OUR MEETING WILL BEGIN SHORTLY

Welcome to the

NAIC & FLASH Building Codes, Mitigation, and Resilience Funding State DOI Virtual Workshop

March 17, 2021

- ✓ All audio will be muted upon entry
- ✓ Unmute yourself to speak
- ✓ Use the "chat" feature for questions, comments or assistance
- ✓ If you have joined by phone, to mute and unmute your line, press*6



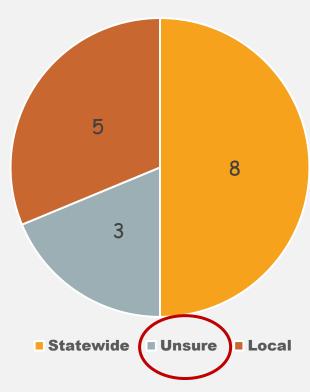


WORKSHOP STATE DOI SURVEY RESULTS

BUILDING CODES

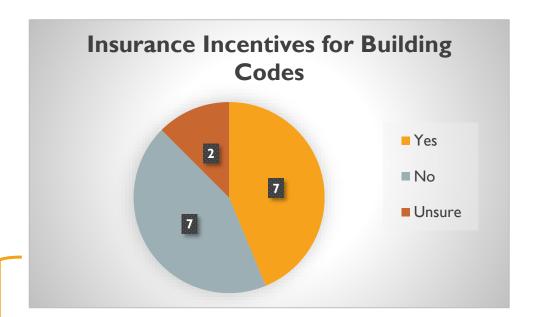
- On a scale of 1 to 10, the state regulators rated the importance of quantitative evidence of the effectiveness of building codes/mitigation in reducing disaster losses as an average of 8.75 (7 rated it as a 10 meaning extremely important).
- Most respondents either knew the current IRC or where to find it.
- 5 states responded that they are part of the code adoption and enforcement process.
- 2 states oversee building codes, 1 of those only in certain counties.
- 13 states know what state agency is responsible for overseeing building codes.
- <u>9 states</u> reported a <u>desire to be more engaged in building code adoption and enforcement.</u>

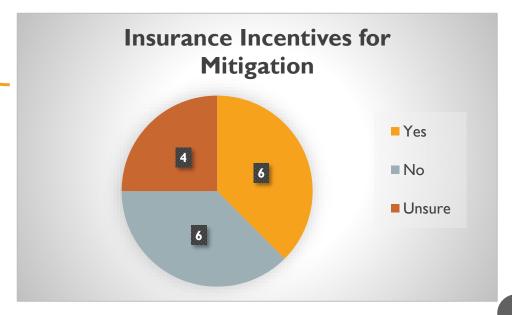
Building Code Framework

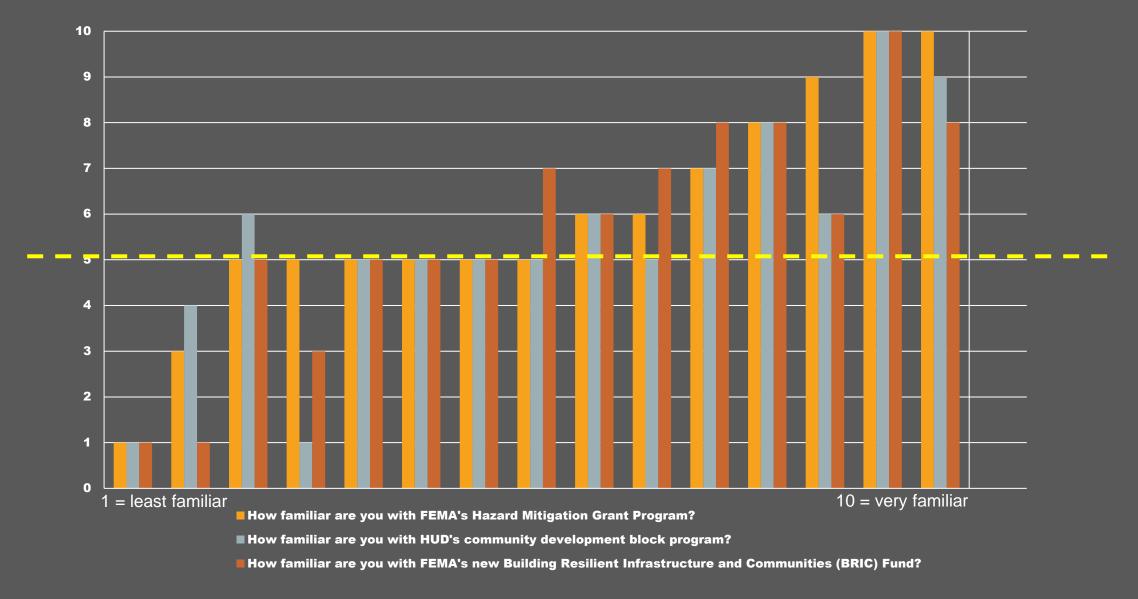


INSURANCE INCENTIVES

In some states these may be mandated by statute, others may have optional discounts offered from insurers. Majority of states either do not have, or are unsure if have, insurance incentives for building codes or mitigation



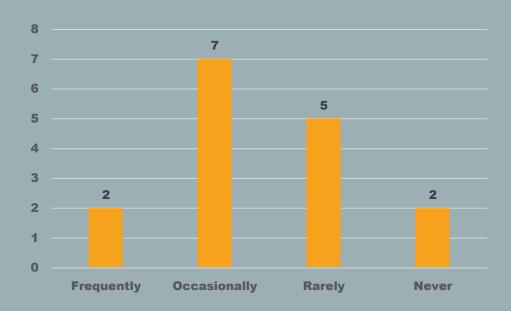




FAMILIARITY WITH FUNDING MECHANISMS

CONSUMER INFORMATION

Does the DOI receive requests for information on building codes and/or mitigation programs from consumers?



