Building Codes Adoption Playbook

For Authorities Having Jurisdiction

FEMA P-2196 / November 2024

FEMA

This page intentionally left blank

Introduction

FEMA's *Building Codes Adoption Playbook for Authorities Having Jurisdiction* (AHJ) is intended for officials involved in adopting and enforcing building codes. The Playbook provides guidance to AHJs considering the adoption of the most current model building codes to mitigate damage and loss caused by future natural hazards. This is accomplished by providing general knowledge on the importance of building codes, general steps to adopt and enforce them, information on FEMA grants and references to additional resources.

As a result of its long history with natural disasters and developing state-of-the-art, natural hazard-resistant, design guidance and code change proposals, FEMA recognizes that buildings constructed in accordance with current codes protect lives and reduce the consequences of natural hazards. Because buildings generally have over a 50-year life span and comprise the largest subset of the nation's infrastructure, the risk to the nation is incredibly significant. FEMA strongly encourages using current natural hazard-resistant codes and standards in the construction of new buildings and the repair, alteration and addition of existing buildings.

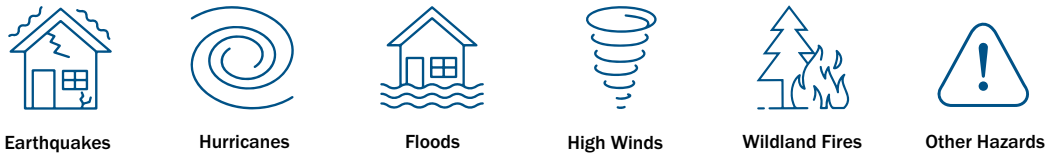


Figure 1. Natural Hazard Events

FEMA embraces local leadership, control and responsibility in its programs and policies. AHJs are government agencies at the state, local, tribal and territorial (SLTT) level responsible for the adoption and enforcement of building codes within their community. They can be composed of building, floodplain management, public works, zoning, planning, fire and other local government officials having authority in how or where buildings are constructed. Adopting and enforcing a comprehensive package of building codes and standards is crucial to community resiliency.

Depending on state and local laws and regulations, AHJs may customize or amend their specific adoption and enforcement ordinances to meet their needs. However, the weakening of natural hazard provisions is discouraged. FEMA encourages and, in some instances, incentivizes jurisdictions to base their adoption ordinances on nationally recognized model building codes that reduce risk from natural hazards.

Building codes, in general, refer to sets of requirements governing the design, construction, alteration, maintenance and use of buildings. They specify the minimum requirements to adequately safeguard building occupants' health, safety and welfare.

Model building codes refer to minimum design provisions and practices established by nationally recognized coordinating bodies made up of building professionals from all interested organizations. They are developed using consensus processes, they require the use of referenced national consensus standards and specifications and they can be used as templates for AHJs to use when developing their local ordinances.

Authorities Having Jurisdiction adopt and enforce a comprehensive building code package by ordinance. They can adopt the model codes in their entirety or amend them as necessary depending on their laws and regulations.

Table Of Contents

Watch these short videos about the Building Codes Adoption Playbook!

Scan to watch the video series!

This video series is a companion to FEMA P-2196. It consists of nine short modules, each featuring an expert from FEMA who elaborates on the various topics covered in the playbook.

Overview

Building Codes 101

Natural hazards (such as earthquakes, hurricanes, floods, tornadoes, straight-line winds and wildfires) don't occur every day, but when they do there can be severe consequences for a community. **AHJs are in uniquely powerful positions** to protect their communities through smart planning and regulation. Adopting and enforcing current building codes that provide natural hazard resistance is an important tool that has been shown to **save lives and money**.

Building codes are sets of minimum requirements governing the design, construction, alteration, maintenance and use of structures and are developed through consensus processes. From a desire to protect people's lives, today's code landscape has evolved into a formidable package of minimum building requirements to protect building occupants as well as the public's health, safety and general welfare. They have continued to evolve to address accessibility, sustainability and the latest construction materials and methods. These include wide-ranging parent and companion building codes, structural design standards, material-specific standards, voluntary standards and product quality specifications.

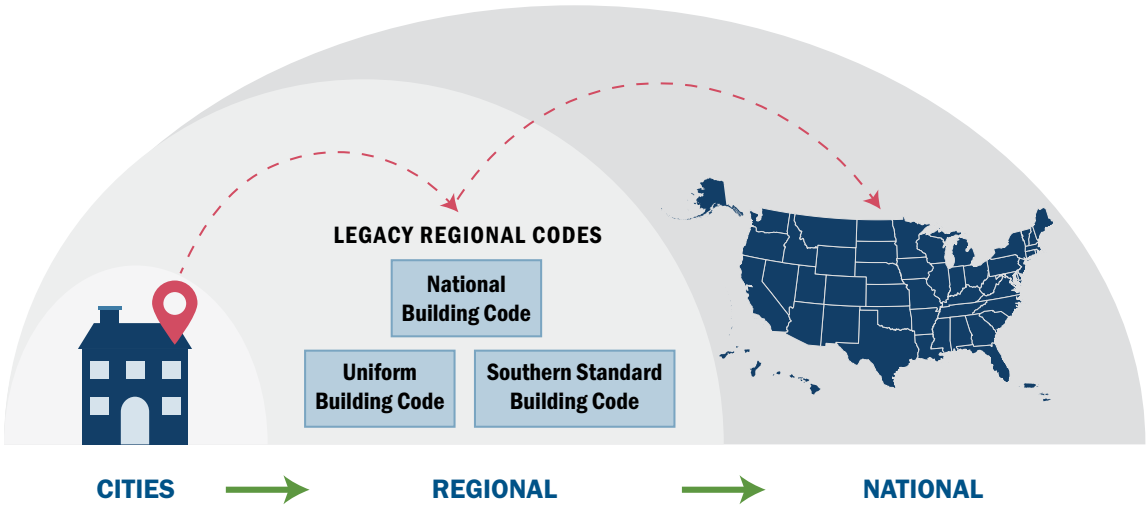


Figure 2. Evolution of Building Codes

Building codes developed naturally in the United States as technology and building science evolved and best practices were agreed upon. As depicted in **Figure 2**, building codes were first developed by larger cities in response to significant life-safety events. Over time, common construction practices were identified on a regional level and became standard practice, leading to the development of regional model codes. These regional model codes saved AHJs time and money by introducing a building code template. As the construction and materials industries developed nationally, the regional code-making bodies merged to form the International Code Council (ICC) to provide model codes with building practices that were widely accepted across the entire country.

Multiple entities develop **model building codes** including the International Code Council, National Fire Protection Association and International Association of Plumbing & Mechanical Officials. **FEMA's primary focus is on those nationally recognized model building codes that provide natural hazard risk reduction** including those hazards affected by climate change. Currently, the most widely recognized and adopted set of model building codes that address natural hazard resistance are published by the International Code Council and are referred to as the I-Codes.

The flagship ICC model building codes are the *International Building Code* (IBC), the *International Existing Building Code* (IEBC) and the *International Residential Code* (IRC). These three model codes can be considered parent codes that coordinate all other codes. Combined with discipline-specific companion codes, including fire, plumbing, mechanical and others, a comprehensive package is formed. This package includes referenced national consensus material and engineering standards and product quality specifications, thereby incorporating the scientific understanding produced by specialized organizations. Compliance with the referenced standards within each code is necessary for compliance with the code.

