

A roundtable discussion sponsored by the International Code Council

Report by the National Institute of Building Sciences

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WASHINGTON, DC AUGUST 20, 2014



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TABLE OF CONTENTS

Int	Introduction	
1.	What does code adoption by jurisdiction mean? Code Officials' Response Standards Development Organization Representatives' Response Industry Representatives' Response	.3 .3
2.	What are impediments to the code adoption process? Code Officials' Response Standards Developing Organization Representatives' Response Industry Representatives' Response	.4 .5
3.	What are the benefits of code adoption? Code Officials' Response Standards Developing Organization Representatives' Response Industry Representatives' Response	.6 .6
4.	How do politics affect the code adoption process?	.7
5.	What should we do to improve the code adoption process?	.8
6.	How do we improve the knowledge base for the public, code officials, SDOs, the building industry, and politi- cians?	
	Summary: The group's recommendations	
Par	Participants List - TK	





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INTRODUCTION

To identify and explore issues surrounding maintaining the current code adoption cycle versus extending that cycle, the International Code Council (ICC) hosted a multidisciplinary roundtable discussion at its headquarters in Washington, DC, on August 20, 2014. The President of ICC's Board of Directors Stephen Jones and Chief Executive Officer Dominic Sims welcomed the 37 participants, who included architects, code officials, fire officials, builders, labor representatives, Standards Development Organization (SDO) representatives, federal agencies, and industry group representatives. Some two dozen invited participants also took part in the roundtable via teleconference.

National Institute of Building Sciences President Henry L. Green, Hon. AIA, served as moderator for the discussion. Green explained that the Institute had been retained by ICC to prepare a report that summarizes the roundtable findings. The Institute, he said, would maintain neutrality when presenting these findings.

After the roundtable participants introduced themselves (see page 12 for the list of participants), Green explained that this roundtable report would be presented as anonymous responses, which to the extent possible would reflect the opinions of three major groups:

- Code Officials
- Standards Developing Organization representatives
- Industry representatives.

For purposes of this discussion, Green asked participants to focus on the adoption portion of the code cycle, as opposed to code development and enforcement. The three main questions Green posed to the three groups were:

- 1. What does code adoption by a jurisdiction mean?
- 2. What are impediments to the code adoption process?
- 3. What are the benefits of code adoption?

General group discussion then centered on three additional topics:

- 4. How do politics affect the code adoption process?
- 5. What should we do to improve the code adoption process?
- 6. How do we improve the knowledge base for the public, code officials, SDOs, the building industry, and politicians?

Lastly, Green summarized the major recommendations made by the participants throughout the discussion. These can be found in Section "7. Summary: The group's recommendations" on page 11 of this report.

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1. WHAT DOES CODE ADOPTION BY A JURISDICTION MEAN?

CODE OFFICIALS' RESPONSE

Code officials believe the code adoption process, even though it is complex and can be cumbersome, reflects our duty to protect the public.

- **It's a minimum standard:** Standards and codes provide the minimum basis for laws to protect the public, said one code official.
- It's a guideline: Another building official called code adoption "a guideline for building safety."
- **It's a huge headache:** A third official said that the local adoption process was a huge headache, because they need to go through a very cumbersome process four or five times to get a code adopted. Another code official pointed out that the process at the local and state levels is very complicated today, fueled by the fact that for the last 20 years, politicians are weighing in more and insisting that all changes be market-driven.
- **It's our duty:** Codes tell us what we are about and what we are here to do, said one of the code officials. It's our duty, and it's not easy. It takes time for changes to get adopted, but we have a responsibility to push those issues forward.

STANDARDS DEVELOPING ORGANIZATIONS REPRESENTATIVES' RESPONSE

Standards developing organizations (SDO) representatives agree that as long as safety comes first, codes can offer a venue for introduction of new technologies.

- Adoption offers overall safety: The codes are the cornerstone of effective mitigation—this is where "the rubber meets the codes," said one SDO representative. Codes are how you improve the overall safety of the nation. Another felt that the adoption process is foremost an opportunity to improve safety, yet also offers a venue for introduction of new technology. We need to convince politicians that new codes reflect a higher level of safety, declared a third participant. We often lose sight of the basic code, if we are side-tracked by new codes.
- **There's frustration in the political arena:** One SDO rep lamented that it is difficult to stay current in the adoption process when a state or local legislature continually "take the legs out" of change proposals despite the protests of officials knowledgeable about the codes and the process.
- **Arena for all stakeholders:** One standards developing organization representative defined code adoption as a process that requires buy-in of stakeholders early in the process.

