

STATUS OF HISTORIC TRADES IN AMERICA

Prepared by PlaceEconomics for
The Campaign for Historic Trades
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INTRODUCTION

Construction accounts for significant portions of the US labor market and economy. In 2019, it accounted for 4% of the labor market and over 7 million jobs, with projected increases in the next decade. While ample data exists for the construction industry as a whole, specific and consistent labor market statistics do not exist for historic trades.

Historic tradespeople encompass a broad range of skills and specialties, from masonry, to plaster, to carpentry, and more. Through their familiarity with a wide range of historic construction methods and techniques, historic tradespeople bring invaluable knowledge, insight, and skill to restoration projects. New construction techniques and materials can differ greatly from historic construction. Therefore, craftspeople trained in modern construction do not necessarily have the skills and knowledge required to work on and problem-solve for rehabilitation projects involving historic structures.

Around a quarter of all building construction expenditures go toward existing buildings rather than new construction. While not all of this activity is “historic preservation,” a significant share is. Those projects that do constitute historic preservation¹ need craftspeople with experience, training, and expertise in the particularities of heritage construction methods.

The need to support the continuation of historic trades skills through traditional trades training has long been a point of concern in the preservation field, but the lack of labor market data makes the assessment of training and actual job market needs extremely difficult to ascertain. Federal construction activity data does not differentiate between new construction and rehabilitation, let alone the share of rehabilitation that might constitute historic preservation. The Bureau of Labor Statistics does not have subsets of data on the construction trades reflecting the number of people either performing historic preservation nor having expertise in that area, making it difficult to quantify the number or percentage of projects requiring historic trades expertise.

As part of its larger mission to identify and resolve systemic barriers to historic trades careers, The Campaign for Historic Trades seeks to define these occupations and ascertain the current and future market need for trained historic tradespeople. This study will support this initiative by isolating labor data to use in advocacy work and support the creation of historic trades apprenticeships.

WHAT IS THE CAMPAIGN FOR HISTORIC TRADES?

The Campaign for Historic Trades is an innovative, national program of Preservation Maryland, a non-profit organization headquartered in Baltimore, Maryland. Preservation Maryland serves as the official philanthropic partner of the National Park Service’s Historic Preservation Training Center, based in Frederick, Maryland. Powered by Preservation Maryland in partnership with the HPTC, The Campaign is a dynamic workforce development initiative to expand and strengthen careers in the high-demand field of historic trades.

(HISTORICTRADES.ORG)

¹ The National Park Service identifies “four distinct, but interrelated, approaches to the treatment of historic properties—preservation, rehabilitation, restoration, and reconstruction.” There are no separate labor data bases for these distinct types of activities. For the purposes of the language in this report the word “rehabilitation” will be most frequently used, but meant to include any of the four approaches. For National Park Service definitions of each see Appendix 4.

KEY FINDINGS

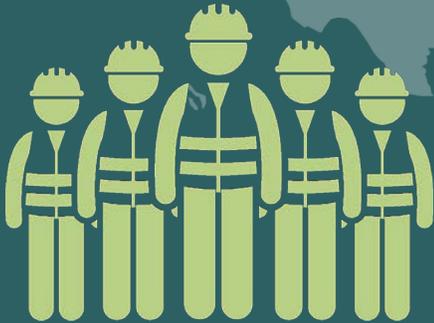
THE REHABILITATION OF EXISTING BUILDINGS REPRESENTS NEARLY

\$85 BILLION EACH YEAR.

ABOUT 19% OF THE BUILDING
CONSTRUCTION INDUSTRY.



96 MILLION
BUILDINGS TOTAL IN THE UNITED STATES



BUILDING
REHABILITATION
EMPLOYS
MORE THAN

1.3 MILLION WORKERS

JUST OVER 40% THOSE
BUILDINGS ARE
MORE THAN 50
YEARS OLD

40%

ANOTHER 13.3
MILLION BUILDINGS
WILL REACH THE 50-
YEAR MARK OVER THE
NEXT DECADE.



COMBINING NATIONAL
REGISTER, LOCAL HISTORIC
DISTRICT, AND ELIGIBLE
BUILDINGS, BETWEEN
4.3 AND 6.2 MILLION
BUILDINGS IN THE UNITED
STATES MAY BE DEFINED
AS "HISTORIC."

165,000 JOBS

CREATED BY HISTORIC REHABILITATION ACTIVITY EACH YEAR

60% OF THESE JOBS DESIRE PRESERVATION SKILLS

INCLUDING NEARLY 100,000 FOR WHICH SPECIFIC SKILLS, EXPERIENCE, AND TRAINING IN HISTORIC PRESERVATION WOULD BE DESIRABLE

ESTIMATED # OF HISTORIC BUILDINGS

1.9 MILLION BUILDINGS
ON THE NATIONAL REGISTER OF HISTORIC PLACES

467,000 BUILDINGS
IN LOCAL HISTORIC DISTRICTS NOT ON THE NATIONAL REGISTER
OF HISTORIC PLACES

1.9 TO 3.8 MILLION BUILDINGS
LIKELY ELIGIBLE FOR HISTORIC DESIGNATION

1 MILLION 2 MILLION 3 MILLION 4 MILLION

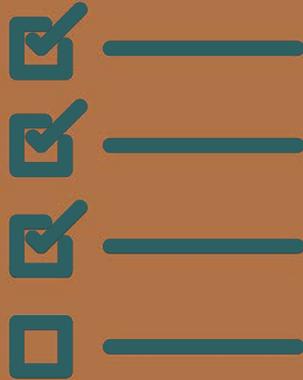
INVESTMENT USING THE FEDERAL HISTORIC REHABILITATION TAX CREDIT

\$7 BILLION
IN 2021.

THE TOTAL INVESTMENT IN HISTORIC BUILDINGS, INCLUDING THROUGH THE FEDERAL HISTORIC TAX CREDIT, IS ESTIMATED TO BE NEARLY \$37 BILLION. APPROXIMATELY \$12 BILLION OF THAT WAS IN RESIDENTIAL PROPERTY AND \$25 BILLION IN NON-RESIDENTIAL BUILDINGS.

THIS INVESTMENT GENERATED NEARLY 31,000 DIRECT JOBS AND \$2 BILLION IN PAYCHECKS.

TRADES EXPERTS SAY THERE ARE SEVERE SHORTAGES ACROSS THE RANGE OF HISTORIC TRADE PROFESSIONS.



THERE IS A PREMIUM OF AROUND 9% ON WAGES PAID TO THOSE WITH EXPERIENCE AND TRAINING IN HISTORIC PRESERVATION.

BY 2030

BETWEEN 271,000 AND 462,000 BUILDINGS WILL BE ADDED TO THE NATIONAL REGISTER.

THE TOTAL NUMBER OF BUILDINGS THAT COULD BE CONSIDERED "HISTORIC" WILL GROW TO BETWEEN 5.7 AND 8.3 MILLION.

THE ANNUAL INVESTMENT UTILIZING THE FEDERAL HISTORIC TAX CREDIT WILL BE BETWEEN \$7 BILLION AND \$10.5 BILLION.

TOTAL INVESTMENT IN HISTORIC BUILDINGS WILL SURPASS \$45 BILLION IN 2030.

EACH YEAR OVER THE NEXT DECADE THERE WILL BE MORE THAN 10,000 JOB OPENINGS IN THE HISTORIC TRADES.



THOSE PROJECTS WILL REQUIRE MORE THAN 100,000 TRADES WORKERS, PREFERABLY WITH HISTORIC PRESERVATION-SPECIFIC EXPERIENCE, AND AN ADDITIONAL 69,000 OTHER WORKERS.

TRAINING PROGRAMS FOR THE HERITAGE TRADES NOT ONLY IMPROVE WORK QUALITY BUT ALSO PROVIDE PATHWAYS TO SECURE EMPLOYMENT FOR TRAINEES AND ASSIST OWNERS OF HISTORIC PROPERTIES IN FINDING CAPABLE WORKERS.



HAVING TRAINED, EXPERIENCED HISTORIC PRESERVATION TRADES WORKERS INCREASES THE QUALITY OF THE WORK AND REDUCES THE MISTAKES THAT NEED TO BE CORRECTED.

BASELINE MEASURES

GENERAL STATEMENT ON METHODOLOGIES:

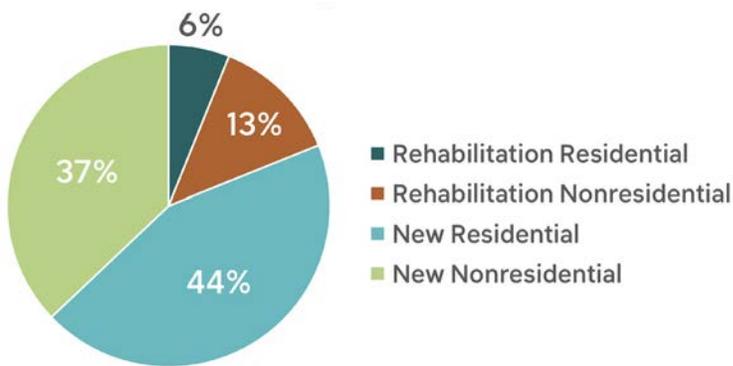
The best effort has been made to identify and use the most appropriate databases to make the estimates included in this report. In many instances no data base exists that precisely reports the measurements that were being sought. In those cases, proxy measures were utilized and reasonable assumptions were made. More than a dozen data sets – some public, some proprietary – were used for this report. Hopefully one outgrowth of this report will be the recognition of the need, particularly on the part of the federal government, to collect and distribute data more reflective of historic preservation activities.

CONSTRUCTION ACTIVITY

The process of estimating the number of workers in heritage trades begins with an estimate of construction activity overall. Construction activity includes not only work on buildings, but also roads, bridges, power plants, golf courses, airport runways, and other categories. For the purposes of this analysis, only the new construction and rehabilitation² of buildings is included.³ Total economic activity in these areas was based on IMPLAN's⁴ "Industry Output" number.⁵

For this report, the output numbers are as follows:

DISTRIBUTION OF BUILDING CONSTRUCTION OUTPUT



BUILDING CONSTRUCTION OUTPUT (\$)

New Non-Residential Construction	\$541,254,447,102
New Residential Construction	\$641,661,771,496
Non-Residential Rehabilitation	\$186,625,541,704
Residential Rehabilitation	\$89,363,486,743
TOTAL	\$1,458,905,247,045

² There is no category in either federal or proprietary databases (including IMPLAN, on which much of this analysis was based) that includes a "historic rehabilitation" category. The most applicable of IMPLAN's 544 categories of economic activity are "Maintenance and Repair Construction of Residential Buildings" and "Maintenance and Repair of Non-Residential Buildings."

³ Categories of New Construction include: health care structures; manufacturing structures, educational and vocational structures, commercial structures including farm structures, other nonresidential structures; single-family structures; and multifamily structures.

⁴ IMPLAN is a private sector firm that creates econometric models for use in economic analysis. IMPLAN's data is widely used in the industry as well as in this report.

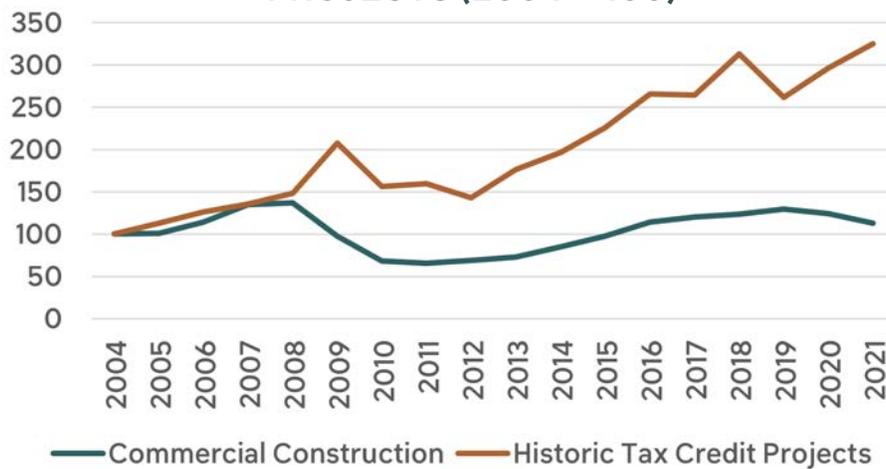
⁵ "Output" is defined as the total annual production value of each Industry.

Based on that output, the jobs and labor income from each of the sectors is as follows:

	Employment	Labor Income
New Non-Residential Construction	4,210,458	\$275,676,403,14
New Residential Construction	4,335,088	\$283,572,390,67
Non-Residential Rehabilitation	861,717	\$56,835,842,86
Residential Rehabilitation ⁶	449,310	\$27,940,510,09
TOTAL	9,856,572	\$644,025,146,77

Driven by the availability of federal and state rehabilitation tax credits, over the last 18 years the growth of activity in historic tax credit projects has far outpaced the growth in overall commercial construction activity.⁷

GROWTH OF COMMERCIAL CONSTRUCTION ACTIVITY VS FEDERAL HISTORIC TAX CREDIT PROJECTS (2004 = 100)



⁶ It is possible that there is a greater amount of activity in this area that is shown here. Do-it-yourself work, work done with cash payments to workers, rehabilitation projects that did not get a building permit may not be reflected in these numbers.

⁷ This is an "indexed" comparison. Indexing is the statistical method to measure relative changes over time between two or more variables of significantly different magnitudes. Indexing looks for patterns of change rather than raw amounts of change. Amount of tax credit activity comes from the annual reports of the National Park Service. Construction activity comes from Ibis World, a private sector industry research firm.

NUMBER OF BUILDINGS IN THE UNITED STATES

In order to gauge the need for a historic trade labor workforce, it's important to have a sense of the number and age of older buildings that may qualify. From that total, it is helpful to quantify how many of those buildings are likely to be deemed "historic." Building age is a good place to start. In the United States, fifty years is typically the point at which buildings may be designated historic. It is important to note that not every building 50 or more years old is "historic." In fact, most are not. But that age framework is useful to begin estimating how many buildings might be considered historic in the future.

There are nearly 6 million commercial buildings in the United States⁸, almost a third of which were built at least 50 years ago. Another 831,000 will be reaching the 50-year threshold within the next decade.

COMMERCIAL BUILDINGS BY AGE

Year Built	Number of Commercial Buildings		
Pre 1940	632,200		
1940-1949	246,410		
1950-1959	346,390		
1960-1969	685,000		
Buildings 50+ Years Old		1,910,000	32.30%
1970-1979	831,000		
Buildings reaching 50 years in next decade		831,000	14.00%
1980-1989	794,000		
1990-1999	921,000		
2000-2009	924,000		
2010-2018	537,000		
Buildings not yet nearing 50 years old		3,176,000	53.70%
TOTAL	5,917,000	5,917,000	100.00%

⁸ Commercial building data from the US Energy Information Agency

On the residential side, an even greater share of buildings are more than 50 years old.⁹ More than 40% of single-family homes were built prior to 1970, totaling nearly 35 million homes. Another 11.7 million will be reaching the 50-year threshold within the next decade.

SINGLE FAMILY RESIDENTIAL BUILDINGS BY AGE

Year Built	# Single Family Detached	# Single Family Attached		
Pre 1940	9,848,000	988,000		
1940-1949	4,087,000	233,000		
1950-1959	10,179,000	414,000		
1960-1969	8,761,000	440,000		
Buildings 50 Years Old			34,950,000	40.70%
1970-1979	10,901,000	865,000		
Buildings reaching 50 years in next decade			11,766,000	13.70%
1980-1989	9,315,000	1,024,000		
1990-1999	9,989,000	815,000		
2000-2009	11,215,000	1,167,000		
2010-2018	5,040,000	515,000		
Buildings not yet nearing 50 years old			39,080,000	45.60%
TOTAL	79,335,000	6,461,000	85,796,000	100.00%

⁹ The data on age of housing comes from the American Housing Survey (AHS), which is prepared by the US Census. The AHS reports count housing units rather than buildings. Since this analysis is focused on buildings, the numbers above have adjusted the AHS housing unit data into numbers of buildings.

The greatest concentration of older buildings is in the multi-family sector. Nearly half (46.3%) of all multi-family buildings are more than 50 years old. Another 700,000 will be reaching that age within the next decade.

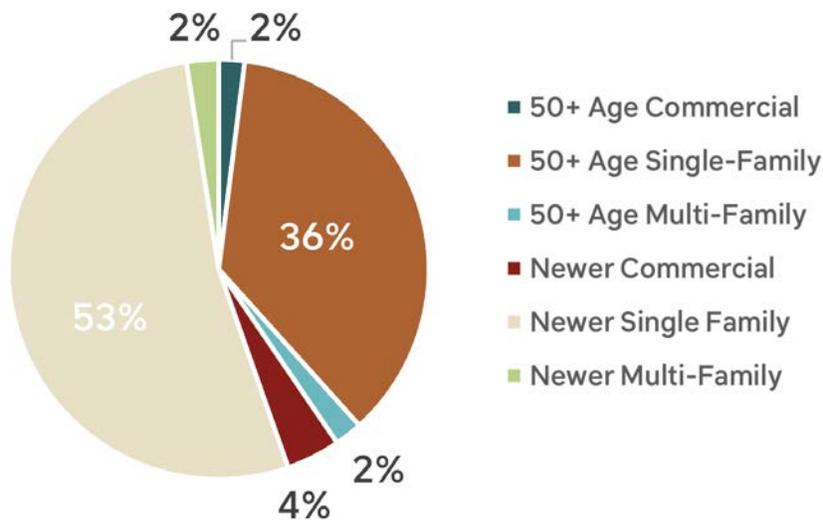
MULTI FAMILY BUILDINGS BY AGE

Year Built	Small Multi-family (2-9 Units)	Medium Multi-family (10-49 Units)	Large Multi-family (50+ Units)		
Pre 1940	945,714	49,567	6,850		
1940-1949	199,524	14,767	2,260		
1950-1959	326,619	29,400	3,940		
1960-1969	410,762	60,467	8,030		
Buildings 50+ Years Old				2,057,899	46.30%
1970-1979	612,476	84,300	9,190		
Buildings reaching 50 years in next decade				705,966	15.90%
1980-1989	530,048	79,867	8,680		
1990-1999	346,714	60,267	6,390		
2000-2009	356,381	71,533	9,250		
2010-2018	150,810	46,700	10,130		
Buildings not yet nearing 50 years old				1,676,769	37.80%
TOTAL	3,879,048	496,867	64,720	4,440,634	100.00%



In all there are about 96.1 million buildings in the United States. Of those, nearly 39 million, or just over 40%, were built 50 years ago or earlier.

SHARE OF BUILDINGS BY AGE IN THE UNITED STATES



NUMBER OF HISTORIC BUILDINGS IN THE UNITED STATES

There is no definitive number of "historic" buildings in the United States. For this analysis a building was defined as "historic" if one of the following were true: 1) it is listed individually on the National Register of Historic Places; 2) it is a contributing building in a National Register Historic District; 3) it is in a local historic district that is not also on the National Register; or 4) it is a building likely to be determined to be eligible for historic designation.

When trying to quantify the number of historic buildings in the US, the National Register is the most logical place to start. There are currently just over 97,000 listings on the National Register of Historic Places. However, a "listing" on the National Register can be either an individual building or a group of buildings constituting a historic district. There are also non-building entries on the National Register including archaeological sites, bridges, landscapes, and other categories.¹⁰

To arrive at an estimate that accounts for these issues, data from sample cities was then evaluated to determine the approximate number of buildings in local historic districts that were not also listed on the National Register. Finally, based on surveys of "eligible but not yet designated" buildings, a percentage of pre-1970 buildings that might be considered "historic" was calculated.

The following represents the PlaceEconomics estimate of the number of buildings that could be considered "historic" in the United States in 2022:

"HISTORIC" BUILDINGS IN THE UNITED STATES

	Count	Share of All Buildings	Share of Pre-1970 Buildings
Buildings on the National Register	~1,869,000 ¹¹	1.90%	4.80%
Buildings in local historic districts, not on the National Register	~467,000	0.50%	1.20%
Buildings not currently listed but probably eligible for historic designation	1,920,000 to 3,840,000	2.0% to 4.0%	4.9% to 9.9%
Total Historic Buildings	~4,256,000 to ~6,176,000	4.42% to 6.4%	10.9% to 15.9%

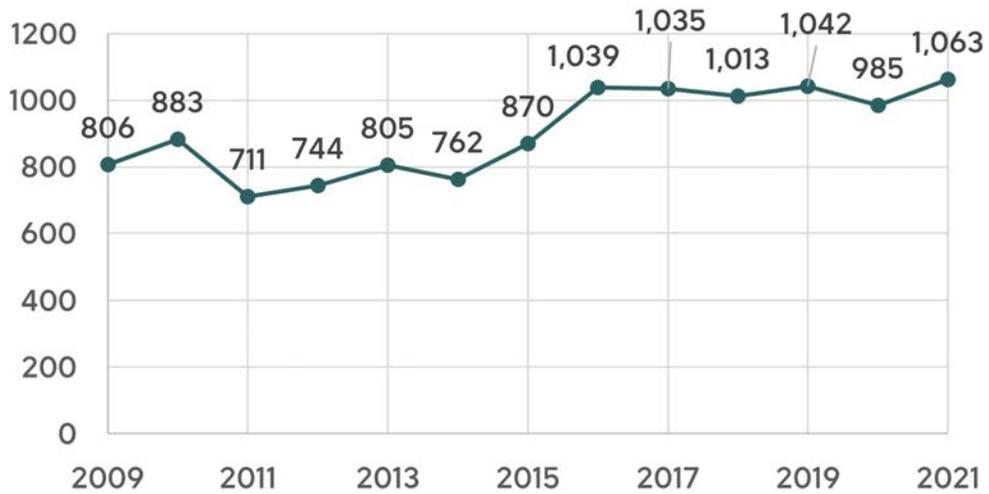
¹⁰ PlaceEconomics began with the total National Park Service spreadsheet of Listings on the National Register, found here: <https://www.nps.gov/subjects/nationalregister/database-research.htm> Non-building entries were first removed from the list. Then, what appeared to be individual building listings were disaggregated from the total. This left listings that were districts of buildings. Based on patterns that emerged from the evaluation of 323 National Register Districts an estimate of the number of buildings per district was made.

¹¹ This is significantly higher than the National Park Service's estimate of 1.4 million "individual resources--buildings, sites, districts, structures, and objects," but because "districts" are included in "individual resources" the higher number seems warranted.

NUMBER OF PROJECTS USING FEDERAL HISTORIC TAX CREDITS

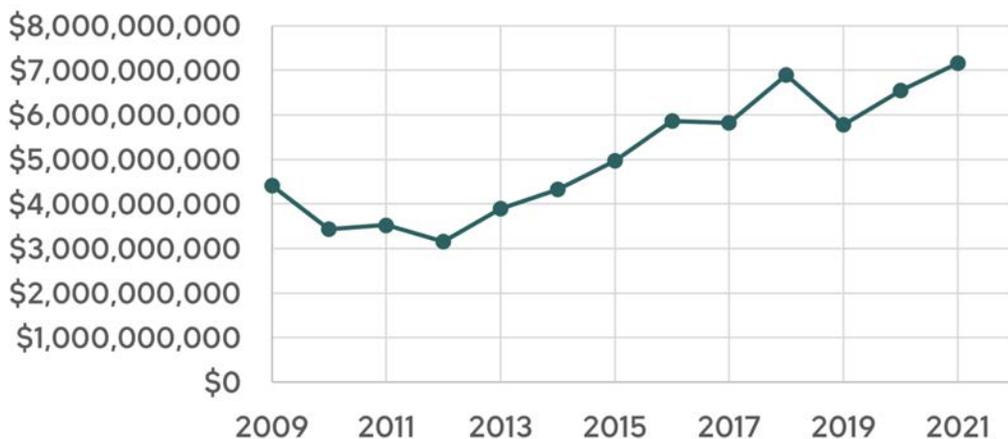
When considering the amount of historic preservation activity taking place each year, the starting point must be the projects that have used the Federal Historic Tax Credit (HTC). This is the most reliable data set, as every project must pass the qualitative test of consistency with the Secretary of the Interior's Standards for Rehabilitation, as well as verify the "Qualified Rehabilitation Expenditure" (QRE). Data on the use of the HTC has been collected and published annually by the National Park Service since the program's inception. "Part 3 Approval" means that the project was completed and was certified for the tax credit. Over the last decade, around 1,000 projects received Part 3 Approval and were certified each year.

