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Regulations Division
Office of General Counsel
Department of Housing and Urban Development
451 7th Street SW, Room 10276
Washington, DC 20410-0500

Via regulations.gov, submitted on behalf of:

AEC Science & Technology, LLC
One Farron Dr.
Chadds Ford, PA 19317
Contact: George Borkovich
Principal
610-444-9692
george@aecst.com

Alliance for National and Community Resilience
500 New Jersey Ave. NW, 6th Fl.
Washington, DC 20011
Contact: Ryan Colker
Executive Director
888-422-7233
rcolker@iccsafe.org

Alliance to Save Energy
1850 M St. NW, Suite 610
Washington, DC 20036
Contact: Jason Reott
Policy Manager
202-857-0666
jreott@ase.org

American Council for an Energy-Efficient Economy
529 14th St. NW, Suite 600
Washington, DC 20045
Contact: Lowell Ungar
Senior Policy Advisor
202-507-4000
lungar@aceee.org

American Institute of Architects
1735 New York Ave. NW
Washington, DC 20006
Contact: Kara Kempinski
Manager, Federal Relations
800-242-3837
karakempski@aia.org

American Property Casualty Insurance Association
555 12th St. NW, Suite 550
Washington, DC 20004
Contact: Mike Richmond-Crum
Manager, Personal Lines and Counsel
847-297-7800
michael.richmond-crum@apci.org

American Society of Civil Engineers
25 Massachusetts Ave. NW, Suite 500
Washington, DC 20001
Contact: Martin Hight
Senior Manager, Government Relations
703-295-6300
mhight@asce.org

American Society of Interior Designers
1152 15th St. NW, Suite 910
Washington, DC 20005
Contact: Bryan Soukup
Vice President of Government and Public Affairs
202-546-3480
bsoukup@asid.org

Association of State Floodplain Managers
8301 Excelsior Dr.
Madison, WI 53717
Contact: Chad Berginnis
Executive Director
608-828-3000
cberginnis@floods.org

BuildStrong Coalition
901 7th St. NW, 2nd Fl
Washington, DC 20001
Contact: Pam Williams
Executive Director
202-315-5100
pamela@buildstrongamerica.com

Concrete Reinforcing Steel Institute
933 North Plum Grove Dr.
Schaumburg, IL 60173
Contact: Amy Trygestad
Director of Codes and Standards
847-517-1200
atrygestad@crsi.org

Congressional Fire Services Institute
1530 Wilson Blvd., Suite 520
Arlington, VA 22209
Contact: Michaela Campbell
Director of Government Affairs
202-371-1277
mcampbell@cfsi.org

Environmental and Energy Study Institute
1020 19th St. NW, Ste 650
Washington, DC 20036
Contact: Ellen Vaughan
Policy Director
202-662-1893
evaughan@eesi.org

Fair Share Housing Center
510 Park Blvd.
Cherry Hill, NJ 08002
Contact: Adam Gordon
Executive Director
856-665-5444
adamgordon@fairsharehousing.org

Federal Alliance for Safe Homes
1708 Metropolitan Blvd.
Tallahassee, FL 32308
Contact: Leslie Chapman-Henderson
President and CEO
850-385-7233
leslie@flash.org

Insurance Institute for Business and Home Safety
4775 East Fowler Ave.
Tampa, FL 33617
Contact: Whitford Remer
Counsel and Director of Public Policy
800-433-3966
wremer@ibhs.org

International Association of Fire Chiefs
4795 Meadow Wood Lane, Suite 100
Chantilly, VA 20151
Contact: Ken LaSala
Director of Government Relations and Policy
703-273-0911
KLaSala@iafc.org

International Code Council
500 New Jersey Ave. NW, 6th Fl.
Washington, DC 20011
Contact: Gabe Maser
Vice President, Government Relations
202-730-2953
gmaser@iccsafe.org

Knauf Insulation
One Knauf Dr.
Shelbyville, IN 46176
Contact: George Phelps
Public Affairs Manager
317-398-4434
george.phelps@knaufinsulation.com

Mason Contractors Association of America
1481 Merchant Dr.
Algonquin, IL 60102
Contact: Jeff Buczkiewicz
President and CEO
800-536-2225
jeffb@masoncontractors.org

National Association of Mutual Insurance Companies
20 F St. NW, Suite 510
Washington, DC 20001
Contact: Andrew Huff
Federal Affairs Director
202-580-6743
ahuff@namic.org

National Association of State Energy Officials
1300 North 17th St., Suite 1275
Arlington, VA 22209
Contact: Jeff Genzer
NASEO Counsel
202-791-3602
jcg@dwgp.com

National Concrete Masonry Association
13750 Sunrise Valley Dr.
Herndon, VA 20171
Contact: Robert Thomas
President
703-713-1900
rthomas@ncma.org

National Council of Structural Engineers Associations
20 North Wacker Dr., Suite 750
Chicago, IL 60606
Contact: Al Spada
Executive Director
312-649-4600
aspada@ncsea.com