INDUSTRY REPRESENTATIVES' RESPONSE

Industry representatives see the adoption process as a means to a standard of care that is based on sound science and research.

• **Sound science required:** Code adoption has to be based on sound science, declared one industry representative. At the end of the day, its intention is protection of public health, safety, and welfare.

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- **Standard of care:** Another industry participant noted that the code adoption process allows for the minimum standard of care, but also can serve as a conduit for new technologies. It was acknowledged by the commenter that the need for in-depth code research and analysis, especially cost/benefit analysis, is necessary to back up the code adoption process.
- **Code adoption offers a means for keeping current:** Code adoption is the way to keep codes current and introduce new technology, according to an industry representative. Another concurred, adding that if we don't continually update our codes, it is the general public as the end user who loses out. A third participant pointed out that adoption means necessary new training for workers in the field.
- **A local prerogative:** Finally, an industry rep explained that his organization reviews changes to the model code, offers insight to its members, and gives local jurisdictions tools to amend or adopt model codes locally. Then, he asserted, they need to review changes and decide for themselves.

2. WHAT ARE IMPEDIMENTS TO THE CODE ADOPTION PROCESS?

CODE OFFICIALS' RESPONSE

Lack of understanding on the public's part and myriad state vs. local issues top the code officials' list of impediments.

- Public misunderstanding: The public doesn't understand what codes are, said one official. The public thinks that codes are "automatic," and we need to close the gap between what codes are and that perception. "People don't know how many lives and how much money codes are saving," one participant said.
 "The more people know about the benefits of codes, the better off we'll be—we need to get the information out to the public." Another added, "The better we code officials do our job, the less people see how much we are needed."
- State concerns vs. the local level: One code official noted that local conditions have to be met, and governments exhibit a wide range of processes for getting the job done. Amending a code locally is a cumbersome and expensive process in a lot of states, and localities may not adopt the code because it doesn't apply, or they don't want to spend the money or the man-hours to adopt the code. Several participants also noted a level of mistrust of states at local levels. One said that many local jurisdictions embrace the prerogative to "do things the way we want," and that codes have become a partisan issue.

On the other hand, another code official explained that from her perspective the state/local process and interface works wonderfully. The ability to get consensus at the state level is great, because every local jurisdiction is involved in the state process: if a local amendment is needed, it goes in. Locals have total confidence in the state process, and at the state level, they have the benefit of national input and local participation. The state supplies free training—for code officials as well as anyone who wants it (contractors, etc.). They end up with a strong state code, which in turn provides a strong economic base and good back-up for disaster response.

Impact on practitioners: Money is needed to meet the new requirements. "We want the process to be inclusive—that makes it messy, but that's okay," one participant said. They become impediments if they change the way one does business.

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- **The cost of raising the bar:** From the legislative standpoint, the biggest impediment is redefinition of the minimum standard and the costs associated with it. Justifying these costs is a critical issue, one cost official said.
- **Training:** Another impediment is the amount of education and training needed to adequately address the complexity of the codes today, according to a code official. Many jurisdictions just don't have the training or the money to keep up with the codes.

STANDARDS DEVELOPING ORGANIZATIONS REPRESENTATIVES' RESPONSE

While lack of adequate funding, time, and education were mentioned, the SDO representatives focused on the lack of outreach as the major impediment to the codes adoption process.

- **Lack of time and money:** One participant said he just doesn't have the manpower or the budget to lobby for changes during the adoption process that his group deems necessary for public safety.
- Lack of education for politicians and decision makers: One of the participants noted that politicians and decision-makers often fail to understand the importance of the codes. This is coupled with the fact that the necessary back-up data to make succinct and cogent arguments to decision makers is not always available, another noted. A third person added that as a whole, the industry is good about providing information on code changes, but not so good about providing information on standards.
- **It comes down to inadequate outreach:** Several of the SDO representatives mentioned that their groups provide forums at the national level for information dissemination. They acknowledged, however, that it is a huge task that requires a lot of outreach to stakeholders, including policy-makers and anyone who would like to see particular changes in the standards. That kind of outreach needs to occur at every level of the process. Another participant noted that the line between codes and standards has been increasingly blurred, beginning in the 1990s. With some 3,000 standards referred to in the codes, standards provisions have become very important to the codes adoptions.

