

Federal Role in State and Local Building Codes and Standards

Our nation's building codes and standards are critical to protecting our nation's homes and buildings in the event of a natural hazard event. Only about half of the U.S. jurisdictions at risk of one or more hazards have adopted the latest natural hazard-resistant codes. This is particularly important for residential buildings as they account for over 80% of all disaster-related damage.

The cost of natural disasters has risen to the point where the American taxpayer can no longer continue to pay for business as usual. We as a nation must change our behavior of building anywhere and any way we want, only to have nature show us the folly of our ways. FEMA aims to reduce the risk from natural hazards, and natural hazard-resistant building codes and standards are crucial to meeting this goal.

FEMA was one of the first federal agencies to recognize the importance of building codes and has worked within the model code development process for over 40 years; first to have the flood-resistant design requirements of the National Flood Insurance Program added to the nation's model building codes and later to do the same with FEMA's *Recommended Seismic Provisions for New Buildings and Other Structures* from the National Earthquake Hazards Reduction Program (NEHRP). FEMA's role in developing the seismic provisions of the first International Codes has been well recognized, including in a letter of appreciation to the FEMA Director from the International Code Council. To help with the understanding and use of this material, FEMA has jointly sponsored several technical publications with the ICC, including the *FEMA Home Builders Guide for Earthquake Resistant Design and Construction* (FEMA 232) and *Flood Resistant Provisions of the 2021 International Codes*. ICC has helped by distributing these publications directly to its members.

FEMA post-disaster building performance investigations, including those done under the Mitigation Assessment Team (MAT) program, have documented numerous examples of where buildings and communities that were designed and built to the latest building codes not only survived a significant natural disaster but were able to quickly continue their intended function, helping their community to recover more quickly and remain resilient.



MAT assessing the performance of manufactured homes after Hurricane Ian. Source: FEMA

FEMA has also documented many examples of where damage from a disaster was more significant in communities that either did not have an adequate building code in place or did not adequately enforce the building code that they did have. Code enforcement only works when building code officials are properly funded and supported by the community and properly trained to enforce all the building code.

There is no national or federal building code, as under the U.S. Constitution, the regulation of construction is a state right. Almost all state and local building codes are based on a model building code, a template developed by a private concern that a state or local community can then legally adopt and enforce under their ordinances. The International Code Council develops the most commonly used model codes. The *International Building Code*, *International Existing Building Code*, *International Residential Code*, and other related model codes are all published every three years using a rigorous updating process.

The federal government encourages federal agencies to participate in the model building code development process and to use available model building codes and standards where possible. This is specified in the Office of Management and Budget (OMB) *Circular A-119: Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities*.⁷ OMB Circular A-119 was initially published in 1993 and most recently updated in January 2016. It is “intended to encourage Federal agencies to benefit from the expertise of the private sector, promote Federal agency participation in standards bodies to support the creation of standards that are useable by Federal agencies, and minimize reliance on government-unique standards where an existing standard would meet the Federal government’s objective.” OMB Circular A-119 led to Congress passing the National Technology Transfer and Advancement Act of 1995 (Public Law 104-113), which codified policies on the development and use of voluntary consensus standards originally specified in OMB Circular A-119.

Further, Congress mandated specific programmatic areas of responsibility for FEMA involving the nation’s model building codes and how they are adopted and enforced at the State or local level to reduce future losses. Some more recent examples of this include the Biggert-Waters Flood Insurance Reform Act of 2012 and the National Earthquake Hazards Reduction Program Reauthorization Act of 2018 (PL 115-307).

Numerous FEMA-funded studies have documented the importance of adopting and enforcing natural hazard-resistant building codes. The most recent of these was the National Institute of Building Sciences Natural Hazard Mitigation Saves: 2019 Report⁸ which found that designing buildings to the 2018 International Building Code and the International Residential Code resulted in a national benefit of \$11 saved for every \$1 invested when compared to building codes from the 1990’s.

A second study was FEMA’s 2020 *Building Codes Save Study*, which found that over a 20-year period, jurisdictions with current natural hazard-resistant building codes avoided a total of at least \$32 billion in losses from natural hazards.⁹ This high of a return was even though, at the time of the report, only 35% of jurisdictions within the U.S. had adopted a modern building code that included adequate natural hazard-resistant provisions.

7 OMB A-119 Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities Circular-119-1.pdf ([whitehouse.gov](https://www.whitehouse.gov))

8 Natural Hazard Mitigation Saves: 2019 Report, National Institute of Building Sciences (nibs.org)

9 Building Codes Save: A Nationwide Study of Loss Prevention ([FEMA.gov](https://www.fema.gov))

A third study was conducted in 2015 by the Applied Technology Council (ATC). This project resulted in the report, *ATC-117 Strategies to Encourage State and Local Adoption of Disaster-Resistant Codes and Standards to Improve Resiliency*.¹⁰ This report emphasized the importance of federal leadership in promoting code adoption and compliance and identified several existing federal programs and regulations that could be used to improve the adoption of building code in areas at risk from natural hazards.

While natural hazard-resistant building codes are the most effective means of reducing future losses, there are several potential problems that should be considered:

- Every state and locality legally adopts and enforces its building codes differently. One size only sometimes fits all.
- In many cases, the state or locality may legally amend and weaken the code.
- Many states do not require the adoption of the latest version of the code, thereby missing out on the latest information and technology.
- Enforcement of building codes is often a local problem, especially for:
 - Financially strapped communities that can't afford inspectors.
 - Localities where code enforcement is pitted against development pressures.
 - A misplaced desire to speed up post-disaster recovery by waiving code requirements and allowing owners to rebuild as before.

FEMA has and will continue to support the development and maintenance of the model codes by making available state-of-the-art design and construction information that addresses protection from earthquakes, floods, hurricanes, wildfire and other natural hazards. Further, FEMA has and will continue to work with states and local communities upon request to assist in adopting building codes to help reduce future losses. To that end, FEMA has developed guidance that explains how these codes can be used to meet Federal requirements, such as Executive Order 11988 on floodplain management, Executive Order 13690 on a federal flood risk management standard, and Executive Order 13717 for seismic-resistant federally owned, leased or supported buildings. Since existing buildings represent this nation's greatest threat, FEMA will continue to develop and publish guideline documents to assist in upgrading buildings to resist damage from natural hazards better.

To better coordinate its building codes and standards activities across the agency, FEMA recently completed developing a Building Codes Strategy, which can be found at [Building Codes Strategy](#). This report was published in March 2022 and provides three core goals and 14 supporting objectives that provide a plan for FEMA's programs and policies to consistently support state and local adoption of the nation's codes and standards.

We need to continue focusing our efforts on areas where mitigation will have the most significant impact. Adopting and enforcing natural hazard-resistant building codes is our greatest tool to reduce future losses from all hazards. FEMA encourages states and local communities to do all they can to ensure building codes can do what they intended – providing safe and resilient buildings for the American public.

¹⁰ [ATC 117 Strategies to Encourage State and Local Adoption of Disaster Resistant Codes and Standards to Improve Resiliency \(atcouncil.org\)](#) and [ATC 117 1 Strategies to Encourage State and Local Adoption of Disaster Resistant Codes and Standards to Improve Resiliency Supporting Documentation \(atcouncil.org\)](#)