COMPLETED FEDERAL HISTORIC TAX CREDIT PROJECTS



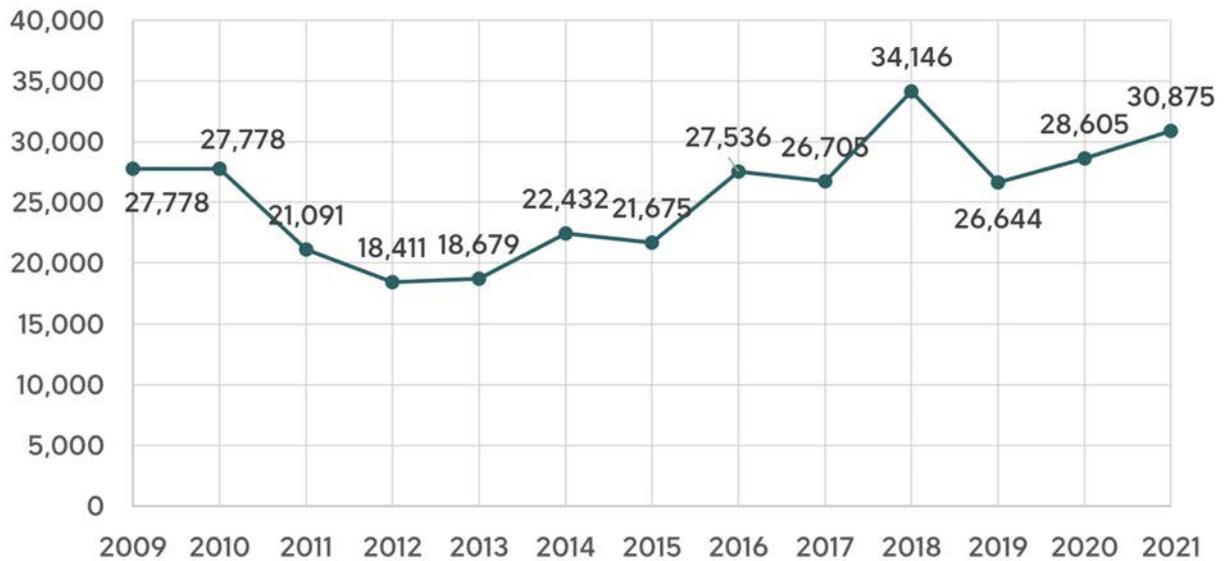
In the most recent year (2021), more than \$7 billion was invested in historic buildings using the Federal HTC. Since 2009, nearly \$65 billion has been invested in historic buildings as a result of the program. However, these totals only reflect the projects' "Qualified Rehabilitation Expenditures" (QRE). Some expenditures (such as an addition as part of a historic rehabilitation project) are not eligible for the tax credit. Other studies show that those non-qualifying expenditures increase the total investment by 15% to 25%, meaning additional jobs, labor income, and indirect investment. Those non-qualifying expenditures, however, are not included in the numbers below. Since 2009, for every \$1,000 invested in the rehabilitation of a historic building, an additional \$1,834 of economic activity was generated.

INVESTMENT IN COMPLETED FEDERAL HISTORIC TAX CREDIT PROJECTS



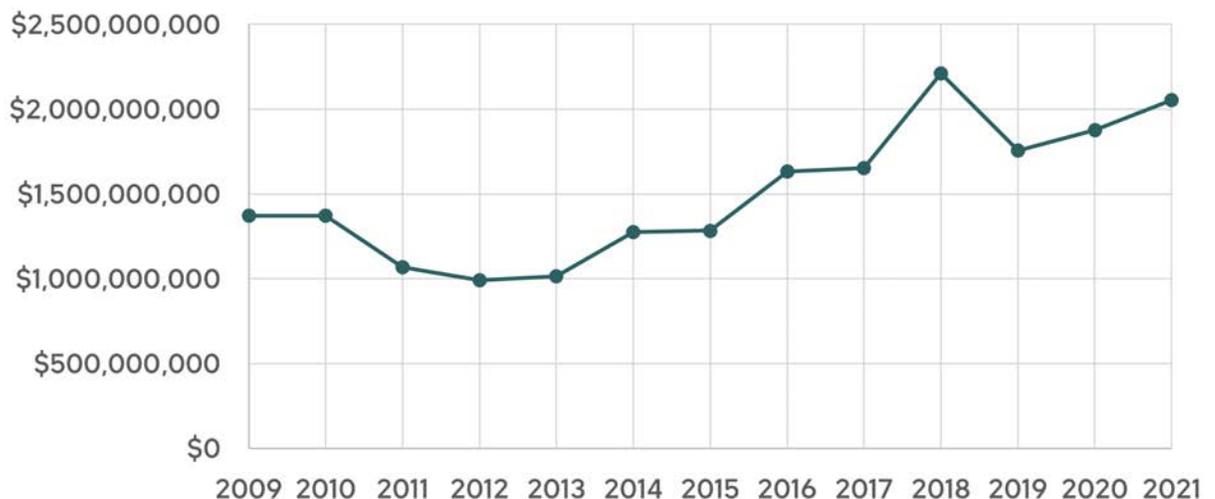
The rehabilitation of historic buildings is a labor-intensive activity, meaning a high share of the total expenditure goes to labor. The graph below only includes "Direct Jobs," meaning jobs directly connected to the project. However, these projects also generate indirect and induced jobs. For every 10 direct jobs created by rehabilitating a historic building, another 1.8 to 2.4 additional jobs are created elsewhere in the economy. Since this study is focused on the heritage trades (i.e., direct jobs) only direct jobs are included in the analysis. Overall, Federal HTC projects generated more than 30,000 direct jobs in the most recent year.

DIRECT JOBS FROM FEDERAL REHABILITATION TAX CREDIT PROJECTS



Construction jobs are relatively well-paid, especially for those without advanced formal education. Workers on Federal HTC projects received more than \$2 billion in paychecks in the most recent year. As with the jobs analysis, the graph below only reflects direct labor income. On average, for every \$100 in direct labor income an additional \$186 is generated in paychecks for indirect and induced jobs.

DIRECT LABOR INCOME FROM FEDERAL REHABILITATION TAX CREDIT PROJECTS

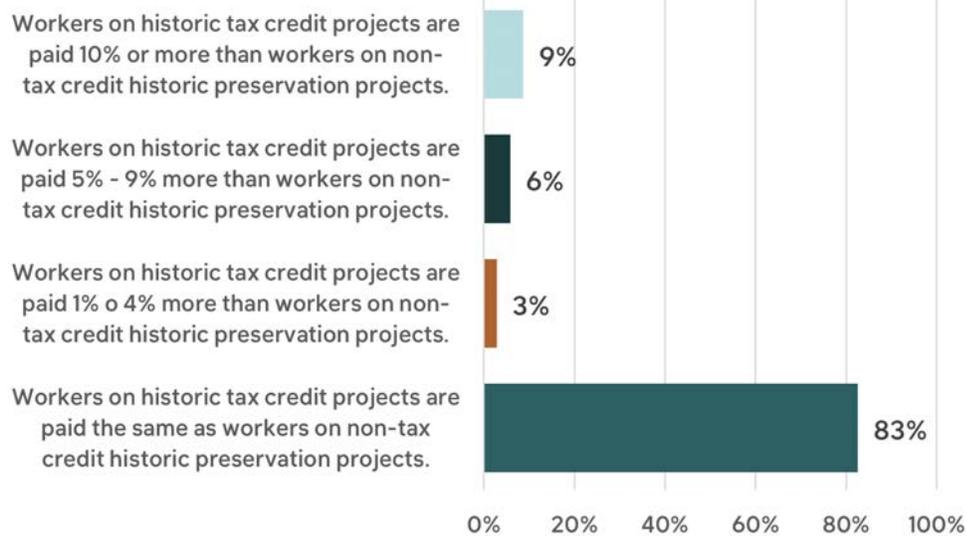




PAY ON HISTORIC TAX CREDIT PROJECTS

The national survey conducted in conjunction with this report asked trades and historic preservation experts if workers on historic tax credit projects were paid more than those working on other historic rehabilitation projects. The answer was an unequivocal "no."¹²

PAY FOR WORK ON TAX CREDIT PROJECTS



¹² See Appendix 1, Question 13.

SHARE OF REHABILITATION EXPENDITURES GOING TO HISTORIC BUILDINGS

The PlaceEconomics estimates for 2021 overall reinvestment in historic buildings are based on: the share of construction expenditures that go toward building rehabilitation, the share of all buildings that might be considered historic, and the patterns of major rehabilitation projects in pre-1970 buildings, as well as projects rehabilitated using the Federal HTC. These estimates are as follows:

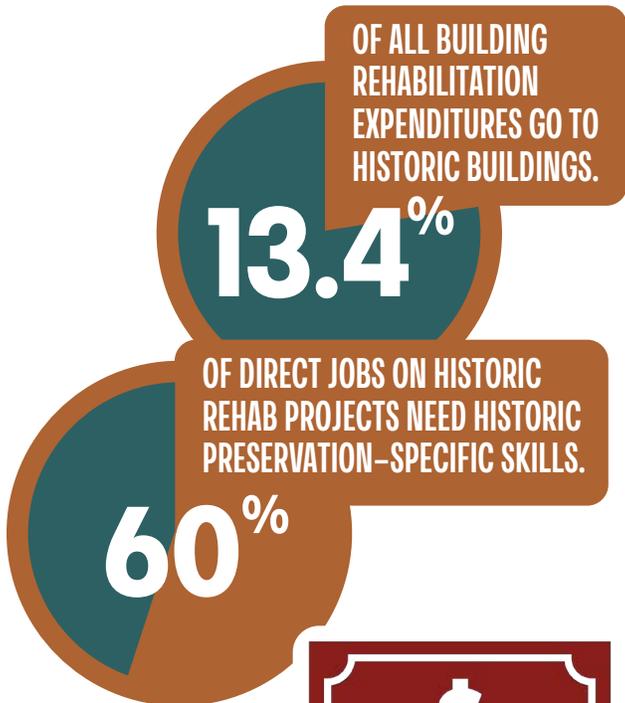
EACH YEAR AROUND 222,000 RESIDENTIAL PROPERTIES AND 39,000 NON-RESIDENTIAL PROPERTIES SEE SOME LEVEL OF REHABILITATION FOR WHICH TRAINED, EXPERIENCED HERITAGE TRADES WORKERS ARE NEEDED.

REHABILITATION EXPENDITURES ON HISTORIC BUILDINGS

Residential Buildings	\$11,974,000,000
Non-Residential Buildings	\$25,007,000,000
TOTAL	\$36,981,000,000

Based on these patterns, PlaceEconomics estimates that each year around 222,000 residential properties and 39,000 non-residential properties see some level of rehabilitation for which trained, experienced heritage trades workers are needed.

This would also mean that approximately 13.4% of all building rehabilitation expenditures go to historic buildings. It also suggests that projects using the Federal HTC represent about 18.9% of all expenditures on historic buildings.



THAT NEARLY \$37 BILLION IN HISTORIC PROPERTY INVESTMENT TRANSLATES TO:



165,687 DIRECT JOBS
CREATED BY HISTORIC REHABILITATION ACTIVITY EACH YEAR

PRESERVATION SKILLS DESIRED

INCLUDING NEARLY 100,000 FOR WHICH SPECIFIC SKILLS, EXPERIENCE, AND TRAINING IN HISTORIC PRESERVATION WOULD BE DESIRABLE.



\$11,360,000,000 IN DIRECT LABOR INCOME
CREATED BY HISTORIC REHABILITATION ACTIVITY EACH YEAR



HISTORIC REHABILITATION
Photo: PlaceEconomics

The estimates for those categories of jobs are as follows:¹³

JOBS CREATED BY HISTORIC REHABILITATION

JOB CATEGORY	NUMBER OF DIRECT JOBS
Preservation Carpentry and Woodworking	26,604
Preservation Masonry	11,748
Preservation Metalworking	3,751
Preservation Painting/Finishing	9,325
Preservation Glazier	1,780
Preservation Roofing	5,522
Preservation Electrician	24,487
Preservation Plumber	15,705
Preservation Construction and Building Inspector	336
SUBTOTAL	99,258
Other Jobs on Historic Preservation Projects	66,429
TOTAL	165,687

¹³ These estimates are made using both the IMPLAN estimates of total jobs created within the construction sector then allocated based on the overall distribution patterns of jobs in those trades from data from the Bureau of Labor Statistics.

BASE WAGE RATES FOR HISTORIC PRESERVATION TRADES WORKERS¹⁴

There is no database of wage rates for tradespeople who have historic preservation expertise. Appendix 2 includes wage rates for the trades that would typically be involved in a historic rehabilitation project, but are based on all workers in that trade, not specifically those involved in historic preservation projects. The table below gives a weighted average of the base hourly wage of various trades based on survey responses from experts in the field, including trades workers and those that hire them (contractors, subcontractors, and developers). It should be noted that these are base pay rates and do not include fringe benefits such as healthcare, retirement contributions, etc.

WEIGHTED AVERAGE BASE HOURLY WAGES BY TRADE

Trade	Journey Worker Base Wage Rate - Weighted Average	Apprentice/Trainee Worker Base Wage Rate - Weighted Average
Preservation Carpentry	\$34.66	\$20.47
Preservation Woodworking	\$36.46	\$20.63
Preservation Masonry	\$36.75	\$21.04
Preservation Metalworking	\$38.43	\$21.26
Preservation Painting-Finishing	\$31.23	\$19.86
Preservation Glazier	\$32.39	\$19.74
Preservation Roofing	\$34.85	\$21.52
Historic Building Mechanical Systems	\$40.23	\$23.44
Historic Building Assessment/Inspection	\$40.99	\$23.85
Historic Landscaping	\$31.46	\$20.21

¹⁴ These estimates come from the weighted average of responses to a nationwide survey of experts in the field. Respondents self-identified by occupation and responses were divided into "Trades Experts" and "Historic Preservation" experts. Trades experts included those who identified themselves as Tradesworkers/craftspersons/artisans, general contractors, subcontractors, and real estate developers. All other professions were categorized as "Preservation Experts." The entire survey can be found in Appendix 1.



STATUS OF 10 HISTORIC TRADES

The following pages contain data related to ten historic trades outlining the following: the current and projected need for each trade now and in 2030; average annual job openings; average hourly wage; wage ranges for varying skill levels and expertise; the premium paid for historic trade knowledge and skills; and labor availability according to trades and preservation experts.¹⁵

¹⁵ On the following pages are projections of jobs within the specified trade overall, and within historic preservation. In the most recent year for which data is fully available there were 942,900 jobs in carpentry. Of those, an estimated 20,590 to 27,453 are deemed needed for historic preservation work. For all of carpentry there are an anticipated 89,300 job openings each year. Of those an estimated 2,928 are in historic preservation. Another way of looking at these numbers is that for carpentry overall, just over 9.4% of the total jobs will have to come from people entering (or re-entering) the carpentry trades (89,000 ÷ 942,000). Alternatively, if a comparison is made between the total carpentry jobs in 2020 (942,900) and estimated jobs in 2030 (963,000) there will be a net job growth of 20,100 or just over 2,000 per year. Why are the average annual openings so much greater than the underlying growth in numbers of jobs? Job openings represent unfilled jobs (job vacancy). A job opening can occur because of: 1) increased number of projects; 2) retirement of existing workers; 3) workers leaving the trade; 4) workers leaving the workforce; 5) layoffs. If everyone who was in the carpentry field in 2020 was still in the field in 2030, there would only be 2,000 job openings each year. But because of the reasons noted above, the job openings are much higher.



HISTORIC PRESERVATION CARPENTER

Total carpentry jobs (2020): 942,900

Carpentry jobs needed for historic preservation work (2022): 20,590 – 27,453

Total projected carpentry jobs (2030): 963,000

Projected carpentry jobs needed for historic preservation work (2030): 26,498 – 35,330

Average annual job openings (Total): 89,300

Average annual job openings (Historic Preservation): 2,928

Self employed share (2020): 25.6%

BLS average hourly wage: \$26.53

30 City average including fringe (union rates): \$54.70

Residential repair/remodeling average including fringe (average of 7 regions): \$37.15

Survey of Trades Experts — Wages

Typical hourly base pay for journey-level historic preservation carpenter

Under \$15	0.5%
\$15-\$19	4.1%
\$20-\$24	16.1%
\$25-\$29	20.2%
\$30-\$39	26.9%
\$40-\$49	11.9%
\$50+	20.2%
Weighted Average	\$34.88

Typical hourly base pay for trainee/ apprentice historic preservation carpenter

Under \$15	7.5%
\$15-\$19	55.4%
\$20-\$24	23.1%
\$25-\$29	6.5%
\$30-\$39	3.2%
\$40-\$49	2.2%
\$50+	2.2%
Weighted Average	\$20.47

Premium paid compared to new construction for training/experience/ expertise in historic preservation

No premium paid	23.4%
1% - 3%	4.2%
4% - 6%	5.7%
7% to 9%	23.4%
10% - 14%	15.6%
15% - 19%	10.9%
20% +	16.7%
Weighted Average	9.5% Premium

Survey of trades experts and preservation experts – labor availability

	Historic Trades Experts	Preservation Experts
Surplus	0.0%	0.2%
Adequate	5.3%	8.8%
Shortage	45.1%	55.1%
Severe Shortage	49.6%	35.9%



HISTORIC PRESERVATION WOODWORKER

Total woodworker jobs (2020): 257,800

Woodworker jobs needed for historic preservation work (2022): 5,629 – 7,506

Total projected woodworker jobs (2030): 281,200

Projected woodworker jobs needed for historic preservation work (2030): 7,244 – 9,659

Average annual job openings (Total): 29,900

Average annual jobs openings (Historic Preservation): 980

Self employed share (2020): 25.6%

BLS average hourly wage: \$18.04

30 City average including fringe (union rates): \$54.70

Residential repair/remodeling average including fringe (average of 7 regions): \$37.15

Survey of Trades Experts — Wages

Typical hourly base pay for journey-level historic preservation woodworker

Under \$15	0.5%
\$15-\$19	3.7%
\$20-\$24	13.3%
\$25-\$29	17.6%
\$30-\$39	22.3%
\$40-\$49	20.2%
\$50+	22.3%
Weighted Average	\$36.46

Typical hourly base pay for trainee/apprentice historic preservation woodworker

Under \$15	9.3%
\$15-\$19	51.1%
\$20-\$24	24.2%
\$25-\$29	7.7%
\$30-\$39	3.3%
\$40-\$49	2.2%
\$50+	2.2%
Weighted Average	\$20.63

Premium paid compared to new construction for training/experience/expertise in historic preservation

No premium paid	23.0%
1% - 3%	3.7%
4% - 6%	5.9%
7% to 9%	23.0%
10% - 14%	13.4%
15% - 19%	10.7%
20% +	20.3%
Weighted Average	9.9% Premium

Survey of trades experts and preservation experts - labor availability

	Historic Trades Experts	Preservation Experts
Surplus	0.4%	0.4%
Adequate	8.1%	5.2%
Shortage	43.0%	51.3%
Severe Shortage	48.4%	43.1%



HISTORIC PRESERVATION MASON

Total masonry Jobs (2020): 83,500

Masonry jobs needed for historic preservation work (2022): 7,149 – 9,532

Total projected masonry jobs (2030): 79,600

Projected masonry jobs needed for historic preservation work (2030): 9,201 – 12,267

Average annual job openings (Total): 7,200

Average annual job openings (Historic Preservation): 719

Self employed share (2020): 29.8%

BLS average hourly wage: \$28.78

30 City average including fringe (union rates): \$53.75

Residential repair/remodeling average including fringe (average of 7 regions): \$36.55

Survey of Trades Experts — Wages

Typical hourly base pay for journey-level historic preservation mason

Under \$15	0.0%
\$15-\$19	2.4%
\$20-\$24	10.6%
\$25-\$29	18.8%
\$30-\$39	28.2%
\$40-\$49	18.8%
\$50+	21.2%
Weighted Average	\$36.75

Typical hourly base pay for trainee/ apprentice historic preservation mason

Under \$15	9.4%
\$15-\$19	48.4%
\$20-\$24	25.8%
\$25-\$29	6.3%
\$30-\$39	5.0%
\$40-\$49	3.1%
\$50+	1.9%
Weighted Average	\$21.04

Premium paid compared to new construction for training/experience/ expertise in historic preservation

No premium paid	25.3%
1% - 3%	3.9%
4% - 6%	5.1%
7% to 9%	25.3%
10% - 14%	11.2%
15% - 19%	10.7%
20% +	18.5%
Weighted Average	9.5% Premium

Survey of trades experts and preservation experts – labor availability

	Historic Trades Experts	Preservation Experts
Surplus	0.5%	0.6%
Adequate	6.8%	6.8%
Shortage	38.0%	47.3%
Severe Shortage	54.8%	45.4%



HISTORIC PRESERVATION METALWORKER

Total metalworking jobs (2020): 135,400

Metalworking jobs needed for historic preservation work (2022): 3,003 – 4,003

Total projected metalworking Jobs (2030): 140,200

Projected metalworking jobs needed for historic preservation work (2030): 3,864 – 5,152

Average annual job openings (Total): 13,100

Average annual jobs openings (historic preservation): 339

Self employed share (2020): 4.8%

BLS average hourly wage: \$28.25

30 City Average including Fringe (union rates): \$65.45

Residential repair/remodeling average including Fringe (Average of 7 Regions): \$40.50

Survey of Trades Experts — Wages

Typical hourly base pay for journey-level historic preservation metal worker

Under \$15	0.0%
\$15-\$19	3.4%
\$20-\$24	9.7%
\$25-\$29	15.2%
\$30-\$39	22.1%
\$40-\$49	18.6%
\$50+	31.0%
Weighted Average	\$38.43

Typical hourly base pay for trainee/apprentice historic preservation metal worker

Under \$15	7.9%
\$15-\$19	50.4%
\$20-\$24	23.7%
\$25-\$29	7.2%
\$30-\$39	5.8%
\$40-\$49	2.2%
\$50+	2.9%
Weighted Average	\$21.26

Premium paid compared to new construction for training/experience/expertise in historic preservation

No premium paid	23.3%
1% - 3%	4.1%
4% - 6%	8.9%
7% to 9%	23.3%
10% - 14%	8.2%
15% - 19%	11.6%
20% +	20.5%
Weighted Average	9.7% Premium

Survey of trades experts and preservation experts - labor availability

	Historic Trades Experts	Preservation Experts
Surplus	0.5%	0.4%
Adequate	8.6%	7.5%
Shortage	39.7%	51.6%
Severe Shortage	51.2%	40.6%



HISTORIC PRESERVATION PAINTER/FINISHER

Total painter/finisher jobs (2020): 350,800

Painter/finisher jobs needed for historic preservation work (2022): 8,507 – 11,343

Total projected painter/finisher jobs (2030): 369,100

Projected painter/finisher jobs needed for Historic Preservation work (2030): 10,949 – 14,598

Average annual job openings (Total): 32,700

Average annual job openings (historic preservation): 925

Self employed share (2020): 38.5%

BLS average hourly wage: \$22.66

30 City average including Fringe (union rates): \$46.45

Residential repair/remodeling average including Fringe (average of 7 regions): \$31.10

Survey of Trades Experts — Wages

Typical hourly base pay for journey-level historic preservation painter/finisher

Under \$15	1.2%
\$15-\$19	10.2%
\$20-\$24	19.8%
\$25-\$29	24.6%
\$30-\$39	21.6%
\$40-\$49	11.4%
\$50+	11.4%
Weighted Average	\$31.23

Typical hourly base pay for trainee/apprentice historic preservation painter/finisher

Under \$15	15.5%
\$15-\$19	54.8%
\$20-\$24	16.1%
\$25-\$29	7.1%
\$30-\$39	1.3%
\$40-\$49	2.6%
\$50+	2.6%
Weighted Average	\$19.86

Premium paid compared to new construction for training/experience/expertise in historic preservation

No premium paid	26.1%
1%- 3%	5.6%
4% - 6%	5.6%
7% to 9%	26.1%
10% - 14%	16.1%
15% - 19%	7.5%
20% +	13.0%
Weighted Average	8.6% Premium

Survey of trades experts and preservation experts – labor availability

	Historic Trades Experts	Preservation Experts
Surplus	1.4%	0.8%
Adequate	22.4%	24.7%
Shortage	46.6%	54.1%
Severe Shortage	29.7%	20.5%



HISTORIC PRESERVATION GLAZIER

Total glazier jobs (2020): 53,600

Glazier jobs needed for historic preservation work (2022): 1,215 – 1,620

Total projected glazier jobs (2030): 56,100

Projected glazier jobs needed for historic preservation work (2030): 1,564 – 2,085

Average annual job openings (Total): 6,000

Average annual jobs openings (historic preservation): 159

Self employed share (2020): 1.7%

BLS average hourly wage: \$24.98

30 City average including fringe (union rates): \$52.65

Residential repair/remodeling average including fringe (average of 7 regions): \$36.15

Survey of Trades Experts — Wages

Typical hourly base pay for journey-level historic preservation glazier

Under \$15	0.0%
\$15-\$19	12.9%
\$20-\$24	15.8%
\$25-\$29	23.4%
\$30-\$39	19.3%
\$40-\$49	13.5%
\$50+	15.2%
Weighted Average	\$32.39

