

## WHERE ARCHITECTS STAND: A STATEMENT OF OUR VALUES

We stand for protecting communities from the impact of climate change. Global warming and man-made hazards pose an increasing threat to the safety of the public and the vitality of our nation. Rising sea levels and devastating natural disasters result in unacceptable losses of life and property. Resilient and adaptable buildings are a community's first line of defense against disasters and changing conditions of life and property. That is why we advocate for robust building codes and policies that make our communities more resilient.<sup>1</sup>

#### **Contents**

The need to reconsider building codes and standards	4
The future must be designed now	6
A plan for action focused on results	10
Industry stakeholders: AIA's partners in change	12
A timeline for action	16
By the year 2023	20
By the year 2028	22
By the year 2033	23
By the year 2038	24
An ever higher level of service to society	26
Resources	28

## A CALL TO LEADERSHIP



Robert Ivy, FAIA EVP/Chief Executive Officer

The American Institute of Architects is committed to improving the environmental stewardship of the design, construction, and preservation of buildings and spaces.

The AIA publication on *Disruption, Evolution and Change: AIA's Vision for the Future of Design and Construction*, details an aspirational path forward for our profession's commitment to meeting 2030 climate objectives. The four focus areas of the report—energy, health/safety, welfare, and transparency—speak to methods to help us achieve our objective of leading the change we seek. They also help to frame our discussions and partnerships to advance environmentally responsible design and construction.

The scope of this work provides a prospective and aspirational approach that we believe provides real world steps that address climate change today, which we know will determine how future generations will live, work, learn, and play.

We also know that smart, energy-efficient design alone will not help us to meet the carbon-reduction goals needed to forestall or to prevent the worst effects of climate change. This document asks all industry stakeholders to work together to urge policymakers, at all levels of government, to implement policies that encourage architects, builders, our clients, and others to make reducing the carbon footprint of our society a top priority.

Architects understand that the built environment has a critical part to play in reducing our society's overall carbon footprint. We must incorporate renewable energy onsite and off-site by taking part in initiatives that will generate data about the built environment.

We know what we must do and we have a growing understanding of how best to do it. What is needed is a coordinated and sustained commitment at all levels of government to work with architects, engineers, builders, and others, to address the challenge of climate change by enacting policies that promote net zero carbon design.



Carl Elefante, FAIA 2018 AIA President

"For close to two centuries<sup>2</sup> AIA has been instrumental in the development of local, state, and national building codes and standards. AIA has been at the forefront of creating the process and procedures guiding the practice of architecture. This plan carries on the legacy of challenging what is commonplace and usual, looking to what is possible and necessary for tomorrow."

# THE NEED TO RECONSIDER BUILDING CODES AND STANDARDS

In April 2018, Carl Elefante, FAIA, president of The American Institute of Architects, created the Blue Ribbon Panel for Codes and Standards. The panel's charge was to develop a vision for the adoption and application of building codes and standards to ensure they continue to act as valuable design tools in a resource-constrained future.

The drivers for the initiative at this time are many. In April 2018, AIA published a ground-breaking statement outlining its position on climate change<sup>3</sup>. Among the position's bold declarations are these:

We understand how buildings contribute to climate change.... Architects can reduce such operational and embodied carbon production with passive design techniques, energy efficiency measures, and low-impact building materials....

Designing and building resilient buildings is not a choice, it's an imperative.

Codes, standards, and evidence-based rating systems are essential to creating a high-performing, resilient built environment. We stand for the development, adoption, and enforcement of comprehensive and coordinated building codes that mandate energy-efficient design and construction.

At the same time, AIA issued a commentary on AIA's Public Policies and Position Statements on Sustainability<sup>4</sup>. This document underscores the leadership role that architects must take to powerfully respond to climate change impacts and highlights some of the many initiatives AIA is leading to address this need. In the commentary, AIA also notes:

However, it is critical to recognize that actual progress toward these goals has been nearly negligible when compared to all new construction and renovation in the US. For these necessary and disruptive changes to occur, AIA members need resources and support to serve their clients and communities better in accordance with these commitments.

This document encourages all architects to embrace the critical and difficult challenges we all face in a changing world while still creating the high-performance built environment expected of us as a profession.

