Code Official Workforce Roadmap

How the Northeast Can Support the Guardians of Energy Codes

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About NEEP

NEEP was founded in 1996 as a non-profit whose mission is to serve the Northeast and Mid-Atlantic to accelerate regional collaboration to promote advanced energy efficiency and related solutions in home, buildings, industry, and communities. Our vision is that the region's homes, buildings, and communities are transformed into efficient, affordable, low-carbon, resilient places to live, work, and play.

Disclaimer: NEEP verified the data used for this white paper to the best of our ability. This paper reflects the opinion and judgments of the NEEP staff and does not necessarily reflect those of NEEP Board members, NEEP Sponsors, or project participants and funders.

Executive Summary

Strong building codes and enforcement are essential to public health and safety, community resilience, and achieving state and national energy goals. As building code agencies face a staffing shortfall in the next decade, new strategies are needed to develop and sustain a proficient building code enforcement workforce for the future. The roadmap identifies six priority areas for strengthening the building and energy code enforcement workforce and outlines actionable strategies for state energy offices, departments of labor, or other agencies overseeing code implementation and enforcement. Some strategies are also tailored to local building code departments, code official associations, and training and continuous education partners. These strategies are summarized into a practical, stakeholder-specific action framework in Table 1 below.

- **Recruitment**: Build wider entry pathways through sustained outreach, career awareness, early-career support, and new academic or trainee programs that make the profession more visible and accessible.
- **Retention**: Improve pay competitiveness, modernize tools and processes, support work-life balance, and expand regional coordination to reduce burnout and increase job satisfaction.
- **Training and Certification**: Provide structured, hands-on preparation through boot camps, cross-training with industry, and expanded online and regional course offerings, with dedicated emphasis on energy code education.
- **Continuous Learning**: Embed ongoing professional development through paid training time, different learning tools, statewide training hubs, mentorship, and strong peer networks.
- **Renovations and Retrofits**: Equip officials with clear guidance and tools tailored to existing buildings, including simplified compliance resources, retrofit-focused training, and early consultation practices.
- **Succession Planning**: Protect institutional knowledge by formalizing succession plans, documenting local practices, cross-training staff, and offering leadership development and mentorship opportunities.

Together, these actions offer a coordinated strategy to recruit, prepare, support, and retain the code enforcement professionals needed to ensure safe, efficient, and resilient buildings.

Table 1. *Summary of recommended actions by stakeholder group*

ENTITY	STEPS TO TAKE		
	Start	Build	Sustain
State agencies such as state energy offices or departments of labor	Run career awareness outreach (schools, trades); benchmark pay scales; plan training fee and paid-time support	Launch incentives, including apprenticeships, internships, scholarships, bonuses, tuition assistance; fund, start circuit rider, regional support; publish retrofit guidance templates and flowcharts	Require energy-code continuing education and provide training options; keep stable funding (permit fees, appropriations, utility support, grants); track KPIs (workforce, training, retention, compliance, feedback)
Local building and code departments	Host career days and shadowing; publish a clear 12-18-month trainee pathway; improve basics for retention (tools, vehicles, PPE; flexible or hybrid where feasible)	Reduce workload friction by using electronic permitting, digital plan review, mobile inspection tools, checklists, remote virtual inspection where appropriate; encourage specialization (energy reviewer, mechanical, etc. where possible)	Administer mentorship and case reviews; provide early consultations for retrofits; educate contractors and the public (sessions, brochures, newsletters); document local interpretations in an internal knowledge base; cross-train future leaders
Training/certification organizations and education partners	Offer code enforcement 101 boot camp (classroom and field exposure); expand online and regional hands-on access	Create formal trainee programs, certificate, associate degree; expand cross-training with contractors/designers/ auditors; integrate retrofit-focused training	Maintain annual calendars and on-demand training; develop specialized retrofit credentials; expand leadership and soft-skill training; use retirees as trainers and mentors; support peer learning
Code official associations and professional associations	Market the profession (mission, stability, benefits, entry without expensive degree; success stories)	Organize peer networks and regional meetups; publish training calendars	Host and maintain conferences for CEUs and networking; keep peer support active to reduce isolation and improve consistency
Other partners including utilities, non-profits, insurers, developers, and community stakeholders	Form a workforce steering committee to coordinate roles and monitor progress	Support funding pathways; help institutionalize coordinated programs (e.g., sustained circuit rider capacity, consistent training access)	Help sustain coordination and evaluation (KPIs, feedback loops) so programs are sustained after startup

Introduction

Building code enforcement professionals, also referred to as building inspectors, plan examiners, or code officials, serve as guardians of our built environment. They review construction plans, inspect buildings, and enforce building codes that ensure health, safety, energy efficiency, and structural resilience.[1] From fire safety to structural integrity and insulation levels, virtually every aspect of a building's performance and safety is checked by a code enforcement officer before a certificate of occupancy is issued. As cities and states update their energy codes and building standards, code enforcement becomes the decisive factor in realizing the promised energy savings and emissions reductions. In short, effective code enforcement turns policy on paper into safe, efficient buildings on the ground.[2]

This roadmap covers the broader code enforcement workforce and emphasizes energy code implementation, reflecting the growing importance of energy efficiency and building resilience. This report addresses a pressing question: How can we develop and sustain a proficient building code enforcement workforce for the future? We focus on the human capacity needed to implement building codes—particularly energy codes—effectively. Key questions include: How can we attract new talent into code enforcement careers? What training and certifications do officials need to keep up with evolving codes? How do we retain experienced professionals and transfer their knowledge before they retire? And how can we better support code officials as they tackle challenges like complex retrofits and new technologies?