National Electrical Manufacturers Association
1300 North 17th St., Suite 900
Arlington, VA 22209
Contact: Philip Squair
Vice President, Government Relations
703-841-3200
philip.squair@nema.org

National Institute of Building Sciences
1090 Vermont Ave. NW, Suite 700
Washington, DC 20005
Contact: Lakisha Woods
President and CEO
202-289-7800
lwoods@nibs.org

National Ready Mixed Concrete Association
66 Canal Center Plaza, Suite 250
Alexandria, VA 22314
Contact: Andrew Tyrrell
Executive Vice President, Government and Political Affairs
703-706-4854
atyrrell@nrmca.org

North American Insulation Manufacturers Association
11 Canal Center Plaza, Suite 103
Alexandria, VA 22314
Contact: Curt Rich
President and CEO
703-684-0084
crich@naima.org

Polyisocyanurate Insulation Manufacturers Association
3330 Washington Blvd., Suite 200
Arlington, VA 22201
Contact: Justin Koscher
President
703-258-0093
jkoscher@pima.org

Portland Cement Association
200 Massachusetts Ave. NW, Suite 200
Washington DC, 20001
Contact: Alpa Swinger
Senior Director, Market Development
202-408-9494
aswinger@cement.org

Reinsurance Association of America
445 New York Ave. NW # 7
Washington, DC 20005
Contact: Franklin Nutter
President
(202) 638-3690
nutter@reinsurance.org

Sheet Metal and Air Conditioning Contractors' Association, Inc.
305 4th St. NE
Washington, DC 20002
Contact: Stanley Kolbe, Jr.
Director, Legislative and Political Affairs
202-547-8202
skolbe@smacna.org

U.S. Green Building Council
2101 L St. NW, Suite 500
Washington, DC 20037
Contact: Bryan Howard
Legislative Director
202-828-7422
bhoward@usgbc.org

Underwriters Laboratories
1850 M St. NW, Suite 1000
Washington, DC 20036
Contact: Sarah Owen
Principal Policy Advisor, Global Government Affairs
202-296-7840
sarah.owen@ul.com

U.S. Resiliency Council
35 Valley Rd.
Atherton, CA 94027
Contact: Evan Reis
Executive Director
650-877-2150
evan.reis@usrc.org

Re: Joint Comments in Response to the White House Council on Eliminating Regulatory Barriers to Affordable Housing Request for Information, Docket No. FR-6187-N-01/HUD-2019-0092

Our organizations strongly support efforts to promote housing affordability and welcome the opportunity to respond to the Department of Housing and Urban Development's (HUD) request for information (RFI) in the above captioned matter. As the White House Council on Eliminating Regulatory Barriers to Affordable Housing continues its work, we urge it to consider affordability implications beyond first costs, including operations and maintenance expenses, and to ensure any recommendations complement existing Trump Administration support for up-to-date building code adoption and application at the federal, state, and local levels. We encourage the Council to support more consistent adoption of modern model building and zoning codes, which facilitate safe, affordable, and sustainable housing, and to ensure that efforts to speed permitting are coupled with sufficient resources and training for building and fire officials.

I. Housing Affordability Policy Must Address Ongoing Housing Costs that Disproportionately Impact Low- and Moderate-Income Families

Access to affordable housing is becoming too difficult for too many Americans and more can and must be done. The root causes for the challenge are complicated and multifaceted. To effectuate change, solutions must address not only first costs but also costs associated with operation and maintenance. Getting a family into a home is not enough. They need to be able to afford to live there. Cheap homes that can't remain standing against high winds, suffer severe damage from minor flooding, have parts or the whole structure fail during even moderate earthquakes, employ inadequate health and fire safety measures, or impose unnecessarily high energy and water utility bills are not the type of homes we should be promoting. Their residents deserve more.

As the RFI outlines, increases in housing costs have the greatest implications for low- and moderate-income (LMI) families. Unfortunately, these families are also hardest hit by natural disasters because they are more likely to live in homes built in hazard-prone areas or homes with lower quality construction.¹ Consequently, they are at greater risk of damage to or destruction of their homes and are more likely to be made homeless by a

¹ SAMHSA, *Greater Impact: How Disasters Affect People of Low Socioeconomic Status*, Disaster Technical Assistance Center Supplemental Research Bulletin (July 2017).

natural disaster.² To illustrate, a post-Hurricane Harvey analysis found that in Houston, low- and moderate-income families were more likely to live in homes built in flood-prone areas or areas not protected from flood risk and, consequently, suffered more damage than residents in higher-income neighborhoods.³

