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Afternoon Session 2

- About the *Chicago Building Rehabilitation Code*
- Intent of the Rehab Code
- Reason for the Rehab Code
- Applicability of the Rehab Code
- Baseline Requirements
- Compliance Options
- Organization of the Rehab Code

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KEY CONCEPT

Intent of the Chicago Building Rehabilitation Code

The intent of this code is to provide flexibility to allow the use of alternative approaches to achieve compliance with minimum requirements to safeguard the public health, safety and welfare insofar as they are affected by the *repair*, *alteration, change of occupancy*, *addition*, and relocation of *existing buildings*.

Section 14R-1-101.3

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Reasons for the Code

- Existing buildings do not comply with new construction requirements
- Full compliance with new construction requirements is cost-prohibitive and sometimes physically impossible
- CBRC provides greater predictability about what is “better than it was” in the context of rehabilitation work
- Additional flexibility for historic buildings

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KEY CONCEPT

Applicability of the Chicago Building Rehabilitation Code

- Previously-occupied buildings
  May comply with CBC or CBRC
- Not-previously-occupied buildings and spaces
  Must comply with CBC (new construction)
- Porches, decks, balconies, accessory structures
  May be repaired or replaced with matching structure
- Any project may elect to fully comply with new construction requirements (Title 14B)

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Baseline Requirements

- All buildings must comply with *Chicago Minimum Requirements for Existing Buildings*

Ch. 3: Property Maintenance
Ch. 4: Residential Occupancies
Ch. 5: Fire Safety Requirements
Ch. 6: Light and Ventilation
Ch. 7: Electrical Requirements
Ch. 8: Heating, Cooling, and Mechanical
Ch. 9: Plumbing Systems and Fixtures
Ch. 10: Elevators & Conveyance Devices
Ch. 12: Vacant Buildings

- Replaces Chapter 13-196

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KEY CONCEPT

Compliance Options

- Repairs
- Prescriptive Compliance Method
- Work Area Compliance Method
- Performance Compliance Method
- Relocated Buildings

or *Chicago Building Code* (New Construction)

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CODE BOOK

Repairs (Chapter 4)

Chapter 4 governs the repair of existing buildings. The provisions describe conditions under which repairs may be made using materials like those of the original construction and where repairs must comply with requirements for new buildings.

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Prescriptive Compliance Method (Chapter 5)

- Simplest, but also the most conservative, approach for alteration, addition, or change of occupancy
- Different rules based on type of rehabilitation work
- Requires compliance with Chapters 3 and 5

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Work Area Compliance Method (Chapters 6-12)

- Proportional approach to code compliance
- As scope increases, so do requirements to upgrade
  - Floor area
  - Types of work
- Requires compliance with Chapters 3 and 6 to 12

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CODE BOOK

Performance Compliance Method (Chapter 13)

- Evaluation conducted using scoring system (similar to LSE program)
- Allows trade-offs between above-code and below-code conditions in scope of work
- Requires compliance with Chapters 3 and 13
- Reports will initially be evaluated by Committee on Standards and Tests

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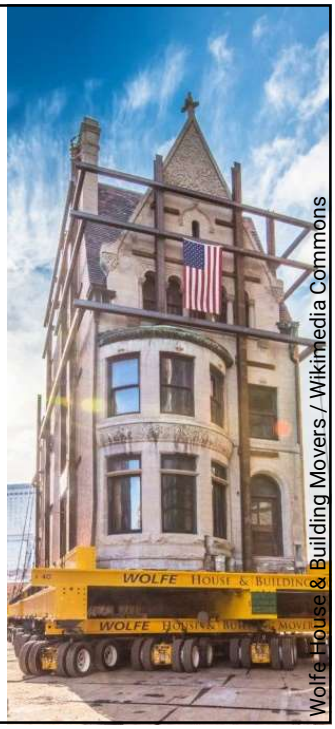
CODE BOOK

Relocated or Moved Buildings (Chapter 14)

- Applies to any building that is relocated, either on same lot or from one lot to another
- If scope includes other types of rehabilitation work, must comply with one of the compliance options



Wolfe House & Building Movers / Wikimedia Commons

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KEY CONCEPT

Chicago Minimum Requirements

- regulate the condition and maintenance of existing buildings, existing structures, and outdoors areas,
- establish responsibilities of owners
- establish minimum requirements for:
  - light
  - ventilation
  - space
  - security
  - electricity
  - plumbing
  - heating
  - cooling
  - sanitation
  - weather protection
  - fire protection

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CODE BOOK

Chicago Minimum Requirements
Organization

Applies retroactively and prospectively. (14X-1-101.2)