To answer these questions, we drew on two primary research efforts. First, we conducted a Code Enforcement Workforce Gap Analysis: New England and Mid-Atlantic Region in 2024.[3] This included a detailed survey of code officials across New England and the Mid-Atlantic, yielding both quantitative data and written insights on workforce challenges. Second, NEEP convenes and attends many working groups on code adoption, implementation, and enforcement across the region where stakeholders discuss issues and brainstorm solutions. Their practical perspectives have shaped many of the recommendations herein. The analysis and recommendations presented in this roadmap address code enforcement across residential, multifamily, and commercial buildings.

The findings are clear that without intervention, many building departments will face a severe staffing shortfall in the next decade. In our survey, nearly 39 percent of current code enforcement staff expect to retire by 2029, and an additional 18 percent by 2034.[4] This means over half the workforce could retire in about 10 years. Already, many building departments report being understaffed.[5] Compounding the issue, not enough new people are

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[1] International Code Council (ICC), "Careers in Code Enforcement," available at https://www.iccsafe.org/content/careers-in-code-enforcement/.

[2] Maggie Kelley Riggins, "Adopting New Building Energy Codes Isn't Enough—Effective Implementation Drives Impact," American Council for an Energy-Efficient Economy (ACEEE), August 7, 2025, available at https://www.aceee.org/blog-post/2025/08/adopting-new-building-energy-codes-isnt-enough-effective-implementation-drives.

[3] NEEP, Code Enforcement Workforce Gap Analysis: New England and Mid-Atlantic Region, 2024, available at https://neep.org/sites/default/files/media-files/neep_code_enforcement_gap_analysis_final_updated.pdf.

[4] Ibid.

[5] Ibid.

coming up through the ranks. Jurisdictions report few applicants for code enforcement positions and limited awareness of code enforcement as a career path among younger generations.

Meanwhile, the job is getting more demanding. Building codes are updated every few years with new technologies and requirements, requiring constant learning. The construction industry is also booming in many areas, creating more inspection workload, particularly for renovations of existing buildings. Our survey found that a majority of permits are now for renovations or retrofits of existing buildings rather than new construction.[6] These projects often pose greater compliance challenges, as certain updates in old structures need to meet code requirements. All these factors lead to a simple conclusion: Business-as-usual workforce practices will not suffice. We need new strategies to recruit, prepare, and support the next generation of code officials, or communities risk delayed projects and falling behind energy performance goals.

This roadmap is structured around six categories. Each section introduces the core workforce challenge, then lays out actionable recommendations tailored to key stakeholders including state agencies, municipal governments and building/code departments, training and certification organizations, and industry partners. Together, these strategies form a practical framework for building and sustaining the code enforcement workforce our communities need.

CHALLENGE ONE: RECRUITMENT

Nearly 39 percent of code officials surveyed plan to retire by 2029 and 57 percent by 2034,[7] yet municipalities already struggle to attract applicants. Many code enforcement departments report receiving very few qualified applicants when they post jobs. There is no widely recognized academic program for code officials, and awareness of the profession among the broader public is low. In some places, the public perception of code officials skews toward bureaucratic enforcers, overshadowing their essential role as public service professionals.

The path to becoming a certified code enforcement official can seem confusing. Many people are unsure what qualifications are needed. While no four-year degree is required to enter code enforcement and one can start with a high school diploma and some construction experience, outsiders may assume you need an advanced degree or extensive prior experience. This can deter young people who might otherwise be interested. Combined with low entry-level pay and competition from better-marketed trades and private-sector jobs, the pool of interested candidates remains small. Code enforcement has traditionally drawn from a narrow pipeline, limiting the talent pool. Without outreach to a wider range of candidates, such as women, bilingual individuals, or those entering mid-career, many potential recruits are overlooked.

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[6] Ibid.

[7] Heidi Schwartz, "Survey of Code Professionals Predicts Substantial Retirement Exodus," ***Facility Executive Magazine***, September 23, 2024, available at https://facilityexecutive.com/survey-of-code-professionals-predicts-substantial-retirement-exodus.

Together, these factors create a recruitment gap that threatens to leave many building departments critically understaffed[8] as codes are growing more complex and workloads are increasing. Meeting the recruitment challenge will require deliberate outreach, clearer career pathways, and better incentives. The following strategies outline how state agencies, local departments, and education partners can expand the pipeline of future code officials.

State Agencies:

- **Launch sustained outreach and career awareness campaigns.** Partner with high school vocational programs, technical colleges, community colleges, and trade schools to introduce students to code enforcement. This could involve guest presentations by code officials, distributing career brochures or videos, and participating in construction career days. State energy offices or education departments could help develop materials highlighting code enforcement as a career with impact, ensuring safe, efficient buildings in the community.
- **Provide incentives like scholarships, internships, paid apprenticeships or on-the-job training, or hiring bonuses**. Municipalities and state agencies could fund "code enforcement apprenticeship" programs where young adults can get paid, on-the-job exposure, which could broaden the recruitment pool by lowering entry barriers, especially for candidates without formal construction credentials. Likewise, relocation bonuses, stipends, or loan forgiveness programs could entice mid-career professionals, like electricians or contractors, looking for a career shift to give code enforcement a try. Some states have offered tuition assistance for those pursuing code enforcement certification courses.

