



Defining the Skilled Trades

A Data-Driven Blueprint
for the Future

Every region, business, and institution relies on the professionals who work in the skilled trades. But labor shortages, fast-growing industries, and recent policies are driving a new sense of urgency to train and expand this workforce to meet future demands.

This shared goal is a great start—but it's not enough. Achieving the objective will require greater focus and collaboration across the entire economy. This report aims to help make that possible by providing a deeper understanding of what defines skilled trade jobs, what labor market trends are impacting them, what opportunities and obstacles they face, and what strategies can improve their prospects for the future.

The skilled trades have always been a loosely defined category of work. Everyone has a sense of what they are, but when it comes to studying the data and strategizing the details, gut feelings aren't good enough.

We need to know what jobs we're talking about, specifically, before we can draw up the blueprints that will help us build this unique workforce. This is the key reason we set out to create Lightcast's Skilled Trades definition: so that all of us can form a shared mission with a shared starting point.

[DOWNLOAD THE COMPLETE LIST OF LIGHTCAST SKILLED TRADE OCCUPATIONS HERE. →](#)



Contents

Introduction	Reinforcing Our Economic Foundation	4
Part 1	Defining the Skilled Trades	6
Part 2	Discovering Trends Impacting the Skilled Trades	9
	Roadblock 1: College Pressures	13
	Roadblock 2: Physical Demands	15
	Roadblock 3: The Pay-Gap Perception	19
Part 3	Developing the Skilled Trade Workforce	21
Application	Align for Maximum Impact	22
	Public Sector Strategies	23
	Education Strategies	24
	Enterprise Strategies	25
Conclusion		26

Defining the Skilled Trades: A Data-Driven Blueprint for the Future

Written by Hannah Grieser

Contributions from Ron Hetrick, Matt Walsh, Elena Magrini, and Rebecca Milde

© Copyright 2026 Lightcast. All rights reserved.

Reinforcing Our Economic Foundation

“The US needs more workers in the skilled trades.”

You’ve no doubt heard this message repeated on the news, in the boardroom, or even in your own home, especially if you’ve needed to find help with a leaky pipe or renovation.

But these shortages are much more than a minor inconvenience. Even with the best-laid plans, a lack of skilled trade professionals can slam the brakes on business expansions,

reshoring initiatives, economic development projects, infrastructure upgrades, and more.

If the economy were a house, the skilled trades would be the foundation. Without these workers, every other economic entity becomes unstable. They keep our lights on, our motors running, and our production capacity strong. They’re the jobs that AI can’t replace and can’t survive without. And yet “doing without” is exactly the challenge the US is starting to grapple with.



So, what are the skilled trades, precisely, and how can we effectively grow them unless we first agree on what they are? Once we know which jobs we're talking about, what can we learn about the state of the skilled trades in today's labor market? Why is there a worker shortage? And (to borrow the words of that well-known tradesman Bob the Builder), “**Can we fix it?**”

To answer these questions and start rebuilding these foundational jobs, we need to:

1

Define

the jobs we call “skilled trades” so that we can focus and coordinate our efforts

2

Discover

the labor market trends impacting the skilled trades

3

Disrupt

the outdated narratives about careers in the trades

4

Develop

strategies to build our future skilled trade workforce

These are the major themes that this paper will address.

PART 1

Defining the Skilled Trades

Even though the skilled trades are among the most important occupations in the US economy and employ millions of workers, they have also been poorly understood. That's because no shared definition of these jobs has existed to guide research or workforce strategy. We knew this needed to change.

Before we can begin to discuss the challenges and opportunities in the skilled trades, we first need to know exactly which jobs we're talking about. That's why Lightcast set out to provide a clear and precise definition, informed by 20 years of labor market expertise and data analysis.



What Are Skilled Trade Jobs?

Lightcast defines the skilled trades as the [135 hands-on, in-person trade occupations](#) (6-digit SOC) that don't require a four-year degree but that **do require one or more of the following:**



✓ APPRENTICESHIP TRAINING

✓ CERTIFICATE COMPLETION

✓ EDUCATION UP TO AND INCLUDING AN ASSOCIATE'S DEGREE

✓ OTHER ON-THE JOB TRAINING AND EXPERIENCE

Think of these as a more highly credentialed and experienced (“skilled”) subset of the broader “blue collar” category of jobs. The skill and experience they require makes these jobs that much more valuable—and that much harder to grow or replace without the aligned efforts of education, policy, and business leaders.

Why Definition Matters

A trusted, standardized definition of the skilled trades enables the pursuit of common objectives and consistent analysis—regardless of the industry, institution, or US region. This shared definition can then help inform:

	Program creation and alignment		Business decisions and hiring practices		Career and workforce development
Site selection and talent attraction		Policy and funding initiatives		For the complete list of 135 skilled trade occupations, select the “Lightcast Skilled Trades” occupation group in Lightcast’s Analyst or Developer platform, or download the list here: → 	

The Offline Occupations

To provide a comprehensive view of the skilled trades labor market, this report primarily draws on analysis of Lightcast’s Core Labor Market Information (LMI), complemented by our best-in-class professional profiles and job postings data.