It is important to note that model building codes do not carry the authority of law by themselves. **They must be explicitly selected and adopted through ordinance by the AHJ to become legally enforceable** in accordance with state and local laws and regulations. AHJs should remember that weakening the natural hazard-resistant provisions of the model codes through amendment increases the vulnerability of their communities. Examples of weakening natural hazard-resistant provisions include, but are not limited to, removing flood elevation requirements or reducing seismic or wind load design values.

Additionally, building codes adopted and enforced by AHJs are typically non-retroactive. Therefore, even full adoption and enforcement of the latest model codes does not imply that all buildings in the community are protected from future natural hazard impacts. Vulnerable existing buildings, even if they are prohibited by current codes, do not trigger code enforcement actions. Within the IEBC, retrofit is only voluntary unless triggered by certain damage, alterations, additions or change of use. An AHJ could include additional mandatory retrofit requirements in its building code adoption ordinance or issue a special ordinance. For example, communities with earthquake risk should consider retrofit or replacement of buildings constructed using unreinforced masonry.

Going Beyond the Minimum

Building codes represent a community's **minimum** requirements for projects to protect life within its jurisdiction. Property owners, designers, and builders can and should consider exceeding these minimums to protect their investments and to make their communities more resilient to natural hazards. Programs like FORTIFIED can be a tool for achieving higher levels of performance and, in some areas, building to these standards can reduce insurance premiums. Also, several FEMA products, such as FEMA 232, *Home Builders Guide for Earthquake Resistant Design and Construction* and FEMA P-804, *Protect Your Property from High Winds: Wind Retrofit Guide for Residential Buildings* identify a series of "above code recommendations" to provide better performance.

Ultimately, a qualified team of building design professionals can provide significant low-cost improvements in building performance if initiated early in the design process. What works to protect from one hazard may also help to satisfy the needs of another hazard if thoughtfully designed.

Staying Current

Model building codes improve with each edition based on lessons learned, building science advancements, engineering practices and technological advances. The I-Codes are updated on a three-year cycle and incorporate current information such as updated wind speed maps, snow load maps and seismic ground motion maps. The code update process is open to any interested parties and includes hearings and public comment periods. Each code change proposal is evaluated to avoid unwarranted increases in construction cost. It is critical that states and localities adopt the most current edition of the model codes, and **consider implementing a process to facilitate continuous adoption**.

> ! A majority of communities where natural hazard risk has been identified have not adopted the current or next most recent version of natural hazard-resistant building codes.

For ways FEMA can help your community with building code adoption and enforcement, please read the section "Maximizing FEMA Funding Opportunities."

Enforcement is Key

For most AHJs, enforcement is a process carried out by a team of building code professionals. It can be an official part of the AHJ's governmental organization called the Department of Building and Safety or similar, a contracted function or some combination of the two. It includes building officials like plans examiners and inspectors with specialized skillsets based on the occupancy, size, type of the building, material of construction, or mechanical, electrical, plumbing systems. It may also include permit technicians, zoning, planning, fire or floodplain management officials. The 2021 IBC Appendix A describes this essential team's best qualifications, experience, training and certifications.

> An adopted building code package is just words without enforcement. Brand new homes can still be vulnerable to damage from small events if the AHJ's code package requires components such as anchor bolts to attach a house to its foundation, but they aren't installed or installed incorrectly.

For more information on enforcement, please read the section "Code Enforcement Process."

Paperwork by Scott Graham

Validating Building Performance

Mitigation Assessment Team

For over 30 years, FEMA's Building Science Disaster Support Program has deployed Mitigation Assessment Teams (MAT) to assess the performance of buildings in areas that were hit by natural hazards. The teams investigate why some buildings were able to withstand the harsh effects of the natural hazard while others experienced devastating damage. Through the Program's efforts, FEMA has conducted multiple post-hazard assessments and has released studies that show the proven benefits of adopting building codes. **Figure 3** details how the lessons learned from such incidents feed into guidance, tools and code development.

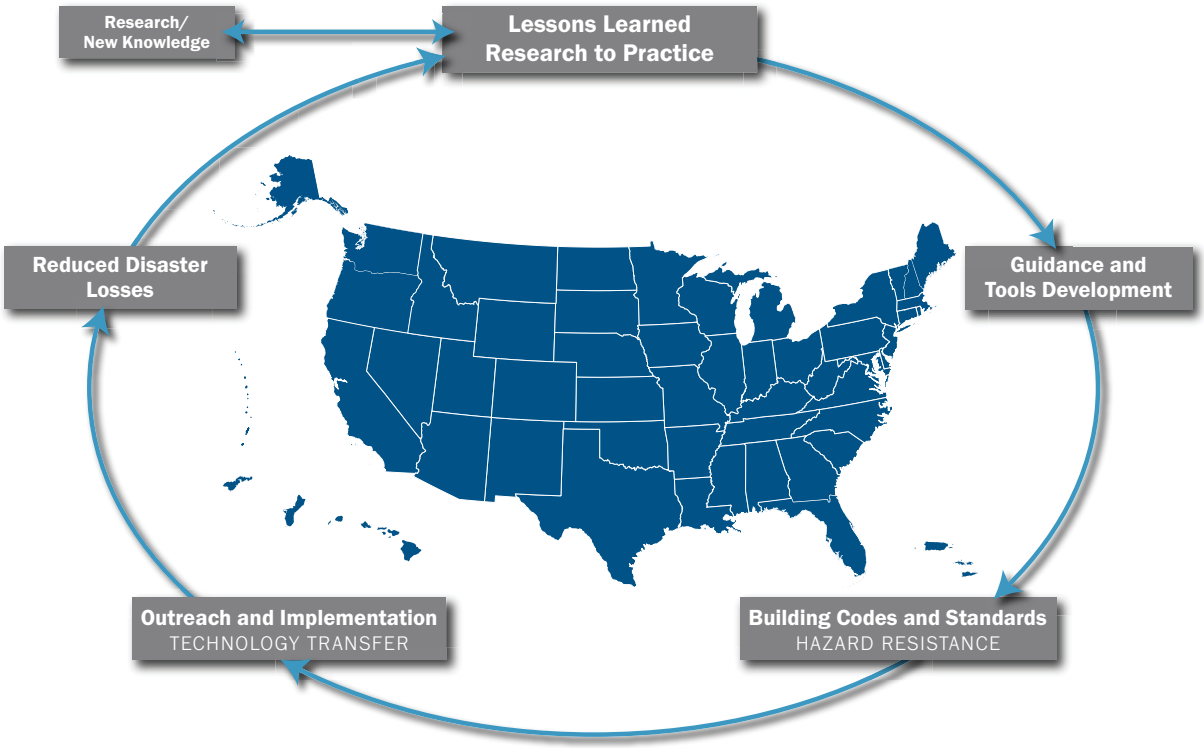


Figure 3. Building Science Cycle

MAT studies have consistently shown that **buildings constructed without implementing natural hazard-resistant provisions performed worse than those that were built with those provisions**. Following a deployment, FEMA publishes the observations and recommendations of a MAT in reports. Buildings that experience the most damage were often not built in accordance with a current code or were built using older code editions. Correlating with the regular updates and improvements made to model codes, buildings built to more recent code editions fared better than buildings built to older editions due to scientific advances.

Building Codes Save Lives and Money

On January 12th, 2010, a magnitude 7.0 earthquake struck the island nation of Haiti. The event was catastrophic, with an official toll of upwards of **300,000 fatalities**. A main contributing factor to the high death toll was Haiti's lack of earthquake hazard resistance in their buildings.

