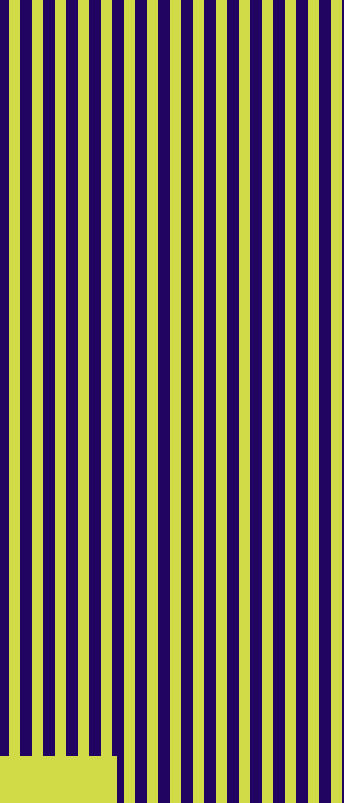




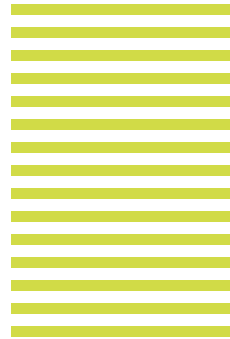
FROM THE IEC WORKFORCE DEVELOPMENT INSTITUTE



Understanding Barriers to Entry in the Electrical Trade



RESEARCH REPORT



The massive projected shortage of electricians in the trade has been widely covered throughout 2023 – from the Wall Street Journal, The Guardian, the New Yorker and countless additional media sources. According to the U.S. Bureau of Labor Statistics, the job outlook for electricians is projected to grow at 6% over the next 10 years, double the average growth rate across all occupations. To move the needle on the pipeline of future electricians, the industry needs a deeper understanding of barriers to entry to the trade among the prospective apprentice population. This understanding will lead to insight, action, and momentum forward for the future of the electrical profession.

The IEC Workforce Development Institute conducted primary research across a broad audience in summer 2023. The findings are presented here along with possible actionable solutions to develop the future electrical apprentice pipeline and impact public sentiment on the electrical worker career path.



Methodology

QUALITATIVE DATA COLLECTION

The IEC Workforce Development Institute (WFDI) began by conducting two focus groups with a wide representation of perspectives reflective of the industry who regularly work with electrical apprentices and recruit prospectives. Participants included electrical contractors, industry partners, chapter executive directors, and apprentice program training directors.

The WFDI identified 5 key issues for further exploration in relation to understanding barriers to entry in the electrical trade to inform the direction of the quantitative study including:

1. Public sentiment regarding an electrical career path
2. Exposure to trades in high schools. While a study by The National Center for Educational Statistics indicates vocational credits earned in high school between 1990 – 2010 dropped by 14%, recent studies such as the National Student Clearinghouse signal an increased enrollment in construction trades higher education from Spring 2021-2022 by 19.3%.
3. Support systems and career pathing for young adults
4. Nationwide competitive wage for electrical apprentices (\$22/hour average in the United States according to Zip Recruiter) versus regional entry level alternatives
5. Pathways to regional electrical licensure

QUANTITATIVE DATA COLLECTION

Online surveys to two target markets were developed and deployed. The first survey included IEC electrical contractor members to directionally gauge perceptions among professionals who have chosen to stay in the electrical field and as a point of comparison to the feedback directly from prospective apprentices, the primary audience for the study. The second survey included the myelectriccareer.com database of prospective electrical apprentices.:

- IEC Contractor Member Survey – 3,466 population, 79 responses, 11% margin of error for directional point of comparison
- Prospective Apprentice Survey – 28,157 population, 330 responses, 5% margin of error representing the voice of prospective electrical apprentices
- Survey duration was August – September 2023
- Survey research supports four of the five topics identified by the focus groups. Minimal data was collected for the fifth issue – pathways to regional electrical licensure.