Lightcast has identified more than 5.2 million unique, up-to-date profiles of skilled trade workers online. This broad sample of the total skilled trade workforce provides a deeper understanding of who these workers are and what skills and experience they bring.

At the same time, it’s important to recognize that these occupations tend to be underrepresented in online profiles and postings. When professional networking for

these trades happens through in-person and word-of-mouth connections, it makes employer demands and workforce characteristics harder to track.

For that reason, a [three-dimensional understanding](#) of the skilled trade professions involves analyzing and benchmarking the online job postings and profiles data within the broader context of Lightcast’s industry, occupation, demographic, employment, regional, and educational data points. Our multi-source approach gives us the clearest possible picture of the skilled trade labor market and the trends that are shaping it today.

Discovering Trends Impacting the Skilled Trades

The Jobs That Make Other Jobs Possible

The skilled trades are foundational jobs that keep the structure of our economy strong. So while AI or space travel may steal the headlines, none of these tech innovations or industry booms can happen without the millions of people who work in the skilled trades—constructing facilities, crafting precision instruments, developing infrastructure, and ensuring systems and machinery run as they should. And none of these roles can be filled without the thousands of people and programs that equip these workers with the skills they need for the job.

The opportunities are everywhere, but roadblocks and misconceptions still stand in the way of attracting more young people into these jobs. Much-needed attention and policy focus are now being devoted to filling these jobs, but we can't just throw more money at scholarships and salaries if the next generation has no interest in the work. **For a true “Toolbelt Generation” to emerge, we need to inspire first, then incentivize after.**

By using Lightcast's standardized definition of the skilled trades, we can now highlight their important role in employment, wages, and economic mobility—and gain insights into the biggest trends and takeaways. Here are the high-level data points you need to know.



Employment

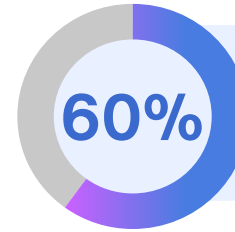


The skilled trades employ millions of workers.

20M

jobs are in the skilled trades.

That's 9% of all US jobs.

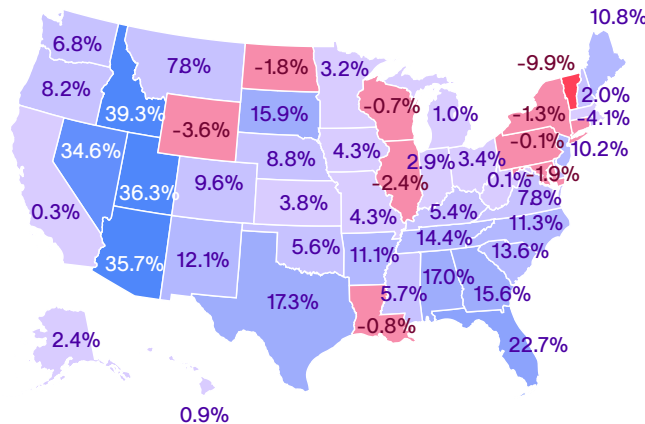
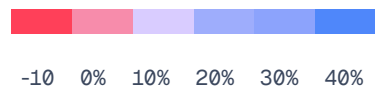


of those are in **Construction** and **Manufacturing**.

Mountain West states have seen the highest rates of skilled trade job growth over the past decade.

Idaho, Utah, Arizona, and Nevada lead the way in the rate of skilled trade job growth, while Vermont saw the steepest declines.

% Change in Skilled Trade Jobs, 2015-2025

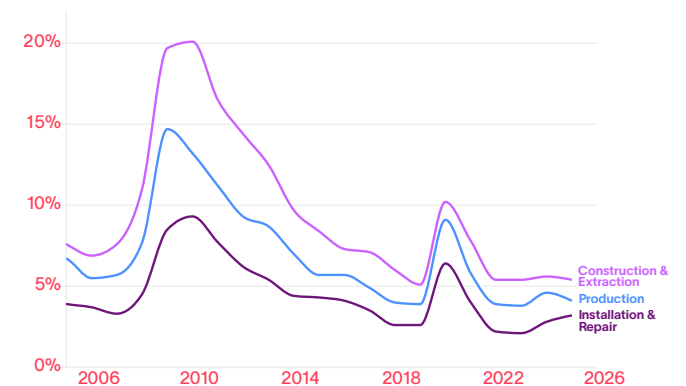


Source: Lightcast, Core LMI Data

Unemployment is close to 20-year lows.

In job categories associated with the skilled trades, most people who look for work in these occupations can find it.

