AED FOUNDATION
Constructing Pathways | Growing Opportunities

WORKFORCE RESEARCH

2026

Technician Shortage Report

Troubleshooting the Tech Shortage

Unfilled technician jobs cost equipment dealers billions each year in lost business and hindered growth. A look at what's behind the shortage, how industry is responding, and consensus around the path forward.

$7B	10,000	80%	79%
LOST DEALER REVENUE PER YEAR	TECHNICIANS NEEDED ANNUALLY (DEALERS)	DEALERS UNABLE TO MEET CUSTOMER DEMAND	TECHNICIANS WILLING TO CHANGE INDUSTRIES

PREPARED BY

AED FOUNDATION
Constructing Pathways | Growing Opportunities

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FROM THE CHAIRMAN

A Letter to the Industry

For more than a decade, the AED Foundation has made workforce development its highest priority because the future of the equipment industry depends on it. While our industry continues to face a significant shortage of skilled technicians, we remain focused on creating meaningful, long-term solutions that strengthen the talent pipeline and support equipment dealers across North America.

This updated workforce study reinforces what many of our members experience every day: the demand for highly skilled technicians continues to outpace supply. At the same time, it provides something equally important, valuable insight into where the greatest challenges exist and where our collective efforts can make the biggest impact. Research like this serves as an essential resource for our members, helping guide business decisions while shaping the Foundation's workforce initiatives.

The AED Foundation is committed to bringing together everyone with a stake in this challenge. We continue to build connections between students, educators, equipment dealers, manufacturers, and industry partners to create more opportunities for young people to discover rewarding careers in our industry. Through accredited college programs, recognized high school partnerships, apprenticeships, industry events, we are helping develop a stronger, more sustainable workforce for generations to come.

What makes this year's report especially meaningful is its broader perspective. By incorporating the voices of dealers, manufacturers, educators, and technicians, we gain a more complete understanding of both the challenges and the opportunities before us. The findings make it clear that no single organization can solve this issue alone, but by working together, we can make lasting progress.

The AED Foundation remains dedicated to leading this effort. We hope the information contained in this report helps your business better understand today's workforce landscape while inspiring continued collaboration across our industry. Together, we can build the skilled workforce our industry needs to thrive well into the future.

Sincerely,

Ron Barlet
Chairman
AED Foundation

SUMMARY

Executive Summary

Ag and construction dealers face a shortage of 10,000 diesel technicians per year, costing them an estimated $7 billion annually in lost shop and parts sales.

That's the finding 10 years after a groundbreaking 2016 report from the Associated Equipment Distributors Foundation and William and Mary College first documented the problem. In a survey of AED member dealers conducted for the 2016 report, more than 50% of respondents said the inability to find qualified technicians hindered business growth and increased costs and inefficiencies. More than 60% said it made it difficult to meet customer demand.

By 2026, in a similar survey conducted over AED member and other dealers in February of this year, 77% of respondents said the technician shortage hindered business growth, 72% cited increased costs and inefficiencies and **a whopping 80% – a 20% increase over 2016 – said they are unable to meet customer demand.**

Making the situation even more challenging for dealers, diesel technician skills are readily transferable between business types and even industries. Because ag and construction dealers compete with truck dealers, independent repair shops, rental and leasing companies – and even their own customers – for technicians, it's important to consider the total shortage of technicians across all industries and business types. Another 10,000-plus techs will be needed for non-dealer work in ag and construction and estimates of techs needed in the truck and bus space go as high as 30,000 per year.

At the same time, tech schools face a range of challenges from insufficient funding to a shortage of qualified instructors. The more than 11,000 students who graduate annually from a diesel technician program at a vocational school are nowhere near enough to fill the pipeline.

> This year's report draws on responses from dealers, OEMs, schools and technicians — the most comprehensive multi-stakeholder survey on this issue to date.

But this is not just a pipeline and recruitment problem. Dealers also struggle to retain technicians, with turnover particularly high at the critical 2- to 5-year employment mark when techs are reaching peak performance and bringing in the most revenue. Retention is one area where ag and construction dealers face different challenges, a fact uncovered through a new approach taken with this year's report: comparing the two industries around key data points, versus presenting all dealer data in a single view.

The news is not all bad. For the first time, this year's report not only draws on responses from dealers, but also OEMs, schools and technicians — the most comprehensive multi-stakeholder survey on this issue to date, and the first to place these perspectives side by side. This approach highlights the broad-based consensus around the problem's causes – social stigma around vocational work and an educational system not designed for today's workforce – and its solutions – raising awareness of high-quality career opportunities and a focus on practical, work-based training.

The report concludes with six priorities for stakeholders, presented as an industry call to action.

THE WORKFORCE

Sizing the Ag and Construction Technician Workforce

About one-half million workers in three diesel technician occupations – bus and truck mechanics and diesel engine specialists, farm equipment mechanics, and service technicians and mobile heavy equipment mechanics, except engines – worked across all industries in 2024, according to the Bureau of Labor Statistics.