Low- to moderate-income families also have the most at stake when it comes to protecting their property from natural and manmade hazards, like fire risks. Recent Bankrate studies have reported that only 39 percent of those surveyed could cover an unanticipated \$1,000 expense with savings.⁴ That's about one-third of the average Federal Emergency Management Agency (FEMA)-verified (not actual) losses post-Hurricane Harvey for LMI renters and one-seventh to one-ninth of the FEMA-verified losses for LMI owners.⁵ Following Hurricanes Harvey, Irma and Maria, serious delinquency rates on home mortgages tripled in the Houston and Cape Coral, Florida, and quadrupled in San Juan, Puerto Rico. Serious delinquency rates increased more than 50 percent in Santa Rosa and Chico, California after the Tubbs Fire and Camp Fire.⁶

High energy and water bills also have disproportionate impacts. Middle-income and high-income ratepayers spend 1 to 5 percent of their income on energy bills, whereas low-income customers face energy burdens from 6 to 30 percent or more depending on their state of residence.⁷ Researchers have found that increased household expenditures on energy have contributed to a rise in mortgage delinquency.⁸

The consequences of natural disasters, risks to life safety, and high utility costs for people on the poverty line demonstrate why disaster resilience and energy and water efficiency must be part of our solutions to affordable housing challenges.

II. Modern Model Building Codes Reduce Ongoing Expenses without Impacting First Costs

The RFI notice appropriately recognizes ongoing costs as barriers to housing affordability, noting that “[r]ising housing costs are forcing families to dedicate larger shares of their monthly incomes to housing.” But while reducing the share of a family’s income that is dedicated to housing is vital, shifting those costs through increased utility bills, insurance premiums, or recovery costs merely reallocates them, and does not improve affordability. Fortunately, we can promote homes that are affordable, resilient, and energy- and water-efficient through the greater adoption and application of up to date model building codes.

A. Modern Model Codes Promote Affordable Housing

Modern model codes promote affordable housing by reducing the risk to buildings of natural and manmade hazards, lowering insurance costs, and cutting utility bills. A 2019 FEMA-funded study by the congressionally-established National Institute of Building Sciences (NIBS) found that up-to-date model building codes save \$11 for every \$1 invested through earthquake, flood, and wind mitigation benefits, with a \$4 to \$1 wildfire mitigation benefit.⁹ These benefits represent avoided casualties, property damage, business interruptions, first

² *Id.*

³ Dickerson, M., *Post-Harvey, Houston needs safe, affordable housing [Opinion]*, Houston Chronicle (Aug. 22, 2018).

⁴ Bankrate Financial Security Index Survey (Jan. 2018).

⁵ Rosales, C., *To achieve an equitable recovery, we propose a fairer way to determine needs of Hurricane Harvey survivors*, Texas Housers (Feb. 21, 2018).

⁶ Betten, D., et. al., *2019 Natural Hazard Report*, CoreLogic (Jan. 2020).

⁷ Thompson, A., *Protecting Low-Income Ratepayers as the Electricity System Evolves*, Energy Law Journal (Nov. 2016).

⁸ Kaufmann, R., et. al., *Do household energy expenditures affect mortgage delinquency rates?* Energy Economics (Mar. 2011).

⁹ NIBS, *Natural Hazard Mitigation Saves: 2018 Interim Report* (Jan. 2019).

responder expenses, and insurance costs, and are enjoyed by all building stakeholders – from developers, titleholders, and lenders, to tenants and communities.

Modern codes require smoke alarms and fire sprinklers, which can reduce insurance premiums.¹⁰ Smoke detectors reduce fatalities by 54 percent.¹¹ And both smoke alarms and fire sprinklers help protect occupants who, in the event of a fire, now have, on average, three minutes to escape, from 17 minutes, due to shifts towards open layouts and newer materials that cause fires to burn hotter and faster.¹²

Keeping utility bills low also can mitigate default risks, with one recent study finding that energy-efficient homes had about a third lower mortgage default rate.¹³ Modern energy codes have achieved significant efficiency improvement. For example, the 2018 International Energy Conservation Code (IECC) is 34 percent more efficient than the 2006 edition while the 2016 edition of the ASHRAE 90.1 efficiency code for commercial buildings is 31 percent more efficient than the 2007 version.¹⁴

B. Studies Continue to Find that Building Codes Do Not Appreciably Increase Housing Prices

Contemporary research continues to find that modern model building codes have no appreciable implications for housing affordability—in fact, no peer-reviewed research has found otherwise. The RFI notice cites a 2014 National Bureau of Economic Research (NBER) study on the role of government regulation on home prices. That study notes that while building codes primarily affect construction costs, those costs have been roughly constant since 1980. In contrast, the authors concluded that “it appears to be land prices that are the root of high and rising house prices in the United States.” The researchers also stated that “building codes may be more common in high-priced areas so the simple correlation between regulation and house prices likely overstates the true causal effect.” A second analysis by the same authors released after the RFI pointed to increases in the number of approvals required for rezoning and density restrictions as primary examples of regulatory barriers that increased since the housing crisis (the analysis does not include a single mention of building codes).¹⁵