On February 27th of that year, the country of Chile was struck by a magnitude 8.8 earthquake and a resulting tsunami. Although buildings sustained damage, the impacts were reduced due to **Chile's strict building codes** that were adopted in the aftermath of an earthquake experienced in the 1960s. Around 500 lost their lives in 2010.

The struggles these two countries experienced teach us two important lessons:

1. Natural hazard-resistant building codes work. While any life lost is a tragedy, the communities in Chile suffered less tragedy and death due to Chile's decision to implement building codes after an earthquake in the 1960s.
2. Communities should be proactive and not wait to experience a disaster before choosing to protect themselves. One of the most impactful strategies for protecting buildings and society from natural hazards is the adoption and enforcement of natural hazard-resistant building codes.

"Strong, hazard-resistant building codes are a cornerstone of loss reduction. They save property, but more importantly, they save lives".

- FEMA Administrator, Deanne Criswell

Communities that have adopted and enforced current building codes have avoided at least $32 billion in losses from natural hazards since 2000. It is estimated that the savings could accumulate up to $132 billion over the next 40 years. While adopting the latest building codes may seem costly, the added cost for natural hazard resistance is often quite small. The additional cost of roof tie-downs and window protection required by current codes in high-wind regions of the country is, on average, less than 2% of total construction costs and affords **enormous future savings in avoided damages.**

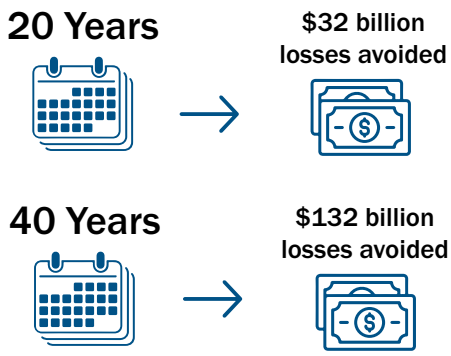


Figure 4. Future Savings from Adopting Current Building Codes

Life Safety

Building codes are one of the most effective ways to ensure the safety of those within a community during a natural hazard. Between 2010 and 2020, the National Weather Service reported a ten-year average of 94 tornado-related fatalities. In addition to that, the Natural Hazard Mitigation Saves Study determined that **about 1,600 people experience nonfatal injuries for every one fatality caused by natural hazards**. In an effort to show the benefit-cost of natural hazard mitigation, the Natural Hazard Mitigation Saves Study also revealed that new buildings designed above the 2015 I-Codes edition **would prevent the following**:

32,000 non-fatal injuries each year	**20 deaths each year**	**100 cases of PTSD each year**

Building codes can benefit all structures and communities. Individuals whose homes do not adhere to current building codes tend to face greater challenges when natural hazards occur. A way to help address this issue is to increase the natural hazard resistance of both new and existing housing through the adoption of current building codes and through retrofits. Minimizing damage through natural hazard resistance lessens the time it takes for these residents to recover from a natural hazard and ensures all community members have the opportunity to live in a home that keeps them safe against natural hazards.

Economic Benefits

Figure 5. FEMA P-2022, *MAT Report: Hurricane Harvey in Texas* found that flood insurance claims of elevated homes required by current code were about 95% lower than non-elevated homes after Hurricane Harvey.

Along with increased life safety and financial savings from reduced damage, building codes can provide other economic benefits such as increased property value and reduced insurance premiums. Data from Verisk's Building Code Effectiveness Grading Schedule (BCEGS), which classifies a municipality's adoption and enforcement of building codes, provides many benefits to the community and the individual. BCEGS classification can help lower insurance rates and boost grant opportunities for programs such as FEMA's Building Resilient Infrastructure and Communities Grant Program. Furthermore, the National Flood Insurance Program's Community Rating System is a voluntary incentive program that uses BCEGS data and encourages community adoption of natural hazard-resistant building codes to exceed the minimum National Flood Insurance Program requirements. The Community Rating System incentivizes code adoption by discounting the community's flood insurance premiums where current model building codes have been adopted and enforced.

Additional Studies

FEMA has conducted and supported studies such as the Building Codes Save Study and National Institute of Building Sciences (NIBS) Natural Hazard Mitigation Saves Study which evaluated the cost, benefits and the financial losses avoided in communities that implement building codes.

Figure 6 highlights key findings from the Natural Hazard Mitigation Saves Study that showcase how adopting current natural hazard-resistant building codes benefits everyone.

Mitigation Category	*Cost*	*Benefit*	*Benefit-Cost Ratio*
Riverine Flood	$0.09	$0.55	6:1
Hurricane Flood	$0.53	$5.55	10:1
Earthquake	$0.58	$6.90	12:1
Total for adopting 2018 I-Codes	**$1.20**	**$13.00**	**11:1**

Figure 6. Costs and benefits associated with constructing new buildings to meet the 2018 IRC and IBC (in $ billions).

Climate Change

As a result of climate change, **natural hazards are becoming more frequent and intense**. A comprehensive building code package that includes minimum or even enhanced natural hazard-resistant provisions is one of the best ways for communities to adapt to evolving risks posed by a changing climate. The evolution of natural hazard-resistant provisions in model building codes ensures minimum requirements do not remain stagnant and better reflect a changing world.

House in Massachusetts by Todd Kent

The I-Codes

While the majority of this playbook is focused on building codes and building code adoption, there are many different codes that are established under the ICC's family of codes. Below is a brief overview of ICC's family of codes, as well as their importance.

International Building Code

The IBC consists of provisions that can apply to all new buildings.

International Residential Code

The IRC consists of provisions designed to address the natural hazard-resistance of single-family houses, two-family houses and townhouses.

International Existing Building Code

The IEBC consists of provisions that apply to existing buildings undergoing repairs, alterations, additions or change of use. The IEBC is particularly useful in the repair of damaged buildings.

Figure 7. ICC I-Codes Suite

The ICC develops 15 model codes used to regulate the design and construction of buildings (see **Figure 7** for the other codes). Many of the codes focus on discipline-specific applications that, when packaged together, will benefit the communities who adopt and enforce them. Codes such as the International Fire Code and International Wildland-Urban Interface Code address making buildings more resilient against fire events, including explosions and wildfires. Other codes, such as the International Energy Conservation Code and International Green Construction Code, contain provisions for constructing buildings that conserve energy and are more environmentally friendly.

In addition to code development, ICC also develops standards following the ANSI consensus-based process. Some of these ICC standards are referenced in the I-Codes.

For more information, please visit codes.iccsafe.org.

Overview of the ICC Code Development Cycle

Did You Know?

ICC develops national model building codes through the governmental consensus process.

How often are codes developed or updated?

New editions of the I-Codes are released every three years. The code development process occurs in intervening years and can be summarized as follows:

1. Stakeholders, including members of the public, can submit proposed changes.
2. Proposed changes are considered in open committee and public comment hearings.
3. The new code editions are finalized and published, and the process starts again to develop the next edition.

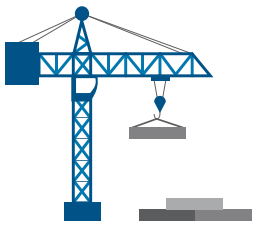
Builders with Drawing by Pixy.org

Who Serves on ICC Committees?

Committee members are organized by one of three categories:

General:
government regulatory agencies

User:
building owners, designers, insurance companies, private inspection agencies, academics



Producer:
builders, contractors, manufacturers, distributors and labor

How can I participate?

1. Anyone can submit a code change proposal. If you believe there's a code provision that needs to be added, improvement or removed, it's as simple as visiting cdpACCESS® to submit a code change.