Diesel technician skills are readily transferable to other industries and between various business types within industries. While the exact skill requirements might vary somewhat, a diesel technician employed by an ag equipment dealer could easily move to an independent repair garage serving area farmers or to a construction equipment or truck dealer, trucking fleet or rental business. Technicians are aware of their marketability and are open to making such career changes. In fact, **79 percent of diesel techs in the AED survey said they would be willing to take a technician job in a different industry.**

For the purposes of this report, we focus primarily on the more than 200,000 technicians working in agriculture and construction. Of those, construction and related fields such as logging and mining employ 188,700 technicians while 39,000 technicians work in various capacities within agriculture. Equipment dealers – what BLS calls Merchant Wholesalers, Durable Goods (Chart 1) – employ 26% of the techs working as mobile heavy equipment mechanics, except engines (includes construction) and two-thirds of the techs working as farm equipment mechanics and service technicians, making dealers among the largest industry employers for these occupations.

Chart 1 · Farm and Construction Technician Employment by Industry and Occupation

Industry	Farm Equipment Mechanics & Service Techs	Mobile Heavy Equip. Mechanics, Exc. Engines (Construction)
Construction	100	43,400
Truck Transportation	100	2,500
Merchant wholesalers, durable goods (dealers)	25,700	49,500
Repair and maintenance (shops)	1,600	9,900
Federal, state and local government	0	15,800
Rental and leasing services	100	21,200
Educational services (tech schools)	100	300
Mining, quarrying, oil and gas	0	11,000
Agriculture, forestry	4,000	1,200
Total by occupation for all U.S. industries (not a sum)	**39,000**	**188,700**

Industries employing significant numbers of farm and construction technicians. Not all industries shown. Source: Bureau of Labor Statistics Employment Projections and Occupational Employment and Wage Statistics, 49-3041 Farm Equipment Mechanics and Service Technicians, 49-3042 Mobile Heavy Equipment Mechanics, Except Engines.

THE SHORTAGE

The Shortage is Big – and Universal

Demand for entry-level technicians is driven by two factors: industry growth and separations due to retirements and those leaving the industry to pursue other occupations.

The Bureau of Labor Statistics projects that each year over the next 10 years, 3% of techs employed in ag and construction will retire and another 5% will change occupations, resulting in a need to replace 18,800 techs each year due to industry exits alone (Chart 2). The 2026 Wrenchway Voice of the Technician Report supports these findings, with 21% of diesel techs (all industries, not just ag and construction) saying they plan to leave the industry and another 17% planning to retire over the next five years.

At the same time, BLS projects diesel tech employment over the next decade will grow 11% in agriculture (1.1% annually) and 5.8% in construction (.58% annually), far faster than the 3.1% average growth projected for all occupations over that time period. Annualizing that growth rate means that with retirements, exits and growth, ag and construction will need to hire around 20,000 techs per year over the next 10 years. (Note: Because BLS employment projections involve estimates based on occupations with similar training, they may over- or underreport tech employment trends. While some projections of the tech shortage may be smaller, all data point to a significant shortage.)

Chart 2 · Additional diesel technicians needed annually – Ag and construction

Techs	Current	Annual retirements (3%)	Annual change occupations (5%)	Total Retire + Change	Annual growth needs	Total needed/year
Ag	39,000	1,200	2,100	3,300	400 (1.1%)	3,700
Construction	188,700	5,700	9,700	15,500	1,000 (.58%)	16,500
Combined	**227,700**	**6,900**	**11,800**	**18,800**	**1,400**	**20,200**

Source: May 2024 Bureau of Labor Statistics, **Employment Projections, Occupational Separations and Openings**, 49-3041 (farm mechanics) and 49-3042 (construction). Calculations are not exact due to rounding by BLS.

Over the next three years, ag and construction dealers alone will need around 10,000 diesel technicians (Chart 3) each year to backfill technicians who retire and those who change to other occupations and to meet customer demands and their own growth goals.

Chart 3 · Additional diesel technicians needed annually over the next 3 years – Dealer only subset

Dealer Techs	Current	Annual retirements (3%)	Annual change occupations (5%)	Total Retire + Change	Annual growth needs (5.8%)	Total needed/year
Ag	25,640	769	1,282	2,051	1,487	3,538
Construction	46,750	1,403	2,338	3,741	2,712	6,453
Combined	**72,390**	**2,172**	**3,620**	**5,792**	**4,199**	**9,991**

Source: 2024 Bureau of Labor Statistics, **Machinery, Equipment, and Supplies Merchant Wholesalers**, 49-3041 (farm mechanics) and 49-3042 (construction). BLS estimates are for retirements and occupational changes. Growth projections are taken from the AED Technician Shortage survey of 126 dealers in answer to the question: To meet your businesses' growth goals and the needs of your customers over the next 3 years, by what percentage will your company need to increase the number of technicians you employ? This gave a headcount weighted average of 17.4% over three years, which annualizes to 5.8% per year.