INDUSTRY REPRESENTATIVES' RESPONSE

The need for attitude adjustment as well as code education for design professionals are the major impediments to the codes adoption process as perceived by industry representatives.

- **Need for design education:** One industry rep opined that the better that architects do their jobs, the less burden there will be on code officials. The discussion continued, calling for industrywide support for codes education in architecture and engineering schools. This concept was echoed by many of the roundtable participants throughout the discussion.
 - **Need for attitude adjustment:** Another industry representative noted that when the new codes come out every three years, there is an industry-wide balk for using them. Yet the same people eagerly embrace a new iPhone every three years. The need for technology updates just doesn't transfer in the codes world. In a similar way, code officials often wait on a controversial change to see if it will be eliminated in the following cycle, a code official interjected. Sometimes people forget that these are model codes—just models.
- **Costs comparisons:** We need a more uniform way to look at the costs of adopting new codes, according to another industry representative.

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• **Lack of manpower:** One industry representative harkened back to a point made by an SDO rep: Oftentimes there just is not enough labor to adopt the codes quickly. Reductions in force in the last few years have not helped, nor has the tendency of lobbyists to "influence" local officials to adopt codes.

3. WHAT ARE THE BENEFITS OF CODE ADOPTION?

CODE OFFICIALS' RESPONSE

The code officials, most of any group, stress the value of codes adoption to the health, safety, and welfare of the community.

- **Level playing field:** There is uniformity and consistency among jurisdictions that are using the same codes, noted one building official. This is beneficial to the many builders and other members of the industry who work across jurisdictional lines.
- End users benefit: New changes in the codes can benefit building users by paving the way for use of new technologies. It also was suggested that there is community pride in adopting the latest code, which is perceived as offering the highest level of protection.
- **Economic and legal benefits:** Other benefits of code adoption include lowered insurance rates due to more current code adoption as well as legal protection. As one official said, "If you get pulled into court, it's useful to have used a nationally recognized code."
- **Prescriptive codes benefit smaller jurisdictions?:** Another official remarked that if everyone in his jurisdiction is enforcing the same code, the process as a whole runs more smoothly. He believes that while performance-based codes may be superior for larger jurisdictions, smaller locales benefit from prescriptive codes.

STANDARDS DEVELOPING ORGANIZATION REPRESENTATIVES' RESPONSE

The SDO reps focused on the importance of science and lessons learned behind codes adoption and development.

- **Incorporating Lessons Learned—Do we have to wait for disasters?** We learn from disasters, one SDO rep noted, and we are good at getting those stories into the code. We look at the lessons learned—usually they make it into the code, for instance, it is common knowledge that the changes in the 2002 Florida codes include "lessons learned" after Hurricane Andrew. Building users do want these kinds of changes, and we want to move these changes into the marketplace as soon as possible.
- **Creating a culture to accept code changes:** Another SDO representative opined that if the public were more aware of the process of moving changes into the codes, it would lead to more timely adoption.
 - Science behind the codes: One participant brought up designing for people with low vision as an example of an issue headed for the code in the future. The science, he said, exists to tell us what to do in a number of settings to accommodate people with low vision, and the cost of these changes would be minimal. Codes should be embracing this and other societal issues, such as aging in place, as our society rapidly evolves. Another participant concurred, stating, "It's easy to adopt a code change if there is the science to support it."
- **Safety first:** The group was adamant that codes exist foremost to provide public safety. They can (and do) foster technology development secondarily if safer products get incorporated into the codes.

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INDUSTRY REPRESENTATIVES' RESPONSE

Industry representatives emphasized both the need for stakeholder buy-in and the incorporation of new technologies.