## THE FUTURE MUST BE DESIGNED NOW

Model building codes were originally created to address basic life safety and protection from hazards such as fire, collapse, poor indoor air quality, thermal discomfort, and plumbing failures, among others. These various hazards are addressed through regulation, organized legislatively, and commonly referred to by design and construction professionals under the umbrella term "health, safety, and welfare" (HSW), which forms a common foundation for modern building codes. The term "HSW" has evolved over time to incorporate changes driven by industrialization and naturally occurring and man-made disasters as well as the demands of modern life.



Government regulators and the construction industry alike should redefine and establish holistic HSW to protect human life and the natural environment now and in the future.

However, today we observe a rapidly changing world that is not properly reflected in what it means to protect HSW. We have observed the devastating effects of climate change throughout the world, growing social inequity, and human health crises that demand the definition of HSW now focus on and include the growing bodies of knowledge in resilience, equitable design, and advanced building performance. The relationships among the designer, building codes and standards, enforcement, and building performance outcomes must also fundamentally change in order to address this current era of growing hazards.

We are seeking a holistic definition of HSW that incorporates and embraces these additional areas of need and concern, through actions by AIA and the entire industry. Government regulators and the construction industry alike should redefine and establish holistic HSW to protect human life and the natural environment now and in the future.



Unfortunately, at a time when building performance should be rapidly advancing, we have seen building regulation development and adoption processes plateau or even regress in important areas. Codes have been historically slow to respond to change and technological developments. It can take a decade or more for a new concept to achieve acceptance and adoption into codes and standards.

AIA must cooperate with its partners in the design and construction industry to move the practice of architecture from minimum prescriptive standards to high-performance metrics.

Equally important in terms of challenges and opportunities is the rapidly decreasing number of qualified personnel who work in the regulatory arena. According to the NIBS/ICC 2015 report *Raising the Profile, Filling the Gaps*<sup>5</sup>, jurisdictions are increasingly challenged to adequately fund the training, tools, and resources necessary for code enforcement staff to effectively provide services in a competent and professional manner. Throughout their history as a profession, architects have prided themselves in pushing the vanguard of design. Today that means developing, maintaining, and applying building science knowledge. Architects must now step into the breach.





Holistic HSW requires that today's levels of building performance exceed the profession's current definitions for HSW. As the professional organization upholding ethical standards for the practice of architecture<sup>6</sup>, AIA must cooperate with its partners in the design and construction industry to move the practice of architecture from minimum prescriptive standards to high-performance metrics. Climate change, new technologies, and improved levels of information will change the patterns for success in the construction industry. Moreover, architects can largely eliminate the challenges for the regulatory review process and raise the level of building performance by resetting expectations for holistic HSW among fellow professionals and the public by fully integrating it into the regulatory process and architectural practice over time.

...we see architects as advocates to lawmakers and the public...



The Blue Ribbon Panel envisions a future where AIA architects have demonstrated knowledge and understanding of holistic HSW and the appropriate tools to apply that knowledge and advise their clients on project options that exceed the minimum requirements of model building codes and standards. In addition, we see architects as advocates to lawmakers and the public, providing expertise and guidance toward the adoption of a holistic HSW definition. As the national organization representing the interests of architects, AIA must recognize and support these efforts if they are to be successful. Raising expectations for HSW means greater promotion of sustainable and durable design solutions that enable the best possible environments to support holistic HSW for building occupants and the natural environment alike.

## A PLAN FOR ACTION FOCUSED ON RESULTS

Achieving higher-performing buildings cannot be done in a vacuum. Success will depend on collaboration between AIA and architects and our colleagues in the design and construction industry, policy makers, and governmental jurisdictions. This plan envisions the creation of a multi-year action program that will transition the profession to achieve a holistic HSW. Architects are now challenged to design to significantly higher standards of building performance that go beyond the model building codes that define minimum standards.

#### **Focused Goals**

Internal and external goals described in this report focus on architectural practice that delivers buildings designed to meet the highest levels of energy efficiency, consistent positive health and safety outcomes for building occupants, and life cycle design and resilience as integral design strategies to protect the general welfare of the public.

#### **Energy**

- > Achieve net-zero energy buildings.
- > Achieve net-zero carbon emissions from buildings.

