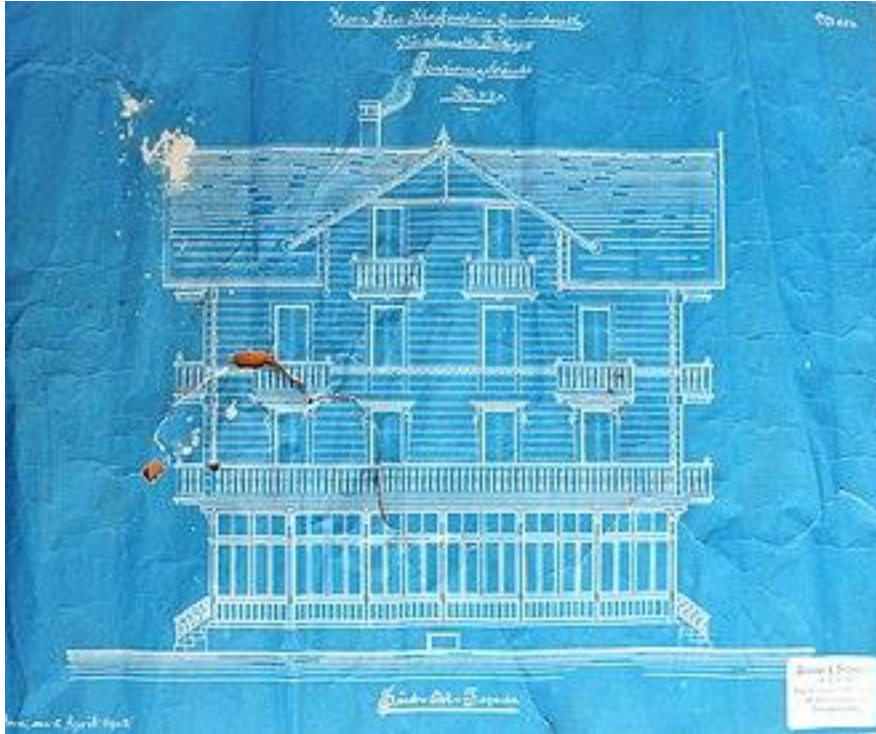


December 2021

## HOT TOPIC ALERT

### Building Codes



State and local building codes cover most construction in the US. They set minimum standards for building construction and occupancy to protect public health, safety, and welfare. They also promote accessibility for people of all levels of physical ability, as well as energy conservation and environmental sustainability in building materials and techniques.

Building codes generally apply to new construction, but they may also cover buildings under reconstruction or remodeling, as well as changes in occupancy type (such as converting a single-family dwelling into multi-unit apartments). Most building codes in force around the U.S. are based on model codes promulgated by non-governmental code organizations, such as the [International Code Council](#) (ICC), which issues the [International Building Code](#) (IBC) and the [International Residential Code](#) (IRC), as well as numerous other model codes. Building codes cover broad areas, such as general structural requirements and plumbing, mechanical, and electrical systems. There are also code collections addressing specific building concerns, such as the [International Green Construction Code](#) (IGCC) and the [International Swimming Pool and Spa Code](#).

Historically, the enactment of building codes has often been inspired by disasters, such as fires which caused major losses of life and property. The [first building codes](#) in the U.S. aimed to improve fire safety in buildings. Dating from as early as 1625, these codes specified roofing and chimney materials as well as imposing size and height limitations on wooden buildings. The country's first formal building code appeared in Winston-Salem, North Carolina, in 1788. In 1865, New Orleans, Louisiana, became the first city to require building inspections. The [first national model code](#) appeared in 1905, with the publication of the National Building Code by the National Board of Fire Underwriters. This was adopted by cities across the U.S. Additional model codes followed throughout the 20th Century. Building organizations eventually [joined forces](#) to form the ICC, which published the first version of the IBC in 2000.

### **Adoption and enforcement of building codes**

[Most states](#) have enacted general or specific building codes. General codes apply to all structures, while specific building codes apply to certain buildings, such as healthcare facilities and schools, or to some aspect of construction, such as fire safety. State and local governments rely on model codes like the IBC in developing their own codes, but they often modify things like administrative or engineering provisions in order to adapt the models to local conditions (such as the frequency of hurricanes, flooding, fires, heavy snow, or earthquakes). Model codes also set minimum thresholds which adopting jurisdictions may modify as appropriate. Industry groups, such as fire protection organizations, often advocate for local legislation to incorporate amendments that address their concerns.