2. Submit a public comment in favor or against any code change proposal in response to the committee recommendations online by emailing memberinput@iccsafe.org.

3. Interested in joining a committee? Visit ICC's Call for Councils and Committees to apply.

4. Testify in favor of or against any code change by attending Code Action Hearings.

Visit the International Code Council's Current Code Development Cycle page for information specific to the latest cycle.

Construction Worker by Josh Olalde

Tracking Code Adoption Nationwide

Building Code Effectiveness Grading Schedule

Did You Know?

BCEGS assigns each community a rating of 1 (highest possible rating) to 10 (lowest possible rating) based on its commitment to adopting and enforcing building codes.

Verisk administers the Building Code Effectiveness Grading Schedule to participating communities. The BCEGS program evaluates building code enforcement efforts at the jurisdiction level in three areas: code administration, plan review and field inspection. Verisk collects and analyzes more than 1,200 data elements to calculate scores for one- and two-family residential properties and for commercial or industrial properties. Scores range from a minimum of 0 to a maximum of 100. Verisk translates the scores to a scaled class rating from 1 (exemplary commitment to building code enforcement) to 10. Communities are reevaluated generally every four to five years nationally (every three years in Florida) or as substantial changes are made to department operations. FEMA leverages some of this data for building code adoption tracking and grants' criteria. *Note: BCEGS scores are proprietary to Verisk, but that Verisk always shares the score with the community to which it pertains.*

For more information, contact Verisk's mitigation team via email at BCEGS_info@verisk.com or call their mitigation specialists at 1-800-444-4554.

FEMA Building Code Adoption Tracking

FEMA tracks the natural hazard-resistant building code adoption status for state, local, tribal and territorial governments, covering approximately **24,000 jurisdictions** across the nation. This effort, often referred to as Building Code Adoption Tracking (BCAT), evaluates several aspects of a community's natural hazard risks and building code adoption, including:

24,000

The approximate number of jurisdictions for which FEMA tracks current building code adoption status.

- State or territory requirements for mandatory building code adoption
- Building code adoption status for jurisdictions, including construction requirements for residential and commercial
- Identification of known weakening of natural hazard-resistant provisions.

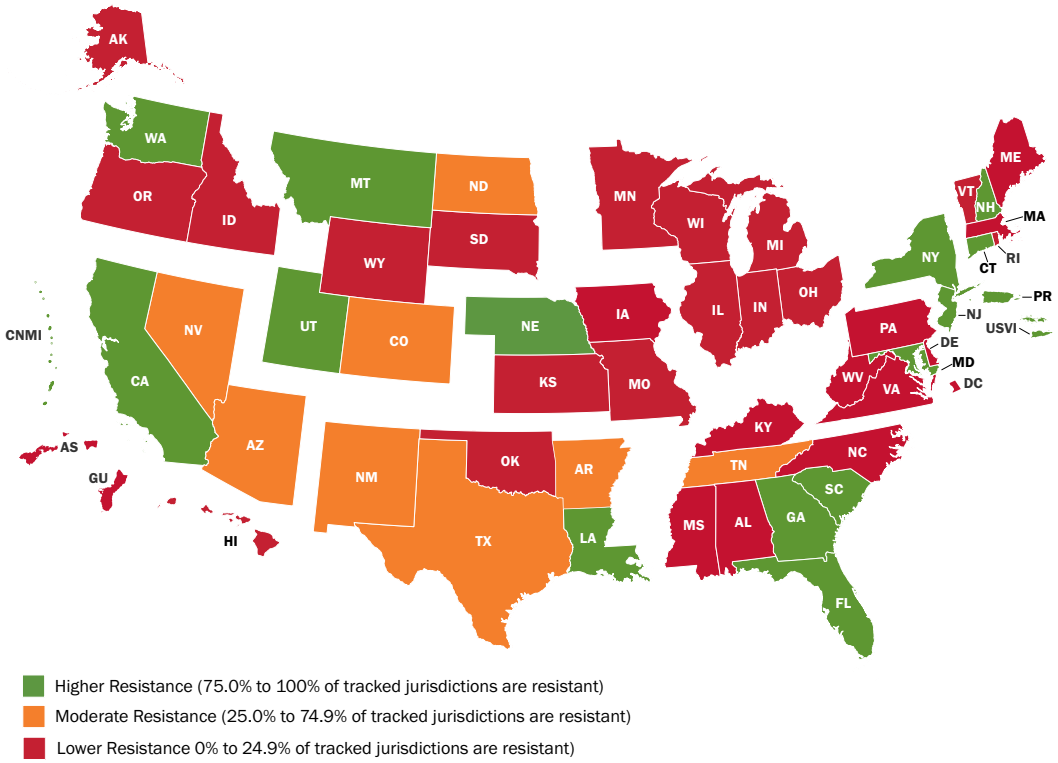


Figure 8. BCAT Map of the United States grouped by FEMA regions (October 2024)

BCAT Portal

The data FEMA has collected through BCAT is presented through the BCAT Portal, which is an interactive map designed through a web-based geographic information system that presents data down to the jurisdiction level. **The map tracks multiple natural hazards** and displays the following information:

- Code adoption information for Census Incorporated Places
- Additional metadata such as the latest decennial U.S. Census population and National Flood Insurance Program Community Identification number
- High-risk areas, code adoption and weakening amendments viewable for each individual hazard or through a combined hazards layer

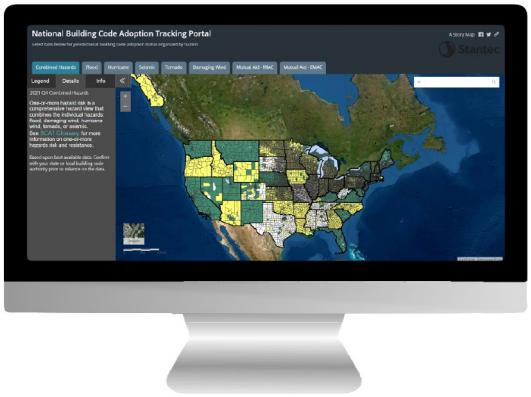


Figure 9. BCAT Portal

Did You Know?

BCAT is a year-round endeavor. The interactive portal is updated every quarter while the FEMA Regional fact sheets are released every spring.

Maximizing FEMA Funding Opportunities

Incentivizing Adoption

Natural hazard-resistant communities begin with modern building codes. Looking for ways to fund more robust codes in your community? FEMA offers a multitude of **grants focused on helping communities to adopt and enforce building codes.**

ⓘ Contact your state hazard mitigation officer for assistance on grant opportunities.

Building Resilient Infrastructure and Communities

FEMA administers the Building Resilient Infrastructure and Communities (BRIC) grant program to help the nation unlock its mitigation potential through annual funding opportunities that support communities to undertake mitigation projects. Building code activities can be funded under eligible Capability- and Capacity-Building activities.

Did You Know?

BRIC has fully embraced building codes by boosting subapplicant scores when applicants have adopted current building codes.

As an example, the table below shows the Fiscal Year 2023 funding opportunity for the BRIC grant. Please visit the BRIC webpage on FEMA's website to learn about the latest funding opportunity.