Does the DOI ever provide information and/or messaging to consumers about the following?







Building Codes, Mitigation, and Resilience Funding State Department of Insurance Virtual Workshop

Wednesday, March 17							
	Building Codes and Standards - Day One presentations will address the following design questions:						
Time (Central)	 How does the U.S. building code system work? What is the relevance of building codes and standards to insurance? What role can State Departments of Insurance play in advocating for stronger building codes? Which studies provide economic evidence in support of codes? 						

	Building and Energy Code Adoption and Enforcement					
1:10pm – 2:00 pm	Explanation of the process and framework for (building and energy) code adoption and enforcement. What codes cover in relation to perils, including evidence of avoided losses. Show where state participants fit into various models of statewide and local adoption and avenues for engagement. • Building Code 101 – what is a code and what does it cover? • Overview of model code development (International Building Code—IBC, International Residential Code—IRC, Energy Codes) • Why do codes matter? What economic proof exists of cost benefit and losses avoided? (National Institute of Building Sciences—NIBS & FEMA studies)					
	"code future" (sealed roof deck example)					
	Presenters:					
	 Sara Yerkes, Senior Vice President of Government Relations – International Code Council (ICC) 					
	2. Ryan Colker, Vice President of Innovation – ICC					
	 Dr. Anne Cope, Chief Engineer – Insurance Institute for Business and Home Safety (IBHS) 					





ICC Vision and Mission

VISION: Protect the health, safety and welfare of people by creating safe buildings and communities.

MISSION: To provide the highest quality codes, standards, products and services for all concerned with the safety and performance of the built environment.



Organization

- Nonprofit corporation
- Committed to making buildings safe to protect people and preserve properties
- Develops and maintains building safety codes/standards used to design, construct and maintain residential/commercial buildings
- Headquartered in Washington, D.C.
- 64,000+ members and 394 Chapters
- Staff of more than 500 engineers, architects, advocacy and administrators



The Family of Building & Community Solutions



- Codes and Standards
- Personnel Training and Certification
- Product Evaluation
- Accreditation Services
- Codification & Administration Services
- Engineering Support
- Community Resilience Benchmarks[®]
- Third-Party Evaluation
 Services



Family of Companies













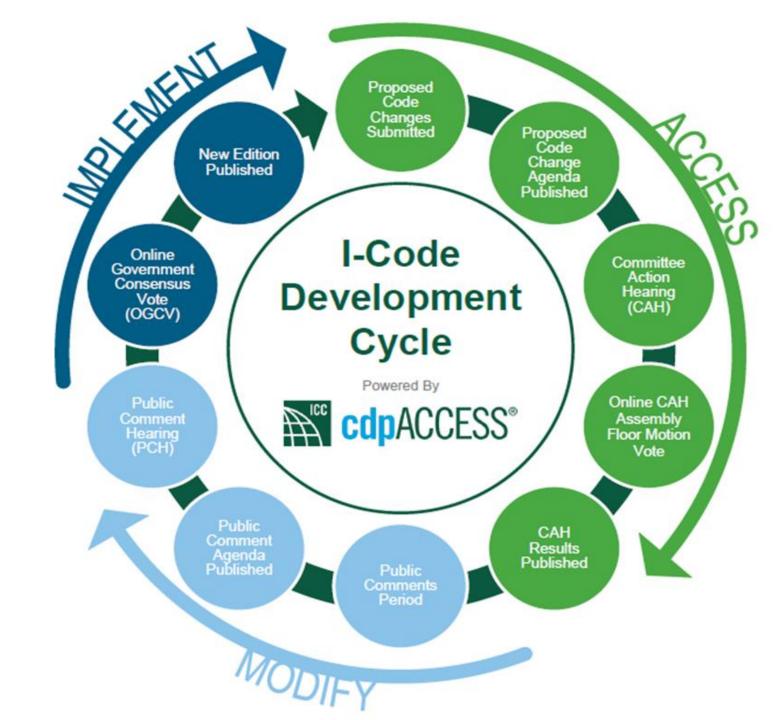


The Family of Model Codes

- International Building Code (IBC)
- International Fire Code (IFC)
- International Mechanical Code (IMC)
- International Plumbing Code (IPC)
- International Residential Code (IRC)
- International Energy Conservation Code (IECC)
- International Existing Building Code (IEBC)
- International Fuel Gas Code (IFGC)
- International Property Maintenance Code (IPMC)
- International Private Sewage Disposal Code (IPSDC)
- International Zoning Code (IZC)
- International Wildland-Urban Interface Code (IWUIC)
- ICC Performance Code (ICCPC)
- International Green Construction Code (IgCC)
- International Swimming Pool and Spa Code (ISPSC)



International Code Development Process



IECC Development (2024 and beyond)

- Developed using standards process.
 - New Scope and Intent.
 - Commercial & Residential Committees
 - Balance of interests:
 - 1/3 Government Regulators.
 - 8 other interest categories.
 - Public submission of code change proposals, consideration in public forum.
 - Committee and working groups allow deliberation, consensus.
 - Continuous maintenance to capture new technologies user needs.



