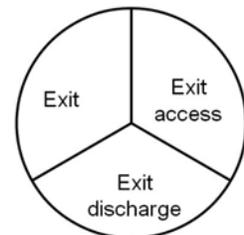
Accessible Means of Egress (MOE)



143

Elements of Accessible MOE

An *accessible means of egress* is a continuous and unobstructed accessible route of egress travel from any accessible point in a building or facility to a public way.



144

Accessible Exit Access

Ramps

Horizontal surfaces

Platform lifts with standby power



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145

Accessible Exit

Exit Door

Exit Stairs

Horizontal Exit

Elevator with standby power

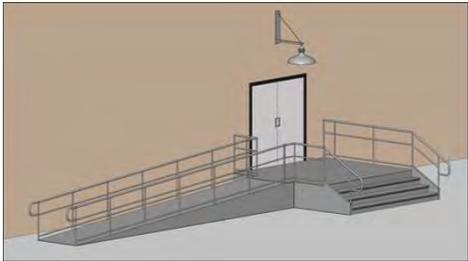


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146

Accessible Exit Discharge

Allow for self evacuation when possible



Drawing courtesy of Access Board

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 147 IAPMO IBC center

147

Accessible MOE

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



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148

ADA & ABA Standards §207

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

IBC 2003 Section 1007 OR IBC 2000 with 2001 Supplement Section 1003.2.13

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149

ADA & ABA Standards

- What about compliance with later editions?
- Permitted where equivalent or better (“equivalent facilitation” in the ADA Standards Section 103)

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150

AMOE: Minimum Number

- Minimum number of AMOE required:
 - 1 AMOE - where 1 MOE required
 - 2 AMOE- if more than 1 MOE required
- Exceptions:
 - Existing facilities
 - Areas not required to be accessible

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Special Consideration

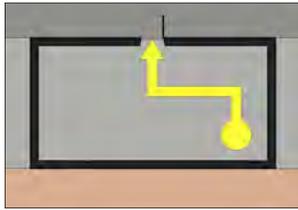
- Mezzanines.
- Wheelchair spaces in Assembly seating with sloped or stepped floors.
- Areas accessed only by platform lifts.

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152

Example: 1 MOE/AMOE

- 1 MOE & 1 AMOE allowed under these conditions:
 - mercantile occupancy; and
 - 49 or fewer occupants; and
 - 75' max. travel distance from farthest point

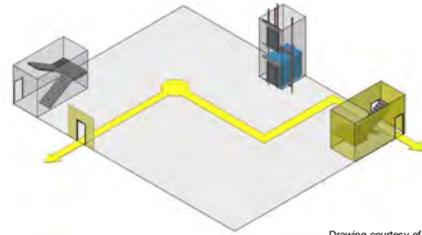


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153

MOE: Minimum Number

- IBC requires 2 or more MOE in most facilities with few exceptions

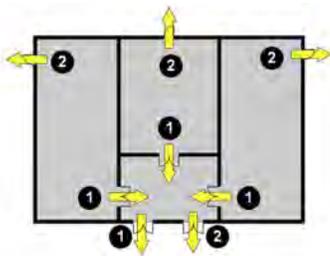


IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 154 center

154

MOE: Minimum Number

MOE required from each space and room

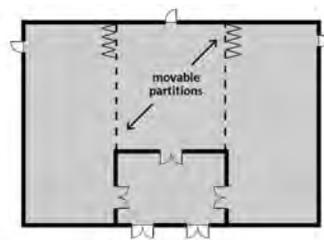


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155

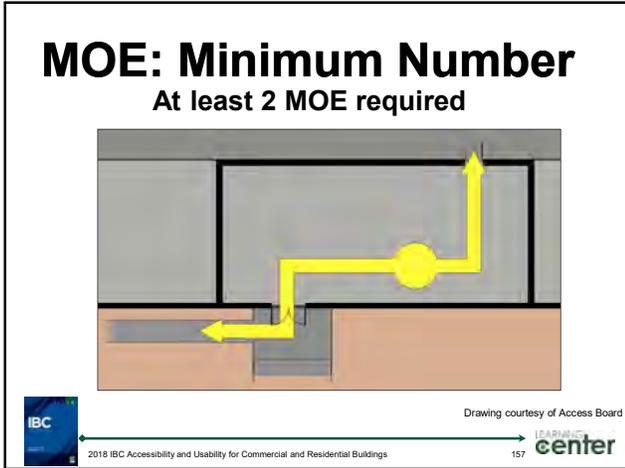
MOE: Minimum Number

Required MOE must be maintained under all conditions, including temporary divisions of space



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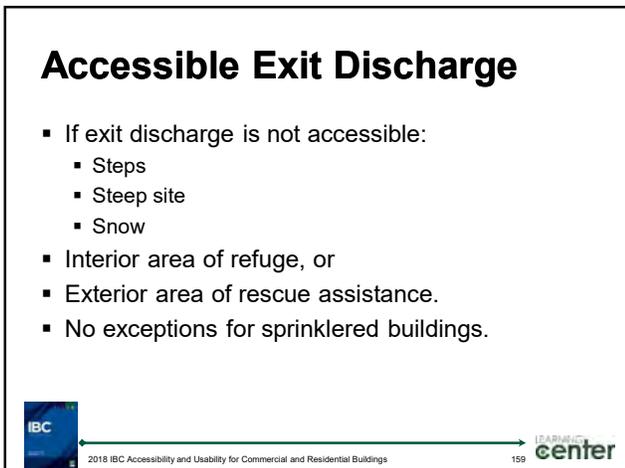
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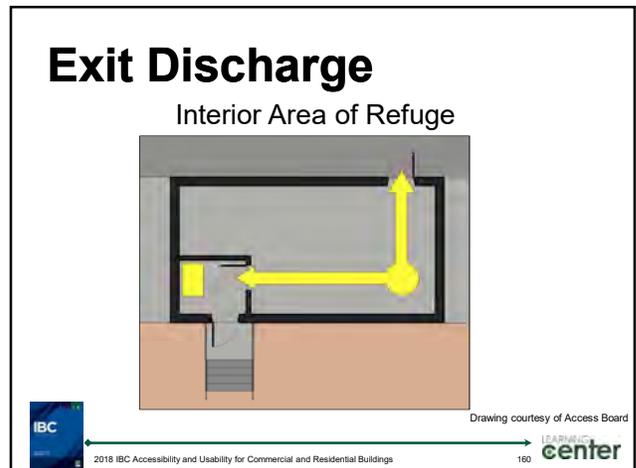
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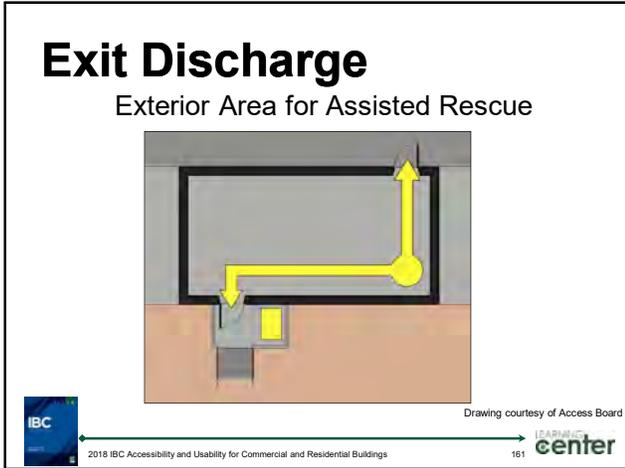
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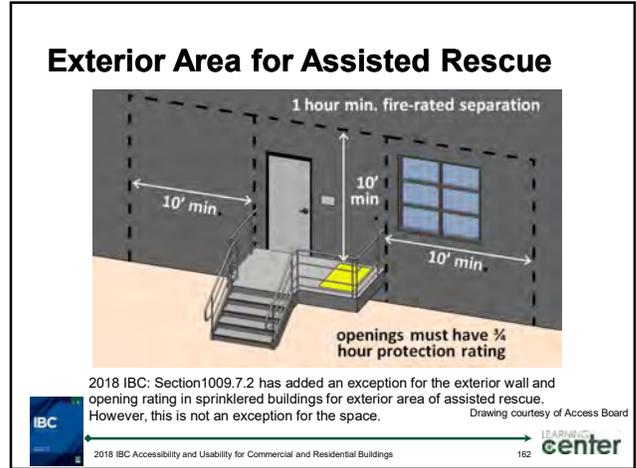
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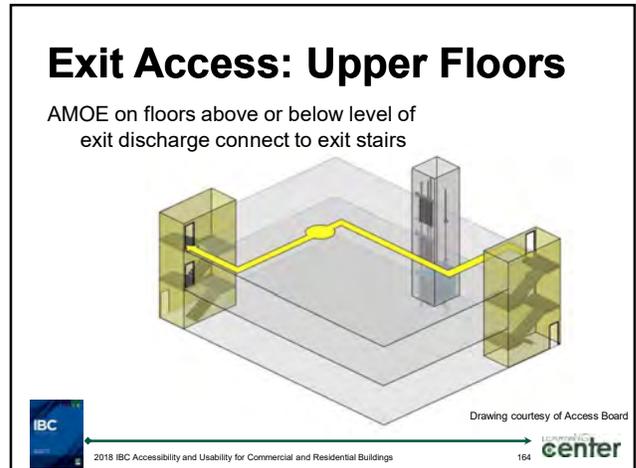
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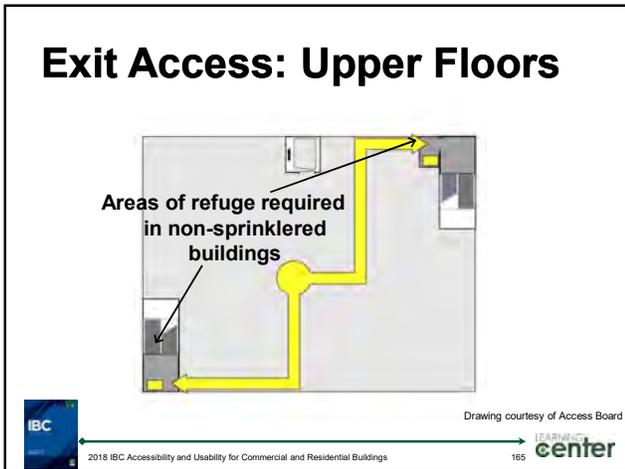
162



163



164



165



166

Stairways

- Exit stairway or exit access stairways between stories or mezzanines.
- 48" clear width.
- Accessed from area of refuge.

Fireman's carry

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 167 center

167

Exceptions to IBC 1009.3.3 – Area of Refuge

- Open exit access stairways.
- Stairway is accessed from a horizontal exit.
- Buildings with an NFPA13 or NFPA 13R sprinkler system.
- Open parking garages.
- Smoke protected/open air assembly seating.
- Group R-2.

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168

Exceptions to IBC 1009.3.2 – 48” clear width

- Buildings with a NFPA13 or NFPA 13R sprinkler system.
- Stairway is accessed from a horizontal exit.

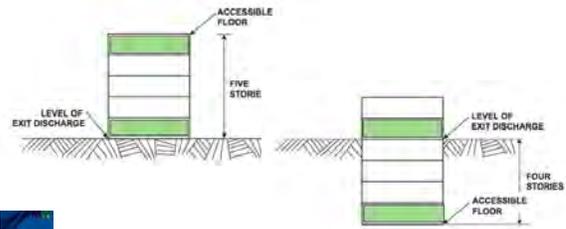


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169

Elevator with Standby Power

- Required in buildings with 4 or more stories above or below the level of exit discharge



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170

Occupied roof

- What would the requirements be if a 4 story building had an occupied roof?
- Standby power would be required for the elevator. There is no exception for a horizontal exits or sprinklers on the roof.