Ch. 3: Property Maintenance
Ch. 4: Residential Occupancies
Ch. 5: Fire Safety Requirements
Ch. 6: Light and Ventilation
Ch. 7: Electrical Requirements
Ch. 8: Heating, Cooling, and Mechanical
Ch. 9: Plumbing Systems and Fixtures
Ch. 10: Elevators & Conveyance Devices
Ch. 12: Vacant Buildings

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CODE BOOK

Property Maintenance
(Chapter 3)

- Outdoor areas (grading, drainage, fences, pavement, vegetation, rodent harborage, exhaust)
- Exterior structure (structural integrity, weather protection, insect screens)
- Interior structure (structural integrity, maintenance)
- Component serviceability (unsafe conditions)
- Handrails and guards (number, height, openings)
- Rubbish, garbage, and pest management

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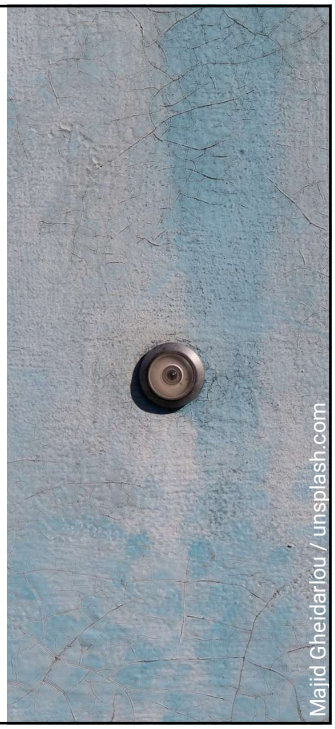
CODE BOOK

Residential Occupancies (Chapter 4)

- Arrangement and minimum dimensions (minimum area per occupant for units and bedrooms, access to water closets)
- Security devices (locked entrances, unit doors and locks, viewing device(peephole), locks for windows and doors accessible from a balcony or the ground)



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CODE BOOK

Fire Safety Requirements (Chapter 5)

- Fire and smoke protection features (maintenance of fire-resistive construction and opening protective; protection of vertical openings, shafts and chutes; required door closers)
- Fire protection and life safety systems (retroactive requirements for: sprinkler and fire alarm systems; fire extinguisher requirements; high-rise voice communication systems; smoke alarms and CO alarms)
- Means of egress (Minimum maintenance, dimension and illumination requirements; panic hardware; exit signs; storage beneath stairways; fire escapes)
- Life safety compliance plan (features installed under LSE program must be maintained)

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CODE BOOK

Light and Ventilation (Chapter 6)

- Light (natural light, artificial light, means of egress lighting, emergency lighting)
- Ventilation (natural ventilation, mechanical ventilation, bath and toilet room ventilation, process ventilation, clothes dryer exhaust)

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CODE BOOK

Electrical Requirements (Chapter 7)

- Electrical system (minimum service, labeling of panel, electrical hazards caused by water or fire exposure)
- Electrical equipment (installation requirements, unsafe equipment, abandoned electrical equipment and wiring, minimum receptacles and luminaires, electric motor maintenance)
- Emergency electrical system (Refers to *Chicago Electrical Code*, Art. 700)
- Electrical hazards (extension cords, electric space heaters)

Note: If deficiencies found, residential upgrades may need to comply with minimum requirements in Art. 570 of the Chicago Electrical Code.

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Heating, Cooling, and Mechanical Systems (Chapter 8)

- Heating systems (maintenance, heat requirements for dwelling units and workplaces, responsibility to provide energy/fuel for heating)
- Cooling equipment (required for nursing homes)
- Mechanical equipment (maintenance of mechanical appliances and equipment, including chimneys and flues, limitation on cooking in SROs and dormitory sleeping rooms)
- Duct systems (maintenance)

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Plumbing Systems and Fixtures (Chapter 9)

- Required fixtures (dwelling units, congregate living, public toilet facilities)
- Toilet rooms and bathrooms (privacy, location/access, floor finishes)
- Operations and maintenance (maintenance, clearances, plumbing hazards)
- Water systems (hot or tempered water required, cross-contamination, pressure)
- Sanitary and storm drainage (maintenance, grease interceptors, nuisance conditions and discharge onto adjoining lots)
- Swimming pools, spas and hot tubs (maintenance)

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CODE BOOK

Elevators & Conveyance Devices (Chapter 10)

- General (maintenance and certificate of operation required per *Chicago Conveyance Device Code*)
- Elevators (where passenger elevator(s) provided, at least one passenger elevator must be kept in service when building is occupied)

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Provisions for All Compliance Methods

- Chapter 3 of the Rehab Code includes provisions that apply to all compliance options and methods
  - General (302)
  - Structural requirements (303 and 304)
  - Accessibility (305)
  - Reroofing (306)
  - Fire escapes (307)
  - Electrical (308)
  - Residential occupancies (309)