THE SHORTAGE

A Shortage Across Every Industry

But the problem is bigger than agriculture and construction. In its August 2025 report, Addressing the Shortage of Qualified Diesel Technicians, the American Transportation Research Institute projected a shortfall of diesel techs in roles at truck dealerships, fleets, and other transportation businesses as high as 30,500 annually. As noted previously, diesel technician skills are readily transferable between industries and occupations, making it critical to view the shortage holistically and to recognize that competition for these technicians is fierce.

50,000

Taken together, the annual diesel technician shortage across **ag, construction and trucking** could be as high as 50,000. However, BLS projects a growth rate for diesel service technicians working primarily on trucks and buses at only 2%, below the average for all occupations and well below the need for techs in ag and construction. In other words, the technician shortage is most acute within the industries served by AED.

ECONOMIC IMPACT

The Economic Impact is Real

When a technician seat goes unfilled, the consequences ripple through every part of the business — and into the broader economy.

Technicians average around 2,000 billable hours per year (assuming 50 weeks working). Given an hourly rate of $185 (average of ag and construction hourly rates), that's $370,000 in lost gross revenue per year for each unfilled technician role. But experts say even that number doesn't go far enough. For every dollar of labor dealers bill customers, they sell .89 cents in parts, according to Brian Miller at Time Service, an ag dealer consultant based in southwest Iowa. Figuring in lost parts sales of $329,300 per year brings the total annual loss per unfilled technician role to $699,300. Projected over the 9,991 annual dealer tech shortage, that adds to $7 billion in lost service and parts revenue to the ag and construction dealer communities each year (Chart 4).

Chart 4 · Dealer revenue loss for each unfilled technician position

Segment	Billable hours	Hourly rate	Hours revenue/tech/yr	Parts revenue/tech/yr (.89/hr billed)	Total revenue/tech/yr	Techs needed/yr	Total lost revenue/yr
Ag	2,000	$170	$340,000	$302,600	$642,600	3,538	$2 billion
Construction	2,000	$200	$400,000	$356,000	$756,000	6,453	$5 billion
Combined – averages of ag and construction	**2,000**	**$185**	**$370,000**	**$329,300**	**$699,300 avg.**	**9,991**	**$7 billion**

Source: 2024 Bureau of Labor Statistics, **Machinery, Equipment, and Supplies Merchant Wholesalers**, 49-3041 (farm mechanics) and 49-3042 (construction). Billable hours, hourly rates and parts revenue per billable hour are estimates based on industry averages.

Dealers are feeling the business impact of the shortage in numerous ways (Chart 5), with 80% of those who responded to the AED survey saying they are unable to meet customer demand.

We're seeing "increased repair times, increased wages and increased customer downtime expense — including guaranteeing loaners," a Bobcat dealer told researchers, echoing the 72% of dealers surveyed who said they faced increased costs and inefficiencies due to the technician shortage.

ECONOMIC IMPACT

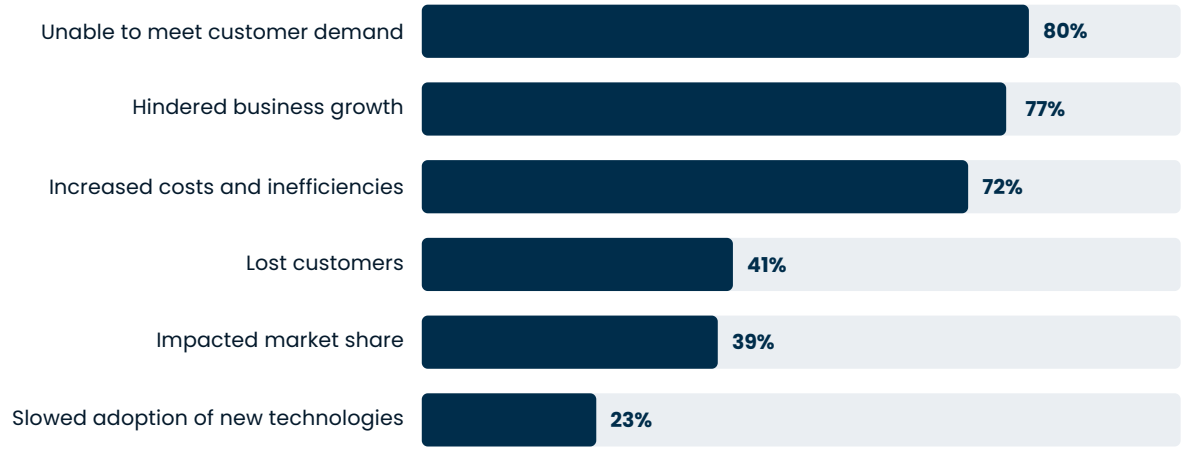
A Ripple Effect Across the Business

"Not everybody understands the impact through the whole business," says Brian Osterndorff, CEO of Roberts Equipment, an ag and construction equipment dealer with locations across Ontario. "It affects equipment sales, too," he says. For now, "we can manage our customers but it's getting more challenging to do that."

Because the service department is the most profitable area of the dealership, dealers put a higher priority on service to maintain those high profit levels, says Wes Becker, dealer operations excellence with Bobcat. "That puts more pressure on needing good techs."