Annual Unemployment Rate by Occupation Group

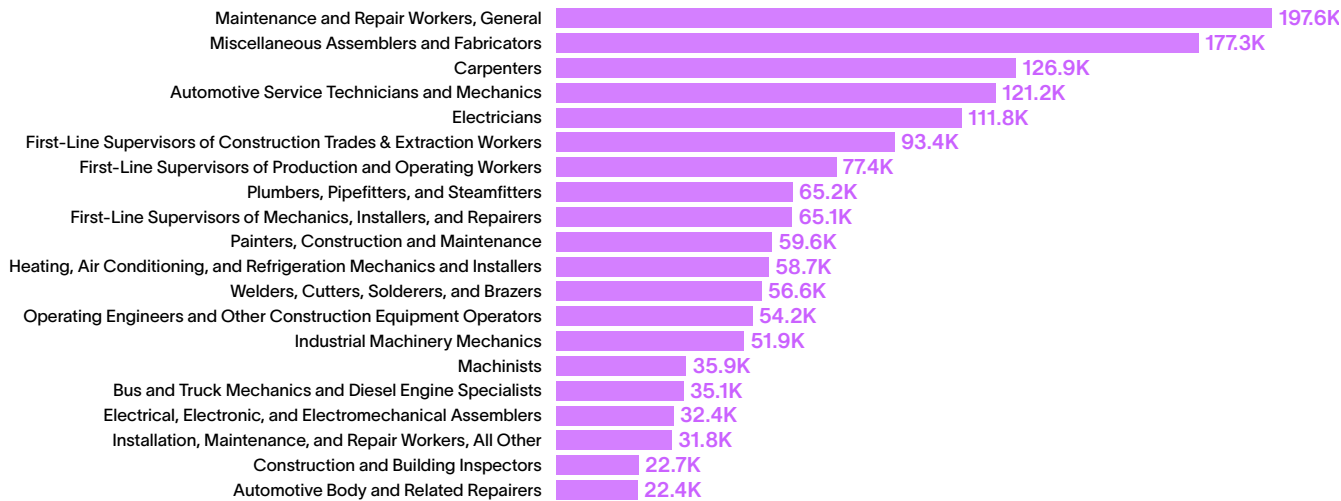


Source: Lightcast, Core LMI Data

Talent Shortages

The skilled trades account for 2.1M job openings every year.

Top Skilled Trade Occupations by 2025-2026 Average Annual Job Openings



20
occupations
account for
70%
of skilled trade
job openings

Source: Lightcast, Core LMI Data



The supply of newly trained workers is not keeping up with the demand.

The skilled trades have
3 job openings
for each person completing a training program.

Job Openings

The result is a talent gap of

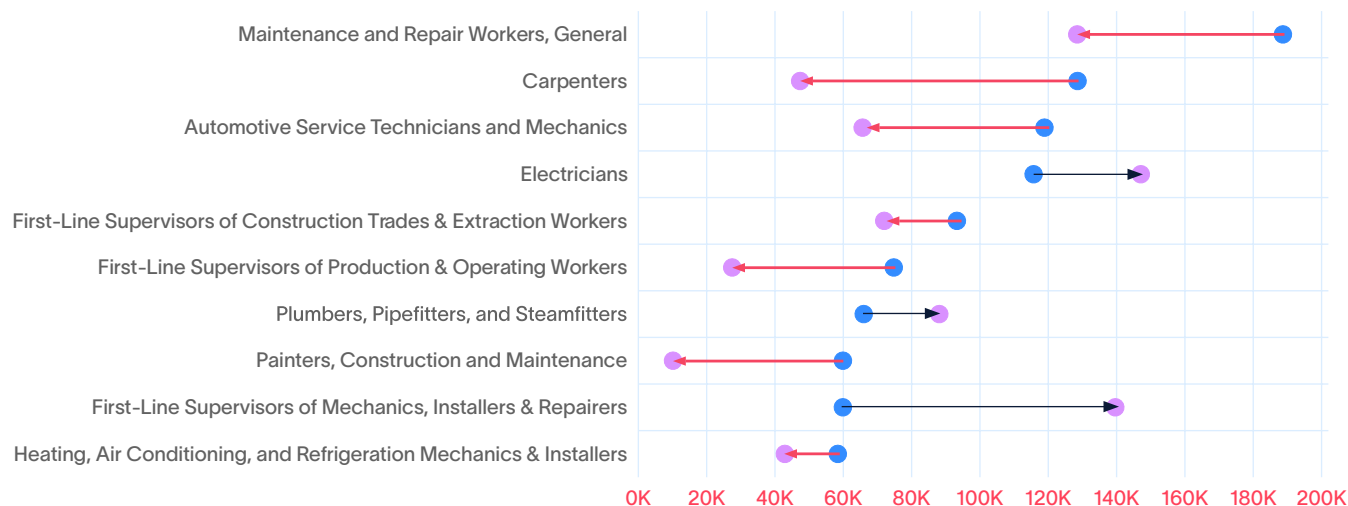
1.3M workers

Skilled trades programs, which include all apprenticeships, certifications, and 2-year degrees, have just 800,000 annual completions. The result is 3 job openings for every person completing a skilled trade program, creating a talent gap of 1.3 million workers.