Typical hourly base pay for trainee/apprentice historic preservation glazier

Under \$15	13.6%
\$15-\$19	55.6%
\$20-\$24	17.3%
\$25-\$29	7.4%
\$30-\$39	2.5%
\$40-\$49	2.5%
\$50+	1.2%
Weighted Average	\$19.74

Premium paid compared to new construction for training/experience/expertise in historic preservation

No premium paid	25.1%
1% - 3%	4.2%
4% - 6%	9.6%
7% to 9%	25.1%
10% - 14%	11.4%
15% - 19%	10.2%
20% +	14.4%
Weighted Average	8.8% Premium

Survey of trades experts and preservation experts – labor availability

	Historic Trades Experts	Preservation Experts
Surplus	0.5%	0.2%
Adequate	7.3%	7.6%
Shortage	47.5%	47.3%
Severe Shortage	44.7%	45.0%



HISTORIC PRESERVATION ROOFER

Total roofing jobs (2020): 153,700

Roofing jobs needed for historic preservation work (2022): 3,432 – 4,575

Total projected roofing jobs (2030): 160,800

Projected roofing jobs needed for historic preservation work (2030): 4,416 – 5,888

Average annual job openings (Total): 15,600

Average annual jobs openings (historic preservation): 523

Self employed share (2020): 28.3%

BLS average hourly wage: \$23.51

30 City average including fringe (union rates): \$48.20

Residential repair/remodeling average including fringe (average of 7 regions): \$32.25

Survey of Trades Experts — Wages

Typical hourly base pay for journey-level historic preservation roofer

Under \$15	0.0%
\$15-\$19	3.4%
\$20-\$24	16.8%
\$25-\$29	22.8%
\$30-\$39	22.8%
\$40-\$49	13.4%
\$50+	20.8%
Weighted Average	\$34.85

Typical hourly base pay for trainee/apprentice historic preservation roofer

Under \$15	7.0%
\$15-\$19	50.7%
\$20-\$24	21.1%
\$25-\$29	11.3%
\$30-\$39	3.5%
\$40-\$49	3.5%
\$50+	2.8%
Weighted Average	\$21.52

Premium paid compared to new construction for training/experience/expertise in historic preservation

No premium paid	24.5%
1% - 3%	6.6%
4% - 6%	7.3%
7% to 9%	24.5%
10% - 14%	12.6%
15% - 19%	10.6%
20% +	13.9%
Weighted Average	8.8% Premium

Survey of trades experts and preservation experts – labor availability

	Historic Trades Experts	Preservation Experts
Surplus	0.5%	0.6%
Adequate	13.1%	13.4%
Shortage	44.9%	56.6%
Severe Shortage	41.6%	29.5%



HISTORIC PRESERVATION PLUMBER/ELECTRICIAN

Total plumbing/electric jobs (2020): 1,199,500

Plumbing/electric jobs needed for historic preservation work (2022): 27,596 – 36,794

Total projected plumbing/electric Jobs (2030): 1,288,900

Projected plumbing/electric jobs needed for historic preservation work (2030): 35,514 – 47,352

Average annual job openings (Total): 135,700

Average annual jobs openings (historic preservation): 3,642

Self employed share (2020): 9.4%

BLS average hourly wage: \$30.45

30 City average including fringe (union rates): \$65.70

Residential repair/remodeling average including fringe (average of 7 regions): \$42.80

Survey of Trades Experts — Wages (Plumber/Electrician)

Typical hourly base pay for journey-level historic preservation plumber

Under \$15	0.0%
\$15-\$19	1.4%
\$20-\$24	4.3%
\$25-\$29	13.0%
\$30-\$39	26.1%
\$40-\$49	23.2%
\$50+	31.9%
Weighted Average	\$40.23

Typical hourly base pay for trainee/apprentice historic preservation plumber

Under \$15	4.5%
\$15-\$19	40.6%
\$20-\$24	27.1%
\$25-\$29	10.5%
\$30-\$39	9.0%
\$40-\$49	3.8%
\$50+	4.5%
Weighted Average	\$23.85

Premium paid compared to new construction for training/experience/expertise in historic preservation

No premium paid	30.7%
1% - 3%	3.1%
4% - 6%	8.0%
7% to 9%	30.7%
10% - 14%	8.0%
15% - 19%	9.8%
20% +	9.8%
Weighted Average	7.8% Premium

Survey of trades experts and preservation experts – labor availability

	Historic Trades Experts	Preservation Experts
Surplus	1.0%	0.6%
Adequate	21.3%	16.3%
Shortage	48.5%	49.4%
Severe Shortage	29.2%	33.7%



HISTORIC PRESERVATION BUILDING ASSESSMENT/INSPECTION

Total assessor/inspector jobs (2020): 129,300

Assessor/inspector jobs needed for Historic Preservation work (2022): 3,168

Total projected assessor/inspector Jobs (2030): 125,600

Projected assessor/inspector jobs needed for historic preservation work (2030): 3077

Average annual job openings (Total): 14,300

Average annual jobs openings (historic preservation): 350

Self employed share (2020): 11.1%

BLS average hourly wage: \$32.98

30 City average including fringe (union rates): n/a

Residential repair/remodeling average including Fringe (Average of 7 Regions): n/a

Survey of Trades Experts — Wages

Typical hourly base pay for journey-level historic preservation inspector

Under \$15	0.0%
\$15-\$19	3.4%
\$20-\$24	6.9%
\$25-\$29	11.7%
\$30-\$39	14.5%
\$40-\$49	21.4%
\$50+	42.1%
Weighted Average	\$40.99

Typical hourly base pay for trainee/ apprentice historic preservation inspector

Under \$15	9.2%
\$15-\$19	32.3%
\$20-\$24	25.4%
\$25-\$29	16.2%
\$30-\$39	7.7%
\$40-\$49	3.8%
\$50+	5.4%
Weighted Average	\$23.85

Premium paid compared to new construction for training/experience/ expertise in historic preservation

No premium paid	28.9%
1%- 3%	8.2%
4% - 6%	4.4%
7% to 9%	28.9%
10% - 14%	7.5%
15% - 19%	8.8%
20% +	13.2%
Weighted Average	8.0% Premium

Survey of trades experts and preservation experts - labor availability

	Historic Trades Experts	Preservation Experts
Surplus	1.4%	2.1%
Adequate	20.0%	24.3%
Shortage	48.1%	47.4%
Severe Shortage	30.5%	26.2%



HISTORIC PRESERVATION LANDSCAPER

Total landscaping jobs (2020): 1,117,800

Landscaping jobs needed for historic preservation work (2022): 28,448

Total projected landscaping jobs (2030): 1,202,800

Projected landscaping jobs needed for historic preservation work (2030): 30,611

Average annual job openings (Total): 157,900

Average annual jobs openings (Historic Preservation): 4,019

Self employed share (2020): 20.9%

BLS average hourly wage: \$17.29

30 City average including fringe (union rates): n/a

Residential repair/remodeling average including fringe (average of 7 regions): n/a

Survey of Trades Experts — Wages

Typical hourly base pay for journey-level historic preservation landscaper

Under \$15	1.6%
\$15-\$19	8.0%
\$20-\$24	18.4%
\$25-\$29	31.2%
\$30-\$39	16.0%
\$40-\$49	12.0%
\$50+	12.8%
Weighted Average	\$31.46

Typical hourly base pay for trainee/ apprentice historic preservation landscaper

Under \$15	17.4%
\$15-\$19	50.4%
\$20-\$24	14.9%
\$25-\$29	9.9%
\$30-\$39	1.7%
\$40-\$49	4.1%
\$50+	1.7%
Weighted Average	\$20.21

Premium paid compared to new construction for training/experience/ expertise in historic preservation

No premium paid	34.8%
1% - 3%	7.0%
4% - 6%	5.1%
7% to 9%	34.8%
10% - 14%	6.3%
15% - 19%	6.3%
20% +	5.7%
Weighted Average	6.5% Premium

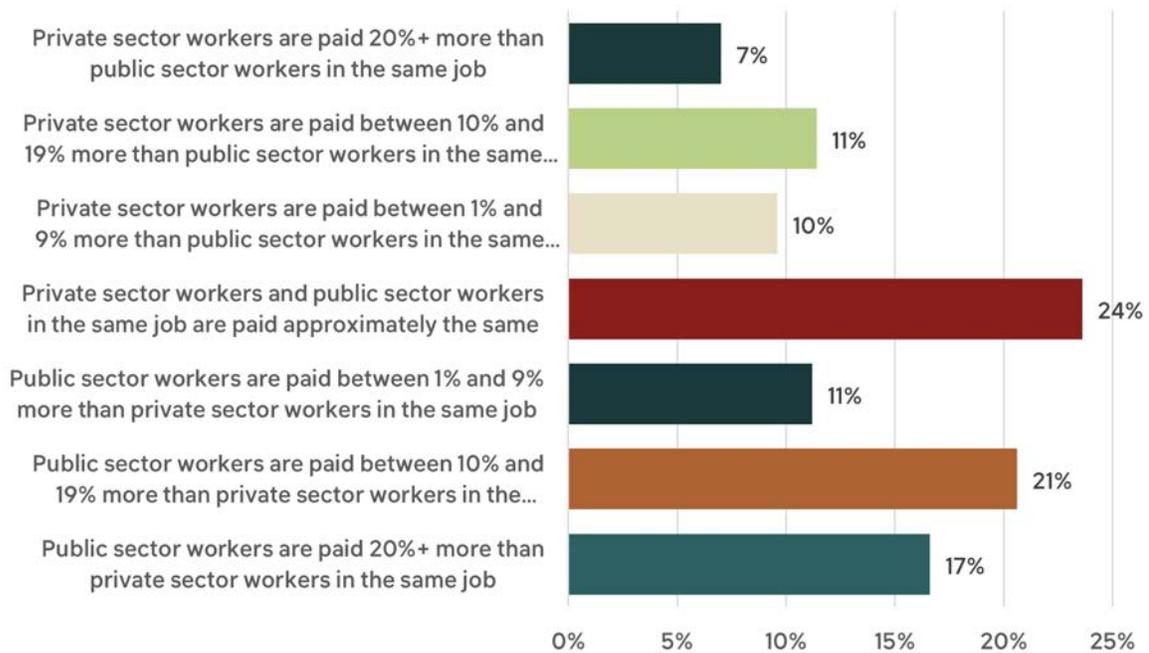
Survey of trades experts and preservation experts – labor availability

	Historic Trades Experts	Preservation Experts
Surplus	0.5%	0.4%
Adequate	30.6%	22.2%
Shortage	48.7%	50.2%
Severe Shortage	20.2%	27.2%

SALARY COMPARISON OF PRIVATE AND PUBLIC SECTOR JOBS RELATED TO HISTORIC TRADES

The preceding section contained estimates of base pay for various trades based on a national survey of trades experts. In that same survey, respondents were asked if they felt wages were higher or lower in the public sector than the equivalent job in the private sector. The plurality of responses said that workers in the two sectors were paid approximately the same. Then there were responses that ranged from the opinion that the private sector was paid 20% more to others thinking the public sector jobs were paid 20% more. The responses differed considerably depending on which sector the respondent worked in.¹⁶

PUBLIC VS PRIVATE WAGES



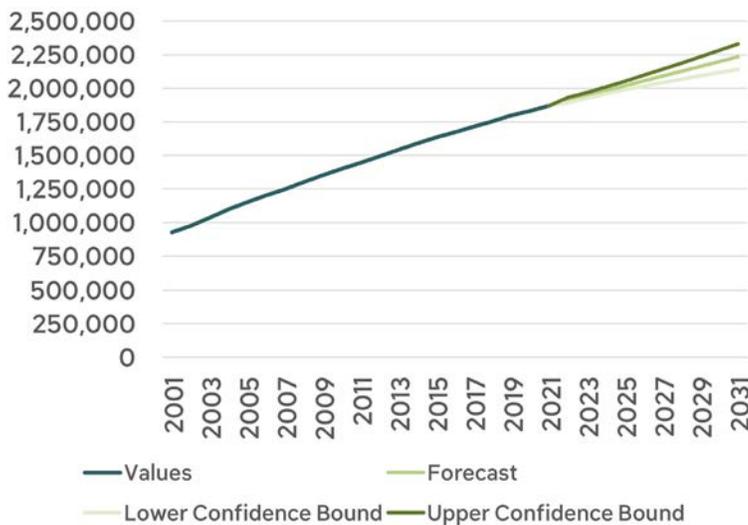
¹⁶ A further discussion of this issue can be found in Appendix 1, Question 14.

FUTURE PROJECTIONS

PROJECTED NUMBER OF DESIGNATED BUILDINGS ON THE NATIONAL REGISTER OF HISTORIC PLACES IN 2030

National Register listings are the most reliable base upon which to estimate the total number of historic buildings in the United States. The number of buildings listed on the National Register can be expected to grow from the current estimated 1,868,920 buildings, to between 2,139,644 and 2,330,893 over the next ten years.¹⁷

NUMBER OF BUILDINGS ON THE NATIONAL REGISTER



BUILDINGS LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES

	Forecast	Lower Estimate	Upper Estimate
2021	1,868,920	1,868,920	1,868,920
2022	1,910,674	1,891,488	1,929,861
2023	1,946,741	1,925,299	1,968,184
2024	1,982,809	1,957,007	2,008,610
2025	2,018,876	1,986,757	2,050,995
2026	2,054,943	2,014,904	2,094,982
2027	2,091,010	2,041,757	2,140,263
2028	2,127,077	2,067,533	2,186,621
2029	2,163,144	2,092,380	2,233,909
2030	2,199,212	2,116,399	2,282,025
2031	2,235,279	2,139,664	2,330,893

¹⁷ Forecasts were made based on linear regression analysis utilizing National Park Service data from 2001 through 2021. The upper and lower estimates are at the .05 level, meaning 95% of the time the actual number will be within the establish range. Calculations made on Excel.



PROJECTED NUMBER HISTORIC STRUCTURES IN 2030

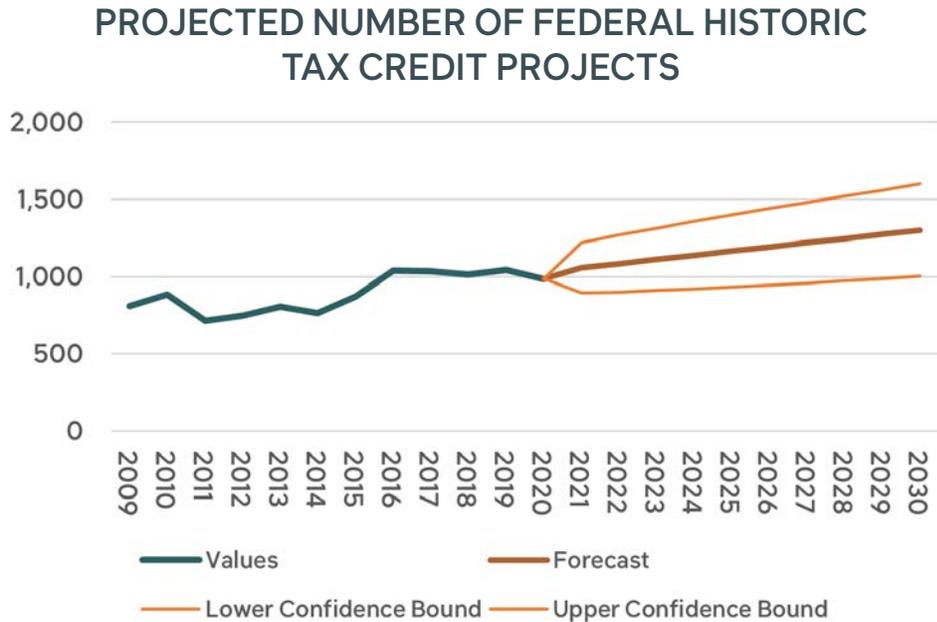
To estimate the number of skilled preservation trades workers that will be needed in the next decade, it is necessary to estimate the number of buildings that could be deemed historic in future years. The table below represents those estimates.

2030 HISTORIC STRUCTURES PROJECTIONS

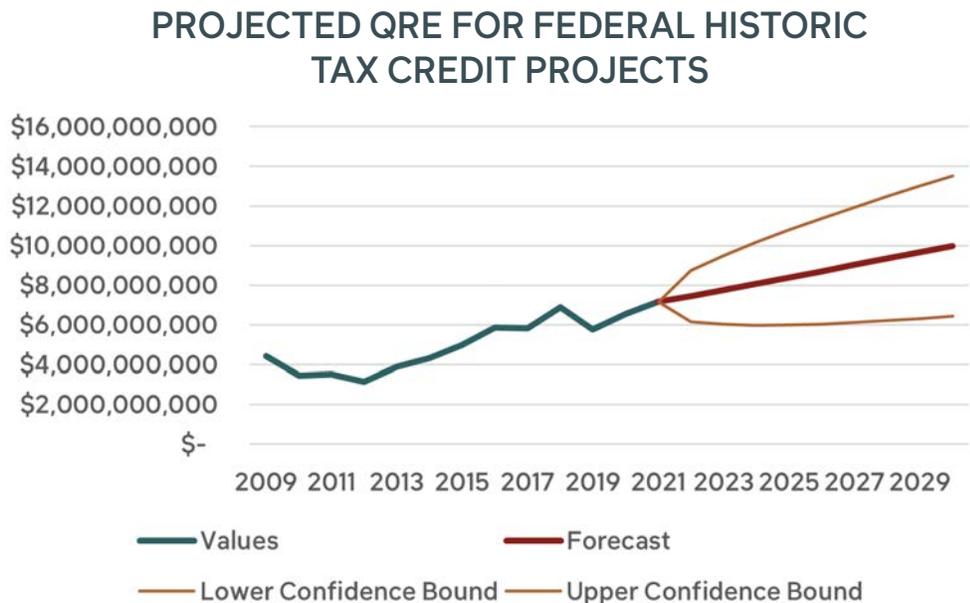
Building Type	Current Number 50+ Years	Additional 50+ by 2030	Total "Historic" by 2030
Commercial	1,910,000	831,000	299,000 to 436,000
Single Family	34,950,000	11,766,000	5,092,000 to 7,428,000
Multi-Family	2,058,000	706,000	301,000 to 439,000
TOTAL	38,918,000	13,303,000	5,692,000 to 8,303,000

PROJECTED NUMBER OF PROJECTS THAT WILL UTILIZE THE FEDERAL AND/OR SELECTED STATE HISTORIC TAX CREDITS IN 2030

The dollar investment in projects utilizing the Federal HTC is likely to grow. By 2030, PlaceEconomics estimates that between 1,000 and 1,600 projects will utilize the Federal HTC.



Additionally, PlaceEconomics estimates that by 2030 the Qualified Rehabilitation Expenditures (QRE) on these projects will be between \$8.8 and \$10.5 billion.



The table below shows the yearly projected estimates for QRE expenditures on federal historic tax credit projects through 2031.

PROJECTED QRE FOR FEDERAL HISTORIC TAX CREDIT PROJECTS

Year	Forecast	Lower Estimate	Upper Estimate
2022	\$7,123,090,181	\$6,127,509,697	\$8,118,670,664
2023	\$7,329,292,415	\$6,215,754,003	\$8,442,830,828
2024	\$7,535,494,650	\$6,314,941,805	\$8,756,047,495
2025	\$7,741,696,885	\$6,422,406,608	\$9,060,987,162
2026	\$7,947,899,120	\$6,536,409,644	\$9,359,388,596
2027	\$8,154,101,355	\$6,655,742,804	\$9,652,459,906
2028	\$8,360,303,590	\$6,779,526,490	\$9,941,080,689
2029	\$8,566,505,825	\$6,907,096,835	\$10,225,914,814
2030	\$8,772,708,059	\$7,037,938,277	\$10,507,477,842
2031	\$8,978,910,294	\$7,171,641,019	\$10,786,179,570

The table below provides estimates of the number of direct jobs and corresponding direct labor income that will be generated through historic tax credit projects over the next decade.

PROJECTED DIRECT JOBS AND LABOR INCOME FROM TAX CREDIT PROJECTS

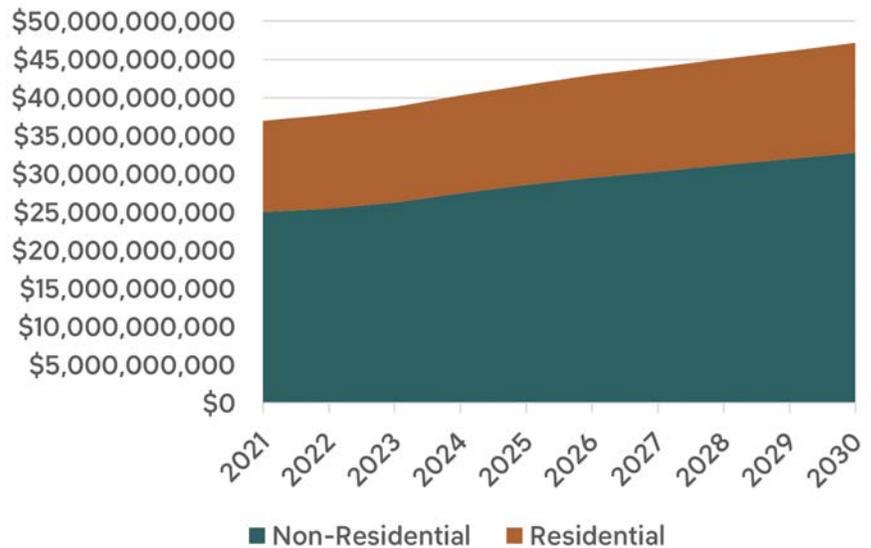
Year	Direct Jobs	Direct Labor Income	Upper Estimate
2022	30,253	\$2,043,668,278	\$8,118,670,664
2023	30,669	\$2,102,829,254	\$8,442,830,828
2024	31,067	\$2,161,990,230	\$8,756,047,495
2025	31,446	\$2,221,151,205	\$9,060,987,162
2026	31,807	\$2,280,312,181	\$9,359,388,596
2027	32,151	\$2,339,473,157	\$9,652,459,906
2028	32,477	\$2,398,634,133	\$9,941,080,689
2029	32,787	\$2,457,795,109	\$10,225,914,814
2030	33,081	\$2,516,956,085	\$10,507,477,842
2031	33,358	\$2,576,117,061	\$10,786,179,570

GROWTH IN OVERALL HISTORIC PRESERVATION ACTIVITY

As was noted earlier, there is considerable investment in historic buildings beyond what is reflected in the use of the Federal Historic Tax Credit. Below are the estimates of overall expenditures on the rehabilitation of historic buildings.

Based on the investment projections above, the table to the left estimates the number of direct jobs by trade in 2030, as well as the average annual job openings within that trade.¹⁸

GROWTH IN HISTORIC PRESERVATION EXPENDITURES



Job Category	Number of Direct Jobs in 2030	Average Annual Job Openings
Preservation Carpentry and Woodworking	27,171	2,519
Preservation Masonry ¹⁹	11,734	1,058
Preservation Metalworking	3,884	363
Preservation Painting/Finishing	9,820	869
Preservation Glazier	1,863	199
Preservation Roofing	5,777	560
Preservation Electrician	26,705	2,843
Preservation Plumber	16,484	1,704
Preservation Construction and Building Inspector	354	34
TOTAL	103,792	10,151
Other jobs on Historic Preservation Projects	69,195	7,667
TOTAL	172,987	17,81

¹⁸ Number of direct jobs is based on IMPLAN estimates of construction jobs in 2030 assuming the amount of preservation expenditures. Those direct jobs were then allocated by trade based on the overall distribution of the jobs within the construction jobs from Bureau of Labor Statistics projections. The average annual job openings were calculated using the ratio of annual openings to total current jobs from BLS data. The numbers of jobs and job openings shown above are consistent with, but slightly different than the numbers on pages 19-28. The earlier numbers were based directly on BLS estimates. As noted, the numbers above were based on IMPLAN calculations of direct jobs created through the output (i.e., historic preservation expenditures) estimated in this report. The fact that the two sets of numbers are not exactly the same should not be of concern. Rather it increases the confidence that the range of estimates is largely consistent using two entirely different methodologies.

¹⁹ For several of these occupations, but particularly for masons, these numbers are probably low. These estimates are based on Bureau of Labor Statistics (BLS) projections for the trade overall, not the historic preservation subset within the trade. Describing the relative decline in need for masons, for example, the BLS notes "Masonry, such as brick and stone, is still popular in both interior and exterior applications, but changes in products and installation practices are expected to decrease the need for masons. For example, fewer workers are needed to install innovations such as thin bricks, which allow buildings to have the look of brick construction at a lower cost. Additionally, the increased use of prefabricated panels will reduce the demand for most masonry workers." While this is likely true of masonry overall, it is not true of masons working on the rehabilitation of historic structures.