Chart 5 · What Dealers Report as Business Effects of the Shortage

% of U.S. and Canada dealers experiencing each impact (multi-select, n=166)



THE PIPELINE

Why the Pipeline is Broken

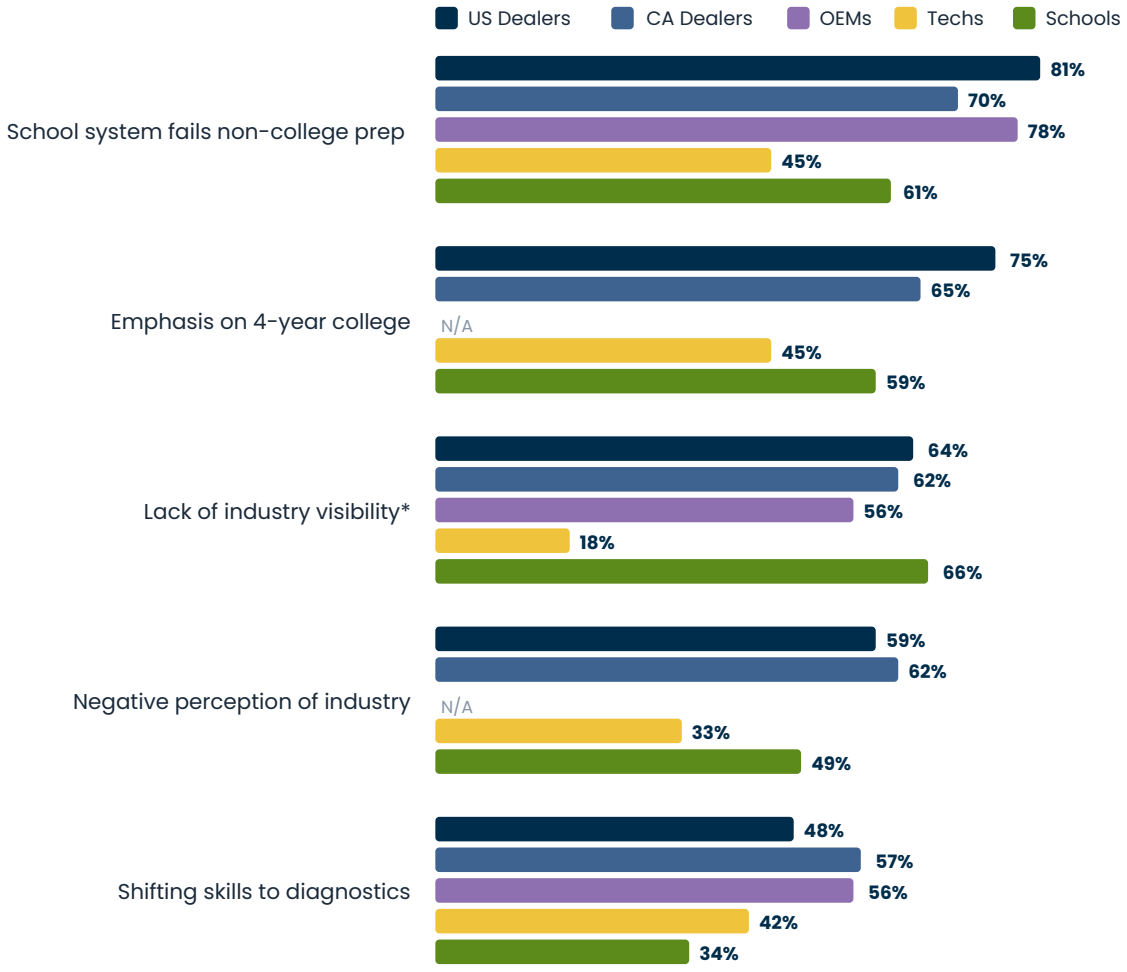
The acute shortage of diesel technicians has been decades in the making.

As manufacturing jobs declined during the 1980s, parents, high school teachers and guidance counselors shifted to a "college-for-all" mindset, overwhelmingly encouraging students to seek college degrees as the best way to ensure good-paying, stable careers.

Nearly 50 years later, not much has changed. Stakeholder groups surveyed by AED universally point to schools' and parents' failure to value and encourage vocational work as the root cause of the shortage (Chart 6).

Chart 6 · Root Causes of the Shortage – Cross-Group Consensus

% of each group selecting each factor (multi-select). *For schools, "lack of industry visibility" was asked as "lack of knowledge." OEMs were not asked about 4-year-college emphasis or negative perception (N/A).



Source: 2026 AED and CEDF surveys — U.S. dealers (n=126), Canada dealers (n=40), OEMs (n=9), technicians (n=33), schools (n=41). Multiple responses allowed.

THE PIPELINE

Shifting Perceptions of Vocational Careers

High school students further validate these findings, with 79% of respondents to a recent survey by software company Jobber, saying their parents want them to pursue a college education after high school. In that same survey, 74% of respondents say there's a stigma associated with going to a vocational school over a traditional four-year university.