Key Insights

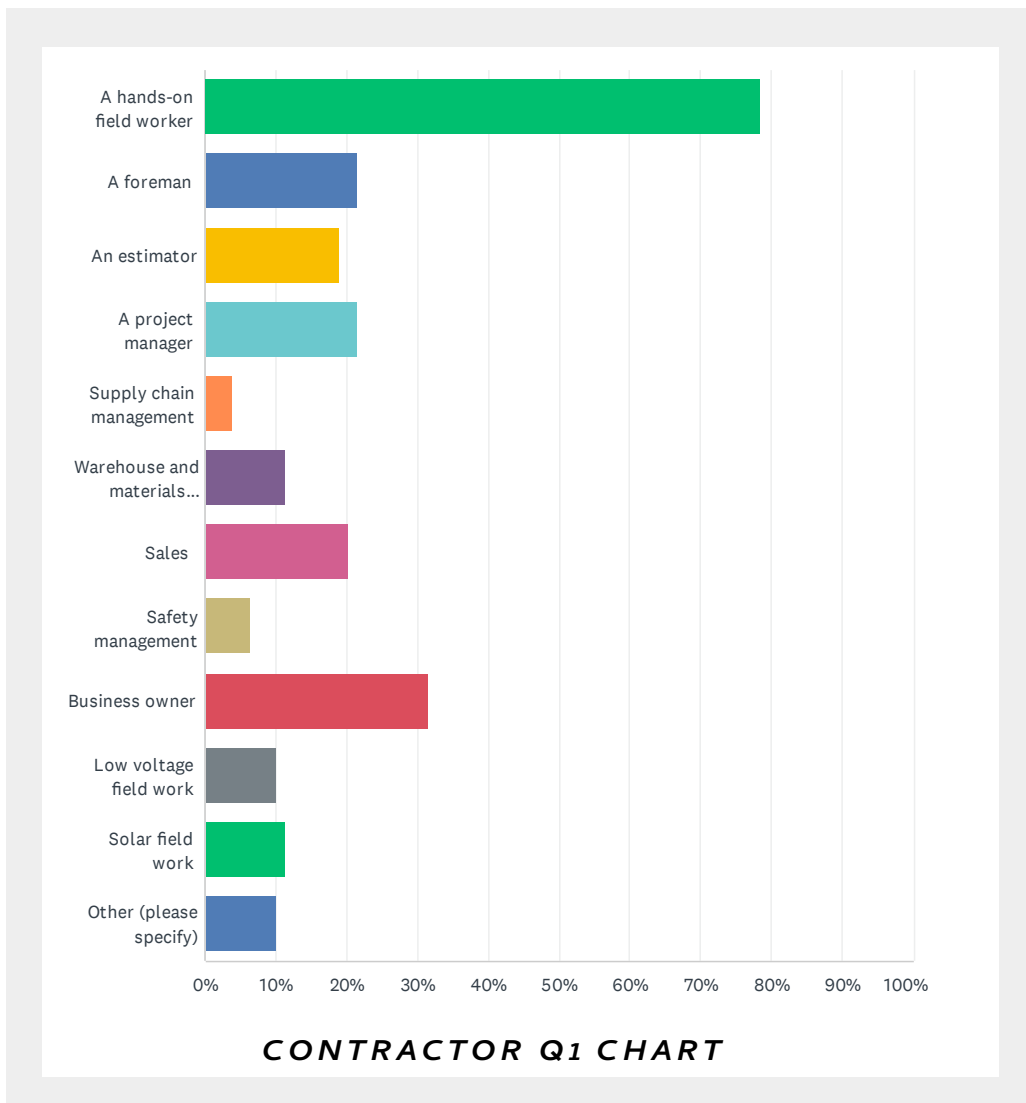
- **LABOR SHORTAGE:** The labor shortage in the electrical field is acutely felt among contractors and viewed as an opportunity among prospective apprentices.
- **ELECTRICAL CAREER PATHING:** There is an opportunity to increase awareness of the breadth of career options within the electrical trade and career progression among contractors, prospective apprentices, school counselors, and parents.
- **PERCEPTIONS OF THE ELECTRICAL TRADE:** While contractors overwhelmingly agreed the trades career path is viewed as “less than” a college career path, recent studies signal the tide may be turning on that reality and public perception related to anticipated return on investment. The majority of prospective apprentices indicate support for their decision to consider an electrical apprenticeship.
- **ECONOMICS OF ELECTRICAL APPRENTICESHIP:** The primary barrier to entry in the electrical trade among prospective apprentices is financial including support for tools, tuition, and employer placements. While the “learn while you earn” message resonates, not all prospective apprentices successfully navigate securing upfront funding to participate. However the wage potential over time in the electrical field and opportunity to become your own boss through career progression is attractive to both contractors and prospective apprentices.
- **DIVERSITY:** Prospective apprentices raised the lack of diversity among the electrical profession as a barrier to entry related to gender, race, and underserved populations.

Representative open-ended respondent comments are contained in this report with the survey questions below.

IEC Contractor Survey Results

CONTRACTOR Q1. Which of the following electrical career paths do you believe are understood by the public?