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General Provisions (Section 302)

- DOB may require dangerous conditions to be eliminated (302.2)
- Existing materials (if allowed at time of installation may remain, unless dangerous) (302.4)
- New materials must generally comply with new construction requirements (302.5)
- Like-kind materials may be used for repairs and alterations if it will not create an unsafe condition (302.5)
- Occupancy classification is based on CBC—updated at time of rehabilitation work (302.6)

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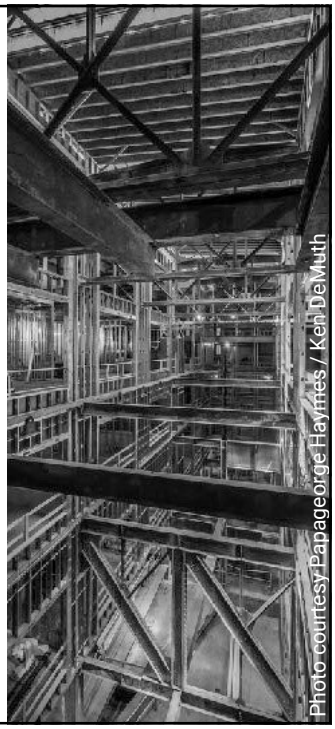
KEY CONCEPT

Structural (Sections 303 and 304)

- If addition or alteration does not increase live load, existing structure may remain (303.1)
- Permanent placards must be posted for areas designed based on reduced live load (303.1)
- Allows DOB to require notification of owners of adjacent lower roof within 20 feet (horizontally) of potential change in snow load (303.2)
- Allows use of reduced seismic forces for some rehabilitation work (303.3)



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KEY CONCEPT

Accessibility (Section 305)

- Generally, rehabilitation work must comply with accessibility requirements unless:
  - Technically infeasible
  - Scoping exception applies
- Rehabilitation work generally cannot remove features of accessibility (305.2)
- Rehabilitation work does not need to meet new construction requirements for an accessible means of egress. (305.6, ex. 2)

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Accessibility (continued)

TECHNICALLY INFEASIBLE. An *alteration* of a *facility* that has little likelihood of being accomplished because the existing structural conditions require the removal or *alteration* of a load-bearing member that is an essential part of the *primary structural frame*, or because other existing physical or *site* constraints prohibit modification or addition of *elements*, *spaces* or features which are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

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FOR EXAMPLE

Accessibility (continued)

Technically infeasible conditions:

- conflicts with applicable building, plumbing, or other codes (such as when combining two toilet stalls to create an accessible stall would violate the plumbing code's required fixture count)
- meeting slope requirements on developed site located on steep terrain where necessary re-grading and other design solutions are not feasible
- work that would impact load-bearing walls and other essential components of the structural frame, including structural reinforcement of the floor slab

US Access Board, *Guide to the ADA Standards*

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Accessibility—Scoping

- Repair (305.2.1)
- Alteration (305.6)
- Alteration affecting primary function area (305.7)
- Addition (305.5)
- Partial change of occupancy (305.4.1)
- Complete change of occupancy (305.4.2)
- Change of occupancy to residential (305.4.3)

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Accessibility—Scoping (continued)

Where an alteration affects the access to or contains a primary function area, an accessible route must be provided for the primary function area and toilet and drinking fountains serving the primary function area.

Exception: Cost of providing accessible route not required to exceed 20% of the cost of the alterations to the primary function area

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REFERENCE

Accessibility—More Info

- US Access Board, *Guide to the ADA Standards,* Chapter 2: Alterations and Additions
- International Code Council, 2018 *International Existing Building Code Commentary*
- Capital Development Board, *Illinois Accessibility Code* (2018)

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KEY CONCEPT

Reroofing (Section 306)

- Roof repair (comply with Ch. 4) allowed up to 25% of roof surface area. (306.1)
  - more than 2 layers of roofing requires sign-off from design professional that structure is adequate (306.2, Ex.)
- Roof recover allows 2 layers max, or design professional condition report (306.3.1)
- Roof replacement (tear-off) allowed 3 exceptions from new roof requirements (306.1)

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KEY CONCEPT

Fire Escapes (Section 307)

- Fire escapes not allowed for new buildings (307.1)
- Fire escapes may be approved (ACAR) for existing buildings (307.1.3)
- Fire escapes limited to 50% required egress capacity (307.1.4)
- Fire escapes must provide 12' clearance over sidewalk or 14' clearance over alley

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Fire Escapes (continued)