Mike Rowe, best known as host of Dirty Jobs on the Discovery Channel, is on a mission to change that. Citing student loan debt as the second highest consumer debt category in the U.S. with more than 45 million borrowers who collectively owe more than $1.7 trillion, he says: "We keep lending money we don't have to people who can't pay it back for jobs that don't exist." In an effort to "make work cool again," Rowe developed the Mike Rowe Works Foundation which challenges the stigmas and stereotypes he says discourage people from pursuing millions of good-paying, available jobs that don't require a 4-year college degree.

Rowe's efforts and those of other stakeholders may be beginning to pay off. A recent Wall Street Journal article pointed to surging interest in vocational careers, citing a DeWalt tool company survey that found 52% of students had been waitlisted by high-school vocational programs. At the same time enrollment at vocational-focused community colleges has soared nearly 20% since 2020, according to data from the National Student Clearinghouse, as reported in the WSJ.

Programs such as Ferris State University's Diesel Days work to raise awareness of careers in heavy equipment. Each October, around 600 high school students attend the program at the Ferris campus in Big Rapids, Michigan. Participating teachers and students say "they never realized there were these opportunities," says Austin Williams, Ferris heavy equipment program coordinator.

Even academically gifted students who might traditionally pursue a 4-year college education are instead considering vocational careers, says Nick Testa, department chair and faculty member at SUNY Cobleskill. "Kids are finally picking up" on the job opportunities and income potential of technical careers, he says, citing waiting lists for some high school vocational training centers in New York State. There now are "two different populations competing for those seats," Testa says, meaning schools can pick and choose who they accept into their programs.

> *"The pendulum is starting to swing. High school educators are realizing that vocational training is a viable option."*
>
> — DAVE BOSTIC, JOHN DEERE

But having more students interested in pursuing vocational careers is just a start. In many cases, school systems have not yet effectively pivoted to educating students for the vocational workforce.

Part of the problem, more than 40% of dealers say, is that schools don't understand their workforce needs and thus fail to align their curriculum to meet them. Recognizing this gap, 79% of dealer respondents say they plan to start or continue outreach or forge partnerships with local tech schools, community colleges or high schools with tech programs over the coming year.

Dave Bostic, service development manager with John Deere, suggests such outreach is already taking hold. "It feels like the pendulum is starting to swing," he says. Increasingly, "high school educators are realizing that vocational training is a viable option."

Such efforts should be done in concert with other industries that also need vocational talent, says Grif Reome, director of technical workforce development for Komatsu. Recognizing that candidates who are likely to pursue tech careers could work in mining, HVAC, electrical or other trades, "it should be collaborate now, compete later," he says. All industries should work together to identify kids with aptitude and bring them into vocational careers," he says.

THE PIPELINE

A Shaky Educational Foundation

But dealers and educators also agree the problem goes deeper: Many students who enter vocational programs lack the basic educational foundation to succeed, they say. Students beginning their technical education and even entry level techs struggle with the soft and hard skills and sometimes the work ethic to meet workforce demands (Chart 7).

Chart 7 · How dealers and schools rate students and entry level techs on basic skills

Deficiency	Group	Average rating	% at 4+	Observation
Soft skills	Dealers	3.73	61%	Dealers see soft skills as larger challenge than do schools
	Schools	3.6	55%	
Hard/Technical skills	Dealers	4.0	75%	Biggest deficit for dealers; schools see it as less severe
	Schools	3.43	50%	
Work ethic	Dealers	3.55	55%	Work ethic concerns consistently high
	Schools	3.57	55%	

Schools' rating of tech students' academic proficiency

Area	Average rating	Observation
Reading	3.0	Average – room for improvement
Writing	2.57	Lowest rated – significant gap
Math	2.83	Below average – a concern for educators
Technical aptitude	3.32	Strongest area but also biggest deficiency cited by dealers

Dealers were asked to rate skills deficiencies of students and entry level techs on a 1-5 scale with 1 being rarely a problem and 5 being very often a problem. Educators were asked to rate academic proficiencies of tech students on a 1-5 scale with 1 being not proficient and 5 being very proficient. Source: AED surveys of dealers and vocational schools. Soft skills are defined as communication, problem-solving, team work and time management. Hard skills include technical abilities to handle complex systems such as hydraulics, electronics and software.

Such knowledge gaps mean vocational training programs must spend crucial time revisiting these basics rather than teaching the actual trade. And some vocational schools require students who don't meet the basic requirements to take additional classes at their own expense.

THE SCHOOLS

Schools Can't Keep Up

More than 76% of schools responding to the AED survey said they graduate more than 86% of students enrolled, with nearly half of those saying they graduate more than 95%.*

But despite such strong graduation rates, not enough students are completing postsecondary (after high school) diesel technician programs to make a dent in demand.