More than three-quarters of IEC contractor members believe the general public understands the hands-on field worker electrician career path, while a bit more than one-quarter understand the business owner role. All other roles fall well below one-quarter.



“I do not believe the general public understands the industry or the diverse needs of the electrical industry.”

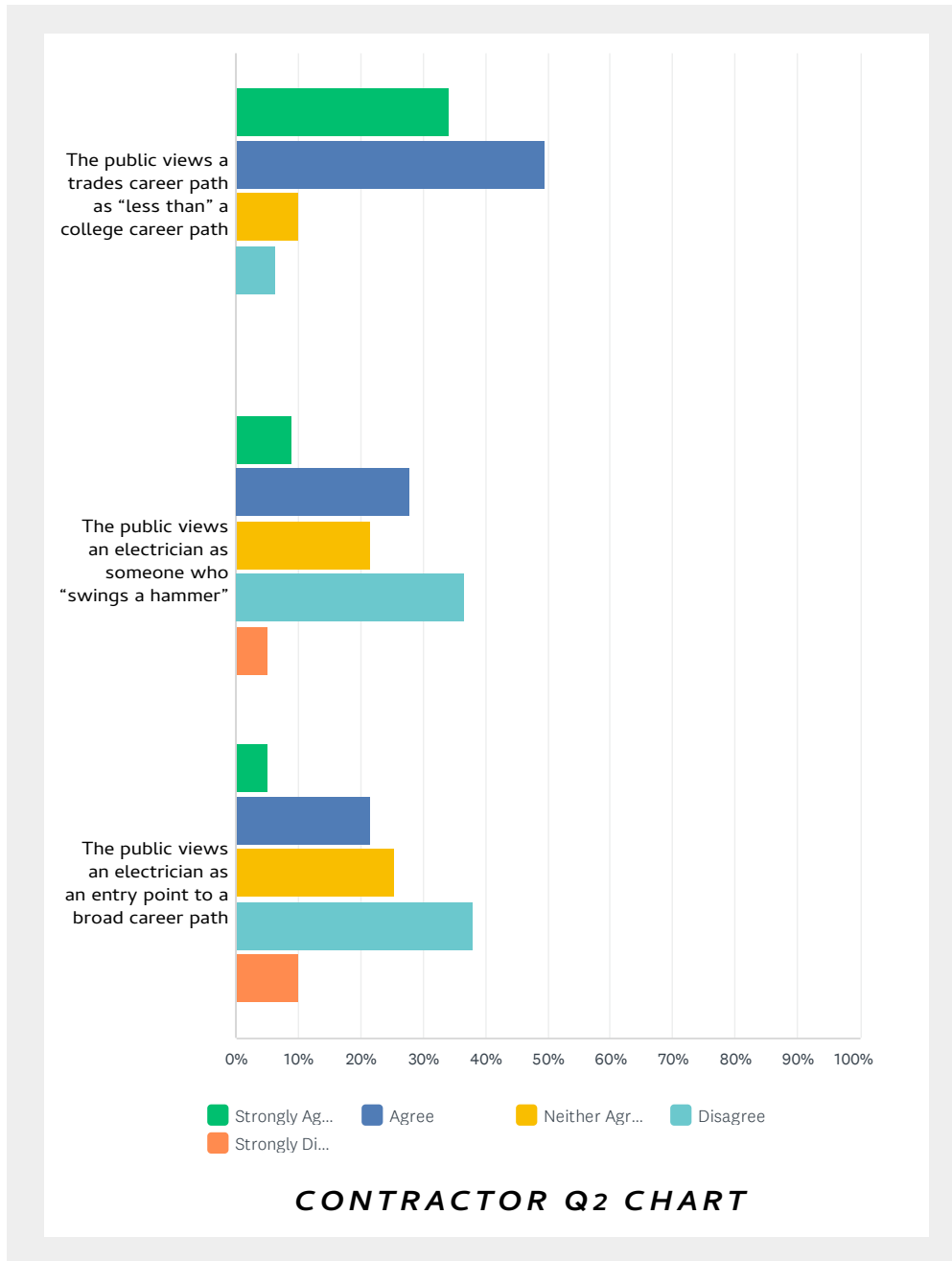
“Limited if any true understanding; they see the industry as a trade only and not a professional career.”

KEY INSIGHT:

Electrical contractors perceive an opportunity to educate the public around electrical trade career options beyond hands-on field work.

CONTRACTOR Q2. To what extent do you agree with the statements in the Contractor Q2 Chart?