- **Stakeholder buy-in:** Several participants commented that buy-in by all participants in the development, adoption, enforcement, and use of the codes early in the process is critical to success as the codes process goes forward. We need not to do things piecemeal. We can reach many jurisdictions at the same time for new technologies.
- **Raising the bar on the minimum standard:** We use codes to add new elements (such as resilience) and to get these issues viewed nationally, and that has a tremendous trickle-down effect on the safety it brings to the American people nationally, one participant said. Model codes are for education about these kinds of changes. Another participant agreed, citing untapped issues in medical research such as, for example, the effects of humans spending 90 percent of our time indoors. Also, events such as Super Storm Sandy have led to new thinking about where the minimal threshold of code requirements should be. The commenter concluded that the industry needs to be proactive and educate its members so they in turn can educate clients.
- New technologies: One participant pointed out that the adoption process is beneficial for manufacturers to get their products into the code. It was cautioned, however, that we need to stay vigilant that codes are adopted based on science behind proposed changes. Another participant added that we need to know the motivation of the people who are proposing changes—and make sure they are not just interpretations. A third said that we not only incorporate technologies, we also incorporate human factors research that informs codes development.
- **Affecting more jurisdictions:** One industry representative said that his group supports universal adoption of the codes, and over the last 20 years, that process has become more universal than anyone could have imagined. We can no longer afford to address the adoption process in a piecemeal fashion, cautioned an industry representative. A benefit of such a holistic process is that we can reach many jurisdictions at the same time for new technologies. Another benefit of the three-year adoption cycle is simply getting more areas that don't have codes to adopt these codes.
- What about revised codes and codes for existing buildings? Is it a disservice, asked one participant, to be using an earlier code, if you have proper enforcement? Another participant said emphatically that it is a disservice—that it is critical to have the most modern codes in place to make buildings as good as can be. On the flip side, another building industry representative said that the codes [and subsequently the buildings built under them] have been good for a long time. He believes we need to give more consideration to regulating our older building stock.
 - **Costs have to be justified:** It may add a higher training burden if you wait for a few cycles to adopt a new code, industry representative noted. The insurance industry also affected by the adoption of codes.

4. HOW DO POLITICS AFFECT THE CODE ADOPTION PROCESS?

When all the stakeholders can make informed decisions, the adoption process goes more smoothly.

- **Politics slows the process, but that makes the process better:** An industry representative started off the discussion by saying that indeed politics slows down the code adoption process. But that is a good thing, because it allows more people to participate.

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- **Money talks:** One commenter pointed out that the first barrier is money. Without large PAC funds, it can be difficult to capture politicians' attention.
- **Informed politicians can make good decisions:** A building official pointed out that it is different at the local and state levels. Locals have to adopt codes based on what their constituency wants. If you can show them the science behind a code change, he says, politicians can make good decisions. Also, politicians rely on the code officials to solve the problem in the code before they get to the politician, which is why stake-holders need to be involved early in the process.
- **Too much political process can be a bad thing:** A standards developing organization representative said that the flip side is when the political process gets in the way and becomes a hindrance to common-sense changes. Politicians are ruining the process in his state, he said, by trying to control it, and that is the point at which the political process is no longer a benefit.
- **Lobbyists can be a road block:** Another building official stated that even when there are burning issues in the codes, one can go through five or six hearings before a code gets adopted. Lobbyists can take shots at the national, state, and then the local levels.
- **Politics start with stakeholders:** An industry representative pointed out that political concerns don't necessarily involve politicians. It's a hindrance when there is political infighting among different stakeholders. If stakeholders can agree that the latest codes are the most advanced [and therefore most beneficial to the public], the building industry can convince the politicians.

5. WHAT SHOULD WE DO TO IMPROVE THE CODE ADOPTION PROCESS?

The group concurred very quickly that when it comes to the adoption process, one size today definitely does not fit all (and probably never did).

- Change the adoption cycle? Why is it three years? Why not? Representatives from all three of the groups concurred that there is nothing sacrosanct about a three-year code adoption cycle. An argument for the three-year adoption cycle is that new editions of the codes are released every three years. Another argument, put forth by a standards-making organization representative, is that the three-year cycle works because three years is about the right time frame to process a manageable number of addenda that occur in between code releases. An industry representative pointed out we may have reached a point in our technology development that makes the duration of the code adoption cycle unimportant, because it is technologically easy to incorporate changes into the code.
- **Collect best practices, because adoption varies by jurisdiction, and it's complicated:** A local code official said that he believes that most of the jurisdictions in the country use a six-year code adoption cycle, while another pointed out that each state uses its own process for adoption. Complicating matters, participants pointed out, is that many jurisdictions use one cycle "by law" and another in practice, while some states and localities adopt on cycles out of sync with the code adoption cycle. With this multitude of adoption cycles, one participant asked, "Is it really a problem if some jurisdictions go to a longer adoption cycle?"

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• **Explore whether a typical adoption cycle exists.** An industry representative concluded that the adoption cycle may be a fiction—and that we should simply allow jurisdictions to have a "living code." The commenter conceded though that this would generate "vast education and communications issues."

A code official reported a building inspectors organization expressed the belief that whether an adoption cycle is still necessary is a research topic that requires further investigation that would examine the proliferation of new codes and constant changes, as well as today's influx of new technologies.