Table 1. Total Available BRIC FY23 Funding

Total Available BRIC Funding in Fiscal Year 2023 - $1 Billion					
Uses of Assistance	$112M State/ Territory Allocations	$50M Tribal Set-Aside	$112M State/Territory Building Code Plus-Up	$112M Tribal Building Code Plus-Up	$701M National Competition for Mitigation Projects
Management Costs	✓	✓	✓	✓	✓
Capability and Capacity Building Activities	✓	✓			
Mitigation Projects	✓	✓			✓
Building Code Adoption and Enforcement	✓	✓	✓	✓	

Funding for Building Code Projects

BRIC has placed building codes at the forefront of resilience by funding adoption and enforcement projects through its Capability- and Capacity-Building activities:

Capability- and Capacity-Building activities must result in a resource, strategy or tangible mitigation product that will reduce or eliminate risk and damage from future natural hazards, increase resiliency and promote a culture of preparedness.

Capability- and Capacity-Building activities are eligible under BRIC's State/Territory Allocation and Tribal Set-Aside, both of which can offer u**p to $2 million per applicant**.

Capability- and Capacity-Building Activity Eligibility

Open to:

- State/Territory Allocation: All 50 states, the District of Columbia and U.S. territories may apply
- Tribal Set-Aside: All federally recognized tribal governments may apply

Eligible Activities: Building Codes (see next page), Partnerships Project Scoping, Mitigation Planning and Planning-Related Activities

Homes in North Carolina by Zac Gudakov

Examples of Eligible Building Code & Enforcement Activities under BRIC Capability- and Capacity-Building

Evaluate adoption and/or implementation of codes that reduce risk

- Evaluate which code adoption and enforcement activities are best suited for the jurisdiction
- Adopt building codes or develop building code requirements that help make the community more resilient
- Develop activities related to improving code enforcement

Enhance existing adopted codes to incorporate more current requirements or higher standards

- Improve or modify current or existing building code requirements to reflect current code edition, exceed current code edition, or develop or modify building code–coordinated requirements, including publication of those requirements, that help make the community more resilient
- Enhance existing adopted codes and enforcement to incorporate more current requirements, higher standards, electronic permitting, online code access, virtual inspection technology, and remote building codes administration
- Conduct public awareness outreach activities (related to new requirements)

Develop professional workforce capabilities through technical assistance and training

- Provide or pursue training, including individual certification courses (inspector, plans reviewer, certified floodplain manager, etc.) and training for both the public and private sector
- Develop planning, training, and exercises for post-hazard building code enforcement through the International Code Council's When Disaster Strike's Institute training course
- Develop or acquire software and hardware, and associated training, to assist with plan reviews, permitting, inspections, and records retention
- Engage consulting services to support activities related to building codes
- Cover costs associated with building department accreditation
- Purchase publications, or obtain digital license or printing permissions of publications, to support building code activities

Building Code Plus-Up

Unique to FY23, BRIC has dedicated funding through the Building Code Plus-Up funding opportunity which allows up to $2 million per state and territory and $25 million for Tribal Nations dedicated for building code activities. This includes eligible activities such as:

- Evaluate adoption and or implementation of codes that reduce risk.
- Enhance existing, adopted codes to incorporate more current requirements or higher standards.
- Develop professional workforce capabilities related to building codes through technical assistance and training.

How Building Codes Will Help You Win a Competitive BRIC Grant

While funding for building code activities is eligible under BRIC's Capability- and Capacity-Building activities under BRIC's State/Territory Allocation and Tribal Set-Aside, **building code-related projects are not eligible under BRIC's national competition**. That said, **building code-related criteria do factor into how prospective competitive grants are scored and awarded funding**.

Technical Evaluation Criterion 3 – Building Code Adoption and Enforcement Requirement

This criterion has the main objective of evaluating the status of building code adoption and building code enforcement. Evaluation is done in two steps: in Subcriterion 3.1, subapplications are evaluated for building code adoption and enforcement, and the maximum point allotment for this sub-criterion is 20 points. If the subapplication does not receive any point for Subcriterion 3.1, then it will be evaluated for Subcriterion 3.2, where it could receive a maximum of 5 points.

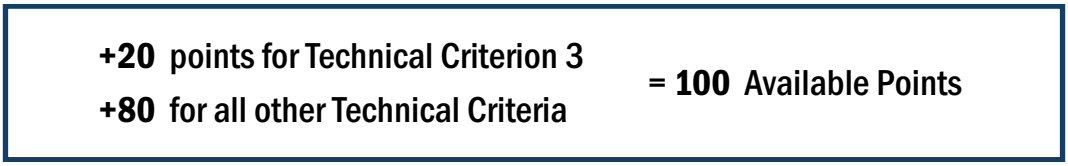


Figure 10. Point Allocation for Scoring BRIC's Technical Criteria

As shown in **Figure 10**, applicants who successfully meet the two building code-related sub-criteria are guaranteed nearly twenty percent of technical criteria points, thus helping guarantee a successful application.

Subcriterion 3.1 – Building Code Adoption and Enforcement (Maximum 20 Points)

Building Code Adoption (5 or 10 points)

To receive the maximum point allotment for building code adoption (10 points), both the applicant and the community where the project will be conducted must have adopted current building codes. Only the 2018 or 2021 editions of the International Building Code (IBC) and the International Residential Code (IRC) by the ICC are accepted.

A project gains 5 points if it's in a community with locally adopted building codes, verified via the community's Building Code Effectiveness Grading Schedule (BCEGS). If more recent codes are adopted than those reflected in the BCEGS, or if there's no BCEGS, documentation of the latest local code adoption must be provided through FEMA GO.

An additional 5 points are awarded if the local codes align with state, tribal, or territory-wide mandatory adoptions. Federally recognized tribes without these specific adoptions must show alternate compliance with the 2018 or 2021 IBC and IRC or prove coverage under another jurisdiction's code adoption to earn points.

Building Code Enforcement (10 Points)

BRIC uses the Building Code Effectiveness Grading Schedule (BCEGS) to assess building code enforcement. This system evaluates a community's building code practices and assigns a score from 1 (best) to 5. This evaluation only applies to subapplicants.

Local subapplicants, including those in territories, must have a BCEGS rating between 1 to 5 to earn 10 points for building code enforcement when the application is submitted. State or territory subapplicants applying must either:

- Have a BCEGS rating of 1 to 5 for both commercial and residential buildings based on the 2020 averages on the ISO website.
- Submit a BCEGS score from ISO directly (for territories and the District of Columbia).

State or territory subapplicants can also update their BCEGS rating with new information verified by ISO. Tribal applicants must provide their BCEGS scores, which may change depending on their relationship with local municipalities in terms of building code management.

BCEGS Bureau States

Subapplicants in bureau states operating their own insurance rating organizations separate from ISO must present a state-verified BCEGS score for building code enforcement to qualify for possibly receiving the point allotment for code enforcement. Subapplicants at the state level must supply this score at the state level, whereas local-level subapplicants should obtain their scores from the state.

Bureau state contact information is provided below:

- **Hawaii Insurance Bureau, Inc.**, 715 South King Street, Suite 320, Honolulu, Hawaii, Phone: 808-531-2771

- **Idaho Surveying and Rating Bureau, Inc.**, 5440 Franklin Road, Suite 101, Boise, Idaho, Phone: 208-343-5483
- **Property Insurance Association of Louisiana**, 433 Metairie Road, Suite 400, Metairie, Louisiana, Phone: 504-831-6930
- **Mississippi State Rating Bureau**, 2685 Insurance Center Drive, Jackson, Mississippi, Phone: 601-981-2915
- **Washington Surveying and Rating Bureau**, 200 1st Avenue W, Suite 500, Seattle, Washington, Phone: 206-217-9772

If a subapplicant does not possess a BCEGS score, a free survey to obtain one is available upon request. This survey takes two to four months to complete and does not affect credit scores. Applicants aiming for BRIC funding should start this process early. To apply for a BCEGS survey, follow the instructions on the ISO Mitigation website, and direct any questions to BCEGS_info@verisk.com. Both applicants and subapplicants in Bureau states should include their (state-verified) BCEGS scores in the Evaluation section of FEMA GO.