Several additional contemporary analyses reached similar conclusions to the 2014 NBER paper. After Moore, Oklahoma experienced its third violent tornado in 14 years, the city significantly strengthened its building codes. The Moore Association of Home Builders estimated a \$1-\$2/sqft resulting increase in the cost of construction. Yet, researchers found that the change to a stronger building code had no effect on the price per square foot or home sales.¹⁶ The most detailed benefit-cost analysis of seismic code adoption to date modeled six buildings in Memphis, Tennessee and compared the costs of adhering to the seismic provisions of the 2012 edition of model building codes as opposed to late 1990s-era codes. The study found that adopting the 2012 codes, for the apartment building studied, would add less than 1 percent to the construction cost (and less to the purchase price, since construction cost typically amounts to between 1/3rd and 2/3rds of purchase price), reducing

¹⁰ See, e.g. <https://www.nationwide.com/property-insurance-rates.jsp>.

¹¹ Ahrens, M., *Smoke Alarms in U.S. Home Fires*, NFPA Research (Jan. 2019).

¹² Leamy, E., *House fires burn much faster than they used to. Here's how to survive*, Washington Post (Nov. 2017).

¹³ University of North Carolina at Chapel Hill's Center for Community Capital and the Institute for Market Transformation, *Home Energy Efficiency and Mortgage Risks* (Mar. 2013).

¹⁴ See <https://www.energycodes.gov/regulatory/determinations>.

¹⁵ Gyourko, J., et. al., *The Local Residential Land Use Regulatory Environment Across U.S. Housing Markets: Evidence from a New Wharton Index*, NBER Working Paper Series (Dec. 2019).

¹⁶ Simmons, K. & Kovacs, P., *Real Estate Market Response to Enhanced Building Codes in Moore, OK*, Investigative Journal of Risk Reduction (Mar. 2018).

annualized loss—in terms of repair cost, collapse probability, and fatalities—by approximately 50 percent.¹⁷ According to the Association of State Floodplain Managers, the insurance savings from meeting current codes' flood mitigation requirements can reduce homeowners' net monthly mortgage and flood insurance costs by at least 5 percent. The principal investigator for the NIBS report found that improvements to model building codes' resilience over the nearly 30-year period studied only increased a home's purchase price by around a half a percentage point in earthquake country or in an area affected by riverine flood.¹⁸ Finally, a study by Headwaters Economics last fall found that in the county studied a new home built to model wildfire-resistant codes could be constructed for roughly the same cost as a typical home.¹⁹

The cost effectiveness of modern codes is due in no small part to the active participation in the code development process of stakeholders representing development and property management interests. Building owners and managers, home builders, architects, design professionals, building trades, energy advocates, manufacturers, and others representing the housing industry devote considerable time and effort towards ensuring code updates are practical and cost effective.

III. The Council's Recommendations Should Complement Ongoing Efforts by the Trump Administration and Congress that Promote Modern Code Adoption and Application

Our organizations urge the White House Council to ensure that its recommendations complement existing efforts to promote state and local adoption of modern model building codes at HUD, FEMA, the Department of Energy (DOE) and across the federal government.

Recognizing the life safety and mitigation benefits that current building codes provide for communities, HUD has both required applicants for disaster recovery funding commit to adopting resilient codes and made available significant sums for codes' adoption and implementation. For the past seven years, and across multiple allocations, HUD has required Community Development Block Grants for Disaster Recovery (CDBG-DR) applicants demonstrate in their action plans how they will support the adoption of resilient building codes.²⁰ HUD's first round of CDBG mitigation funding (CDBG-MIT) issued last year states that "through this allocation for mitigation," HUD seeks to "support the adoption" of the "latest edition of the published disaster-resistant building codes and standards (to include wildland urban interface, flood and all hazards, ASCE-24, and ASCE-7 respectively)." As such, "[g]rantees are encouraged to propose an allocation of CDBG-MIT funds for building code development and implementation, land use planning and/or hazard mitigation planning activities that may include but need not be limited to: (a) The development and implementation of modern and resilient building codes consistent with an identified model or standard, such as ASCE 24 and ASCE 7 as may be applicable, in order to mitigate against current and future hazards."²¹

¹⁷ NEHRP Consultants Joint Venture, *Cost Analyses and Benefit Studies for Earthquake-Resistant Construction in Memphis, Tennessee*, NIST GCR 14-917-26 (2013).

¹⁸ Porter, K., *Resilience-related building-code changes don't affect affordability*, SPA Risk LLC Working Paper Series 2019-01 (2019).

¹⁹ Headwaters Economics, *Building a Wildfire Resistant Home: Codes and Costs* (Nov. 2018).

²⁰ HUD, Allocations, Common Application, Waivers, and Alternative Requirements for 2017 Disaster Community Development Block Grant Disaster Recovery Grantees, 83 Fed. Reg. 5844, (Feb. 9, 2018); Notice of National Disaster Resilience Competition Grant Requirements, 81 Fed. Reg. 36,557 (June 7, 2016); Allocations, Common Application, Waivers, and Alternative Requirements for Grantees Receiving Community Development Block Grant (CDBG) Disaster Recovery Funds in Response to Hurricane Sandy, 78 Fed. Reg. 14,329 (Mar. 5, 2013).