Nearly 85% of IEC contractors responding strongly agree or agree that the public views a trades career path as “less than” a college career path. There were mixed reactions to the statements “The public views an electrician as someone who “swings a hammer” and “The public views an electrician as an entry point to a broad career path.”



KEY INSIGHT:
 While electrical contractors perceive a trades career path is viewed as “less than” a college career path, recent media indicates the tide may be turning on that reality. According to the World Economic Forum, 4 million fewer people in America enrolled at a college in 2022 compared to 10 years ago with the primary reason being students doubting return on investment.

KEY INSIGHT:
 There is an opportunity to promote career pathing in the electrical industry fueled by the projected labor shortage, growth projected by the U.S. Bureau of Labor Statistics for electrician jobs, and economics of an electrical apprenticeship program.

CONTRACTOR Q3. In your own words, how would you describe the public’s perception of the electrical trade?

Nearly 60% of respondents believe the public’s perception of an electrician is incomplete at best or negative as a career path. The other 40% is split between it being perceived as a positive path or heading that direction.

“Trades are still looked at as lower tier jobs yet we can provide an essential career with debt free education.”

“Just one of many blue-collar jobs done by those who are not good enough to go to college to get a ‘real career.’”

“Blue collar. We need to do a better job of building awareness of the more ‘white collar’ positions in our trade. Career paths to things like estimating, management, safety, and executive leadership.”

“Electricians are always needed.”

“I think it is getting better; people are more and more seeing the trades as a long-term investment in a great career.”

CONTRACTOR Q4. In your experience, what methods have positively impacted public perception of the electrical trade?

IEC contractor members feel that change is in the air regarding public perception of the trades. Their comments show they feel that with a lot of hard work, perception can continue to change.

“Advocates like Mike Rowe and others who have communicated positive messaging specific to trades.”

“More public discussion on trade schools vs. college.”

“Doing good work. Being on time. Doing what you said you would do and taking responsibility when something is your fault.”

“Events held with students, teachers, and parents.”

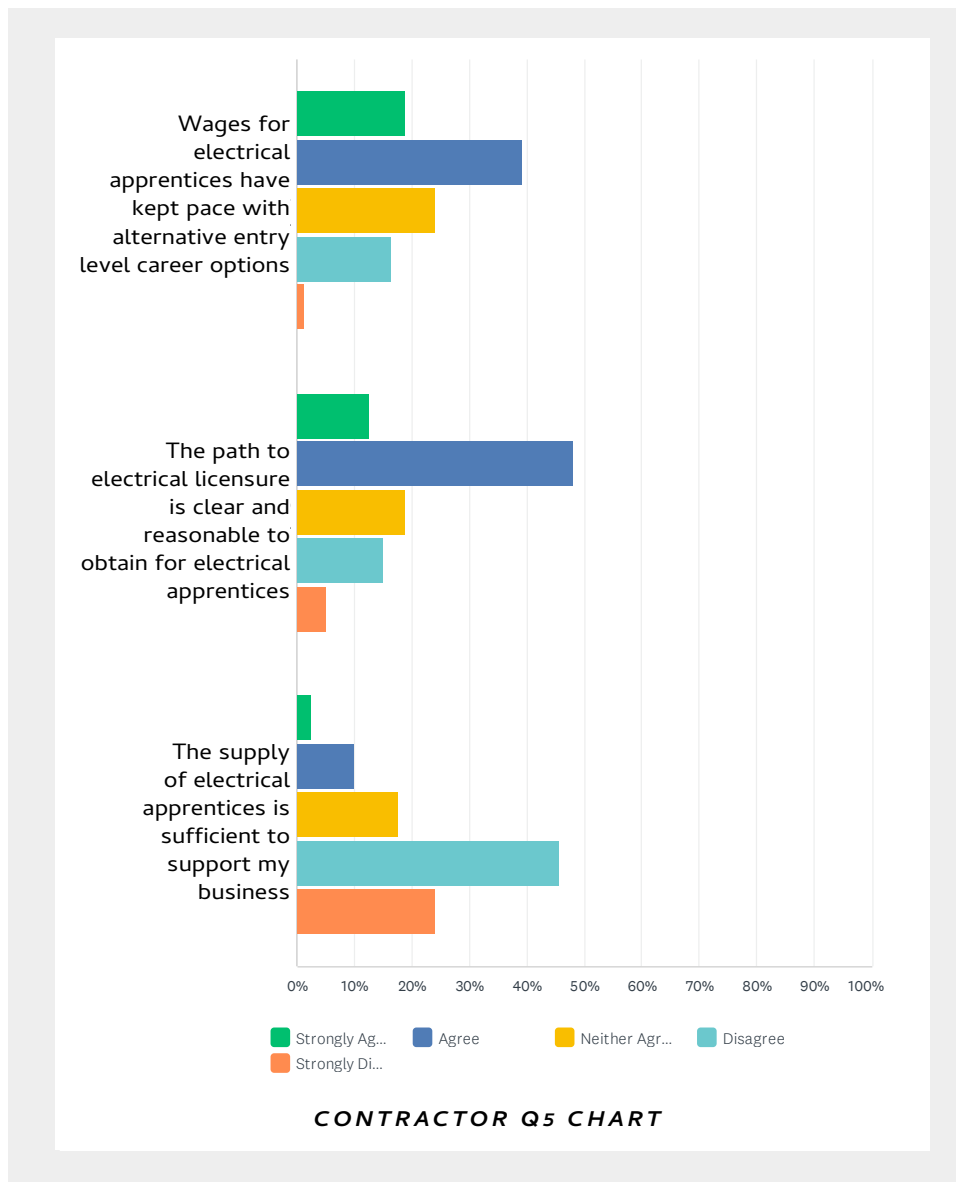
“Spotlight on apprenticeships, promotions that show that apprenticeships are the best pathway for success of electricians.”

