



Board of Building Standards

COMMITTEE-OF-THE-WHOLE SPECIAL MEETING AGENDA

DATE: AUGUST 11, 2023
TIME: 10:30 AM
LOCATION: TRAINING RM 3, 6606 TUSSING RD, REYNOLDSBURG, OHIO 43068
[Click here to join the meeting](#)

Call to Order

Roll Call

Public Comments

Old Business

[OB-1](#) Certification Study

New Business

Motion to Adjourn

File Attachments for Item:

OB-1 Certification Study



INTERNATIONAL
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Department
of Commerce

Board of Building Standards

OHIO BOARD OF BUILDING STANDARDS CERTIFICATION STUDY

June 2023



NATIONWIDE TRENDS IN BEST HIRING PRACTICES AND BUILDING DEPARTMENT QUALIFICATION, EDUCATION, COMPENSATION, AND FEES

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1. INTRODUCTION

The objective of this study is to provide the Ohio Board of Building Standards (“OBBS” or “Board”) with an independent report that provides information and data related to changing trends in the code enforcement industry in Ohio and nationally and its effects on the code enforcement profession; specifically, the necessary knowledge, skills, and abilities as well as compensation, plan review, and permit fee practices.

The Board is comprised of 15 members appointed by the Governor and represents stakeholders across the construction industry. The Board formulates and adopts administrative rules governing building construction and alteration, which are then compiled into the Ohio Building, Mechanical, Plumbing Codes, and Residential Code of Ohio. The rules are based on the International Building, Mechanical, Plumbing, and Residential Codes developed and published by the International Code Council (ICC). Additionally, the Board certifies city, township, and municipal building departments and their personnel to enforce these codes.

In March 2022, the Board initiated an effort to address certified local building departments’ ability to recruit qualified personnel and to provide code enforcement and administration services to communities in a competent and timely manner. The Board received input on proposed changes to certification and code administration rules, training programs, promotion of shared services and regional intergovernmental cooperation, recognition of 3rd party and/or expanded special inspection programs administered by certified building departments, and best practices from jurisdictions from around the country. Following review of the input received, the Board determined it needed to conduct a more extensive analysis of the building code enforcement profession in Ohio and nationally to inform its review of Ohio’s current building department regulatory structure. This study is intended to provide the necessary analysis.

2. EXECUTIVE SUMMARY

In 2014, “The Future of Code Officials,” was published by ICC notifying the industry of aging code officials and impending staff shortages. Eighty percent of code professionals surveyed said they would be retiring in the next 15 years. Compounding the issue of staff shortages is the fact that, historically, the code enforcement industry has been limited to a specific demographic. The current building enforcement industry workforce can be characterized as middle-aged Caucasian males.

Based on research conducted for this report, several opportunities were identified to improve employment opportunities, remove potential barriers, and retain valuable human resources. Best practices employed at state departments and local jurisdictions help expand the applicant pool through increasing flexibility in credentialing requirements (e.g., by seeking otherwise qualified but not yet credentialed applicants) and offering apprenticeships for on-the-job training. Employee retention practices include addressing workforce housing and work-life balance by offering pay incentives for credentials. Considerations regarding department resource utilization and efficiency of services include regional code enforcement, remote inspections, and utilization of third-party resources.

The study gathered compensation and benefit information from 155 job classifications (job descriptions or announcements) from 15 Ohio jurisdictions and 38 jurisdictions across 13 states as well as 11 state building departments. Mid-range salaries were identified for building officials, inspectors, plans examiners, and trades inspectors. Salaries for code officials in Ohio were higher than those outside of Ohio when adjusted for cost-of-living differences, except for trades inspectors. These wages may reflect the greater extent to which Ohio’s personnel and building department regulations require additional experience and licensing. Outside of Ohio, few positions require registered design professionals. Ohio also tended to require greater levels of general contracting/plumbing experience for building officials and plumbing inspectors. Although important, extensive and inflexible experience requirements can pose a challenge to jurisdictions’ recruitment efforts.

Building permit fees vary greatly across the sample of jurisdictions evaluated in this study. However, some general conclusions can be made with respect to Ohio jurisdiction versus the sample of entities assessed for this report. The average fees in the smaller Ohio jurisdictions were significantly outpaced by similarly sized jurisdictions in national markets. In these jurisdictions, the average permit fees in Ohio are 36 percent to 61 percent less than comparable sized jurisdictions. In the larger jurisdictions in Ohio, the fee charged for services was closer to the jurisdictions sampled in this study, ranging from 2 percent below to 15 percent above similarly sized out-of-state jurisdictions. Self-supporting, or enterprise fund, department fees trended less than observed maximum permit fees.

3. METHODOLOGY

The project team applied the following methodology to assess best practices: establish a data set, and evaluate job qualifications, responsibilities, benefits, and permit fees.

3.1 BEST PRACTICES

Best practices related to hiring and resources allocation were sought from a variety of sources, including:

- ICC's BEST PRACTICES Lessons Learned from the Building Department Accreditation Program and Major Jurisdiction Committee;¹
- Job search engines, including governmentjobs.com and indeed.com;
- Jurisdiction Human Resource departments;
- Online searches for jurisdictional efforts with respect to bonuses, reaching new workforces, diversity equity and inclusion, resource allocation, and third-party enforcement;
- Three years of data from ICC's Job board database,² and
- The job announcements and job classifications in the data set developed for this study.

3.2 DATA SET

To evaluate building department best practices, employee compensation, required experience, and fees across local jurisdictions, a sample set of local jurisdictions within Ohio and 13 additional states was developed. In addition, a sample set of nine state building departments was established to evaluate at state building departments building department best practices, employee compensation, and required experience.

Within each state, jurisdictions were broken into three population size categories based on the ICC membership categories, providing an opportunity to compare information from similarly sized jurisdictions:

- G1 > 150,000
- G2 50,000-150,00
- G3 <50,000

Figure 1 on the following page lists state and local jurisdictions from which job classification and/or building permit fees are included in the study.

Table 1 lists local jurisdictions from which job classification and/or building permit fees are included in the study and their population category. Table 2 lists the states agencies studied.

¹ ICC's Best Practices Lessons Learned from the Building Department Accreditation Program and Major Jurisdiction Committee, International Accreditation Services. 2015

² <https://jobs.iccsafe.org/jobs/>

Table 1. Local Jurisdictions Included in the Study

Ohio Jurisdictions/Size			National Jurisdictions/Size					
OH	Columbus	G1	CO	Pikes Peak Regional Bldg. Dept	G1	NV	Washoe Co Unincorporated	G2
OH	Cincinnati	G1	GA	Albany	G2	OR	LaGrande	G3
OH	Toledo	G1	GA	Athens-Clarke County	G2	PA	Altoona	G3
OH	Summit Co	G1	GA	City of East Point	G3	PA	Philadelphia	G1
OH	Cleveland	G1	GA	Columbus	G1	PA	Pittsburg	G1
OH	Canton	G2	GA	Gainesville	G3	UT	City of Sandy	G2
OH	Dayton	G2	GA	Gwinnett County	G1	UT	Salt Lake City	G1
OH	Wood County	G2	GA	Savannah	G2	UT	San Juan County	G3
OH	City of Hamilton	G2	IN	Indianapolis	G1	UT	Sevier County	G3
OH	Ashtabula County	G2	KY	Louisville	G1	UT	Uintah County	G3
OH	Westerville	G3	MI	Detroit	G1	UT	Vineyard	G3
OH	Dublin	G3	MI	Grand Rapids	G1	WA	Bremerton	G3
OH	Gahanna	G3	MI	Lansing	G2	WA	Kittitas County	G2
OH	New Albany	G3	MN	Minneapolis	G1	WA	Longview	G3
OH	Whitehall	G3	NC	Alamance County	G1	WA	Pasco	G2
			NC	Chapel Hill	G2	WA	Spokane	G1
			NC	Greenville	G2	WA	Yakima	G2
			NC	Nags Head	G3	WI	Beloit	G3
			NC	Raleigh	G1	WI	Eau Claire	G2

Additionally, job classifications and fees from the state agencies listed in Table 2 are included in the study:

Table 2. States Included in the Study

Ohio	Department of Commerce
Washington	Department of Labor and Industry
New Hampshire	Department of Safety
New Jersey	Dept Community Affairs
Iowa	State Fire Marshall
Idaho	Division of Building Safety
Kentucky	Department of Housing, Building, and Construction
Louisiana	State Fire Marshall
Vermont	Department of Fire Safety

3.2.1 Job Classifications

To evaluate qualifications, salaries, and benefits, jobs were broken into the following categories, aligning with four of the Ohio Building Codes Building Department Personnel Classifications.³

- Building Official;
- Inspector;
- Trades Inspector; and
- Plans Examiner.

3.3 COMPENSATION AND QUALIFICATIONS

Job descriptions and classifications were sought from each jurisdiction, and data was collected on job responsibilities, credentialing, education requirements, pay, and benefits.

To compare salaries, the cost-of-living index (COLI) was applied to normalize differences utilizing the AdvisorSmith City Cost of Living Index (COLI).⁴ AdvisorSmith analyzed the cost of living in 509 metropolitan areas for the purposes of developing a COLI, which compares the cost of living in different parts of the country and is a tool to adjust the cost of goods and services in addition to salaries for the purposes of comparison.

Table 3 provides an example of this process. In this example, the posted salary in Jurisdiction A is \$5,000 higher than that of Jurisdiction B. However, normalizing the wages to the national cost of living average of 100 shows a spread of \$10,250 between the salaries. Where the COLI was not available for a specific jurisdiction, an average of cities within the specific state was applied. Comparing normalized salaries provides a tool for understanding differences more clearly.

³ (4101:7-3-01 Ohio Administrative Code)

⁴ <https://advisorsmith.com/data/coli/>

Table 3. Cost of Living Index Applied in Salary Comparison

Description	Salary	COLI	Salary Adjusted with COLI
Jurisdiction A	\$50,000	105	\$47,500
Jurisdiction B	\$50,000	95	\$52,500

Salary information and job descriptions were generally limited to public-facing details, and the salary range was transparent for all, but a few job descriptions were considered in the study. Transparency is essential to job seekers and can also benefit employers. For example, pay transparency can attract more talent, increase recruiter productivity, provide a better candidate experience, and increase employee trust and retention.⁵

Jurisdiction job portals varied in style, ranging from simple links to a downloadable pdf to a web portal powered by Human Resource software NeoGov, which standardizes job classification information and allows a jurisdiction to choose whether all job classifications are viewable or only those currently available job. Jobs offered by jurisdictions that use NeoGov are available to job seekers on governmentjobs.com. Given the information available, jobs from jurisdictions using NeoGov served as the primary source of job descriptions, qualifications, and salary and benefit information.

3.4 FEE STUDY

Building department permitting fees were researched and calculated for each jurisdiction in the study. These fees are collected to offset the cost of plan review, permitting, and inspection services and did not include associated user fees or taxes collected by local governments to compensate for the impact development has on local communities, such as on schools, public infrastructure (roads and utilities, for example), police, and fire services. To compare fees across the range of AHJs, the analysis draws from both residential and commercial fee structures. Fees were calculated for three typical building types, common to most communities, which are detailed below:

- A single-family 2200 ft² single story-dwelling unit valued at \$365,376.
- A 2000 ft² commercial structure valued at \$472,100. To develop assumptions for calculating fees, this smaller commercial building common to most jurisdictions was idealized as a dental office.
- A larger “big box” type commercial structure with a size of 100,000 ft² and valued at \$18,067,000. To develop assumptions for calculating fees, the building was designated a general merchandise store.

The construction valuation for the Building Department Fees were determined using the ICC Building Valuation Data,⁶ considered a national average for the cost of construction. The ICC Building Valuation Data provides the construction value (in USD) per square foot (of the proposed building) based on the Occupancy and the Type of Construction, as defined in the International Building Code. The commercial projects were assumed to be Type IIIB Construction (the midpoint in the valuation chart) and the single-family residential project is based on Type VB Construction (typically, SFR construction is considered Type VB). The permit fees were based on a static valuation for each of the three sample buildings determined based on these national averages. The permit fees were adjusted with the cost-of-living index based on the justification that this represented a financial transaction between the customer and the jurisdiction and to provide a consistency in the evaluation of the permitting fee charged.