²¹ HUD, Allocations, Common Application, Waivers, and Alternative Requirements for Community Development Block Grant Mitigation Grantees, 84 Fed. Reg. 45,838 (Aug. 30, 2019).

HUD has awarded more than \$2.3 billion in traditional CDBG formula funding that was used for improved code compliance since 2001.²² According to HUD, these investments (1) “ensure the health, safety, and protection of the public in the construction and occupancy of buildings” by addressing “structural integrity, fire resistance, lighting, electrical, plumbing, sanitary facilities, ventilation, and seismic design;” (2) “improve the value of the residential units;” and (3) “reduce crime in a neighborhood.”²³

Following several fatalities from carbon monoxide poisoning in HUD-assisted properties, Secretary Carson endorsed bipartisan legislation that would require HUD-assisted properties to adhere to the carbon monoxide poisoning prevention requirements in current model building codes.²⁴ Per the RFI, promoting up-to-date building code adoption and compliance is clearly consistent with HUD’s mission to “support decent, safe and sanitary housing.” As HUD’s efforts demonstrate, and the RFI acknowledges, some building regulations are “necessary to protect the health and safety of American citizens.”

FEMA has taken a similar approach. Based on modern model building codes’ implications for disaster mitigation and the Agency’s focus on careful stewardship of federal post-disaster recovery expenditures, FEMA’s strategic plan stresses: “[d]isaster resilience starts with building codes, because they enhance public safety and property protection.”²⁵ In the Plan’s very first objective, FEMA highlighted the importance of the Agency’s “advocate[ing] for the adoption and enforcement of modern building and property codes.” FEMA has deemed adherence to current model codes to be so important that it will not fund rebuilding of public facilities post-disaster if that construction would otherwise be built to non-current standards.²⁶ The Agency’s position is intended to support the efficient use of federal dollars as “[r]ecipients and sub-recipients using nationally recognized voluntary consensus-based building codes and standards will decrease vulnerability [of] new construction and repaired and retrofitted structures, thus decreasing the need for future Federal disaster recovery grants and other assistance.”²⁷ State and local adoption of up-to-date building codes is a budgetary performance metric for the Agency.²⁸

Congress shares FEMA’s position. Twice in 2018 Congress passed, and President Trump signed into law, measures that incentivize the adoption and application of modern model building codes through enhanced federal cost shares for post-disaster rebuilding, new grants for states and localities both pre- and post-disaster, and by making pre-disaster mitigation grant applicants more competitive based on their adoption of up-to-date model codes.²⁹

The efforts by Congress, FEMA, and HUD are reflected in the Administration’s National Mitigation Investment Strategy, issued last summer by the Mitigation Framework Leadership Group (MitFLG)—chaired by FEMA and made up of HUD, 12 other federal agencies and departments as well as state, tribal, and local officials. The Strategy makes several recommendations concerning the use, enforcement, and adoption of building codes: “[a]rchitects, engineers, builders, and regulators should use the latest building codes for the most up-to-date requirements for structural integrity, mechanical integrity, fire prevention, and energy conservation,” “trained,

²² <https://www.hudexchange.info/programs/cdbg/cdbg-expenditure-reports/>.

²³ HUD, *Use of CDBG Funds for Code Enforcement Activities*, CPD-14-016 (Oct. 2014).

²⁴ Press Release, *Scott Introduces bipartisan CO ALERTS Act to Safeguard American Families from Carbon Monoxide* (July 2019).

²⁵ FEMA, *2018-2022 Strategic Plan* (2018).

²⁶ FEMA, *Public Assistance Program and Policy Guide*, FP 104-009-2 (2018).

²⁷ FEMA Policy 204-078-2.

²⁸ FEMA Budget Overview and Fiscal Year 2020 Congressional Justification.

²⁹ See Pub. L. 115-123; Pub. L. 115-254.

certified professionals [should] handle building inspections and code administration,” and “[u]p-to-date building codes and standard criteria should be required in federal and state grants and programs.”³⁰

Finally, DOE’s Building Technologies Office (BTO) supports the development and implementation of building energy codes by providing technical assistance for code development, adoption, and compliance. BTO coordinates with stakeholders to improve model energy codes and provides technical assistance to states implementing updated energy codes. The purpose of BTO’s dedicated Building Energy Codes Program is to “improve building energy efficiency, and to help states achieve maximum savings” by “advancing building codes.”³¹ DOE estimates that energy codes, when fully implemented, can provide \$126 billion energy cost savings through 2040.³² DOE residential field studies have demonstrated that adequate training is one of the keys to effective implementation—after training and education in 7 states, annual energy costs due to varying levels of code compliance decreased by an average of about 45 percent.³³

IV. Greater Uniform Adoption of Current Model Building and Zoning Codes Would Promote Housing Affordability

State and local governments frequently amend model codes. So, although modern model building codes do not have negative implications for housing affordability, parts of the country may have building and rehabilitation codes that do. Our organizations believe the White House Council’s support for more uniform adoption of modern model building codes at the state and local levels could help tackle this challenge—both for wood-frame homes and modular homes built offsite.