FEDERAL, STATE, OR LOCAL INITIATIVES THAT COULD IMPACT THESE NUMBERS

Estimates for future investments in historic buildings are based on the assumption that the investment environment for these projects does not drastically change. PlaceEconomics has identified twenty possible changes in policy and/or law at the federal, state, or local level that could impact the amount of historic rehabilitation that takes place over the next ten years.

Event	Impact on Historic Rehabilitation Activity
Major Recession	Negative
Significant increase in interest rates	Negative
More states adopt state tax credits	Very Positive
Increase in credit percentage at federal level	Very Positive
Decrease in credit percentage at federal level	Very Negative
States repeal or seriously reduce state tax credit	Negative
Continuing high rates of inflation	Very Negative
Continuing high office vacancy	Negative
Resumption of domestic and international travel	Very Positive
Federal historic homeowners tax credit enacted	Very Positive
Local deconstruction ordinances	Positive
Local tax policies discouraging vacancy	Positive
Creation of pooled investment funds for preservation	Positive
Local recognition of rehabilitation as sustainable development strategy	Positive
Repeal of Davis-Bacon "prevailing wage" requirements	Positive
Priority for existing buildings in use of Low Income Housing Tax Credit	Very Positive
Greater flexibility in FHA rehabilitation standards	Positive
"Density trumps all" public policies	Potentially Negative
Higher individual income tax rates at state and/or federal level	Positive
Elimination of passive activity loss limitation in federal tax law	Very positive



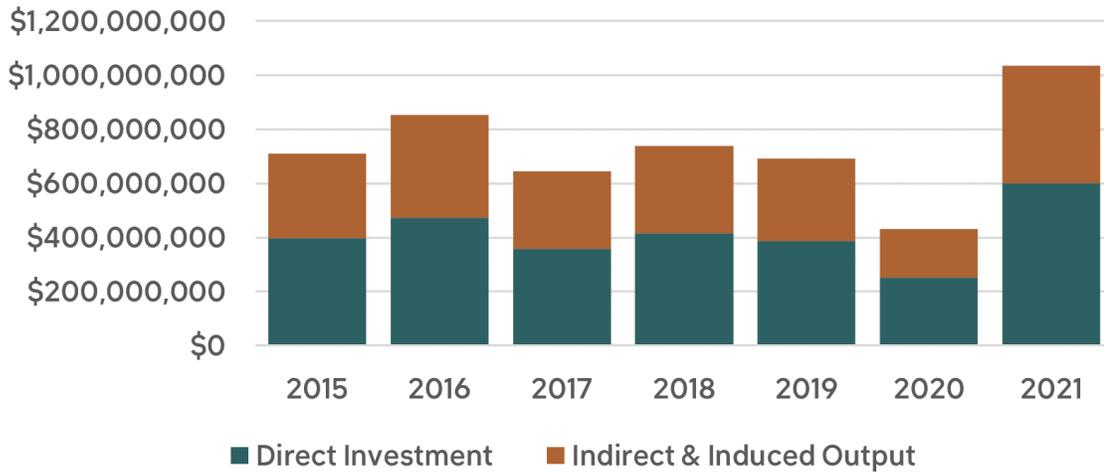
STATE HISTORIC TAX CREDIT CASE STUDIES

Thirty-seven states have state-level tax credits for the rehabilitation of historic buildings. In nearly all cases these state credits can be paired with federal tax credits. The specifics of the state credits vary considerably. Some are simply a mirror of the federal tax credits and others have modifications, such as caps on the amount awarded each year through the credits. Some states award the credit on a first-come, first-served basis, while others allocate credits geographically within a state or have a set-aside for small projects. In some states, the credit can be used for a personal residence which is not eligible for the federal tax credit. What is apparent, however, is that an effective state historic tax credit significantly increases the use of the federal tax credit in that state. The following illustrates the jobs and labor income generated by historic rehabilitation projects using state-level historic tax credits in Louisiana, Oregon, Colorado, Maryland, and Ohio.

LOUISIANA

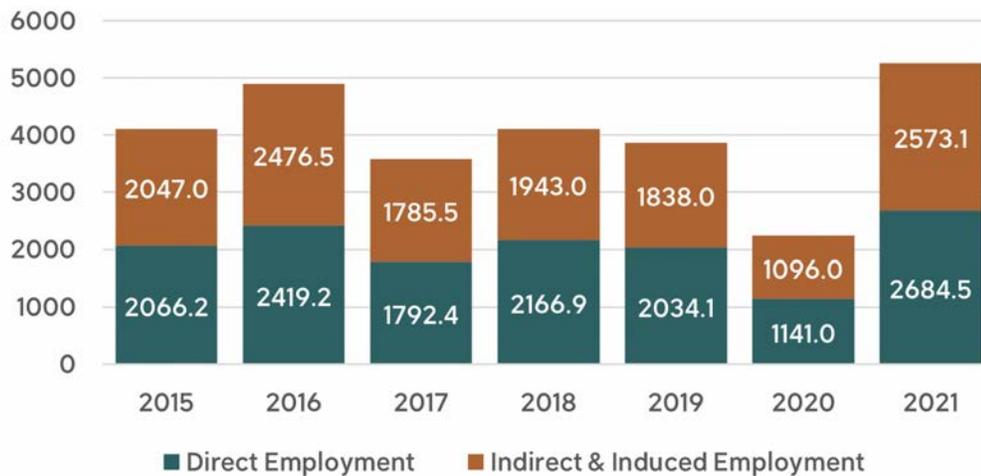
Since 2015, Louisiana has seen \$2,879,409,859 in investment through state historic tax credit projects, an average of \$411,344,266 per year. That investment has spurred an additional economic output averaging \$318,564,063 each year. Every \$100 invested in historic tax credit projects spur an additional \$77.44 in economic activity elsewhere in Louisiana.

LOUISIANA TAX CREDIT INVESTMENT



Those projects create jobs. An average of 2,043.5 direct jobs have been created each year plus an additional 1965.6 indirect and induced jobs.²² Every 10 direct jobs created through a historic tax credit project in Louisiana generates another 9.6 jobs elsewhere in the state.

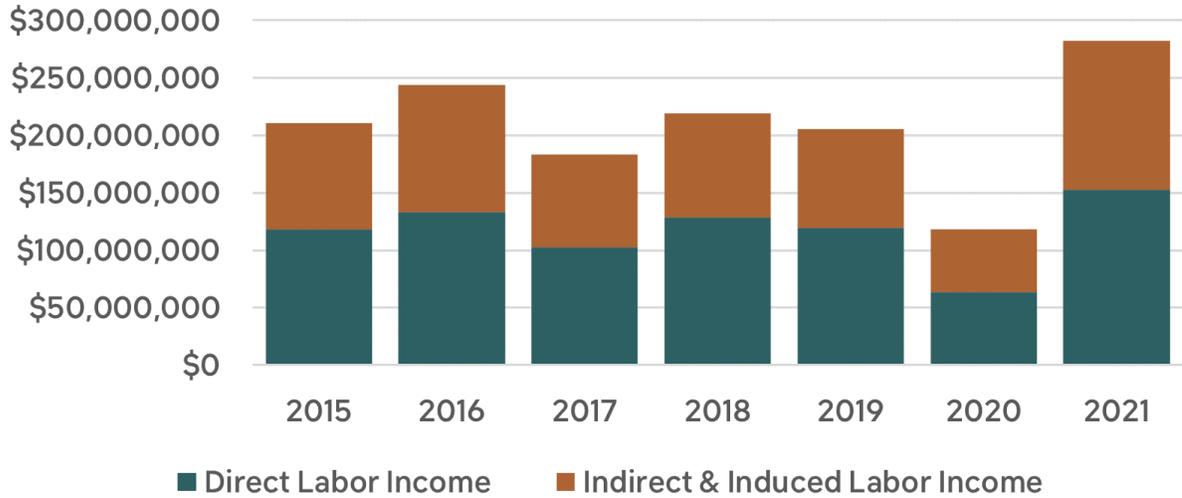
LOUISIANA JOBS FROM TAX CREDIT PROJECTS



²² A "direct job" is one working directly on the project – a carpenter, for example. An "indirect job" is one providing goods or services to the project – the salesperson at the lumber yard, for example. An "induced job" is one created as a result of local purchases of goods and services by direct and indirect employees – a server at the local diner, for example.

Those jobs have paychecks. Since 2015, a total of \$818,706,405 has been paid to direct workers on these historic preservation projects, an average of \$116,958,058 each year. The indirect and induced workers have been paid an average of \$92,005,488 annually. Every \$100 in paychecks written to direct workers ultimately means an additional \$787 in earnings for other workers in Louisiana.

LOUISIANA LABOR INCOME FROM TAX CREDIT PROJECTS



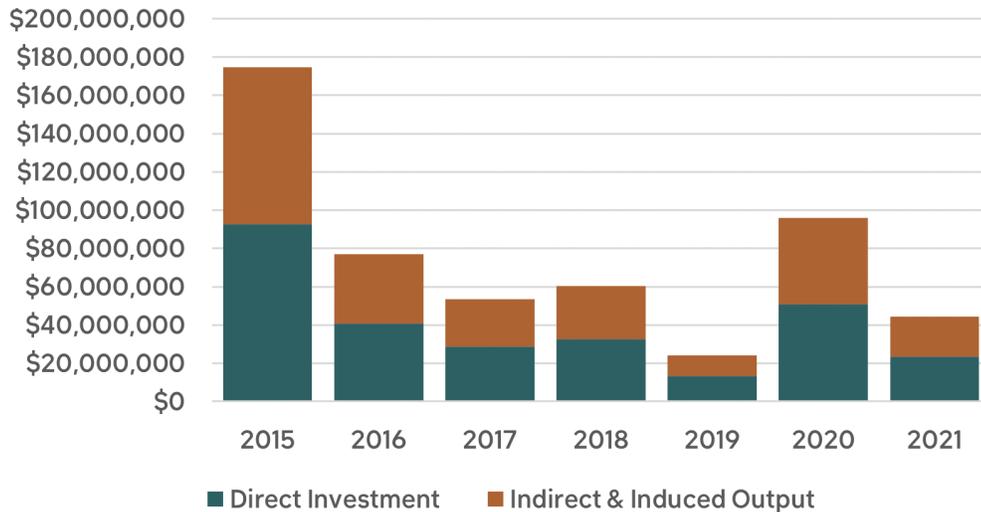
The table below represents the estimated number of direct jobs within various heritage trades on average each year for the past six years.

Trade	Average Annual Jobs from Tax Credit Projects
Preservation Carpentry and Woodworking	328.6
Preservation Masonry	145.1
Preservation Metalworking	46.3
Preservation Painting/Finishing	115.2
Preservation Glazier	22
Preservation Roofing	68.2
Preservation Electrician	302.5
Preservation Plumber	194
Total	1221.9

OREGON

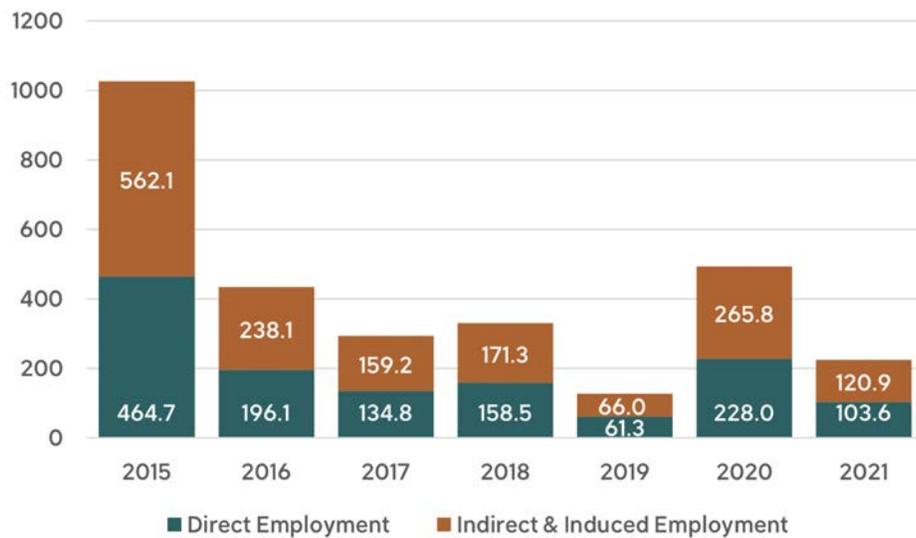
Since 2015 Oregon has seen \$282,706,978 in investment through state historic tax credit projects, an average of \$40,386,711 per year. That investment has spurred an additional economic output averaging \$35,327,305 each year. Every \$100 invested in historic tax credit projects spur an additional \$87.47 in economic activity elsewhere in Oregon.

OREGON TAX CREDIT INVESTMENT



Those projects create jobs. An average of 192.4 direct jobs have been created in Oregon each year plus an additional 226.2 indirect and induced jobs.²⁰ Every 10 direct jobs created through a historic tax credit project in Oregon generates another 11.8 jobs elsewhere in the state.

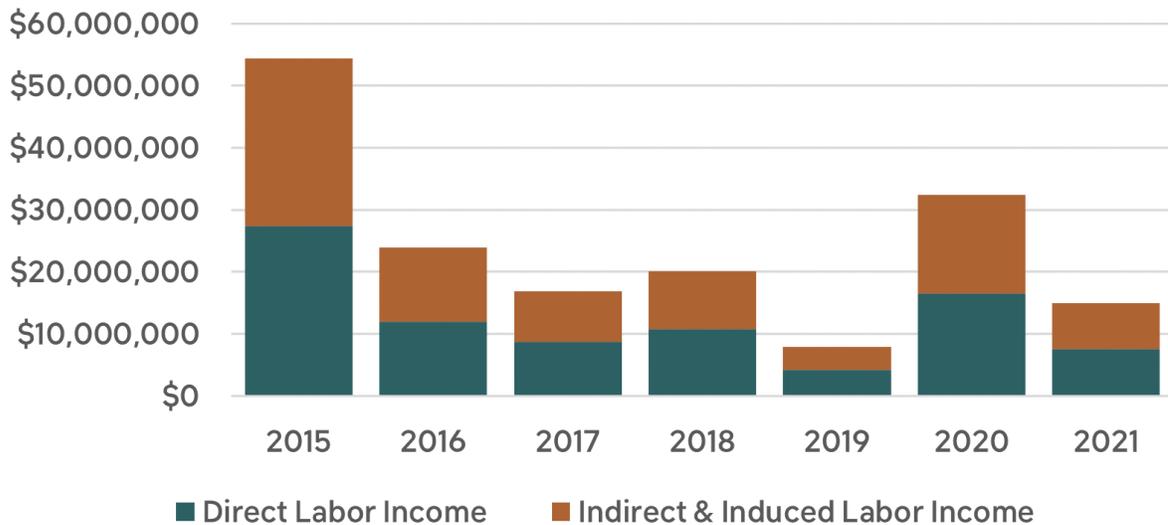
OREGON JOBS FROM TAX CREDIT PROJECTS



²⁰ A "direct job" is one working directly on the project – a carpenter, for example. An "indirect job" is one providing goods or services to the project – the salesperson at the lumber yard, for example. An "induced job" is one created as a result of local purchases of goods and services by direct and indirect employees – a server at the local diner, for example.

Those jobs have paychecks. Since 2015, a total of \$87,301,003 has been paid to direct workers on these historic preservation projects, an average of \$12,471,572 each year. The indirect and induced workers have been paid an average of \$11,897,406 annually. Every \$100 in paychecks written to direct workers ultimately means an additional \$95.40 in earnings for other workers in Oregon.

OREGON LABOR INCOME FROM TAX CREDIT PROJECTS



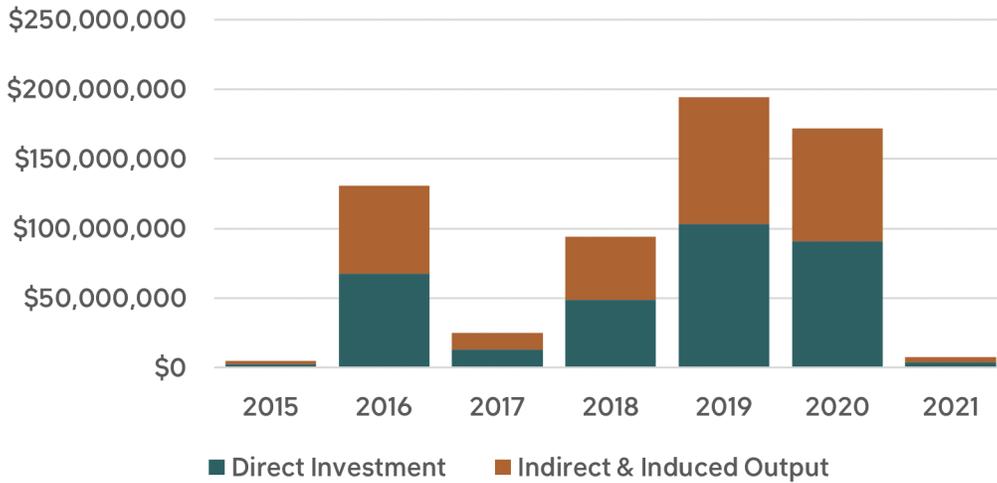
The table below represents the estimated number of direct jobs within various heritage trades on average each year for the past six years.

Trade	Average Annual Jobs from Tax Credit Projects
Preservation Carpentry and Woodworking	30.9
Preservation Masonry	13.7
Preservation Metalworking	4.4
Preservation Painting/Finishing	10.8
Preservation Glazier	2.1
Preservation Roofing	6.4
Preservation Electrician	28.5
Preservation Plumber	18.3
Total	115.1

COLORADO

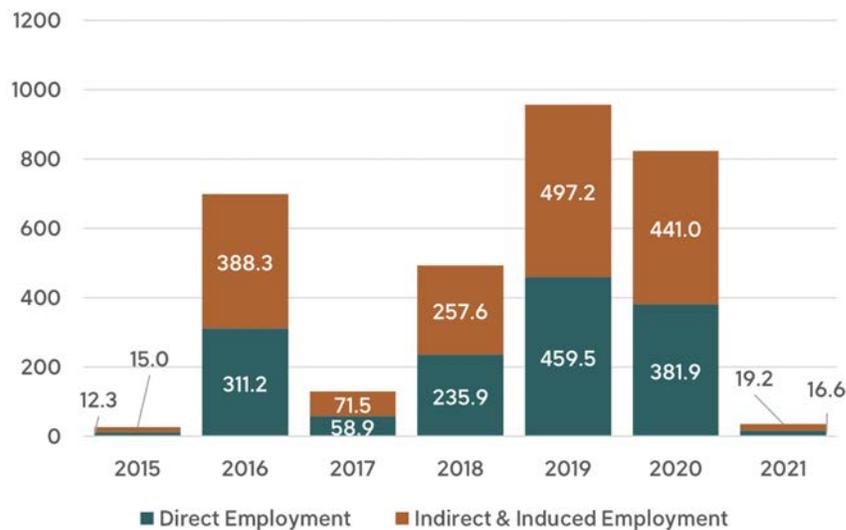
Since 2015, Colorado has seen \$330,414,065 in investment through state historic tax credit projects, an average of \$47,202,009 per year. That investment has spurred an additional economic output averaging \$42,570,337 each year. Every \$100 invested in historic tax credit projects spur an additional \$90.19 in economic activity elsewhere in Colorado.

COLORADO TAX CREDIT INVESTMENT



Those projects create jobs. An average of 210.9 direct jobs have been created in Colorado each year plus an additional 241.4 indirect and induced jobs.²¹ Every 10 direct jobs created through a historic tax credit project in Colorado generates another 11.4 jobs elsewhere in the state.

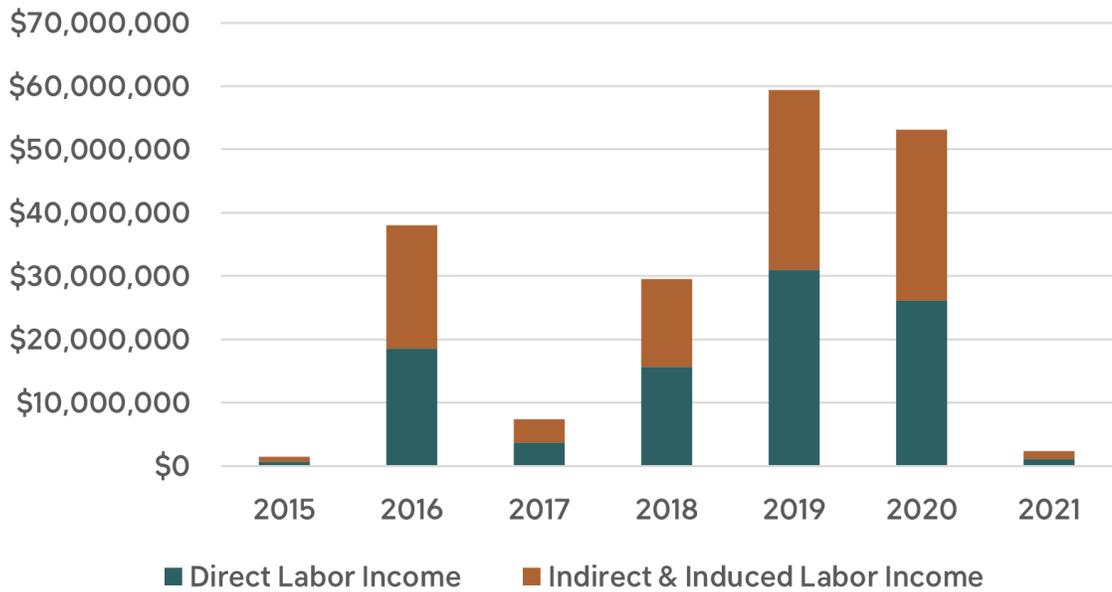
COLORADO JOBS FROM TAX CREDIT PROJECTS



²¹ A "direct job" is one working directly on the project – a carpenter, for example. An "indirect job" is one providing goods or services to the project – the salesperson at the lumber yard, for example. An "induced job" is one created as a result of local purchases of goods and services by direct and indirect employees – a server at the local diner, for example.

Those jobs have paychecks. Since 2015, a total of \$97,057,629 has been paid to direct workers on these historic preservation projects, an average of \$13,865,376 each year. The indirect and induced workers have been paid an average of \$13,468,947 annually. Every \$100 in paychecks written to direct workers ultimately means an additional \$97.14 in earnings for other workers in Colorado.

COLORADO LABOR INCOME FROM TAX CREDIT PROJECTS



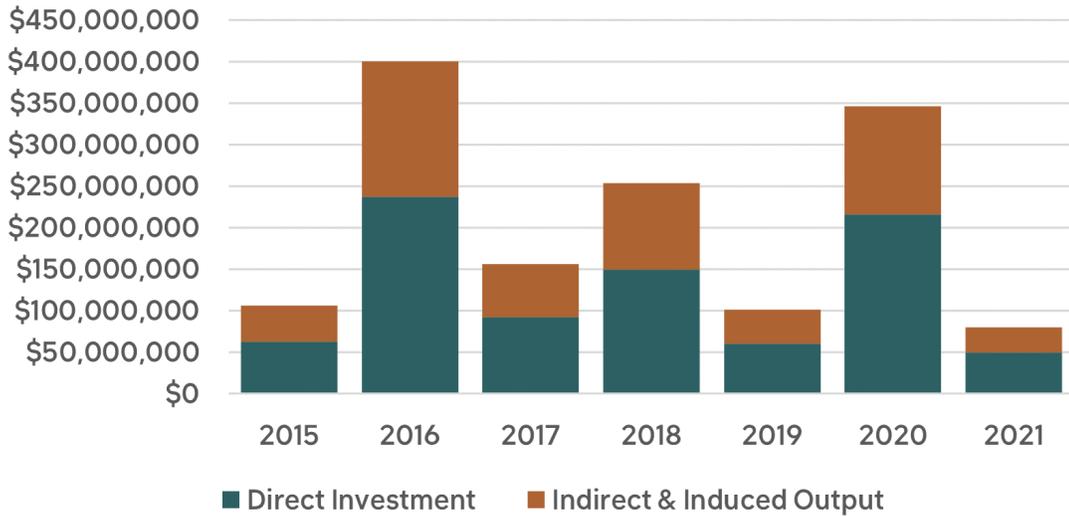
The table below represents the estimated number of direct jobs within various heritage trades on average each year for the past six years.