- Construction and dimensional requirements (307.3, 307.4)
- Openings within 10' of fire escape stairway in non-sprinklered buildings must have 45 min. fire protection rating (no requirement for sprinklered building) (307.5)
- Removal of existing fire escape requires ACAR signed by DOB and CFD based on substantial compliance of remaining means of egress with CBC requirements (307.6)

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KEY CONCEPT

Electrical (Section 308)

Change of use to any of the following specialized uses must comply with *Chicago Electrical Code*:

- Hazardous locations
- Commercial garages, repair garages, storage garages
- Aircraft hangers
- Bulk storage plants
- Spray applications, dipping
- Health care facilities
- Places of assembly
- Film and TV studios
- Agricultural buildings

RachelBostwick / pixabay.com

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KEY CONCEPT

Residential Occupancies (Section 309)

- Group R building adding 1 dwelling unit (309.1.1)
- Group R building adding 2 or more dwelling units (309.1.2)
- Alteration for use as congregate living facilities (309.2)
- Natural light and ventilation, pre-1958 openings for Group R (309.3)

Photo courtesy Parageorge Haymes / Ken DeMuth

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Residential Occupancies—
1 Additional Unit

- Number of stories limited by construction type (Table 309.1.1)
- For basement units, walls must be impervious to leakage
- Minimum room dimensions (floor area, ceiling height) must meet CBC 1207
- Natural light and ventilation per CBC
- Means of egress required per CBC, except one means of egress may pass through heating plant
- Separation from other units by ½-hour construction or plaster and lath (walls and floor-ceiling)
- Separation from incidental uses per CBC Table 509

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Residential Occupancies—
2+ Additional Units

- All requirements applicable to adding 1 unit
- Interior exit stairways must be enclosed with 2-hour construction (1-hour if connecting 3 or fewer stories)
- Construction separating existing units from corridors must have 30-minute fire-resistance rating
- Construction separating new units from corridors and other units must have 1-hour fire-resistance rating
- New and existing unit doors must be 1¾" solid wood, 20 minute archaic assemblies, or per CBC
- Exit stairway and unit doors must be self-closing
- All incidental uses in building must be enclosed per CBC Table 509
- Basement ceiling construction must be 1-hour rated per CBC 605.4.

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Change of Use to **Congregate Living Facility** (Co-living)

Triggered by alteration or permit for use as congregate living facilities for first time:

- If more than 3 sleeping units (separately-rented bedrooms), NFPA 13 or 13R sprinkler system is required throughout building.

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Pre-1958 Openings for Light and Ventilation

In Group R occupancies constructed or occupied for residential purposes before January 1, 1958, the minimum dimension of yards and courts for natural light in CBC Section 1205 may be reduced 6 inches.

- New or existing openings in pre-1958 exterior walls
- Not for change of occupancy to Group R

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KEY CONCEPT

Repair

REPAIR. The reconstruction, replacement or renewal of any part of an *existing building* for the purpose of its maintenance or to correct damage.

- Chapter 4 defines when repairs can be made with like materials and methods or must comply with the *Chicago Building Code*.

Chapter 3 (All)

+

Chapter 4 (Repair)

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KEY CONCEPT

Repair Basics

- **Cannot make building less compliant than before damage or maintenance.** (401.2)
  - Cannot reduce (active or passive) fire protection. (403.1)
  - Cannot reduce protection for / compliance of means of egress. (404.1)
  - Cannot reduce level of accessibility. (305.2.1)
- Replacement glazing in hazardous locations must comply with new construction reqs (402.1)

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Repair Basics (continued)

- **Electrical** wiring and equipment may be repaired or replaced with like material (406.1)
  - Special rules for receptacles and Group I-2 receptacles
  - Alternative grounding allowed per *Chicago Electrical Code*
- **Mechanical** draft systems allowed for fireplaces (407.2)
  - Natural light and ventilation may not be less compliant (409.1)
- **Plumbing** materials used for repairs must be allowed by *Chicago Plumbing Code* (408.1)
  - New toilets must meet water use limits (408.2)

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Repair—Structural

Structural damage to a building can occur to buildings for a number of reasons—caused by nature or humans

- Repairs to buildings with less than *substantial structural damage* can restore structural elements to pre-damaged condition (405.2.1)
- Substantial structural damage defined in Chapter 2
- Snow damage must be repaired to meet new construction snow load requirements (405.2.1.1)

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Repair—Structural (continued)

- Repairs to buildings with *substantial structural damage* must be based on evaluation by a registered design professional (405.2.3)
- If gravity load-carrying elements have substantial structural damage, the structure must be upgraded to meet current loading reqs. (405.2.4)
- Roof repairs limited to 25% of roof area (306.1)

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CHICAGO AMENDMENT

Fire Damage

- Where *repair* is made necessary by reason of damage by fire, that fact must be stated on the permit application. (14A-4-410.3(1.1))

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