⁵ <https://www.linkedin.com/business/talent/blog/employee-experience/what-is-pay-transparency>

⁶ [Building Valuation Data, International Code Council, August 2022](#)

Fee structures in the AHJs included in the study were based on itemized components, e.g., fixtures, amperage, and ducts, or building and project valuation. Where permitting fees were based on valuation⁷, the valuation remained static across jurisdictions for consistent comparison, and the cost-of-living index was applied to total permit fees. A description of building assumptions can be found in Appendix A.

3.5 METHODOLOGY CONCLUSION

The project team considered several resources available to investigate best practice used throughout the building safety industry to aid Ohio in considering improve services and staffing for the industry in Ohio. Fifteen jurisdictions in Ohio were compared to 38 jurisdictions from Washington state to Georgia and regional jurisdictions close to the State of Ohio (Michigan, Kentucky, Pennsylvania). The study also required state agencies to be assessed as well, and nine states were considered. Data related to permit fees and compensation needed to be adjusted to the cost of living of various locales. Every effort was made to normalize information to make it comparable where applicable without compromising the integrity of the data.

⁷ Building Valuation Data, International Code Council, August 2022

4. BEST PRACTICES - NATIONALLY

In 2014, a report on aging code officials notified the industry of impending staff shortages, indicating that 80 percent of code professionals surveyed said they would be retiring in the next 15 years. Compounding the issue of staff shortages is the fact that historically the enforcement industry has been limited to a specific demographic. The current building enforcement industry workforce is primarily Caucasian males, with an average age of 50. More specifically, research has shown:

- 11.1 percent of all building inspectors are women, while 88.9 percent are men.
- The most common ethnicity of building inspectors is White (68.5%), followed by Hispanic or Latino (13.1%), Black or African American (8.4%), and Unknown (5.7%).
- In 2021, women earned 94 percent of what men earned.
- Five percent of all building inspectors are LGBT.⁸



This study reviewed the AHJs' best practices to address staff shortages and reduced numbers of individuals entering construction and code enforcement industries through hiring practices, staff retention, and resource utilization. Common best practices include:

1. Hiring practices to broaden the applicant pool and remove potential barriers.
 - Expanding the applicant pool by diversifying the workforce and efforts to recruit individuals from historically underrepresented groups.
 - Increased flexibility in credentialing requirements, seeking otherwise qualified but not yet credentialed applicants.
 - Offering apprenticeships for on-the-job training.
 - Offering hiring bonuses.
 - "Selling" the job opportunity to potential applicants.
2. Efforts to enhance employee retention.
 - Addressing workforce issues of housing and work-life balance.
 - Offering pay incentives for credentials.
3. Resource utilization to best address workload with available staff.
 - Regional code enforcement.
 - Collaboration and efficiencies.
 - Remote inspections.
 - Self-certification and third-party inspections.

⁸ <https://www.zippia.com/building-inspector-jobs/demographics/>

4.1 HIRING BEST PRACTICES

Jurisdictions face challenges in attracting new employees. They are working to overcome these by diversifying the workforce, offering flexibility on credential status and on-the-job training, hiring bonuses, providing access to housing, and marketing the benefits of working for their jurisdiction.

4.1.1 Diversifying the Workforce

Several cities have developed protocols to diversify the workforce. For example, San Francisco City Ordinance No. 188-19 requires all city departments to submit a Racial Equity Action Plan in response to the city's racial disparities.⁹ In addition, the City's Department of Building Inspection Racial Equity Action Plan, Phase I recognizes that:

"...cultivating an inclusive workforce requires intentional efforts in and with diverse, underrepresented, and underserved communities. Rather than passively waiting for a more diverse candidate pool and people with more varied backgrounds to apply, Departments can and should actively seek these individuals out. This includes assessing the most fundamental barriers to access that influence the City's applicant pool, and developing a clear, intentional outreach strategy. Further, partnering creatively within new outlets, community-based organizations, BIPOC professional networks, re-entry programs, SFUSD and community college systems will cultivate a rich pool of diverse candidates."

Having collected current demographic information on the Department of Building Inspection's workforce, the plan addresses the job classifications with the least diversity. The plan includes elements ranging from fostering relationships with new community groups and Black, Indigenous, and People of Color professional networks to evaluating job descriptions for qualifications and education that may be unnecessary and outmoded.

The State of Oregon's Diversity Equity and Inclusion Strategic Plan 2023-2025 includes similar workforce diversity strategies¹⁰:

"Work to expand our network at career fairs and outreach events for communities of color, veterans, women, people with disabilities, and high school and college students. Involvement includes community partnership, targeted job fairs, veterans, and students."

Workplace inclusion strategies: Enhancing the internship program from the perspective of each section within the division. Look for ways to: » Reach out to student groups at universities and community colleges » Create internship cohorts » Review funding and compensation to ensure it provides a living wage for interns » Encourage remote to reduce transportation barriers."

A recently released funding opportunity from the U.S. Department of Energy is expected to make up to \$45 million of federal funding available for new awards involving implementation to facilitate the effective enforcement of updated building energy codes. While the focus is on energy codes specifically, the requirements of this funding will introduce new strategies and techniques into building departments. Grant applications must include a Community Benefits Plan sharing how the proposed approach will ensure that Federal investments advance the following four goals: 1) community and labor engagement; 2) investing in the American workforce 3) advancing diversity, equity, inclusion, and accessibility (DEIA); and 4) contributing to the Biden Administration's Justice40 Initiative. Specifically, activities related to the Justice40 Initiative section must include the following:

1. Identify applicable disadvantaged communities to which the anticipated project benefits will flow.
2. Identification of applicable benefits that are quantifiable, measurable, and trackable, including, at a minimum, a discussion of the relevance of 8 DOE identified Justice40 benefits.¹¹

⁹ DBI Racial Equity Plan v1 12.31.20.pdf

¹⁰ <https://www.oregon.gov/dcbs/Documents/5782-DEI-strategic-plan-23-25.pdf>

¹¹ Department of Energy (DOE) Building Technologies Office Bipartisan Infrastructure Law: Resilient and Efficient Codes Implementation Funding

4.1.2 Flexibility in Credential Status

Code enforcement professional certifications are essential. They demonstrate knowledge, experience, and qualifications to do the job well; as such, employers typically require certification as a condition of employment. However, providing an otherwise qualified but uncredentialed individual with time to acquire credentials broadens the jurisdiction's applicant pool. The new employee has time to refine their skills and conduct any necessary preparation for the test. More than 40 of the job descriptions reviewed for this study explicitly stated that the certification requirements must be met in a period ranging from 6-36 months rather than as a condition of hire. Two such examples were found in Gwinnett County, GA, and Seattle, WA. For the entry-level building inspector position, Gwinnett County requires a minimum of two years of carpentry experience, while Seattle requires six or more comprehensive years in construction. However, neither requires certification as a condition of employment; it was expected in 12 months.

4.1.3 Apprenticeships

The state of Minnesota offers Building Official Training Grants to jurisdictions to partially offset the cost of providing an apprenticeship. This provides an opportunity for a jurisdiction to offer a one-year, full-time apprenticeship with on-the-job training and education. Education and training the jurisdiction must provide include classroom and on-site education on a comprehensive range of topics from OSHA safety and zoning ordinances to residential energy plan review and inspections. The funding is provided through competitive grants to the eligible jurisdictions, with the stated objective "to encourage, promote, and provide support to jurisdictions who will educate and train individuals on their path to becoming building officials."¹²

4.1.4 Hiring Bonuses

Hiring bonuses are offered, generally ranging from \$1,500-\$3,000. The City of Indianapolis – Marion County Business and Neighborhood Services department offers both a sign-on bonus and a referral bonus for their current building inspector position opening. A new hire will receive a sign-on bonus of \$2,000, and for department employees, a bonus of \$1,000 is offered if the employee is referred in the application and completes the required forms.¹³ A \$3,000 bonus in Arlington County, VA, is paid in two portions – new hires receive \$1,500 upon hire and \$1,500 after completing the probationary period.¹⁴ Located directly across the Potomac River from Washington, DC, the county has a population of more than 200,000.

The bonuses are not only a suburban and urban jurisdictional tool. At one-fourth the population of Arlington County, VA, and sixty-five times the geographic area, Eagle County, CO, offers both a hiring bonus and access to housing – a critical need of wage earners in the county. A \$5,000 bonus has been offered to the Chief Building Official new hire and \$2,500 to the Building Inspector. Like many parts of the Rocky Mountain and Pacific West regions of the United States, Eagle County faces a workforce housing shortage. Eagle County's cost of living index is 176.30 against a national average of 100¹⁵ with a county median home price in 2022 around \$950,000, up nearly 7 percent from the previous year. Thus, providing available and affordable housing to employees is an asset in acquiring and retaining staff.

Like Indianapolis-Marion County, the State of New Hampshire includes current employees in the hiring bonus strategy – offering a recruitment bonus that benefits both the current employee recommending a friend or colleague and the new employee. \$1,000 is offered to referring employees and full-time new hires, and \$500 to referring employees and part-time new hires.¹⁶

Opportunity Announcement (FOA) Number: DE-FOA-0002813

¹² <https://www.dli.mn.gov/bot>

¹³ <https://www.governmentjobs.com/careers/indianapolis/jobs/3779112/building-inspector-bureau-of-construction-services?keywords=building&page-type=jobOpportunitiesJobs>

¹⁴ <https://www.governmentjobs.com/careers/arlington/jobs/3824185/construction-inspectors-1-plumbing-and-1-mechanical-two-positions-hiring-bonus?keywords=plumbin&pagetype=jobOpportunitiesJobs>

¹⁵ <https://www.vailvalleypartnership.com/advocacy/workforce-housing/>

¹⁶ <https://www.das.nh.gov/hr/documents/state-of-new-hampshire-recruitment-referral-incentive-program.pdf>

4.1.5 Recruitment vs. Job Notification

Reviewing notices for open positions and Human Resource Department hiring platforms revealed two styles. First, recruitment efforts highlighted the benefits of working for the community, living in the community, the reward of the job and how it contributed to a better community, and the benefits offered. The second style tended toward a notification that the position was open.

The study includes several examples of recruitment. For example, Ohio State plans examiner and inspection job announcements contain a promotional video specific to the Department of Commerce highlighting current employees offering position reasons for working for the Ohio Department of Commerce.

The City of Atlanta includes the following recruitment language in the job description:

"In the City of Atlanta, we are passionate about building and improving our community. Our police officers, firefighters and building inspectors keep our citizens safe. Our Public Works staff keeps our City clean and helps maintain, build, and improve our City's infrastructure. Our City planners help envision and shape future City growth. Our Parks & Recreation professionals enhance our quality of life.

Our engineers help keep our drinking water clean, the largest airport in the world (by passenger volume) operating and our buildings maintained. Along with the host of Finance, Procurement, and Human Resources professionals whose support is vital, we are the City of Atlanta! If you are seeking a meaningful role where you can make a real difference in improving and growing our City, we welcome you to explore the job opportunities we have to offer."

Similarly, the City of Seattle's "Working at the City" webpage¹⁷ offers the following:

"Build Your Career and Community with City of Seattle Employment. The City of Seattle offers an amazing array of career opportunities, with more than 1,100 job titles from 26 operating departments. The nearly 10,000 employees of the City of Seattle enjoy competitive pay and benefits packages, generous leave programs, and the satisfaction of doing work that helps make Seattle a great place to live, work, and play."

This language is followed by a video entitled "Why Work for the City" and an overview of the application review, interview, job offers, pre-employment, and onboarding processes.

4.1.6 Clarity in Requirements

All job descriptions referenced qualifications, and most jobs offer several paths to qualifying. Outside of Ohio, the qualifications tended towards greater clarity. Following is an example from the City of Spokane for a building inspector which offers delineated paths¹⁸:

MINIMUM QUALIFICATIONS

Open Entry Requirements:

- Applicants who are not current employees of the City of Spokane may meet these requirements. Open-entry applicants must meet all requirements in one of the following paths at the time of application.

Government Inspection Path

- Education: High school diploma or equivalent.
- Experience: Two years of experience as a building inspector with a government agency.

¹⁷ <https://www.seattle.gov/human-resources/working-at-the-city>

¹⁸ <https://www.governmentjobs.com/careers/spokanecity/classspecs/1096110?keywords=building%20inspector&pagetype=classSpecifications>

Building Construction Foreperson Path

- Education: High school diploma or equivalent.
- Experience: Four years of experience as a building construction foreperson.

Education Path

- Education: Four years of education in a college or university with major course work in architecture, engineering, building theory and practice, construction management, or a related field.
- Substitution (optional): Experience in the field of building trades as a foreperson or higher level may substitute for education on a year-for-year basis for up to two years.

