Cities and states are leading the way to high performance by implementing policies and practices that address the significant challenges before our communities and our nation. The U.S. Congress established the National Institute of Building Sciences (Institute) in 1974 to bring the public and private sector together to advance the health, safety and welfare of communities. The Institute, through our councils and programs, stands poised to assist the nation’s mayors in achieving these important endeavors.

Based on work by our Consultative Council; Council on Finance, Insurance and Real Estate (CFIRE); Multihazard Mitigation Council (MMC); Building Seismic Safety Council (BSSC); High Performance Building Council (HPBC); Commercial Workforce Credentialing Council (CWCC); National Council of Governments on Building Codes and Standards (NCGBCS) and Integrated Resilient Design Program, the Institute is pleased to offer these recommendations to advance the resilience of the nation’s communities.
1. **Adopt and enforce the latest building codes.** Building codes provide communities with a foundation of safety by establishing minimum acceptable requirements for the design and construction of buildings. By adopting model codes (or codes at least as stringent) and investing in enforcement, communities can realize multiple benefits, including reduced impacts and costs from hazard events, lower rates through the National Flood Insurance Program and a competitive advantage in luring new businesses. Local building code departments are valuable partners in these endeavors.

2. **Have city buildings and infrastructure lead through exemplary practice.** City governments serve as the stewards of public property and taxpayer funds. Understanding the condition of these resources and making cost-effective investments to protect them is essential. By benchmarking city buildings and departments on their energy and water use and waste generation, and making the results transparent, you can help implement performance goals and identify the most advantageous upgrades.

3. **Support education of the next generation buildings workforce.** The availability of workers today and into the future is in jeopardy across the buildings industry, from skilled workers to code professionals. Over 80% of the code professional workforce is set to retire in the next 15 years\(^1\) and many construction projects are being delayed due to a shortage of skilled labor. At the same time, new buildings increasingly have more technology that requires maintenance by a competent workforce. Educating the next generation is imperative. Now is the time to implement or enhance your vocational and trade pathways from high school through community college. Encourage city employees with building-related careers to engage with the community and serve as mentors. In city contracts and hirings related to building energy auditing, commissioning and management, require certified energy efficiency professionals recognized under the U.S. Department of Energy (DOE) Better Buildings Workforce Guidelines.\(^2\)

4. **Evaluate community infrastructure, lifelines and interdependencies.** The key to resilience—the ability to withstand or bounce back quickly following major disruptions—is understanding the possible threats and preparing for them. Evaluate your community’s entire portfolio of infrastructure and buildings for vulnerabilities using tools such as the Integrated Rapid Visual Screening (IRVS)\(^3\) tools. Develop public-private collaboratives to assess community-wide vulnerabilities—particularly the interdependencies across lifelines. Build relationships and networks between and among public-sector offices and private-sector leaders to support collaboration pre- and post-incident.

5. **Implement policies and incentives that encourage investment in sustainability and resilience.** Achieving community sustainability and resilience goals requires a suite of coordinated policies and incentives that cover the entire building life cycle. For new construction or major renovations, more stringent codes or “beyond-code” programs can lock-in the potential for long-term performance. Policies and incentives should address actual operational performance, not just design and construction expectations. Set benchmarking and reporting requirements with either mandatory or incentivized retro-commissioning, or audit and retrofit requirements, to support effective operations. Finance tools such as the Property Assessed Clean Energy (PACE), On-Bill Financing programs or green bonds can provide low-risk opportunities for investment.\(^4\)

6. **Focus on policies that support achievement of desired performance outcomes.** Realizing goals to reduce energy use or greenhouse gas emissions and even zero-energy building policies requires actual, measured results. Include performance targets\(^5\) in contracts for city construction projects and tie project criteria to performance standards, as included in the U.S. General Services Administration P100\(^6\) and the National Performance-Based Design Guide.\(^7\) Adopt code pathways and related policies that focus on actual, measured results.\(^8\) Require procurement contracts to use certified professionals in all energy efficiency and renewable energy positions. Achieving high-performance communities requires a holistic suite of policies, practices and incentives. The recommendations here provide the starting point for such an approach. The National Institute of Building Sciences looks forward to working with cities to develop and implement these important efforts.

---


\(^2\) http://www.nibs.org/page/cwcc_resources

\(^3\) http://www.dhs.gov/high-performance-and-integrated-design-resilience-program

\(^4\) Communities are encouraged to explore such mechanisms for use beyond just energy efficiency upgrades, such as resilience investments.


\(^6\) GSA P100: Facilities Standards for the Public Building Service. http://gsap100.wbdg.org

\(^7\) National Performance-Based Design Guide. http://nphbd.wbdg.org/

\(^8\) See 2015 International Green Construction Code (IGCC) and/or Seattle Energy Code. For additional discussion of this topic see Getting to Outcome-Based Building Performance: Report from the Seattle Summit on Performance Outcomes.

---

**Staff Contact:** Ryan Colker, Presidential Advisor  
**Email/Phone:** rcolker@nibs.org, (202) 289-7800 x133  
**Website:** www.nibs.org