The Value of I-Codes

- Consensus-based code development process, the International Codes (I-Codes)
 are highly regarded and used in all 50 U.S. states, Federal agencies and
 in other countries.
- I-Codes form regulatory framework for construction and safety regulations.
- Buildings built to updated codes incorporate the latest technology and provide the safest, most resilient structures for our families and communities to protect against building failures, hurricanes, tornadoes, floods, high-rise fires and other modern-day disasters.
- Updated codes save time and resources after a disaster. The National Institute of Building Sciences released a study that found that adoption of the 2018 I-Codes generates a national benefit of \$11 for every \$1 invested.
- As technology around the building trades evolves and becomes more advanced, so do the I-Codes. Every three years, the Code Council updates the model codes to ensure that the codes reflect the latest innovations in building science.



The IBC

- The International Building Code is a model code that applies to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition.
- The IBC addresses structural strength, means of egress, sanitation, adequate lighting and ventilation, accessibility, energy conservation and life safety in new and existing buildings, facilities and systems.
- The codes are updated on a 3-year cycle to allow for new construction methods and technologies to be incorporated into the codes.

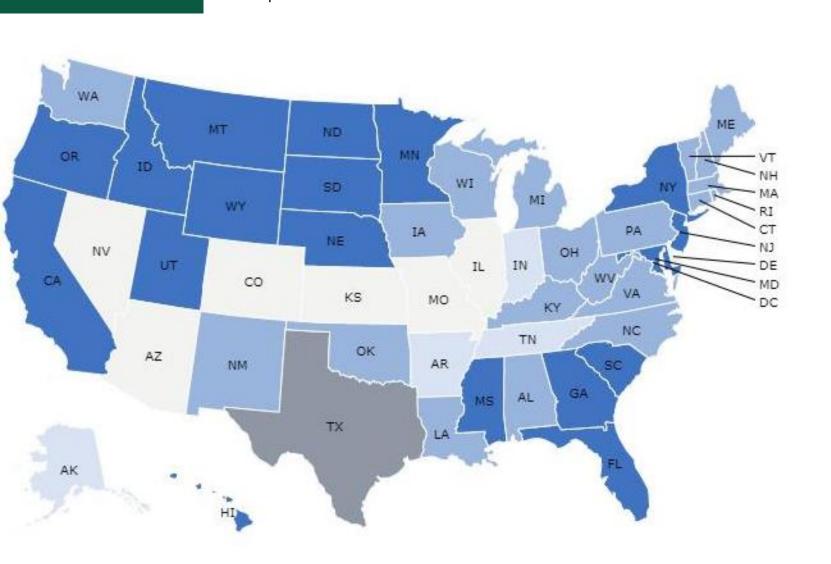


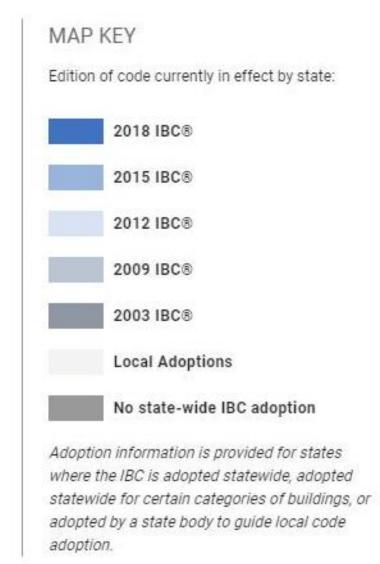
Statewide vs Home Rule

- There is no one size fits all under the definition of statewide adoption or home rule.
- Some states adopt statewide for state owned or funded buildings;
- Some states adopt statewide for all buildings;
- Some states adopt at the local level;
- Some states allow locals to make more restrictive provisions in the codes;
- 43 states have codes adopted statewide;
- Several states only adopt certain codes statewide, i.e. IECC.

IBC Adoption in the US:

The International Building Code (09-21 editions) is adopted as a statewide code in 42 states, and as a local code in the remaining 7, as well as the District of Columbia. Texas adopts the 2003 IBC.