• **It pays to advertise:** Another code official thought that it might be a selling point with building owners and the public to reveal under which code a building was designed, reflecting the tendency of the codes to improve after absorbing the "lessons learned" after a building disaster.

6. HOW DO WE IMPROVE THE KNOWLEDGE BASE FOR THE PUBLIC, CODE OFFI-CIALS, SDOS, THE BUILDING INDUSTRY, AND POLITICIANS?

The group discussed the importance of making sure that the knowledge base is accessible to those who need it, tailoring the message to their needs, and the importance of cost/benefit analysis.

- **Some tools already exist:** Some of the industry representatives indicated that their groups already have or are developing tools that might help fit the bill. One group has a 32-module basic course in beta testing for those who work in the building industry. Another industry group is developing a building tool kit for educators. Still another "weights the states," and offers the public a ranking of how their states' code processes stack up.
- **Need to share:** In order to ensure that the information gets into the hands that can use it, we need to share information cross-industry.
- **Cost/benefit analysis works:** Providing information, tailored to individual interests and explaining the codes process through costs and benefits, was deemed an important educational device. State officials, vying for economic development for their home states, most likely would be interested in the economic advantages of using the most current codes. Building owners might be interested to know that it would be possible for them to get their projects built more quickly if they understood the codes and codes process. Another participant suggested that helping building industry participants to identify risk tolerance—as building owners do every day, would be part of the cost/benefit education.

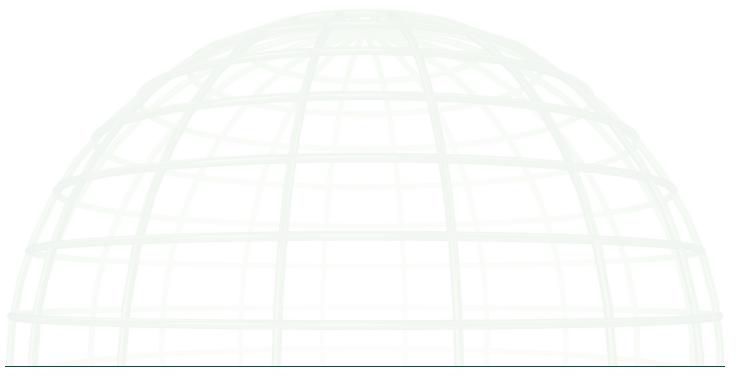
7. SUMMARY: THE GROUP'S RECOMMENDATIONS

The major recommendations from participants fall into six broad categories:

- 1. Best Practices: ICC should compile a report of Best Practices for Code Adoption at the state and local levels. Participants concurred that there is a lot of data that show how states and some locals adopt codes that might be useful to share, particularly if some rigor is applied in the data collection and presentation.
- 2. Education programs: Education programs explaining the codes adoption process should be developed for all sectors involved in the adoption process: code developers, users, enforcers—as well as other stakeholders, including politicians and building owners.
- 3. Develop cost /benefit analysis tools for use in the code adoption process.

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- 4. Model a "Living Code" Development and Adoption Process: ICC should lead the building industry in exploration, through SWOT analysis, of whether the code development process should move toward a "rolling code" or "living code" that is continually updated and released. Likewise, the industry also should explore the concept of "rolling code adoption" by jurisdiction on an as-needed basis.
- 5. Involve code officials: Get code officials involved in the promulgation of codes. One participant opined that those who participate are more willing to adopt current codes, because they understand the forthcoming changes.
- 6. Examine codes education in architecture and engineering schools: Several participants stated that the education of architects and engineers is sorely lacking in exposure to codes and the building code process. A first step would be to survey schools to determine the nature of codes education today. Secondly, Best Practices might be gleaned and shared among educators. It may be possible to engage societies such as the American Collegiate Schools of Architecture in this effort.



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- Neil Burning, National Association of Home Builders (NAHB)
- Leslie Chapman-Henderson, Federal Alliance for Safe Homes (FLASH)
- Cindy Davis, Department of Housing and Community Development, Virginia
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- Eirene Oliphant, BRR Architects
- Doug Read, ASHRAE
- Kevin Reinertson
- Emory Rodgers
- Jim Scarborough, ASHRAE
- Kevin Skauge, First-On Site Restoration
- Michael Wich, Building Officials Association of Louisiana (BOAL)
- Doug Wise, Building Director, Palm Beach County
- Steve Mills, Director of Building & Codes

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