Modular homes show promise as an affordable housing solution, capable of curbing construction timelines and reducing costs. Modular construction can deliver projects 20 to 50 percent faster than traditional methods, which can provide cost savings of up to 20 percent.³⁴ The International Code Council is in the process of developing two standards that will help expand the use of offsite construction by promoting more efficient design, fabrication, and approvals.

For both modular and wood-frame homes, a more unified code landscape would help minimize construction cost through clearer and more consistent design and construction requirements and quality standards—allowing greater efficiencies for builders, materials manufacturers, and designers. For communities, promoting strong codes can help reduce borrowing costs and incentivize economic investment through reduced threat of loss and better risk pricing. Such an effort dovetails with existing work underway at FEMA. Greater adoption of current codes nationally is also particularly critical given natural disasters are expected to increase in frequency and severity,³⁵ but, according to FEMA, more than two-thirds of communities facing hazard risk have not adopted hazard resistant codes.³⁶

Greater uniformity in zoning practices also would promote housing affordability. Exclusionary zoning that discourages new construction or multifamily housing through large minimum lot sizes or specified higher cost

³⁰ Mitigation Framework Leadership Group, *National Mitigation Investment Strategy* (Aug. 2019).

³¹ <https://www.energy.gov/eere/buildings/building-energy-codes-program>.

³² Pacific Northwest National Laboratory, *Impacts of Model Building Energy Codes* (Oct. 2016).

³³ See Williams, J., *Single-family Residential Field Study: Phase III Data and Findings*, Building Technologies Office, DOE (2019).

³⁴ McKinsey & Company, *Modular construction: From projects to products* (June 2019); Galante, et. al., *Building Affordability by Building Affordably: Exploring the Benefits, Barriers, and Breakthroughs Needed to Scale Off-Site Multifamily Construction*, Turner Center for Innovative Housing at UC Berkley (Mar. 2017).

³⁵ FEMA, *2018-2022 Strategic Plan* (2018).

³⁶ Mitigation Framework Leadership Group, *National Mitigation Investment Strategy* (Aug. 2019).

materials, required for their look and not their health or safety value, are common examples of zoning measures that increase housing costs. Model codes can tackle the challenges these variations in zoning practice present. For example, the International Zoning Code (IZC), which is in use in 12 states, is intended to establish provisions that adequately protect public health, safety and welfare; that do not unnecessarily increase construction costs; that do not impose excessive lot sizes; that do not restrict the use of new materials, products, or methods of construction; and that do not give preferential treatment to particular types or classes of materials, products, or methods of construction.³⁷ For these reasons, we encourage HUD to leverage model zoning codes, as a common baseline for communities to consider as they look toward ways to discourage exclusionary zoning.

V. Efforts to Speed Permitting Should Be Paired with Funding for Increased Staffing and Training

As discussed above, building code adoption alone generates enormous mitigation benefits. However, code compliance is equally important. Adequate building and fire official staffing and sufficient training are the two most critical components for proper code application. FEMA quantified the cost of Dade County's inadequate code compliance as a quarter of the \$16 billion in insured losses from Hurricane Andrew.³⁸ Researchers found similar results about 15 years later: that implementing building codes at the local level by ensuring codes are properly administered and applied provides an additional loss reduction value on the order of 15 to 25 percent.³⁹

FEMA's Hurricane Andrew after action Building Performance Assessment Team report cited "[i]nadequate county review of construction permit documents, county organizational deficiencies such as a shortage of inspectors and inspection supervisors, and the inadequate training of the inspectors and supervisors" as considerations behind "the poor-quality construction observed."⁴⁰ To address the compliance challenges post Hurricane Andrew, FEMA recommended "training and continuous education for construction tradespeople, supervisors, and inspectors," a "multifaceted certification program for inspectors and supervisors," and "expanding the pool of qualified building inspectors."⁴¹ The National Mitigation Investment Strategy made the same recommendations last year: "trained, certified professionals [should] handle building inspections and code administration."

Building code application is most commonly measured through a community's Building Code Effectiveness Grading Schedule (BCEGS) score, an evaluation conducted by ISO, an analytics provider for the property/casualty insurance industry. BCEGS scores evaluate communities on staffing to permitting load, training, continuing education, and certification. Better BCEGS scores can translate into lower insurance premiums for communities.⁴² FEMA's Community Rating System, which provides federal flood insurance discounts for communities undertaking disaster mitigation measures, similarly credits adoption and enforcement of up to date codes.⁴³

³⁷ <https://codes.iccsafe.org/content/IZC2018>.