Subcriterion 3.2 – Alternative Higher Standards (Maximum 5 Points)

If a project subapplication has not received any points in Subcriterion 3.1 (Building Code Adoption and Enforcement), 5 points could be allotted if the subapplicant can provide a narrative demonstrating that they hold higher standards for the primary hazard they have identified in their subapplication and that their project intends to mitigate.

Below is a non-exhaustive list of examples of higher standards that could be considered under this subcriterion:

- Prohibition of fill within the floodway and/or floodplain.
- Requiring at least 2 feet of freeboard in all Special Flood Hazard Areas.
- Prohibition of siting/placement of critical facilities within the 0.2% annual-chance-floodplain (aka 500-year floodplain).
- Coastal zone (Zone V) development requirements, including open foundations, seaward of identified Limits of Moderate Wave Action.
- Utilizing a higher risk category.
- Utilizing a higher importance factor for the primary hazard Subapplicants should submit the narrative in FEMA GO in a file with a title including the text “Alternative Higher Standards.”

For more information on how competitive grants are scored under BRIC’s Technical Criteria, please visit BRIC’s page on what to do before applying.

BRIC Direct Technical Assistance

BRIC Direct Technical Assistance (DTA) can provide project or application-specific and community-wide resilience needs for up to 36 months after the declared disaster. FEMA can connect communities with experienced mentors who provide support and lessons learned. There is no DTA requirement for a previous BRIC grant sub-application or award or an approved hazard mitigation plan. For more information on DTA, please review the Program Support Material.

Other Building Code Funding Opportunities

FEMA provides many building code-funding opportunities beyond BRIC. The following table details the grant program's name, who can apply and what potential eligible activities are available to help adopt or enforce building codes. For more information, **click on the grant title to get more details.**

	NEHRP State Assistance Grant Program	Hazard Mitigation Grant Program	Hazard Mitigation Grant Program Post-Fire Funding	Public Assistance Program
	Non-Disaster	***Disaster-Related***	***Disaster-Related***	***Disaster-Related***
Open To:	States and territories determined to have a high or very high-risk of earthquakes (Individual State Earthquake Assistance) or Non-profits and higher education institutes (Multi-State and National Earthquake Assistance).	State, territories and tribal governments submit on behalf of subapplicants after presidential major disaster declaration. Homeowners, business operators, and non-profit organizations cannot apply directly to FEMA, but can be included in a subapplication submitted by an eligible subapplicant.	State, territories and tribal governments with a FEMA-approved mitigation plan affected by fires that resulted in a Fire Management Assistance Grant declaration on or after Oct. 5, 2018.	Government or Private Non-profits up to 180 days following the disaster. Please see DRRA 1206 flyer for more details. A video that explains the public assistance funding process is also available.
Eligible Code Activities:	Update building codes, zoning codes and ordinances to enhance seismic safety	Post-Disaster Code Enforcement	Building Code Improvements: Evaluate or implement building codes that reduce risk, enhance existing building codes to incorporate more current requirements or higher standards, and develop professional workforce capabilities.	Building Code Administration, Code Enforcement, Floodplain Management Ordinance Administration and Enforcement, Substantial Damage Determinations

New Hazard Mitigation Grant Program (HMGP) and HMGP Post-Fire 5% Codes and Standards Initiative

Applicants may apply for up to 5% of the HMGP ceiling or HMGP Post-Fire award for codes and standards activities. The 5% Codes and Standards offers expanded eligibility for a variety of codes and standards activities. This funding source must be used for codes and standards activities and may be paired with the 5% Initiative for a total of up to 10% of the HMGP ceiling or HMGP Post-Fire award. For more detail, refer to the 2024 Hazard Mitigation Assistance (HMA) Guide and Policy, Part 11.F.1.4.

In general, both HMGP and HMGP Post-Fire offer:

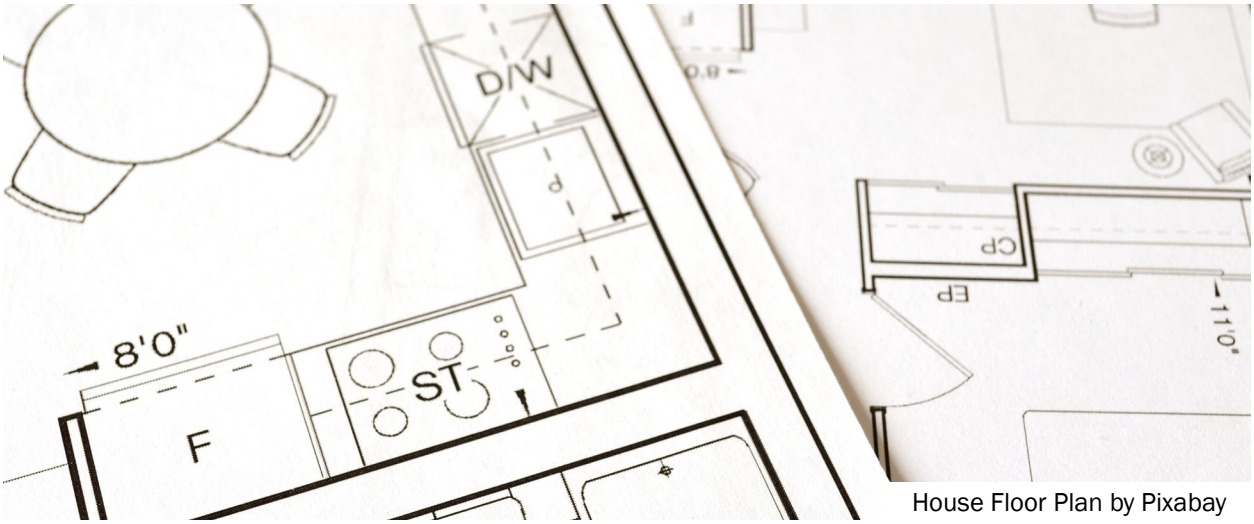
- Advance assistance: Advance assistance is authorized by Section 404(e) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 271 which allows advancing up to 25% of the HMGP ceiling or HMGP Post-Fire award. For more detail, refer to the 2024 HMA Guide, Part 11.B.

- 5% Initiative: Up to 5% of the recipient's HMGP ceiling or HMGP Post-Fire award may be used for hazard mitigation measures that are difficult to evaluate against traditional program cost effectiveness. For more detail, refer to the 2024 HMA Guide, Part 10.A.7.1.

- 7% planning: Up to 7% of the recipient's HMGP ceiling or HMGP Post-Fire award may be used for mitigation planning activities in compliance with 44 CFR 201.3(c)(4). Within this percentage, there are no limits on the dollar value of the planning-related activity or the number of planning activities that can be submitted on behalf of a community. For more detail, refer to the 2024 HMA Guide, Part 11.A.2.4.

- 5% Codes and Standards: Up to 5% of the recipient's HMGP ceiling or HMGP Post-Fire award may be used for codes and standards mitigation activities. For more detail, refer to the 2024 HMA Guide, Part 11.F.1.4.

Other federal agencies including the Department of Energy and Department of Housing and Urban Development also have programs that support the adoption and implementation of codes. Jurisdictions should also identify opportunities to leverage this funding.