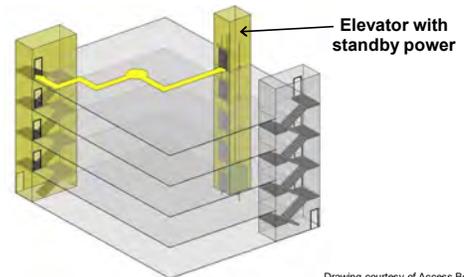


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171

Elevator with Standby Power

- Required in buildings 5 stories or higher



IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 172 LEARN MORE center Drawing courtesy of Access Board

172

Elevator

- In building 5 stories or taller
- Accessed from area of refuge.
- Standby power



173

Exceptions to IBC 1009.4.2 – Area of refuge

- Elevator is accessed from a horizontal exit.
- Open parking garages.
- Building sprinklered with an NFPA13 or NFPA13R system.
- The elevator is not in a shaft.
- Smoke protected/open air assembly seating.



174

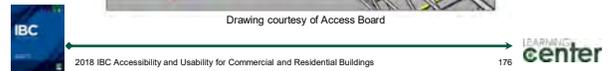
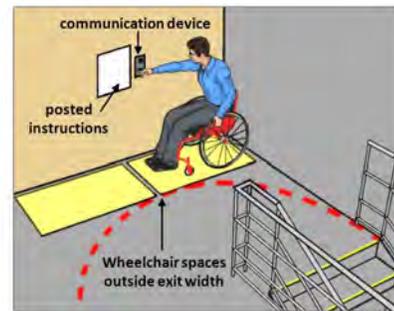
Exceptions to IBC 1009.2.1 – Standby power

- Buildings with horizontal exits (i.e., defend in place scenarios like a hospital)
- Ramps are provided from all floor levels (i.e., sports facilities or parking garage)

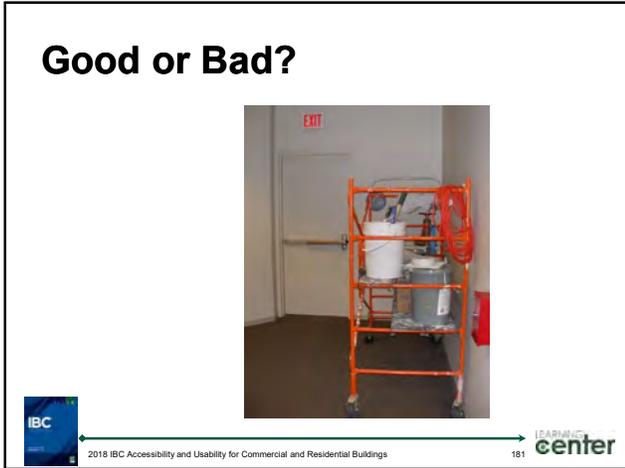


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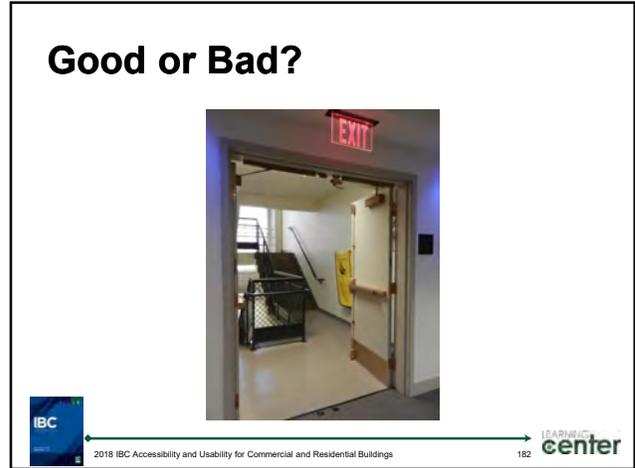
Areas of Refuge



176



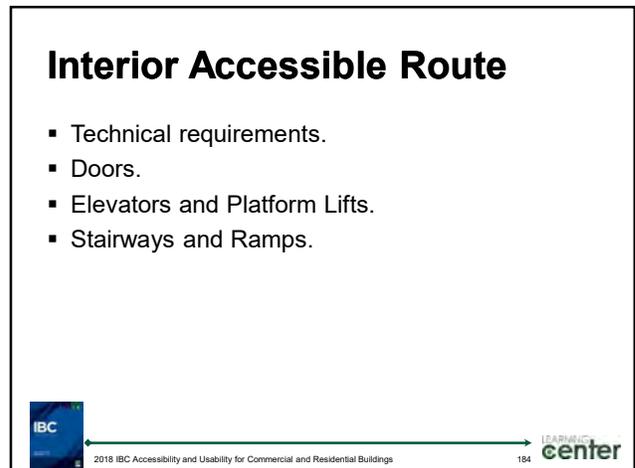
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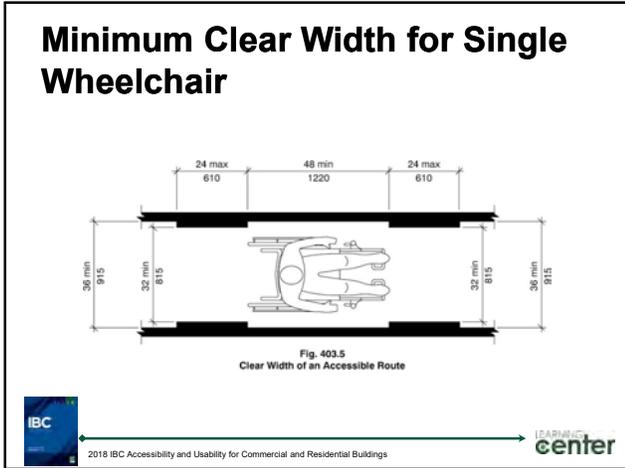
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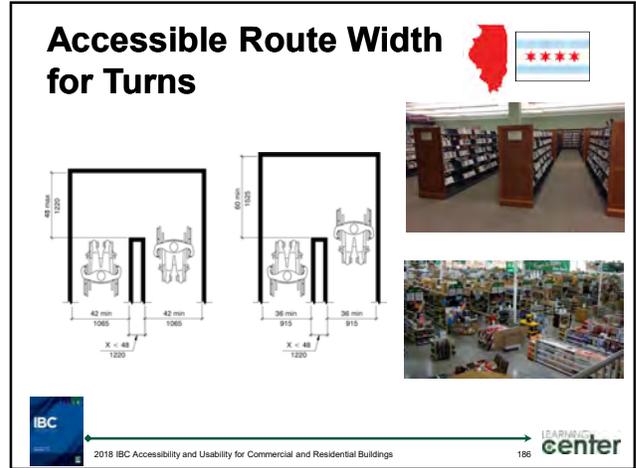
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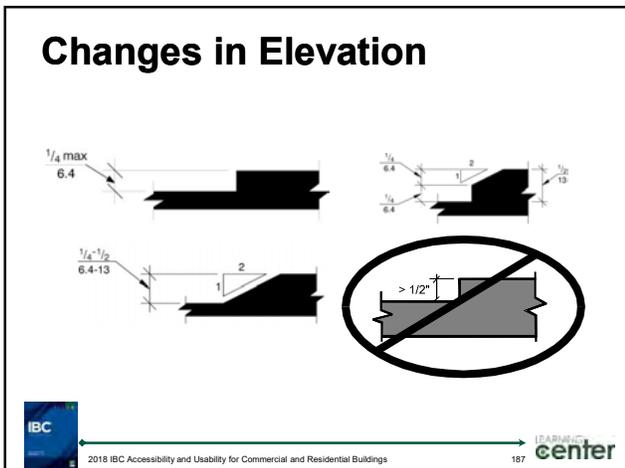
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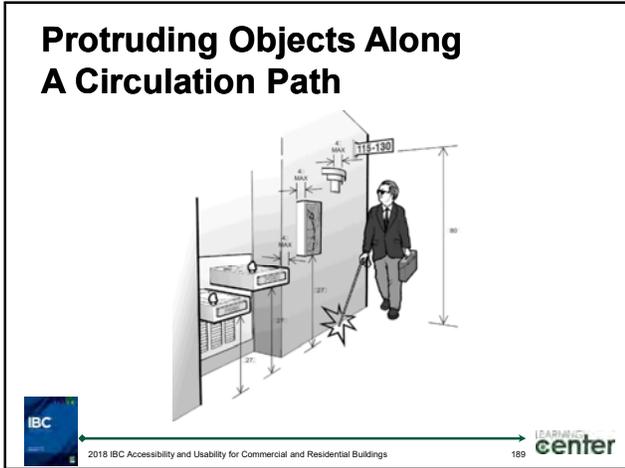
187