Most building codes are state and local, rather than federal, meaning that it is up to individual jurisdictions to choose which codes to adopt. However, international and national model codes may be developed with assistance from federal agencies. For instance, the [U.S. Department of Energy](#) (DOE) participates in the development process of model energy conservation codes and provides technical assistance to smaller government units in local [code adoption processes](#).

[Each state](#) handles building codes differently. Most use model building codes as the basis for their own codes, providing for [periodic updates](#) to reflect updates in the model codes. The codes are generally adopted by action of either state legislatures or regulatory agencies. But about ten states call for adoption of such measures by county or municipal governments (“[home rule](#)” states). Statewide building codes may allow for local amendments which are more restrictive or permissive than the state measures. For example, in [Arizona](#), codes are adopted locally. With a few exceptions, they are predominantly ICC codes. In the [District of Columbia](#), the City Council adopts ICC-based building codes that are initially developed by the Construction Codes Coordinating Board; oversight is through the Department of Consumer and Regulatory Affairs. In [Michigan](#), the Bureau of Construction Codes Commission and State Fire Safety Board promulgates and periodically reevaluates building codes, but ultimate approval of the codes is up to the state legislature. [South Dakota](#) does not have a statewide building code, but it authorizes counties and local governments to adopt the [IBC](#) and to amend it to conform to local needs.

Building codes are typically enforced through the permitting and inspection process. Permits certify that the proposed building project complies with applicable codes. A permit is required

before beginning most construction, demolition, and repair work. Permitting can be a complex and time-consuming process for the property owner seeking to build a new structure or to modify an existing structure. For instance, in [Boulder, Colorado](#), a typical residential building project could require as many as 15 separate permits at various stages of the building process, such as: demolition, building, public right of way, electrical, energy conservation, erosion control, fences, flood plain, fire systems, landscaping, mechanical, and plumbing.

Local governments often attempt to streamline the permit process for smaller residential projects. In [Chicago](#), homeowners can apply for “[Easy Permits](#)” in order repair and replace building elements that do not require architectural plans (such as replacing basement concrete slabs, replacing drywall, building certain types of fences, replacing plumbing or light fixtures, or replacing windows or doors).

At various stages of construction and after construction is complete, code enforcement authorities send building inspectors to the construction site to check for compliance with code requirements, including whether the completed construction work is within the scope of the building permit. On many building projects, the building inspection process involves multiple steps, each of which must be successfully completed before the building work may proceed to the next stage. These stages of inspection might include, for instance, under-slab plumbing, footing and foundation, framing, roof, insulation, sheetrock, electrical panels, fire protection, and the final inspection.

Local government building and inspection departments often provide guides for owners and builders to navigate the permitting and inspection process. The city of [Brownsville, Texas](#), provides a chart of the various steps in the residential inspection process. [Austin, Texas](#), also provides a variety of inspection flowcharts for different types of building projects.

Following successful completion of the final building inspection on a building project, the inspection agency issues a [certificate of occupancy](#) (CO). The CO serves as proof that the project has complied with all applicable codes and is now fit for its permitted use.

## **Codes and standards**

### **A. Model codes**

The [ICC](#) model codes, which are revised every three years, are in use or have been adopted in virtually every U.S. jurisdiction. The ICC develops and publishes more than a dozen standardized codes. Each provides comprehensive coverage of a building-related subject area. Because they are all developed through the same [process](#), the ICC codes are coordinated and compatible with each other. The ICC model codes address certain primary building concerns, such as site development, structural requirements, finishes and weather protection, health and safety, building utility, energy conservation, and protection from other hazards. A brief description of a few of the ICC’s [15 model codes](#) follows.

The [IBC](#), in particular, is [nearly universally applied](#) across the U.S. It covers all buildings except detached one- and two-family residences up to three stories. The IBC is the base code standard for the ICC’s entire collection of codes. The underlying IBC policy is the protection of public health, safety, and welfare.

The [International Fire Code](#) (IFC) contains regulations to protect life and property against fires and explosion hazards. In addition to general precautions, it includes elements such as emergency planning and preparedness, fire department access and water supplies, automatic sprinkler and fire alarm systems, special hazards, and storage and use of hazardous materials. The IFC is [in use or adopted](#) in 42 states, as well as the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands.

The [International Residential Code](#) (IRC), which is [in use or adopted](#) in 49 states, as well as the District of Columbia and the U.S. Virgin Islands, covers all building, plumbing, mechanical, fuel gas, and electrical requirements for one- and two-family dwellings and townhouses up to three stories. It covers residential construction as well as remodeling issues.