KEY INSIGHT:

An opportunity exists to raise awareness of electrical career pathways through a collaboration of trades industry organizations, workforce development champions such as SkillsUSA, and school counselors. Critical messaging includes the economics of apprenticeship and spotlighting real apprentices and electricians in action. Public figures like Mike Rowe are also moving the needle on trades perception.

CONTRACTOR Q5. When it comes to recruiting new apprentices, to what extent do you agree with the following statements?

Nearly 60% of IEC contractors strongly agree or agree that wages for electrical apprentices have kept pace with alternative entry level career options. Slightly more than 60% feel that the path to electrical licensure is clear and reasonable to obtain for electrical apprentices. Just under 70% feel the supply of electrical apprentices is NOT sufficient to support their businesses.



KEY INSIGHT:

The labor shortage is acutely felt by contractors. According to the U.S. Bureau of Labor Statistics an estimated 73,500 openings are projected year over year for electricians for the next 10 years – outpacing supply. Compounding the shortage, Gen Z populations lack interest in skilled trades with over 75% of high school and college students desiring to work in technology coming out of the pandemic according to a Tallo study. An opportunity exists to meet Gen Z where they are with options in electrical training that are virtual, flexible, engaging, and an easy point of entry.

CONTRACTOR Q6. What contributing factors have you observed impacting the available supply of electrical apprentices?

Electrical contractors cite a variety of reasons for a lack of apprentices, including an incomplete understanding of the career, wages, and the push to attend college.

“Everyone wants remote work from home.”

“The push by society to get a college degree.”

“Young people can get jobs that pay the same (or a bit better) starting wage, so they take the easier way. Not realizing that this industry can provide quicker ‘ladder climbing’ to better wages.

“This is a constant back and forth battle. We will always have to keep fighting to get new GOOD people. We can hire hundreds of new people, but getting GOOD ones takes time.”

“Entry level warehouse jobs paying more than apprenticeships. The kids see the right now, and not the ‘what could be’ down the road.”

CONTRACTOR Q7. What methods do you feel would encourage youth to pursue electrical apprenticeship?

IEC contractor members offer numerous ideas to interest and increase the apprentice pipeline ranging from raising awareness on career pathing, partnerships with school counselors, activating more hands-on exposure to the electrical field between electricians and youth, and reaching parents who are influencing student career decisions.

KEY INSIGHT:

Painting the picture of career path diversity and progression within the electrical trade is critically important to not only students but garnering the support of parents and counselors.

“Advertising, marketing, understanding that in 4 years you can either still be making a minimum wage at a fast-food joint, or with a little extra effort your wages would be double.”

“More peer-to-peer conversations between actual apprentices and those interested in becoming apprentices.”

“If more teachers and administrators at the middle and high school levels would discuss truthfully the alternatives to college and the realities that many college graduates have little opportunity to make better wages than craft trade workers.”

“Make the field more attractive by holding open house events to get parents and students together and discuss the pros and cons of becoming an electrician and the career path they can aspire to follow. There are lots of options out there for high school graduates, so

we are competing with those which pay more, those which utilize more technology, and those that have inside work, close to the house.”

“Seeing and hearing from those who have recently graduated and are now in the electrical field. They need to see those they can relate to and see their success.”

“1. Skills demonstrations in the high schools, with actual hands-on projects. 2. Work release programs that allow a high school student to go work with an electrician for half a day, and get course credit.”