Building/Code Departments:

- **Host open houses and "code enforcement career day" programs.** Individual building departments can demystify the job by inviting interested students or tradespeople to shadow a code enforcement official for a day. Organize a "code enforcement career day" where staff showcase how they inspect a building or review plans. Retired code officials can be engaged as ambassadors at these events, sharing stories of how their work made a difference. Such personal outreach can inspire attendees and personalize the profession.
- **Publish a clear pathway for new hires.** One best practice is to document what the first 12-18 months on the job look like for a trainee. By outlining the training, mentorship, and certification support a newcomer will receive, departments can reassure candidates that they will be set up for success. This can be included in job postings or recruitment flyers.
- **Outreach to additional groups.** Some jurisdictions have supplemented in-house capacity by engaging third-party energy specialists for plan review or field verification. While not a replacement for municipal code officials, these models, as seen in pilots led by the New York State Energy Research and

[8] William Bender & Ryan W. Briggs, "A Third of Philly's Building Inspectors Have Quit Since 2019. Critics Say That Threatens Public Safety," *The Philadelphia Inquirer, May 26, 2022,* https://www.inquirer.com/news/philadelphia-building-safety-staffing-shortages-inspections-20220526.html.

Development Authority (NYSERDA),[9] can help alleviate temporary workforce shortages. Furthermore, promote code enforcement careers to groups that have historically been less visible in this field. This could include outreach such as classroom presentations, hands-on demonstrations, participation in career fairs, etc. through community organizations, veterans' programs, technical schools, youth and women in STEM (science, technology, engineering, and mathematics) organizations, and trade associations. Highlighting the stability of the profession, the opportunity for public service, and the value of construction experience can attract a broader range of candidates. Messaging should emphasize core skills such as attention to detail, problem-solving, and building knowledge, and show that people from many different backgrounds can excel as code officials.

Training/Certification Organizations & Education Partners:

- **Create a formal "code enforcement trainee" program or associate degree.** Just as some trades have apprenticeship programs, code enforcement could benefit from a structured entry-level training curriculum. Community colleges or technical institutes, in partnership with ICC or state code agencies, could offer a certificate or associate degree in code enforcement. For example, an academic program might cover basics of building technology, plan reading, the ICC model codes, energy efficiency in buildings, and field inspection practice over 1-2 years. Connecticut has been exploring exactly this approach, integrating code official training into college curricula to build a talent pipeline (see callout box).
- **Collaborate with trade unions and contractor associations.** Many code officials come from trades backgrounds. Work with local groups to reach out to electricians, plumbers, HVAC technicians, etc., who may be looking to transition from physically demanding field work into a code enforcement role as they advance in their career. Unions and contractor groups can help identify candidates and even host joint training for those interested in switching to code enforcement. These partnerships may also identify candidates who have strong theoretical understanding of building systems even if they are no longer active in physical trades.
- **Outreach to engineers and architects.** Architects and engineers already have many skills, including plan interpretation, construction detailing, and code familiarity that make for effective code officials. Targeted outreach through professional associations, continuing education programs, and design schools can help these professionals see code enforcement as a natural and rewarding career pathway.
- **Market the career's benefits and mission.** Training organizations and professional associations, like state building official associations, should help spread positive messaging: Being a code official offers stability, a good public-sector benefits package, and the satisfaction of serving the community. It's also a job that will be in high demand given the retirement wave and increasing code complexity—in other words, strong job security. Highlight success stories of code officials who came from non-traditional backgrounds. Emphasize that one can enter this career without an expensive degree and it can grow into a well-paying professional role.

[9] NYSERDA, "Third Party Support Resources," available at https://www.nyserda.ny.gov/All-Programs/Clean-Resilient-Building-Codes/Third-Party-Support-Resources.

EXAMPLE

Connecticut's Code Official Education Initiative

Connecticut is taking early steps toward a formal academic pathway into code enforcement. The Office of Education and Data Management (OEDM) has been working with Capital Community College to design a program that would prepare individuals for entry-level roles in code compliance and enforcement.

While still in development, the program could evolve into either an associate degree or a certificate track within an existing field such as construction management. If successful, Connecticut's initiative could become a regional model for how states can partner with higher education institutions to create clearer, more accessible entry points into the code enforcement profession.

CHALLENGE TWO: RETENTION

Jurisdictions also need to retain the talent they already have. Through surveying code officials, we learned that code enforcement salaries are not competitive with equivalent roles in the private construction industry. A master electrician or construction site supervisor, for instance, might earn significantly more than a municipal code enforcement official. Without competitive pay, agencies have a hard time keeping people long-term, especially in high-cost-of-living areas. Departments that cannot fill vacancies or add positions face mounting inspection loads on each individual staff member. This can lead to long hours and burnout.