Source: Lightcast, Core LMI Data

7 of the TOP 10 most in-demand skilled trade jobs face significant labor shortages.

Number of ● Openings (2024) ● Completions (2024)



Source: Lightcast, Core LMI Data



Men fill
90%
of skilled trade jobs.

For 6 of the 10 most in-demand jobs, that share is over 95%. But men's labor force participation has fallen steeply to COVID-era levels, and is even lower for men with less than a bachelor's degree. Losing them from the labor force means losing the core demographic of the skilled trades.

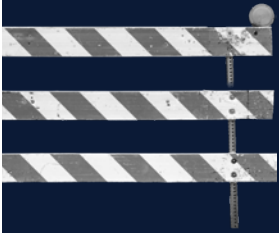


aws CASE STUDY

Strategic Partnerships Between Education and Business Can Expand the Skilled Trade Talent Pipeline

AWS understood that investing in data centers and the broader information infrastructure buildout meant investing in a skilled trade workforce that they couldn't create on their own. They needed help to build the right talent for the job.

The solution was a joint effort between workforce development, education, and industry leaders. [Watch the webinar](#) to learn how data-informed collaboration across regions and institutions can make major business projects like these possible.



DISRUPTING OUTDATED NARRATIVES

Roadblock 1: College Pressures

The skilled trades, by Lightcast's definition, do not require a four-year degree, but as we addressed in [“The Rising Storm”](#), the high-employment, high-wage, and high-status benefits conferred by a bachelor's degree made four-year college enrollment a top priority for decades.

When Lightcast and Tallo co-sponsored a survey of 1,500 high school students for [“Who Is Going to Do the Work?”](#), over 50% said they felt pressure to go to college, and the majority intend to pursue a bachelor's degree or higher. This doesn't make the decision to go to college wrong, but it does leave the skilled trades fighting an uphill battle.

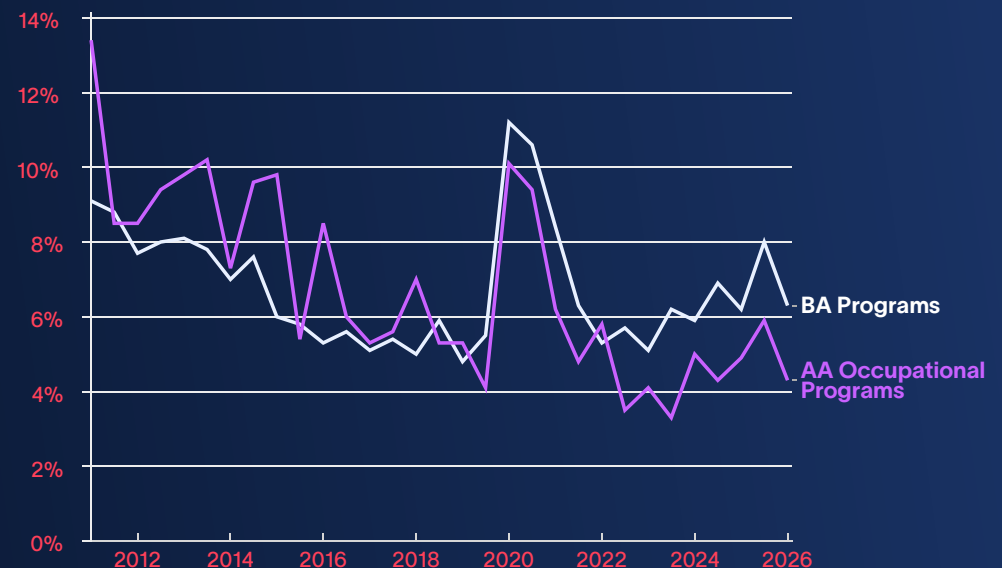
For every 10 skilled trade completions in 2024, there were 25 bachelor's degrees granted, but the needs of the labor market are shifting. Since 2020, young graduates with bachelor's degrees have had higher unemployment than their peers with associate's degrees in occupational programs (including programs for skilled trades).

For job outcomes to remain strong after college, degree programs and student career goals need to realign with the needs of the labor market.

Higher education, and community colleges in particular, still play an important role in developing the talent pipeline for the skilled trade workforce, and skilled trade programs are growing, but not as fast as the demand for workers.

Recent grads from 2-year occupational programs now have lower unemployment than their peers with bachelor's degrees.