³⁸ Burby, R., *Hurricane Katrina and the paradoxes of government disaster policy: Bringing about wise governmental decisions for hazardous areas*, The ANNALS of the American Academy of Political and Social Science (2006) citing FEMA, *Building Performance Assessment Team, Preliminary Report in Response to Hurricane Andrew, Dade County, Florida* (1992).

³⁹ Czajkowski, J. et. al., *Demonstrating the Intensive Benefit to the Local Implementation of a Statewide Building Code*, Risk Management and Insurance Review (2017).

⁴⁰ FEMA, *Building Performance: Hurricane Andrew in Florida* (Feb. 1993).

⁴¹ *Id.*

⁴² ISO, *National Building Code Assessment Report* (2019).

⁴³ FEMA, *National Flood Insurance Program Community Rating System Coordinator's Manual*, FIA-15/2017 (2017).

Despite the recommendations made by FEMA and others, as well as the insurance benefits provided, only 16 communities have achieved a top BCEGS score, out of thousands of counties and cities nationwide.⁴⁴ Based on an International Code Council analysis, a third of states do not require code official certification and half of states do not require continuing education for code officials. These figures make the case for increased staffing and training investments, as opposed to forcing understaffed and/or undertrained departments to process permits faster and less safely.

Improved code application also generates significant energy efficiency benefits. DOE residential field studies have demonstrated that training is capable of significantly increasing energy savings (the 7 states studied saw the potential for annual energy costs to decrease by an average of 45 percent).⁴⁵ An Institute for Market Transformation analysis determined that funding for building energy code training, outreach, and implementation generates \$6 in energy savings for every \$1 invested.⁴⁶

For these reasons, we support efforts to encourage streamlined or expedited permitting so long as these efforts are tied to resources for adequate staffing and training. To do otherwise risks re-creation of a regulatory regime that cannot adequately protect community safety. It also risks increasing insurance rates for the broader community and forgone energy cost savings.

Focusing exclusively on permitting timelines and regulatory barriers more broadly also misses what many believe to be a key construction cost driver—workforce shortages. Recruitment is critical for both building and fire officials and the construction industry. Fifty percent of code officials are over 55 years old, meaning that much of that workforce will be retiring in the coming years.⁴⁷ The construction sector’s share of employees aged 45 years or older increased to 50 percent from 32 percent between 1985 and 2010.⁴⁸ Further, the construction sector never fully recovered from the last recession, with 4.3 percent of positions vacant in September 2019 compared to 2.7 percent before the recession.⁴⁹ The workforce shortage, particularly the shortage of skilled workers, increases home prices and makes homes less affordable,⁵⁰ with some attributing the “majority of the [construction cost increase] coming from increased labor costs.”⁵¹ Inefficient construction is also a significant issue, with construction productivity largely unchanged in part of the housing construction sector since the late 1980s.⁵² Again, modular construction could offer potential solutions, both to construction efficiency and workforce challenges, boosting productivity 2-10 times over and requiring fewer skill-intensive workers.⁵³

VI. Specific Responses to the RFI

The following are specific responses to numbered RFI questions that draw from the prior sections.

⁴⁴ ISO, *National Building Code Assessment Report* (2019).

⁴⁵ Williams, J., *Single-family Residential Field Study: Phase III Data and Findings*, Building Technologies Office, DOE (2019).

⁴⁶ Cliff Majersik and Sarah Stellberg, *\$810 Million Funding Needed to Achieve 90% Compliance With Building Energy Codes*, Institute for Market Transformation (2010).

⁴⁷ See https://www.iccsafe.org/wp-content/uploads/17-14675_Safety_2.0_Infographic_v6.pdf.

⁴⁸ McKinsey & Company, *Modular construction: From projects to products* (June 2019).

⁴⁹ Falcon, J., *NAHB: Construction job openings are increasing*, HousingWire (Nov. 6, 2019).

⁵⁰ Emrath, P., *Labor Shortages Still Hurting Affordability*, NAHB (Aug. 2019).

⁵¹ Borland, K., *Severe Labor Shortage Continues to Plague Construction Industry*, GlobeSt.com (Feb. 2019).

⁵² See Sveikauskas, L., et. al., *Measuring productivity growth in construction*, Monthly Labor Review, U.S. Bureau of Labor Statistics (Jan. 2018).

⁵³ McKinsey & Company, *Modular construction: From projects to products* (June 2019); Galante, et. al., *Building Affordability by Building Affordably: Exploring the Benefits, Barriers, and Breakthroughs Needed to Scale Off-Site Multifamily Construction*, Turner Center for Innovative Housing at UC Berkley (Mar. 2017).