Some code officials feel they lack the tools or management support to do their jobs efficiently. For example, if a department hasn't digitized and a code official spends hours driving back to the office to file paperwork, that inefficiency adds frustration. Where officials face a lot of pushback or lack understanding from the public, such as with angry homeowners or developers upset at correction notices, it can make the job draining unless there is strong leadership backing the code official. Furthermore, retention is better when employees see a future for career growth. If the promotion path or pay scale tops out quickly, seasoned officials may seek opportunities elsewhere. Likewise, a lack of recognition or professional respect can sap morale. Code officials want to be seen as professionals, not as obstructionists. Public appreciation for their role in health, safety, and energy goals is often lacking.

Addressing retention demands a focus on valuing, supporting, and sustaining the professionals already in the field. The actions below cover how agencies and departments can strengthen job satisfaction, stability, and long-term commitment.

State Agencies:

- **Conduct compensation studies and adjust pay scales.** State personnel agencies or municipal human resources departments should benchmark code enforcement officials' salaries against other jurisdictions' public-sector code enforcement positions and against private-sector analogues (like construction supervisors, trades foremen, etc.). The goal should be to raise salaries to a level that values the technical expertise required. Aligning state licensing requirements, ICC certifications, and local job descriptions can further strengthen both recruitment and retention by creating clearer, more predictable pathways for advancement. While government budgets are tight, investing in fair compensation for code officials pays off. Adequate staffing and competitive pay reduce permitting delays, improve enforcement consistency, and support community safety and local economic development. Considering the retirement wave, offering retention incentives, like longevity bonuses or extra contributions to retirement for those who stay on, could encourage late-career officials to remain a few years longer and mentor new staff. Improved benefits such as more flexible schedules can also help with retention.
- **Provide relief through regional cooperation (circuit riders).** Smaller towns in particular struggle to retain full-time experts in every code discipline. A circuit rider program, where an expert inspector travels among multiple jurisdictions to assist as needed, can alleviate workload and provide specialized knowledge. This not only improves compliance but reduces the strain on each local code enforcement official to be an expert in everything. Several successful models already demonstrate the value of this approach, including regional circuit rider programs in New York, Iowa, and the Southeast that provide hands-on training, plan review support, and expert guidance to understaffed municipalities. Implementing this will require stable funding mechanisms. Potential approaches are discussed in the Implementation section, including permit fee structures, state appropriations, and utility partnerships.

Building/Code Departments:

- **Invest in code enforcement officials' wellness and support.** Retention is also about ensuring employees have a sustainable work-life balance and the code officials have the practical resources needed to work safely in the field. This includes access to reliable vehicles, appropriate inspection equipment, and adequate personal protective equipment, all of which materially affect job satisfaction and long-term well-being. Municipal leaders should also consider policies like flexible schedules or hybrid work options for code staff where feasible (e.g., allowing office days for plan reviews to be done from home).
- **Optimize workloads and processes.** Department managers should continually look for ways to reduce unnecessary workload on their code enforcement officials. Electronic permitting systems, digital plan review tools, mobile inspection platforms, and centralized data systems should be considered core workforce investments. Implementing remote virtual inspections (RVI)[10] for certain appropriate

[10] Learn more about remote virtual inspection: NEEP, "Remote Virtual Inspections," available at https://neep.org/building-energy-codes-and-appliance-standards/pre-fabricated-construction-and-remote-virtual.

inspections or re-inspections can save driving time and alleviate scheduling pressures. Creating standardized checklists for common inspection types can speed up the process and ensure consistency, reducing mental strain. In jurisdictions with sufficient staff, splitting inspection responsibilities by specialty, such as having dedicated energy code reviewers or mechanical inspectors, reduces the cognitive load on individuals. This could be expanded to a regional or multi-county level, so it can provide cost-effective support for small jurisdictions that cannot sustain full-time specialized staff. Standardizing plan review workflows and inspection protocols can improve efficiency, consistency, and clarity for staff and applicants. This approach enables staff to deepen expertise, improve job satisfaction, and ensure more consistent enforcement.

- **Encourage and reward professional development.** Retention also improves when departments recognize professional growth. Linking pay increases to achieving advanced certifications or licenses rewards continuous learning while simultaneously building internal expertise. Publicly celebrating these milestones fosters pride and strengthens the sense of profession.

EXAMPLE

Circuit Rider Support in Practice:

Circuit riders provide on-site training, plan review help, answer any code-related questions, and provide tailored technical assistance. Here are some examples:

NYSERDA Regional Circuit Riders (New York): Experienced trainers provide free classes, adoption support, and technical guidance to municipalities that are enforcing the NYStretch Energy Code, easing the burden on understaffed departments.

Iowa Energy Code Consultant (led by Midwest Energy Efficiency Alliance): A state-funded expert offers free, customized support, including site visits, small-group trainings, and consultations, helping officials and builders navigate energy code requirements.

Energy Code Circuit Rider Program (led by Southeast Energy Efficiency Alliance): In seven states in the Southeast, circuit riders deliver in-field assistance tailored to each community's needs, particularly in rural areas with limited training access.

By reducing isolation, providing backup for complex issues, and offering flexible expertise, circuit rider programs improve compliance while boosting job satisfaction and retention among code officials.