The [International Energy Conservation Code](#) (IECC) is [in use or adopted](#) in 48 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. It establishes minimum requirements for energy-efficient buildings, covering standards for cost, energy usage, use of natural resources, and the impact of energy usage on the natural environment. It applies to structural components such as walls, floors, ceilings, lighting, windows, doors, and ducts. The DOE's [Building Energy Codes Program](#) analyzes energy savings achieved by state and local adoption of the IECC.

The [International Mechanical Code](#) (IMC) sets minimum standards for the design, installation, and inspection of building mechanical systems, such as heating, ventilation, and air conditioning. It is [in use or adopted](#) in 46 states, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands.

The [International Green Construction Code](#) (IGCC) aims to decrease energy usage and carbon footprints. Its measures also improve indoor air quality and improve neighborhood connections and walkability. The IGCC's goals are supported by technical requirements for the use of energy-efficient appliances, renewable energy systems, water resource conservation, and recovery of used water. This relatively new code (first issued in 2010) is currently [in use or adopted](#) in only 14 states and the District of Columbia.

In contrast to the ICC model codes described above, the standard electrical code in the U.S. is issued by the [National Fire Protection Association](#) (NFPA). The [National Electrical Code](#) (NEC) is adopted in all 50 states. It sets standards for safe electrical design, installation, and inspection to protect against electrical hazards.

#### B. [Critiques of building codes](#)

Building codes indisputably increase safety and efficiency of new buildings. But retroactive application of code requirements is very rare. Most codes fail to address, or even explicitly exempt, already-existing construction. Nearly all of the building stock in the U.S. is not newly designed to comply with building codes. For example, the 12-story oceanfront condominium complex Champlain Towers in Surfside, Florida, which suddenly [collapsed](#) in June, 2021, killing 98 people, was built in 1981. As the building stock in the U.S. continues to age, deadly events like this may increase.



Another criticism of building codes, especially the ICC's model codes, is the [limitation on local input](#) in their creation and development. Although state and local governments are free to amend and modify the model codes when adopting them, participation in the creation process could produce more streamlined and easier to use codes that account for local implementation issues.

Building codes may severely limit a property owner's ability to use his or her property and may also reduce its value. A government's ability to restrict a private owner's ability to use his or her property is limited by the [Takings Clause](#) of the [Fifth Amendment](#) to the [U.S. Constitution](#). Under this clause, private property may not be "taken" for public use without just compensation. The government may be deemed to have taken private property if regulations go too far in limiting activity on the property or otherwise deprive it of value. In such a case, the owner may sue the government for compensation or seek to overturn the regulation. These types of "[regulatory taking](#)" cases generally arise in the context of zoning regulations, but the danger also arises in building codes that over-restrict property use. For instance, if a local ordinance prohibits all construction on an owner's property, this may make the property economically worthless. This is what happened in the landmark U.S. Supreme Court case of [Lucas v. South Carolina Coastal Council](#), 505 U.S. 1003 (1992), where a state law prohibiting all construction on two beachfront lots in South Carolina rendered the lots valueless, thus obliging the state to compensate the owner for the loss in value to his property.

### C. [Federal building standards](#)

Most building codes are adopted and implemented at the state and local level. However, there are federal building rules that guarantee access to both public and private buildings for people with disabilities by imposing minimum standards. Additionally, the federal government promotes building resiliency against natural disasters, such as earthquakes and floods, by providing guidelines and encouraging and tracking state code adoptions.

#### 1. *Architectural Barriers Act (ABA) and Americans with Disabilities Act (ADA)*

The federal government began regulating access to buildings in 1968 with passage of the Architectural Barriers Act (ABA) ([42 U.S.C. §§4151 et seq.](#)), which ensures that federally funded buildings and facilities are designed and constructed to be accessible to people with disabilities. Pursuant to the ABA, the [U.S. Access Board](#) develops design guidelines for covered buildings and other facilities. Based on these guidelines, four federal agencies are responsible for setting and enforcing the [ABA Standards](#): the Department of Defense, the Department of Housing and Urban Development, the General Services Administration, and the U.S. Postal Service. The ABA Standards include specifications for building accessibility, such as ramps, parking, signs, doors, elevators, restrooms, and stairways. Buildings that predate the ABA are generally not covered by it, although alterations or leases on these buildings may trigger coverage requirements.