Change in elevator

- Changes at thresholds
- Changes of materials

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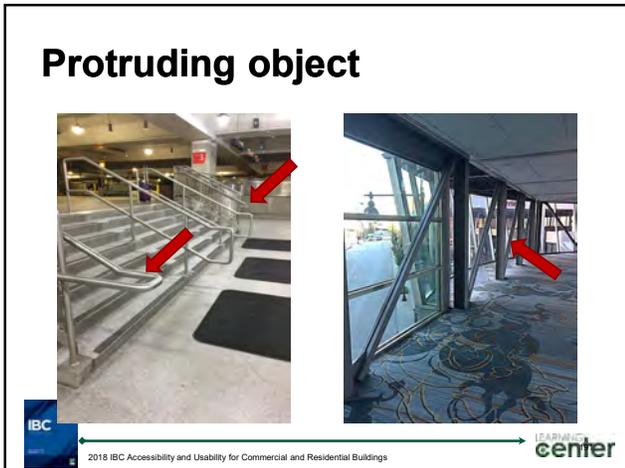
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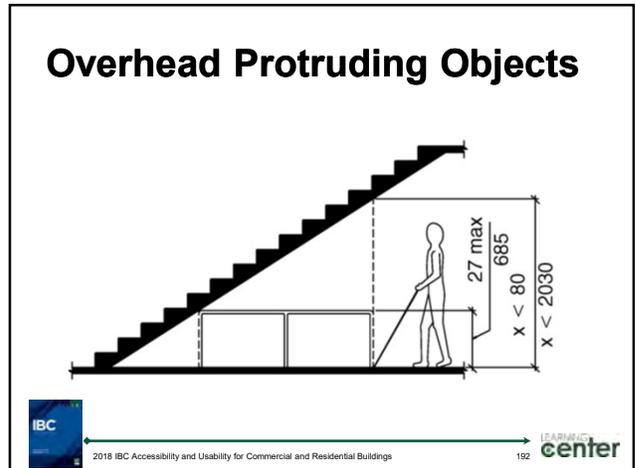
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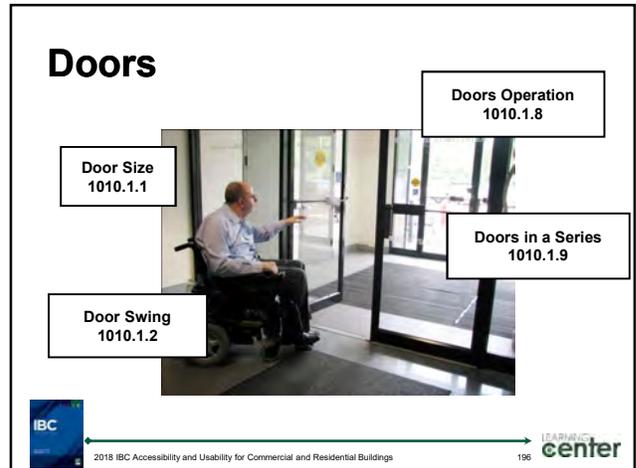
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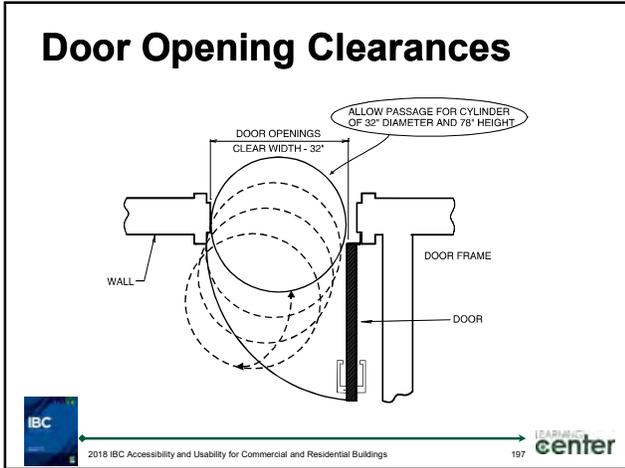
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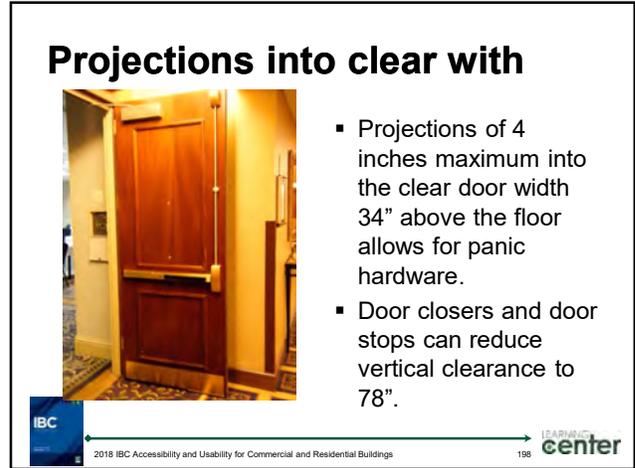
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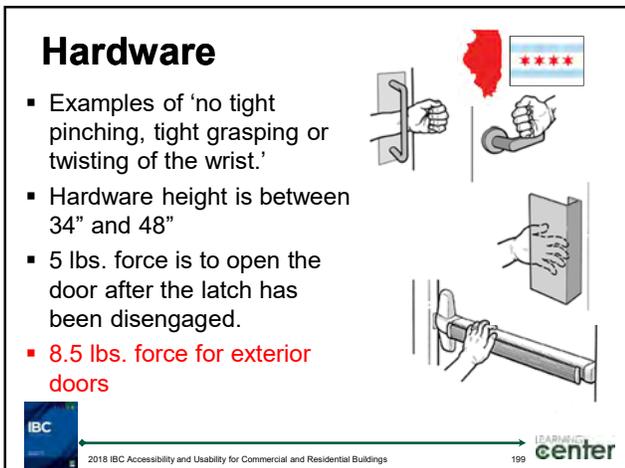
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200

Vision lights

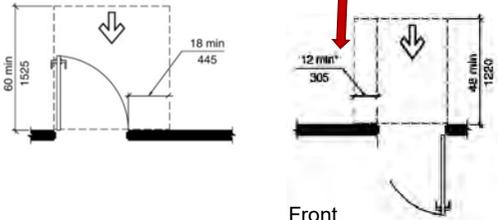


- Vision lights, where provided, must have a bottom edge below 43"
- Vision lights above 66" are exempted

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201

Maneuvering Clearances



Front Approach, Pull Side

Front Approach, Push Side

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202

Maneuvering Clearances



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203

Maneuvering Clearance

- Required at power assist doors
- Not required a low-power automatic doors and fully automatic doors



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204

Maneuvering Clearance

- A117.1 Section 404.2.3 – Required door maneuvering clearances shall not include knee and toe clearances.
- The intent is to disallow for sinks or counters to overlap the maneuvering clearance, but allow for items such as handrail extensions or hand dryers.



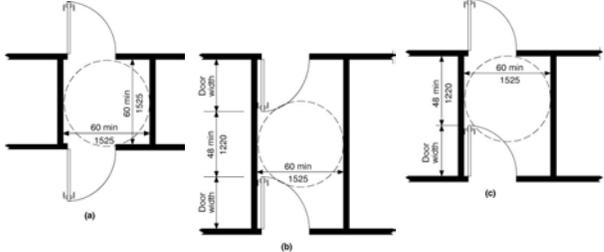



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Vestibules





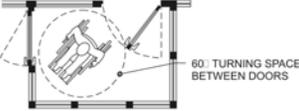
2018 IBC Accessibility and Usability for Commercial and Residential Buildings



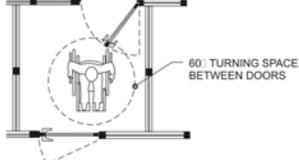
206

Vestibules

- Where doors at a vestibule are not in a straight line of travel, they still have to meet the vestibule requirements.
- A wheelchair space should be provided past the swing of the first door.
- A turning space must be available in the vestibule in case the 2nd door is locked or too difficult to open.



60" TURNING SPACE BETWEEN DOORS



60" TURNING SPACE BETWEEN DOORS



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Other types of doors

- Revolving doors and security turnstiles cannot serve as part of an accessible route.
- Gates are required to meet the same provisions as doors.








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LULA Car Size

The diagram illustrates two LULA car configurations. Configuration (a) for New Construction has a width of 42 min (1065) and a height of 32 min* (815), with a minimum area of 15.75 ft.². Configuration (b) for Existing Building Exception has a width of 36 min (915) and a height of 34 min (1370), with a minimum area of 16 ft.² (1.4 m²). Both configurations have a depth of 32 min* (815).

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213

Private Residence Elevator

A photograph shows a person in a wheelchair inside a private residence elevator. The elevator is located within a residential unit.

- ASME A17.1.
- ICC A117.1.
- Application limited:
 - Limited capacity.
 - Serve or within an individual dwelling unit.
 - Slow speed.

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 214 IBC center

214

Platform Lifts

- ASME A18.1.
- ICC A117.1.
- Permitted anywhere in existing buildings.
- Limited application in new construction.
- Standby power when used as part of an accessible means of egress.

Two photographs show platform lifts in use. The first shows a person in a wheelchair on a lift platform. The second shows a lift platform installed in a hallway.

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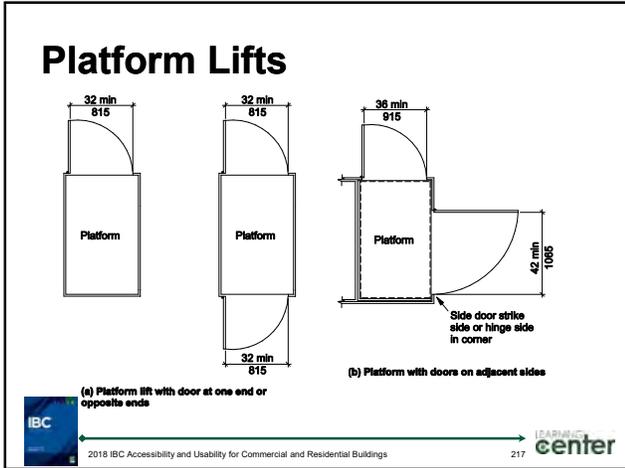
215

Platform Lifts

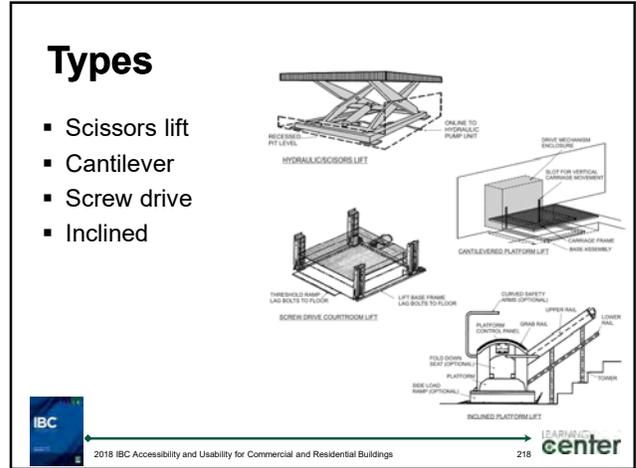
- Performing areas.
- Wheelchair spaces in assembly seating.
- Restricted spaces with <6 occupants.
- Within dwelling and sleeping units.
- Areas in courtrooms.
- Amusement rides.
- Play structures.
- Team or player seating.
- Boating and fishing piers
- Existing exterior constraints.
 - This location cannot also serve as part of an accessible means of egress.

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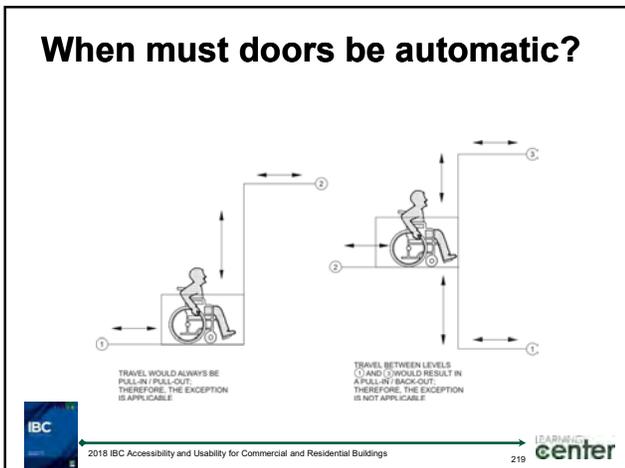
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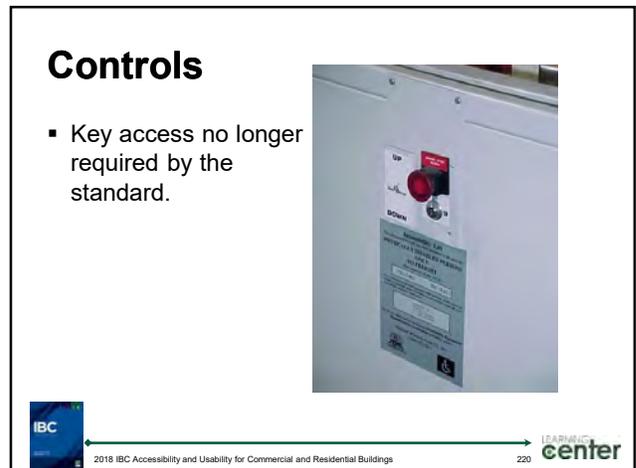
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218



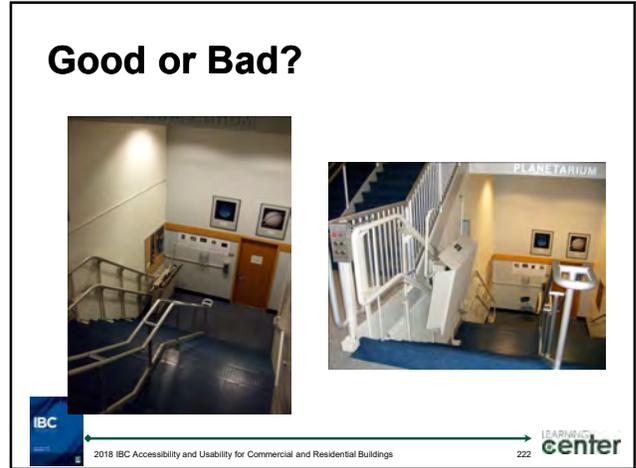
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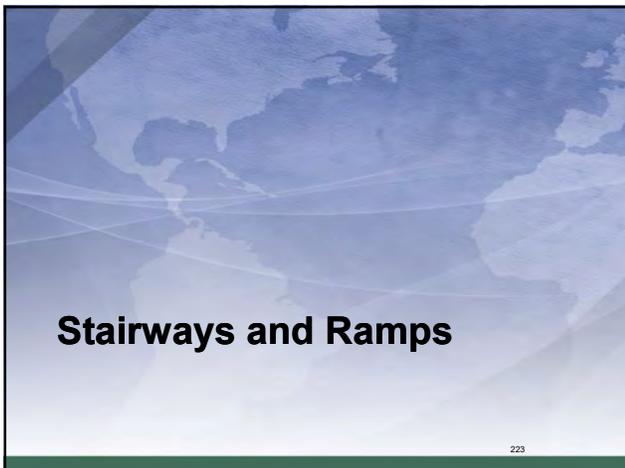
220



221



222



223

Stairways

- Not part of the accessible route into building.
- Part of an accessible means of egress out of building with assistance.
- Mainstreamed requirements with no reference to ICC A117.1.
- Safety provisions for persons with mobility and visually impairments addressed in IBC.