#### Health/Safety

- > Continue to provide basic protections for health, safety, and welfare.
- > Reduce the negative impacts the environment can have on people and buildings (e.g. hazards).

#### Welfare

- > Create resilient structures to respond to natural and man-made events that impact buildings and communities.
- > Design buildings that promote physical and mental health and respectfully integrate an aging population by addressing mobility and cognitive challenges, promoting life activities, and reducing stress.
- Reduce the negative environmental impact of buildings throughout their life cycle.

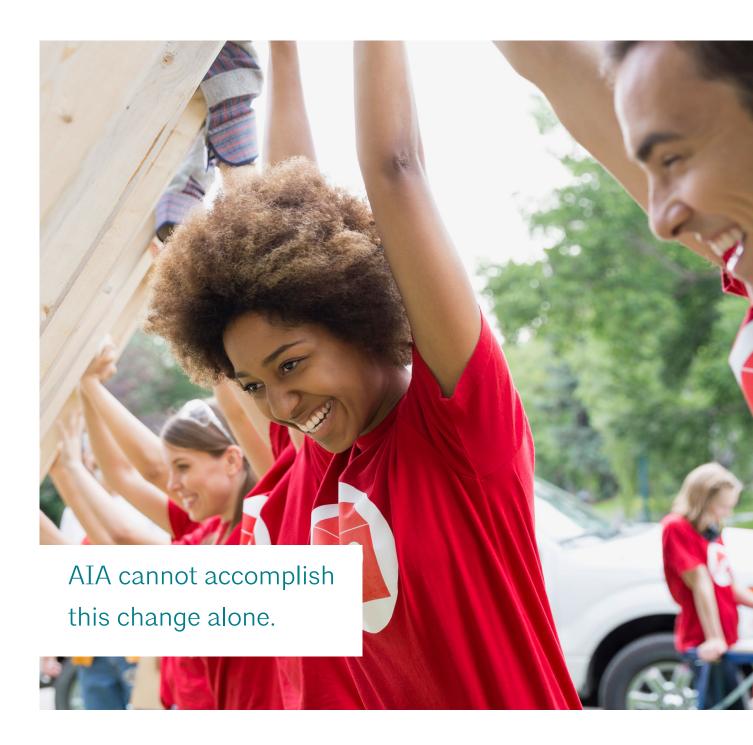
#### **Transparency**

- > Publicly distribute building performance information, particularly energy, water, and air quality data, to allow individuals to make informed decisions about which buildings they occupy.
- Expand and enhance the public's understanding of the value of buildings, including their embodied carbon content.
- > Expand and enhance the public's understanding of the vulnerabilities of existing sites, buildings, and structures to natural and man-made hazards, especially those caused by climate change.

...publicly distribute building performance information, particularly energy, water and air quality data, to allow individuals to make informed decisions about which buildings they occupy.

# INDUSTRY STAKEHOLDERS: AIA'S PARTNERS IN CHANGE

The current national model code development processes are slow to incorporate changes. We recognize that the status quo for both code development and jurisdictional plan review based on a "minimum" code is a comfortable state of affairs for licensed professionals and the industry at large, which also must balance the interests of designers, manufacturers, builders, regulators, and others with a stake in the outcomes.



The disruptive change we are advocating would upset the status quo and set a new regulatory trajectory. Because there are so many important industry stakeholders, AIA cannot accomplish this change alone. Many of our closest industry partners have critical responsibilities in the current system of building regulations and we need their continued involvement if we are to achieve the results envisioned in this plan.

We will be looking to the following stakeholders and others for their collaborative leadership and expertise as we work to achieve our goals. On the next page, we have drafted suggestions for engagement and will deeply appreciate input on these examples from each organization in the development of this plan. We also welcome other organizations not listed here to reach out with suggestions for collaboration.







Many of our closest industry partners have critical responsibilities in the current system of building regulations and we need their continued involvement if we are to achieve the results envisioned in this plan.



**Architecture)** As the organization of schools of architecture, ACSA is best positioned to quickly develop and distribute model curricula and course synopses for use in the education of architectural students. ACSA can provide resource materials and instructor training to promote and accelerate course offerings at its member institutions.