With the passage of the [Americans with Disabilities Act \(ADA\)](#) ([42 U.S.C. §§ 12101 et seq.](#)) in 1990, people with disabilities were guaranteed the right to equal access in employment, transportation, public accommodations, communications, and state and local government programs and services. The ADA requires companies that provide goods and services to the public to provide access for people with disabilities. The [ADA Standards for Accessible Design](#) apply to

new construction, alterations, and additions to state and local government facilities (ADA title II) and public accommodations and commercial facilities (ADA title III). The ADA Standards are issued by the Department of Justice and the Department of Transportation. The [U.S. Access Board](#) also maintains guidelines and provides technical assistance and training on the ADA Standards, which are very similar to the ABA Standards.

There is [overlap and coordination](#) between the ABA and ADA Standards and the IBC. The ICC has worked with the U.S. Access Board to harmonize guidelines. Additionally, to facilitate compliance with the complex system of federal, state, and local accessibility laws, the U.S. [Department of Justice](#) offers [technical assistance](#) and a [certification](#) process to review whether local laws meet or exceed federal requirements.

## 2. *Federal Emergency Management Agency (FEMA) standards*

The U.S. [Federal Emergency Management Agency](#) (FEMA) devotes considerable efforts to building science and research in order to create recommendations for building resiliency against natural disasters. It provides [guidance](#) on hazard-resistant provisions in building codes for property owners, engineers, design professionals, building code officials, and the public. The guidance includes subjects like seismic design manuals, guides to flood resistant design and construction, and resources for building hurricane and tornado shelters

FEMA also tracks [building code adoption](#) nationwide, including identification and evaluation of protections against flood, wind, and earthquakes in local building codes. This includes working with local and state governments to study and improve building codes in order to reduce losses from natural disasters. These [hazard-resistance efforts](#) also include analysis of whether adoption of model codes such as the IBC have helped avoid losses. Adopting the ICC model codes saves \$11 for every \$1 invested, according [to FEMA's analysis](#). Additionally, according to FEMA's [Building Codes Save](#) study, adoption of model building codes has saved an estimated \$32 billion in building damage since 2000.

## **Current trends**

Building codes evolve to reflect developments in things like building safety, accessibility rights, energy efficiency, and innovations in construction techniques and materials. Recently, concerns for environmental sustainability and overall efficiency of buildings have spurred major advancements and changes in building codes. This drive towards sustainability and energy efficiency includes optional measures as a way of encouraging innovation and preparing owners and builders for future mandatory standards.

For instance, a [stretch code](#) is an optional appendix to a state mandatory minimum energy code that municipalities may adopt in order to achieve greater energy efficiency in new construction. Stretch codes undergo the same public approval process as other statewide codes. [Massachusetts](#) added a stretch code to its statewide energy code in 2009 in order to promote energy efficient construction over and above its mandatory standards. As of June 15, 2021, [296 municipalities](#) in Massachusetts had voluntarily adopted the stretch code.

Another innovation in code application is the [reach code](#). Like stretch codes, reach codes are optional and undergo the same public approval process as other codes. However, reach codes provide individual builders with the option to adopt them on specific building projects. Reach codes provide criteria for high performance and innovative construction in a variety of areas, such as lighting, structural, plumbing, and mechanical systems. Federal, state, and local financial incentive programs can [encourage](#) individual owners and builders to employ reach code standards. [Oregon](#) has had a reach code in place for residential and commercial projects since 2011. It encourages innovative approaches and techniques for designers and contractors to employ renewable energy technology in construction.

A handful of communities in [Colorado](#) and other states have adopted sustainable building codes that comply with the U.S. DOE's [Zero Energy Ready Home](#) (ZERH) program to maximize energy efficiency, air quality, and water conservation in new residential construction. The ZERH is an [optional add-on](#) in the ICC's 2021 update to the IECC. A "zero energy ready home" is a home that is so energy efficient its renewable energy system is able to offset all or most of its annual energy consumption. Public utilities frequently offer [incentives](#) to home owners and builders who comply with the ZERH program, such as cash and rebates.

### **NAR involvement**

The [National Association of REALTORS®](#) (NAR) is actively involved in a number of current building code issues of vital importance to property owners and the real estate industry. NAR supports improving energy efficiency through voluntary incentives. However, [NAR is concerned](#) that the introduction of mandatory programs may actually result in increased costs for homes and commercial buildings. Voluntary programs such as the DOE's [Home Energy Score](#) encourage owners to make energy use disclosures, audits, or improvements at the time of sale. If these types of programs should become mandatory, they could become prerequisites to any property sale, causing older properties to lose value and impeding owners' ability to sell their properties. Such measures could lead to prohibitive cost increases for operating, maintaining, and selling commercial and residential buildings. For these reasons, NAR advocates for caution in adopting voluntary incentives to improve energy efficiency, while opposing mandates that would add undue economic burdens on property ownership.