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 224 center

224



225

Handrail Extension

- The handrail extension at the bottom is 1 tread depth minimum and sloped.
- The 2010 ADA has removed the requirement for the additional 12" horizontal extension at the bottom.
- The handrail extension at the top is 12" minimum horizontal.
- The extension must be in the direction of the stairway run

12 min
305

x = tread depth

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226

Solid tread and risers?

- Treads allow for opening 1/2" or smaller
- Risers should not allow for someone to get their foot caught under the tread.

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227

Good or Bad?

- Handrail extensions?

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228

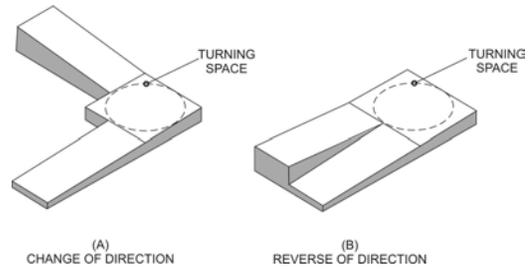
Ramp Technical Criteria

- >1:20 slope.
- 1:12 slope maximum on accessible routes.
- Change in level at start of ramp
- Surfaces – slip resistant
- Cross slope - < 1:48
- Minimum width – 36” between handrails
- Maximum rise – 30” between landings
- Adequate landings



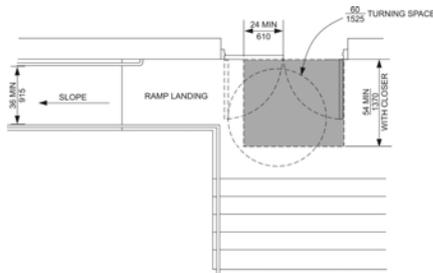
229

Ramp Landings



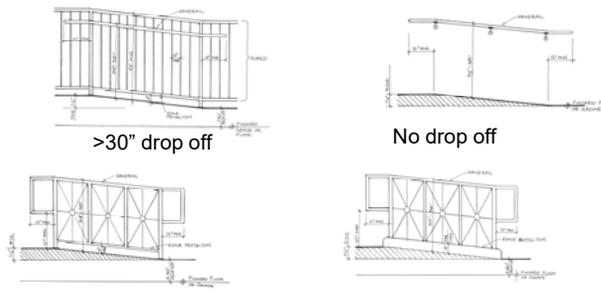
230

Ramp Landings



231

Edge Protection, Handrails & Guards



232

Ramp Allowances

- Curved ramps are permitted if they meet cross slope.
- Where the ramp slope matches the sloped floor, edge protection may be provided by a wider surface.
- In assembly seating, accessible ramps are only required for entry and exit from accessible wheelchair spaces.



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Ramp Allowances

- Barriers may serve as a handrail where guards are not required.
- Projections can be at or below the handrail height.
- Handrail grasping surfaces cannot be obstructed.



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234

Ramp Allowances

- Ramps can have gridded surfaces in cold or wet areas.
- Where the ramp moves up with the grade, edge protection may be provided by a wider surface



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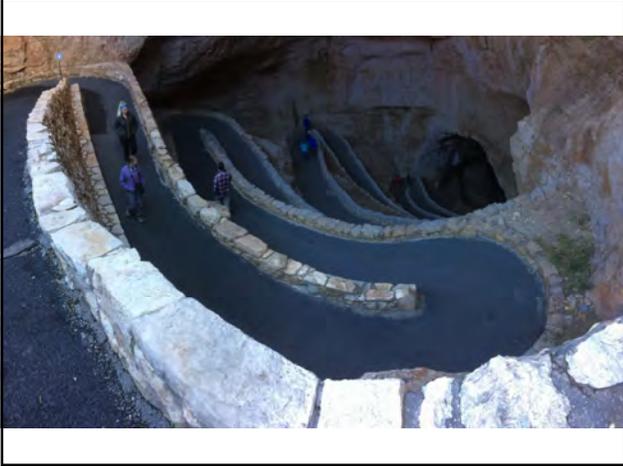
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Good or Bad?



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236



237



238



239



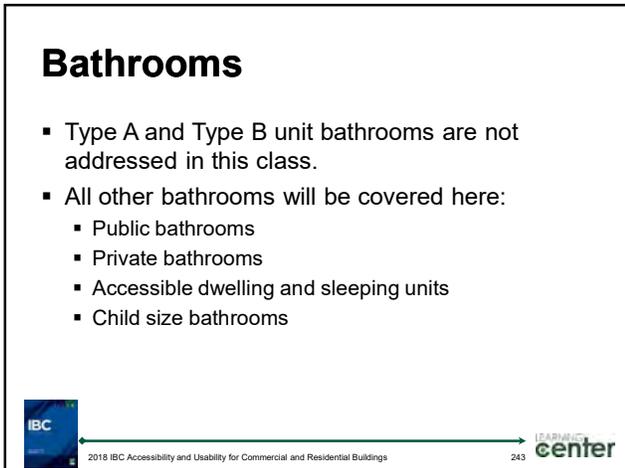
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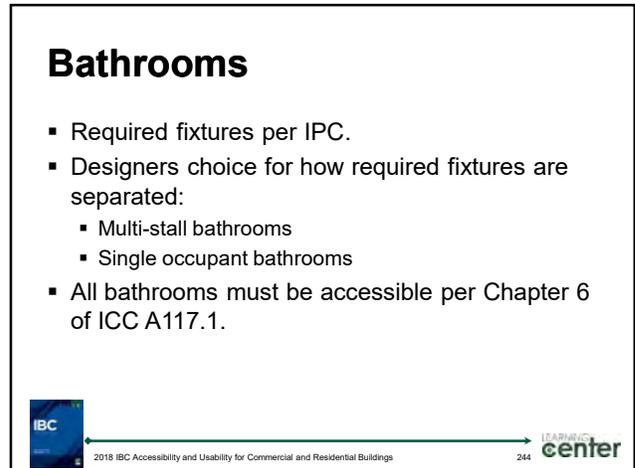
241



242



243



244

Exceptions

- Accessed through a private office.
- Non-accessible dwelling or sleeping units.
- 50% of each type of clustered single occupant bathrooms.
- When only one urinal is provided in a bathroom, that urinal is not required to be accessible.
- Critical care or Intensive care.
- Allowance to design for children



245

Bathrooms

- One of each type of fixture provided in each bathroom:
 - Water closets
 - Lavatories
 - Urinals
 - Bathtubs/showers
- When 6 or more water closets and/or urinals are provided in a room, an ambulatory stall is required.



246

Sinks/Lavatories

- Lavatories are for bathing purposes.
- Sinks are typically a work sink.
- 5% constructed with front approach.
- When 6 or more lavatories are provided in a room, a lavatory with an enhanced reach range faucet is required.



247

Exceptions

- Non-accessible:
 - Part of individual work stations
 - Mop or service sinks
- Limited accessibility:
 - Sinks for children's use
 - Kitchenettes permitted to have side approach



248

Family Use/Assisted Use Accessible Toilet Rooms

- Mercantile or assembly facilities; and
- 6 or more required water closets;
- 1 unisex toilet room required;
- Not an exception for accessible fixtures in the men's and women's toilet rooms.



249

Family Use /Assisted Use Accessible Bathing Rooms

- Recreational facilities where bathing rooms are provided.
- One family use bathing room is required.
- Exception:
 - If only one shower is provided in men's and women's bathing room.



250

Family Use/Assisted Use Accessible Toilet/Bathing Rooms

- Family Use room counts toward required fixture count.
- Designers choice to take from men's or women's fixture count.
- Toilet room must include one water closet and one lavatory.
- Room may include one urinal.
- Room must include any amenities provided in men's and women's toilet/bathing rooms.
- Bathing rooms must include a tub or shower.



251

Purpose

- Person with mobility impairment may require assistance.
- Families with small children.
- Persons with temporary disabilities may require assistance.
- Customer friendly.



252

Location

- Maximum of 500 feet and one story travel from the men's and women's rooms.
- In transportation facilities, travel shall not be through a security checkpoint.



253

Additional Requirements

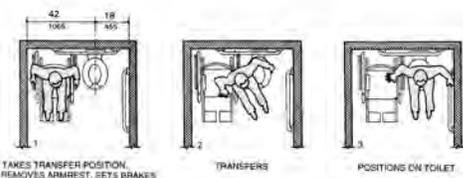
- Privacy locks
- Signage




254

Clear Floor Space at Water Closet

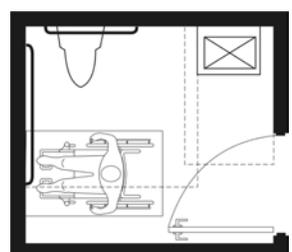
Allows for side transfer.



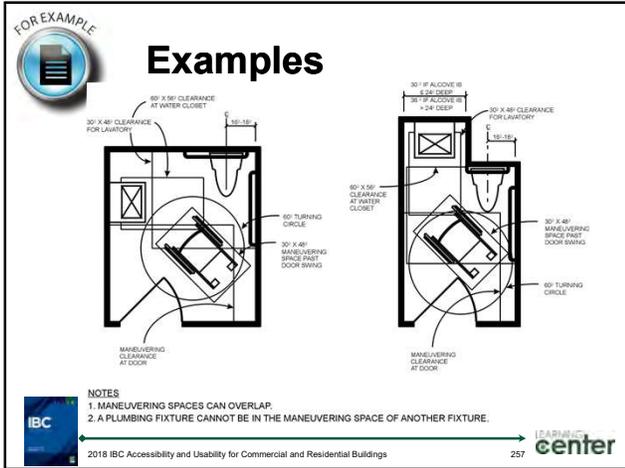

255

Single Occupant Toilet Rooms

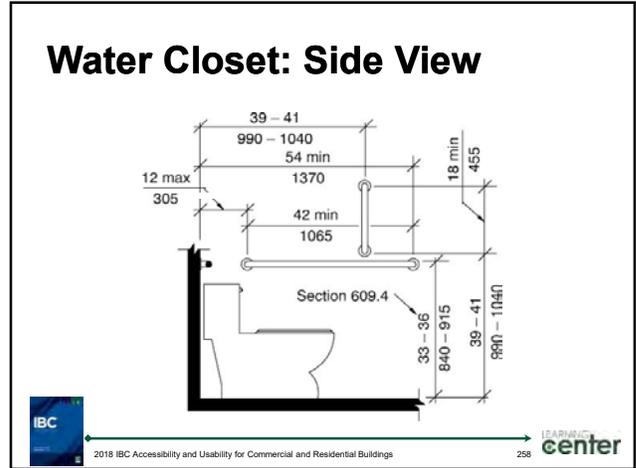
- 60" turning space required in the room
- A door **can** swing over the space where someone sits to use the lavatory, toilet or urinal **provided** a 30" x 48" space is provided past the swing of the door
- A fixture **cannot** overlap the clear floor space of another fixture




256



257



258



259



260

Good or Bad?