“More trades information in high schools. Shop classes in schools. Teach high schoolers pride in workmanship is still a gratifying thing.”

“Summer camps, youth internships, classroom speaking engagements, info sessions for teachers.”



CONTRACTOR Q8. Please share additional thoughts on how to encourage youth to pursue a career path as an electrical apprentice.

IEC contractor members detail ‘selling’ points to attract electrical apprentices including highlighting job security, career progression, the economics of apprenticeship and lack of student debt, and showcasing electrician success stories.

“Job security – even during depressions we need electricians to maintain electrical systems.”

“Focus more on the why vs. the position. If you want to contribute, serve others, problem solve, etc., then a career as an electrician will satisfy your purpose.”

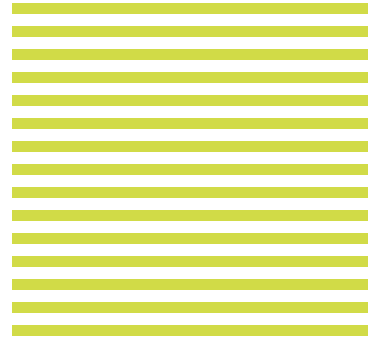
“Try and get them to understand this is a career not just a job. Show them the lack of debt they would incur from college tuition vs. apprenticeship training. Spell out the path and steps so they know where they will begin and end.”

“Send out advocates who dazzle high school classes with the cool stuff we get to do.”

“Actual results. Show the success stories. Have them speak. Hearing it from a peer, or an equal but older, wiser from experience, carried more for me.”

“Show trades people as intelligent heroes in society. This could be done through movies and sitcoms on TV. The electrician is the one with the Mercedes Benz. The college grad is the one with the used Toyota and student debt. An electrician has a house. A college grad has an apartment.”

Prospective Apprenticeship Survey Results



PROSPECTIVE APPRENTICE Q1. What led you to pursue an electrical apprenticeship vs. other career options?

Prospective apprentices shared what led them to pursue a career in the electrical trade including future job demand, the ability to work while pursuing education and low student debt, the prospect to become their own boss, anticipated earnings, following in family footsteps, and critical thinking.

“Getting paid to learn a trade that will always be in demand. Also being able to work in a variety of environments besides an office.”

“I was looking for a career change, and I knew that skilled trades made good money, and electrician seemed like the best fit for me.”

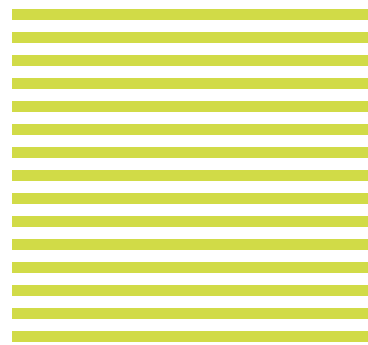
“The ability to work for myself in the future and be my own boss by learning a trade that I can use to provide for my family.”

“Grandpa was one.”

“The ability to work with my hands in an active fast paced environment. To work and receive an education.”

“Low education costs, working through school, increasing demand.”

“Working with hands, cerebral, upward progression, opportunity, wages, semi-autonomous workday, craftsmanship.”



PROSPECTIVE APPRENTICE Q2. What obstacles did you overcome to pursue an electrical apprenticeship?

Prospective apprentices enumerate the challenges faced while considering an electrical apprenticeship. Nearly 40% expressed concern about financial areas like up-front cost of tools, finding an employer, and tuition support.

KEY INSIGHT:

Connecting prospective apprentices with resources to mitigate upfront apprenticeship investments is a critical opportunity – such as making connections with prospective employers, alignment with grants and scholarships through organizations like the IEC Foundation, employer tool sponsorship, and working with industry partners.

“Financial obstacles in the way of: cost of initial tools; low income of being a first-year apprentice; cost of school; family obstacles in the sense that I was away from home more when I started my apprenticeship vs. my last job.”

“Money to buy proper tools.”

“Just had to find someone willing to cover the schooling cost.”

“I got into an electrical apprenticeship later than I wanted when I graduated high school; there was no place offering the apprenticeship so when I finally found somewhere to start, I had to drive 2 hours one way every day.”

“None. I signed up on the IEC site, and within 48 hours a company called me and gave me an interview.”

“Finding the right company to invest and believe in me.”

“Uncertainty as to when and if a job would be offered. Minimal time to apply when jobs were offered. Lack of communication from job sources.”

“Finances.”

“Limited application acceptance.”