Trade	Average Annual Jobs from Tax Credit Projects
Preservation Carpentry and Woodworking	33.9
Preservation Masonry	15.0
Preservation Metalworking	4.8
Preservation Painting/Finishing	11.9
Preservation Glazier	2.3
Preservation Roofing	7.0
Preservation Electrician	31.2
Preservation Plumber	20.0
Total	126.1

MARYLAND

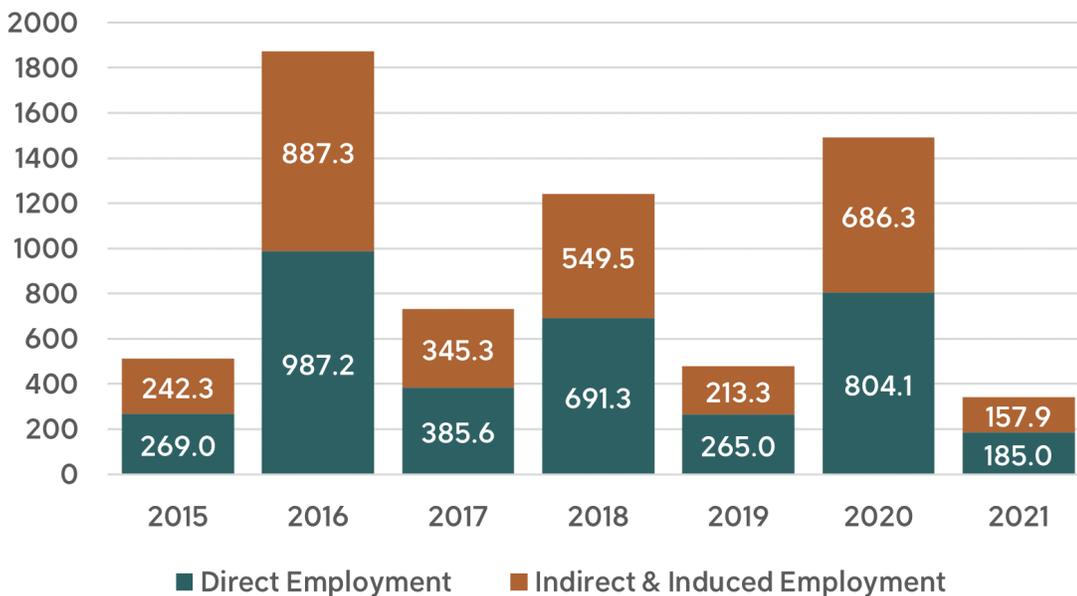
Since 2015, Maryland has seen \$866,908,742 in investment through state historic tax credit projects, an average of \$123,844,106 per year. That investment has spurred an additional economic output averaging \$82,074,123 each year. Every \$100 invested in historic tax credit projects spur an additional \$66.27 in economic activity elsewhere in Maryland.

MARYLAND TAX CREDIT INVESTMENT



Those projects create jobs. An average of 512.5 direct jobs have been created each year plus an additional 440.3 indirect and induced jobs.²³ Every 10 direct jobs created through a historic tax credit project in Maryland generates another 8.6 jobs elsewhere in the state.

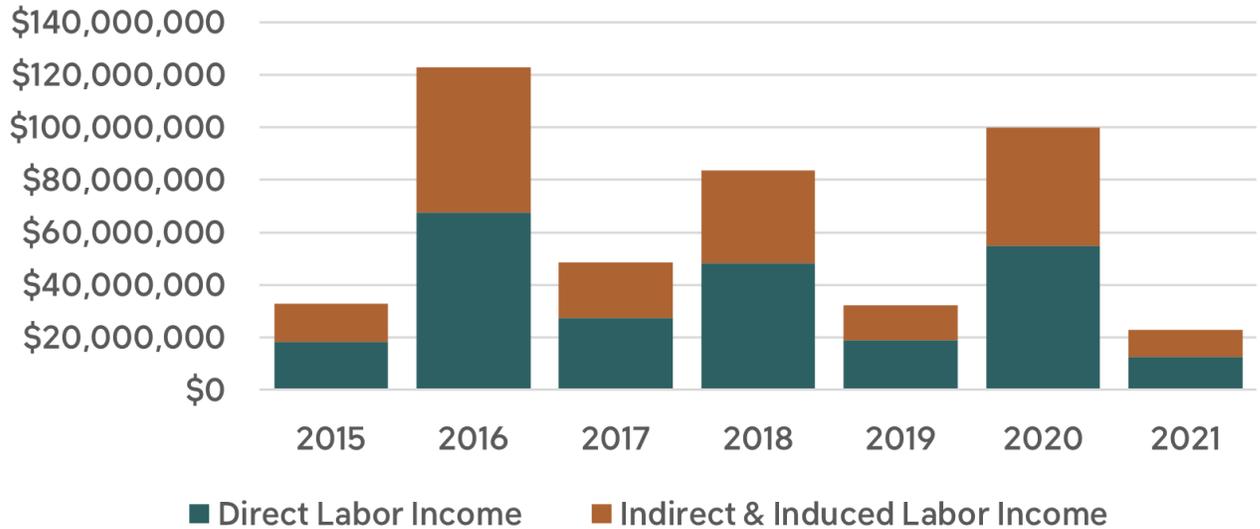
MARYLAND JOBS FROM TAX CREDIT PROJECTS



²³ A "direct job" is one working directly on the project – a carpenter, for example. An "indirect job" is one providing goods or services to the project – the salesperson at the lumber yard, for example. An "induced job" is one created as a result of local purchases of goods and services by direct and indirect employees – a server at the local diner, for example.

Those jobs have paychecks. Since 2015, a total of \$247,684,129 has been paid to direct workers on these historic preservation projects, an average of \$35,383,447 each year. The indirect and induced workers have been paid an average of \$27,928,675 annually. Every \$100 in paychecks written to direct workers ultimately means an additional \$78.93 in earnings for other workers in Maryland.

MARYLAND LABOR INCOME FROM TAX CREDIT PROJECTS



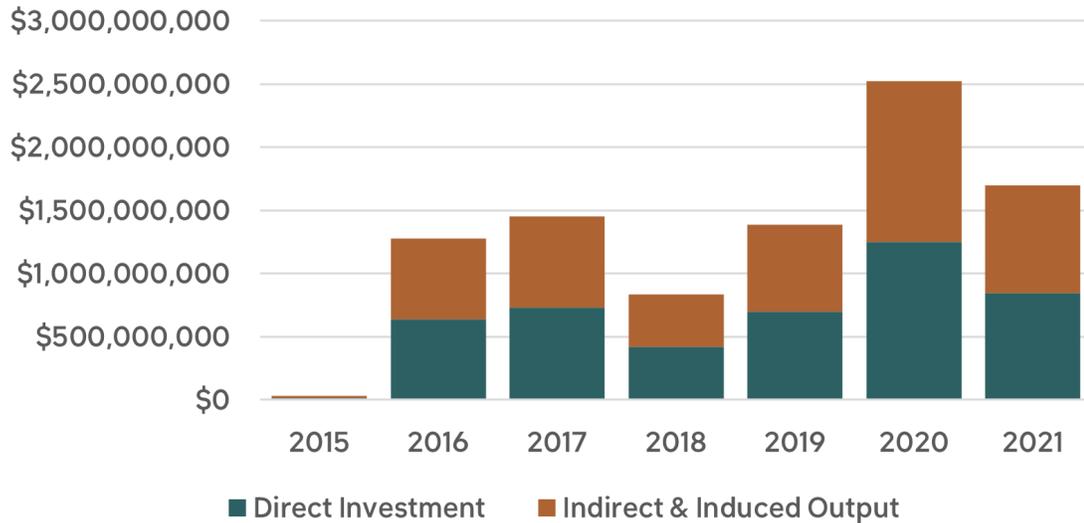
The table below represents the estimated number of direct jobs within various heritage trades on average each year for the past six years.

Trade	Average Annual Jobs from Tax Credit Projects
Preservation Carpentry and Woodworking	82.4
Preservation Masonry	36.4
Preservation Metalworking	11.6
Preservation Painting/Finishing	28.9
Preservation Glazier	5.5
Preservation Roofing	17.1
Preservation Electrician	75.9
Preservation Plumber	48.7
Total	306.5

OHIO

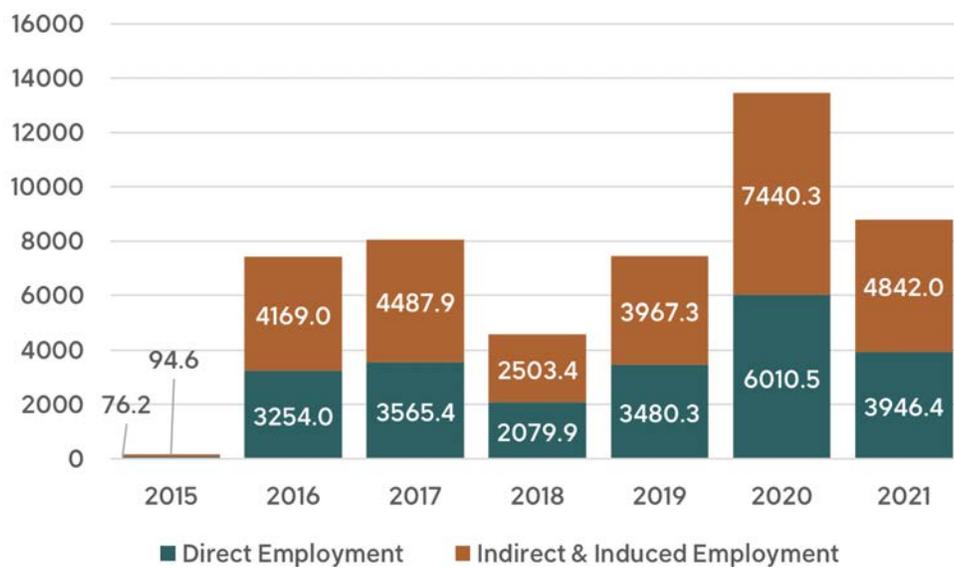
Since 2015, Ohio has seen \$4,602,484,386 in investment in state historic tax credit projects, an average of \$657,497,769 per year. That investment has spurred an additional economic output averaging \$656,711,646 each year. Every \$100 invested in historic tax credit projects spur an additional \$99.89 in economic activity elsewhere in Ohio.

OHIO TAX CREDIT INVESTMENT



Those projects create jobs. An average of 22,412.8 direct jobs have been created each year plus an additional 27,504.5 indirect and induced jobs.²⁴ Every 10 direct jobs created through a historic tax credit project in Ohio generates another 12.3 jobs elsewhere in the state.

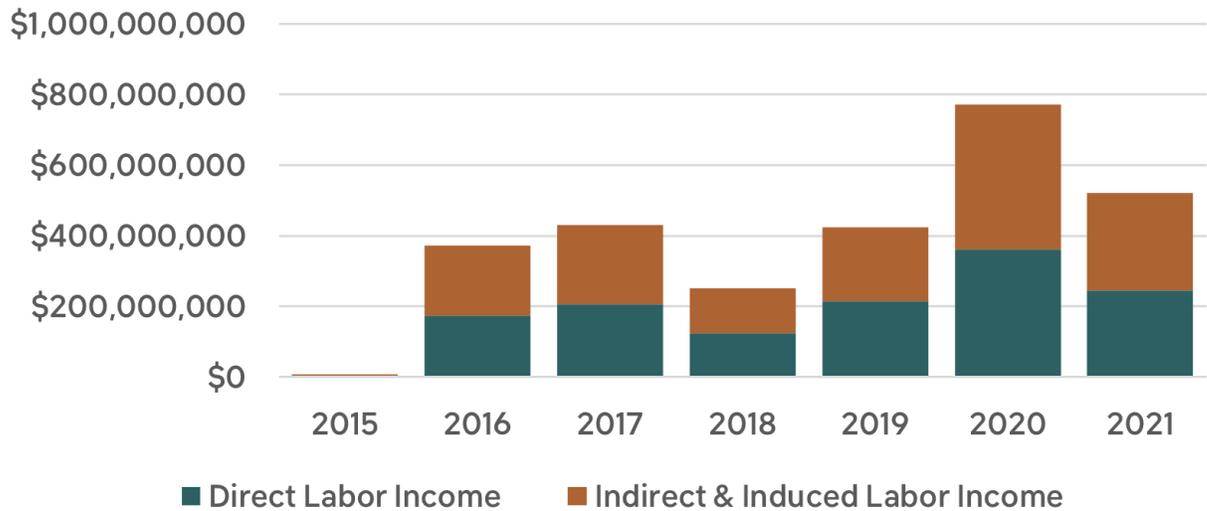
OHIO JOBS FROM TAX CREDIT PROJECTS



²⁴ A "direct job" is one working directly on the project – a carpenter, for example. An "indirect job" is one providing goods or services to the project – the salesperson at the lumber yard, for example. An "induced job" is one created as a result of local purchases of goods and services by direct and indirect employees – a server at the local diner, for example.

Those jobs have paychecks. Since 2015, a total of \$1,331,277,973 has been paid to direct workers on these historic preservation projects, an average of \$190,182,568 each year. The indirect and induced workers have been paid an average of \$207,175,283 annually. Every \$100 in paychecks written to direct workers ultimately means an additional \$109 in earnings for other workers in Ohio.

OHIO LABOR INCOME FROM TAX CREDIT PROJECTS



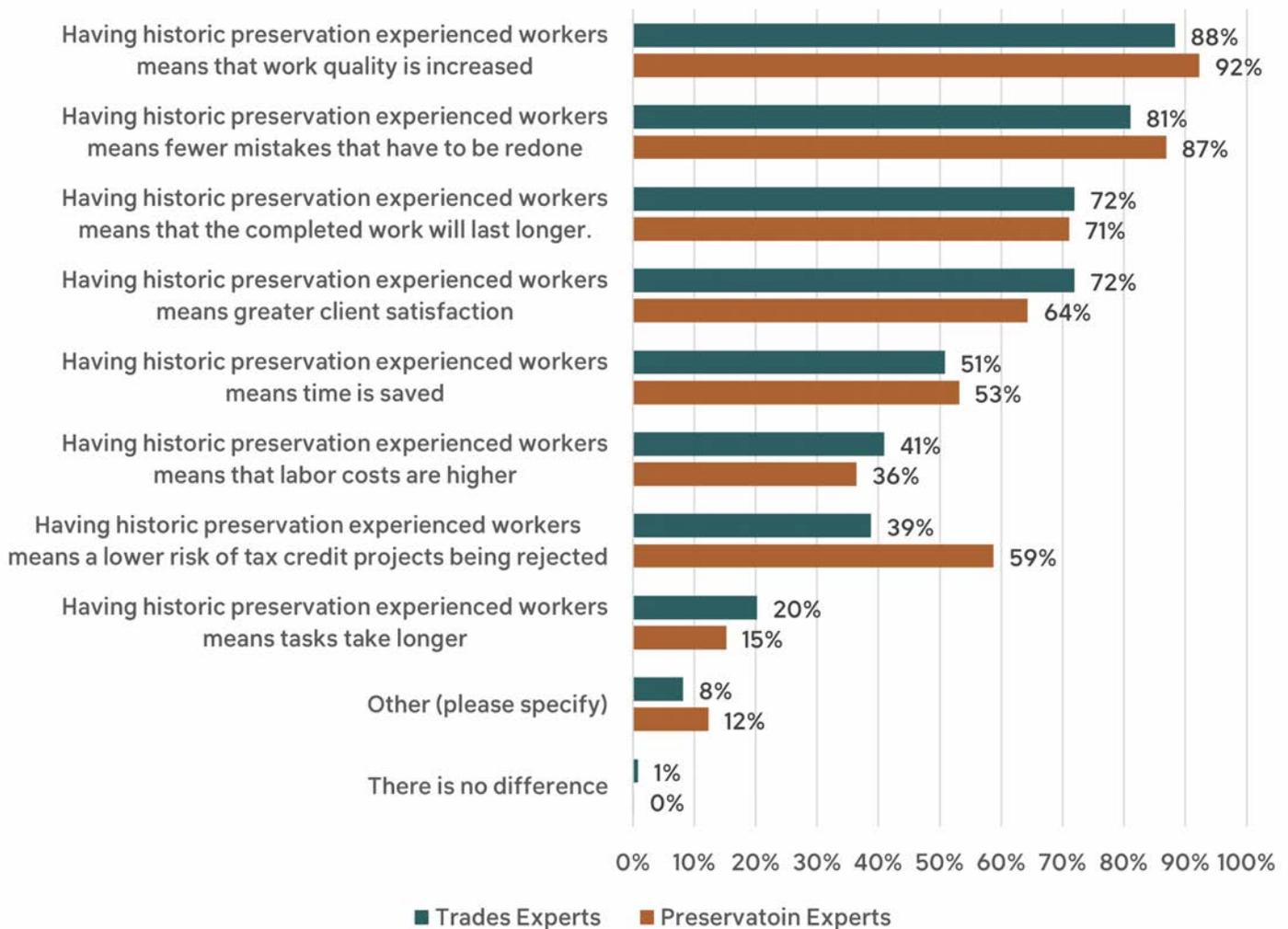
The table below represents the estimated number of direct jobs within various heritage trades on average each year for the past six years.

Trade	Average Annual Jobs from Tax Credit Projects
Preservation Carpentry and Woodworking	514.9
Preservation Masonry	227.4
Preservation Metalworking	72.6
Preservation Painting/ Finishing	180.5
Preservation Glazier	34.5
Preservation Roofing	106.9
Preservation Electrician	473.9
Preservation Plumber	304
Total	1914.6

BENEFITS OF TRAINING IN HISTORIC TRADES

Trades experts and experts in historic preservation have identified the benefits of having experienced workers trained in the nuances of historic rehabilitation. Topping the list of benefits is an increase in the quality of the work followed by a reduction in mistakes.²⁵

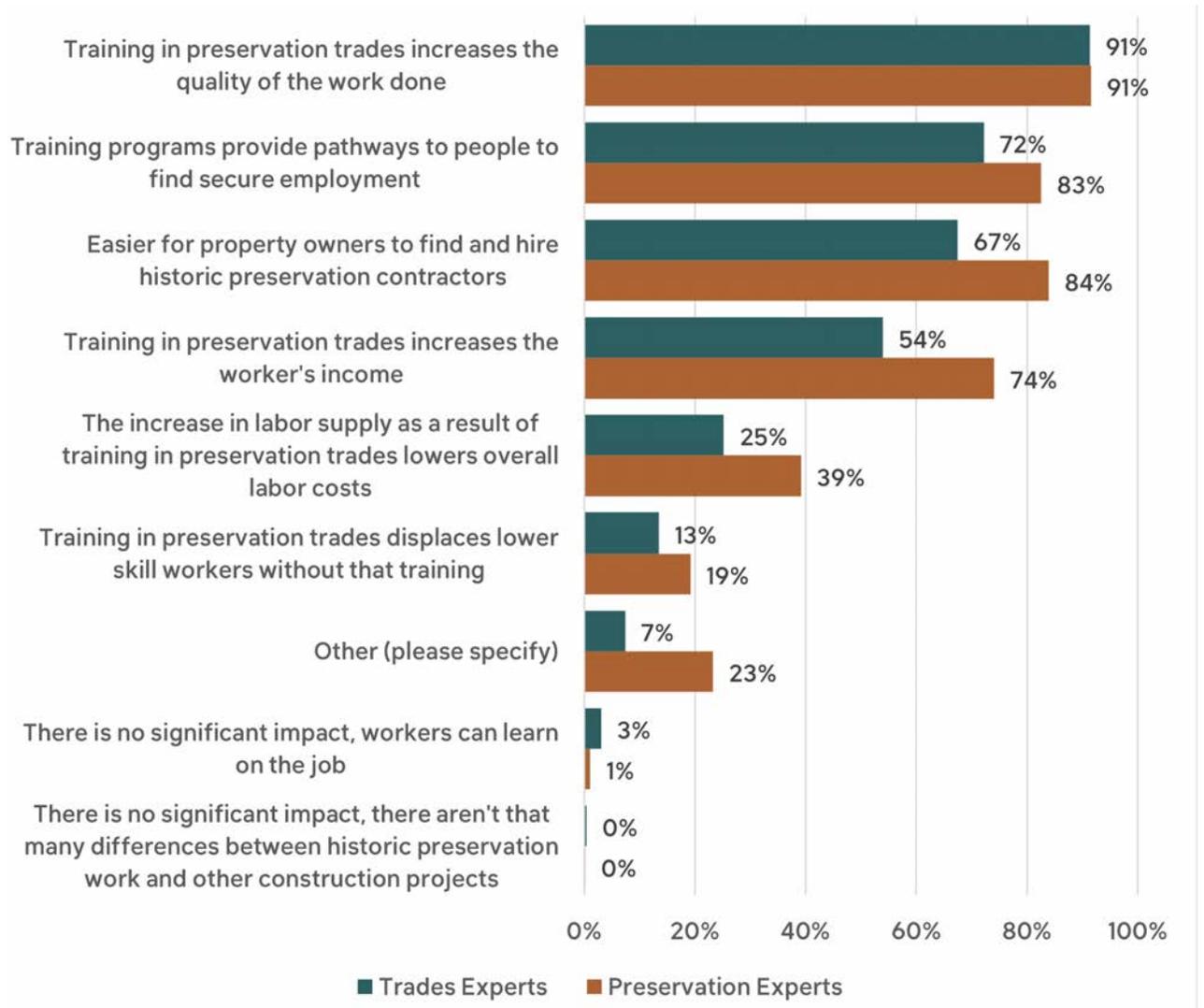
DIFFERENCES THAT TRAINED CRAFTSPEOPLE MAKE



²⁵ See Appendix 1, Question 16.

These experts also believe that there are multiple benefits of trades training programs, including an increase in the quality of the work, providing pathways to secure employment, and to make it easier for property owners to find and hire historic preservation contractors.²⁶

BENEFITS OF TRADES TRAINING PROGRAMS



26 See Appendix 1, Question 17.

CONCLUSIONS

This report has established a quantitative basis of support for a significant growth in heritage trades training programs.

The portion of the construction industry that is focused on historic rehabilitation is large and growing. Today heritage trades jobs make up just over 2.4% of all jobs in the building construction industry and an estimated 12.6% of all building rehabilitation jobs. Both the number of buildings considered historic and the amount of money invested in their rehabilitation are on upward curves. But there is a serious shortage of workers who are trained and experienced in historic preservation trades.

This deficiency of an appropriately trained workforce puts the built heritage of the United States at risk. Heritage trades experience results in higher earnings. There are significant increases in earning between the trainee/apprentice level worker and the journey level craftsperson. There is also a premium paid to those with specific historic preservation skills.

The causes of worker shortage are multiple including an apparent disinclination for young people to enter the field, lack of union representation, the seasonality of the work, the generally small scale of construction firms, and others. Further, the geographic distribution of heritage trades workers and projects requiring those skills may not align. Historic trades training programs will not alone solve the labor shortage problem.

Effective training programs do need to be part of the solution, however. The beneficiaries of historic trades training programs are the workers, the owners of heritage properties, and ultimately the good stewardship of the historic buildings.

APPENDIX 1: HISTORIC TRADES SURVEY

SUPPLY, WAGES, AND VALUE OF TRAINING

INTRODUCTION

As part of a study for the Campaign for Historic Trades, PlaceEconomics conducted a survey of heritage trades and historic preservation experts. The survey was conducted online through Survey Monkey. The link to the survey was circulated in multiple ways. It was shared on related Facebook pages, including multiple trades-related groups; the Historic Preservation Professionals page, which is a large private group of more than 6,000 members identifying as professionals working in the field; and the PlaceEconomics page. It was disseminated via the email lists of several preservation-related organizations, as well as through the extensive PlaceEconomics contact list. Finally, the survey link was emailed directly to trades people listed on the websites of various State Historic Preservation Offices.

THIS IS BELIEVED TO BE THE MOST COMPREHENSIVE SURVEY EVER DONE ON THE STATUS OF THE HERITAGE TRADES IN THE UNITED STATES.

The survey was open from January 11, 2022 through January 31, 2022. A total of 858 responses were received. Of all the respondents, 790 lived in the United States. Responses were received from residents of 49 US States plus Puerto Rico and the District of Columbia. Results from questions 4 through 18 reflect only the US responses.

Survey respondents were asked to describe the nature of their work in historic preservation. (See Question 4). Those that answered "Tradesperson/Artisan/Craftsperson," "Real Estate Developer," "General Contractor," or "Subcontractor" were identified as "Trades Experts" given that they would likely have

the most firsthand knowledge about the supply of and wages paid to trades workers. That group represented just over 30% of all respondents. The remainder of the respondents were referred to as "Preservation Experts." For most questions the responses of both groups are provided.

This truly was an "experts" survey, with more than half of respondents reporting that they spent 80% or more of their professional time working on historic preservation.

This is believed to be the most comprehensive survey ever done on the status of the heritage trades in the United States. The most important findings are:

1. There is a serious shortage of experienced heritage trades workers across the entire range of specialties.
2. A wage premium is paid to those with training and experience working on historic buildings.
3. There is a significant wage jump between "apprentice/trainee" workers and journey-level workers.
4. Training in historic trades has multiple benefits that impact the workers themselves, client satisfaction, and stewardship of historic buildings.