Age 20-24 Unemployment Rate by Degree Type



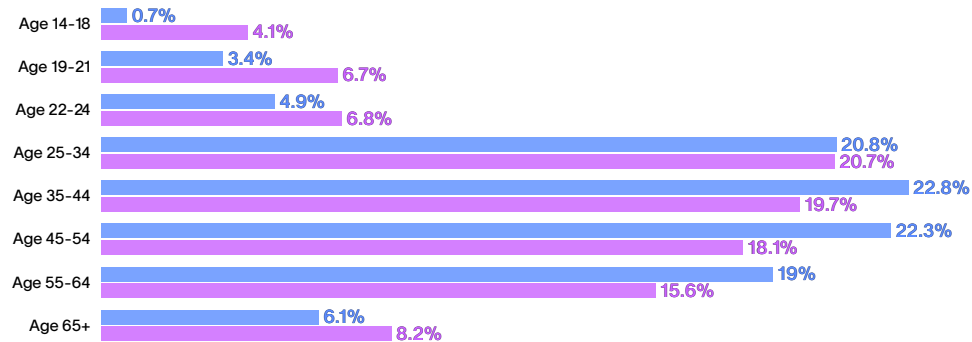
Source: BLS Semiannual Unemployment Data via FRED

An Aging Workforce

Retirements and job exits account for **837K annual skilled trade job openings** through 2035. This is a serious concern as the younger workforce shrinks in the US.

Demographic Distribution of Skilled Trades vs. Non-Trades (Sub-BA), 2025

2025 Share of Workers by Age Cohort in: ● Skilled Trades ● Non-Trades (Sub-BA)



Source: Lightcast Occupation Demographics Data

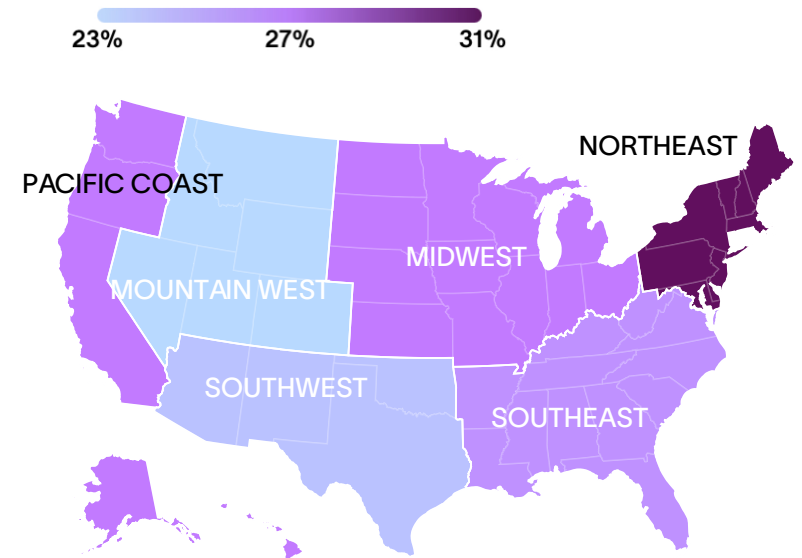
More than one in four skilled trade workers are 55 or older. As these workers retire, the younger population has fewer workers to replace them.

But not all skilled trades are aging equally. Jobs requiring less danger or physical strain tend to retain older workers and include Construction and Building Inspectors (44% age 55+) and Tool & Die Makers (48% age 55+). By contrast, the youngest of the skilled trades is Explosives Workers, with only 5% age 55 or older.

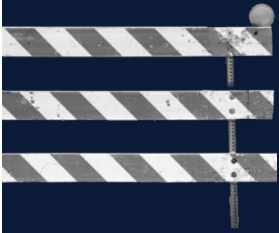
Retirement risk also varies by location.

The Northeast states are most likely to experience a near-term surge in skilled trade retirements, which makes attracting younger replacement workers especially strategic.

2025 Share of Skilled Trade Workers Aged 55+



Source: Lightcast, Core LMI Data



DISRUPTING OUTDATED NARRATIVES

Roadblock 2: Physical Demands

One reason the skilled trades lose older workers to early retirement is the physicality involved in the work. It's also an obstacle to gaining younger job entrants. In the survey cited earlier, 43% of Gen Z respondents said their primary concern with skilled trades was physical labor.

Skilled trade work is in-person and can be dangerous or strenuous in ways that desk jobs are not. The top-posted skills for these occupations include Lifting Ability, Preventive Maintenance, Safety Standards, and Personal Protective Equipment.

The physical challenges are real, but equipping workers with the right skills or introducing labor-saving innovations could alleviate some of the risks and help make these jobs more appealing to young workers—and possibly keep older workers from retiring early.

What do Gen Zs want in a job?

