

The Building Code Process: An Introduction

The purpose of this article is to present an overview as to how a building code gets started, evolves, and becomes adopted in the legal system of the United States.



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This article provides an introduction to the very complex process of building code development and adoption in the United States. Much of the information here has been extracted from the two sources cited in References 1 and 2.

Building Codes

Building construction in the United States is regulated through what is commonly referred to as a building code. It is enacted by a state or local government's legislative body to regulate construction within its particular jurisdiction.

The primary application of a building code is to new or proposed construction. It typically does not apply to

existing buildings. However, a building code might apply to an existing building if it were to undergo reconstruction, rehabilitation or alteration.

The generic term "building code" is often used to refer to a collection of four documents: a building code, a plumbing code, a mechanical code, and an electrical code.

Authority

The Tenth Amendment to the U. S. Constitution vests the sole authority to enact and enforce building codes in the legislatures of the various states. A state may, and often does, choose to delegate a portion of this power to constituent local government units, such as cities and counties.

Evolving Trend

Locally enacted codes, rather than state building codes, were common practice approximately thirty years ago. Since then, approximately three-quarters of the states have retracted this delegation of power to local governments and have enacted statewide building codes with some degree of scope and application.

The primary motivation behind this trend towards state jurisdiction has been the desire to provide equal protection to all citizens throughout a state, and to ensure statewide uniformity of building code laws for purposes of commerce. The existence of a statewide building code pre-empts a local government's authority to enact

Table 1. State-mandated building codes.

| Scope and Application | Number of States | States |
|--|------------------|--|
| State-mandated building code covering all buildings and occupancy classifications | 16 | Arkansas, California, Connecticut, Florida, Georgia, Maryland, Massachusetts, Michigan, New Jersey, New Mexico, Rhode Island, South Carolina, Utah, Washington, West Virginia, Wyoming |
| No state-mandated building code for any building or occupancy classification | 13 | Arizona, Delaware, Hawaii, Idaho, Illinois, Iowa, Kansas, Mississippi, Missouri, Nevada, Oklahoma, Pennsylvania, Texas |
| No state-mandated building code covering the construction of one- and two-family dwellings | 26 | Alabama, Alaska, Arizona, Colorado, Delaware, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Mississippi, Missouri, Montana, Nevada, New Hampshire, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Vermont |
| No state-mandated building code covering residential and commercial buildings other than one- and two-family dwellings | 19 | Alabama, Arizona, Colorado, Delaware, Hawaii, Idaho, Illinois, Iowa, Kansas, Maine, Mississippi, Missouri, Montana, Nevada, North Dakota, Oklahoma, Pennsylvania, South Dakota, Texas |

a local code with the same scope and application.

Applicability of a Statewide Building Code

A statewide building code may regulate:

- Particular classes of buildings such as state-owned buildings
- Buildings based on construction methods such as prefabricated buildings
- All construction except single-family dwellings
- A single or narrow aspect of building construction such as fire safety
- All construction

Table 1, based on information available in Reference 2, provides an idea as to the scope and applicability of statewide building codes across the country.

Local governments have traditionally enacted comprehensive building codes to regulate all construction. In recent times, state governments have been expanding the applicability of their statewide building codes.

Model Building Codes

Custom-drafted building codes have become increasingly rare over the years. The last two hold-outs – the states of New York and Wisconsin – are about to abandon their independent ways. State and local governments now almost invariably adopt model building codes, thereby somewhat diminishing the apparent disorder in building code provisions.

The regulation of building construction in the United States dates back to the early settlement of the North

American continent over 350 years ago. “The enactment of laws regulating construction developed with the cities as they grew and experienced the threats and consequences of disease, fire, and collapse.”¹

“Early in this century, special interest groups, such as the insurance industry, which were concerned with mounting losses of life and property due to fire, joined other entities with similar concerns to develop a model law, or guide document, which could be adopted by a legislative body to reduce those losses. The result was the development and production of a model code which was offered to states and local governments for their voluntary enactment as their law. The model code was promulgated by the National Board of Fire Underwriters, later to become the American Insurance Association, and was intended to be a foundation on which the legislative body could create its own regulations.”¹

“This first model code gained widespread popularity among legislative authorities by providing an accessible source of comprehensive, contemporary, and respected technical requirements without the difficulties and expenses of investigation, research, drafting, and promulgation of individual local codes. Additionally, at approximately ten-year intervals, a new edition of the model code was produced. This aided the governments in keeping their building requirements up-to-date, and in reflecting current construction technology.”¹

During the ten-year intervals, code enforcement officials began regular national and regional meetings to discuss their common problems and con-

cerns. These meetings eventually led to the formation of three organizations of code enforcement officials. Each organization eventually proceeded to publish its own model building code with an objective identical to that of the original model code, namely, providing a guide and specimen which legislative bodies could adopt as their own building code.

- Building Officials and Code Administrators International (BOCA), Country Club Hills, IL (founded in 1915) developed and maintained the National family of codes, including the BOCA National Building Code (BOCA/NBC). The National family was originally called the Basic family of codes because the original model code from the American Insurance Association was called the National Building Code.
- International Conference of Building Officials (ICBO), Whittier, CA (founded in 1923 as the Pacific Coast Building Officials Conference, Long Beach, CA) developed and maintained the Uniform family of codes, including the Uniform Building Code (UBC).
- Southern Building Code Congress International (SBCCI), Birmingham, AL (founded in 1940) developed and maintained the Standard family of codes, including the Standard Building Code (SBC).