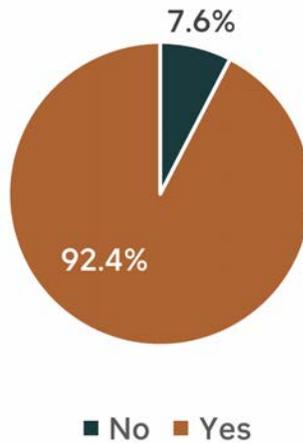
KEY FINDINGS

Based on the responses of 790 survey participants, here are the most significant findings:

1. There are significant shortages of trades workers with experience, training, and expertise in skills specific to historic buildings. The shortage is consistent across the range of skills but is most severe in: historic masonry, historic metal work, historic carpentry, and historic woodworking.
2. The weighted average for journey-level base pay ranges from about \$31/hour to more than \$40, depending on the specific trade.
3. Trainee/Apprentice hourly base pay on a weighted average is between just short of \$20/hour to around \$25/hour.
4. The pay spread between apprentice-level and journey-level ranges between \$12 and \$17 per hour on a weighted average.
5. Among Trades Experts, between 65% and 75% believe there is a premium paid for experience and expertise in historic preservation compared to new construction. On a weighted average that premium is between 6.5% and nearly 10%.
6. On the other hand, there appears to be no premium for those working on historic tax credit project as compared to those working on other historic preservation projects.
7. Whether pay is better for historic trades in the public or the private sector depends on who is answering the question. Those in the public sector think their private sector counterparts are paid significantly more. People not in the public sector largely disagree.
8. Trades Experts recognize the labor intensity of historic preservation, estimating that nearly 70% of total hard cost expenditures goes to labor.
9. Having trained historic craftspeople means that the work is of higher quality, there are fewer mistakes, the work lasts longer and there is greater client satisfaction.
10. Among the highest rated benefits of training programs in the historic trades are increased work quality, a pathway to secure employment, easier for property owners to find qualified contractors, and increased income for trainees.

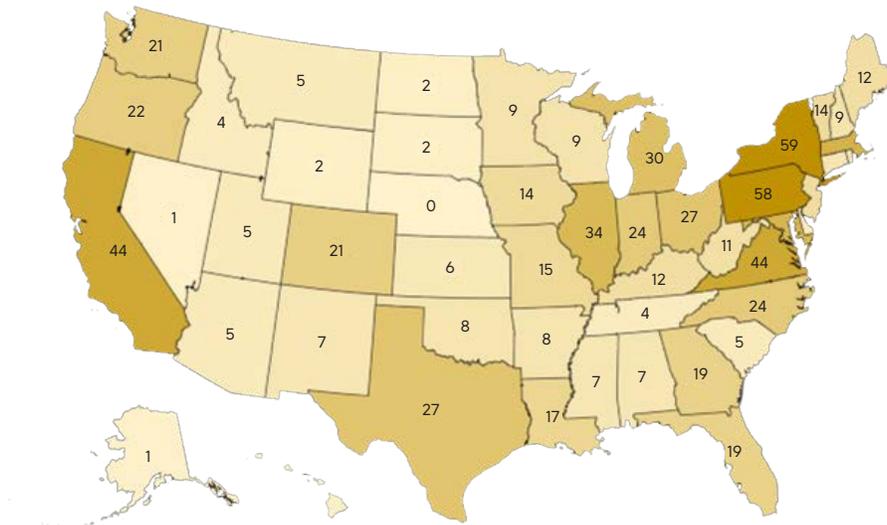
QUESTION 1 – DO YOU CURRENTLY RESIDE IN THE UNITED STATES?

The vast majority of respondents (92.4%) live in the United States.



QUESTION 2 – IF YOU CURRENTLY LIVE IN THE US, IN WHICH STATE DO YOU LIVE?

Respondents in the US came from 49 states plus Puerto Rico and the District of Columbia. New York, Pennsylvania, Virginia, and California had the highest numbers of respondents.



QUESTION 3 – IF YOU DO NOT CURRENTLY LIVE IN THE UNITED STATES, IN WHAT COUNTRY DO YOU LIVE?

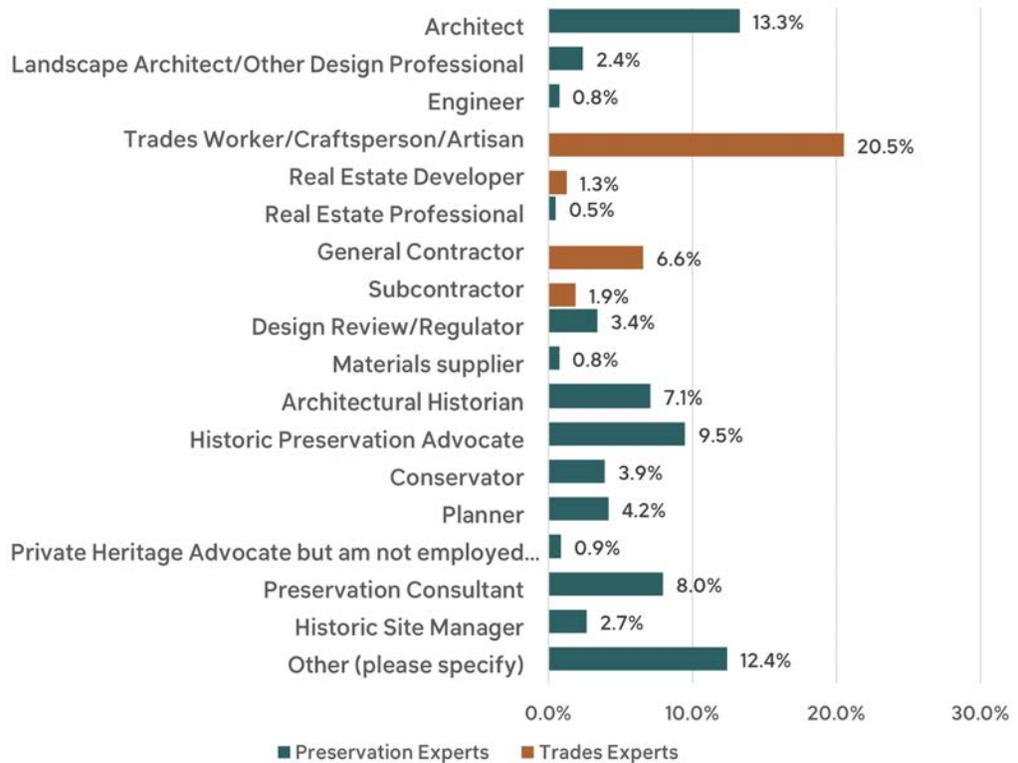
There were also respondents from nine other countries, but the highest number of responses came from Canada. These responses are not include in the totals on subsequent questions.

- Brazil
- Canada
- France
- Germany
- Italy
- Norway
- Spain
- UK
- West Bank, Palestine

QUESTION 4 – WHICH OF THE FOLLOWING BEST DESCRIBES YOUR WORK IN HISTORIC PRESERVATION?

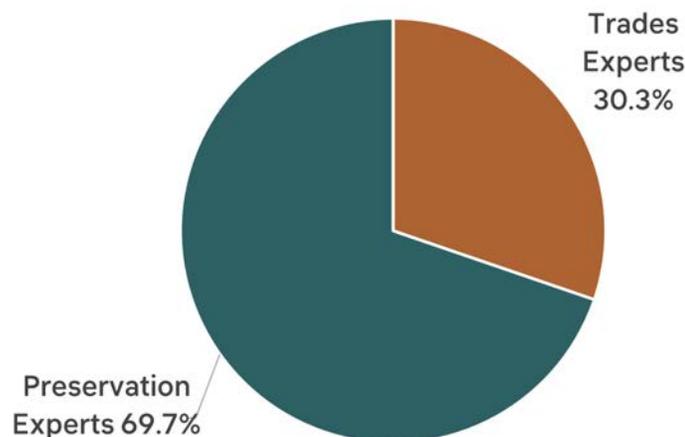
Responses came from a wide variety of professions within historic preservation. One in five respondents identified themselves as "Trades Worker/Craftsperson/Artisan." That group plus, "General Contractor," "Subcontractor," and "Real Estate Developer" were classified as "Trades Experts." The remainder of the responses were categorized as "Preservation Experts." It was assumed that the Trades Experts would have more firsthand knowledge on many of the questions than would the Preservation Experts.

NATURE OF PRESERVATION WORK



Just over 30% of all respondents fell into the Trades Experts category.

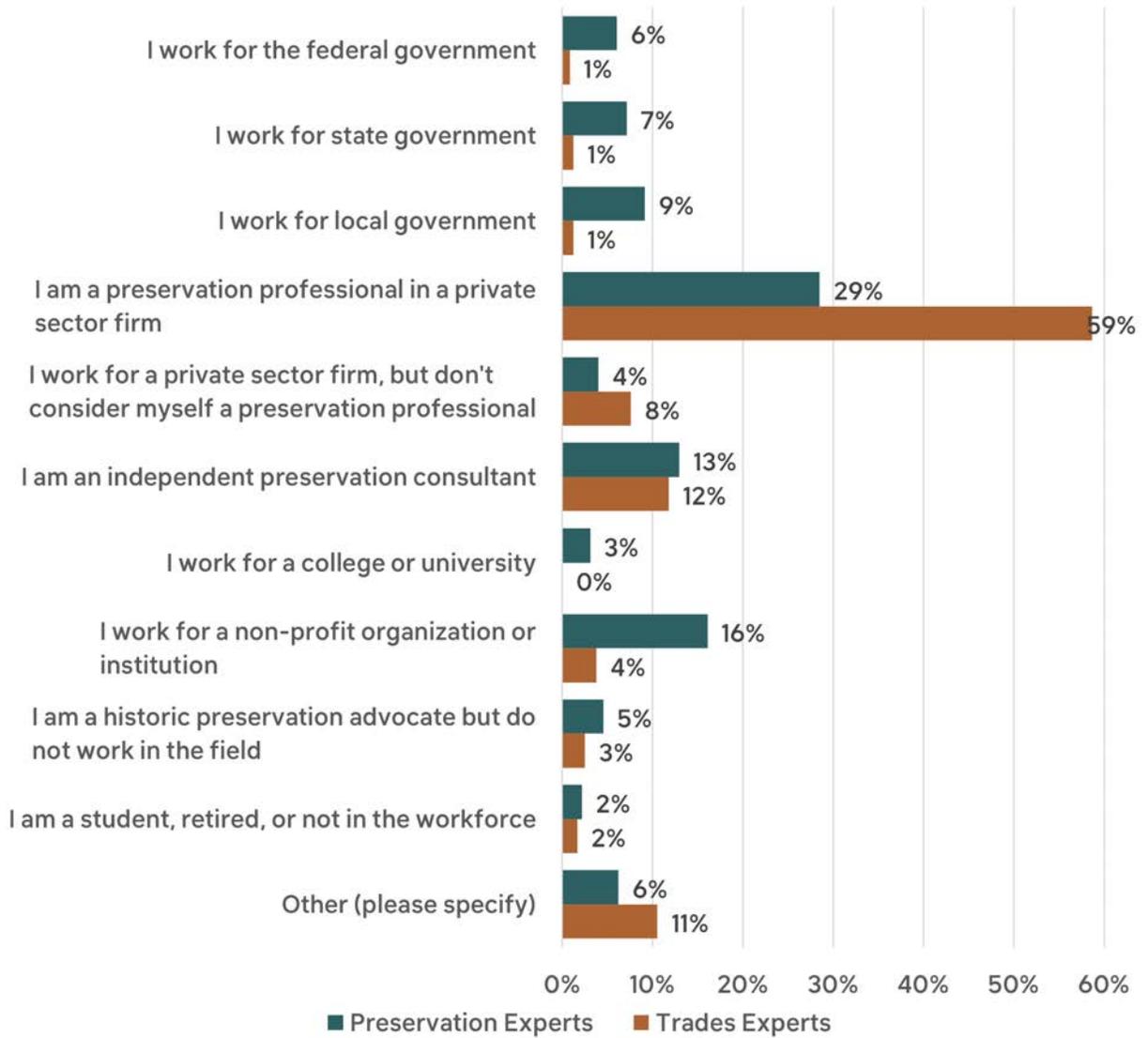
SURVEY RESPONDENTS



QUESTION 5 – IN WHICH SECTOR DO YOU WORK?

There was representation among both groups in each of the economy’s sectors – public, private, and non-profit. A much higher share of Preservation Experts worked in the public sector (more than 22% working in one of the three levels of government) while over half (58.6%) of Trades Experts were a “preservation professional in a private sector firm.”

RESPONDENT WORK SECTOR



QUESTION 6 – HOW WOULD YOU RATE YOUR OWN EXPERIENCE/EXPERTISE IN THE AREA OF HISTORIC TRADES?

Respondents were asked to rate themselves based on their experience and expertise in historic trades on a scale of one to five stars. Four out of five Trades Experts (80.2%) gave themselves 4 or 5 stars. Just over half (50.1%) of Preservation Experts rated themselves that high.



It is not surprising that those actually working in the historic trades would regard their expertise and experience in the area of trades higher than someone who was a consultant or architectural historian or a planner. The average self-rating for Preservation Experts was about 3.5 while the Trades Experts typically gave themselves more than 4 stars.





QUESTION 7 - IN YOUR WORK, WHAT SHARE OF YOUR TIME IS DEVOTED SPECIFICALLY TO HISTORIC PRESERVATION ACTIVITIES?

Fortunately for the credibility of the survey, the respondents in both categories really do merit being called "experts." More than half of both groups spend 80% or more of their professional time specifically on historic preservation activities.

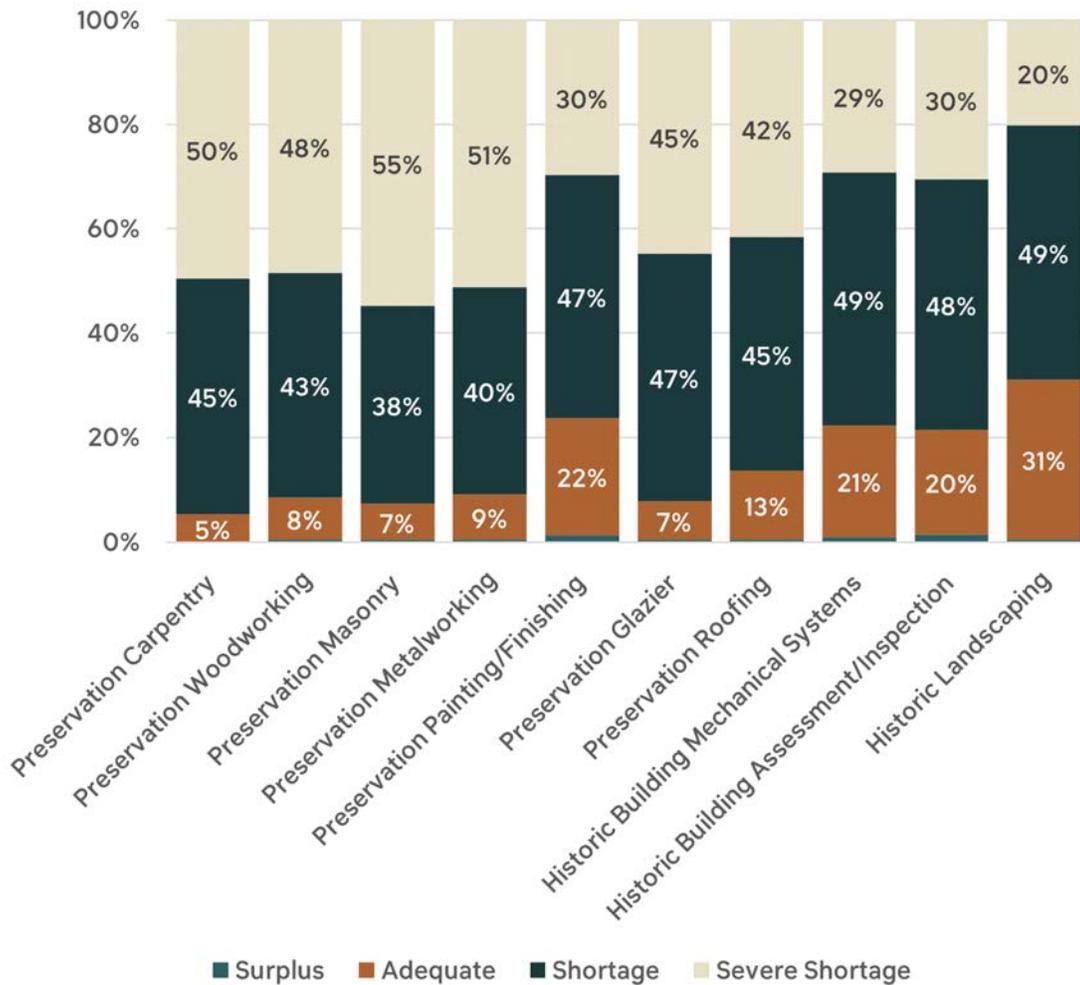
WORK TIME DEVOTED TO HISTORIC PRESERVATION



QUESTION 8 – BASED ON YOUR KNOWLEDGE AND EXPERIENCE, WHAT IS THE CURRENT STATUS OF WORKERS IN THE FOLLOWING FIELDS?

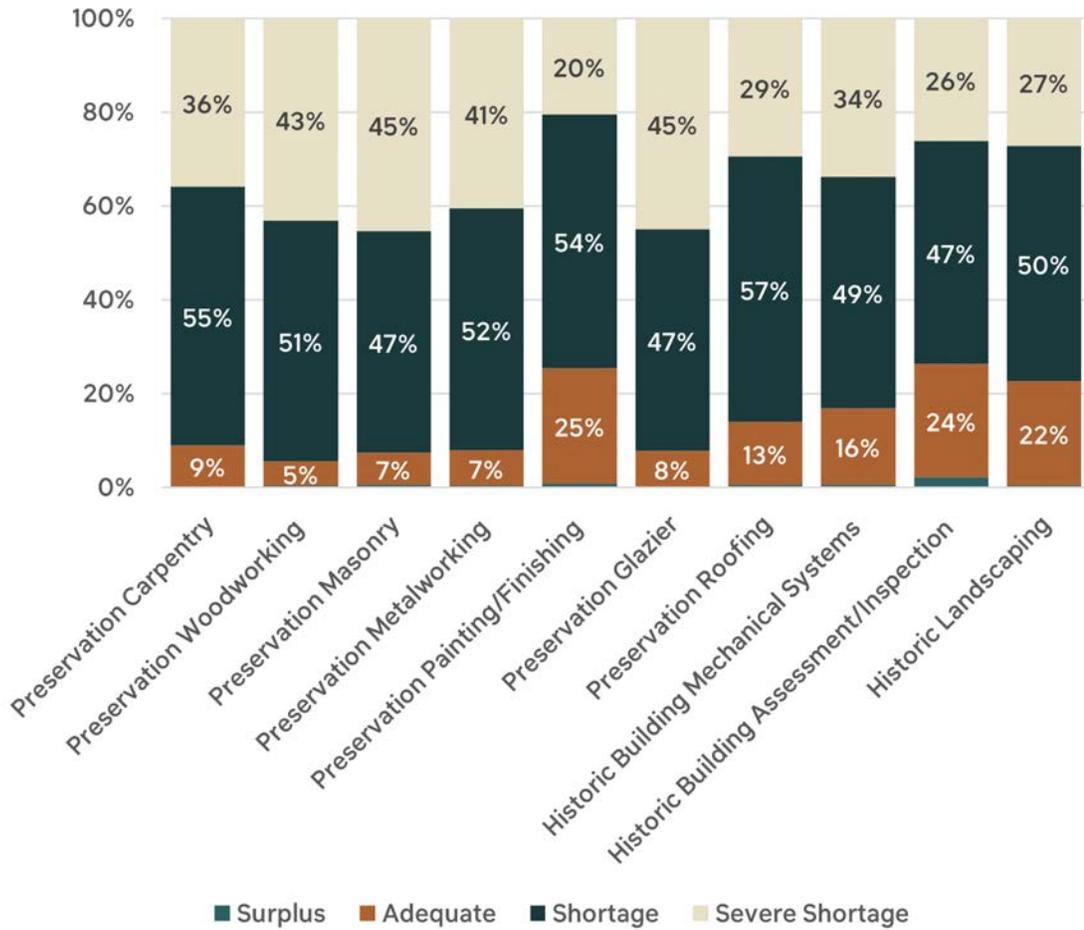
The primary purpose of this assignment from The Campaign for Historic Trades was to provide a sense of the status of the trades. Respondents were given a list of 10 trades in which expertise and experience specifically with historic buildings is deemed critical. They were then asked to indicate the availability of each of those trades, ranging from "Surplus" to "Severe Shortage." In all ten fields, more than 70% of Trades Experts said there was a shortage or a severe shortage. Severe Shortages were seen particularly in Preservation Masonry, Preservation Metalworking, Preservation Carpentry, and Preservation Woodworking.

STATUS OF PRESERVATION SKILLS - TRADES EXPERTS



A similar pattern of skills shortages was seen by the Preservation Experts, although slightly fewer identified "Severe Shortage" for most of the skills than did their Trades Experts counterparts.

STATUS OF PRESERVATION SKILLS - PRESERVATION EXPERTS



QUESTION 9 – IS THERE A CATEGORY OF HISTORIC PRESERVATION TRADES THAT IS NOT INCLUDED IN THE LIST ABOVE BUT SHOULD HAVE BEEN? IF SO, WHAT IS IT AND HOW WOULD YOU RATE THE AVAILABILITY OF QUALIFIED WORKERS IN THE FIELD?

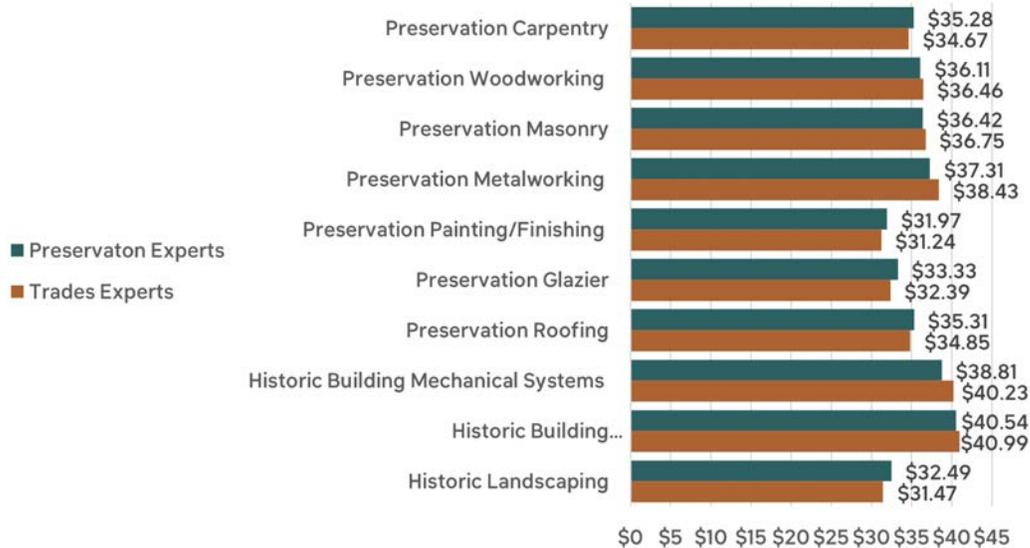
Respondents were offered the opportunity to identify additional preservation trades that were not included in Question 8. Multiple responses were given. In some instances these responses (e.g., Architect, Engineer, Appraiser) might be called professions rather than trades. However, it is useful to learn the range of expertise deemed in short supply. Duplicate answers were eliminated. Otherwise, the list below represents the areas of expertise deemed in short supply.