"I want to make a difference before I want to make money"

"I want to know what is expected of me at work"

"The mission or purpose of my company makes me feel my job is important"

"42% of Gen Zers would rather be at a company that gives them a sense of purpose than one that pays more." - Lever report

The physical nature of skilled trade work also has a major upside: it creates a physical impact that's hard to miss. The jobs transform empty lots into thriving homes and businesses, turn raw materials into valuable goods, and provide light and power to people waiting in the dark after a storm.

For the right kind of person, this work provides exactly the sense of greater purpose that young people say they want in a job.

"It's nice to be part of something bigger than myself, while also being able to be outside and have a better work-life balance ... doing something that is tangible—where at the end you can point to a building and tell your kids or your friends, 'Hey, I helped make that hospital happen.'"

— GARRETT

Commercial Building Inspector

Sacramento, CA

Talent Pipeline

Apprenticeships provide talent development for

45% of skilled trades vs. just **9%** of total US jobs.

In several trades, the share who were trained via apprenticeships is **even higher**.

78% of carpenters

74% of electricians

67% of plumbers

Skilled trade apprenticeship completions have **increased** over

70% since 2015.

Community college program completions for the trades have been fairly flat overall, but programs for Carpentry, Maintenance and Repair, and Plumbing made the top ten for highest growth rate among all postsecondary completions in the US last year.

By far the largest source of incoming talent is immigration, adding a projected

508,000

new workers to the trades annually through 2035.

Many of the skills that distinguish the skilled trades are in high and growing demand.

Projected Growth and Job Postings for Top 10 Skilled Trade Distinguishing Skills

	Projected Growth	Job Postings
Blueprinting	18.1%	1.4M
Electrical Wiring	16.3%	1.2M
Welding	16.1%	976.6K
Roofing	13.0%	758.7K
Valves (Piping)	9.0%	720.4K
Fabrication	14.5%	683.7K
Electronics	13.7%	682K
Boilers	9.5%	671.5K
Programmable Logic Controllers	13.9%	605.1K
Network Switches	13.1%	569K

Gaining these skills comes mainly through apprenticeships, on-the-job training, and postsecondary programs.

Source: Lightcast Job Postings Data

AI-Driven Job Growth

AI advancements aren't reducing labor demand for skilled trades:

70%+

of skilled trade occupations have an AI exposure score below 30%.

Both AI exposure and AI adoption are low for all but a few skilled trade occupations, and none are high for both metrics.

Not only is AI not replacing the trades, it's accelerating the demand.

Data centers are a major job growth driver, adding a net

315,000

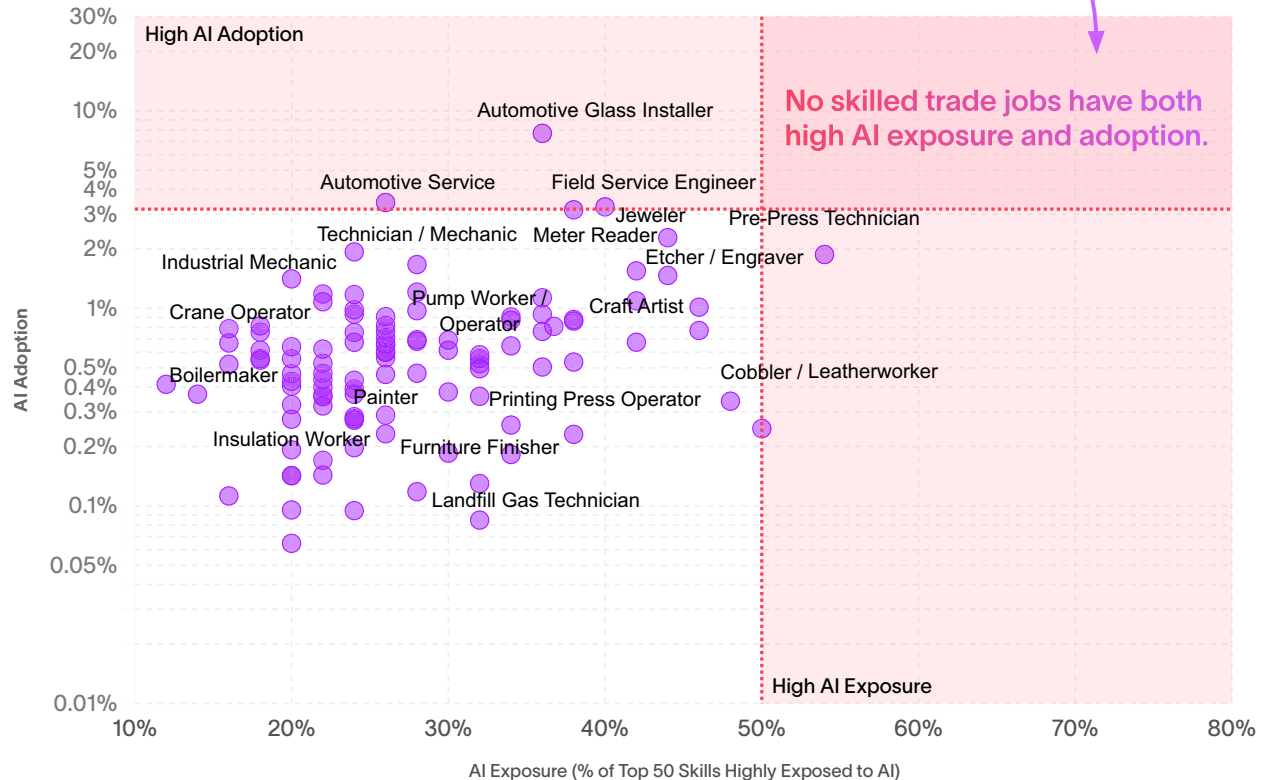
new trade workers in the last 5 years.