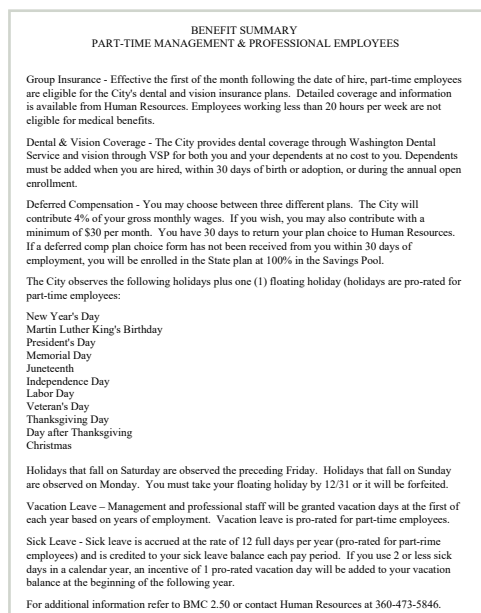
Following is an example in an Ohio jurisdiction, which provides prospective applications with less information:

Minimum Qualifications. Refer to the rules set by the Ohio Board of Building Standards. Successful applicants must obtain certification within two years of application to the Ohio Board of Building Standards and within three years of employment. Must possess a valid driver’s license.

There is no reference to which certificate is required or a link to or summarization of OBBS requirements, limiting the pool of applicants to those who are aware of the standards and know how to find them.

4.1.7 Clarity in Benefits

Although there were few distinguishing factors amongst benefit packages, and employee benefits are generally described as “robust,” it is often difficult to determine what they are. Typically, an overview of medical and retirement information could be found on the jurisdiction’s website, but the availability of paid time off, vacation accrual, and education or tuition reimbursement was not always available publicly on the jurisdiction’s Human Resources Department webpage. Instead, they were found via a search within the city code. The City of Bremerton provides the job seeker a clear idea of what benefits the city offers, including insurance, retirement finances, and paid time off, by providing a concise, comprehensive, easily accessed, downloadable Benefits Summary from the Human Resources webpage.¹⁹



¹⁹ <https://www.bremertonwa.gov/DocumentCenter/View/134/Management-Benefits-PDF>, downloaded from <https://www.bremertonwa.gov/182/Employee-Benefits>

4.2 EMPLOYEE RETENTION

Jurisdictions also face challenges in retaining employees. Some example best practices to encourage employee retention include offering financial support in homeownership, incentivizing living in the community, providing immediate pay increases for obtaining credentials, and offering more flexible paid time away from the office.

4.2.1 Homeownership

The Baltimore City Employee Homeownership Program²⁰ benefits all full-time, permanently employed individuals of Baltimore City agencies or quasi-City agencies. The program offers a \$5,000 downpayment and closing cost assistance through a 5-year forgivable loan.

City of Milwaukee resident employees receive a 3 percent salary increase over non-residents. This bonus applies to existing residents and those who relocate into the city²¹. This policy went into effect in 2019²² in response to statistics that showed approximately 1,665 employees had moved outside the city limits or not moved into the city when hired since the state law requiring residency was repealed. That legislation was put in place based on the understanding that employees who live in the city:

1. Have a better knowledge of the challenges facing the city,
2. Provide better service results for their fellow residents,
3. Have a better connection to their city neighbors,
4. Will likely contribute more to the City's economy with their spending habits, and
5. Are more likely to be homeowners and thereby be invested in their city neighborhoods.

4.2.2 Credentialing Incentives

While many jurisdictions required a set amount of time at a pay grade before being considered for the next level, several jurisdictions offered immediate pay adjustments. For example, Flower Mound, Texas, increases employee salaries by \$25 per certificate, up to \$100 per month,²³ a 2.6 percent pay increase based on current plans examiner starting salaries. The City of Spokane, Washington, not only provides an immediate pay increase, but the employee is also moved to a new pay range, resulting in higher immediate pay and higher future potential pay²⁴. The benefit is long-term – the difference in minimum starting salary for a building inspector with no certificates is just over \$49,000. In contrast, the pay range with two certifications is more than \$52,000; with four certifications, the range begins at over \$55,000.

4.2.3 Flexible Time Off with Pay and Other Work Life Balance Benefits

Addressed comprehensively in Section 5.2, jurisdictions also offer employees flexibility in paid time off, remote working, and an array of wellness benefits to retain employees.

4.3 RESOURCE UTILIZATION

Faced with staff shortages, jurisdictions are finding ways to use available resources more efficiently, including through new inspection techniques and outsourcing.

²⁰ <https://livebaltimore.com/resident-resources/financial-incentives/baltimore-city-employee-homeownership-program/>

²¹ <https://city.milwaukee.gov/ImageLibrary/User/jkamme/News/2019ResidencyIncentiveFAQ.pdf>

²² <https://city.milwaukee.gov/ImageLibrary/Groups/ccCouncil/News/2019/District06/06-CouncilapproveswageandsalaryincentivesforCityemployeeeresidency.pdf>

²³ <https://www.flower-mound.com/DocumentCenter/View/17027/PARM-TITLE-II-Chapter-14-Incentive-Pay-Appendix-A1?bidId=>

²⁴ <https://www.governmentjobs.com/careers/spokanecity/classspecs/1096110?keywords=plans%20examiner&page=1&pagetype=classSpecification>

4.3.1 Regional Building Departments

The Pikes Peak Regional Building Department²⁵ (PPRBD) is one example of a regional building department collaboratively established to serve the needs of multiple jurisdictions. It was created by an Inter-Governmental Agreement (IGA) between the El Paso County Board of County Commissioners and the City Council of Colorado Springs in 1966. Today the PPRBD services unincorporated El Paso County; the cities of Colorado Springs, Fountain, and Manitou Springs; the towns of Green Mountain Falls, Monument, and Palmer Lake; and in Teller County, the City of Woodland Park.

The Regional Building Commission governs the PPRBD. The Commission is composed of a three-member governing body consisting of one County Commissioner designated by the El Paso County Board of County Commissioners, one council member appointed by the City Council of Colorado Springs, and an elected official chosen by the other member jurisdictions served by the PPRBD.

Within eight jurisdictional areas of responsibility, they are responsible for administering and enforcing the minimum building code standards. Pikes Peak Regional Building Code is based on the I-Codes and adopted by the member jurisdictions. The department oversees the following:

- Construction inspections
- Electrical inspections
- Elevator inspections
- Enumeration (Addressing)
- Heating, ventilating and air conditioning inspections
- Mobile home inspections
- Plumbing inspections
- Plan review of new construction and components

Additionally, PPRBD reviews qualifications, conducts examinations of all General Building Contractor and Mechanical Contractor applicants, and handles registration of all Colorado licensed plumbing and electrical contractors working within the area of responsibility.

The Department is designed to be self-supporting. Annually an independent auditor conducts a cost analysis that determines operating expenses and sets fees.

4.3.2 Collaboration and Efficiency

Mecklenburg County, NC, has addressed the resource shortage by collaborating with local stakeholders and creating a business model involving encouragement, engagement, and completion.²⁶ Mecklenburg County's code enforcement section makes online interpretations of code requirements available for commercial, residential, electrical, and mechanical disciplines.

The county also developed a protocol to reduce the plan review workload and reward "clean" inspections. The architect/engineer (AE) Pass Rate incentives program supports and encourages successful plan reviews. The program categorizes AEs into four groups: superior, successful, not yet graded, and poor performers based on the pass/fail rate based on the most current 14 events in the plan review system. The AE Performance Level Chart outlines the incentives given to superior performers, the services provided to thriving and not yet graded performers, and the disincentives for poor performers. Not only are superior performers offered expedited service, but poor performers are required to participate in preliminary plan review, which involves coaching.

²⁵ Pikes Peak Regional Building Department <https://www.pprbd.org/Home/About>

²⁶ <https://www.iccsafe.org/building-safety-journal/bsj-technical/non-energy-code-best-practices-that-can-ease-iecc-enforcement/>

Finally, at the permitting and inspection phase, the fee schedule and enforcement procedures combine to provide a recap sheet showing the number of inspections and failures per trade at the certificate of occupancy (CO). Either a charge or credit based on the original permit fee is then applied to the general contractor's account.

Mecklenburg County's building department's budget is fee-based, with no outside funding from the city. With more than 306,000 inspections annually, Patrick G. Granson, MCP, CBO, LEED-AP, Director of Code Enforcement, credited the department's collaborative work with local stakeholders in developing these programs, confirming they have contributed significantly to resource management, both human and financial.

4.3.3 Remote/Electronic Inspection

Remote virtual inspections (RVIs) increase the efficiency of the inspection process by utilizing handheld devices and electronic communication and offer benefits to jurisdictions and customers alike.²⁷ A local jurisdiction may use an approved third-party inspection agency to conduct an RVI or utilize staff inspectors.

The City of North Las Vegas, Nevada, is a leader in the use of RVI and notes these benefits to residential remote inspection:

- Benefit to homeowners, as they do not have to take off time or wait for inspections.
- Benefit contractors to potentially make only one trip to the job site.
- Benefit to building departments because there is no wasted travel time for inspectors.

RVI also offers unique employee training advantages; with both trainer and trainee working virtually in the same location. The work can be supported by a senior level inspector or subject matter expert with respect to direction and clarity on technical and procedural matters. Also, multiple trainees can perform remote video inspections simultaneously with a single seasoned inspector or trainer. Traditional on-the-job training took place with a senior inspector and a single trainee in a one-on-one setting during traditional on-site inspections while performing inspection services for the jurisdiction.

Advanced tools and technologies, including hand-held devices such as smartphones and tablets, make remote observation of construction activities possible from any location. The inspection may be conducted via live video feed, transmitted video, or photos. RVI offers significant opportunities to improve code compliance without travel in rural areas or access to remote workers and creates the potential for enforcement with less investment of the local code official's time by reducing travel.

Small and large communities have expanded the use of this technology through existing video streaming technology to provide access to building sites for inspectors working in the office. While this process has been successfully implemented, it also has the ability to capture data (including photos, video, and documentation) that is part of the inspection record, where jurisdictional procedures require data capturing and records management of the information.

A clear understanding of the RVI requirements and communication throughout the process is paramount to completing a successful inspection. The inspector will check all aspects of the permitted construction project against the adopted codes and other applicable laws and regulations as if it were an on-site inspection. Identifying the project job site location, posted address, and location within the building are important parts of the process. Once a jurisdiction has determined which inspections are eligible for RVI, the next step is to develop appropriate protocols. To support jurisdictions' implementation of RVI, ICC's *Recommended Practices for Remote Virtual Inspection*, includes information regarding common permit types that work well with RVI.²⁸

²⁷ Task 7. Electronic Energy Code Permitting and Compliance MILESTONES 7.1 THROUGH 7.4 REQUIREMENTS/SPECIFICATIONS REPORT Prepared for FSEC Energy Research Center in Support of Market Driven Residential Energy Codes: Comparing Performance in a Changing Technological Environment DOE funding DE-EE0008699. January 2022 Michelle Britt, Dave Walls, and Jerica Stacey International Code Council

²⁸ http://media.iccsafe.org/2020_MarComm/Remote_Virtual_Insp_FINAL_w_Covers.pdf

4.3.4 Third Party Inspection

Another tool for handling staff shortages or unpredictable permit loads is the use of third-party providers for code enforcement programs. Private sector companies may offer:

- remote plan review,
- contracted inspections, both onsite and virtual,
- temporary services within the permitting office, or
- fully staff the building department.

The jurisdiction can directly contract third-party support or approve the use of third parties, setting qualifications and allowing the builder or developer to contract with them directly. Based on staffing and permit volume, a jurisdiction can determine the type of program appropriate for their jurisdiction, providing support without losing oversight.

Two years of job postings were examined to measure the extent of third-party plan review and inspection in local jurisdictions, revealing that more than 40 percent of jobs advertised on the ICC job board were from third-party providers.