- Adobe preservation
- Appraisers
- Architects
- Architectural historians with knowledge of traditional trades
- Barn, garage & ancillary building evaluation and repair
- Blacksmith
- Bridge and infrastructure assessment and rehabilitation
- Building inspectors
- Building salvage and material reclamation
- Carved stonework
- Cast iron radiator repair
- Cemetery
- Code and barrier free accessibility, universal design
- Concrete restoration
- Conditions/materials assessments and documentation
- Conservation technicians
- Conservators
- Construction management
- Curatorial/collections and conservation
- Deconstruction and reconstruction
- Decorative arts
- Decorative finishes
- Drainage or dewatering of historic sites
- Dry laid stonework
- Electrical
- Energy efficiency/retrofit
- Engineers -- mechanical, electrical, structural, civil
- Estimators
- Faux painting and finishing techniques: marbling, wood graining, etc.
- Fireplace restoration
- Fixture repair and conservation (electrical and plumbing)
- Flooring restoration and refinishing and installation of new flooring
- Foundations
- Furniture repair and restoration, including the related fields of upholstery and caning.
- Furniture repair and restoration, including the related fields of upholstery and caning.
- General contractors
- Generalist in restoration working across disciplines
- Gilding
- Gravestone and funerary objects
- Hardware & lighting
- Hardware reproduction and repair
- Heavy timber
- Heritage consultants with the ability to apply for historic tax credits and complete National Register applications
- Historian/landscape historian (distinct from architectural historian or consultant)
- Historic building inspectors and maintenance specialists
- Historic door and window restoration
- Historic finish replication technicians.
- Historic flat and decorative plaster working
- Historic gates, balconies with intricate features
- Historic home histories
- Historic interiors designers and styles
- Historic landscapes
- Historic lighting
- Historic modern-style commercial facades
- Historic plumbers
- Historic salvage professionals
- Historic terra-cotta and tile restoration
- Historic textiles, historic signage, historic lighting
- Historic wallpaper and carpet reproduction specialists
- Historic wood floor, wide plank flooring, intricate parquet flooring repair and refinishing
- Historic wood identification - dendrology
- HP law, Section 106
- Insulation
- Intangible cultural heritage conservation professionals
- Interior designers focused on historically-accurate interior design
- Interior finishes conservators
- Interior mural repair/rehab
- Investors
- Lack of people of color, minority trades people
- Landscape architects
- Light repairs that does not involve a large job; that prevents bigger projects later.
- Lighting; security systems
- Log building experts
- Materials scientist
- Mid & late 20th century building technology
- Mid-20th century windows
- Millwrighting for water-powered machinery
- More people willing to consult with home or commercial building owners.
- Ornamental plaster
- Plaster repair and decorative plaster
- Plumbing
- Polymer/plastics
- Preservation policies, criteria, management, training
- Preservation project management
- Preservation researchers
- Preservation trades business people
- Preventive conservation / low-cost solutions for sustainability / maintenance
- Real estate
- Removal of inappropriate facade on a historic building
- Repair of historic plasterwork/drywall
- Repointing
- Reproduction of sash windows
- Researcher
- Residential metal window restoration
- Sculpture/bronze/stone monument repair
- Sill repair/replacement
- Site assessment, neighborhood assessment, and non-built site assessment
- Specialist conservators for decorative painting and historic wallpapers
- Specialty metalworking such as cast iron, including repair
- Stained glass repair
- Stamped metal repair and reproduction
- Steeplejack
- Stone carvers and repair
- Stone quarrying for replacements or rebuilds
- Stone restoration
- Storefront systems (display windows/entries)
- Structural assessment
- Structural engineers
- Structural framing trades
- Structural Stabilization
- Suppliers of trade specific products
- Surveyors, and inspection experts in general
- Sustainable preservation consultants (energy conservation for historic buildings)
- Terra-cotta expert
- Terra-cotta fabrication
- Terrazzo restoration
- Textile restoration
- Textiles
- Textiles, wallpaper
- The use of earthen plasters, not just for wall construction, but for the daubing used in log buildings
- There is also a shortage of people who know how to run a business
- Tile setters
- Timber framing, log structure repair
- Tin ceilings
- Tool smithing to make tools for other restoration trades
- Vintage painted finishes and gilding along with discovery and analysis
- Wallpaper
- Window replacement - when historic windows are already missing or beyond reasonable repair
- Window restoration
- Wood door repair
- Wood shutters

QUESTION 10 – BASED ON YOUR KNOWLEDGE AND EXPERIENCE, WHAT ARE THE TYPICAL HOURLY BASE PAY RATES FOR THE FOLLOWING TRADES FOR A QUALIFIED (I.E. JOURNEY-LEVEL) PROFESSIONAL?

Pay for those working on historic buildings is an important issue. This question asked the base hourly pay rates for journey-level workers across the 10 trades areas. Surprisingly, the answers were very consistent between the Trades Experts and the Preservation Experts.

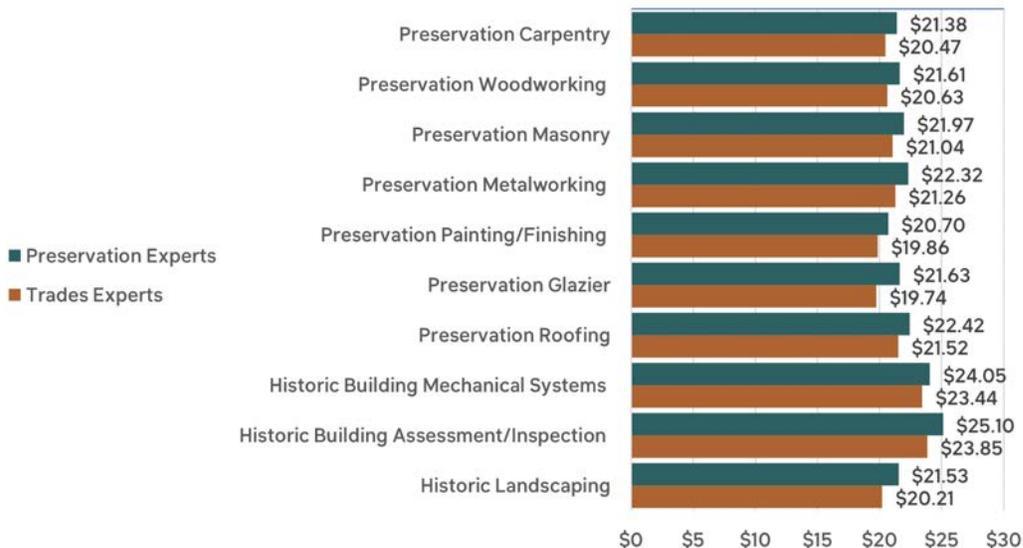
JOURNEY LEVEL PAY (WEIGHTED AVERAGE)



QUESTION 11 – BASED ON YOUR KNOWLEDGE AND EXPERIENCE, WHAT ARE THE TYPICAL HOURLY BASE PAY STARTING RATES FOR THE FOLLOWING TRADES FOR AN APPRENTICE OR TRAINEE?

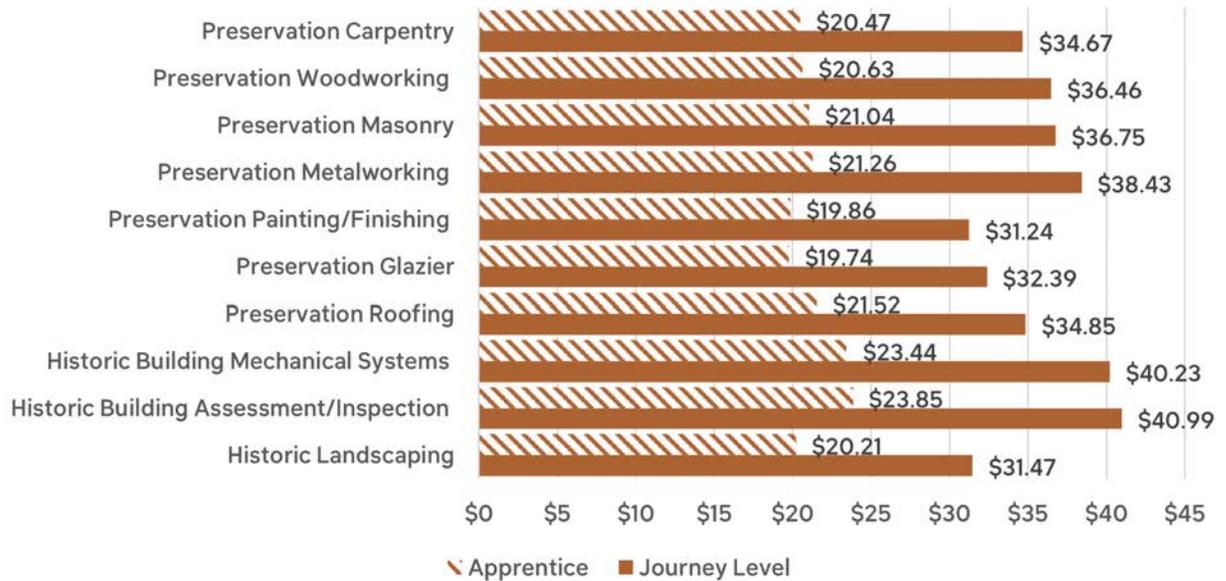
Similarly, the base pay question was asked regarding apprentices or trainees. While still largely consistent, Trades Experts usually pegged the apprentice rate at about \$1/hour lower than did the Preservation Experts.

APPRENTICE LEVEL BASE PAY (WEIGHTED AVERAGE)



The answers of the Trade Experts to both Question 10 and Question 11 were compared. This was to determine what additional pay a journey-level worker got over a trainee. Depending on the skill, that additional pay ranged from about \$12/hour to more than \$17.

APPRENTICE TO JOURNEY LEVEL BASE PAY COMPARISONS (TRADE EXPERTS WEIGHTED AVERAGE)



QUESTION 12 – BASED ON YOUR KNOWLEDGE AND EXPERIENCE, AS COMPARED TO NEW CONSTRUCTION, WHAT PREMIUM, IF ANY, IS PAID TO WORKERS IN THE FOLLOWING FIELDS WHO HAVE TRAINING/EXPERIENCE/ EXPERTISE SPECIFICALLY IN HISTORIC PRESERVATION?

Is there a premium paid to those with expertise in historic preservation as compared to new construction? Across the listed trades, between about a quarter and a third of Trades Experts said there was no premium paid. But a sizable percentage said that the premium was 20% or more.

TRADES EXPERTS

	No premium paid	1% - 3%	4% - 6%	7% to 9%	10% - 14%	15% - 19%	20% +
Carpenter	23.4%	4.2%	5.7%	23.4%	15.6%	10.9%	16.7%
Woodworker	23.0%	3.7%	5.9%	23.0%	13.4%	10.7%	20.3%
Mason	25.3%	3.9%	5.1%	25.3%	11.2%	10.7%	18.5%
Metalworker	23.3%	4.1%	8.9%	23.3%	8.2%	11.6%	20.5%
Painter/Finisher	26.1%	5.6%	5.6%	26.1%	16.1%	7.5%	13.0%
Glazier	25.1%	4.2%	9.6%	25.1%	11.4%	10.2%	14.4%
Roofer	24.5%	6.6%	7.3%	24.5%	12.6%	10.6%	13.9%
Plumber/Electrician/ other Mechanical	30.7%	3.1%	8.0%	30.7%	8.0%	9.8%	9.8%
Assessor/Inspector	28.9%	8.2%	4.4%	28.9%	7.5%	8.8%	13.2%
Landscaper	34.8%	7.0%	5.1%	34.8%	6.3%	6.3%	5.7%

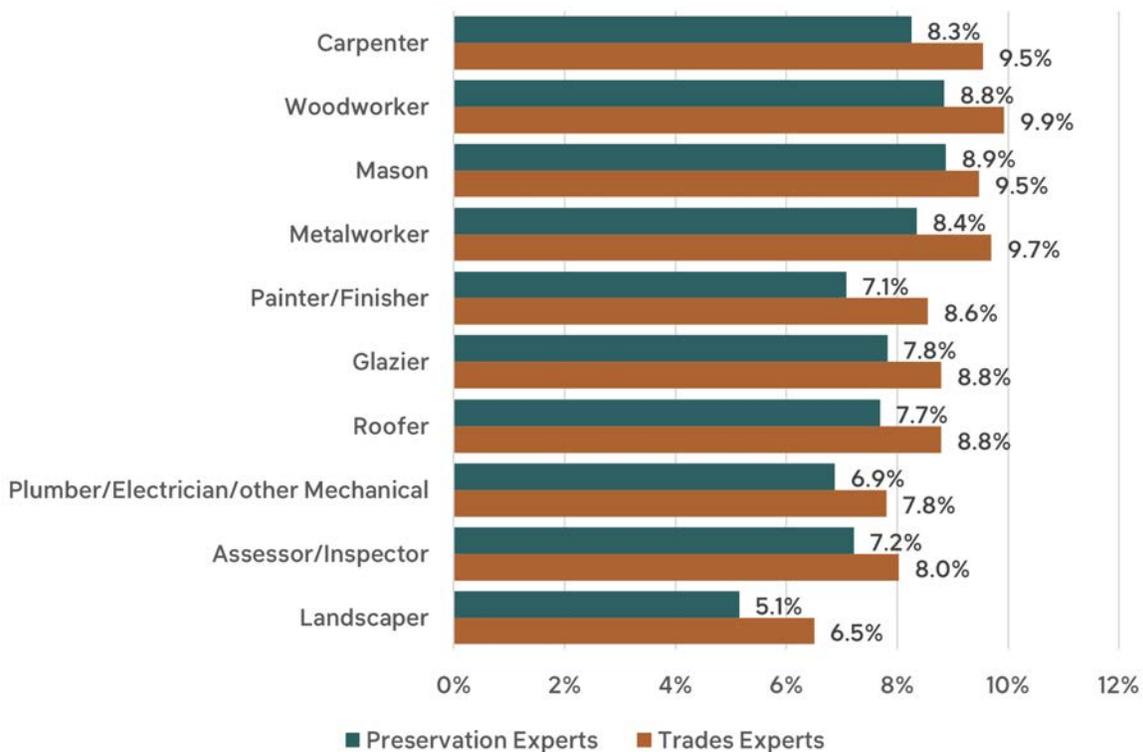
Similar responses were received from the Preservation Experts, although higher percentages thought that there was no premium paid.

PRESERVATION EXPERTS

	No Premium Paid	1% - 3%	4% - 6%	7% - 9%	10% - 14%	15%- 19%	20%+
Carpenter	30.8%	5.6%	13.7%	8.1%	19.2%	11.1%	11.5%
Woodworker	26.9%	6.4%	12.8%	6.8%	21.8%	13.3%	12.0%
Mason	26.3%	7.6%	11.0%	10.2%	18.6%	13.1%	13.1%
Metalworker	28.7%	6.5%	13.0%	11.1%	18.1%	10.2%	12.5%
Painter/Finisher	33.8%	9.0%	13.5%	9.9%	18.0%	7.2%	8.6%
Glazier	30.5%	8.5%	12.6%	10.8%	17.0%	10.3%	10.3%
Roofer	32.3%	6.8%	15.9%	6.8%	17.7%	10.9%	9.6%
Plumber/Electrician/ other Mechanical	39.4%	5.6%	14.8%	7.9%	15.3%	8.8%	8.3%
Assessor/Inspector	40.2%	6.7%	12.5%	6.7%	12.1%	9.8%	12.1%
Landscaper	44.8%	13.3%	14.3%	6.7%	11.0%	4.3%	5.7%

But perhaps the best way to evaluate these answers is to look at the weighted average of the responses. The Trades Experts thought, depending on the specific trade, the premium was between 6.5% and nearly 10%. Preservation Experts estimated a slightly lower premium for all ten of the trades.

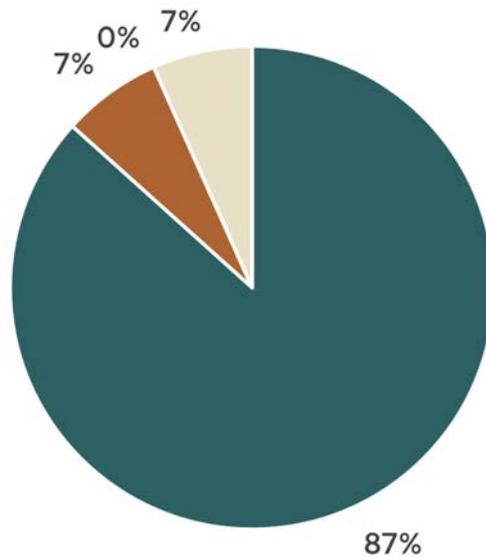
PREMIUM PAID FOR TRAINING/EXPERIENCE/EXPERTISE (WEIGHTED AVERAGE)



QUESTION 13 – BASED ON YOUR KNOWLEDGE AND EXPERIENCE, IS THERE ANY ADDITIONAL PAY FOR TRADES PEOPLE WORKING ON HISTORIC TAX CREDIT PROJECTS?

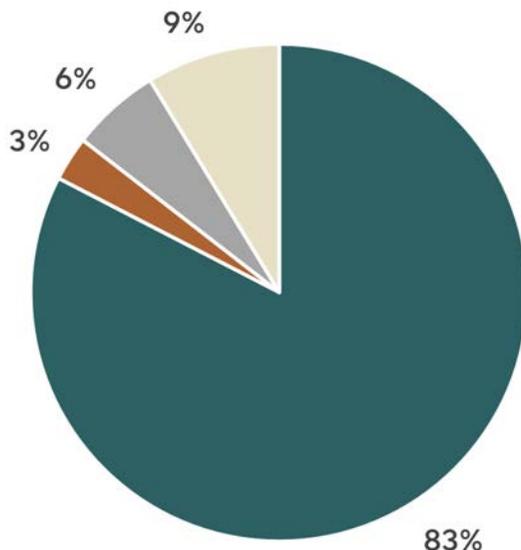
Much of the "historic preservation" work in the United States is done using the federal Rehabilitation Tax Credit. There is ordinarily a higher level of review and scrutiny of tax credit projects than other types of historic preservation projects. So it was appropriate to determine if there was extra pay for those working on these types of projects. The answer, from both Trades Experts and Preservation Experts, was overwhelmingly "no" with more than 80% of both groups saying there was not extra pay for tax credit projects.

PAY FOR TAX CREDIT PROJECTS (TRADES EXPERT RESPONSES)



- Workers on historic tax credit projects are paid the same as workers on non-tax credit historic preservation projects.
- Workers on historic tax credit projects are paid 1% or 4% more than workers on non-tax credit historic preservation projects.
- Workers on historic tax credit projects are paid 5% - 9% more than workers on non-tax credit historic preservation projects.
- Workers on historic tax credit projects are paid 10% or more than workers on non-tax credit historic preservation projects.

PAY FOR TAX CREDIT PROJECTS (PRESERVATION EXPERT RESPONSES)

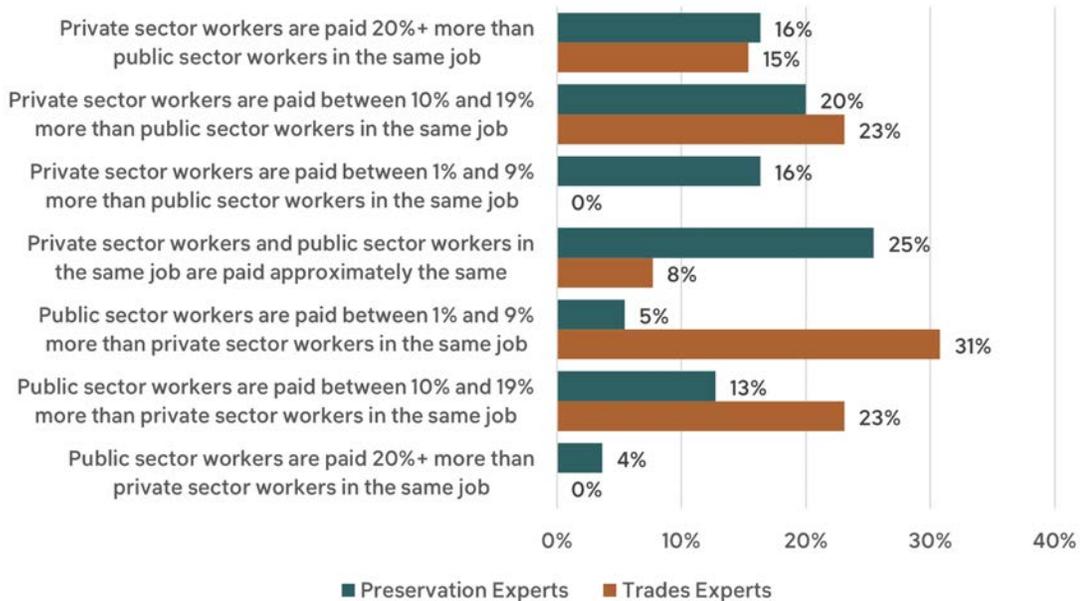


- Workers on historic tax credit projects are paid the same as workers on non-tax credit historic preservation projects.
- Workers on historic tax credit projects are paid 1% or 4% more than workers on non-tax credit historic preservation projects.
- Workers on historic tax credit projects are paid 5% - 9% more than workers on non-tax credit historic preservation projects.
- Workers on historic tax credit projects are paid 10% or more than workers on non-tax credit historic preservation projects.

QUESTION 14 –BASED ON YOUR KNOWLEDGE AND EXPERIENCE, WHAT IS THE DIFFERENCE IN COMPENSATION, IF ANY, FOR HISTORIC PRESERVATION TRADESPEOPLE IN THE PRIVATE SECTOR VERSUS THE PUBLIC SECTOR?

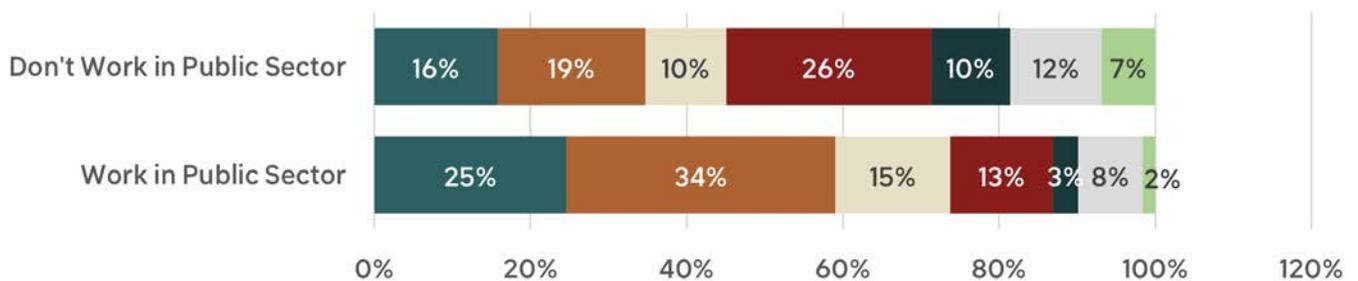
When asked about any differences between the pay of private or public sector workers, there was an inconsistent pattern between the Trades Experts and the Preservation Experts.

PUBLIC/PRIVATE SECTOR PAY COMPARISONS



But when the responses were sorted between those who work in the public sector versus those who do not, the “grass is always greener...” principle emerged. For those who work in the public sector, 59% believe that private sector workers get paid 10% or more than their public sector counterparts. Among those in the private sector, only 34.7% thought that was the case. At the other end of the spectrum, among those not working in the public sector 18.5% believe public sector workers receive paychecks 10% or more than the same job in the private sector. Only 9.8% of public sector workers believed that was the case.

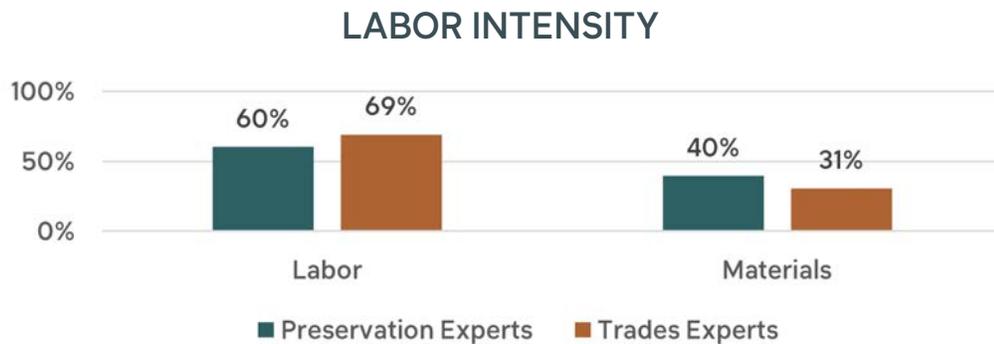
PUBLIC/PRIVATE SECTOR PAY COMPARISONS



- Private sector workers are paid 20%+ more than public sector workers in the same job.
- Private sector workers are paid between 10% and 19% more than public sector workers in the same job.
- Private sector workers are paid between 1% and 9% more than public sector workers in the same job.
- Private sector workers and public sector workers in the same job are paid approximately the same.
- Public sector workers are paid between 1% and 9% more than private sector workers in the same job.
- Public sector workers are paid between 10% and 19% more than private sector workers in the same job.
- Public sector workers are paid 20%+ more than private sector workers in the same job.

QUESTION 15 – BASED ON YOUR KNOWLEDGE AND EXPERIENCE IN HISTORIC PRESERVATION PROJECTS, WHAT SHARE OF THE HARD COST CONSTRUCTION BUDGET GOES TO LABOR AND WHAT SHARE TO MATERIALS? (Do not include other costs such as acquisition, architectural/engineering fees, other soft costs, development fee, interest, permits, etc.)