Public 2-year schools and private, for-profit 2-year schools graduate the highest number of students in the diesel sector, according to the Tech Force Foundation's 2024 Supply and Demand Report (Chart 8). Yet for the 2023-2024 school year, all vocational schools graduated just over 11,000 diesel technicians, nowhere near enough to fill the pipeline.

The TechForce Foundation's most recent report singles out tech schools that focus primarily on the agriculture sector. The number of students completing programs at those schools fell 6.4% to just 751 for the 2023-2024 school year, a number the report estimates is just 16% of what's needed. These programs are concentrated in rural communities with Reedley College in California (a participant in the AED study) producing 22.5% of all farm technician program graduates nationwide.

*While half of schools responding to the survey are high schools with vocational track, possibly skewing graduation rates, these numbers align closely with reported completion rates from various vocational schools.

Chart 8 · Graduates From Public and Private Diesel Tech Programs

Institution Type	# Institutions	# of Graduates
Public, 4-year or above	58	1,371
Public 2-year	**217**	**5,843**
Public, less-than 2-year	32	432
Total Public	307	7,646
Private not-for-profit, 4-year or above	3	243
Private, for-profit, 4-year or above	2	118
Private not-for-profit, 2-year	4	189
Private for-profit, 2-year	**28**	**2,912**
Private not-for-profit, less than 2-year	0	0
Private, for-profit, less than 2-year	7	202
Total Private	44	3,664
GRAND TOTAL	**351**	**11,310**

Source (a): IPEDS database. Completions from first major, Diesel Mechanics Technology/Technician Bachelor's degrees and Associate's degrees, as well as certificates below the degree level. Chart originally appeared in TechForce 2024 Supply & Demand Report.

THE SCHOOLS

Training Moves In-House

It's important to note that many diesel technicians begin their careers without completing formal training through a post-secondary school. Some learn on the job, graduate from a high school with a vocational track or complete a professional apprenticeship.

The ATRI report, for example, found 62% of the techs employed by trucking shops (fleets, dealers, independent garages) had no formal training prior to starting their careers. Shops are so short-staffed, that "over the past 8-10 years it's become more of a trend that businesses will take them right out of high school," says Testa, with SUNY Cobleskill.

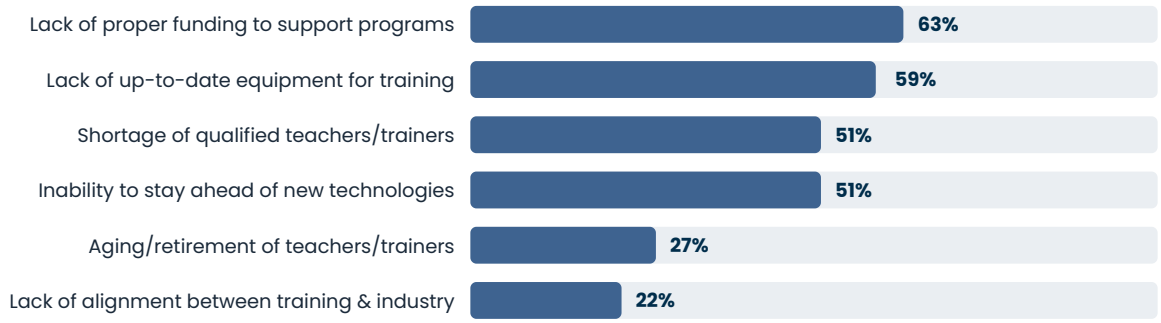
Keith Kreps, president and COO of 21st Century Equipment, with locations throughout Colorado, Nebraska and Wyoming, takes that one step further. Because dealers need many more techs than schools can provide, he says, "if I look forward 5 years from now, I think more dealers are going to move training in house – away from a 2-year degree."

The future is now for some larger dealers, says Time Service's Miller. By doing their own training, "they have more control over what students learn," he says. "If you're repairing cotton pickers, you're not going to get that in tech school, for example. It sounds like a big investment but by the time you pay for tuition, room and board (in some cases), and tools, it might be more cost effective to do it themselves."

If such a move by major dealer groups and OEMs shifted investment away from schools, it would likely exacerbate tech schools' challenges. Lack of funding, dated equipment for training and a shortage of qualified instructors can make delivering a quality educational environment difficult, much less at the scale industry needs (Chart 9). Nearly 80% of schools say either a shortage of qualified teachers (51%) or retirements and teachers aging out (27%) are among their biggest challenges.

Chart 9 · Tech programs face a wide range of challenges

% of schools citing each challenge (n=41 U.S. schools)



Source: 2026 AED survey of vocational schools.

For those with tech skills, pay scales in higher education can't compete. "You have to love teaching because you can make much more as a technician than as an instructor," says Ferris State's Williams. And even those who might be interested in teaching may not have the necessary credentials; colleges and universities require their professors to have at least a bachelors' degree (combined with industry experience), but many prefer a masters or PhD.

RECRUIT & RETAIN

Dealers Struggle to Recruit – and Retain

Hiring technicians is a universal struggle for dealers responding to the AED survey, with all dealer types except construction-only dealers rating their difficulty at 4 or higher out of 5 (Chart 10).