Another code development of concern to NAR is the proposal in the 2021 [IBC](#) to reclassify as hotels all residences containing more than one short term rental (STR) unit. NAR has expressed its concerns to the ICC on this issue, pointing out that the hotel classification could be too restrictive on buildings that are primarily residences. The hotel classification could cause a variety of complications for owners, such as running up against zoning limitations, property tax status changes, and permitting requirements.

NAR also favors more [equitable enforcement of housing and building codes](#) as a way of advancing strategies to address social and economic inequities. This is a proactive approach to code enforcement and inspections in order to improve local housing and rental stock. These types of measures offer incentives owners to reactivate vacant, abandoned properties and improve conditions in rental properties, which in turn helps to revitalize neighborhoods.

## Other organizations

[International Code Council](#) (ICC) – a non-partisan, non-governmental organization promulgating model codes and standards for the design, building, and compliance process.

[National Fire Protection Association](#) (NFPA) – a national organization dedicated to preventing death, injury, and property loss due to fire, electrical, and related hazards.

[American Institute of Architects](#) (AIA) – a professional organization for architects, as well as the design and construction community, it participates in government advocacy, community redevelopment, and public outreach.

[National Association of Home Builders](#) (NAHB) – a national organization of professionals in the home building, development, and remodeling industries, it promotes expertise among its members and advocates for improvements in the building business environment.

[American Society of Heating, Refrigerating and Air-Conditioning Engineers](#) (ASHRAE) – a professional organization focused on improving building systems, energy efficiency, indoor air quality, refrigeration and sustainability.

[National Multifamily Housing Council](#) (NMHC) – a national organization focused on advocacy, research, and networking for its membership of apartment industry professionals.

[Energy Efficient Codes Coalition](#) (EECC) – a group of building sector advocates promoting improvements in energy efficiency building codes.

[New Buildings Institute](#) (NBI) – a nationwide initiative promoting improvements in energy efficiency in the build environment.

[Urban Land Institute](#) (ULI) – a nonprofit education and research organization helping stakeholders including urban planners and developers to face increases in dangerous weather phenomena through policy and research initiatives, such as the [Urban Resilience Program](#).


[Building Codes Assistance Project](#) (BPCAP) – a non-partisan provider of advocacy, research, analysis, technical support, training, and tracking for energy code development across the U.S.

[Ada.gov](#) – an office of the U.S. Department of Justice’s Civil Rights Division, tasked with providing information and technical assistance on the ADA to the public.

## Conclusion

Building codes promote safety, accessibility, and environmental sustainability of both private and public buildings. The model codes published by the ICC are widely adopted by state and local governments throughout the U.S. and adapted to local conditions. Federal building standards impose minimum thresholds for accessibility and offer guidelines for resistance to natural hazards. Each state has its own code adoption process, with some states applying codes equally statewide, and others delegating code enactment to county and municipal governments.





The process of permitting, inspection, and issuing certificates of occupancy ensures code compliance on new building projects.

Critics of modern building code schemes point out that the codes often impose additional costs on property owners and severely restrict property use, potentially violating constitutional property protections. Another common criticism of building codes is that they fail to address safety and efficiency defects in older structures, which make up most of the building stock in the U.S.

More and more, building codes are concerned with energy efficiency and environmental sustainability, with many states adopting mandatory or voluntary sustainability standards. NAR favors advances in efficiency and sustainability. It also advocates on behalf of property owners and the real estate industry to prevent restrictions that unduly burden owners, while also promoting equitable code enforcement to keep neighborhoods vital.

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## ADDITIONAL STATE & LOCAL RESOURCES

**White Papers:** Comprehensive reports prepared for NAR on issues directly impacting the real estate industry. Examples include: Rental Restrictions, Land Banks, Sales Tax on Services, State & Local Taxation, Building Codes, Hydraulic Fracturing, Foreclosure Property Maintenance, Climate Change, Private Transfer Fees.

**Growth Management Fact Book:** Analysis of issues related to land use and modern growth management topics include density — rate of growth, public facilities and infrastructure, protection of natural resources, preservation of community character, and affordable housing.

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