Research by the Institute for Market Transformation highlights the potential benefits of a third-party enforcement program:

- Because of flexibility and the ability of third parties to scale staff based on need, a third party is better equipped to handle large projects or increases in construction volume while maintaining the timeliness of reviews and responding to applicants.
- The fixed costs of staff members, overhead, and benefits are replaced by variable costs dependent on the demand for services and a percentage of permit applications fees.
- Experts are expensive; a building department may not have funds to hire and retain specialists for structural, mechanical, plumbing, electrical, and energy codes; especially where larger or complex projects are not routine. Hiring a third party gives a jurisdiction access to experts for less than it would cost to hire full-time experts in a given field and these experts can be used on a project-by-project basis.
- Third parties bring a broader perspective and can help a government streamline the permit process. In addition, they have access to an extensive network, which creates an ideal environment for collaboration and idea-sharing and increases the potential to replicate best practices.
- Third-party companies can capitalize on their resources and networks to create training curriculums and resources for stakeholders that can then be customized for local jurisdictions.²⁹

The cost to a jurisdiction of hiring a third party for compliance activities is usually based on a percentage of the permit application revenues. Typically, companies charge 60 to 80 percent of permit fees to perform complete plan reviews and inspections. These figures are estimates, and fee schedules vary between companies and regions. Using third-party services can cost-effectively reduce the jurisdiction's workload. However, it requires oversight and management to ensure quality control.³⁰ Third party agencies work for multiple jurisdictions, consistency of services can be challenging with outsource services, especially where jurisdictions have unique code interpretations, policies or procedures.

Washington, DC's Department of Building (DOB), while maintaining comprehensive departmental staffing, uses third parties extensively, offering a list of approved third-party inspection agencies and an innovative online marketplace for inspections. The platform connects property owners and managers with certified and approved inspectors, although it is an option to use DOB inspectors.³¹

²⁹ https://www.imt.org/wp-content/uploads/2018/02/Comprehensive_third_party_case_study.pdf

³⁰ https://www.imt.org/wp-content/uploads/2018/02/Comprehensive_third_party_case_study.pdf

³¹ <https://dob.dc.gov/node/1617071>

Guilford County, North Carolina, offers another example, allowing registered design professionals to submit third-party inspections. Their program aligns with the state-issued Guidance Paper: Acceptance of Licensed Architect or Licensed Engineer Inspections, which addresses what type of inspections may be performed.³²

4.4 BEST PRACTICES CONCLUSION

Several unique and creative solutions are appearing the vast building safety industry in the United States. Challenges existing in recruiting and development new talent, in addition to other external factors where diversity of public sector employment is necessary for work force to represent a community. In recent years, the employment sector and the employment market have changed with new generations entering the work force with different expectations and aspirations than previous generations. The retention of existing employees is equally important as new hires; finding solutions to maintaining the workforce is another area of interesting options and solutions that departments are implementing. With staffing challenges, department are finding new and innovative ways to combine services and collaboration along with find new way efficient ways to provide services to the development customers, including the perceived increase usage of third-party services.

³² <https://www.guilfordcountync.gov/our-county/planning-development/permitting-inspections>

5. COMPENSATION STUDY – OHIO AND NATIONALLY

Compensation and benefit information was gathered from 156 job classifications (job descriptions or announcements). The data set includes a distribution of Ohio jurisdiction sizes ranging from Columbus at over 900,000 to New Albany at nearly 11,000. Similarly, the nationwide jurisdictions range from Gwinnett County, Georgia, which forms part of the Atlanta metropolitan area, with a population of more than 900,000, to the Nags Head, North Carolina, on the Outer Banks with a population under 4,000.

5.1 SALARY COMPARISON

To compare salaries, the midpoint for each salary range was identified and normalized to the cost-of-living index. On average, salaries in Ohio, when adjusted for the cost of living, were approximately 14 percent higher than those outside Ohio.

5.1.1 Salary Breakdown by Job Classification

Salaries were identified for building officials, inspectors, plans examiners, and trades inspectors. On average, salaries for building officials in Ohio were 10 percent higher than those outside of Ohio. Average Inspector salaries were also 17 percent higher than outside Ohio, and Plan Examiners were 24 percent higher than outside Ohio. Ohio Trades Inspector salaries were 2 percent lower than peer organization.

However, the differences vary by the size of jurisdiction. As illustrated in Table 4, normalized salaries are higher for building officials, inspectors, and plans examiners in Ohio.

Table 4. Average Midrange Salaries by Jurisdiction Size and Job Classification

Position	Size	Ohio	National Market	Difference
Building Official	G1	\$136,949	\$119,081	15%
	G2	\$126,472	\$100,363	26%
	G3	\$95,725	\$78,957	21%
Inspector	G1	\$75,947	\$66,466	14%
	G2	\$72,738	\$66,665	9%
	G3	\$85,236	\$58,906	45%
Plans Examiner	G1	\$82,158	\$69,904	18%
	G2	\$92,936	\$70,119	33%
	G3	\$93,698	\$62,009	52%
Trades Inspector	G1	\$70,481	\$75,674	-7%
	G2	\$70,749	\$66,682	7%
	G3	\$77,062	N/A	N/A

Table 5 indicates the greater minimum and maximum salaries in Ohio, which may correlate to more robust minimum degree and job experience requirements for Plans Examiners and Inspectors in Ohio versus other states.

Minimum Ohio building official salaries varied based on jurisdiction size, with G1 and G3 jurisdictions having lower salaries than those outside of Ohio. However, maximum salaries were always larger than non-Ohio salaries. Inspector and Plans Examiner minimum salaries were significantly higher than those in other states as were the maximum salaries. Minimum salary differences for Inspectors ranged from 8 percent greater in G1 jurisdictions to 43 percent in G3 jurisdictions. Maximum salaries ranged from 19 percent greater in G1 jurisdictions to 6 percent in G2 jurisdictions. The differences for minimum in Plans Examiners salaries ranged from 36 percent in G2 jurisdictions to 20 percent in G3 jurisdictions. The maximum salary differences ranged from 18 to 10 percent where data was available.

However, it is essential to acknowledge the limitation of the analysis based on the data set size and considerable range in salaries across the study within each job classification.

Table 5. Range of Salaries and Data Points by Jurisdiction Size and Job Classification

		Ohio			National Market		
		Min	Max	Data Points	Min	Max	Data Points
Building Official	G1	\$100,500	\$169,800	3	\$104,200	\$143,200	5
	G2	\$126,500	---	1	\$76,300	\$119,800	6
	G3	\$48,700	\$124,800	5	\$71,500	\$91,500	3
Inspector	G1	\$54,700	\$109,700	8	\$50,500	\$88,700	18
	G2	\$64,400	\$101,200	5	\$39,000	\$95,100	13
	G3	\$77,100	\$93,000	6	\$43,800	\$84,200	11
Plans Examiner	G1	\$65,600	\$95,400	5	\$50,400	\$86,100	11
	G2	\$86,800	\$101,200	4	\$55,900	\$82,800	8
	G3	\$77,100	\$102,100	3	\$62,000	---	1
Trades Insp	G1	\$59,300	\$77,600	9	\$62,300	\$85,000	10
	G2	\$64,400	\$89,900	4	\$52,900	\$93,600	7
	G3	\$77,100	---	1	---	---	0

Jurisdictions typically compare salary structures to others of similar size or composition. However, when drawing from a pool of experienced tradespersons, carpenters, construction workers, and design professionals, it is essential to consider other employment options the pool of qualified applicants must consider. Table 6, drawn from the employment website Indeed.com,³³ includes alternatives available to qualified applicants. To retain employees in the building safety industry and possibly recruit from outside the industry, one must consider similar professional positions that compete with inspector, plans examiner and administrative staff.

³³ <https://www.indeed.com/career/salaries>. Indeed.com states "Salary information comes from 3,104 data points collected directly from employees, users, and past and present job advertisements on Indeed in the past 36 months".

Table 6. Average Annual Salaries, According to Indeed.com

Indeed.com states “Salary information comes from 3,104 data points collected directly from employees, users, and past and present job advertisements on Indeed in the past 36 months” <https://www.indeed.com/career/salaries>.

Building Inspector	\$41,902
Plans Examiner	\$67,010
Carpenter	\$60,339
Construction Foreman	\$63,600
Construction Superintendent	\$91,062
Journeyman plumber	\$62,565
Master Electrician	\$78,073
Journeyman Electrician	\$63,068
Architect	\$92,963
Engineer	\$94,056
Civil Engineer	\$87,295
Structural Engineer	\$91,393
Mechanical Engineer	\$88,067
Electrical Engineer	\$93,447
Senior Engineer	\$142,851

5.2 BENEFIT COMPARISON

Benefit information was gathered from job announcements, job classifications, employee policy documents, and jurisdictions’ legislative documents to assess whether benefits were being used to attract applicants. Information was gathered on the following benefits:

- Bonus
- Public pension
- Deferred compensation
- Medical
- Dental
- Vision
- Vacation
- Holiday
- Sick leave

- Wellness benefit
- Tuition reimbursement

Retirement benefits and insurance did not vary significantly across the study. Public pensions were the norm, and deferred compensation plans were prevalent. The focus of most publicly available benefits information was retirement benefits and medical insurance. Information on paid time off or wellness benefits was sometimes challenging to locate, making it difficult for job seekers to understand the complete benefits package a jurisdiction may be offering.

Medical insurance or the option of an insurance stipend was provided in every jurisdiction in the study, dental in approximately 50 percent, and vision insurance was provided in less than half but otherwise offered as an option. Significant benefits differences were found in paid time off, tuition reimbursement, employee assistance, and wellness benefits.

Work-life balance has been recognized as a high priority for employees and worth noting for jurisdictions struggling to hire. According to LinkedIn's 2023 Global Talent Survey, as of March 2023, employees ranked their priorities as follows:



1 Compensation: Excellent compensation and benefits



2 Work-life balance: Organizational support to balance work and personal life



3 Flexibility: Flexible work arrangements (i.e., when and where you work)³⁴

5.2.1 Paid Time Off

Most jurisdictions in the study offered between 35-40 days of paid time off (PTO) per year, a mix of 10-12 days of vacation holidays and 10-15 days of sick leave.³⁵

Vacation typically accrued on an hourly basis per month, but two outliers were found:

- One Ohio jurisdiction offered five working days on the anniversary of the first year of service, and
- Bremerton, WA, offers 15 days annually and, after two years, vacation time increases to 20 days per year.

In general, sick leave is subject to limitations and specific applications, in many cases to prevent the abuse of sick leave as alternative to vacation leave. An example detailing this approach is below and has restrictive uses, by this specific language from a local jurisdiction:

Employees may use sick leave, on approval of the responsible appointing administrative officer of the employing unit, for absence due to illness, injury, exposure to contagious disease which could be communicated to other employees,

³⁴ <https://business.linkedin.com/talent-solutions/global-talent-trends#>

³⁵ All vacation and sick leave allowances cited are for first-year employees.

illness, or death in the employee's immediate family, and to preventive treatment, under the supervision of a physician or other appropriate professionally trained person, for addiction to, or abuse of, alcohol or drugs. No sick leave shall be granted when sickness is caused by intoxication... To receive compensation while absent on sick leave, each employee shall make written application for leave of absence and take steps to notify his immediate superior of his illness, as may be specified by the department head. When such absence is for more than two days, the employee concerned, to receive compensation, must file with his request for sick leave a certificate from a registered physician stating that such employee was unable during the whole of such absence to perform his duties, or submit other satisfactory proof of such illness. ...Unexcused absences because of alleged illness in excess of two days shall be charged against the annual vacation allowance.³⁶

More than a dozen states have mandatory paid leave³⁷ to ensure employees are covered for a period while ill. Several jurisdictions in states without mandatory sick leave laws have taken a different approach to PTO, creating a more flexible use of the time. For example, instead of vacation and sick leave, the City of Sandy, Utah, offers 21.75 days per year of paid time off and holidays. Similarly, Sevier County, Utah, provides 29 days of paid leave – including holidays. While the total number of days of paid leave is not generally more than the traditional mix of vacation/holiday/sick leave, the days available for employees to use as they wish are increased. In a recent survey of 1,500 employees, more than half of respondents said they were burned out (a state of physical or mental exhaustion, including a loss of energy and enthusiasm caused by overwork and/or stress). In this same study, 36 percent of employees indicated that more paid time off was a means to preventing burnout³⁸. While use of PTO appears to be on the rise, there is some concern about its lack of regulation, and it may not accumulate over time or be paid out upon separation from the jurisdiction.