Looking at the findings by industry, ag dealers feel the shortage most acutely, rating their difficulty at 4.26 out of 5 with 84% rating it 4 or higher.

Chart 10 · How difficult is it for your dealership to find technicians?

Presented in order of difficulty (1 = no difficulty, 5 = great difficulty)

Dealers responding to the AED survey rated their difficulty finding technicians on a 1-5 scale, with 1 being no difficulty and 5 indicating great difficulty.

Dealers' experiences with hiring technicians tracks closely with that of their competitors at independent repair garages. In Fullbay's annual State of Heavy-Duty Repair, 43% of respondents said the technician shortage/hiring qualified staff was their top concern tied with increasing operating expenses (rent, utilities, insurance, etc.). When asked about difficulty hiring, 46% of respondents said it was about the same as in 2024, but 40% said hiring was somewhat or much more difficult.

A look at the job opening metrics reported by dealers underscores their hiring challenges. While roles at most U.S. businesses remain open on average 35 days, only 17% of AED survey respondents fell within the job open range of 31-60 days. Forty-four percent of jobs at dealerships are open more than three months, with **20% open more than 150 days** (Chart 11).

Chart 11 · How Long Technician Jobs Stay Open

Days Job Remains Open	Percentage
1-30 days	13%
31-60 days	17%
61-90 days	19%
91-120 days	17%
121-150 days	7%
More than 150 days	**20%**

Source: 2026 AED dealer survey (n=126).

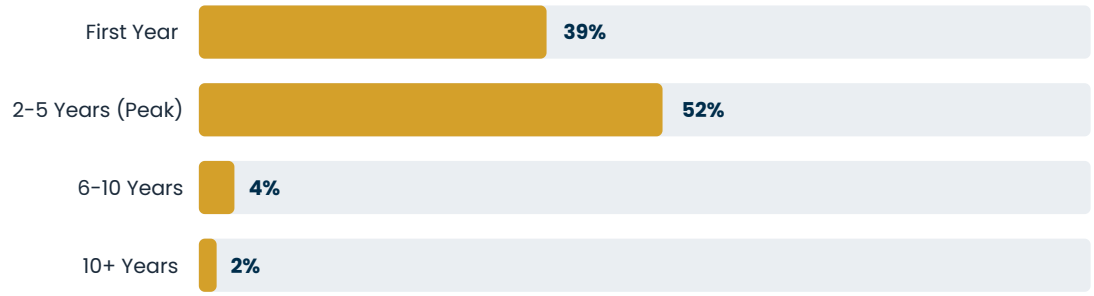
RECRUIT & RETAIN

Retention: The Other Half of the Problem

While dealers' challenges with recruiting enough new technicians get the most attention, retention is also a big problem. Technician turnover at dealerships participating in the AED survey hits its peak at the 2- to 5-year mark (Chart 12), when techs are fully trained and bringing in the most revenue. The number is even higher at ag dealers, where nearly 70% report highest turnover in that critical 2-to 5-year range.

Chart 12 · When Turnover Hits Hardest

U.S. Dealers – timing of highest employee exits

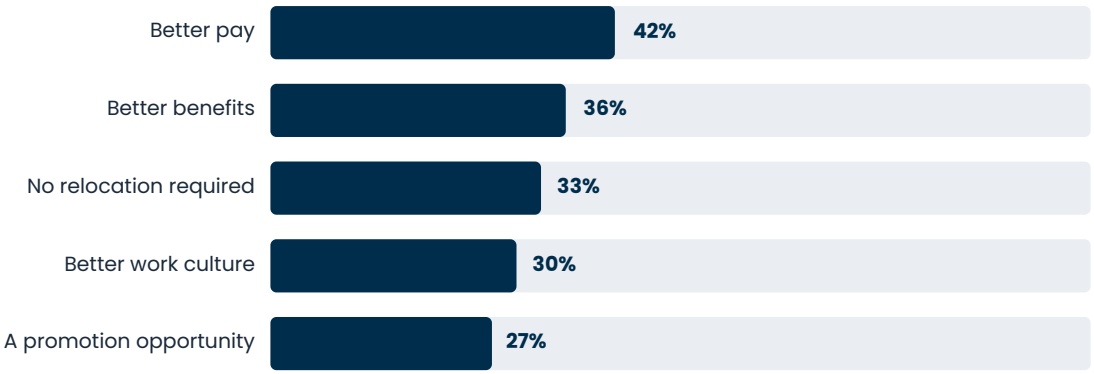


Techs leave just as they reach peak productivity. Agriculture's window is even tighter: 69% of Ag dealer turnover is in the 2- to 5-year range. This is not a recruitment failure alone – it is a retention failure.

Even more alarming is the number of technicians who say they would consider taking a job in another industry: **79% of techs responding to the AED survey would change industries** given the opportunity to better their situation (Chart 13). Only 9% would not leave under any circumstance.

Chart 13 · What Would Make a Technician Leave?