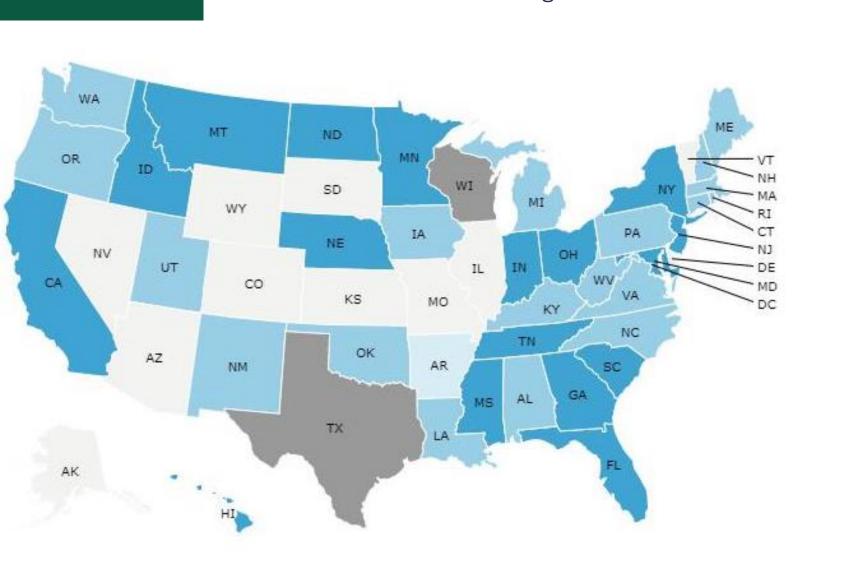


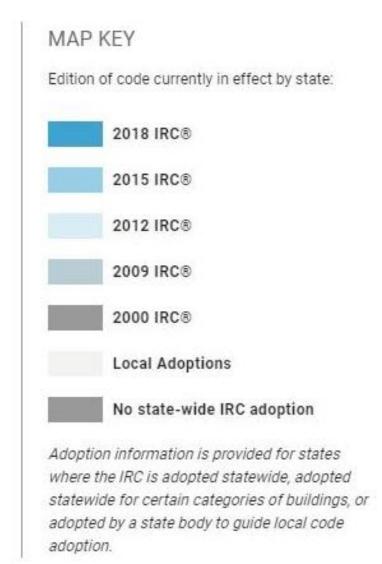
The IRC

- The IRC applies to the construction, *alteration*, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and *townhouses* not more than three stories above *grade plane* in height.
- The IRC was created to serve as a complete, comprehensive code regulating the construction of single-family houses, two-family houses (duplexes) and buildings consisting of three or more townhouse units.
- A separate code also allows for residential and nonresidential code provisions
 to be distinct and tailored to the structures that fall within the appropriate
 code's scope, and makes finding relevant code provisions simpler for
 residential occupants/buildings.
- The IRC contains coverage for all components of a house or townhouse, including structural components, fireplaces and chimneys, thermal insulation, mechanical systems, fuel gas systems, plumbing systems and electrical systems.

IRC Adoption in the US:

The International Residential Code (09-21 editions) is adopted as a statewide code in 39 states, and as a local code in 9, as well as the District of Columbia. Texas adopts the 2000 IRC. Wisconsin has a home grown residential code.





US Code Adoption Database

CODE ADOPTIONS

All Locations

I-CODES MAPS

Search for a state, county, jurisdiction, township or zip-code to view adoptions

This site provides information about code adoptions in the United States. Select a tab and search by state or by code.

For **code adoption by location**, select a state from map or use the search field below. For information about building codes and standards used internationally, visit the <u>Global Building Codes Tool</u>.

ND OR SD WY IΑ NE NV CO KS MO ΑZ TX



Q

- https://codeadoptions.i ccsafe.org/
- Find code adoption information at the state and local level
- Color coded adoption maps for each I-Code

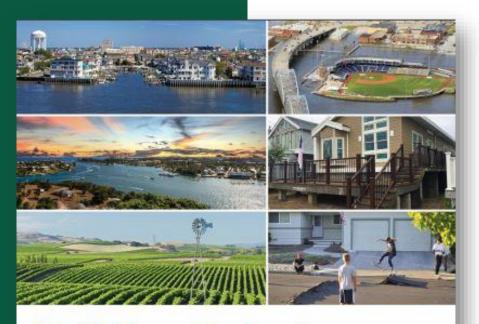
Mitigation is Highly Cost Effective

1000		ADOPT CODE	ABOVE	BUILDING RETROFIT	LIFELINE RETROFIT	FEDERAL GRANTS
National Institute of BUILDING SCIENCES Overall Benefit		11:1	4:1	4:1	4:1	6:1
7.76	Cost (\$ billion	\$1 /year	\$4 _{/year}	\$ 520	⁵0.6	\$27
Benefit (\$ billion)		\$13/year	\$16/year	\$2200	\$2.5	\$ 160
	Riverine Flood	6:1	5:1	6:1	8:1	7:1
Ø	Hurricane Surge	not applicable	7:1	not applicable	not applicable	not applicable
ရျို	을 Wind		5:1	6:1	7:1	5:1
₩	Earthquake ·		4:1	13:1	3:1	3:1
8	Wildland-Urban Interface Fire		4:1	2:1	not applicable	3:1

Copyright © 2019 The National Institute of Building Sciences



Building Codes Save: A Nationwide Study



Building Codes Save: A Nationwide Study

Losses Avoided as a Result of Adopting Hazard-Resistant Building Codes

November 2020



- The IRC and IBC provided more than \$27 billion in cumulative mitigation benefits against flood, hurricane wind, and earthquake hazards from 2000 to 2016. These benefits could have been doubled if all post-2000 construction adhered to the I-Codes.
- If construction continues at the pace the study observed and if the proportion of that construction adhering to the I-Codes is consistent with the trend the study identifies, the I-Codes could help communities avoid \$132 billion to \$171 billion in cumulative losses through 2040.
- If all new buildings across the U.S. were built to modern editions of the I-Codes, the country would save more than \$600 billion by 2060.



BUILDING CODES: DRIVING GROWTH THROUGH INNOVATION, RESILIENCE AND SAFETY RESILIENCE IN THE BUILDING CODES

Creating a resilient nation requires diligent planning and innovative thinking. Incorporating new technologies in current building practices to achieve higher resiliency is exciting but can be expensive. Thankfully, effectively utilizing current codes and standards throughout all phases of the building's lifecycle increases the efficacy of new building technologies and offers a cost effective path toward community stability during times of disaster. Resilience starts with strong, regularly updated, and properly implemented building codes.





Creating a Sustainable Community

- Provisions in the I-Codes include sustainability measures for the entire construction project and its site making buildings more efficient and less economically and environmentally wasteful.
- Building sustainably has effects that go beyond the walls and into the community — for example, car charging stations make it easier to own eco-friendly vehicles and smart grid demand response systems lower energy prices for the consumer and increase grid stability for the surrounding area.



Ensuring Mental & Physical Health and Wellbeing

 Provisions in the I-Codes address mental and physical health and well-being from dealing with sanitation and pest control to designing buildings that respond to the latest science on mood and mental health.

www.iccsafe.org



Efficient Disaster Mitigation & Recovery

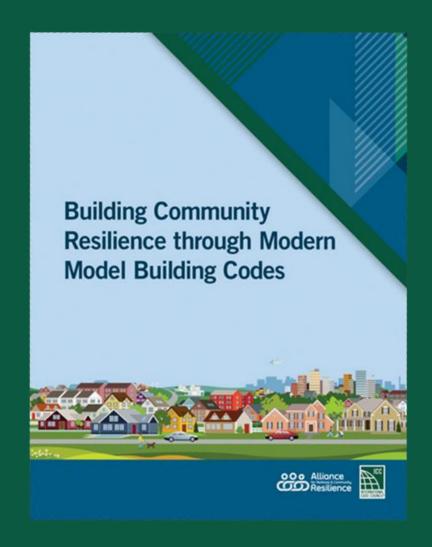
- Provisions in the I-Codes address disaster preparedness and recovery from how and where to build in flood plains to constructing buildings that can better withstand natural and manmade disasters.
- A study done by the Congressionally established National Institute of Building Sciences showed that adopting up-to-date codes saves \$11 for every \$1 invested.
 FEMA analysis also found that if all new U.S. buildings were built to modern editions of the I-Codes, the country would save more than \$600 billion by 2060.



Improving Building Life Cycles

- Provisions in the I-Codes enable changes to the systems inside the building or even the structure itself at some point after its initial construction and occupation including repair, alteration, change of occupancy, addition to and relocation of existing buildings.
- As communities change, so do the buildings they use. Updated codes allow buildings to adapt, keeping a sense of continuity while also reducing blight from outdated, unused buildings.

Building Codes & Resilience



Resilience in the built environment starts with strong, regularly adopted, and properly administered building codes. However, to attain whole community resilience, communities must look at the resiliency of all interconnected systems and function of the community as well.

Codes & Resilience

Resilience Contributions of the International Building Code

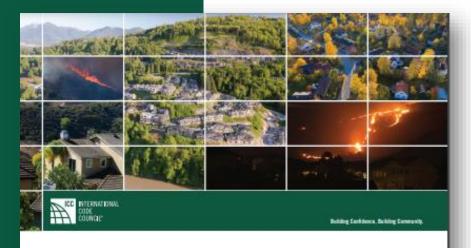


INTERNATIONAL CODE COUNCIL

The scope of the IBC is clearly focused on assuring that a community's building stock supports the resilience of the community. Reducing the impacts on people and property in the face of multiple shocks and stresses allows communities to survive and ultimately thrive.



Codes & Resilience



Wildland-Urban Interface Codes Support Community Resilience

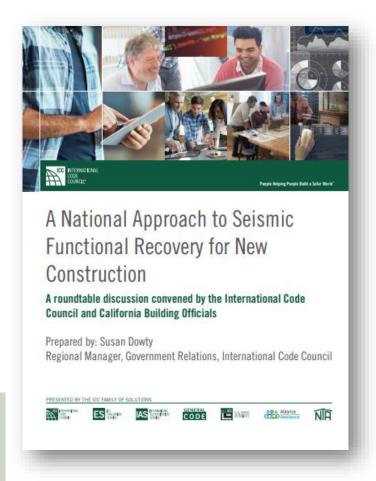
October 19, 2020

Among management options offered to help mitigate the U.S. wildfire problem, the National Cohesive Strategy suggests that focusing on building codes supports the goal of making homes and other buildings more resistant to ignition.

. . .

The IWUIC recognizes the benefits of a holistic approach to addressing risks and enhancing community resilience. Protection from wildfires relies on a community-wide approach that engages multiple actors. Reliance on building-level measures alone will not provide the level of protection necessary.

Functional Recovery



Working definition:

Design and construction intended to result in a building for which post-earthquake structural and nonstructural capacity are maintained or can be restored to support the basic intended functions of the building's pre-earthquake use and occupancy within a maximum acceptable time, where the maximum acceptable time might differ for various uses or occupancies.

- Advancing codes beyond life safety to address social and economic resilience.
- Requires focus beyond buildings to infrastructure services.
- Initially seismic, but principles applicable across hazards.

https://www.iccsafe.org/advocacy/seismic-functional-recovery/

Cities, states and the federal government have committed to energy or greenhouse gas emissions goals





USDN urban sustainability directors network









Pledge, Compact, Commitment, or Initiative	Number of Participating US Local Governments			
Climate Mayors	407			
We are Still In	307			
Ready for 100	148			
Under2MOU	26			
Bloomberg American Cities Climate Challenge	25			
Rockefeller 100 Resilient Cities	24			
2030 Districts	21			
DOE Zero Energy Schools Accelerator	14			
DOE Energy Accelerator	11			
DOE Zero Energy Districts Accelerator	4			

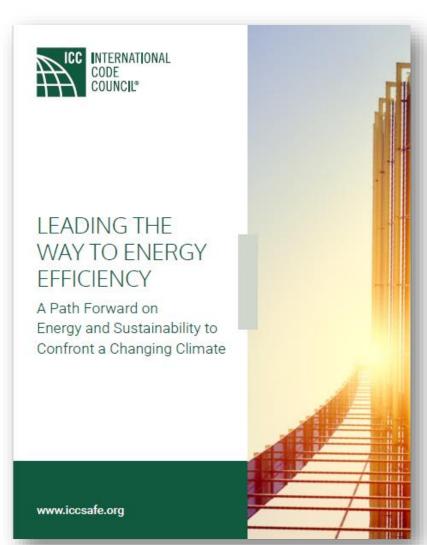
ACCEPTANCE ON BEHALF OF THE UNITED STATES OF AMERICA

I, Joseph R. Biden Jr., President of the United States of America, having seen and considered the Paris Agreement, done at Paris on December 12, 2015, do hereby accept the said Agreement and every article and clause thereof on behalf of the United States of America.