The organizations are owned and governed by their members, which are primarily units of city, county and state governments.

In 1984, the original National Building Code was withdrawn from circulation because the newer model codes, updated at shorter frequencies,

Table 2. Local amendments.

| Nature of Amendment | Number of States | States |
|---|------------------|--|
| Local amendments of state-mandated building codes covering residential and commercial buildings not allowed | 10 | Connecticut, Kentucky, Massachusetts, Minnesota, New Jersey, North Carolina, Rhode Island, South Carolina, Virginia, West Virginia |
| Local amendments allowed when such amendments are more stringent than the state-mandated building codes covering residential and commercial buildings | 14 | Arkansas, California, Florida, Georgia, Maryland, Michigan, Nebraska, New Mexico, New York, Oregon, Utah, Washington, Wisconsin, Wyoming |
| Local amendments allowed when such amendments are less stringent than the state-mandated building codes covering residential and commercial buildings | 4 | Maryland, Nebraska, Oregon, Utah |

had gained prominence and popularity among units of state and local government.

At the end of 1994, the three existing model code groups together formed the International Code Council (ICC) with the express purpose of developing a single set of construction codes for the entire country. Included in this family of International Codes is the 2000 International Building Code (IBC), which represents a major step in a cooperative effort to bring national uniformity to building codes.

At the beginning of 2003, the three model code groups are expected to cease to exist as separate entities; they will become parts of an integrated ICC headquartered in Falls Church, Virginia.

There is a competing model building code also on the horizon. The National Fire Protection Association (NFPA), based in Quincy, Massachusetts, has decided to develop a model building code of its own. The first edition of this code, NFPA 5000, is expected to be published in the fall of 2002.

Local and State Codes

State codes vary from those that merely adopt a particular edition of a model code to those that start with a model code, but revise the code through a separate state-established code body. Many states adopt a separate code only for state-funded buildings. Others may require a special code for certain occupancies, such as schools and health-care facilities.

Local codes are also diverse in the extent to which the base model code is amended. Most local amendments are limited to administrative provisions. Engineering provisions are among the least amended.

“There are still large cities that have had the advantage of a large engineering population willing and able to provide advice on customizing national standards for local use. The list of these cities grows shorter each year as the model codes and national standards become more detailed in scope.”¹

Table 2, based on information available in Reference 2, presents a broad, national picture concerning local amendments to statewide codes, when such codes exist.

Code Adoption Processes

It should be apparent from the above that the common features are:

- Legislative Body
 - State Legislature
 - City Council
 - County Commission
- Technical Review Agency or Board
- Public Input
 - Written
 - Public Hearings

State code adoption processes typically involve the following:

- State Technical Review Board or Agency
 - Reviews Recommended Code
 - Establishes Recommended Revisions
 - Presents Proposed Code to Legislature
- State Legislature
 - Receives Public Input
 - Passes Enabling Legislation
- Code Becomes Law

State code adoption processes alternatively may involve the following:

- State Legislature Delegates Authority to State Technical Review Board or Agency
- State Technical Review Board or Agency
 - Reviews Recommended Code

- Receives Public Input
- Approves Recommended Revisions

- Code Becomes Law

The State Technical Review Board or Agency may be the State Department of Community Affairs, the State Building Commission, the State Fire Marshall’s Office, or the Office of the State Insurance Commissioner. The task groups or committees of such Board or Agency typically include: building and fire officials, architects and engineers, and material and owner interests.

Local code adoption processes typically involve the following:

- Building Department or Appointed Technical Committee
 - Reviews Recommended Code
 - Establishes Recommended Revisions
 - Presents Proposed Code to City Council or County Commission
- City Council or County Commission
 - Receives Public Input
 - Passes Enabling Legislation
- Code Becomes Law

Standards

A standard is a “prescribed set of rules, conditions, or requirements concerned with: the definition of terms; classification of components; delineation of procedures; specification of dimensions, materials, performance, design, or operations; descriptions of fit and measurement of size; or measurement of quality and quantity in describing materials, products, systems, services, or practices.”¹

While any group of manufacturers, associations, consumers, users, or agencies can cooperatively develop a standard for its own purposes and reasons, only when a standard is devel-

oped in accordance with definitive rules of procedure and consensus does the standard acquire the stature appropriate and necessary for regulating use in building codes.¹

Although there are four (soon to be five) model building codes in the United States, there are hundreds of standards addressing virtually every construction application, from design practices and test methods to material specifications. The ACI 318 *Building Code Requirements for Structural Concrete* and the ASCE 7 *Minimum Design Loads for Buildings and Other Structures* are two of the best known standards adopted into all model codes.

A code typically makes specific references to a given standard which clearly identifies when and how the standard is to be utilized. Standards are typically adopted into model codes

without amendments; however, amendments are not entirely uncommon.

Concluding Remarks

The building code development and adoption process in the United States is quite complex. This paper provides a basic introduction to the process.

State and local building codes are typically based on a model code. There have been three model codes in the recent past. There is now a new model code that was expected to replace the three regional model codes. Soon there will be an additional model code. Each model code adopts a number of standards to address specific areas such as concrete design and construction. The model code development and the standard development processes, while important, are not discussed herein.

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REFERENCES

1. ASCE Administrative Committee on Building Codes, *Introduction to Codes and Standards Development*, Washington, DC, April 1991.
2. *Summary of State-Mandated Building Codes*, Institute for Business & Home Safety (IBHS), Boston, MA, November 1999.

DISCUSSION NOTE

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