AIAS (American Institute of Architecture Students) AIAS is best positioned to promote the importance of the transition proposed in the plan to the future leaders of this profession. Understanding the opportunities for career paths, leadership, and social impact is profoundly valuable to those entering the profession.

#### ASHRAE (formerly American Society of Heating, Refrigerating and Air-Conditioning Engineers) As

an organization with oversight of building regulations development, particularly those addressing energy consumption and air quality, ASHRAE is best positioned to play a significant role in facilitating the transition to the higher performance levels proposed in this plan. As a significant provider of industry training and continuing education, ASHRAE can accelerate the transfer of the knowledge to achieve the plan's goals.

ICC (International Code Council) As an organization with oversight of building code development, ICC is best positioned to play a significant role in facilitating the transition to higher levels of building performance proposed in the plan. As a provider of training and certification for building officials employed by state and local jurisdictions, ICC can accelerate the transfer of the knowledge to achieve the plan's objectives.



#### **NAAB (National Architectural Accrediting Board)**

As the organization overseeing the accreditation of schools of architecture, NAAB's leadership and volunteers are drawn from AIA, NCARB, ACSA, and AIAS. NAAB's standards for accreditation are determined by the knowledge and skills defined and prioritized by those organizations. NAAB is positioned to strengthen the requirements for accreditation that reflect an enhanced education in building codes and regulations.

#### **NCARB (National Council of Architectural**

Registration Boards) As the organization of the state bodies that define the standards and administer the process of architectural licensure, NCARB is best positioned to rapidly integrate advances in building codes and regulations into the Architect Registration Examination® (ARE®). NCARB also has the power to accept tasks related to building codes and regulation into the Architectural Experience Program (AXP™). NCARB is positioned to rapidly enforce requirements for building codes and regulations and influence continuing education requirements for license renewal to reflect a holistic HSW.

#### **NFPA (National Fire Protection Association)**

As an organization with oversight of building regulations development, NFPA is positioned to play a significant role in facilitating the transition to the higher performance levels proposed in the plan. As a provider of industry training and continuing education, NFPA can accelerate the transfer of the knowledge to achieve the plan's goals.

#### **NIBS (National Institute of Building Sciences)**

As the only organization chartered by Congress to coordinate the nation's building industry, NIBS has significant research and data resources to support the development of advanced approaches to building codes and regulations proposed in the plan. Such research and data resources must be used to develop training and continuing education programs to accelerate the transfer of the knowledge and skills to achieve the plan's goals.

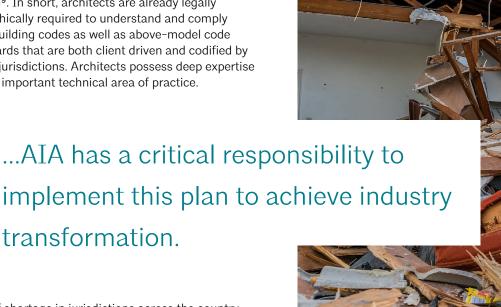
## A TIMELINE FOR ACTION

Multiple recent natural disasters have set records. In addition, the findings included in the US government's *Fourth National Climate Assessment*<sup>7</sup> and the United Nations' Intergovernmental Panel on Climate Change (IPCC) *Special Report on Global Warming*<sup>8</sup> lead the Blue Ribbon Panel to believe that AIA must act without delay if this plan is to have a meaningful impact on the future. AIA defines and enforces the ethical and practice standards that guide the profession. For well over 150 years, AIA has been the primary provider of industry news, knowledge, and continuing education for architects. Thus, AIA has a critical responsibility to implement this plan to achieve industry transformation.

The proposed timeline defines what must be accomplished in five-year increments, outlining the actions and decisions that need to successfully translate to architectural practice based on highperformance design. This is meant to be a "living" plan that can and should be reviewed and updated over time, because today's changing realities and tomorrow's opportunities may not align.

#### A major focus

As licensed and thereby regulated professionals, architects are required to provide services and designs that conform to the law. AIA architects also have a duty to make reasonable efforts to inform their clients of the environmental impacts of their projects, driven by ethical standards related to sustainable design9. In short, architects are already legally and ethically required to understand and comply with building codes as well as above-model code standards that are both client driven and codified by many jurisdictions. Architects possess deep expertise in this important technical area of practice.