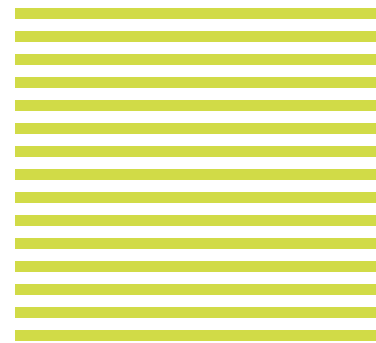
“The biggest obstacle is a large pay cut trying to change industries once in an established career.”

“Lack of math skills. And can’t afford the application fee.”

“Lack of tools, lack of transportation, lack of knowledge and understanding.”

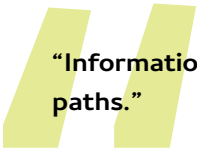
“Lost job with company that was funding program.”

“Finding companies that wanted first years.”



PROSPECTIVE APPRENTICE Q3. What resources were helpful or would have been helpful during your consideration to become an electrical apprentice?

Prospective apprentices accessed a wealth of resources to help them consider the electrical apprenticeship path including wage and career path information and reaching out to current electricians. Additional resources that would have been helpful surround support for job placement and tuition mitigation.



“Information regarding potential wages and career paths.”

“Family in the trade; IEC website was helpful to know about the program.”

“Information about the different fields of electrical. There is a wide range of work that the title ‘electrician’ covers and it is very valuable to know that while one field may not suit you, another might.”

“Talking to guys in the field.”

“My most two valuable resources have been my codebook and having the world’s most patient boss who is willing to explain things to me over and over again when I tell him that I still don’t understand until I do.”

“Being able to talk to electricians in the field and school instructors about the possibilities of what the trades can bring.”

“My family, knowing people already in the trade, great leadership at school to give pointers on how to drown out noise and dial in to success.”

“Insight or help with narrowing the electricians wanting an apprentice.”

“Job placement options or a way to get experience.”

“Some sort of fund for later entrants into the field that already have established families and bills.”

“Better schooling opportunities where state funded tuition can be used (like colleges). A better list of open availabilities for apprentices seeking employment.”

“More exposure to resources and people willing to help guide you in the right direction.”

“Ability to relocate to another sponsored company.”

“Some type of financing for the courses that were deferred until after I obtained a job / the course was completed, as well as some way to get paid while doing schooling.”

PROSPECTIVE APPRENTICE Q4. What perceptions did you face from friends, family, and the public regarding your consideration of an electrical apprenticeship?

The majority of prospective apprentices felt support for their decision to consider an electrical apprenticeship with feedback that their chosen path had merit and opportunity. Perceived concerns around safety, pressure to take a college route, and lack of professional diversity were also raised.

KEY INSIGHT:

According to the U.S. Bureau of Labor Statistics and, only 2% of electricians are women. The Guardian covered the challenge among the electrical profession to recruit women which could positively impact the labor shortage.

“It was generally positive, being an electrician is definitely seen as a ‘good job’ in the sense that I’m helping people / making good things happen, and also is a good paying job.”

“Support and excitement from my family and most friends. Some decided that because they finished out their degrees that they were somehow above those of us that chose a different route. Public the only issue was being part of a non-union apprenticeship in a heavily unionized region.”

“Not really anything negative. Some people comment on the risk of shock, which may be an overstated risk that people perceive. While risk of shock is very real, it can be largely negated from safety procedures such as lock-out tag-out.”

“Not as prestigious as a job that requires a degree.”

“Supportive. Everyone said it has great opportunities.”

“College is the only option! Construction fields are not fulfilling, it’s just a job.”

“That it was a good paying career.”

“Everyone’s perceptions were that they were proud of me and encouraged me to continue building a career that I love.”

“My friends thought it was a great alternative to college. My family was very supportive. And I get asked for help a lot from people I know who need help with electrical problems.”

“Most of my family respected the decision and see it as an admirable career choice.”

“Most people just were concerned about my safety. Many others encouraged me to give it my all.”

“The perceptions were very good but there are no opportunities available for me.”

“They all liked it, but worried about me affording to take care of my family.”

“My race and lack of electrical knowledge would hinder me from success in the field.”

“Mostly positive. Very supportive. Many people telling me it was a good career path.”

“My high school doesn’t even discuss trades as an option (so no guidance at all). My family and friends have been very supportive but unfortunately, they are not in the trades and could not provide advice / guidance.”

“The pay is very low for apprentices. A person cannot support himself or herself in these apprenticeship programs. These programs are only suitable for people in high school not adults.”

“Women can’t do this, women shouldn’t, but I know I could. Won’t know until you try, and I know.”