CHALLENGE THREE: TRAINING AND CERTIFICATION

The scope of knowledge for code enforcement officers continues to evolve with modern construction practices. A building code enforcement official today not only needs to understand structural framing and fire safety, but also high-efficiency HVAC systems, solar-ready roof layouts, electric vehicle charging provisions, advanced insulation techniques, and more. Our survey highlighted troubling gaps in training: Only about 15 percent of officials felt they have a comprehensive knowledge of the International Energy Conservation Code (IECC) and the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1. Most learn via self-study guides, which can be challenging for those new to code books and language. Book knowledge alone is not enough to enforce codes effectively. New code enforcement officials need field training on how to conduct an inspection, write corrections, use tools like blower door systems, etc.

Closing training and certification gaps requires accessible, hands-on, and continuous learning opportunities. The recommendations that follow outline practical steps to build a stronger, better-prepared workforce.

Training & Certification Organizations, Education Partners, and Building Departments:

- **Implement a "code enforcement 101" boot camp.** For those entering the field, a multi-week intensive training with a mix of classroom and field experience can build a solid foundation. This might cover the structure of the international codes, basic plan reading, inspection procedures, and key points of major codes (building, electrical, plumbing, energy). Providing paid training or stipends can reduce barriers for early-career or transitioning workers and broaden participation. Furthermore, including field trips to active construction sites is invaluable, instead of simply reading about them. Some states run building official basic training programs. For example, New York's Department of State offers a Basic Training Program for new code officials. These models should be expanded and made standard.
- **Promote cross-training opportunities.** Consider joint training sessions where code officials, contractors, design professionals, and energy auditors learn together. For instance, a workshop on what successful energy code compliance looks like could bring builders and code officials into the same room to review common issues and solutions, fostering mutual understanding. This breaks down the "us vs. them" mentality and gets everyone on the same page regarding code intent and practical application.
- **Expand online and regional course access.** Departments should meet learners where they are. That means offering online, self-paced modules for foundational topics such as building science principles, code structure, and plan review fundamentals, which can help those in remote areas, as well as regional, in-person training for hands-on learning. Training providers can utilize a traveling trainer model or circuit rider, an expert who goes to different counties to deliver code update seminars or prep courses for exams. Not every town can send staff to a distant conference, so decentralizing training is key.
- **Mandate and fund energy code education.** Given the gaps, states or municipalities should require a certain number of energy code CEUs for code enforcement officers, and more importantly, provide on-the-clock time and/or reimbursement to obtain them. For example, a state could require a certain

number of hours per year focused on energy-efficiency or green-building training for all certified inspectors. This ensures ongoing competence in this rapidly evolving area.

State Agencies:

- **Support training fees and paid time for education.** One barrier for many officials is that training or exam fees and travel costs are not covered by their employer. State agencies can use funds like energy program funds or the permit fee surcharges to offer tuition reimbursement or direct training grants to municipalities. Additionally, local governments should explicitly allow training time as part of work hours rather than expecting all learning to be done on personal time. This investment pays off in better enforcement.

EXAMPLE

Training Programs in New York and Massachusetts:

Two state initiatives in New England are leading the way in enhanced training for code enforcement and building professionals. New York also mandates a Basic Training Program for new code officials, covering core inspection and plan review topics. In Massachusetts, the Mass Save Energy Code Training and Technical Support program provides workshops, webinars, and technical assistance for building officials. Officials can access expert guidance through a dedicated helpline, along with checklists and code guides to simplify enforcement. Together, these initiatives demonstrate how states, non-profit partnerships, and utilities can expand training access, keep code officials up to date, and improve compliance outcomes.

CHALLENGE FOUR: SUPPORT FOR CONTINUOUS LEARNING

Even after initial certification and training, code enforcement officers need ongoing education. Building technologies and codes are not static. New nationally developed model codes change on three-year cycles, and even faster in practice by introducing new materials, installation techniques, and design approaches that are emerging. A culture of continuous learning is therefore essential in building departments. However, many code officials face obstacles to ongoing education. Taking classes often means time away from work or from personal time. Small departments may not have back-up staff, so a code official attending training means something else gets delayed. Furthermore, if training involves travel or fees, tight municipal budgets might not cover it. In rural areas or small states, there simply may not be many local training opportunities. Officials might have to travel for hours to a conference or rely on infrequent state-organized sessions. Online training can fill some gaps but isn't always interactive or tailored to local codes.

Sustaining a skilled workforce depends on embedding lifelong learning into everyday practice. The following actions show how states, departments, and training organizations can make continuous education achievable and routine.

State Agencies:

- **Establish and enforce continuing education requirements**. States can lead by requiring all certified code enforcement officials to complete a certain number of paid training hours specifically on energy codes each year or within each code cycle, and integrate those training hours into staffing schedules and budgets. States can enforce this requirement by tying renewal of certification or license to meeting these hours. While mandates set the expectation, they should be paired with support. Ideally, the state should provide free or subsidized training options to meet the requirement. Another approach is organizing an annual or semiannual statewide code enforcement conference where a large portion of required CEUs can be earned and officials can network.
- **Budget time and money for professional development.** Jurisdictions should budget for their code enforcement official to participate in training. Agencies can also allow training time as part of work hours. For instance, an agency can permit each code official a certain number of hours per quarter that can be devoted to online courses, webinars, or reading technical updates.
- **Facilitate regional training hubs or partnerships.** A state could partner with community colleges or state universities to serve as training hubs for code officials. These institutions might host regular evening or weekend classes that officials from surrounding municipalities can attend. The state could provide standardized curriculum and instructor support. By leveraging existing educational infrastructure, one can reach more people consistently.