A staff shortage in jurisdictions across the country has forced local governments to rely on outside plan reviewers, who are most often not architects and do not possess architects' specialized expertise. Today's marketplace has opportunities for architects to assume these roles, engaging in peer reviews and promoting their enhanced knowledge. By filling this gap, architects would collectively take responsibility for code compliance as a profession, which they have already done as individuals, while taking advantage of opportunities for valuable work in the void that is growing in code enforcement infrastructure.

transformation.

### **BY THE YEAR**

2023

2028

Architects will demonstrate the expertise and engagement with professional colleagues in the industry that recognizes not only their preexisting legal and ethical responsibility for compliance with all building codes, but the skills and ability to act as industry leaders designing all new construction and major renovation projects to above-code standards and based on holistic HSW.

Architects will be designing all projects under high standards of performance and, using increasingly accurate feedback and data to validate decisions, will be fully engaged in determining and developing even higher levels of performance.

2038

Architects will assume the lead on development, application, and implementation of high-performance buildings that meet the needs of our clients, meaningfully integrate communities, and recognize a world cognizant of a brighter future for mankind.

Architects will be prepared to assume responsibility as the primary stewards of code compliance consistent with their legal and ethical obligations within holistic HSW.

#### Listen, learn, design

Hold a series of symposia with our key industry partners to discuss the role of codes and standards in the practice of architecture.

- Jointly develop an updated holistic definition of HSW as well as the role of stakeholders in upholding HSW in the practice of architecture.
- > Develop an expectation in the industry that architects are skilled to provide third party code compliance, verification, and enforcement services based on their expertise.
- Agree on how each stakeholder organization can better support improved building performance beyond minimum model building codes and regulatory compliance.
- > Create a process of continuous improvement of building codes and regulations.
- > Inform architectural education, licensure processes, integrating design tools, and enforcement processes to reflect an elevated commitment to building performance.
- Develop implementation plans for coordinated, mutually supportive action by each stakeholder organization.
- Require CEUs based on tested in-depth knowledge of building codes.
- > Accelerate efforts to further integrate architects into the existing code development process in order to develop a higher standard for "minimum" model building codes.

#### Leverage technology

Leverage national CAD & BIM standards, developed and published by NIBS, to define and organize building design information, construction documents, and building system tools that identify higher-performance methods and their measurable performance outcomes.

- > Promote consistent standards for construction documentation for permitting.
- > Encourage 100 percent e-plan review in all jurisdictions.
- > Encourage development of standalone, automated code review software through collaboration among software companies, AIA, and ICC.
- Encourage integration and use of auto-code check algorithms within digital design tools such as CAD and BIM by architects, engineers, and code enforcement agencies.
- > Encourage use of technology such as drones, virtual reality (during permit reviews), and augmented reality (during field inspections) to assist in code enforcement.
- > Discuss remote permit reviews or inspections by third-party-certified reviewers via software, drones, and other emerging technologies.

#### **Achieve transparent performance**

Implement professional expectations that standard practice strives for compliance with high-performance codes and future resiliency standards. Institute universal transparency for building performance data to complement professional practice within holistic HSW.

- > Prepare architects with the knowledge and tools enabling all design to meet performance outcomes defined by:
  - » net zero energy goals,
  - » net zero carbon goals,
  - » embodied energy and carbon goals,
  - » water use goals,
  - » building/community resiliency goals, and
  - » hazard risk reduction goals.
- Require both new and existing buildings to publicly report their actual building performance metrics with 100 percent transparency using common benchmarking formats. Enhance this transparency by requiring buildings to display performance metrics reflecting their "asset performance rating," "operational performance rating" and "disaster performance" rating (e.g., seismic, wind, wildfire, etc.).<sup>10</sup>
- Advance a national database using efforts such as AIA's DDx tool to track predicted project energy performance during design and provide a standardized reporting format for measuring progress against a consistent and normalized baseline.