This rapid shift in demand puts strain on an already tight market for skilled trade workers.

Meta, a company deeply invested in AI innovations, is now developing its own skilled trade workforce programs to make new data center projects possible.

Skilled trade occupations are less likely to be replaced or reshaped by AI.

AI Exposure and AI Adoption for Skilled Trade Occupations



Source: Lightcast Job Postings Data

Pay and Career Advancement

The skilled trades pay a

31%
SALARY PREMIUM

vs. all non-BA occupations.

On average, these jobs pay
\$13K more annually.



“If you want to work and to never worry about having enough money, this is for you. The more you know, the more you are worth, so go learn as much as you can. If you love your work, the money comes. I do not advertise; I let the quality of my work speak for me, and the phone rings off the hook.”

—BRIAN M.

HVAC-R Technician and Business Owner
Michigan

Median salaries don't tell the full story, since skilled trades jobs create high-pay paths to advancement and ownership.

For skilled trade workers who then transitioned into non-skilled trade occupations,

Owner/Founder was the

#1 NEXT-STEP OCCUPATION

over the past three years, representing a clear path to entrepreneurship for people in the trades.

Business owners (Chief Executives) with a skilled trade background and related skills (such as plumbing, electrical, and HVAC) can expect to earn a median wage of around

\$210,000 per year.

That data is clear that the need for these workers is intensifying, and that the job security and opportunity for these workers is getting stronger as well. So what's stopping people from choosing the skilled-trade career path?

Roadblock 3: The Pay-Gap Perception

In the Tallo and Lightcast survey mentioned above, **29% of Gen Z respondents** said they didn't think they could get a good job outcome if they attended a community college or trade school. But as we've just seen, skilled trade occupations can lead directly to six-figure earnings through next-step advancement into business ownership.

In a separate survey, the majority of young people overestimated the entry-level wage premium for a BA over a trade school certificate by 50%. What many miss, is that the "entry-level" earnings have different starting points—but similar financial outcomes.

There is more than one path to career success.

To illustrate, let's follow two fictional careers: one as an electrician and the other as a financial analyst in Houston.

HOUSTON		AGE 18	AGE 22	AGE 30	AGE 50
Electrician	Advertised Wage:	\$1797	\$28.00	\$42.00	\$110.00
	Accumulated Earnings:	\$37,400	\$239,000	\$836,000	\$4.1M
	Other:	Helper	Helper to Electrician Benefits/Retirement	Supervisory Electrician Flexibility, seniority	Business Owner Job Security, Flexibility
Financial Analyst	Advertised Wage:	0	\$32.00	\$50.00	\$110.00
	Accumulated Earnings:	-\$10,000	\$26,500	\$727,500	\$4.1M
	Other:		Entry experience	Mid-level professional	Financial Manager



The electrician has the advantage of a four-year financial head start, making debt-free earnings while learning on the job. The analyst gains more classroom knowledge and collegiate network connections. The work timelines and training methods may be different, but over the years, both provide advancement opportunities and very similar financial success.

“In college, I went the finance route, but almost directly after getting my certifications and really getting into the swing of things at a banking job, COVID hit. ... So I looked around.

I'd always loved working on cars, and at my current dealership, there was an opening for a loop tech. I talked to the manager and said, 'Look, I understand I'm coming from a completely different industry. I'm not expecting you to pay me my bank salary here, but I'd love an opportunity to move up as quickly as possible.'

I came in, did the training, and now I get to solve problems and do diagnostics, which I love, and then you're gonna pay me for it? And to also make as much as I did as a banker—and now at this point even more—that's crazy, right? Within 3 years, almost any technician here could make 6 figures ... just so long as they apply themselves and get their training done.”

—BLAISE S.

Ford Technician/Foreman (and former banker)

Washington State



Developing the Skilled Trade Workforce

As we've seen, the skilled trades offer a high-earning, high-impact, and highly AI-resistant future. Raising that awareness to inspire young workers is critical, but better messaging is only one piece of the puzzle.