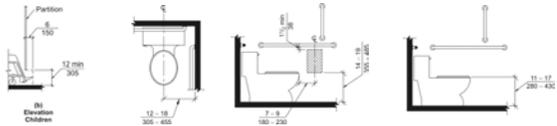


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261

Children's Water Closets

- See the Adult/Child comparison chart in the workbook.



| Advisory Specifications for Water Closets Serving Children Ages 3-12 | | | |
|--|-----------|---------|----------|
| | Age 3 & 4 | Age 5-8 | Age 9-12 |
| Water closet centerline | 12" | 12"-15" | 15"-18" |
| Toilet seat height | 11"-12" | 12"-15" | 15"-17" |
| Grab bar height | 18"-20" | 20"-25" | 25"-27" |
| Dispenser height | 14" | 14"-17" | 17"-19" |

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262

Multi-stall Toilet Rooms

- 60" turning space required in the room.
- A door **cannot** swing over the space where someone sits to use the lavatory or urinal.
- A fixture **cannot** overlap the clear floor space of another fixture.



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Multi-stall Toilet Rooms

- The stall and door arrangement will not change for the minimum size stall, however, the table does address door location options for larger size stalls.

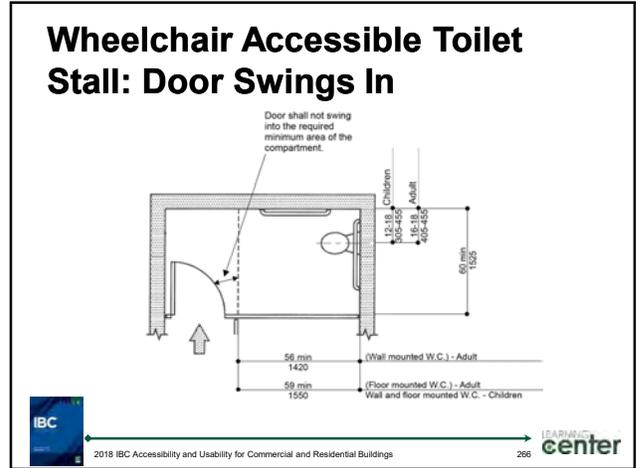
| Door Opening Location | Measured From | Dimension |
|---|--|-----------------------------|
| Front Wall or Partition | From the side wall or partition closest to the water closet | 56 inches (1420 mm) minimum |
| | From the side wall or partition farthest from the water closet | 4 inches (100 mm) maximum |
| Side Wall or Partition Wall-Hung Water Closet | From the rear wall | 52 inches (1320 mm) minimum |
| | From the front wall or partition | 4 inches (100 mm) maximum |
| Side Wall or Partition Floor-Mounted Water Closet | From the rear wall | 55 inches (1395 mm) minimum |
| | From the front wall or partition | 4 inches (100 mm) maximum |

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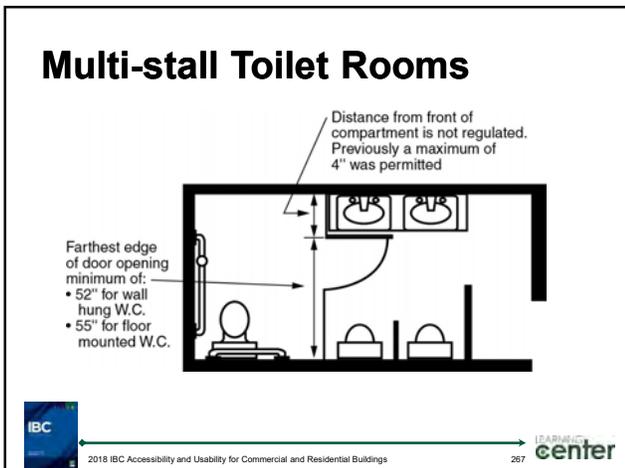
264



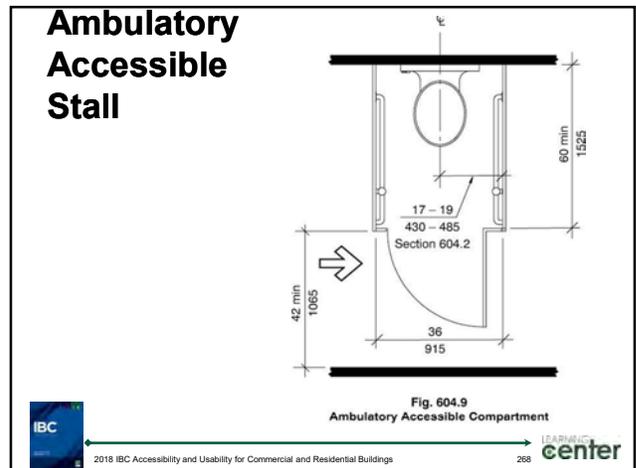
265



266



267



268

Good or Bad?



269

Good or Bad?



270

Good or Bad?



271

Good or Bad?



272

Good or Bad?



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273

Good or Bad?



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274

Urinals

- Rim height
- Clear floor space
- Alcove
- Flush controls

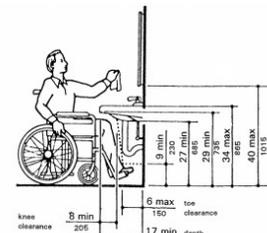


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275

Lavatories & Sinks

- Height
- Clearance
- Clear floor space
- Pipe protection
- Controls



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276

Good or Bad?



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277

Good or Bad?



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278

Good or Bad?



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279

Good or Bad?



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280

Good or Bad?

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281

Room requirements

- Room requirements include towel dispensers or hand dryers (A117.1 603.6).
- Other elements covered by operable part requirements.

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282

Bathtubs or Shower

- Minimum dimensions for showers
- Clearances/approach
- Seats
- Grab bars
- Controls
- Shower unit
- Enclosures/doors
- Thresholds

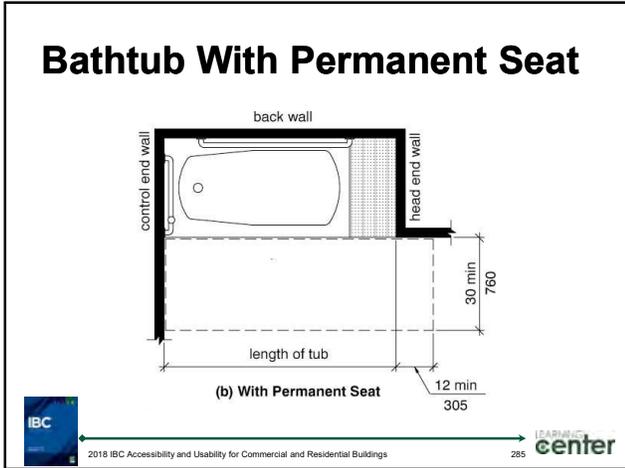
IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 283 IBC center

283

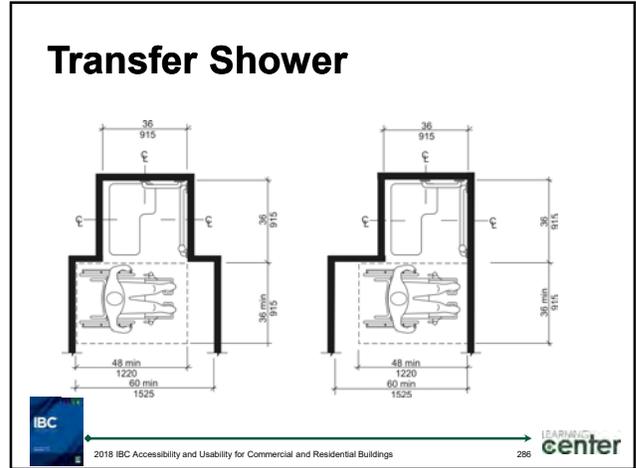
Bathtub Without Permanent Seat

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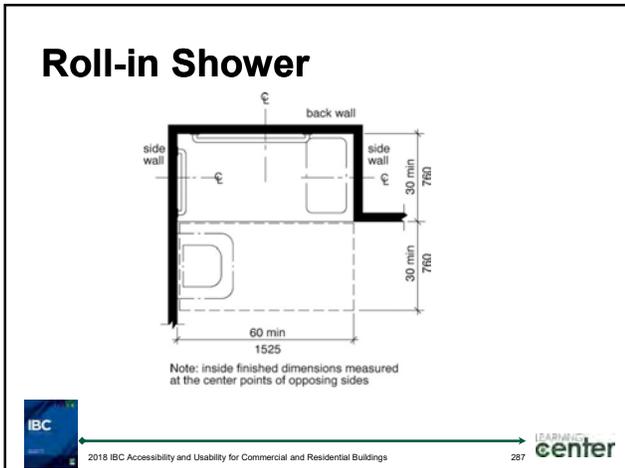
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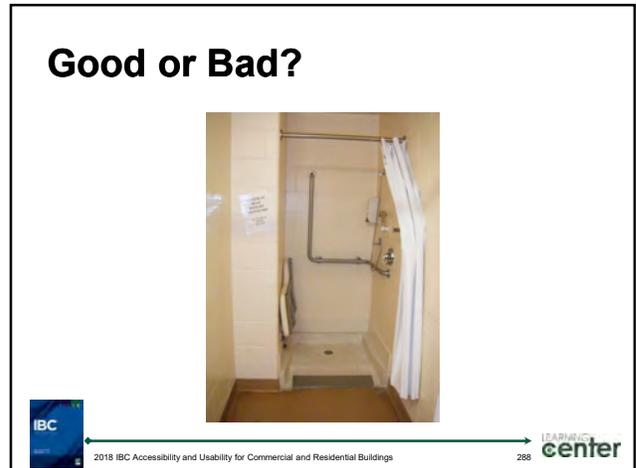
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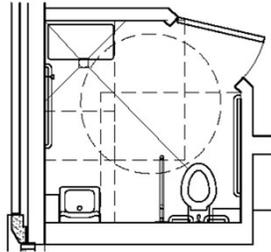
287



288

Good or Bad?

- Hospital patient bathroom with toilet, lavatory and roll-in shower.



289

Good or Bad?

- Accessible hotel room



290

Drinking Fountains (Scoping)

- 50% of drinking fountains provided on each floor configured for persons using wheelchairs.
- 50% of drinking fountains provided on each floor configured for standing persons.
- Exception for drinking fountains sized for children



291

Good or Bad?

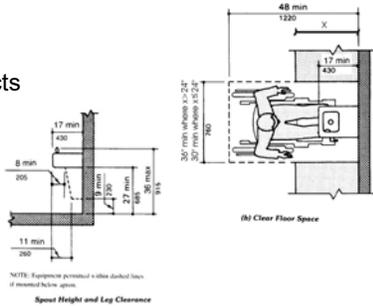
- One water supply, but two bowls will count as two drinking fountains.
- The dog fountain exceeds code.



292

Drinking Fountains (Technical)

- Clear floor space/approach
- Protruding objects
- Operable parts
- Spout location
- Water flow



293

Good or Bad?