5.2.2 Flexible Work Location

Flexible work locations are not new but have been discussed to a much greater extent since the COVID-19 pandemic that forced many office workers to their homes. According to the Society for Human Resource Management, flexible work arrangements offer numerous benefits to both employers and employees. Such benefits include:

- Assisting in recruiting efforts.
- Enhancing worker morale.
- Managing employee attendance and reducing absenteeism.
- Improving retention of good workers.
- Boosting productivity.
- Creating a better work/life balance for workers.
- Minimizing harmful impact on global ecology. Certain flexible work arrangements can contribute to sustainability efforts by reducing carbon emissions and workplace “footprints” in terms of creation of new office buildings.
- Allowing for business continuity during emergency circumstances such as a weather disaster or pandemic.³⁹

The trend to allow remote work can be seen in today's job market. Among government jobs, there are currently more than a dozen positions offering remote or hybrid work locations on Governmentjobs.com. Remote work is more common in the private sector. On Indeed.com there are currently more than 100 jobs concerning building department services that offer remote work, and all are in the private sector.

³⁶ https://library.municode.com/oh/akron/codes/code_of_ordinances?nodetid=TIT3AD_CH35EMPO_35.03SILEPEFUMEEM

³⁷ <https://www.paycor.com/resource-center/articles/paid-sick-leave-laws-by-state/>

³⁸ <https://www.indeed.com/lead/preventing-employee-burnout-report>

³⁹ <https://www.shrm.org/resourcesandtools/tools-and-samples/toolkits/pages/managingflexibleworkarrangements.aspx>

5.2.3 Wellness Benefits

The Society for Human Resource Management 2022 Employee Benefits Survey found that 41 percent of employers provide wellness resources and information.⁴⁰ This study made consistent findings; local jurisdictions offer an array of wellness benefits from mental health care, nutrition classes, and fitness facilities. Wellness benefits don't only benefit employees. According to Harvard Business Review, healthy employees benefit the employer. In a Johnson and Johnson case study, the return on wellness benefits is \$2.71 for every dollar spent.⁴¹

5.2.3.1 Employee Assistance

Employee Assistance (EA) programs were confirmed in three-quarters of Ohio jurisdictions, two-thirds of other jurisdictions, and all the state agencies studied. At a minimum, the programs included confidential counseling and resource referral for employees and their families. As described by Alamance County, NC, the EA, through a local provider, can help with stress, anxiety, depression, chemical dependency, relationship issues, legal issues, parenting questions, financial counseling, and dependent care resources. It is free for county employees and available for their households to utilize. Utilization is entirely confidential, and participation isn't recorded. Help is available 24/7/365 by telephone.⁴²

5.2.3.2 Onsite Employee Health Clinics

Clinics are provided at City Hall or other shared locations where employees have easy and faster access to quality medical care in several study jurisdictions, including Sandy, UT, and Alamance County, NC. They are available to employees and their families.

5.2.3.3 Employee Fitness Facilities

Alamance County encourages all employees to maintain a healthy lifestyle at home and work. In support of this philosophy, an Employee Fitness Center is available for all County employees to use at their convenience during non-work hours and is open 24/7/365. This center includes weight training equipment, cardio equipment, a small aerobics room, restrooms, changing room, and lockers.

5.2.4 Tuition Reimbursement

Tuition reimbursement is another benefit that advantages both the employee and the employer. Nearly half the jurisdictions and state agencies in the study offered tuition reimbursement. Support ranged from \$1,500 to \$5,000. The top benefits of tuitions reimbursement include the following:

- Recruitment,
- Employee retention,
- Tax savings,
- Talent development, and
- Employee engagement.⁴³

⁴⁰ <https://www.shrm.org/resourcesandtools/tools-and-samples/toolkits/pages/designingandmanagingwellnessprograms.aspx>

⁴¹ <https://hbr.org/2010/12/whats-the-hard-return-on-employee-wellness-programs>

⁴² <https://www.governmentjobs.com/careers/alamancenc/jobs/3791636/building-inspector-level-iii-building?pagetype=jobOpportunitiesJobs>

⁴³ <https://www.fool.com/the-ascent/small-business/human-resources/articles/tuition-reimbursement/>

5.3 COMPENSATION AND BENEFIT CONCLUSION

The benefits of working in the public section, whether it is in Ohio or elsewhere, are workplace consistency and robust employee benefits. There is very little variance in this area of employment in local jurisdictions. One trend starting to filter down to the public sector is the flexibility of Paid Time Off, in lieu of specific vacation and sick leave, giving employees more flexibility with respect to time off. There are components of public sector employment that directly compete with the private sector, these positions may be with third-party providers or those who receive service from building department organizations. Flexible, remote and hybrid work options still exist in the private section, an employee benefit. Pay for the private sector is important area to be aware of, both from a recruitment and retention perspective; many jobs in the private section can be recruited to the public section and failing to consider pay and benefits of the private sector may result in retention challenges. When compared to peer organizations throughout the country, the pay of Ohio Building Officials, Plans Examiners and Inspectors on average is better than in other locations.

6. FEE STUDY - OHIO AND NATIONALLY

The fees building departments charge as well as the calculation of those fees varies significantly across the nation and in Ohio.⁴⁴

To compare fees across AHJs, fees were calculated for three typical building types, common to most communities:

- The single-family 2200 ft² single story-dwelling unit represents a typical single-family dwelling unit valued at \$365,376.⁴⁵
- A 2000 ft² commercial structure was included, valued at \$472,100. This is a smaller commercial building common to most jurisdictions. To develop assumptions for calculating fees, the building was idealized as a dental office.
- A larger (100,000 ft²) “big box” type commercial structure valued at \$18,067,000 was included to compare fees for larger buildings. To develop assumptions for calculating fees, the building was designated a general merchandise store.

Fee structures in the AHJs included in the study were based on itemized components, e.g., fixtures, amperage, and ducts, or building and project valuation. To compare permit fees, assumptions for each building type, including square footage, valuation, and design components, were applied to the jurisdiction’s fee structure. Where permitting fees were based on valuation, the valuation remained static across jurisdictions for consistent comparison, and the cost-of-living index was applied to total permit fees. A description of building assumptions can be found in Appendix A.

6.1 PERMIT FEES BY JURISDICTION SIZE

Permit fees were calculated for residential, small commercial, and large commercial and sorted by jurisdiction size.

Table 7 illustrates the number of permit fees evaluated in each category:

Table 7. Number of Permit Fees Evaluated by Size of Jurisdiction

Building Type	Size	Ohio	National Market
Single Family Residential 2200 ft ² \$365,376	G1	5	10
	G2	5	10
	G3	5	10
Small Commercial 2000 ft ² \$472,100	G1	5	10
	G2	5	10
	G3	5	10
Large Commercial 100,000 ft ² \$18,067,000	G1	5	10
	G2	5	10
	G3	5	10

⁴⁴ Some jurisdictions charge user/impact fees or taxes not directly applicable to permit processing. Every attempt was made to disaggregate those fees from the permit fees studied.

⁴⁵ All building valuation based on Building Valuation Data, International Code Council, August 2022

Evaluating permit fees by permit type and size of jurisdiction is detailed in Tables 8, 9, and 10. Generally, average permit fees are higher outside of Ohio (many significantly so), except G1 Residential and Large Commercial.

Table 8. Single Family Average Residential Permit Fee Comparison

Building Type	Size	Ohio	National Market	%
Single Family Residential	G1	\$2,428	\$2,299	6%
	G2	\$1,317	\$2,585	-49%
	G3	\$1,811	\$3,101	-42%

Table 9. Small Average Commercial Permit Fee Comparison

Building Type	Size	Ohio	National Market	%
Small Commercial	G1	\$3,225	\$3,302	-2%
	G2	\$2,308	\$3,605	-35%
	G3	\$2,436	\$4,178	-42%

Table 10. Large Average Commercial Permit Fee Comparison

Building Type	Size	Ohio	National Market	%
Large Commercial	G1	\$101,557	\$88,260	15%
	G2	\$44,290	\$85,128	-48%
	G3	\$33,602	\$86,115	-60%

However, it is important to acknowledge that these results are based on a limited dataset, which displayed a considerable range in permit fees across building types.

Table 12 includes a range of permit fees for Ohio and for jurisdictions outside of Ohio. Overall, the permit fee range was consistent with the project’s type, size, and valuation. However, permit fees did not always trend to jurisdiction size. Permit fees in G1 jurisdictions in Ohio were higher than in G2 and G3 jurisdictions. This was different from jurisdictions outside of Ohio where maximum G3 permit fees were greater than G1 and G2 jurisdictions.

Table 12. Range of Permit Fees by Jurisdiction Size and Job Classification

Type/Size		Ohio		National Market	
		Min	Max	Min	Max
Single Family Residential	G1	\$ 875	\$ 4,897	\$ 873	\$ 3,331
	G2	\$ 437	\$ 2,700	\$ 973	\$ 3,379
	G3	\$ 927	\$ 3,251	\$ 739	\$ 5,714
Small Commercial	G1	\$ 489	\$ 6,737	\$ 1,490	\$ 5,079
	G2	\$ 811	\$ 4,085	\$ 1,285	\$ 5,589
	G3	\$ 1,742	\$ 3,092	\$ 725	\$ 9,293
Large Commercial	G1	\$ 33,810	\$ 194,203	\$ 44,346	\$ 158,514
	G2	\$ 13,278	\$ 134,630	\$ 29,492	\$ 126,919
	G3	\$ 15,546	\$ 90,795	\$ 21,463	\$ 166,559

6.2 PERMIT FEES IN SELF-SUPPORTING BUILDING DEPARTMENTS

Five G1 and G2 jurisdictions were identified as self-supporting (see Table 13), relying on permit fees to operate. The department fund was either designated as an Enterprise or had other mechanisms to stay separate from the jurisdiction’s General Fund. In all cases the permit fees for self-supporting jurisdictions were less or significantly less than the maximum permit fees displayed in Table 12.

Table 13. Permit Fees in “Self-Supporting” Permitting Departments

		Residential	Small Commercial	Large Commercial
CO	G1	\$1,737	\$2,154	\$54,049
WA	G1	\$2,862	\$4,655	\$96,751
GA	G2	\$3,258	\$3,817	\$91,889
NV	G2	\$2,572	\$3,182	\$73,691
WA	G2	\$3,379	\$4,608	\$125,478

6.3 PERMIT FEE CONCLUSION

Building permit fees vary greatly across the sample of jurisdictions evaluated in this study and there is great variation in the total fees. However, some general conclusions can be made with respect to Ohio jurisdictions versus the sample of entities assessed for this report. The average permitting fees in the smaller G2 and G3 jurisdictions were significantly outpaced by similarly sized jurisdictions in national markets. In these jurisdictions, the average permit fees in Ohio are from 36-61 percent less than comparable sized jurisdictions. In the larger jurisdictions in Ohio, the fee charged for services was closer to the jurisdictions sample in this study, noted as follows:

- Single Family Residential – Ohio jurisdictions average 6 percent more than peer organizations.
- Small Commercial - Ohio jurisdictions average 2 percent less than peer organizations.
- Large Commercial - Ohio jurisdictions average 15 percent more than peer organizations.

7. POSITION QUALIFICATIONS - NATIONALLY

7.1 ANALYSIS OF JOB DESCRIPTIONS JOB CLASSIFICATION

The Ohio State administrative code outlines staffing requirements for a comprehensive list of positions. For example, for a department to be certified to process non-residential permits, a certified building official, building inspector, and plans examiner are required.⁴⁶ Such comprehensive requirements were only found in Ohio. However, several states in the study required state certification of code officials. Additionally, Utah requires licensing of building inspectors, based on ICC certifications. Michigan’s building inspector requirements are like Ohio’s in that Michigan provides several options through which required years of construction experience can be substituted in part by a license as a design professional and education. Like Ohio, Michigan’s requirements for plans examiners allow a design professional license to count against required years of construction experience. However, Michigan only requires four years of experience compared to Ohio’s ten. Michigan’s building official requirement is also less, at two years of inspection or plan review experience as compared to nearly 5 years in Ohio for residential building officials (without registration as architect or professional engineer) and 10 years for non-residential building officials (without registration as architect or professional engineer).

Kentucky requires training and certification of building inspectors. Two years of experience or education is required.

To evaluate responsibilities, certification, and education requirements, and working conditions for code officials in Ohio and nationwide, job descriptions were evaluated for each jurisdictional position. The positions were in G1, G2, and G3 jurisdictions and aligned with the following Ohio Building Code personnel classifications:

- Building Official
- Building Inspector
- Trades Inspectors (Mechanical, Electrical, and Plumbing)
- Plans Examiners
- Advanced (Master) Plans Examiner

Table 14 illustrates the number of jobs evaluated in each classification:

Table 14. Jobs evaluated for functions, qualifications, certifications, and work experience.