#### How this will be accomplished:

Led by the AIA Board of Directors, Strategic Council, and state and local leadership, and building on the direction addressed by the supporting documents, architects need to convey the message that the time has come for substantive change in the way we practice architecture. The expectations placed on us create an unprecedented opportunity while demanding a committed focus on our performance. The Code Advocacy Network, supported by the existing Codes & Standards Committee. Blue Ribbon Panel. COTE. and other committees, will review examples of model zero codes and resiliency standards, transparency and benchmarking legislation, and related materials and make recommendations on new practice standards. AIA will leverage the Code Advocacy Network and the Government Affairs Network to encourage adoption of national zero codes by collecting case studies from jurisdictions that adopt zero codes and utilizing case studies to inform Code Advocacy Network and other AIA resources to advance the standards of the performance/outcome-based codes in each code development cycle.

#### Establish a new standard of practice

Develop a new updated, holistic definition of HSW. Its promotion will push the profession to exceed current building code requirements and accordingly reflect AIA's current ethical standards related to sustainability for the performance of all design and construction projects.

- > To ensure codes keep pace with new practice standards, develop a robust advocacy program to move code requirements toward higher-performance goals, such as achieving equitable design, net zero energy/water performance, zero carbon buildings, regenerative buildings, buildings that are restorative of the environment, resilient buildings/communities, improved wellness through buildings, and support of physical and mental health.
- > Establish an update cycle to review the need for increasingly higher levels of HSW performance that can raise the standard of care.
- > Establish as standard practice project delivery methods that eliminate fragmentation, redundancy, and inefficiency in the design/construction/ operation cycle.
- Expand the data gathering and analysis base to a high level of information to guide design and standard development.

#### Commit to responsibility for existing building stock

Acknowledge that design and construction practices touch only a small percentage of buildings every year, but as stewards of the built environment, architects are called upon to offer solutions for the entire existing building stock.

- Develop tools and practices led by architects that encourage performance investment by building owners.
- Advocate for aggressive policy measures that mandate performance analysis and improvements for the worst performing buildings.
- Establish holistic HSW for the improvement of existing buildings.

#### How this will be accomplished

In close cooperation with the partners such as BOMA, NMHC, ICC, NFPA, NIBS, and other industry stakeholders, AIA's Code Advocacy Network, supported by the Codes and Standards Committee, COTE, and other committees, will evaluate the effectiveness of model zero codes and resiliency standards, transparency, and benchmarking legislation. Analysis of data from performance designs will guide the development of more effective practice standards. Continuing examination of the results of adoption and application of national zero codes will help guide next steps for advancing codes and their integration into practice.<sup>11</sup>

#### Transition to outcome-based building codes and standards

The current prescriptive model building codes and regulations are slow to change. Among their shortcomings, they rely on internal political support from entrenched groups rather than objective data for their adoption. While supporting progressive development of the codes and standards, AIA members must practice and design to meet a much higher level of performance expectations than the legal minimums currently defined by codes. AIA will determine how our buildings should perform using outcome-based goals, technical performance data, technology innovation, and the creativity of architects and engineers to utilize the best building science appropriate for each project. Performance validation by definition is a post-occupancy function; the architect must become the focal point for review and resolution for significant compliance.

- Conduct a survey of existing performance standard systems and develop an understanding of best practices for design and construction.
- > In collaboration with key stakeholders develop the outcome-based performance building codes and regulations based on building science and documented research.
- > Utilize the AIA Code Advocacy Network and Building Codes & Standards Committee to gain adoption of outcome based performance building codes and regulations.
- > Establish an outcome-based performance code as a national standard that minimizes amendments by state and local jurisdictions.

- Develop building commissioning standards to validate initial outcome-based performance code and regulation compliance, and benchmark reporting.
- > Establish that architects, as signatories of the design's compliance with the provisions of the outcome-based performance building codes and regulations, are the primary interpreters of the codes and regulations as verified through education, training, and peer review.
- > In collaboration with NCARB, ACSA, and NAAB, update the requirements of testing (ARE) and experience (AXP) for licensure, continuing education for licensure renewal, and architectural education curricula and architectural accreditation.