- In response to RFI question #1(a),(d): Were the federal government’s support for the adoption and application of model building codes (through efforts at HUD, FEMA, DOE, etc.) undermined, homeowners and residents would face greater risk of harm to occupants and property, higher insurance costs, and higher utility bills. States and local governments would suffer business interruptions, greater damage from natural disasters, delayed or incomplete recovery from natural disasters, increased first responder costs and first responder casualties, and greater foreclosure risk. Encouraging state or local governments to lower building or enforcement standards would make them less competitive for existing grant programs (e.g., FEMA’s) and could lead to community-wide increases in insurance premiums.
- In response to RFI question #4(a)(i): The available studies have shown that building codes have no appreciable negative implications for affordable housing. In fact, no peer-reviewed study has found otherwise.
- In response to RFI question #4(b): Building inspections and permitting affect the timeline for construction, but, as described above, are critical toward protecting community safety, ensuring lower insurance rates, and reducing energy bills. Focusing exclusively on permitting timelines misses what many believe to be a key construction cost driver—workforce shortages in the construction sector. Inefficient construction is also a significant issue, with construction productivity largely unchanged in part of the housing construction sector since the late 1980s.
- In response to RFI question #4(c): Regulations should be evaluated based on their lifecycle costs and benefits for residents, homeowners, and the community. Lifecycle considerations go beyond first costs and include implications for operations and maintenance expenses, utility bills, insurance rates, foreclosure rates, disaster mitigation and recovery, first responder costs, first responder casualties, etc.
- In response to RFI questions #5, #1(b)/(c), and #2(b): By promoting the uniform adoption of current model building codes for modular and wood-frame homes, improved application of those codes, and uniform adoption of model zoning codes, HUD could improve affordability by meaningfully reducing construction costs and operations and maintenance expenses while complementing existing Trump Administration efforts.

Policy measures to promote greater uniform adoption and improved application of modern model building and zoning codes at the state and local levels include direct grants for adoption and enforcement,⁵⁴ making communities more competitive for funding based on the adoption and enforcement of up-to-date codes,⁵⁵ providing communities with technical assistance on their code adoption and enforcement,⁵⁶ and requiring the use of up to date codes in federally funded infrastructure projects.⁵⁷

⁵⁴ E.g., FEMA’s Building Resilient Infrastructure and Communities (BRIC) and Hazard Mitigation Grant Program (HMGP) funding and HUD’s CDBG, CDBG-DR, and CDBG-MIT funding.

⁵⁵ E.g., FEMA’s Public Assistance program for post disaster recovery (which offers an enhanced federal match based on code activities) and BRIC program (which makes applicants more competitive based on code activities), CDBG-DR’s requirement that applicants commit to adopting resilient codes, etc.

⁵⁶ E.g., DOE and FEMA both provide technical support to communities regarding code adoption, while HUD, DOE, and FEMA provide technical assistance regarding code enforcement activities.

⁵⁷ E.g., FEMA’s Minimum Standards ensure FEMA-funded infrastructure investments are built to the latest codes regardless of the local code adopted, which protects building occupants and communities and reduces the likelihood that federal funding will be again required to repair or rebuild the funded projects.

HUD could support the greater adoption, use, and application of current building codes by (1) continuing to fund code adoption and enforcement through CDBG, CDBG-DR, and CDBG-MIT; (2) applying the Department's CDBG-DR required applicant commitment to updating codes to CDBG, CDBG-MIT and other infrastructure programs (e.g., the Public Housing Capital Fund (PHCF) and Housing Trust Fund (HTF)) and expanding this requirement to include adequate code compliance; (3) requiring HUD-funded infrastructure investments (through CDBG, CDBG-DR, CDBG-MIT, PHCF, and HTF) adhere to current building codes and standards; and (4) providing additional funds to CDBG, CDBG-DR, CDBG-MIT, PHCF, and HTF recipients based on their adoption and application of modern codes. HUD could encourage greater adoption of model zoning codes by providing grant funding for adoptions through the CDBG, CDBG-DR, CDBG-MIT programs. The Department could also provide additional funding to applicants of those funding streams, as well as applicants of the PHCF and HTF programs, based on the applicants' adoption of model zoning codes.

- In response to RFI questions #6(a) and #4(a)(ii): The Moore, Oklahoma analysis is a peer-reviewed, published scientific paper that used multiple listing service data to analyze home sales and price per square foot; the NIBS study was subject to extensive peer review by 24 independent experts, FEMA, the Economic Development Administration, HUD, and Office of Management and Budget staff, and representatives from 33 stakeholder groups; and the additional studies cited in these joint comments are either published in an academic journal, were conducted by the federal government (e.g., DOE, FEMA, etc.), or were prepared by respected research institutions (Pacific Northwest National Lab, University of North Carolina, etc.). Each of these studies provided quantitative results using consistent, peer reviewed, repeatable, methodologies.
- In response to RFI question #6(b)(viii): Frequently, the permitting process is dictated by regulation, making disaggregation of process and regulatory considerations difficult. Inadequate staffing and training can lead to negative process outcomes, while regulatory requirements concerning training, continued education, and certification, can lead to positive ones.
- In response to RFI question #6(c): HUD should consider including links to model codes through its Regulatory Barriers Clearinghouse.

Thank you for the opportunity to provide comment. If you have any questions concerning our comments please do not hesitate to contact us through the contact information provided above.