Position	Size	Ohio	National Markets
Building Official	G1	3	5
	G2	2	6
	G3	5	3
Inspector	G1	9	18
	G2	5	14
	G3	6	11

⁴⁶ Ohio Administrative Code 4101:7 | Board of Building Standards: Certification Rules



Inspector, Trades	G1	12	11
	G2	4	7
	G3	1	0
Plans Examiner	G1	3	8
	G2	3	5
	G3	3	2
Plans Examiner, Advanced	G1	1	3
	G2	1	2
	G3	0	0

Additionally, three positions were identified as plans examiner/ inspector combination positions and trades plan review.

While requirements varied across job descriptions and jurisdictions, working conditions did not distinguish themselves. These conditions were consistent regardless of position or size of jurisdiction.



It was unusual for any position to be identified as solely indoors or outdoors. Although the building official positions are more focused on indoor responsibilities, the job descriptions included the potential for assisting with complicated inspections. Similarly, plans examiner job descriptions included the potential for onsite investigations. There was near universal recognition of potential hazards on construction sites, especially for inspector positions and several jurisdictions identified hostile citizens as a hazard.

7.1.1 Building Official

Ohio requires state certification of building officials and distinguishes between non-residential (commercial) building officials and residential building officials. This distinction was not observed outside of Ohio. Ohio provides three routes to meeting non-residential building official certification prerequisites: five years as a registered design professional or in residential enforcement, or ten years of general contracting experience. State certification of building officials is also required in Michigan, where two years of code enforcement experience are required.

Building official job descriptions outside of Ohio and Michigan required multiple plans examiner and inspector certifications or, in one case, certification as a building official within three years.

In the sample set of job descriptions, few differences in essential functions were observed. In approximately half the jurisdictions, it was noted that the building official may, on occasion, assist or oversee a complex inspection or plan review. Also, in about half the jurisdictions, out-of-town travel may be expected. These differences were distributed across states and the size of jurisdictions. Additional details on the three pathways to achieve building official certification are as follows.

7.1.1.1 Registered Design Professional

An option in Ohio for building official certification is five years of experience in non-residential building design and construction for buildings or structures within the scope of groups regulated by the board's rules while registered in Ohio as an architect or professional engineer. Assuming licensing takes an average of five years post-college, this results in a minimum of 10 years of experience. Whereas outside of Ohio:

- One G2 jurisdiction outside of Ohio required professional licensing (typically requiring four years of relevant experience) or certification as a Certified Building Official.
- Nine jurisdictions required a bachelor's degree and an average of 5.5 years of experience. The degree requirement spanned the three jurisdiction size categories.

7.1.1.2 General Contracting Experience

The second option in Ohio for building official certification is 10 years of experience as a general contractor or superintendent of building construction for buildings or structures dealing with all phases and trades of construction, including the responsibility for obtaining approvals and inspections within the scope of regulated by the Board.

- Three positions in G2 and three G3 jurisdictions required trade school and an average of six years of experience, and
- One G2 jurisdiction required a high school education and five years of experience.

7.1.1.3 Residential Enforcement Experience

Five years of experience employed full-time as a residential building official in a certified residential building department. However, the requirement for a residential building official certificate is either a registered design professional or five years of construction. Thus, both options total 10 years of experience.

The category of residential building official was not seen in the external states.

7.1.2 Plans Examiner

A few differences amongst plans examiners' essential functions were observed. In most jurisdictions, it was noted that the plans examiner may, on occasion, visit the construction site. Almost one-fourth of the positions specified by the employee might be responsible for training other employees and supervision; this responsibility was seen almost exclusively in G1 jurisdictions.

A plans examiner certification in Ohio requires five years as a non-residential building inspector, or Ohio registration as a design professional, or 10 years as a skilled tradesman.

The master plans examiner is a required position within an Ohio non-residential building department and requires five years of experience in building design and construction for buildings or structures within the scope regulated by the board while registered in Ohio as an architect or professional engineer. Licensing takes an average of five years post-college; this results in a minimum of 10 years of experience to become a certified master plans examiner.

The follow are some observed requirements outside of Ohio:

- Two positions required design professional licensing, both in G1 jurisdictions.
- Nine of the external job postings required bachelor's degrees, with an average of 3.3 years of experience, with the plumbing plans examiner specialty requiring an average of 13.5 years of experience. The degree requirement was almost exclusively in G1 jurisdictions.
- Four of the external job postings required an associate's or trade school degree, with an average of 3.25 years of experience.
- Seven of the external job postings required a high school degree and an average of 3.75 years of experience.

Outside Ohio, plans examiner positions generally require a building plans examiner certificate, and several also require commercial building inspector certifications.

7.1.3 Building Inspector

Few characteristics amongst building inspector's essential functions differed. In most jurisdictions, it was noted the inspectors would need to communicate with architects, developers, and other applicants. Nine of the positions outside of Ohio were responsible for staff training, and ten would represent the department at public meetings. Both functions were primarily found in G1 job descriptions. Ohio certification prerequisites are as follows with comparison to national trends:

7.1.3.1 General Contracting Experience

Five years of experience in structural carpentry, masonry, steel erection, or concrete construction work subject to inspection under a code adopted for non-residential buildings within the scope of groups regulated by the rules of the Board as a skilled tradesman, a supervisor, or a construction contractor.

Similarly, positions outside Ohio that specified contracting experience averaged five years.

7.1.3.2 Residential Enforcement Experience

Five years of experience as a full-time non-residential building official, master plans examiner, non-residential mechanical inspector, residential building official, residential plans examiner, residential building inspector, or residential mechanical inspector.

Outside of Ohio, the average inspection experience requirement was under three years.

7.1.4 Trades Inspectors

Requirements for trades inspectors differed from other positions; most required journeyman-level experience and/or licensing. Both plumbers and electricians take at least four years to reach the journeyman level.

If the department is certified to enforce plumbing provisions, there are two routes to meeting plumbing inspection certification requirements:

- Seven years as a plumber qualifies one to take the Ohio certification exam, or
- A degree in engineering or architecture and three years of experience in plumbing system design.

Outside of Ohio, jurisdictions required a Master Plumber designation and additional ICC certificates, approximating the required experience in Ohio. No position outside of Ohio required design professional licensing.

Ohio provides several options as prequalification's to take the electrical safety inspector certification exam, equating to approximately six years as a journeyman electrician or registered Electrical Engineer, which equates to 10 years of combined experience and education. In comparison, national job postings require 4-9 years of experience.

Ohio offers two paths to mechanical inspector certification qualifications, five years of HVAC experience or code enforcement experience (which would equate to 10 years of experience, depending on certifications). In comparison, external job postings required approximately five years of HVAC experience.

7.2 CONCLUSION OF JOB DESCRIPTIONS JOB CLASSIFICATION

Comprehensive statewide requirements for certifications and experience were only found in Ohio. Several states in the study required state certification of code officials, where is comparable to Ohio; the experience requirement was more robust when compared to other states. Utah requires licensing of building inspectors, based on ICC certifications. As an example, Michigan plan examiners only require four years of experience compared to Ohio's ten. Kentucky requires training and certification of building inspectors and two years of experience or education is required. The bar for public safety inspectors and code officials is higher in Ohio than most of the country which bodes well for the quality and experience for these officials; as noted earlier the compensation is greater possibly for the increased certification and experience levels.

8. STATE BUILDING DEPARTMENTS

Research considered best practices towards addressing staff shortages and reduced numbers of individuals entering construction and code enforcement industries; staff knowledge, skills, and abilities; and compensation, plan review, and permit fee practices.

Hiring practices to broaden the applicant pool and remove potential barriers include:

- Expanding the applicant pool by diversifying the workforce and efforts to recruit individuals from historically underrepresented groups;
- Increased flexibility in credentialing requirements, seeking otherwise qualified but not yet credentialed applicants;
- Offering apprenticeships for on-the-job training;
- Offering hiring bonuses; and
- “Selling” the job opportunity to potential applicants.

To evaluate state permitting agencies, a review of the 48 mainland states’ building permit functions was conducted to identify states with statewide permitting and enforcement authority, enforcing codes published by the Code Council. Idaho, Indiana, Iowa, Kentucky, Louisiana, Montana, New Hampshire, New Jersey, Ohio, Vermont, and Washington have statewide permitting functions outlined in Table 15 and have been included in this study.

Table 15. State Permitting Functions and Codes Adopted

IA	State Fire Marshal	Iowa adopts the IBC, IRC, IEBC, and IECC. The State Fire Marshal adopts the IFC. The state adopts a State Plumbing and Mechanical Code. The state performs statewide plan review and inspection for health care facilities, elder group homes, assisted living, and adult day services buildings. ⁴⁷
ID	Department of Building Safety	Idaho has adopted the 2018 IBC, IRC, IECC, IEBC, IFC, IFG, and the IMC. The state provides plan review and inspection for Mechanical, Electrical, and Plumbing at the request of the local jurisdiction, where the services are not provided at the local jurisdiction. ⁴⁸
IN	Department of Homeland Security	The Indiana Building, Fuel Gas, Mechanical, and Fire Prevention Codes are based on the 2012 IBC, IFGC, IMC, and IFC. The 2020 Indiana Residential Code is based on the 2018 IRC, and the 2012 Indiana Plumbing Code is based on the 2006 IPC. The Building Plan Review Section reviews Class 1 structure construction plans for compliance with the rules of the Indiana Fire Prevention and Building Safety Commission, including the state-adopted building codes. ⁴⁹
KY	Department of Housing, Buildings, and Construction	Kentucky has adopted the 2018 IBC, IRC, IMC, IFC, 2012 IECC for commercial buildings and 2009 IECC for residential buildings. The Division of Building Code Enforcement is responsible for reviewing plans and making inspections of new building construction, as well as additions, alterations, renovations, and buildings involved in a change of occupancy (use) to ensure compliance with adopted codes and referenced standards. ⁵⁰

⁴⁷ <https://dps.iowa.gov/divisions/state-fire-marshal/building-code>

⁴⁸ <https://dbs.idaho.gov/>

⁴⁹ <https://www.in.gov/dhs/building-plan-review/>

⁵⁰ https://dhbc.ky.gov/newstatic_info.aspx?static_id=297



LA	Fire Marshal	The state has adopted the 2021 I-Codes with amendments. The Fire Marshal’s office provides a plan review of structures excluding one-and-two-family dwellings for compliance with the applicable requirements of the Louisiana State Uniform Construction Code (LSUCCC) on behalf of any parish or municipality that requests assistance. ⁵¹
MT	Department of Labor and Industry	Montana has adopted the 2021 IBC, IRC, IEBC, IMC, IFGC, and the IECC. The Montana Building Codes Program establishes and enforces statewide codes by issuing permits and performing inspections. The program includes permitting and Building Codes (building, plumbing, electrical, and mechanical) for all jurisdictions that have yet to opt to do so themselves. ⁵²
NH	Department of Safety	New Hampshire has adopted the 2018 IBC, IRC, IECC, IEBC, IMC, IPC, and ISPSC. The Department of Safety provides plan review and inspection for municipal projects for which they have received written request for assistance, and projects in municipalities without a code enforcement mechanism, from whom they have received a written request for assistance. ⁵³
NJ	Department of Community Affairs	The state has adopted the 2021 IBC, IRC, IMC, IFC, IECC, and NEC. Class 1 and 2 buildings are plan reviewed by the state unless the jurisdiction has code officials specifically certified code officials. The state only reviews buildings when the Department acts as the enforcement agency. ⁵⁴
OH	Division of Industrial Compliance, Bureau of Building Code Compliance	The state building codes include versions of the 2015 IBC, IFC, IPC, IMC, IFGC, 2018 IRC, and 2012 IECC. ⁵⁵ The state provides commercial plan review and inspection for jurisdictions without certified building departments. ⁵⁶
VT	Department of Public Safety, Division of Fire Safety	The state has adopted the 2015 IBC, 2021 IPC, and NEC. The state handles most code enforcement for several jurisdictions, including Montpelier, Bennington, and Burlington, and it handles all energy code enforcement in the state. ⁵⁷
WA	Department of Labor and Industry	The Washington State Building Code is comprised of the 2018 IBC, IRC, IMC, IFC, UPC, NEC, and Washington State Energy Code, which is based on the IECC. The Department of Labor and Industry enforces the NEC in most of the state. ⁵⁸ Local municipalities enforce other codes. ⁵⁹

⁵¹ http://sfm.dps.louisiana.gov/pr_buildingcodereview.htm

⁵² <https://bsd.dli.mt.gov/building-codes-permits/>

⁵³ <https://www.nh.gov/safety/divisions/firesafety/building/>

⁵⁴ <https://www.nj.gov/dca/divisions/codes/offices/bcpr.html>

⁵⁵ <https://up.codes/codes/ohio>

⁵⁶ <https://com.ohio.gov/divisions-and-programs/industrial-compliance/building-plan-approval-and-application>

⁵⁷ <https://firesafety.vermont.gov/buildingcode/codes>

⁵⁸ <https://lni.wa.gov/licensing-permits/electrical/electrical-permits-fees-and-inspections/electrical-plan-review>

⁵⁹ Revised Code of Washington 19.27.050

The information detailed below was gathered from state building department websites and job classifications.