The rest comes together when employers, educators, workforce organizations, and policymakers develop strategies around a shared understanding of labor market needs. Growing the skilled trade jobs of the future means using data to identify regional talent gaps, align training with demand, and communicate real career outcomes. With the right data and aligned incentives, organizations can make smarter investments—and create more pathways into these essential careers.



Align for Maximum Impact

There's no single right way to go about filling skilled trade jobs since every region and enterprise has different resources and labor demands, and every institution offers different training opportunities.

The world of work is multilayered and interconnected. So no one organization, business, or institution can address work-related challenges in isolation. The skilled trades are no different. Building a better skilled trade workforce is an all-hands-on-deck goal. And the better aligned these hands are, the more successful the results will be.



“We have to make sure that industry-based training providers are walking arm-in-arm with faculty in our community colleges or with adjunct faculty from the field. So AWS, as the owner of portions of this infrastructure, invests in that so that our fiber contractors can hire people and do the work...

The special sauce ... is the collaborative work between the different schools and entities that do the teaching and learning, the collaborative work of the employers who represent all these different industries, and then making connections between all of them so that the training matches the employer need, matches the hiring. And those same employees can go back and get more training so that we're creating this sort of virtuous cycle of economic and workforce development.”

—NICHOLAS ROMAGNOLO

Principal, Workforce & Economic Development



Public Sector Strategies

1.

Identify the greatest worker shortages in the skilled trades by using regional labor market data, and direct training resources accordingly.

2.

Use employer demand and skills data to determine where apprenticeships and work-based learning can have the greatest impact.

3.

Develop flexible grants that apply to both short-term credentials and multi-year trade programs.

4.

Assess policy changes to immigration or funding that could affect the skilled trades workforce, and build contingency plans for occupations most exposed to labor disruption.

5.

Analyze workforce and demographic data to spot the barriers most likely to limit participation in high-demand trades, then target support where it's needed most.

Put these strategies into practice with [Lightcast Developer](#). Research your region using the Lightcast Skilled Trades occupation group as your starting point.



Education Strategies

1.

Build earlier pathways into the trades through dual enrollment, for-credit training, internships, vocational partnerships, and hands-on programs that introduce students to skilled trade careers before graduation.

2.

Align trade programs with regional employer demand. Partner with employers, workforce intermediaries, and policymakers to identify the occupations and skills most needed locally, then adapt programs and recruitment accordingly.

3.

Foster career advancement from tradesperson to business owner by incorporating business, financial, and entrepreneurship training into trade programs and continuing education.

4.

Teach the durable skills that employers need alongside technical skills, including communication, leadership, teamwork, and problem-solving.

5.

Track graduate outcomes and use them to improve—and demonstrate the value of—trade programs. Look at where graduates work, the occupations they enter, and their career progression.



Use [Analyst](#) to understand regional skilled trade demand and the skills employers need, [Program Demand Gap Analysis](#) to identify opportunities to better align programs with workforce demand, and [Alumni Pathways](#) to dig deeper into graduate outcomes and career pathways.

Enterprise Strategies

1.

Get ahead of retirement risk. Identify skilled trade roles and markets with an aging workforce, then preserve institutional knowledge through mentoring, phased retirement, and training roles.

2.

Make workforce availability part of site-selection decisions. Evaluate not only where skilled trade talent is available today, but also the strength of the training pipeline and younger workforce needed to sustain operations long term.

3.

Expand your recruiting footprint when local talent is scarce. Identify markets with deeper talent pools and relevant training programs, and target recruiting efforts accordingly.

4.

Hire for skills, not just credentials. Recognize skills gained through apprenticeships, on-the-job training, military experience, and other alternative learning pathways—not only formal degrees or certifications.

5.

Build talent when you can't buy it. Develop apprenticeships, upskill existing workers, partner with local training providers, or create company-led training programs for hard-to-fill roles.

6.

Compete intentionally for skilled trade talent. Benchmark wages against the market, understand which employers are competing for the same workers, and offer clear paths for advancement.

7.

Address the factors that keep people out of the trades. Improve safety and working conditions where possible—and make those investments visible to prospective workers.

Put these strategies into practice with [Lightcast Talent Analyst](#). Use the Lightcast Skilled Trades occupation group to compare markets for talent availability, workforce demographics, and competitive wages—and use job postings to understand who else is competing for the same workers.

Conclusion

Building the skilled trade workforce is essential for a strong economy, but numerous obstacles stand in the way. Overcoming the challenges is not simple, and no single organization can do it alone. Employers, educators, workforce organizations, and policymakers each hold part of the solution—but need to align for maximum impact. Shared labor market intelligence provides the common foundation for making coordinated, evidence-based investments that will strengthen the skilled trade jobs of today and grow their workforce for the needs of tomorrow.

For the complete list of 135 skilled trade occupations, select the “Lightcast Skilled Trades” occupation group in Lightcast’s Analyst or Developer platform, or download the list here:



