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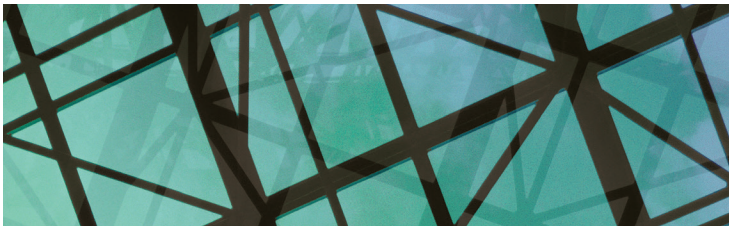

The Role of Existing Building Codes in Safely, Cost-Effectively Transforming the Nation's Building Stock

A White Paper by the National Institute of Building Sciences
National Council of Governments on Building Codes and Standards (NCGBCS)

An Authoritative Source of Innovative Solutions for the Built Environment

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Introduction

Existing buildings define the main streets and the skylines of the nation's communities. Yet, as these communities evolve to address changes in their economy and populations, they don't always have the mechanisms in place to assure the safety and security of their citizens while providing building owners and developers a cost-effective means for updating the existing building stock to meet changing needs. Existing building codes provide just such a mechanism.

In this white paper, the National Institute of Building Sciences National Council of Governments on Building Codes and Standards (NCGBCS), in its effort to support high-performance buildings and communities, examines effective strategies for promoting the adoption of existing building codes, as well as developing and implementing educational and training programs for owners, builders, contractors, design professionals and, most importantly, code enforcers. NCGBCS also addresses some of the implementation challenges and enforcement issues, and the technical changes necessary to improve future editions of the codes.

History

In the 1980s and 1990s, the three legacy regional model code organizations that ultimately came together to form today's International Code Council (ICC) each developed existing building codes. The U.S. Department of Housing and Urban Development (HUD) also developed a set of existing building rehabilitation guidelines. Once the regional bodies consolidated into the ICC, the development of the *International Building Code* (IBC) focused primarily on requirements for new construction. Recognizing the need for a prescriptive method for obtaining building permits for the alteration and rehabilitation of existing buildings, ICC later added Chapter 34 to the IBC. In 2003, expanding on the concepts identified in Chapter 34, the voting membership of ICC approved the first national model code for the alteration and rehabilitation of existing buildings and named it the *International Existing Building Code* (IEBC).

The goal of all these efforts was to have a feasible and reasonable set of technical requirements for local and state governments to adopt and use to conduct alterations and rehabilitate existing buildings. The IEBC has technical requirements that, in most cases, are more stringent than the codes under which existing buildings were initially built, but not as stringent as the model codes for new buildings. This approach incentivizes bringing existing buildings back into new or existing uses and occupancies by making the cost to upgrade more reasonable.

Elected leaders at the state and local levels have become more supportive of approving either statewide statutes and regulations or local ordinances to adopt the IEBC as the rehabilitation code for existing buildings. However, work is still necessary, and ongoing, on many fronts to convince elected leaders of the value of efficient economic redevelopment of blighted neighborhoods and industrial areas; of promoting sustainability and resiliency; and the adaptive reuse of existing buildings that adopting the IEBC allows.

In 2005, 13 state governments and 13 localities in other states adopted the IEBC for the first time for enforcement and use in existing buildings. By 2013, 21 state governments and 18 localities in other states had adopted the IEBC. It is extremely encouraging to see that, by 2016, the IEBC is effective statewide in 23 states plus the District of Columbia and localities in 18 other states are using the code. Meanwhile, New Jersey and Rhode Island have their own statewide existing building code.

Because Rhode Island's voluntary statewide existing building code is not widely used, that state is considering the adoption of the IEBC in 2017. In the next two years, Kentucky and Indiana have a high potential for statewide adoption of the IEBC while Ohio is likely to update its existing building code provisions. In 2017, Alabama, Massachusetts, Wisconsin, Maine, Florida, Virginia, and North Carolina are also considering existing building code regulations for the first time or adopting a newer edition of the IEBC. Hawaii, Alaska and Vermont are not actively considering statewide adoption of the IEBC.

States with Statewide IEBC	IEBC in State Locally	States with Own Code	States with No Existing Building Code
California	Alabama	New Jersey	Alaska
Connecticut	Arizona	Rhode Island	Hawaii
District of Columbia	Arkansas	Ohio*	Indiana
Florida	Colorado		Kentucky
Idaho	Delaware		Oregon
Louisiana	Georgia		Vermont
Maine	Illinois		
Maryland	Iowa		
Massachusetts	Kansas		
Michigan	Mississippi		
Minnesota	Missouri		
Montana	Nebraska		
New Hampshire	Nevada		
New Mexico	North Dakota		
New York	South Carolina		
North Carolina	South Dakota		
Oklahoma	Tennessee		
Pennsylvania	Texas		
Utah			
Virginia			
Washington			
West Virginia			
Wisconsin			
Wyoming			

* The Ohio Building Code has chapter 34, "Existing Buildings and Structures" which functions as an existing building code.

Table 1 - Existing Building Code Activities by State, incl. Washington, DC (ICC, October 2016)

In addition to the statewide adoptions, stakeholders interested in advancing utilization of the IEBC can focus on how the 18 localities in states without a statewide existing building code can motivate and encourage their states to adopt the IEBC statewide.

Promoting Adoptions

The purpose of the IEBC is to preserve the existing building stock by providing an effective means to rehabilitate and alter existing buildings or change their use or occupancy classification through a reasonable set of technical requirements and associated construction costs. Advancing adoption of the IEBC takes effective leadership by individuals and organizations committed to this philosophical purpose.

Capturing the benefits of an existing building code requires adoption, training and educational efforts focused on incrementally improving the safety of an existing building from when it was originally constructed and incentivizing, not penalizing, owners wanting to preserve existing buildings and to upgrade building components and systems proportionally to the work or area where work is being done. Though upgrades will not be to the same requirements for new construction, which may be cost- or technically prohibitive based on the existing building design, they do represent an improvement from the code baseline of the existing building.

The key strategy to getting an existing building code successfully adopted is coalition building. One only needs to look at statewide adoptions in states from Massachusetts to Florida. State legislators and executives typically looked for several things before approving the IEBC and making a paradigm shift in their state laws and regulations; first they knew the number and diversity of the supporters or opponents, and then whether there would be consensus. In many of these states, coalitions formed, including preservationists, housing advocates, realtors, owners, land use and smart growth planners, legal experts, builders, designers, contractors, code officials and local and state agencies. States that have seen the best outcome for state adoptions are the ones that have mandated the use of the IEBC or where permit applicants have the option to use the IEBC.

Effective strategies for state adoptions include providing policy makers and stakeholders with the clear intent and purpose of legislation; implementing regulations spelling out uniform, predictable and reasonable technical requirements and administrative processes; and, utilizing a model code like the IEBC. Other factors may include the recognition that existing buildings, some hundreds of years old, cannot all be reconstructed to meet a newly adopted model code.

Communities in every state are faced with decaying, blighted and vacant existing buildings. Often, these states and localities are enforcing national model fire prevention and maintenance codes, but they also need a parallel existing building code as a regulatory tool to issue notices of violation that can encourage revitalization of deteriorating existing buildings and neighborhoods. In some unique circumstances, jurisdictions may need to coordinate IEBC adoptions with retroactive requirements already present in their building code, such as the installation of smoke detectors in existing residential occupancies, or the installation of sprinkler systems in other occupancies, such as hospitals, nursing homes and hotels. When considering an existing building code, states need to first identify and acknowledge these types of retrofit requirements, as well as functional design and construction requirements by other state or local agencies, in order to coordinate to avoid conflicts when implementing the regulations.

Making an effective case requires spelling out the tangible benefits to policy makers and stakeholders through comparing states considering adoption with states where existing building

codes are already in place. Such benefits include the positive impact and means to provide affordable housing by incorporating new mixed-use projects that utilize existing buildings; supporting resiliency and sustainability efforts, energy conservation and green buildings; reducing traffic on crowded highways and encouraging mass transportation; and preserving open space.

National associations, their state affiliates and the model code organizations are important stakeholders to promote adoption and provide technical assistance and resources. Local and state news outlets can be valuable partners. It also is important to have a public relations and community outreach and support plan. Advocates should share their message with elected leaders, community and neighborhood associations and news outlets.

The contributors to this white paper, who represent state code officials, model code developers, building owners and design professionals, typify the aforementioned strategies in building a coalition of supporters.

Regulatory Implementation

Once an existing building code is adopted into law, implementing it through regulation should build upon the above strategies in almost all aspects. While adoption puts the requirements in a code, the regulatory process focuses on the details—on the provisions and formatting language needed for a legally binding set of requirements that clearly outlines the scope, purpose and intent, and the specific regulatory language for administration, enforcement and technical criteria. Many of the parties brought together to support adoption will still have a vested interest in promulgating the existing building code regulations.

Although supporters of adoption might be on board at the initial stage, disagreements may arise over the technical requirements within the model code; proposed state or local amendments; and how the model code integrates with other state or local regulations. For a successful outcome, early stakeholder involvement is essential to build consensus and to then move on to actual enforcement, education and training efforts and programs.

Every state has a formalized administrative process law for regulatory actions with a step-by-step process that must be followed. Most often, where a state building code already exists, a state agency will facilitate stakeholder meetings, schedule public hearings and prepare the proposed and final regulations for publication by the state registrar. Most local jurisdictions have similar processes.

In most states, a state regulatory board is charged by law to develop building code regulations. Usually, the governor appoints the members. In some instances, designated members on the boards may represent diverse interest groups impacted by building code regulations. Such designated members or gubernatorial appointments typically represent consumers, code officials, builders, owners, contractors and design professionals. Due to the very complex nature of building codes and the diversity of interests, these regulatory boards require patience, commitment and a healthy dose of collaboration to gain consensus and approve final regulations.

The lead state agency will prepare a schedule; create and assign work to workgroups and ad-hoc committees; summarize notes and actions for all activities; prepare regulations for review and approval by the legal counsel, the budget agency, the cabinet's secretary office and the governor's office; and develop and maintain a website for publication of all materials and code changes to ensure state agencies, local governments and all stakeholders are informed and notified throughout the development and final regulatory process. Only then can the state's registrar officially publish the proposed and final regulations. Before the final regulations become effective, an appeals process allows the public and the state's legislative body to object to the provisions or the underlying process. After all this is done, many states then will set an effective date, typically 90 days to a year after the final publication.

The ICC model code development process usually takes three years for each new edition. It can take another two years for states or localities to adopt the code. So, from start to finish, the development and adoption of a new model code edition can take five years or more. Adopting codes for new construction and existing buildings within this five-year time frame, and not skipping a regulatory cycle, while complex and time consuming, has real tangible benefits. Such benefits include the ability to correct errors or unintended consequences; to coordinate and correlate technical requirements; to introduce new technologies, design and construction methods; and, to support periodic and continuing educational and professional development of code officials, design professionals, builders and contractors.

The adoption of the IEBC in particular has broader community benefits by becoming a key element and driver of economic development; promoting affordable housing; allowing the reuse of existing building stock; and fostering the revitalization of older, often blighted and vacant neighborhoods. Building owners, developers and economic development authorities have flexibility to use methodologies that make the most sense for their project. The blighted or decaying communities become livable and vibrant again and the existing buildings become safer.

Education and Training

IEBC education and training strategies and delivery methods exist in multiple formats. Some of the more common education and training programs provide an overview delivered through printed articles or by webinars, formal classes, field and peer training or conference programs. Due to the varied audiences, these educational/training programs have to be scalable and flexible. Programs can typically last from an hour to four hours and are usually provided as part of a continuing educational program. By including content on why adopting the IEBC is smart policy for economic and community redevelopment and revitalization of existing buildings, these programs can also help gain support from national, state and local elected leaders.

Beyond offering an overview and conceptual framework of the IEBC, building owners, developers, housing advocates and business groups require expanded training. They still need an overview on the benefits of adopting and using the IEBC, but they also need a deeper understanding of how the reuse of existing buildings can be more economical than demolishing and starting from the ground up. The potential to lease or sell renovated existing buildings with a reasonable return on investment then becomes more obvious. An explanation of the core technical requirements for each IEBC methodology option must be part of the overview. These

more in-depth educational programs normally will require four hours to one day of training. The ICC's one-day course on the IEBC provides this more in-depth learning.

Finally, education and training for the code officials, technical staff and design professionals must include the overviews described above on why the IEBC is being adopted, its purpose and scope. In particular, the training should focus on why the IEBC allows permitting for alterations and reconstruction of existing buildings to be done differently and to less stringent standards than a new building. It is especially critical that code officials, their technical staff and design professionals support the IEBC methodologies as part of the construction documents review, enforcement inspections and occupancy approvals. These groups require a longer initial technical training program and continuing education and training thereafter. A minimum technical primer is one full day, but three to four days of technical training is required to competently develop or review construction documents and to conduct field inspections. While the IEBC offers several options for compliance, it is likely that one or two compliance methods will be selected by the majority of owners and design professionals. Early indication is that the work area method for repairs and alterations will be used most often.