Building/Code Departments:

- **Create a mentorship and knowledge-sharing culture.** Pair up junior code officials with experienced officials in a formal mentorship program. The mentor can meet with the mentee regularly, accompany them on some inspections, and be available to answer their questions. Mentors will not just share code facts but also judgment and experiential knowledge. Departments can also hold monthly case review meetings where code officials share interesting or tough cases they encountered and discuss as a group how they resolved them. This is a great way for everyone to learn from others' experiences and maintain consistency in code interpretations.
- **Leverage technology for micro-learning.** Consider setting up a library of brief training videos that are produced by state, regional, or national level or training partners, or tips that code officials can watch on demand or during work hours. For example, a 15-minute video on common energy code violations could be shared internally. Departments can also create an internal knowledge base where any code official can post Q&As or clarifications on code sections that have caused confusion, creating a living reference. To ensure accuracy, departments should designate moderators or rely on guidance produced by certified instructors, code councils, or state agencies when responding to technical questions. Departments can

also collaborate with neighboring jurisdictions to co-develop and share these resources, building regional libraries of short trainings and reinforcing peer learning beyond individual departments.

Training Organizations & Professional Associations:

- **Publish annual training calendars and on-demand modules**. Organizations could provide a one-stop training calendar each year. This lets officials plan which seminars or courses to attend. In addition, recording sessions and making them available on-demand helps those who could not attend live. For example, Massachusetts' Mass Save program records many of its energy code training courses and offers them online for credit.[11] The more training content that can be accessed anytime, the easier it is for busy officials to fit learning into their schedule.
- **Utilize digital tools to supplement learning.** These include modern e-learning techniques, like quizzes. The U.S. Department of Energy (DOE) offers many online resources for code enforcement officials.[12]
- **Foster peer networks across jurisdictions**. Associations can help make personal connections between code officials in different areas to share expertise. Formalizing these networks or having periodic meetups for code enforcement officials in neighboring towns can break down isolation. It also provides moral support, as knowing others face similar challenges and can offer advice greatly helps continuous improvement.

EXAMPLE

Building Ongoing Learning Networks:

The New England Building Officials Education Association (NEBOEA) provides a great example of sustaining continuous education through regional cooperation. NEBOEA is a non-profit consortium of code official associations from all six New England states, and its sole focus is training and education for code enforcement. Each year, NEBOEA hosts a large educational conference[13] where hundreds of code officials gather for two days of intensive seminars on varied topics, from structural plan review to the latest energy code updates. This annual event not only delivers CEUs to fulfill requirements but also creates a culture of learning and opportunity for networking.

[11] MassSave, "Energy Code Training & Technical Support," available at https://www.masssave.com/trade-partners/energy-code-training-and-technical-support.

[12] U.S. Department of Energy, "Building Energy Codes Program Resource Hub," available at https://training.energycodes.gov/ui/.

[13] See more at NEBOEA, 2025 NEBOEA Conference, available at https://neboeablog.wordpress.com/.

CHALLENGE FIVE: ADDRESSING KNOWLEDGE GAPS IN RENOVATIONS AND RETROFITS

A significant portion of code enforcement work involves renovations, retrofits, and additions to existing buildings. Many retrofit projects only trigger limited code requirements. Full compliance with the energy code is typically required when there are changes of occupancy, when unconditioned spaces are converted to conditioned spaces, or when major systems are replaced. These situations can create complex compliance pathways for both officials and applicants. 54 percent of code enforcement officials who participated in the recent survey say more permits are for renovations than new construction. Enforcing codes in these situations can be considerably more complex than for new construction. Existing buildings come with old materials, outdated wiring or mechanical systems, or structural constraints that may not neatly fit current code requirements. Without early communication, it often falls on the code enforcement official in the field to deliver bad news to homeowners or builders about unexpected code obligations, which can strain relationships. While many of these challenges are especially visible in residential and small-contractor settings, similar issues arise in commercial and multifamily retrofits.

As retrofits and renovations dominate the workload, code officials need tailored tools and guidance. The actions below focus on making existing-building compliance more practical, consistent, and effective.

State Agencies:

- **Simplify compliance templates for existing buildings**. State code boards or energy offices can create guidance documents or flowcharts specifically for common scenarios (e.g., attic insulation, HVAC replacement). Providing these to contractors and homeowners upfront would reduce misunderstandings and inspection failures. By providing clear algorithms or decision trees, officials and applicants can more easily determine what is required, reducing confusion.
- **Fund retrofit-specific training and resources**. These are similar to general training courses but focus on the nuances of existing buildings. This could include workshops on topics like insulating older homes when applicable, mechanical system replacements, or in general, how the energy code's provisions for existing buildings work. In addition, agencies can develop case studies of common retrofit scenarios. These case studies can be distributed as learning tools for both code officials and industry. Training should also address commercial retrofit challenges such as bringing legacy HVAC systems up to current efficiency standards, integrating modern controls into older buildings, or managing envelope upgrades in occupied commercial spaces.
- **Create working groups or task forces on retrofit code issues**. Bringing together code officials, contractors, energy auditors, and designers to regularly discuss retrofit challenges can lead to practical solutions.