8.1 BEST PRACTICES

State AHJs face challenges in attracting new employees and are working to diversify the workforce, offering flexibility in credentialing status, apprenticeships, hiring bonuses, and marketing the benefits of working for their jurisdiction.



8.1.1 Diversifying the Workforce

Few actionable diversification efforts were found among the external state governments studied; however, the State of Washington has resources for agencies to recruit a diverse candidate pool, including external outreach networks to support reaching diverse candidates, including career and job fairs.⁶⁰

As noted in Section 4.1.1, a recently released funding opportunity from the US Department of Energy is expected to make up to \$45 million of federal funding available for new awards⁶¹ involving implementation to facilitate the effective enforcement of updated building energy codes.⁶² While the focus is on energy codes specifically, the requirements of this funding will introduce new strategies and techniques into building departments. Grant applications must include a Community Benefits Plan sharing how the proposed approach will ensure that Federal investments advance the following four goals: 1) community and labor engagement; 2) investing in the American workforce 3) advancing diversity, equity, inclusion, and accessibility (DEIA); and 4) contributing to the Biden Administration's Justice40 Initiative. Specifically, activities related to the Justice40 Initiative section must include the following:

1. Identification of applicable disadvantaged communities to which the anticipated project benefits will flow.
2. Identification of applicable benefits that are quantifiable, measurable, and trackable, including, at a minimum, a discussion of the relevance of eight DOE-identified Justice40 benefits.

Grant applications were required to include State Energy Offices so that the grant may impact both state agencies and local jurisdictions.

8.1.2 Flexibility in Credential Status

Code enforcement professional certifications are essential; they demonstrate a level of knowledge, experience, and qualifications to do the job well. As such many employers require certification as a condition of employment. However, providing an otherwise qualified but uncredentialed individual with time to acquire credentials broadens the jurisdiction's applicant pool. The new employee has time to refine their skills and conduct any necessary preparation for the test. For example, a State of Iowa's Building/Manufactured Housing Inspector posting provides six months to obtain ICC Commercial Building Inspector certification.

8.1.3 Apprenticeships

As noted in Section 4.1.3, the state of Minnesota offers Building Official Training Grants to jurisdictions to partially offset the cost of providing an apprenticeship. This provides an opportunity for a jurisdiction to offer a one-year, full-time apprenticeship with on-the-job training and education. Education and training the jurisdiction must provide include

⁶⁰ <https://ofm.wa.gov/state-human-resources/workforce-diversity-equity-and-inclusion/recruiting-diverse-candidate-pool>

⁶¹ Department of Energy (DOE) Building Technologies Office Bipartisan Infrastructure Law: Resilient and Efficient Codes Implementation Funding Opportunity Announcement (FOA) Number: DE-FOA-0002813

⁶² Department of Energy (DOE) Building Technologies Office Bipartisan Infrastructure Law: Resilient and Efficient Codes Implementation Funding Opportunity Announcement (FOA) Number: DE-FOA-0002813

classroom and on-site education on a comprehensive range of topics from OSHA safety and zoning ordinances to residential energy plan review and inspections. The funding is provided through competitive grants to the eligible jurisdictions, with the stated objective “to encourage, promote, and provide support to jurisdictions who will educate and train individuals on their path to becoming building officials.”⁶³

8.1.4 Hiring Bonuses

Hiring bonuses are a tool states and local jurisdictions can use as an extra incentive for new employees, usually ranging from \$1,500-3,000. The State of New Hampshire includes current employees in the hiring bonus strategy – offering a recruitment bonus that benefits both the current employee recommending a friend or colleague and the new employee. \$1,000 is offered to referring employees and full-time new hires, and \$500 to referring employees and part-time new hires.⁶⁴

8.1.5 Recruitment vs. Job Notification

Human Resource Department hiring platforms and job announcements tend toward two distinct styles – recruitment and notification. Recruitment efforts highlighted the benefits of working for the community, living in the community, the reward of the job and how it contributed to a better community, and the benefits offered. The second style tended toward a notification the position was open.

Ohio and Washington are two states that include recruitment efforts in their job announcements. Ohio State plans examiner and inspection job announcements contain a promotional video specific to the Department of Commerce highlighting current employees offering position reasons for working for the Ohio Department of Commerce.

Washington State Department of Labor and Industries job announcements highlight their mission “Keep Washington Safe and Working “values “Customer Focus, One L&I, Respect, Diversity, Equity and Inclusion, Learning and Growth, Reliability,” and a call to the prospective employee to “Become a Labor & Industries Electrical Construction Inspector, start making a difference by providing safety inspections of electrical installations, and serve the great Northwest!”⁶⁵

Organizational culture is essential; prospective employees are not only interested in monetary compensation, but they also want to feel like they serve a purpose and will fit with the rest of the team.⁶⁶

8.1.6 Clarity in Requirements and benefits

To draw attract a qualified pool of applicants, clarity in both qualifications and benefits is important. All job descriptions studied referenced qualifications, but not all clearly identified a means for an applicant to determine if they are qualified for the positions. This Plans Examiner 3 job classification from the State of Louisiana clearly identifies the paths to qualify for the position:

Qualifications

MINIMUM QUALIFICATIONS:

Either one of the following will qualify:

1. Five years of experience in building construction.
2. Three years of experience in building code plans examining or building code inspection.

⁶³ <https://www.dli.mn.gov/bot>

⁶⁴ <https://www.das.nh.gov/hr/documents/state-of-new-hampshire-recruitment-referral-incentive-program.pdf>

⁶⁵ <https://www.governmentjobs.com/careers/washington/jobs/4024615/li-electrical-construction-inspector?keywords=inspector&pagetype=jobOpportunitiesJobs>

⁶⁶ <https://www.uschamber.com/co/run/human-resources/difference-between-hiring-and-recruiting>

SUBSTITUTION: (For both options)

Possession of a current Louisiana license to practice professional engineering or architecture will substitute for all of the required experience.

Option 1 only:

A baccalaureate degree in engineering or architecture will substitute for three years of the required experience.

Option 2 only:

A baccalaureate degree in engineering or architecture will substitute for one year of the required experience.

NECESSARY SPECIAL REQUIREMENT:

Certification by the International Code Council as a combination of International Building Code plans examiner or certified building official.

State job announcements generally made benefits clear, in contrast to many local jurisdictions. For example, the State of Ohio job announcements include a comprehensive overview of benefits titled “What’s in it for You” within the job announcement.

8.1.7 Remote/Electronic Inspection

Faced with staff shortages, state AHJs are finding ways to use resources more efficiently, utilizing new inspection techniques. Remote virtual inspections (RVIs) increase the efficiency of the inspection process by using handheld devices and electronic communication and offer benefits to jurisdictions and customers alike.⁶⁷ Both the states of Ohio and Washington offer remote inspections.

A clear understanding of the RVI requirements and communication throughout the process is paramount to completing a successful inspection. The inspector will check all aspects of the permitted construction project against the adopted codes and other applicable laws and regulations, the same as if it were an on-site inspection. Identifying the project job site location, posted address, and location within the building are essential parts of the process. Once a jurisdiction has determined which inspections are eligible for RVI, the next step is to develop appropriate protocols.

Washington State offers remote electrical inspections. ICC has prepared *Recommended Practices for Remote Virtual Inspection*, which provides best practices for RVI to enable jurisdictions to utilize this pathway and the accompanying efficiency benefits.⁶⁸

8.2 COMPENSATION STUDY

Compensation and benefit information was gathered from 28 job classifications (job descriptions or announcements) from eight states. To compare salaries, the midpoint for each salary range was identified and normalized to the state average cost of living index.

8.2.1 Salary Breakdown by Job Classification

Salaries were identified for inspectors, plans examiners, and trades inspectors.

The salaries presented in Table 16 for Plans Examiners reflect the level of experience and degrees required for the state of Ohio and jurisdictions within Ohio in relation to other states and jurisdictions.

⁶⁷ Task 7. Electronic Energy Code Permitting and Compliance MILESTONES 7.1 THROUGH 7.4 REQUIREMENTS/SPECIFICATIONS REPORT Prepared for FSEC Energy Research Center in Support of Market Driven Residential Energy Codes: Comparing Performance in a Changing Technological Environment DOE funding DE-EE0008699. January 2022 Michelle Britt, Dave Walls, and Jerica Stacey International Code Council

⁶⁸ http://media.iccsafe.org/2020_MarComm/Remote_Virtual_Insp_FINAL_w_Covers.pdf

Trades inspector salaries for the state of Ohio were significantly less than comparable Journeyman positions even though the job positions require Journeyman position experience at a minimum.

Table 16. State Level Salary Comparison by Job Classification

Positions	States		%
	Ohio	National Markets	
Inspector	N/A	\$71,799	N/A
Plans Examiner	\$91,240	\$56,054	62%
Trades Insp	\$70,403	\$74,267	-6%

Note that the above numbers are based on the data set analyzed. A considerable range in salaries across the study within each job classification was also observed.

State agencies and local jurisdictions typically compare salary structures to others of similar size or composition. However, when drawing from a pool of experienced tradespersons, carpenters, construction workers, and design professionals, it is essential to consider other employment options the pool of qualified applicants must consider.

Table 17 is drawn from the employment website Indeed.com⁶⁹ and details other options available to qualified applicants.

Table 17. Average Annual Salaries, According to Indeed.com

Building Inspector	\$41,902
Plans Examiner	\$67,010
Carpenter	\$60,339
Construction Foreman	\$63,600
Construction Superintendent	\$91,062
Journeyman Plumber	\$62,565
Master Electrician	\$78,073
Journeyman Electrician	\$63,068
Architect	\$92,963
Engineer	\$94,056
Civil Engineer	\$87,295
Structural Engineer	\$91,393

⁶⁹ Indeed.com states "Salary information comes from 3,104 data points collected directly from employees, users, and past and present job advertisements on Indeed in the past 36 months" <https://www.indeed.com/career/salaries>.

Mechanical Engineer	\$88,067
Electrical Engineer	\$93,447
Senior Engineer	\$142,851

8.3 BENEFIT COMPARISON

Benefit information was gathered from job announcements, job classifications, employee policy documents, and states' regulatory and policy documents to assess whether benefits were being used to attract applicants. Information was gathered on the following benefits:

- Bonus
- Public pension
- Deferred compensation
- Medical
- Dental
- Vision
- Vacation
- Holiday
- Sick leave
- Wellness benefit
- Tuition reimbursement

Benefits in the states varied very little; each offered public pensions, deferred compensation, and medical, dental, and vision insurance. First-year vacation accrual ranged from 10-14 days per year, holidays ranged from 9-12, and sick leave was 12 days annually. Each state offered employee assistance, and almost all provided a form of tuition reimbursement.

Work-life balance has been recognized as a high priority for employees and worth noting for jurisdictions struggling to hire. According to LinkedIn's 2023 Global Talent Survey, as of March 2023, employees ranked their preferences as follows:

1. Compensation: Excellent compensation and benefits
2. Work-life balance: Organizational support to balance work and personal life
3. Flexibility: Flexible work arrangements (i.e., when and where you work)⁷⁰

8.3.1 Flexible Work Location

Flexible work locations are not new but are a significant change to the work environment since the COVID-19 pandemic that forced many office workers to work remotely or in a hybrid format. According to the Society for Human Resource Management, flexible work arrangements offer numerous benefits to both employers and employees, including assisting in recruiting efforts.⁷¹

⁷⁰ <https://business.linkedin.com/talent-solutions/global-talent-trends#>

⁷¹ <https://www.shrm.org/resourcesandtools/tools-and-samples/toolkits/pages/managingflexibleworkarrangements.aspx>

The trend to allow remote work can be seen in today's job market. Among code official positions listed, there are currently over a dozen positions offering remote or hybrid work locations on Governmentjobs.com. Remote work is more common in the private sector. On Indeed.com there are currently well over 100 job openings in the construction and building safety professions offering remote work; all are in the private sector.

