Occupational Profile: Electricians

By Jennifer Goddu, Research Analyst, CT Department of Labor

Electricians are skilled trade workers responsible for installing, maintaining, and repairing electrical wiring, equipment, and fixtures. Trained electricians ensure that electrical work is done in accordance with state and local building regulations based on the National Electrical Code. Enforced in all 50 states, NFPA 70, National Electrical Code, is the benchmark for safe electrical design, installation, and inspection to protect people and property from electrical hazards.[1] Electricians work both indoors and outdoors at homes, businesses, factories, and construction sites. Duties may include installing electrical systems in newly constructed buildings or maintaining electrical equipment and systems. Maintenance work can include fixing or replacing parts, light fixtures, control systems and motors, or inspecting electrical components such as transformers and circuit breakers. Electricians read blueprints of electrical systems that show the location of circuits, outlets, and other equipment. They use a variety of tools to perform their jobs, such as conduit benders, wire strippers, screw drivers, pliers, and drills. Electricians also use a variety of testing equipment such as voltmeters, ohmmeters, ammeters, thermal scanners, and cable testers to identify electrical problems and ensure components are working properly.[2]

Education and Training

A high school diploma or equivalent is required to become an electrician. While some start out by attending a technical school, most electricians learn through an apprenticeship in which they receive paid on-the-job training as well as technical instruction. Technical instruction for Apprentice Electricians includes electrical theory, blueprint reading, mathematics, electrical code requirements, and safety and first-aid practices. After completing an apprenticeship program and passing a licensure exam, electricians are considered Journey Workers and may perform duties on their own. Journey Workers may also advance to become Master Electricians, the highest level of electrical certification.[2] For a complete list of electrical license types in Connecticut and the scope of work covered, visit the State of Connecticut Department of Consumer Protection website at www.ct.gov/dcp.

Earnings

The average annual salary for electricians in Connecticut is $70,806.[3] Apprentices receive less pay than fully trained electricians, but wages increase with experience. In Connecticut, the average annual entry-level salary for electricians is $48,100 while the average annual experienced-level salary is $81,980.[3] The table shows wages by Connecticut labor market areas, with electricians in the New Haven and Waterbury labor market areas earning slightly higher wages on average.

Outlook

Nationally, the job outlook for electricians is strong with employment projected to grow 6.4% from 2022 to 2032, faster than the average growth of 2.8% for all occupations.[4] The number of annual openings will offer excellent opportunities – about 73,500 job openings for electricians are projected each year, on average, over the decade.[4] Many of those openings are expected to result from the need to replace retiring workers. According to the National Electrical Contractors Association (NECA), nearly 30% of union electricians are close to retirement.[5] The growth in alternative power generation, such as solar and wind, should also contribute to employment growth. Everywhere there is electricity, trained electricians will continue to be needed to install, maintain, and replace these systems. ■

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[1] National Fire Protection Association (NFPA) www.nfpa.org
[2] Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Electricians
[3] Connecticut Occupational Employment and Wage Statistics, May 2023 *(First Quarter 2024 wage estimates are aged forward using the March 2024 Employment Cost Index.)*
[4] U.S. Bureau of Labor Statistics, *Employment Projections* program
[5] www.necanet.org

Electricians: CT Employment and Wages

Labor Market Area	Employment	Median Wage		Mean Wage		Entry Level		Experienced Level	
		Hourly	Annual	Hourly	Annual	Hourly	Annual	Hourly	Annual
Connecticut	**7,230**	**$35.27**	**$73,361**	**$34.04**	**$70,806**	**$23.13**	**$48,100**	**$39.42**	**$81,980**
Bridgeport-Stamford	1,280	$36.22	$75,342	$34.50	$71,761	$23.72	$49,332	$39.81	$82,801
Danbury	590	$33.86	$70,427	$32.73	$68,077	$22.23	$46,254	$37.89	$78,820
Hartford	2,470	$34.96	$72,715	$33.65	$69,996	$23.07	$47,977	$38.87	$80,831
New Haven	1,090	$35.80	$74,469	$35.56	$73,977	$23.42	$48,716	$41.54	$86,423
Norwich-New London	720	$31.34	$65,174	$31.15	$64,784	$21.46	$44,653	$35.91	$74,695
Waterbury	530	$36.63	$76,193	$35.52	$73,895	$23.86	$49,609	$41.28	$85,848
Torrington	150	$36.68	$76,296	$35.49	$73,813	$24.59	$51,158	$40.85	$84,966