Building/Code Departments:

- **Offer early consultation for renovation projects**. One way to avoid conflict is to engage with owners/contractors before they get deep into a project plan. Building departments could offer a service like a

preliminary plan review or site visit for renovation proposals. For example, if someone is considering finishing an attic, a code official can do a quick consultation on what insulation will be required. This advice session helps surface major code requirements upfront, so they can be planned for rather than causing surprise later. Additional staff capacity would be needed to provide this service consistently, but partnerships with regional programs or shared service models could make it feasible. Early consultation is equally valuable for commercial projects—for example, advising building owners on code implications when replacing central boilers, modernizing ventilation systems, or reconfiguring interior spaces in older commercial buildings.

- **Educate the public and contractors**. Local building departments can hold community info sessions or publish simple brochures on what homeowners need to know about energy codes when renovating. Many homeowners genuinely want to comply if they know how, and providing that info improves voluntary compliance. For contractors, consider a quarterly meeting or newsletter where common inspection failures in retrofits, and how to avoid them, are discussed. By proactively educating, code officials spend less time later in re-inspections.

Training/Certification Organizations & Education Partners:

- Integrate retrofit courses into code training. Ensure that any code course or certification prep includes a segment on existing-building provisions related to the energy code. Organizations can develop standalone classes focused on retrofit strategies.
- Encourage specialized retrofit certifications. Training and certification organizations should develop training courses that teach advanced knowledge in applying codes to alterations and older buildings, etc. In partnership with state agencies or national organizations, such trainings could be eligible for specialized credentials, which would give officials an incentive to deepen expertise in this area. It also signals the importance of retrofit knowledge as distinct from new construction knowledge.

CHALLENGE SIX: SUCCESSION PLANNING

With the wave of retirements looming, a critical organizational task is succession planning—ensuring that when an experienced code official leaves, there is someone ready to step into their role with minimal disruption. Unfortunately, many jurisdictions have not formalized this process. The survey revealed that a large share of departments has no clear plan to handle imminent retirements or to transfer knowledge to newer staff. This can lead to loss of institutional knowledge, like how past issues were resolved or why certain policies exist. Without deliberate efforts to capture and transfer that knowledge, departments risk losing essential expertise when experienced officials depart.

The recommendations that follow outline how states and departments can plan to capture expertise, ensure continuity, and develop future leaders.

State Agencies:

- Develop formal succession plans for each department. State agencies can encourage and support this work by providing guidance and tools, while municipal governments should require each code enforcement agency to create a basic succession plan. This can be a simple document that identifies likely retirement dates of key staff, if known, the critical functions that must be covered, and the strategy to cover them—for example, cross-training another staff member. It should outline the steps to recruit and train replacements, ideally starting the process before retirement occurs. On a broader level, states could create succession toolkits for local building departments, including sample mentorship agreements and knowledge capture checklists (questions for exit interviews).

Building/Code Departments:

- **Document local practices and interpretations**. A practical step is to create an internal knowledge base—essentially a living document or shared drive where the department records important information. For example, if the department has established certain interpretations of gray areas in the code, they should document the additional guidance necessary. Also, departments should maintain files on major projects and how issues were resolved. New officials can review this to get up to speed. Emerging digital tools, including AI-assisted document search and knowledge capture platforms, can help organize local interpretations, archive institutional knowledge, and support continuity during staff transitions.
- **Cross-train existing staff to step up**. Within a department, teams should identify one or two mid-level code enforcement officials who have the potential to advance and involve them in some management tasks or plan review processes that the head official typically does. This exposure prepares them to fill in for code officials that will retire. It also provides career growth, which improves retention. Even if they do not end up being the successor, the department benefits from multiple people knowing how to handle various tasks.

Training/Certification Organizations & Education Partners:

- **Engage retirees as trainers and mentors.** There is a growing pool of recently retired code officials who still have much to offer. Organizations may establish a formal mechanism or roster of retired code officials who are willing to teach classes, review exam prep materials, or even be on-call mentors.
- **Leadership training for code officials.** To prepare the next generation of code leaders, organizations should provide training not just on technical codes but on soft skills and management. Courses on communication, public relations, supervisory skills, and budgeting for code departments could be very useful.

Implementation and Next Steps

Designing a roadmap is only the first step—the real challenge lies in implementation. To successfully strengthen the code enforcement workforce, a coordinated effort is required across multiple stakeholders. The roadmap envisions a partnership model where these actors form a working coalition.

One practical step could be establishing a "code enforcement workforce steering committee" at the state or regional level to develop a roadmap unique to that jurisdiction and oversee its implementation. This committee, composed of representatives from state and local agencies, code official associations, educational partners, utilities, non-profit organizations, developers, insurers, and stakeholders representing disadvantaged communities, would meet periodically to assign responsibilities, check on progress, and solve any coordination issues. Everyone should see how their work connects to a collaborative effort: for example a community college creates a code enforcement course, the municipal departments send recruits to it, and the association advertises it to members. When roles are clear and efforts are synchronized, the whole system moves forward coherently.