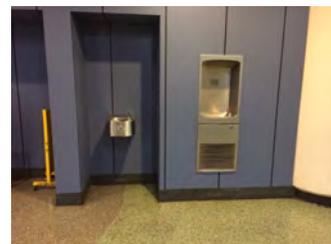
294

Good or Bad?



295

Good or Bad?



296

Good or Bad?




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297

297

Dressing Rooms (Scoping)

- 5% minimum.
- At least one of each group.




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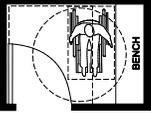


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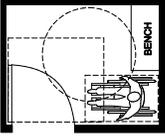
298

Dressing Rooms (Technical)

- Turning circle.
- Bench.
- Same amenities as in other dressing rooms.
- Mirrors 



OPTION 1



OPTION 2



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299

299

Good or Bad?




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300

300

Built-in Counters

- Check out aisles.
 - Table 1109.12.2 based on number provided.
- Sales and service counters.
 - At least on of each type.



301

Check-out Counters – Good or Bad?



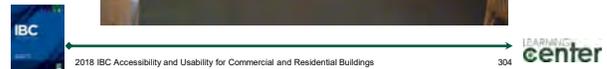
302

Check-out Counters – Good or Bad?



303

Service Window – Good or Bad?



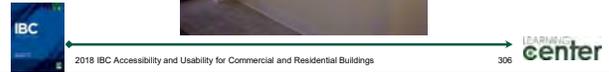
304

Service Window – Good or Bad?



305

Service Window – Good or Bad?



306

Service Window – Good or Bad?



307

Service Window – Good or Bad?



308

Service Window – Good or Bad?



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309

Built-in Counters

- Built-in counters and work surfaces
 - 5% of work surfaces.
 - 5% of dining surfaces.
- Food service lines:
 - All cafeteria style lines accessible
 - 50% of self service areas.
- Queue and waiting lines:
 - All that serve accessible elements.

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310

Built-in Work Surface – Good or Bad?



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311

Food Service – Good or Bad?

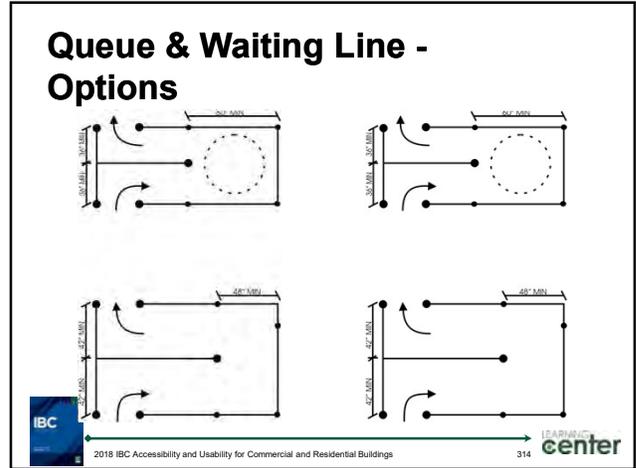


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313



314



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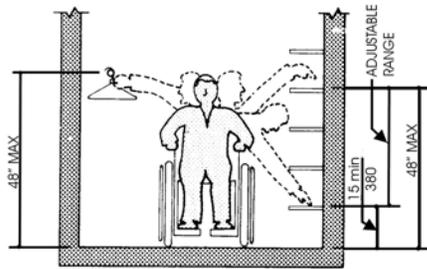
Storage

- At least one of each type in accessible spaces:
 - Cabinets
 - Closets
 - Drawers
 - Mail boxes
- 5% of lockers.
- Display shelves must be on an accessible route, but not within reach ranges.
- **CBC – Added Accessible and Type A units**

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316

Storage Shelves and Closets



317

Lockers – Good or Bad?



318

Storage – Good or Bad?



319

Storage – Good or Bad?



320

Mailboxes – Good or Bad?



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321

Operable Parts

- All operable parts within accessible spaces and intended for occupant usage.

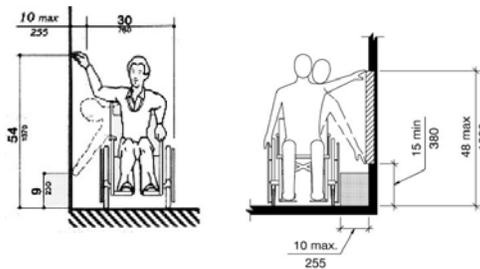


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322

Control Reach Limitations



1994 ADAAG

ICC A117.1 and 2010 Standard

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Windows



- Accessible units in Groups I-1, I-2, R-1, R-2 and R-4.
- When required for ventilation or emergency escape.
- At least one in each room.
- Exception:
 - Kitchens
 - Bathrooms
- Expanded scope to 1 operable window in each room



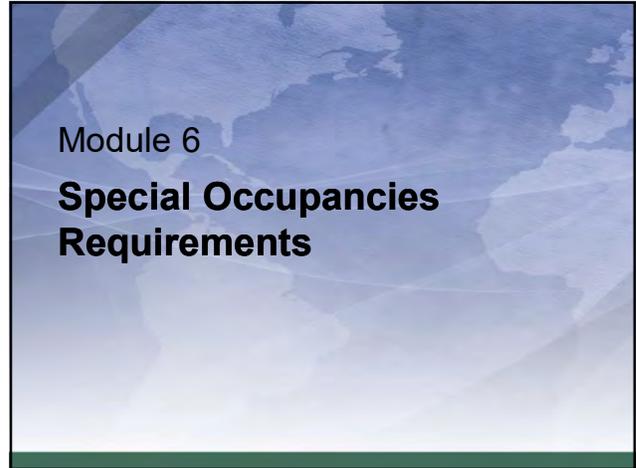
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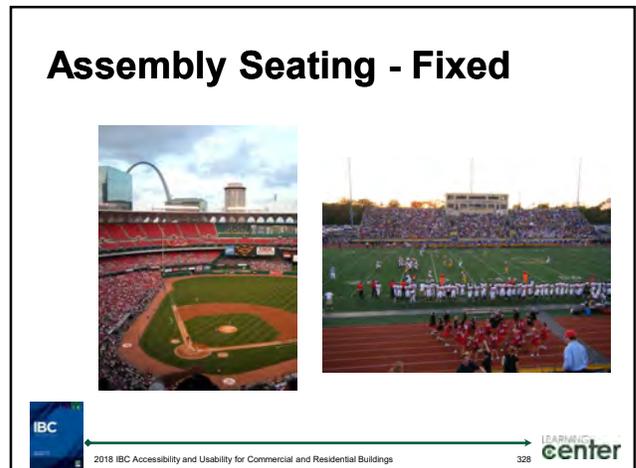
325



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328

Assembly Seating - Fixed



IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 329 IBC center

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Number of Spaces

- Fixed seats provided.
 - Table 1108.2.2.1.
- Luxury boxes, club boxes or suites.
 - Each box based on Table 1108.2.2.1.
- Other box seats.
 - 20% of total box seats based on Table 1108.2.2.1.
- Lawn seating.

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 330 IBC center

330

Dispersion

- Number of wheelchairs spaces (IBC Table 1108.2.2.1)
- Number of wheelchair space locations (ICC A117.1 Table 802.10)

“Wheelchair space locations” include the companion seat and can include multiple wheelchair spaces.



IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 331 IBC center

331

Dispersion - IBC

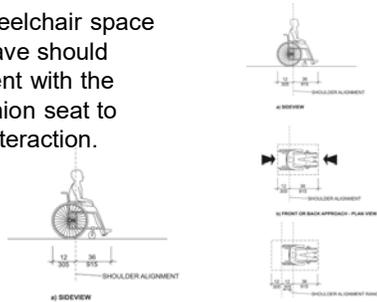
- Access to services.
- Integration.
- Different levels.
- Exceptions:
 - Balconies in religious facilities with <25% of the total seats.
 - Balconies in assembly with both <300 seats and <25% of the total seats.

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 332 IBC center

332

Wheelchair Space

- The wheelchair space must have alignment with the companion seat to allow interaction.



337

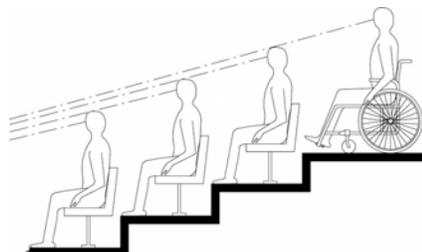
Accessible Route Requirements

- 1:12 maximum slope.
- Guards at drop-offs – height can be reduced for line-of-sight.
- Platform lifts for entry and exit.
- Common path of travel for means of egress.

338

Line of Sight

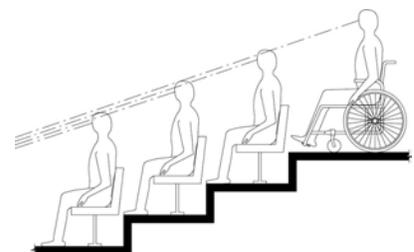
- Looking **over** the heads of **seated** spectators



339

Line of Sight

- Looking **between** the heads of **seated** spectators



340

Line of Sight

- Looking **over** the heads of **standing** spectators

Calculation:
 $P = [(2X + 34)(Y - 2.25)(Z) + (25.2 - Y)]$
 Fig. 902.9.2
 Wheelchair Space Elevation

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 341 center

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Allowances

- Companion seats can be moveable provided they are equivalent to fixed seats
- Dispersion in bleachers can be to just the front row.
- Lawn seating requires an accessible route to the edge of the seating area.

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 342 center

342

Motion Picture Theaters

- Where tiered seating (stadium style) is provided, the wheelchair spaces must be integrated, but they can be in the cross aisle as the first tier.
- The wheelchair spaces need to be in the rear 60% of the theater seating rows or 40th to 100th percent of viewing angles.
- Remember that two accessible means of egress are required from the theater.

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 343 center

343

Designated Aisle Seats

- 5% of all aisle seats.
- Best design practice:
 - Located along accessible route.
 - Folding or retractable armrests when adjacent seating has armrests.

IBC 2018 IBC Accessibility and Usability for Commercial and Residential Buildings 344 center

344

Assistive Listening System

- Where audible communications are integral to the use of the space; and
- An audio amplification system is provided.
- Number based on IBC Table 1108.2.5.1.
- Some devices hearing-aid compatible.
- Signage.



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345

Text Messaging

- Stadiums, arenas and grandstands.
- With audible public announcements.
- Equivalent text messages must be provided.



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346



346

Performance Areas

- Access to all performing areas.
 - Where a stairway is provided between the stage and the audience, the accessible route shall be in the same area.
- Access to all supporting spaces.



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347

Dining areas

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Dining Areas

- All dining areas accessible throughout.
- Exceptions:
 - Mezzanines with <25% of the total seating.
 - Sports facilities with tiered dining, at least 25% of the seating area must be accessible.
- 5% of the seating and standing spaces must be accessible.
- Distributed throughout the facility.



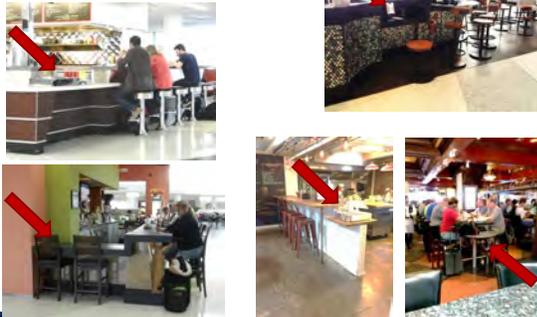
349

Good or Bad?



350

Good or Bad?