New Jersey initiated statewide training for its code enforcers back in the 1990s. With the creation of the IEBC, ICC created a one-day overview on the purpose, scope and the three methodologies for compliance. Virginia has developed a three-day technical program for building officials, plan reviewers and technical staff that will be offered multiple times annually. Design professionals, building owners and developers at the state and national levels now offer short courses and webinars. The NCGBCS's goal is to partner with other Institute councils and interested stakeholders to offer or facilitate the creation of additional training focused on the needs of particular audiences and to become a clearinghouse for information on available training offered across the country. An example of possible new training initiatives for the IEBC might be a course offered at conferences and workshops sponsored by the Institute's Building Enclosure Technology and Environment Council (BETEC).

2021 IEBC Code Change Cycle

Development of the 2018 IEBC will be completed at the end of 2016. The 2021 IEBC code cycle commences in 2018. As more states and localities review and adopt the 2015 IEBC, they are finding a need to make dozens of state or local amendments for a variety of purposes such as scoping, formatting, clarifications, correlation issues within the IEBC and with other referenced ICC model codes, as well as technical requirements. At least a dozen states have found a need to amend the IEBC for one or more of the purposes noted. To ensure the 2021 IEBC code change process can benefit from these local and state reviews and regulatory actions, the Institute, through the NCGBCS, can be a resource to gather, publish and facilitate consensus proposals prior to and during the 2021 IEBC code development cycle. The ICC, through the ICC Regional Chapters, would be another venue to vet 2021 IEBC code changes.

Two states, North Carolina and Virginia, have made dozens of technical, format and administrative changes to the 2015 IEBC. A few of these changes are state-specific for compliance to state laws, but the vast majority are technical and format changes that improve the code. One such improvement rewrites Chapter 10 for increased clarity and coordination with the other ICC model codes. Another area that can be problematic in some states is the retrofit

requirements initiated by permits for alterations or reconfigured work space that triggers requirements that the entire existing building add smoke detectors or be sprinkled. States have also found a need for clarification of provisions on changes of occupancy from one classification to another or a level of activity, whether or not accompanied by increases in risk. Some states, localities or private-sector entities will independently submit proposed amendments for the 2021 ICC IEBC code change cycle, but the need remains for a clearinghouse of local and state amendments to the IEBC to be reviewed and vetted prior to submission. NCGBCS can be that clearinghouse.

Summary

The IEBC is being adopted or used by 23 states and by localities in 18 other states. Of the eight remaining states, New Jersey has their own existing building code without any plans to use the IEBC. Ohio, Rhode Island, and Indiana are considering IEBC for statewide adoption. Hawaii, Alaska and Vermont are not actively considering IEBC adoption. Formal and informal efforts to promote the adoption and use of the IEBC must continue. Interested stakeholders can assist by encouraging the state chapters of industry organizations to continue advocating for the adoption and use of the IEBC in these remaining eight states and statewide adoptions in the 18 states where only localities have adopted the IEBC.

Starting in 2017, NCGBCS recommends increased collaboration with other Institute councils that are focused on resilience, hazard mitigation, building enclosures and the economical reuse of existing buildings to develop training options. Many other educational and training avenues exist for partnerships with the private sector, including presentations at national and state conferences; developing web-based programs; and, developing and combining clearinghouse resources and training platforms with the traditional training programs now being offered by the ICC; local and state governments; and national and state trade associations.

Finally, existing and new educational and training program offerings will reveal a wealth of issues that can form the basis of code change proposals for the 2021 IEBC. The NCGBCS can facilitate the sharing of code changes with state regulators and private-sector partners and the development of consensus positions for these code changes. Having consensus on proposed code changes from multiple states and private-sector partners helps to ensure their passage by the ICC voting members. Several states have already identified challenges to address and have developed state-level amendments to fix these problems.

The IEBC is a strong tool that states and localities can use to address decaying, blighted and vacant existing buildings in their jurisdictions. With a coordinated effort among key stakeholders, these existing buildings can take a beneficial role in their communities.

NCGBCS Existing Buildings Committee

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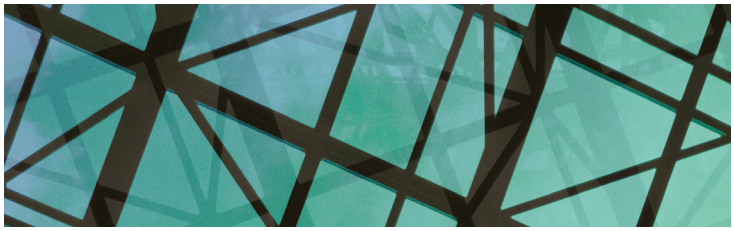
Sara Yerkes, International Code Council
John Terry, New Jersey Department of Community Affairs
Steve Orlowski, Building Owners and Managers Association
Paul Karrer, American Institute of Architects



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