Done at Washington this 20th day of January, 2021.

JOSEPH R. BIDEN JR.

Leading the Way to Energy Efficiency: A Path Forward on Energy and Sustainability to Confront A Changing Climate



- New IECC scope and intent:
 - Pathways to zero energy
 - Energy efficiency and GHG reduction appendices
 - Cost effectiveness analysis
 - Continual improvements in energy savings
- Energy and GHG Reduction Resources:
 - Electric vehicle charging
 - Electrification
 - Grid interactions/efficiency
 - Renewable & storage integration
- Energy and Carbon Advisory Council

www.iccsafe.org/energy

ICC NTERNATIONAL COUNCIL: People Reiging People Boild a Safer World*

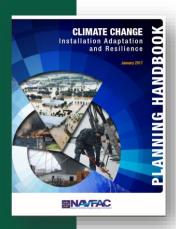
The Important Role of Energy Codes

in Achieving Resilience

Energy Codes are a Resilience Strategy

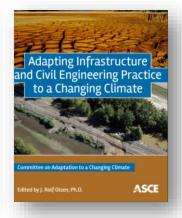


An Essential Resilience Issue: Designing for Future Risk





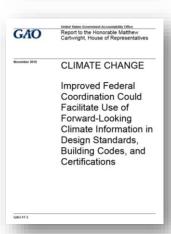




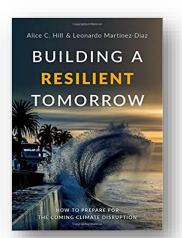


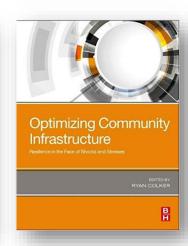


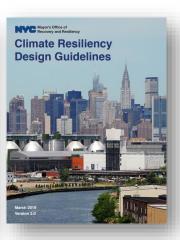


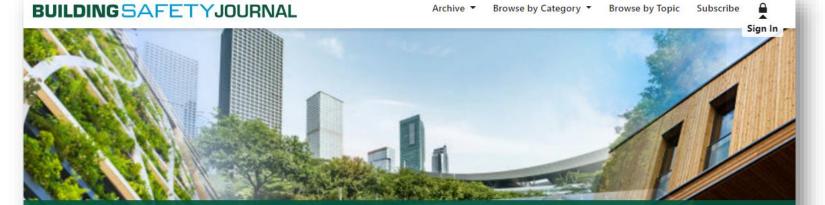












Code Council launches global initiative on building resilience

NOVEMBER 22ND, 2019

by ICC

QUICK HITS

he International Code Council launched a new global initiative to bring together experts from the U.S.,
Australia, Canada and New Zealand to improve building resilience worldwide. This new collaborative forum
provides a valuable opportunity for participants to discuss common struggles, and to share knowledge, research,
and best practices, as they consider the role of building codes in resilience and durability in the face of increasingly
severe weather events.

The Code Council hosted the first roundtable in Newport Beach, California, from October 29-30, 2019. The gathering included building code developers and experts in emergency management, climate science and resilience. The discussion was moderated by Alice Hill, Senior Fellow for Climate Change Policy at the Council on Foreign Relations. The group explored a broad range of issues such as extreme wind, rain, flooding, sea level rise, tidal surge, wildfires and heat stress, and how they create differing approaches to the regulation of buildings and building safety.

SUBMISSIONS

Check out upcoming BSJ topics and send us articles for consideration:

Submit

Or send by email

Want to advertise in the BSJ?

Click Here

SHARE THIS ARTICLE.

www.globalresiliency.org



The Use of Climate Data and Assessment of Extreme Weather Event Risks in Building Codes Around the World:

Survey Findings from the Global Resiliency Dialogue

January 2021









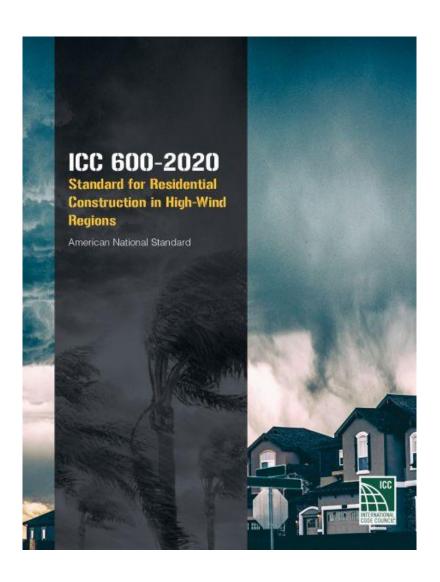




www.globalresiliency.org | page |

Insurance Lessons Learned in the Codes





Thank you!! Questions?