8.3.2 Wellness Benefits

The Society for Human Resource Management 2022 Employee Benefits Survey found that 41 percent of employers provide wellness resources and information.⁷² The study made consistent findings; states offer an array of wellness benefits, from mental health care to nutrition classes and fitness facilities. Wellness benefits don't only benefit employees. According to Harvard Business Review, healthy employees benefit the employer. In a case study of Johnson and Johnson, the return on wellness benefits costs was \$2.71 for every dollar spent.⁷³

A sample is the state of Ohio's Take Charge | Live Well, which rewards employees and their families if employees are enrolled in the state's medical plan. Employees can earn up to \$1,500, and spouses can earn up to \$550 by completing activities to improve their health and wellness. Discounts are offered to state employees for many different attractions and events.⁷⁴

8.3.2.1 Employee Assistance

Employee Assistance programs were confirmed in the states in the study. At a minimum, the programs included confidential counseling and resource referral for employees and their families. For example, the state of Michigan's Employee Services Program includes workshops, confidential personal supports support, and resources to address topics ranging from grief support to gambling.

8.3.3 Tuition Reimbursement

Tuition reimbursement is another benefit that benefits both the employee and the employer. It was confirmed at almost all jurisdictions and state agencies in the study. Support ranged from \$1500 to \$5000. The top benefits of tuitions reimbursement include the following:

- Recruitment;
- Employee retention;
- Tax savings;
- Talent development; and
- Employee engagement.⁷⁵

8.4 FEE COMPARISON

To compare fees across state AHJs, fees were calculated for three typical building types, common to most communities:

- A single-family 2200 ft² single story-dwelling unit represents a typical single-family dwelling unit, which is valued at \$365,376.
- A 2000 ft² commercial structure was included, valued at \$472,100. This is a smaller commercial building that can be found in almost any size jurisdiction. To develop assumptions for calculating fees, the building was idealized as a dental office.

⁷² <https://www.shrm.org/resourcesandtools/tools-and-samples/toolkits/pages/designingandmanagingwellnessprograms.aspx>

⁷³ <https://hbr.org/2010/12/whats-the-hard-return-on-employee-wellness-programs>

⁷⁴ <https://careers.ohio.gov/why-work-for-state-of-ohio>

⁷⁵ <https://www.fool.com/the-ascent/small-business/human-resources/articles/tuition-reimbursement/>

- A larger “big box” type commercial structure (100,000 ft²) valued at \$18,067,000 was included to compare fees for larger buildings. The building was designated as a general merchandise store to develop assumptions for calculating fees.

Fee structures in state AHJs were based on itemized components, e.g., fixtures, amperage, and ducts, or building and project valuation. Where permitting fees were based on valuation,⁷⁶ the valuation remained static across jurisdictions for consistent comparison, and the cost-of-living index was applied to total permit fees.

Washington State fees were not included because the state only issues electrical permits.

Fees were calculated for the commercial buildings in each state, and the residential fees were calculated in 3 of the seven states, as not all state permitting offices handle residential permitting.

Table 18. Range of State Building Department Fees

Building Types		
Residential	Small Commercial	Large Commercial
\$212	\$335	\$4,155
\$1,433	\$746	\$16,773
\$2,166¹	\$1,008	\$28,459¹
\$4,250	\$1,793	\$39,616
	\$1,974	\$51,024
	\$2,141¹	\$56,609
	\$3,294	\$79,557
	\$3,937	\$82,302
	\$4,020	\$126,035
	\$6,374	

Notes:

1. Bold red text represents State of Ohio Permit Fees

The fees charged by the State of Ohio represented in Table 18 show how the permit fees in Ohio compare to the permit fees assessed by other state agencies. As noted in earlier in the report, the permit fees charged in Ohio are generally less than similar agencies in the United States, this is also true for permit fees charged at state agencies as well. The large commercial project is 47% lower than the national state agencies.

⁷⁶ Building Valuation Data, International Code Council, August 2022

8.5 STATE AGENCY POSITION QUALIFICATIONS

To evaluate responsibilities, certification, education requirements, and working conditions for code officials in Ohio and at other statewide agencies, job descriptions were identified for 28 state AHJs positions, aligned with the following Ohio Building Code personnel classifications:

- Building Inspector
- Trades Inspectors (Mechanical, Electrical, and Plumbing)
- Plans Examiners

Table 19 provides a breakdown of the number of job descriptions for each job classification that were reviewed.

Table 19. State level Jobs considered for functions, qualifications, certifications, and work experience.

Job Classification	Data Points
Building Inspector	15
Trades Inspector	5
Plans Examiner	8

The working conditions described in the job description did not distinguish themselves differently from Ohio to the states examined. No position was identified as solely indoors or outdoors. There was near universal recognition of potential hazards on construction sites as a potential hazard in this profession.

8.5.1 Building Inspector

The one distinguishing feature amongst the state-level building inspectors was that, unlike most inspectors in large jurisdictions, several states have a combined plan review and inspection position. Ohio certification prerequisites for building inspectors require either of the following paths:

8.5.1.1 General Contracting Experience

Five years of experience in structural carpentry, masonry, steel erection, or concrete construction work subject to inspection under a code adopted for non-residential buildings, within the scope of work regulated by the rules of the Board, as a skilled tradesman, a supervisor, or a construction contractor.

Similarly, the external state inspector positions required an average of nearly five years of experience; three positions specified it was construction experience, while others left the experience unspecified.

8.5.1.2 Residential Enforcement Experience

Five years of experience as a full-time non-residential building official, master plans examiner, non-residential mechanical inspector, residential building official, residential plans examiner, residential building inspector, or residential mechanical inspector.

The category of residential building official was not observed in states outside Ohio.

8.5.2 Trades Inspectors

Requirements for trades inspectors differed from other positions; most required journeyman-level experience and/or licensing. Achieving the journeyman level for both plumbers and electricians in Ohio takes at least four years.

There are two routes to meeting certification requirements:

- Seven years as a plumber qualifies one to take the Ohio certification exam, or
- A degree in engineering or architecture and three years of experience in plumbing system design.

Other state positions in the study required experience ranging from unspecified to 8 years; none required a degree in architecture or engineering.

Ohio requirements to take the Electrical Safety Inspector exam equate to approximately 10 years of education/experience – either six years as a journeyman electrician or a registered electrical engineer. Other state job postings required up to eight years of experience.

There are two routes to meeting mechanical certification requirements.

- Five years of HVAC experience, or
- Five years of code enforcement experience.

Other state requirements ranged from through to journeyman HVAC technician.

8.5.3 Plans Examiner

The distinguishing feature among state-level plans examiners was that, unlike the local jurisdictions studied, no state-level plans examiner job description required plans examiners to provide internal staff training, which is a common feature of this job position at the local level.

Plans examiner certification in Ohio requires five years as a non-residential building inspector, Ohio registration as a design professional, or ten years as a skilled tradesman, which all require approximately ten years of education and/or experience.

Two external state-level positions required a bachelor's degree, with an average of just over four years of experience in construction or plan review.

8.6 STATEWIDE CONCLUSION

Statewide agencies have similar challenges that local jurisdictions have. The compensation of plan examiners and trade inspectors in Ohio are like those in local jurisdictions, the difference in salaries is dramatic when comparing salaries of out of state plans examiners to those in Ohio. The challenge of hiring is not relative to how code officials in the state of Ohio are compensating relative to local and other statewide agencies. The permits fees charged at the State of Ohio are generally lower than those of other statewide agencies. Job descriptions and working conditions through the study found no dramatic difference in statewide agencies. The challenges of retention and recruitment have similar challenges with local jurisdictions. The certification of state employees providing building safety services is similar to local Ohio jurisdictions, where certification and experience levels are greater than peer organizations.



APPENDIX A. BUILDING FEE CALCULATION ASSUMPTIONS

Residential			
Building Feature	Value	Units	Assumptions
Description: 2,200 SF floor area. 3 Bedroom / 2 Bath. Gas/electric. Gas Furnace with air conditioning. Gas oven/range. Electric washer/dryer.			
Project Valuation	365,376.00	\$	Base valuation on ICC Valuation Tables
Cost Per Square Foot	166.08	\$	
Construction Type	V-B		Assume 166.08/ft ²
Floor Area	2,200.00	SF	
Plumbing - Fixture Number	5.00	Fixtures	Assume: Bath - 3 fixtures each Kitchen - 1 Fixture Laundry - Fixture
Water Heater			Assume \$28,000 Plumbing
	Gallons	50.00	Gallons
	BTU-H	36,000.00	BTU-H
Utilities (Gas / Electric)			
	Gas Outlets	2.00	Number
			1 - outlet for furnace / 1 -outlet oven and range
HVAC			
	Capacity		Assume \$22,000 HVAC
	Heating	100,000.00	BTU-H
	Cooling	5.00	Tons
			Assume 5 Ton System
	Number of Outlets (Supply)	10.00	Outlets
			Assume 1 outlet per room plus 2 in Living
	Number of Outlets (Return)	2.00	Outlets
			Assume 2 return air ducts
	Ventilation Fans	4.00	Fans
			Assume one each in bathrooms, kitchen, and laundry
Electrical			
			Assume \$28,000 Electrical
			Assume 200 amp, 1 panel
			Assume 22000



Circuits	30.00	Circuits	Assume 30 circuits
Receptacles/Wall Switches	45.00	Number	Assume 4 outlets per room and one switch per room. Rooms include: Kitchen Living room Dining room Bathrooms - 2 Bedrooms - 3 Laundry room



Small Commercial

Building Feature	Value	Units	Assumptions
Description: Assume 2,000 SF single story dentist building (see Dental Layout tab)			
Floor Area	2,000.00	SF	
Project Valuation	472,100.00	\$	Base valuation on project location
Cost Per Square Foot	236.05	\$	Group B Occupancy
Construction Type	II-B		
HVAC			
Capacity			Assume gas heat and electric cooling. One system for building.
Heating	100,000.00	BTU-H	Assume 100,000 Btu-H heating
Cooling	5.00	Tons	Assume 5 Ton System
Outlets (Supply)	15.00	Outlets	Assume one per room - 15 outlets
Outlets (Return)	2.00	Outlets	Assume 2 return air runs
			Assume \$28,000 for HVAC system
Plumbing			
Urinals	0.00	Number	
Sinks	12.00	Number	Assume 5 dental chairs with water / 7 sinks based on Dental Office layout
Toilets	1.00	Number	From Dental Office Layout
Water Heater			
Gallons	100.00	Gallons	
BTU-H	80,000.00	BTU-H	
			Assume \$50,000 for plumbing system
Electrical			
			Assume \$50,000 for electrical system.
Circuits	30.00	Circuits	Assume 30 circuits and 200-400 amp
Low voltage outlets	5.00	Number	Assume one outlet per private office and remaining office served by router



Receptacles/Wall Switches	83.00	Number	Estimate
			Assume following inspections: Foundation Framing Plumbing - 2 Electrical - 2 HVAC - 2 Drywall Final
Number of Inspections	10.00		



Large Commercial

Building Feature	Value	Units	Assumptions
Description: Assume 100,000 SF single story box store (see Target as example).			
Floor Area	100,000.00	SF	
Project Valuation	18,067,000.00	\$	Base valuation on ICC Valuation Tables
Cost Per Square Foot	180.67	\$	Group M Occupancy
Construction Type	II-B		
Electrical			Assume 2000 Amp, 5 panels
Circuits	150.00	Circuits	Assume 30 circuits per panel
Low voltage outlets	100.00	Number	Assume maximum per fee
Receptacles/Wall Switches		Number	Assume maximum per fee
Meter	5.00	Meters	Assume 400-amp meters
			Assume \$400,000 for Electrical system
HVAC			
Capacity			Assume \$250,000 for HVAC system.
Heating	1,500,000.00	BTU-H	Assume 100,000 Btu-H heating
Cooling	250.00	Tons	Assume 5 Ton System
Number of Systems	10.00	Systems	Assume 250 Tons of cooling and 10 - 25-ton systems. Assume 10 outlets per system
Supply	100.00	Outlets	Assume 10 outlets per system
Return	10.00		
Plumbing			
Urinals	4.00	Number	
Sinks	20.00	Number	
Toilets	14.00	Number	
Water Heater			



	Gallons	200.00	Gallons	Assume 2 100-gallon tanks
	BTU-H	160,000.00	BTU-H	
				Assume \$600,000 for Plumbing system
Other				
	Walk-in Cooler	1.00	Number	Assume one per store