#### How this will be accomplished

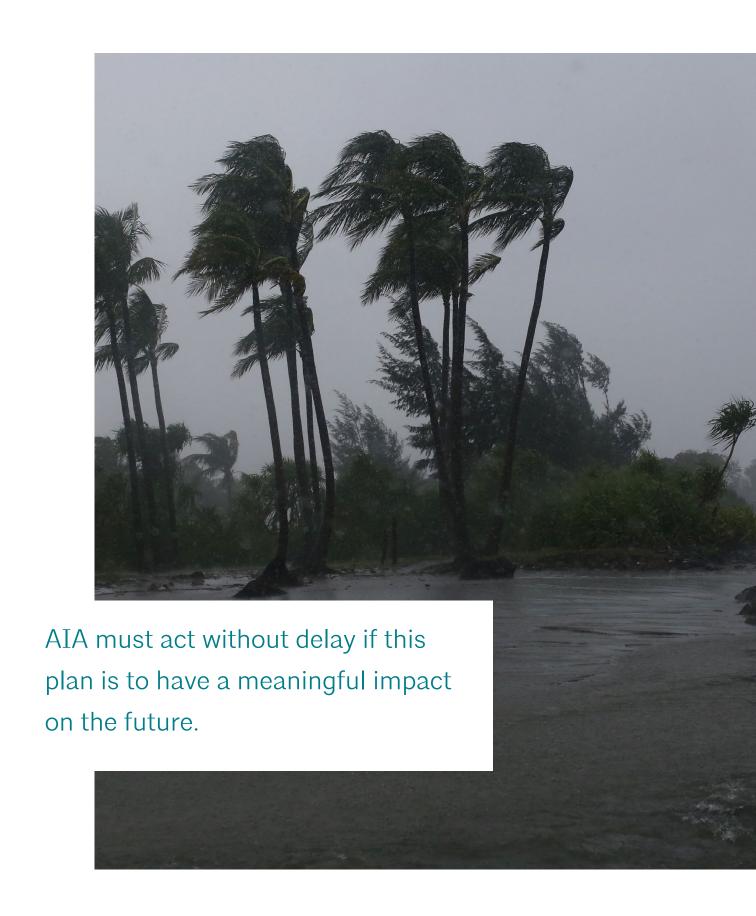
States' adoption of the holistic HSW definition through their licensing will reinforce AIA's engagement with higher levels of performance codes and their responsibilities for leadership through education, testing, and practice to achieve a sustainable world.

#### Architects as stewards of building performance

Following this proposed plan, the following changes will be complete:

- > Increased rigor of an architect's education and experience relative to building codes and regulations.
- Integrated automated digital code checking into the design process.
- > Transition to an outcome-based performance building codes and standards.
- > The architect established as the primary interpreter of a design's code compliance.
- > Comprehensive peer review, third-party commissioning, and outcome evaluations confirm the values in the holistic HSW that may raise the standard of care for architects.

This last transition will enable traditional building departments to refocus their efforts consistent with their public service mission. Departments will be able to deploy their workforce to focus on validation of actual building performance reporting and benchmarking to achieve transparency requirements. Assuring that performance levels are maintained over the life of the building and public posting of benchmarking information would keep departments engaged with existing buildings' performance. <sup>12</sup>



## AN EVER HIGHER LEVEL OF SERVICE TO SOCIETY

The vision and actions defined in this plan are intended to direct AIA in providing the collaborative leadership needed to effectively support members as they transform the practice of architecture while meeting the needs of future generations.

Throughout its history, AIA members have been leaders known for advancing building regulations and defining HSW in ways that have raised expectations for the practice of architecture over time. Today we stand at a crossroads for codes development and for the profession as a whole. The boundaries of the prescriptive codes currently in use have been pushed to their limits, and the current code development process simply cannot accommodate the performance goals required to avoid the deleterious effects of climate change on the natural world and civilization.

Let us begin the hard work of change today!

The boundaries of architectural practice have eroded from what they were a generation ago, architects' influence over building policy and practices is significantly reduced from what it should be to accomplish what we set forth in this plan and beyond.

The Blue Ribbon Panel envisions an impactful, preferred future for the design and construction industry. The panel acknowledges that changing a system built upon many years of tradition and well-established roles for the many stakeholders involved will not be easily or quickly achieved. But the necessity for change is obvious and immediate. This plan will bring together all stakeholders to effect changes in their particular roles and relationships to create a better built environment that supports the well being of both people and the planet.