House Floor Plan by Pixabay

Code Adoption Checklists

Two adoption checklists are presented here to help inform those in charge of building code adoption of the general processes followed.

If you are involved in the local government, please reference the Building Code Adoption Checklist for Jurisdictions page. If you are involved in statewide building code adoption, please refer to the Statewide Building Code Adoption Checklist page.

Often, a jurisdiction's authority to adopt building codes is dependent on the level of home-rule authority granted by the state to its political subdivisions. Broadly speaking, there are two general categories states fall into, although some may not fall into either category or may be a combination of both. Those categories are:

- **Non-Home Rule**: Jurisdictions do not inherently possess the authority to amend the state building code (if there is one) nor to adopt their own code but may do so if and only if the state has formally delegated such authority to them.
- **Home Rule**: Jurisdictions do not need the state to expressly grant them the authority to adopt a building code but instead inherently possess that authority. However, if the state has adopted and mandated a building code statewide, this may restrict the local jurisdiction's ability to adopt a separate code or to amend the state's code with local amendments and may even override a local building code previously adopted by the jurisdiction.
- In states that adopt a statewide building code and follow a combination of the two rules, jurisdictions are permitted to modify the state code with local amendments applicable within their respective boundaries.

ⓘ Contact your office of legal counsel to learn more about your legal authority.

Did You Know?

Requiring current natural hazard-resistant codes—i.e., the IRC and IBC—could prevent roughly $14,000 in losses per building in areas where codes have not been updated in the past two decades, an $11 to $1 return on investment.

$14,000
losses prevented per building

$11 to $1
return on investment

Building Code Adoption Checklist for Jurisdictions

As noted in the "Code Adoption Checklists" page, a jurisdiction's ability to adopt building codes can vary. The following checklist provides a general overview of how local jurisdictions can go about adopting current, natural hazard-resistant building codes.

Recommended Adoption Checklist

If your state, tribe or territory follows **Non-Home Rule** exclusively, please visit here for information on your statewide building codes and who to contact for related questions.

Jurisdiction Code Adoption Checklist	Checkbox
1. Determine if your jurisdiction has the legal authority to adopt its own codes.	☐
If your jurisdiction has the legislative authority to adopt its own code, please proceed to step 2a.	
If your state has adopted a code and your jurisdiction has the power to choose whether to adopt the state code, please proceed to step 2b.	
2a. Reach out to your local International Code Council chapter or Government Relations Representative for help determining which I-Code editions should be adopted and enforced in your area. Chapter representatives can also help you determine if any modifications are necessary through formal amendment. Remember, natural hazards are unpredictable and only getting stronger due to climate change. AHJs should consider above-model code legislation. For additional information, sample code ordinances can be found here.	☐
2b. Decide whether you would like to adopt the code chosen by your state. Typically, the AHJ will release a public notice of intent and give the public an opportunity to review the proposed code and formally submit proposals for code amendments. The proposals are voted on by a council composed of representative stakeholders such as government agencies, utility companies, professionals from the design and construction industry, builders and others. The approved amendments are then incorporated into a revised code, which gets voted on by the council in order to formally adopt. Amendments to remove or weaken the natural hazard-resistant provisions of the code should not be approved.	☐

Jurisdiction Code Adoption Checklist	Checkbox
3. A group of representatives appointed by the governing body or administration should release a notice to the public describing the code. The notice should state the following: ▪ The purpose of adopting a building code ▪ The name of the building code that will be adopted ▪ Stakeholders who support the adoption of this code Consult your city, county or state attorney for the available options.	☐
4. Once the notice has been released, stakeholders may provide feedback and possible amendments.	☐
5. The representatives and other stakeholders involved should review all comments received and decide if they should be rejected or incorporated into the code.	☐
6. The code is formally voted on.	☐
7. Proceed to enforce the adopted and/or amended code within your jurisdiction.	☐

For resources to help you adopt, check out the "Resources" section.

Local jurisdictions who adopt current building codes without weakening the natural hazard-resistant provisions are safer and stronger against natural hazards. Building codes minimize the damage caused by hazards which results in fewer deaths, injuries and damage to the jurisdiction.

Gavel by Sora Shimazaki

Statewide Building Code Adoption Checklist

As noted in the "Code Adoption Checklists" page, each state has its own set of rules that determine how adopted building codes are followed within the state. There are two general processes a state follows when adopting a building code. Those are called **legislative action** and **regulatory action**.

Recommended Legislative Action Checklist

Legislative action is a process followed by states, tribes and territories when adopting a code.

Legislative Action Adoption Checklist	Checkbox
1. A representative should present a bill for a new building code to be adopted in their state.	☐
2. The appropriate state legislature committee(s) should review the bill and determine if any adjustments need to be made.	☐
Although this might vary according to your jurisdiction's processes, the Bill will be reviewed at a committee or subcommittee level, released from one or both committees and then get voted on by the house or senate and then cross over into the other chamber for their review, potential modification and vote.	
3. Public hearings are conducted to allow for additional comments and feedback.	☐
4. Revisions are made based on comments received.	☐
5. The bill is voted on. Modifications should not weaken natural hazard-resistant provisions. During this step, the opinions of many other stakeholders, including non-technical stakeholders, are considered. It is also determined whether modifications need to be made to the code.	☐
6. If the bill is voted for, the code is adopted statewide. A state department is designated as having responsibility for implementation, but roles for local governments may also be included. Note: Codes are not always voted on and some states may require a final level of approval either by the Governor, their designee or the Legislature.	☐

When states, tribes and territories adopt current building codes without weakening the natural hazard-resistant provisions in them, buildings are better able to withstand the harsh impacts of natural hazards. Strong buildings keep state residents safer as well as reduce financial losses from any damage incurred.

Recommended Regulatory Action Checklist

When codes are adopted through regulatory action, the state usually asks a group of stakeholders or interested parties to be in charge of carrying out the adoption process. The process is set up through a prior legislative action providing direction to the responsible agency, potentially including a timeline for updates.

Regulatory Action Adoption Checklist	Checkbox
1. The representatives should release a notice to stakeholders that describes the code and the intent to update the code. The notice must state the following: ▪ The purpose of adopting a building code ▪ The name of the building code that will be adopted ▪ Stakeholders who support the adoption of this code	☐
2. Once the notice has been released, the public may provide feedback or propose amendments.	☐
3. The representatives and other stakeholders involved should review all comments received and decide if they should be rejected or incorporated into the code.	☐
4. The code is formally voted on by those that the state requires to be involved in this process.	☐
5. If the bill passes, the code can be implemented. Note: Some states may require a final level of approval either by the Governor, their designee or the Legislature.	☐

Blueprint by Daniel McCullough

Code Enforcement Process

How Building Code Enforcement Works

After a community adopts codes, it is the AHJ's responsibility to ensure that the construction of new buildings and the repair, alteration and addition of existing buildings is carried out in compliance with the adopted codes. Professionals such as **building officials** and **building inspectors** help communities safeguard the well-being of their citizens through proper code enforcement.

Where and How We Build:

Watch FEMA's webinar on how land use and building codes interact to increase resiliency.

Who Enforces Building Codes?

The following position types enforce the adopted building code ordinance at the direction of their AHJ:

Building Code Official: An officer or other designated authority charged with the administration and enforcement of the code, or a duly authorized representative such as a building, zoning, planning, fire or floodplain management official.

Building Plans Examiner: A Building Plans Examiner is part of the building code professional team responsible for reviewing submitted plans to determine if they meet the requirements of the comprehensive building code package that their jurisdiction has adopted. They issue the Permit for Construction.