- Sara Yerkes, Senior Vice President, Government Relations; syerkes@iccsafe.org
- Ryan Colker, Vice President, Innovation & Executive Director, Alliance for National & Community Resilience; rcolker@iccsafe.org
- International Code Council
- 500 New Jersey Ave., NW
- Sixth Floor
- Washington, DC 20001

	State Advocacy for Enhanced Building and Energy Codes	
2:00pm – 2:20pm	Mississippi to present on personal experience advocating for Statewide Building Codes, coordination with other state agencies, barriers and challenges encountered along the way, and how the state overcame any opposition.	
	Presenter: Andy Case, Consumer Services Director – Mississippi Insurance Department	

Building Codes and the Connection to Insurance

The Building Code Effectiveness Grading Schedule (BCEGS®) assesses the building codes in effect at the community level and how well the community enforces its building codes, with special emphasis on mitigation of losses from natural hazards. BCEGS measures the resources and support made available to the enforcement of building codes. The BCEGS program assigns each community a BCEGS classification of 1 (exemplary commitment to building code enforcement) to 10. ISO develops advisory rating credits and provides participating insurers with classifications, data, and related underwriting information to inform risk decision-making.

2:20pm – 2:55pm

- Basics of BCEGS
- Application and usage of BCEGS in insurance
- ISO/Verisk and State Department of Insurance engagement in communicating with community decision-makers and improving the effectiveness of building code adoption and enforcement

Presenter: Dale Thomure, Manager, Community Hazard Mitigation – ISO/Verisk



State DOI Virtual Workshop

Building Codes and the Connection to Insurance

The Building Code Effectiveness Grading Schedule (BCEGS®)

March 17th, 2021



Dale K. Thomure, CBO, CFM
Community Hazard Mitigation Manager - ISO

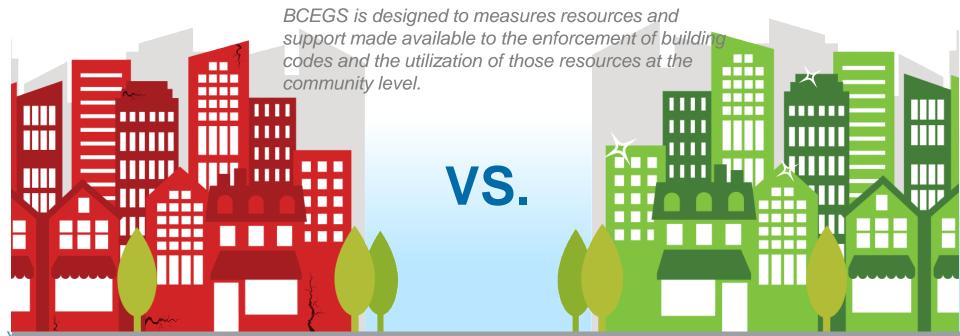


Building Code Effectiveness Grading Schedule (BCEGS®)



- Unique Industry Program
- Created by Insurance Industry and ISO in the mid-1990's
- Reviews building codes and enforcement efforts at the local level
- Three main focus areas:
 - Administration of Codes (54%)
 - Review of Building Plans (23%)
 - Field Inspections (23%)

- Aggregated into classifications of 1–10 for both Personal and Commercial Lines
- Filed for usage or licensed in every state
- Data and classifications 1996* to present
 - Address level application
- Regular data refresh
- Historic data specific to each evaluation year





Evaluation of Community-Level Enforcement

BCEGS Areas of Focus		
Code	Adopted Building Code	
Administration	Adopted Sub-Codes	
	State and Local Code Amendments	
	Method of Code Adoption	
	Natural Hazards Impacting the Jurisdiction	
	Staff Training and Education	
	Certification of Staff	
54%	Qualification of the Building Official	
	Utilization of Design Professionals	
	Zoning and Land-Use Provisions	
	Contractor Licensing Programs	
	Public Awareness Programs	
	Appeals Process	
	Administrative Policies and Procedures	
	Quality Assurance Programs	
Plan Review	Plan Review Staffing	
	Experience of Plan Review Personnel	
23%	Detail of Plan Review	
2070	Management of Plan Review Activity	
Field Inspection	Inspection Staffing	
	Experience of Inspection Personnel	
0007	Management of Inspection Activity	
23%	Inspection Checklists	
	Special Inspections	
	Inspections for Natural Hazard Mitigation	
	Final Inspections	
	Certificates of Occupancy	

PL and CL Classifications

-Filed Advisory Rating Credits - Advisory Loss-Costs

Database Storage of Granular Data Elements for Underwriting Usage

- Building Underwriting Reports



SERVE | ADD VALUE | INNOVATE



BCEGS is an Indicator of Community Vulnerability

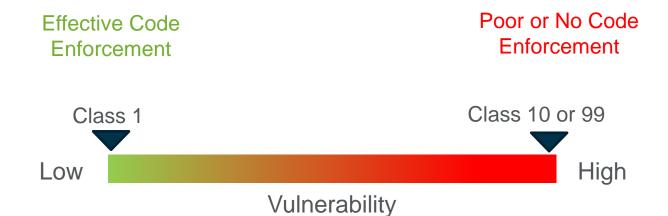
Consider the two towns below:

Modern Building Code

Weakened or No Building Code









In Loss-Cost Modeling – BCEGS is an Indicator of Building Vulnerability

Consider the two homes below:

Features of a Building
Built to Code

Features of a Building
Not Built to Code





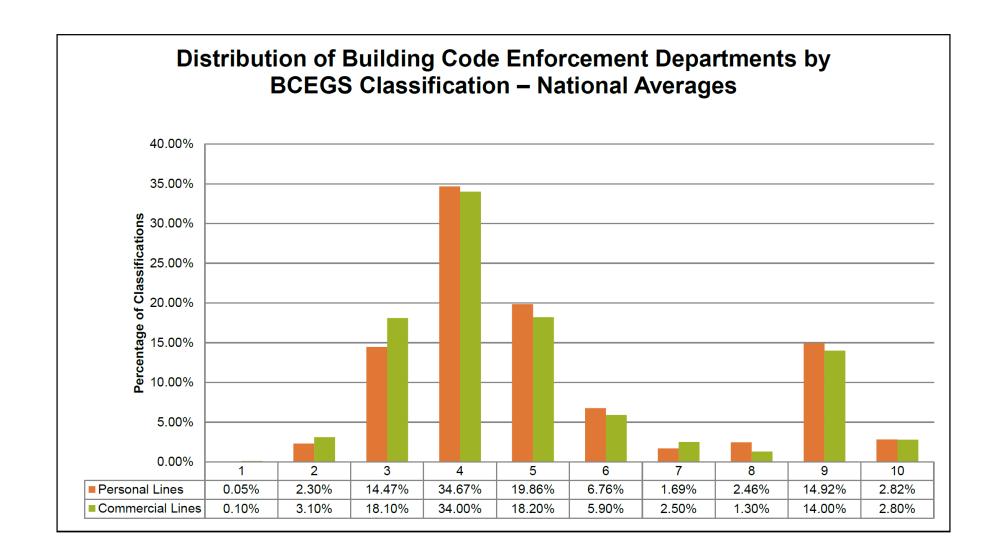








BCEGS Classifications – ISO States





BCEGS Data Usage and Applicability in the Insurance Marketplace



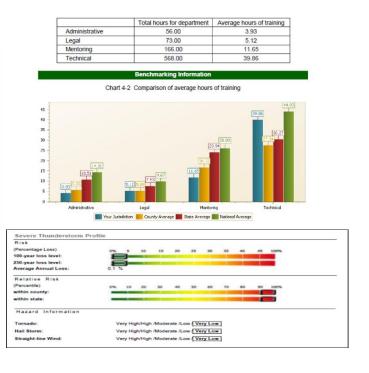
- ISO has filed advisory credits applicable to Wind and Seismic
 - BCEGS is an available factor in Advisory Loss-Cost and in Enhanced Wind Rating programs.
- ISO makes BCEGS information available to carriers for underwriting usage.
- BCEGS data is utilized in AIR Catastrophe Models
- BCEGS Classifications are necessary for credit in the FEMA/NFIP CRS Program applicable to flood insurance credits.

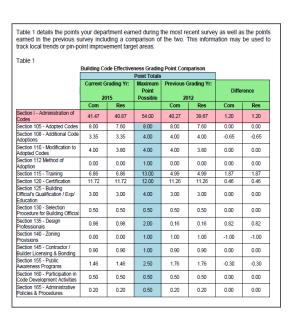


Community Engagement: ISO Community Benchmark Reports Hyper-Local Analysis of Enforcement Efforts

ISO provides every community with a detailed Benchmark Report. Benchmark Reports are local-facing and include peer comparisons to be utilized for department management efforts.





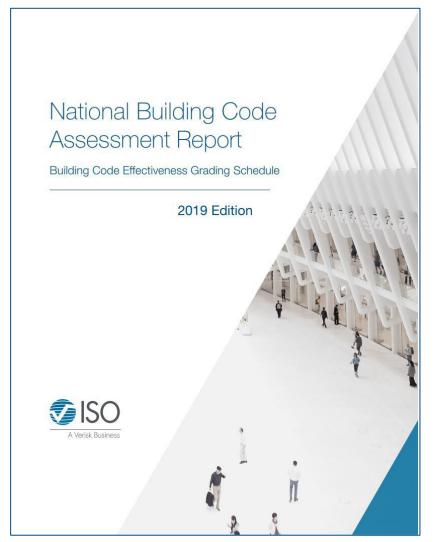


SERVE | ADD VALUE | INNOVATE



ISO National Building Code Assessment Report - 2019

"A basis for first conversations with local decision-makers."



- Second report on the State of Building Codes in the Nation
- Focused on the Human Element of Building Code Enforcement
- Insights powered by BCEGS Data and ISO Internal Expertise
- Insurer and Code Industry Facing Content
- Designed to provide actionable information to advance the cause of **Community Resilience** through **Good Public Policy**
- Partner and Subsidiary Content
 - FLASH
 - ICC
 - FEMA Building Sciences Branch
 - AIR Worldwide, A Verisk Business
 - Wharton Risk Decision Processes Center, Austin College, National Center for Atmospheric Research (NCAR)
 - ISO Risk Engineering Group
 - Property Claim Service PCS, A Verisk Business



Moving Forward – Collaboration

Let's communicate with local decision-makers!

Code enforcement efforts are highly variable and are influenced by a number of factors.

FACTORS INFLUENCING EFFECTIVE CODE ENFORCEMENT			
State Level	Local Level		
Mandatory vs. Local Option Enforcement	Costs of Department Operations		
State Code Development Cycles	Access to Qualified Candidates		
State Code Amendments - Weakening	Scalability of Workforce		
Limitations on Local Enforcement	Code Amendments – Weakening		
Understanding of Natural Hazard Risk Recognition of the Value of Code Enforcement – Benefit vs. Cost			

SERVE | ADD VALUE | INNOVATE

2:55pm – 3:00pm

Presenter: Bruce R. Ramge, CPCU, CIE, Director – Nebraska Department of Insurance