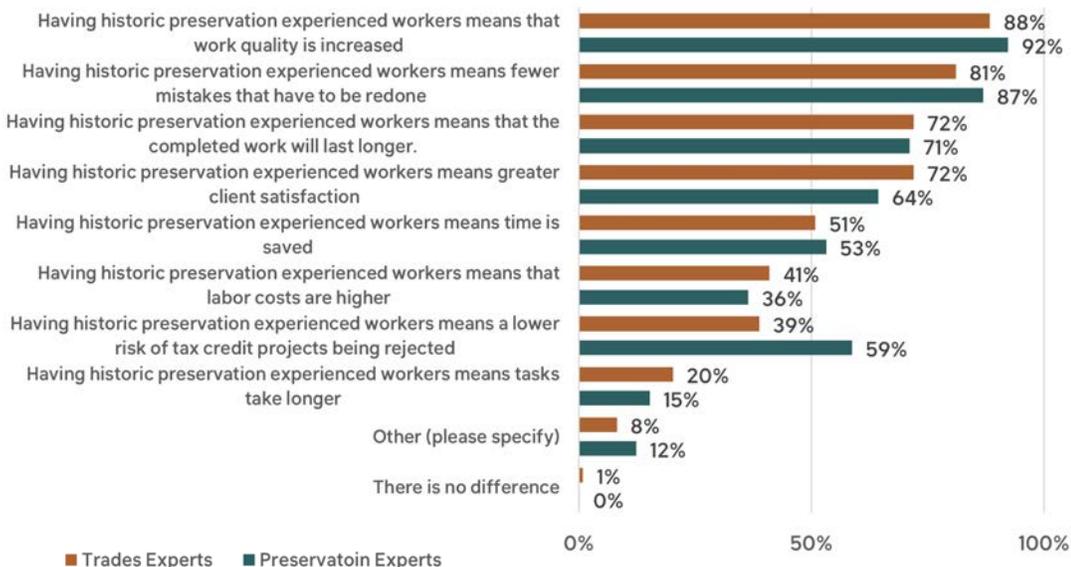
One of the economic arguments for rehabilitation versus new construction is that historic preservation is more labor intensive, i.e., a greater share of the budget goes to labor than to materials. As a general guideline, many in the new construction business estimate that 50% of the hard costs go to labor and 50% to materials. If historic preservation is, indeed, more labor intensive, the labor component should be larger than new construction. Among the Trades Experts the estimates were 69% to labor and 31% to materials. Preservation Experts had a lower labor share estimate at just over 60%.



QUESTION 16 – BASED ON YOUR KNOWLEDGE AND EXPERIENCE, WHAT DIFFERENCES DO TRAINED HISTORIC TRADES CRAFTSPEOPLE BRING TO A HISTORIC PRESERVATION PROJECT COMPARED TO NON-HISTORIC TRADES CONTRACTORS? (CHECK ALL THAT APPLY)

One of the purposes of this analysis by The Campaign for Historic Trades was to determine if more training programs for these trades are necessary and what the consequences of that training might be. Large majorities of both Trades Experts and Preservation Experts said that training increased quality, resulted in fewer mistakes, that the completed work would last longer and that there would be greater client satisfaction.

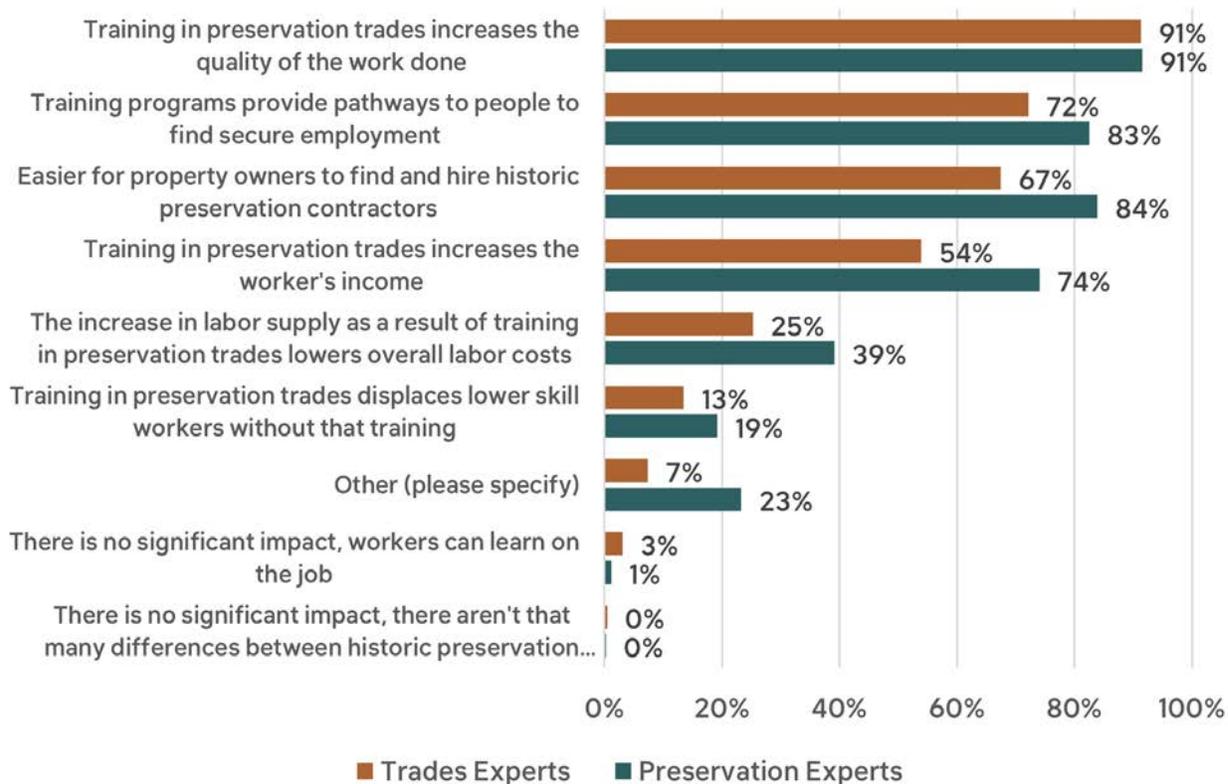
DIFFERENCES THAT TRAINED CRAFTSPEOPLE MAKE



QUESTION 17 – WHAT ARE THE BENEFITS, IF ANY, OF HAVING PRESERVATION TRADES TRAINING PROGRAMS? (CHECK ALL THAT APPLY)

Similarly, respondents were asked what the benefits of trades training programs might be. Topping the list were increased work quality, secure employment for trained workers, easier for property owners to find capable contractors, and an increase in workers' income.

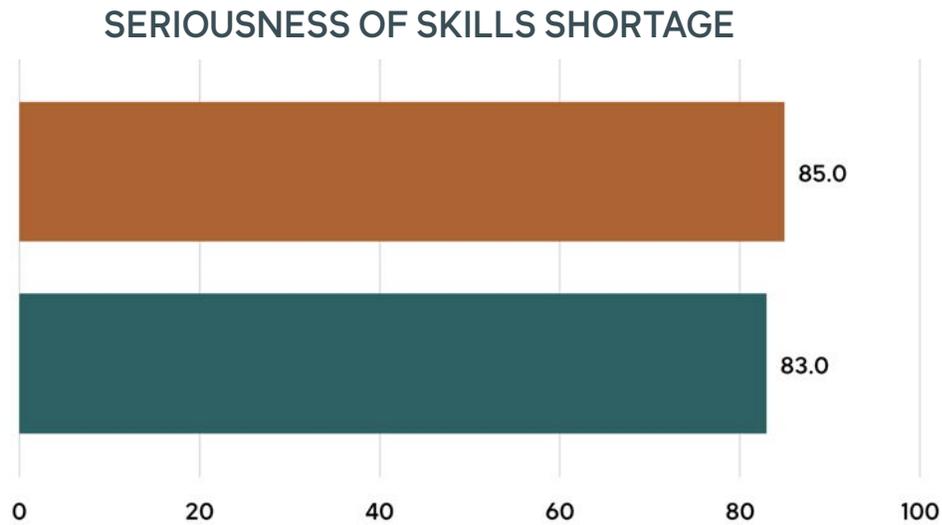
BENEFITS OF TRADES TRAINING PROGRAMS



QUESTION 18 – FINALLY, PLEASE RATE THE SIGNIFICANCE OF A SHORTAGE OF QUALIFIED HISTORIC PRESERVATION TRADES WORKERS, IF ANY.

Finally, respondents were given a slide scale from 1 to 100 to identify the significance of any shortage of qualified historic trades workers. At the lower end was the statement, "There is no shortage of competent, trained preservation trades workers, therefore no problem." In the middle of the slide was, "Historic preservation activity might be enhanced with more trained preservation trades people, but currently the problem is not all that serious." At the high end of the scale was "The shortage of competent, trained preservation trades workers is having a significant adverse impact on historic preservation overall."

The average rating from Trades Experts was 85 and among Preservation Experts 83.



WILMINGTON, DELAWARE
Photo: PlaceEconomics



COPY OF THE HISTORIC TRADES SURVEY

The Campaign for Historic Trades is striving to demonstrate the need for and the value of workers with specific knowledge, training, and experience in historic preservation, restoration, and rehabilitation.

To that end PlaceEconomics has been commissioned to collect baseline data and to develop models forecasting future needs for preservation construction skills. Part of that effort is this survey of preservation experts and advocates. We hope this will be the most comprehensive survey on these issues ever conducted in the United States. That is why we need input from a wide range of preservation professionals. The survey should take you approximately 13 minutes to complete. None of the questions are of the "Must Answer" type, so feel free to skip any questions you don't feel prepared to answer. But whichever questions you choose to answer will be input that will provide us valuable information. Thank you in advance for your assistance and for your ongoing efforts to save our built heritage.

1. Do you currently reside in the United States?

- YES
- NO

2. If you currently live in the US, in which state do you live?

3. If you do not currently live in the United States, in what country do you live?

4. Which of the following best describes your work in historic preservation?

- Architect
- Landscape Architect/Other Design
- Professional Engineer
- Trades Worker/Craftsperson/Artisan
- Real Estate Developer
- Real Estate Professional
- General Contractor
- Subcontractor
- Design Review/Regulator
- Materials supplier
- Architectural Historian
- Historic Preservation Advocate
- Conservator
- Planner
- Private Heritage Advocate but am not employed in the field
- Preservation Consultant
- Historic Site Manager
- Other (please specify)

5. In which sector do you work?

- I work for the federal government
- I work for state government
- I work for local government
- I am a preservation professional in a private sector firm
- I work for a private sector firm, but don't consider myself a preservation professional
- I am an independent preservation consultant
- I work for a college or university
- I work for a non-profit organization or institution
- I am a historic preservation advocate but do not work in the field
- I am a student, retired, or not in the workforce
- Other (please specify)

6. How would you rate your own experience/expertise in the area of Historic Trades? (1-5)

- 1 (amateur)
- 2
- 3
- 4
- 5 (expert)

7. In your work, what share of your time is devoted specifically to historic preservation activities?

- None
- 1% to 19%
- 20% to 39%
- 40% to 59%
- 60% to 79%
- 80% or more

8. Based on your knowledge and experience, what is the current status of workers in the following fields?

	There is a surplus of qualified workers	There is an adequate number of qualified workers	There is a shortage of qualified workers	There is a severe shortage of qualified workers
Preservation Carpentry (including exterior wood repair, framing repair, box gutter restoration, wood siding repair, wood shingle repair, wood floor repair)				
Preservation Woodworking (including reproducing historic millwork, decorative wood repair/refinishing)				
Preservation Masonry (including flat plaster work, decorative plaster work, masonry repair, concrete repair, adobe, stucco, re-pointing, stone wall repair, chimney repair, decorative tile and terracotta repair, dry-laid stone wall repair, foundation repair)				
Preservation Metalworking (including standing seam metal roofs, flat seam terne and copper metal roofing, wrought iron fence/gate repair)				

<p>Preservation Painting/ Finishing (including exterior painting for historic structures, lead-based paint abatement, passive wood floor restoration)</p>				
<p>Preservation Glazier (including wood window repair and weatherization, stained and decorative glass restoration, steel window repair and restoration, storm window and storm door repair/construction)</p>				
<p>Preservation Roofing (including slate roofs, clay tile roofing, wood shingle roofing, decking, valley, rafter, eaves, gutters, box gutters, flashing repair)</p>				
<p>Historic Building Mechanical Systems (including HVAC design, plumbing for historic properties, electrical work for historic properties, water issue identification and water management)</p>				
<p>Historic Building Assessment/Inspection (including analyzing historic materials -- paint, mortar, plaster, etc.)</p>				
<p>Historic Landscaping (including maintaining historic landscaping)</p>				

9. Is there a category of historic preservation trades that is not included in the list above but should have been? If so, what is it and how would you rate the availability of qualified workers in the field?

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10. Based on your knowledge and experience, what are the typical hourly base pay rates for the following trades for a qualified (i.e. journey-level) professional?

	Less than \$15/hour	\$15 - \$19/hour	\$20 - \$24/hour	\$25 - \$29/hour	\$30 - \$39/hour	\$40 - \$49/hour	\$50/hour +
Preservation Carpentry							
Preservation Woodworking							
Preservation Masonry							
Preservation Metalworking							
Preservation Painting/Finishing							
Preservation Glazier							
Preservation Roofing							
Historic Building Mechanical Systems							
Historic Building Assessment/Inspection							
Historic Landscaping							

11. Based on your knowledge and experience, what are the typical hourly base pay starting rates for the following trades for an apprentice or trainee?

	Less than \$15/hour	\$15 - \$19/hour	\$20 - \$24/hour	\$25 - \$29/hour	\$30 - \$39/hour	\$40 - \$49/hour	\$50/hour +
Preservation Carpentry							
Preservation Woodworking							
Preservation Masonry							
Preservation Metalworking							
Preservation Painting/Finishing							
Preservation Glazier							
Preservation Roofing							
Historic Building Mechanical Systems							
Historic Building Assessment/Inspection							
Historic Landscaping							

12. Based on your knowledge and experience, as compared to new construction, what premium, if any, is paid to workers in the following fields who have training/experience/expertise specifically in historic preservation?

	No premium paid	1%- 3% premium	4% - 6% premium	\$25 - \$29/ hour	\$30 - \$39/ hour	\$40 - \$49/ hour	\$50/ hour +
Carpenter							
Woodworker							
Mason							
Metalworker							
Painter/Finisher							
Glazier							
Rofer							
Plumber/Electrician/other Mechanical							
Assessor/Inspector							
Landscaper							

13. Based on your knowledge and experience, is there any additional pay for trades people working on historic tax credit projects?

- Workers on historic tax credit projects are paid the same as workers on non-tax credit historic preservation projects.
- Workers on historic tax credit projects are paid 1% o 4% more than workers on non-tax credit historic preservation projects.
- Workers on historic tax credit projects are paid 5% - 9% more than workers on non-tax credit historic preservation projects.
- Workers on historic tax credit projects are paid 10% or more than workers on non-tax credit historic preservation projects.

14. Based on your knowledge and experience, what is the difference in compensation, if any, for historic preservation tradespeople in the private sector versus the public sector?

- Private sector workers are paid 20%+ more than public sector workers in the same job
- Private sector workers are paid between 10% and 19% more than public sector workers in the same job
- Private sector workers are paid between 1% and 9% more than public sector workers in the same job
- Private sector workers and public sector workers in the same job are paid approximately the same
- Public sector workers are paid between 1% and 9% more than private sector workers in the same job
- Public sector workers are paid between 10% and 19% more than private sector workers in the same job
- Public sector workers are paid 20%+ more than private sector workers in the same job

15. Based on your knowledge and experience in historic preservation projects, what share of the Hard Cost Construction Budget goes to labor and what share to materials? (Do not include other costs such as acquisition, architectural/engineering fees, other soft costs, development fee, interest, permits, etc.)

% that goes to Labor

% that goes to Materials

16. Based on your knowledge and experience, what differences do trained historic trades craftspeople bring to a historic preservation project compared to non-historic trades contractors? (check all that apply)

- There is no difference
- Having historic preservation experienced workers means time is saved
- Having historic preservation experienced workers means that work quality is increased
- Having historic preservation experienced workers means that labor costs are higher
- Having historic preservation experienced workers means tasks take longer
- Having historic preservation experienced workers means fewer mistakes that have to be redone
- Having historic preservation experienced workers means a lower risk of tax credit projects being rejected
- Having historic preservation experienced workers means greater client satisfaction
- Having historic preservation experienced workers means that the completed work will last longer
- Other (please specify)

17. What are the benefits, if any, of having preservation trades training programs? (check all that apply)

- There is no significant impact, workers can learn on the job
- There is no significant impact, there aren't that many differences between historic preservation work and other construction projects
- Training in preservation trades increases the quality of the work done
- Training in preservation trades increases the worker's income
- The increase in labor supply as a result of training in preservation trades lowers overall labor costs
- Training programs provide pathways to people to find secure employment
- Training in preservation trades displaces lower skill workers without that training
- Easier for property owners to find and hire historic preservation contractors
- Other (please specify)

18. Finally, please rate the significance of a shortage of qualified historic preservation trades workers, if any.



There is no shortage of competent, trained preservation trades workers, therefore no problem.

Historic preservation activity might be enhanced with more trained preservation trades people, but currently the problem is not all that serious.

The shortage of competent, trained preservation trades workers is having a significant adverse impact on historic preservation overall.

APPENDIX 2:

OVERALL CONSTRUCTION TRADES WORKFORCE DATA

The table below represents all workers in the construction trades, not just those working on historic buildings.

Trade	Jobs 2020	Jobs 2030	Annual Openings
Bricklayers	69,600	65,900	6,000
Carpenters	942,900	963,000	89,300
Cabinetmaker	103,900	113,100	11,000
Cement Finishers	194,100	192,200	17,200
Electricians	729,600	795,700	84,700
Glaziers	53,600	56,100	6,000
Lathers	n/a	n/a	n/a
Marble Setters	n/a	n/a	n/a
Mosaic & Terrazzo Workers	n/a	n/a	n/a
Painters	350,800	369,100	32,700
Paper Hangers	4,600	4,900	400
Plasterers	26,100	27,800	2,400
Plumbers	469,900	493,200	51,000
Roofers	153,700	160,800	15,600
Sheet Metal Workers	135,400	140,200	13,100
Stone Masons	13,900	13,700	1,300
Tile Layers	54,100	60,300	5,400
Bldg Assessment/ Inspection	129,300	125,600	14,300
Landscapers	181,300	188,600	19,700

The table below provides more detail on the specific trades captured by trade categories.

Trade	Includes
Bricklayers	Brickmason and blockmason, Adobe Layer, Block Layer, Blockmason, Brick Chimney Builder, Brick Setter, Bricklayer, Brickmason, Brickmason Apprentice, Firebrick Layer, Furnace Mason, Pottery Kiln Builder, Refractory Bricklayer
Carpenters	Carpenter, Beam Builder, Building Carpenter, Construction Carpenter, Counter Installer, Custom Wood Stair Builder, Finish Carpenter, Hardwood Floor Installer, House Carpenter, Wood Floor Layer
Cabinetmaker	Cabinetmaker and bench carpenter, Cabinet Builder, Cabinetmaker, Marquetry Worker, Wood Furniture Assembler, Wood Working Assembler
Cement Finishers	Cement mason and concrete finishers, Cement Mason, Cement Patcher, Concrete Finisher, Concrete Floor Installer, Concrete Mason, Concrete Smoother, Concrete Swimming Pool Installer
Electricians	Electrician, Chief Electrician, Control Electrician, Electrical Maintenance Worker, Electrical Sign Wirer, House Wirer, Licensed Electrician, Lighting Fixture Installer, Marine Electrician, Master Electrician, Solar Photovoltaic Electrician, Stage Electrician
Glaziers	Glazier, Leaded Glass Installer, Plate Glass Installer, Stained Glass Glazier, Stained Glass Installer, Stained Glass Joiner, Window Glazier
Lathers	n/a
Marble Setters	n/a
Mosaic & Terrazzo Workers	n/a
Painters	Painter construction and maintenance, Bridge Painter, Facilities Painter, Highway Painter, House Painter, Industrial Painter, Parking Line Painter, Roof Painter, Traffic Line Painter
Paper Hangers	Paperhangers, Billboard Poster, Paperhanger, Wall Covering Installer, Wallpaper Hanger, Wallpaperer
Plasterers	Plasterer and stucco mason, Dry Plasterer, Journey Level Plasterer, Molding Plasterer, Ornamental Plasterer, Plasterer Apprentice, Stucco Plasterer, Stucco Worker, Swimming Pool Plasterer
Plumbers	Plumber, pipefitter, and steamfitter, Fire Sprinkler Installer, Gas Main Fitter, Gas Plumber, Hydraulic Plumber, Industrial Gas Fitter, Marine Pipefitter, Marine Steamfitter, Master Plumber, Pipe Fitter, Plumber, Solar Thermal Installer, Sprinkler Fitter, Steamfitter, Water Pump Installer
Roofers	Roofer, Composition Roofer, Hot Tar Roofer, Industrial Roofer, Metal Roofing Mechanic, Residential Roofer, Roofer, Sheet Metal Roofer, Shingles Roofer, Slate Roofer, Terra Cotta Roofer
Sheet Metal Workers	Sheet metal worker, Air Conditioning Sheet Metal Installer, Heating, Ventilation, and Air Conditioning (HVAC) Sheet Metal Installer, Sheet Metal Duct Installer, Sheet Metal Fabricator, Sheet Metal Former, Sheet Metal Installer, Sheet Metal Layout Mechanic, Sheet Metal Layout Worker, Sheet Metal Worker, Tinsmith

Stone Masons	Stonemason, Banker Mason, Curbstone Setter, Granite Setter, Memorial Mason, Monument Mason, Rock Mason, Stone Chimney Mason, Stone Layer, Stonemason
Tile Layers	Tile and stone setters, Ceramic Tile Installer, Hard Tile Setter, Marble Ceiling Installer, Parquet Floor Layer, Tile Installer, Tile Mason, Wood Tile Installer
Building Assessment and Inspection	Construction and building inspectors, Architectural Inspector, Bridge Inspector, Building Code Inspector, Building Inspector, Construction Inspector, Electrical Inspector, Elevator Inspector, Highway Inspector, Home Inspector, Plumbing Inspector, Public Works Inspector, Residential Building Inspector
Landscapers	First-line supervisors of landscaping, lawn service, and groundskeeping workers, Gardening Supervisor, Greenskeeper Supervisor, Grounds Crew Supervisor, Grounds Foreman, Grounds Maintenance Supervisor, Head Greenskeeper, Horticultural Services Supervisor, Landscape Installation Foreman, Turf and Grounds Supervisor

APPENDIX 3:

WAGE RATES BY TRADE

The table below represents all workers in the construction trades, not just those working on historic buildings.

Trade	Hourly Total Wage Rate ²⁷ - 30 City Average ²⁸	Average Total Wage Rate - Residential, 7 Region Average
Bricklayers	\$53.70	\$36.45
Carpenters	\$54.70	\$37.15
Cement Finishers	\$51.80	\$37.20
Electricians	\$63.70	\$43.70
Glaziers	\$52.65	\$36.15
Lathers	\$54.10	\$37.55
Marble Setters	\$53.20	\$36.90
Mosaic & Terrazzo Workers	\$51.75	\$35.75
Painters	\$46.45	\$31.10
Paper Hangers	\$46.30	\$31.70
Plasterers	\$49.85	\$36.00
Plumbers	\$67.70	\$41.90
Roofers	\$48.20	\$32.25
Sheet Metal Workers	\$65.45	\$40.50
Stone Masons	\$53.85	\$36.70
Tile Layers	\$51.70	\$36.65
Building Assessment/ Inspection	\$30.22 (US Median Base Wage)	
Landscaping	\$24.57 (US Median Base Wage)	

²⁷ Average Total Wage Rate (union) including fringes from 30 Cities.

²⁸ Atlanta, GA; Baltimore, MD; Boston, MA; Buffalo, NY; Chicago, IL; Cincinnati, OH; Cleveland, OH; Columbus, OH; Dallas, TX; Denver, CO; Detroit, MI; Houston, TX; Indianapolis, IN; Kansas City, MO; Los Angeles, CA; Memphis, TN; Milwaukee, WI; Minneapolis, MN; Nashville, TN; New Orleans, LA; New York, NY; Philadelphia, PA; Phoenix, AZ; Pittsburgh, PA; St. Louis, MO; San Antonio, TX; San Diego, CA; San Francisco, CA; Seattle, WA; Washington, D.C.

APPENDIX 4: DEFINITIONS

Job Opening is defined as a job that remained unfilled on the last business day of the month. (Note: Information on job openings is collected for the last business day of the reference month. Conditions are that (a) there is work available for the position, (b) the job could start within 30 days, and (c) the employer is actively recruiting for the position. Also known as “vacancy.”) This definition comes from the Bureau of Labor Statistics.

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

STATUS OF HISTORIC TRADES IN AMERICA



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