351

Tiered seating with tables – Good or Bad?



352

Tiered seating with dining/work surfaces

- Where tiered seating includes dining surfaces or work surfaces, wheelchair spaces and wheelchair space locations shall comply with Section 802.6, 802.7, 802.9, 802.10 and 902.
 - Integration
 - Companion seat (alignment not required)
 - Line-of-site
 - Dispersion
 - Dining/work surfaces



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Self-service storage



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Self-service Storage

- ≤ 200 units, 5% accessible.
- > 200 units, 10 units plus 2% accessible.
- Dispersed by type.
- Not required to be dispersed by location.



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Judicial facilities



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Judicial Facilities



- Access to all services under general accessibility provisions.
- Special criteria for courtrooms, holding cells and lawyer/client consultation areas



357

Courtrooms



- Gallery seating is considered same as general assembly seating.
- Jury box
- Witness stand
- Lawyer/client tables



358

Courtrooms

- Employee areas, such as judge, bailiff and clerk, are not required to have vertical access provided it is planned for.
- Raised areas must have a turning space and knee and toe clearances under the work surface.



359

Holding Cells

- At least one central holding cell for each type provided.
- At least one court-floor holding cell for each type provided.
- Visiting areas must have accessible spaces on both sides.



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361

Site Access

An accessible route is required to all recreational facilities on a site.



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Supporting Services

- Viewer seating
- Concession stands
- Locker rooms
- Ticket windows
- Toilet rooms



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Scoping

Group R-2, R-3 and R-4 occupancies

- Serving Accessible units – all recreational facilities accessible
- Serving Type A or Type B units – 25% of the recreational facilities per building accessible.

Other occupancies

- All recreational facilities accessible



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Areas of Sports Activity

- Defined term – “That portion of a room or space where the play or practice of a sport occurs.”



365

Scoping & Technical

An accessible route to all *areas of sports activity*.

Special requirements/allowances for:

- Amusement rides
- Recreational boating and fishing piers
- Exercise machines and equipment
- Miniature golf facilities
- Playgrounds
- Swimming pools, wading pools, hot tubs and spas
- Shooting facilities

366

Scoping



Exceptions:

- 95% of bowling lanes
- Raised boxing or wrestling rings
- Raised areas for refereeing, judging or scoring
- **Animal containment areas not in public use areas**



367

Scoping

Special requirements:

- Team or player seating
- Court sports



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Amusement Rides

- Access required for rides with a fixed course within a defined area.
- Accessible route to the ride.
- A transfer space next to a ride or a wheelchair space on the ride.



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Amusement Rides

Exceptions:

- Mobile rides
- Controlled by rider
- Primarily for children an assisted by adults
- No ride seats



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Recreational Boating and Fishing

- Access to docks
- Access to a percentage of the slips
- Allowances for changes in water level
- Coordination with barriers and guards

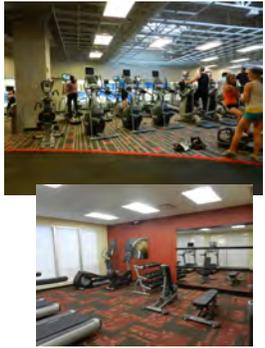


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Exercise Equipment

- Space for transfer or to use at least one of each type of machine
- Not intended to change machines – no requirements for transfer or operable parts



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Miniature Golf

- Access to at least 50% of holes
- Route on or adjacent to the holes
- One break permitted in the sequence if you play the last hole.



373

Play areas

- Percentage of ground level components
- Percentage of raised components on a route via ramp or transfer steps
- Access to soft contained play structures



374

Pools

- Access to pools based on types and size
- Options for type of entry
- Exceptions:
 - Diving boards
 - Slides
 - Catchment pools
 - Entry into the water for pools serving Group R-2 and R-3 with Type A and Type B dwelling units
- 5% of hot tubs



375

Shooting Facilities

- A turning space at one station in each type of shooting facility



376

Golf

- In A117.1 but not specifically scoped.
- Access to driving range, practice greens, bag drop off
- Access to tees and greens on the golf course using a golf cart



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Recreational Facilities

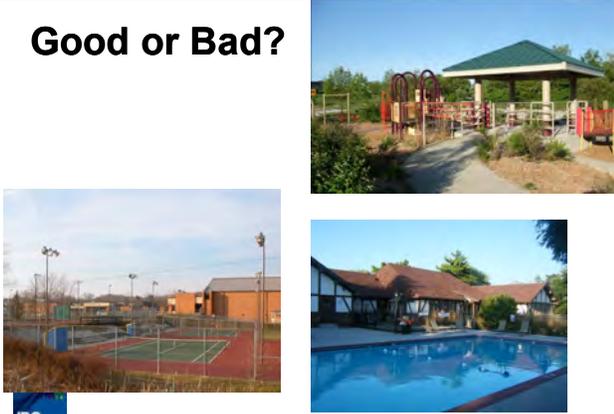
- **CBC - 1110.4.16 Other recreational facilities.** The following recreational facilities shall comply with the *Illinois Accessibility Code*:
 - Golf facilities.
 - Camping facilities.
 - Picnic facilities.
 - Outdoor viewing areas.
 - Trails.
 - Beach access routes.
 - Benches in outdoor locations.



IBC 2018 IBC Significant Changes 378 LEADMUNICH center

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Good or Bad?



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Module 7 Dwelling Units and Sleeping Units

380

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Dwelling and Sleeping Units

- Institutional:
 - Groups I-1, I-2 and I-3.
- Residential:
 - Groups R-1, R-2, R-3 and R-4.
- Townhouses and congregate residences from IRC:
 - Referenced back to IBC as Group R-3.



381

"SAFE HARBOR"



382

"Safe Harbor" means...

- that requirements in the document have been reviewed by HUD and meet or exceed the building construction requirements in the FHA.
- 2009, 2012, 2015 and 2018 IBC and 2009 ICC A117.1 are currently under review by HUD.



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Related to Housing Accessibility

Key Terms

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Key Terms

- Dwelling unit:
 - Independent living facilities including provisions for living, sleeping, eating, cooking and sanitation.
- Sleeping unit:
 - Rooms where people sleep which may include living and eating and either cooking or sanitation.



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Key Terms

- Dwelling or sleeping units, multistory.
 - Living space on more than one level.
- Intended to be occupied as a residence.
 - Dwelling units; or
 - Sleeping units; and
 - Occupant's place of abode.



2018 IBC Accessibility and Usability for Commercial and Residential Buildings 386

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Key Terms



- **MULTI-STORY HOUSING (for Chapter 11).** Any building of **four or more stories** containing **ten or more dwelling units** or **sleeping units** constructed to be held out for sale or lease by any person to the public. Multi-story housing includes, but is not limited to, the following building types: apartment buildings, condominium buildings, convents, housing for the elderly and monasteries.



2018 IBC Significant Changes 387

387

Key Terms



- **PLANNED DEVELOPMENT.** A lot subject to zoning regulations in accordance with Chapter 17-8 of the Chicago Zoning Ordinance.
- **AFFORDABLE UNIT (for Chapter 11).** A dwelling unit or sleeping unit required to be affordable, as that term is defined in Chapter 2-44 of the Municipal Code, pursuant to Chapter 2-44 of the Municipal Code, an agreement between the owner and the City, or an agreement between the owner and another governmental entity.



2018 IBC Significant Changes 388

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Shared Spaces



- All public spaces
- All spaces for shared use by residents
- Recreational facilities
- Parking:
 - 2% of parking provided
 - If covered parking provided, at least one accessible space in covered parking

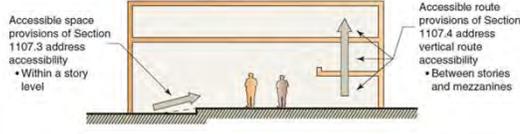


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Accessible routes

- Connect to accessible elements on a site
- Connect to shared spaces for the units
- Dormitories are required to have elevators, even where no Accessible units are provided on upper floors (coordination with DOJ requirement)
- Connect levels, mezzanines and stories



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Level of Accessibility

-  Accessible units:
 - Constructed wheelchair accessible.
 - ICC A117.1 Section 1002.
-  Type A units:
 - Constructed wheelchair adaptable.
 - ICC A117.1 Section 1003.
-  Type B units:
 - Matches Fair Housing Accessibility Guidelines.
 - Geared towards mobility impaired persons
 - ICC A117.1 Section 1004.

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Existing Buildings

-   Accessible units and Type A units required based on number being altered.
-   Accessible and Type A units required shall not exceed new construction requirements.
-  Type B units are required when the alteration is to more than 50% of the building area (i.e., Level 3 alteration).
-  When Type B units are added, there are no extra requirements to improve the accessible route.

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Type C/Visitable units

- New to 2009 ICC A117.1, Section 1005
- No scoping in the IBC or IRC
- Intended for adoption by jurisdictions through visitability ordinances for single family homes



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Type C/Visitable units



Main features –

- One zero step entrance – which can be the front door, the back door or through the garage
- A circulation path through the accessible level
- Allowance for sloped sidewalks that move up with grade
- A toilet room with minimal clearances
- Minimal clearances in kitchens if on the accessible level – **required on accessible level**
- Electrical outlets and switches within reach range



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Counting Units

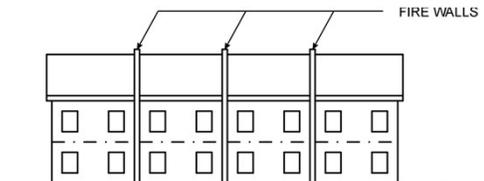
395

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Fire Walls



- This is one structure for purposes of accessibility.



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Group R-1

Determine the number of unit on the site, and the number of Accessible units required

Where buildings contain more than 50 units:

- Number of Accessible units determined per individual building
- Must have Accessible units in each building

Where buildings contain 50 or fewer units:

- All units on site considered to determine number of Accessible units
- Can locate Accessible units in single building or disperse as desired

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Group R-2 congregat residences and dormitories.

- Count the bedrooms in the suite to determine the number of Accessible units required.
- Only one Accessible unit per suite.

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Institutional

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Group I Occupancy

| 24 Hour Care Facilities | | | | |
|-------------------------|----------------------------------|---------------------|------------|---------|
| Age of Residents | Capability of Residents | Number of Residents | | |
| | | 1-5 | 6-16 | Over 16 |
| 2½ years or less | Not capable of self preservation | R-3 or IRC | I-2 | I-2 |
| Over 2½ years | Capable of self preservation | R-3 or IRC | R-4 | I-1 |
| Over 2½ years | Not capable of self preservation | R-3 or IRC | I-2 | I-2 |

For Group R-4, the number 16 is based on the limitations for an NFPA13D sprinkler system and the last national census. Of those that identified themselves as a single family home, 98% had 16 or fewer residents.

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400

Group I-1

-  Condition 1 - 4% Accessible units.
-  Condition 2 - 10% Accessible units
-  Remainder Type B units if intended to be occupied as a residence.
 - Number of units with visible alarms per Table 907.5.2.3.2.






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Group I-1



-  **Condition 1**—4% Accessible units.
- **Condition 2**—CBC 10% Accessible units
- IAC – 233.7 follow R-1
-  Remainder Type B units if intended to be occupied as a residence.
 - Number of units with visible alarms per Table 907.5.2.3.2.
 - IAC & CBC - Communication features






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Group I-2– Hospitals

-  10% Accessible unit:
 - General purpose hospital
 - Psychiatric facilities
 - Detoxification facilities
-  Remainder Type B units if intended to be occupied as a residence.