Building Inspector: A building inspector is part of the building code professional team who reviews plans and visits construction sites to ensure the project is being constructed in accordance with approved set of plans. They issue the final Certificate of Occupancy.

Enforcement through Permitting

1. A developer, designer, owner or contractor submits an application for a permit to construct, repair or remodel a building or change a building's use.
2. Building code officials/inspectors or their designees will process the application and review the plans prior to issuing any permits. Note: several revisions to the plan may be required before a permit is processed and issued.
3. A permit is issued per the community's adopted codes and based on the approved set of plans.

   Note: A community may have additional requirements in approving a permit, including planning and zoning.

Stay Connected!

Sign up for notifications on new and upcoming enforcement-related resources from FEMA!

4. At set milestones during construction, the Building Code Official conducts inspections to ensure compliance with the adopted building in accordance with approved sets of plans.
5. A Certificate of Occupancy is issued when the Building Code Official is satisfied all requirements have been met and occupants can move into the building.
6. The International Property Maintenance Code or an equivalent may prompt future safety inspections.

Throughout this process, Building Code Officials are responsible for:

   a. Keeping official records such as permit applications, approved sets of plans, permits, fees, inspections, notices and issued orders.
   b. Interpreting the codes' application.
   c. Requiring corrections to bring the building into compliance with the code if issues are identified.
   d. Other duties identified in the community's adopted codes.

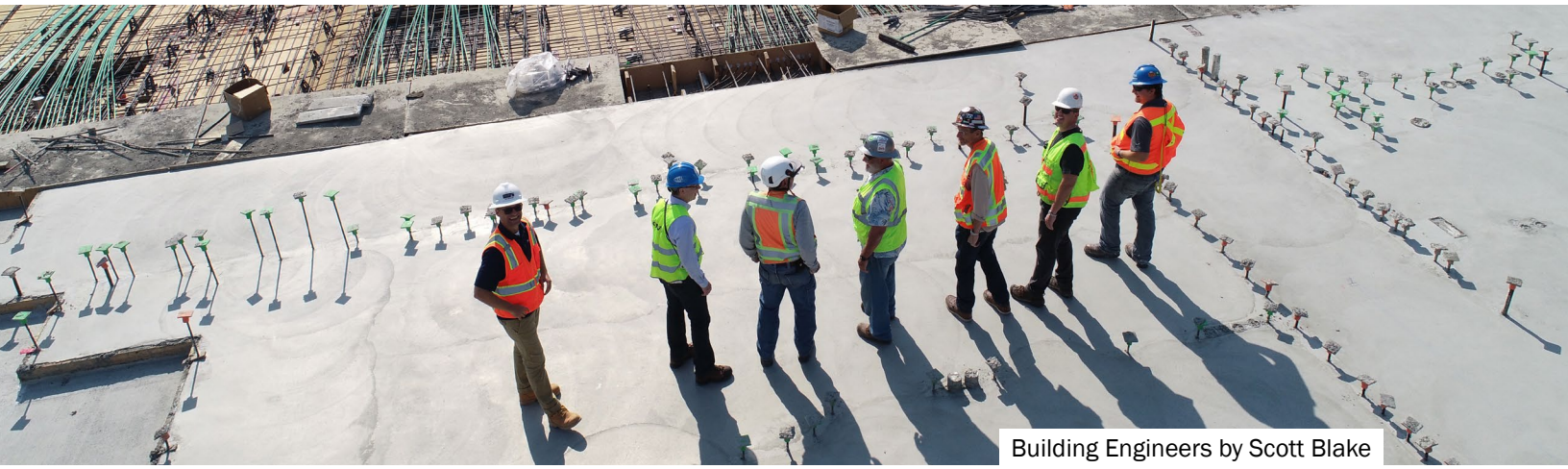
For more information, visit ICC's *Bring on Building Safety: Code Enforcement Explained*.

Post-Disaster Assistance for Building Code Administration and Enforcement

The FEMA Public Assistance Program can reimburse eligible building code administration and enforcement activities that occur up to 180 days after a major disaster declaration.

For more information, visit:

- FEMA Policy FP 204-079-01
- Applying for Building Code Administration and Enforcement Reimbursement through FEMA's Public Assistance Program Flyer
- DRRA 1206 Frequently Asked Questions Vol 1
- DRRA 1206 Frequently Asked Questions Vol 2

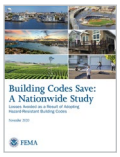


Building Engineers by Scott Blake

Resources

Benefits of Building Codes

Building Codes Save
This publication provides readers with information on the financial losses avoided through the adoption of natural hazard-resistant building codes.



Natural Hazard Mitigation Saves Report
This report provides an analysis of the cost-effectiveness of mitigation efforts such as building code adoption and retrofitting.

Resilient Building Codes Toolkit
This publication's intent is to bring transparency and clarity to building codes, especially with respect to resilience.

FEMA Grant Information

FEMA Grants
This page provides information on the types of available grants and how eligible applicants can obtain them.

FEMA Building Science

FEMA Building Codes Strategy
This page contains information on FEMA's strategy to organize and prioritize activities to advance the adoption and enforcement of hazard-resistant building codes and standards for FEMA programs.

Building Science Resource Library
This page contains all of FEMA's natural hazard-specific guidance that focuses on creating natural hazard-resistant communities.

Building Code Documents
This page contains building code documents, which provide guidance on the natural hazard-resistant provisions in the building codes for property owners, engineers, design professionals, building code officials and the general public.

Seismic Building Codes
This page includes nuanced information on seismic building codes as well as relevant resources.

Building Science Training
This page lists a variety of training courses designed to help users obtain the knowledge, tools, and support they need to plan and implement mitigation strategies that involve building science.

Acknowledgments

FEMA would like to acknowledge the contributions of the following persons to the Building Codes Adoption Playbook:

Project Management
Juan Nieves, Project Officer, FEMA
Shane Crawford, PhD, FEMA
Larissa L. Santoro, LEED AP, FEMA
Gregory Wilson, CFM, FEMA

Authors
Annie Laukaitis, Gemini Tech Services, LLC.
Madeleine Stallworth, Gemini Tech Services, LLC.
Darieus Zagara II, Creative Engagement Solutions, LLC.

Design
Steph Brendel, Gemini Tech Services, LLC.
Christina Zagara, Creative Engagement Solutions, LLC.

Review Panel
Charles Baker, FEMA
Dan Bass, RA, CFM, FEMA
Bill Blanton, CFM, FEMA
Michelle Buckley, FEMA
Rafael Canizares, FEMA
Jonathan Chipperfield, PhD, PE, FEMA
Zach Corcoran, J.D., Stantec Inc.
Alexis Eshleman, FEMA
Julie Furr, PE, SECB, Rimkus Consulting Group, Inc.
Andrew Herseth, PE, SE, FEMA
John Ingargiola, CBO, CFM, FEMA
Ed Laatsch, PE, FEMA
Sharon Magorien, FEMA
Mike Mahoney, FEMA
Brian Metzger, USFA
Maher Mirza, FEMA
Stephen Mitchell, CBO, CFM, S. Mitchell & Associates Consulting
David Ratté, PE, FEMA
Jeffrey Ryan, FEMA
Pataya Scott, PhD, EIT, FEMA
Dale K. Thomure, Verisk
Mai Tong, PhD, FEMA
Jonathan Westcott, PE, FEMA
Mariam Yousuf, EIT, CFM, FEMA

And the International Code Council