#### **Resources from AIA**

#### "AIA Codes Task Force Finding and Recommendations: Comprehensive, Coordinated, Contemporary (C3 Report)" (1999)

The American Institute of Architects aia.org/resources/883l-aia-codes-task-force-findings-and-recommendat

#### "AIA Directory of Public Policies and Position Statements" (2018)

The American Institute of Architects aia.org/resources/9156-directory-of-aia-public-policies-and-position

#### "AIA Code of Ethics and Professional Conduct" (2018)

The American Institute of Architects aia.org/pages/3296-code-of-ethics-and-professional-conduct

#### "Guides for Equitable Practice" (2018)

The University of Minnesota with The American Institute of Architects Equity with the Future of Architecture Committee
<a href="mailto:aia.org/equityquides">aia.org/equityquides</a>

#### "One Code: A Program for Building Regulatory Reform" (1975)

The American Institute of Architects Codes and Standards Committee <a href="https://bit.ly/2TIXZfK">bit.ly/2TIXZfK</a>

## "Resolutions for Consideration by the Delegates to the 2017 Annual Business Meeting of the Institute" [Resolution 17-5] (2017)

The American Institute of Architects
To adopt a Position Statement declaring the
AIA's support for a new investigation into the
total collapse of World Trade Center Building 7
on September 11, 2001.

conferenceonarchitecture.com/wp-content/ uploads/2017/03/2017-Resolutions.pdf

### Resources from other stakeholders

#### "Ancient Codes Guiding the Modern World" PHCPPros (2019)

phcppros.com/articles/8908-ancient-codesquiding-the-modern-world

#### "Building a Safer Future, Independent Review of Building Regulations and Fire Safety: Final Report" (2018)

United Kingdom Ministry of Housing, Communities and Local Government gov.uk/government/publications/independentreview-of-building-regulations-and-firesafety-final-report

#### "Community Resilience Building Benchmarks" (2019)

Alliance for National and Community Resilience & International Code Council resilientalliance.org/

## "Airplane pilot flight performance on 21 maneuvers in a flight simulator under varying carbon dioxide concentrations" (2018)

Journal of Exposure Science & Environmental Epidemiology

nature.com/articles/s41370-018-0055-8

#### "Fulfilling America's Pledge: How States, Cities, and Businesses Are Leading the United States to a Low-Carbon Future" (2018)

Global Climate Action Summit 2018 bbhub.io/dotorg/sites/28/2018/09/Fulfilling-Americas-Pledge Executive-Summary 2018. pdf

### "Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II" (2018)

<u>U.S. Global Change Research Program</u> nca2018.globalchange.gov/ "Improved Federal Coordination Could Facilitate Use of Forward-Looking Climate Information in Design Standards, Building Codes, and Certifications" (GAO-17-3) U.S. Government Accountability Office (2016) gao.gov/products/GAO-17-3

#### "Living Building Challenge 3.1 Standard: A Visionary Path to a Regenerative Future"

International Living Future Institute living-future.org/product/lbc-3-1-standard/

#### "NIST Community Resilience Planning Guide for Buildings and Infrastructure Systems" (2015)

National Institute of Standards and Technology nist.gov/topics/community-resilience/ planning-guide

#### "Principles of Climate Change Adaptation for Engineers"

Engineers Canada, Canadian Engineering Qualifications Board engineerscanada.ca/sites/default/files/Ol\_national\_guideline\_climate\_change\_adaptation.pdf

#### "Raising the Profile, Filling the Gaps: Report from a Town Hall Meeting on the Future of Code Officials" (2014)

International Code Council and National Institute of Building Sciences cdn.ymaws.com/www.nibs.org/resource/resmgr/NCGBCS/NIBS\_Rpt\_FutureCodeOffics.pdf

#### "RELi Action List + Credit Catalog"

RELi Resilience Collaborative (2014-17) <u>c3livingdesign.org/?page\_id=11817</u>

#### **Notes**

#### **Notes**

#### **SPECIAL THANKS**

A special thank you to the Blue Ribbon Panel on Codes committee members who authored this report:

Chair: David Collins, FAIA
Facilitator: Jim Dinegar, CAE
Christopher Chwedyk, AIA
Gary Dempster, FAIA
Rosemarie Grant, AIA
Maureen Guttman, AIA
Anica Landreneau, Associate AIA
RK Stewart, FAIA
Ryan Taylor, AIA