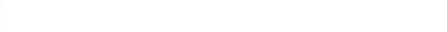

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403

Group I-2 – Nursing Homes

-  50% Accessible unit.
-  Remainder Type B units if intended to be occupied as a residence.






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Group I-2 – Rehabilitation Facilities

 100% Accessible unit.



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Group I-3

 3% Accessible units.

 At least one of each special holding or housing cells.

 10% of cells in medical care facilities.

- Exception for common areas serving only non-accessible cells. (IBC 1103.2.13).



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Residential



407

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Group R-1



 Number of Accessible unit based on Table 1107.6.1.1.

- New way to add up units on the site.

 Remainder Type B units if intended to be occupied as a residence.

- Number of units with visible alarms per Table 907.5.2.3.2.
- **Doors in R-1 units to be 32" clear width.**



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Group R-2



Live/work units

- B** All dwellings are Type B units
 - The work areas must be accessible.
- A** 20% Type A in multi-story housing.



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Group R-2



**Boarding Houses
Dormitories
Fraternity and Sorority Houses**



- B** Number of Accessible unit based on Table 1107.6.1.1.
- B** Remainder Type B units.
 - Communication features



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Group R-2 -



**Apartments and Condominiums
Convents and Monasteries**



- A** 2% Type A units.
 - add up units on the site
 - >20 units in the facility.
- B** Remainder Type B units
- A** 20% Type A in multi-story housing.



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Group R-3

- B** All Type B units.



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Group R-4



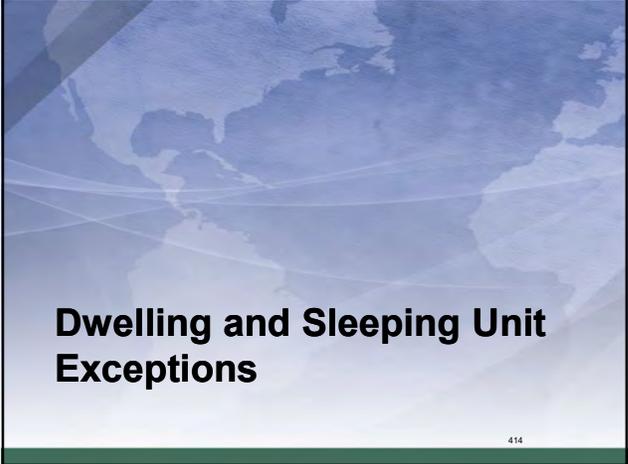
- Condition 1 – One Accessible unit.
- Condition 2 – Two Accessible units
- CBC – 20% Accessible with government financing
- Remainder Type B units



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Dwelling and Sleeping Unit Exceptions



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Exceptions – Accessible Units



- No exceptions.



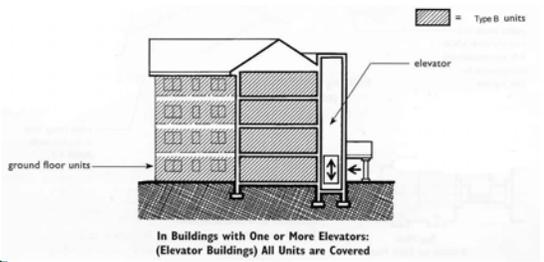
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Exceptions – Type A and B Units



- No exception for elevator buildings.



In Buildings with One or More Elevators: (Elevator Buildings) All Units are Covered



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Exceptions – Type A and B Units

A B

- Type A - ≤ 20 units in the site
- Type B - structures with less than 4 units.
- Non-elevator buildings.
- Multi-story units.
- Steep and hilly sites.
- Sites subject to flood regulations.

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Lowest Level (IBC 1107.1)

B

Buildings with a Single Ground Floor

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Lowest Level (IBC 1107.1)

B

Existing Grade Calculation

Finished Grade Calculation

both calculations do not exceed 10%; therefore, the developer must provide an accessible route to the entrance and all units on the ground floor served by the entrance are covered

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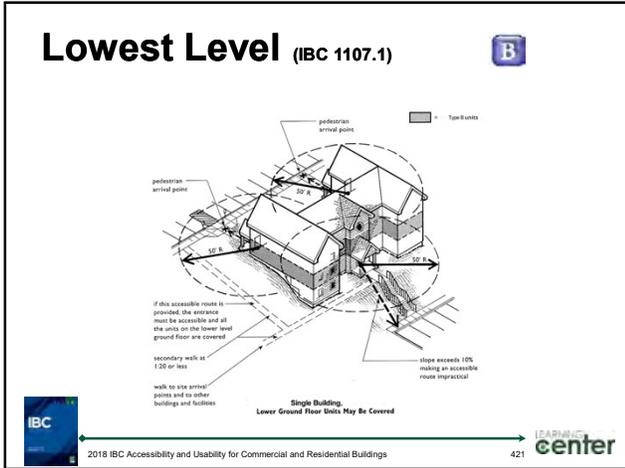
Lowest Level (IBC 1107.1)

B

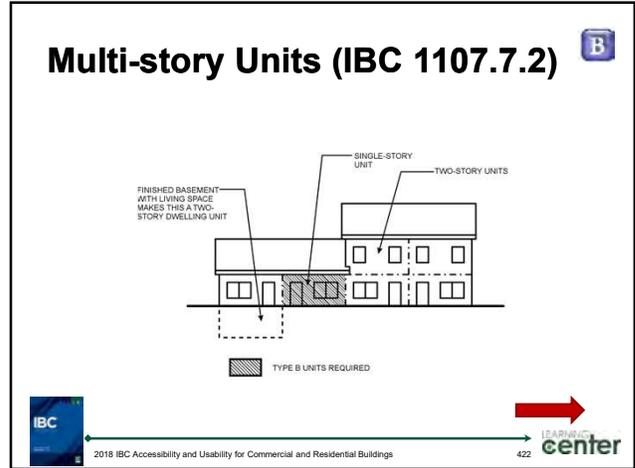
Single Building with Two Ground Floors

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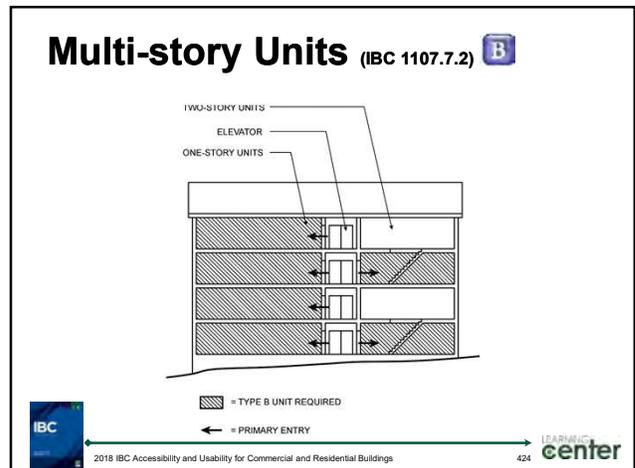
422

Multi-story Units (CBC 1107.6.2.2.1.2, 1107.7.6 & 1107.7.7) A ★★★★

- **1107.6.2.2.1.2 Other than multi-story housing.**
 - Type A units can use all Type B unit exceptions
 - Townhouses are exempted from Type A units
- **1107.7.6 Multistory Type A units.**
 - Exception for multi-story unit as a type of unit
- **1107.7.7 Multistory Type A units with provision for future elevator.**
 - Provide for the later installation of a LULA, private residence elevator or platform lift

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At Least One Story (IBC 1107.7.1) B

FLOOR WITH SINGLE-STORY DWELLING UNITS

SHOPS OR GARAGE

TYPE B UNITS REQUIRED

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At Least One Story (IBC 1107.7.2) B

accessible entrance required

other floor units not covered

lowest level containing dwelling units

common use space

elevator

Elevator to First Floor of Dwelling Units Above Grade or Entrance Level Does Not Make an Elevator Building

Legend: [Hatched Box] = Type B units

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Steep or Hilly Site (IBC 1107.7.4) B

Step A: Topographic analysis. Area = 100, slope = 75%. Ground floor units to comply = 75%. Total Ground Floor Units = 75. Type B Units = 20.

Step B: After distribution of required units, total count of 20 ground floor units is raised to 22. Two more units are added to lower ground floor of Building #1 and an accessible route is provided to meet the requirement. Two remaining units on that floor remain. Two B units located at ground floor units served by an accessible route are Type B units.

Building #1: 2 ground floors, 10 ground floor units, all 10 ground floor units Type B.

Building #2: 2 ground floors, 10 ground floor units, 6 ground floor units Type B.

Building #3: 1 ground floor, 4 ground floor units, all 4 ground floor units Type B.

additional required Type B units provided on lower ground floor.

To meet the required number of Type B units an additional accessible entrance or an accessible route must be provided to another ground floor, thus making all the units on that floor Type B.

Site Analysis Test: The Number of Type B Units

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Flood Plain (IBC 1107.7.5) A B

LOCATION AT CENTER OF DOORWAY AT BUILDING ENTRANCE

THIS LINE IS USED ONLY TO ILLUSTRATE THE SLOPE FOR DETERMINING FEASIBILITY OF PROVIDING AN ACCESSIBLE ROUTE. NOT TO SPECIFY SLOPE OR LENGTH OF RAMP.

GREATER THAN 5% ABOVE GRADE AT ARRIVAL POINT

CLOSEST ARRIVAL POINT IF NONE ARE WITHIN 5'

ARRIVAL POINT

LESS THAN 10%

BASE FLOOD LINE

LINE OF BUILDING FLOOR STRUCTURE, ETC. AS REQUIRED LOCALLY

PROPERTY

IBC CBC - Deleted - why? ****

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Planned Development & Affordable units (CBC – 1107.8 & 1107.9)

- Does not include Group I, R-1 or multi-story housing projects
- Type A, Type B and Type C units with many exceptions/alternatives




2018 IBC Significant Changes 429

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Technical Criteria

-  Accessible units:
 - ICC A117.1 Section **1002**.
-  Type A units/**IAC Adaptable**:
 - ICC A117.1 Section **1003/IAC 233.6.5**.
-  Type B units:
 - ICC A117.1 Section **1004**.
 - Consistent with FHAG requirements.




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Technical Criteria

| | |
|----------------------------|-------------------------------|
| 100*.1 Type of unit; | ▪ 100*.8 Platform lifts; |
| 100*.2 Primary entrance; | ▪ 100*.9 Operable parts; |
| 100*.3 Accessible route; | ▪ 100*.10 Laundry equipment; |
| 100*.4 Walking surfaces; | ▪ 100*.11 Bathing rooms; |
| 100*.5 Doors and doorways; | ▪ 100*.12 Kitchens; |
| 100*.6 Ramps; | ▪ 100*.13 Windows; and |
| 100*.7 Elevators; | ▪ 100*.14 Storage facilities. |




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Technical Criteria

-  Type A units plus –
 - All bathrooms accessible
 - Toilet paper dispensers
 - 5% of each type of storage in the kitchen




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Technical Assistance

- ICC and A117.1 – ICC, (888)422-7233; www.iccsafe.org.
- ADA – Access Board, 800-872-2253(v), 800-993-2822(TTY), www.access-board.gov or email at ta@access-board.gov
- ADA – ADA Technical Assistance Centers (800)949-4232; www.adata.org
- Fair Housing – Fair Housing Accessibility First, (888)341-7781; www.fairhousingfirst.org.
- IAC - Capital Development Board, (217)782-8530; Felicia.Burton@illinois.gov



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Thank you for attending.

Questions?

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Final Reflection

- **What?** What happened and what was observed in the training?
- **So what?** What did you learn? What difference did this training make?
- **Now what?** How will you do things differently back on the job as a result of this training?



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