“Family discouraged me a lot. Their belief system is on colleges not trade schools. But I schooled myself.”

PROSPECTIVE APPRENTICE Q5. Please share any additional thoughts on how to encourage future youth to pursue an electrical apprenticeship.

Responses underscored themes including the electrical trade labor shortage, the value of considering the economics behind the trade versus college path, accessing youth through high schools with hands-on experiences, the opportunity to be your own boss, wage potential over time, emphasizing career path options in the electrical field, support for tools and tuition financial burdens, and the need to increase diversity in the field.

"I just got my younger cousin into the trade. My biggest selling point to him was that the average age of electricians nationwide is high. A large chunk of the workforce will be retiring within the next ten years and the demand for experienced electricians will be enormous."

"Advanced degrees aren't for everybody and are expensive now. Trades are great for people who like to learn on the job, use their hands, and rise to the challenge."

"There needs to be more 'advertising' to the youth, more in person advertising. Display statistics in terms of pay and the debt accrued from going to college. Show them that it's not all back breaking and laborious type of work that barely takes any train of thought to perform. Show students the technical aspects of the trades and the fine tuning and accurate implementation of their work that is required to successfully complete their jobs."

"I think electrical should be offered in every high school in the United States and the kids should be able to start an apprenticeship during their junior year. My son came straight to work with me the week after he graduated from high school and the company is sending him through school and he absolutely loves the trade."

"It's great trade to work on and eventually you can start your own company."

"It's an honest and rewarding way to earn a very good living."

"Reiterate the career potential and the job security and future pay."

"Identify all the different types of electrician fields that are available to work in. Be open about what they would expect to make financially throughout a lifetime career. Show how they could use their new skills at home."

"Provide the support to help them get started especially tool loans and transportation assistance."

"Good jobs are hard work."

"More scholarships for students. Or more employers offering to pay for schooling."

"It's work that everyone needs everywhere. The pay is good, there is a wide variety of electrical jobs out there, and it isn't mindless work that anybody can do. It's a well-respected trade."

"Make sure you like working with your hands and understand how to think critically about problems that need to be solved in a timely manner."

"Explain to them some of the cool benefits to working with electricity. You get to see places built from the ground up, and you get to maintain those places as they grow."

"Biggest thing is college isn't for everyone. Once you're done with electrical trade school the opportunities are endless. Plus, you get done with school debt free unlike going to college and it's a brotherhood / sisterhood that lasts a life time!"

"Find ways to get under-represented groups in the field to give them a fighting chance. If you're looking for them to build the specific skills they need to be successful, offer classes. Work with organizations that help prepare women and other minorities for the trades."

"Better pay, lower cost, and provide assistance to acquire tools and training supplements like study guides and code books."

"Set up outreach camps, summer programs, neighborhood camps, and outreach."

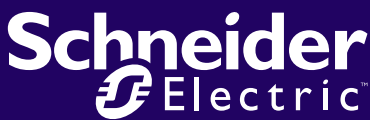
"I think it would be great if high schools teach students who are interested in an electrical trade where to go to learn more to get started."

Next Steps

The goal of this study is to offer actionable insights on opportunities to move the needle on workforce development and the apprenticeship pipeline in the electrical trade. Insights and outcomes will be shared among IEC and industry stakeholders. Specific action items include:

- Cross-industry collaboration to raise awareness of electrical career pathways among a coalition of trades organizations, workforce development champions such as SkillsUSA, and school counselors. Critical messaging includes the economics of apprenticeship, opportunities driven by the labor shortage, driving industry diversity, and spotlighting real apprentices and electricians in action.
- Development of recruitment tools and resources to help prospective apprentices mitigate upfront program investments – such as making connections with prospective employers, alignment with grants and scholarships through organizations like the IEC Foundation, employer tool sponsorship, and working with industry partners.

Thank you to Generac Power Systems and Schneider Electric for sponsoring the Barriers to Entry in the Electrical Trade study.



To sponsor future studies of the Workforce Development Institute, contact Lisa Crews, lisa@ieci.org.

The IEC Workforce Development Institute was formed in 2023 to advance the electrical profession and future workforce through research. Its goals include:

1. Provide research and develop information regarding the state and future of the independent electrical industry in the United States
2. Educate the public about the electrical contracting industry and the importance of electrical workers to a robust U.S. economy
3. Support and partner with organizations that understand and value the interests of those engaged in the electrical construction industry

More information can be found at ieci.org/wfdi.

The Voice of the Electrical Industry

The WFDI research initiative represents...