Funding Mechanisms:

Money is often the biggest question mark in implementation. The roadmap's recommendations will require investment in training programs, in new hires, in technology, etc. Several funding avenues can be pursued, potentially in combination:

- **Permit fee allocations**: Some states like Pennsylvania and Connecticut have added a small surcharge on building permits specifically to fund code training and education.[14] Expanding this model can create a steady funding source tied to construction activity. Similarly, municipalities can dedicate a percentage of permit revenues or inspection fees toward workforce development. They should also periodically evaluate whether local permit and inspection fee structures adequately support the staffing and operational costs of code departments.
- **State budget appropriations**: State legislatures can be asked to allocate funds for grants to municipalities to hire and train code officials. Given the public safety role, this is a critical infrastructure investment.
- **Utility and energy program support**: Energy-efficiency programs (often funded by utility ratepayers or carbon revenues) can justify spending on code compliance because better enforcement leads to greater energy savings. The U.S. Department of Energy's analyses have shown significant potential energy savings from full code compliance.15 For example, utilities might fund regional circuit rider experts, or sponsor training events. This could be formalized by working with public utility commissions to allow a portion of efficiency program budgets to go toward code workforce training, since it directly contributes to energy savings verification.[16]

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[14] Connecticut Administrative Services, "Code Training and Education Fees Assessed on Municipal Building Permits," available at https://portal.ct.gov/das/oedm/code-training-and-education-fees-assessed-on-municipal-building-permits?language=en_US.

[15] U.S. Department of Energy, "Building Energy Codes Program, Energy Efficiency Field Studies," available at https://www.energycodes.gov/energy-efficiency-field-studies.

[16] Emily Garfunkel and Michael Waite, "Utility Energy Code Programs and Their Potential Extension to Building Performance Standards," ACEEE, July 2024, see page 4, available at https://nationalbpscoalition.org/wp-content/uploads/2025/05/Utility-Energy-Code-Programs-and-Their-Potential-Extension-to-Building-Performance-Standards.pdf.

- **Federal grants**: The federal government through the DOE's Building Energy Codes Program and FEMA's Building Resilient Infrastructure and Communities (BRIC) program has provided competitive grants for code training and compliance enhancement in the past. Keeping an eye on and applying for similar opportunities could bring significant resources.
- **Private and foundation partnerships**: It is worth exploring whether insurance companies or their foundations might invest in code enforcement improvements. Better code compliance reduces losses from hazards such as fires, structural failures, etc., which directly benefits insurers by lowering claims. A case can be made that funding training or better tools for code officials is a form of loss prevention. Similarly, community foundations interested in climate resilience or workforce development might grant funds to pilot a new apprenticeship program or sponsor a local code career fair.

EXAMPLE

The Verisk Building Code Effectiveness Grading Schedule (BCEGS) program rates how well communities enforce modern building codes. Communities with better, well-enforced codes get a lower BCEGS score (Class 1-10), leading to lower insurance premiums for property owners because of reduced damage and losses, creating an incentive for cities to improve enforcement of building codes.

Monitoring and Evaluation:

To ensure the roadmap's implementation stays on track and delivers results, clear metrics should be established from the start. Possible key performance indicators (KPIs) include:

- **Workforce size and capacity**: For example, number of code enforcement officials employed statewide, and ratio of officials to population or to building permits. If this ratio improves, that's a positive sign.
- **Training and qualifications**: For instance, percentage of code officials who have received energy code training in the past year, number of new certifications achieved, attendance numbers at training events. Also, tracking any improvement in certification exam pass rates if new training is provided.
- **Recruitment and retention outcomes**: For example, time to fill vacancies, turnover rates, and proportion of retiring officials who are successfully replaced within a certain timeframe. If mentorship and succession planning are working, there should be minimal gaps in coverage when someone retires.
- **Compliance outcomes**: Looking at code compliance rates or reduction in common violations, as reported by field studies or other verification programs, to see if better training is translating to better construction practices in the field.
- **Stakeholder feedback**: Regular surveys of code officials and builders/contractors can show whether conditions are improving. Do code officials feel more supported and prepared? Do builders note more consistency and clarity in inspections?

Conclusion

Strong building code enforcement is essential to public health and safety, community resilience, and achieving state and national energy goals. Yet the profession faces converging challenges: an aging workforce, limited recruitment pipelines, training gaps, and the risk of institutional knowledge loss. Without action, many jurisdictions will struggle to keep pace with growing demands.

The roadmap presented here offers a strategy to reverse these trends by investing in recruitment, retention, training, and succession planning. Success will depend on collaboration: states, municipalities, professional associations, and educational institutions; each play a role. A municipality on its own can't solve generational turnover, nor can a state agency in isolation train every code enforcement official to the level needed. But collectively through state and local collaboration, educational alliances, and support from organizations and industry, we can build a pipeline of new code officials, elevate the skills of the existing workforce, and ensure critical knowledge is passed forward.

Sustained investment is equally critical. Funding streams, whether through permit fee surcharges, state appropriations, utility efficiency programs, or federal and foundation grants, can support training, new hires, and technical tools. Framing these investments around public safety, efficiency, and resilience makes the case clear that investing in workforce capacity reduces risks, accelerates projects, and secures the benefits of building energy codes. The workforce decisions made today will determine whether building codes deliver on their promise tomorrow.