Conditions the 79% say would trigger a move to another industry (% of all technician respondents, n=33)



RECRUIT & RETAIN

What Dealers Are Doing to Keep Techs

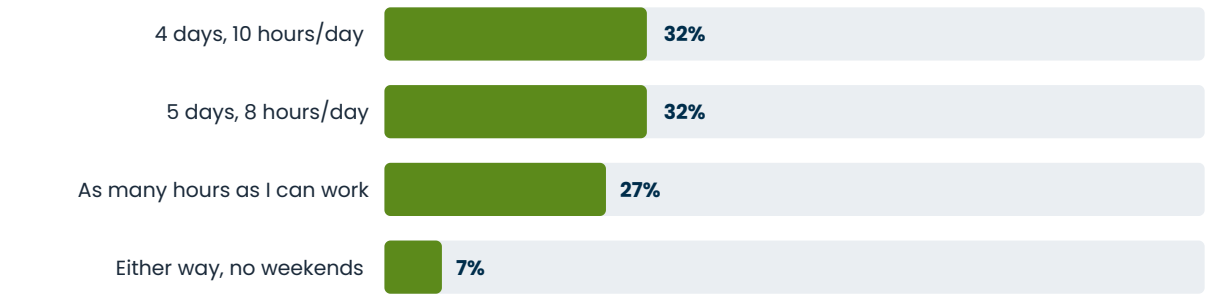
Many dealers recognize they have a retention problem and are taking steps to overcome it. Pay is the number one issue and wages at most dealerships have steadily increased over the last few years, with 71% planning to increase pay again this year.

Creating a better work culture is tougher. "Keeping a family feel and connection with the employees is critical," says Kreps, with 21st Century Equipment. His company also invests heavily in training. "We spend twice as much as the average John Deere ag dealer on training," he says. "The more we can engage them in new things the more likely we are to retain them."

Another challenge dealers face is creating the work-life balance younger techs demand. Ten or 15 years ago, techs were willing to work Saturdays and nights to earn overtime pay, Kreps says. "Now at 5 they want to go home but our customers farm much longer than that."

In 2025, Wrenchway's Voice of Technician survey asked techs and students their preferred work schedule. Only 27% wanted to work overtime. The remainder were evenly split between working 4, 10-hour days or 5, 8-hour days (Chart 14). Kreps is looking at split shifts, paying more for overtime, and four-day work weeks, but says such changes have been met with resistance from customers and from more tenured employees.

Chart 14 · Preferred Work Schedule of Technicians and Students



Source: Wrenchway 2025 Voice of Technician Report and ASE

Roberts Equipment, with locations across Ontario, gives techs the option of working four, 10-hour days or five eight-hour days, says CEO Brian Osterndorff. "That's helped with retention," he says. Roberts also provides five paid-time-off days in addition to vacation. "Benefits have to be stellar," he says. "We supply coveralls, trucks. We're kind of running out of options because everyone's doing the same thing. It's hard to differentiate."

SIDEBAR

Agriculture Versus Construction: Not the Same Problem

AED's primary member industries both face a shortage of diesel technicians, but they experience it differently.

→ Agriculture – The hardest hit

Ag dealers ranked their difficulty in finding technicians at 4.26 out of 5 average difficulty – the highest of any segment. Eighty-two percent rate it 4 or 5 out of 5. Ag dealers have 56% of job openings staying open more than 90 days and see the most mid-career turnover: 69% of exits occur in the critical 2- to 5-year window when techs have reached their peak efficiency. They also report the highest work ethic concern (3.64/5) and the most market share erosion (53%).

Ag dealers' top policy preference to deal with the technician shortage is financial incentives — subsidies and tax credits (72%) — suggesting they feel the pipeline cannot change fast enough and need near-term economic relief now.

→ Construction – A different pressure profile

Construction dealers ranked their difficulty in finding technicians at 3.92 out of 5 average difficulty – serious, but measurably less acute than agriculture. Construction's defining characteristic is first-year turnover (38% of dealers cite this as their peak exit window), pointing to an onboarding and culture problem rather than a mid-career retention gap. Positions fill slightly faster — 31% open more than 90 days vs. ag's 56%.

Construction dealers most strongly demand curriculum alignment (83%) and work-based learning (86%) to deal with the tech shortage — the most emphatic call for education reform of any segment in the survey.

U.S. Agriculture vs. Construction Dealers – Side by Side

Metric	Agriculture	Construction	Implication
Average hiring difficulty	4.26/5.0	3.92/5.0	Ag measurably harder to staff
% jobs open >90 days	56%	31%	Ag vacancies linger nearly 2x as long
Peak turnover timing	2-5 years (69%)	First year (38%)	Different retention interventions required
Dealers reporting market share loss	53%	40%	Ag brand relationships most at risk
Top policy ask	Subsidies/tax credits (72%)	Work-based learning (86%)	Different legislative priorities
Work ethic deficiency rating	3.64/5.0	3.48/5.0	Ag sees more cultural/attitudinal challenge
Hard skills deficiency rating	4.0/5.0	4.02/5.0	Equal severity – technical gap is universal

SOLUTIONS

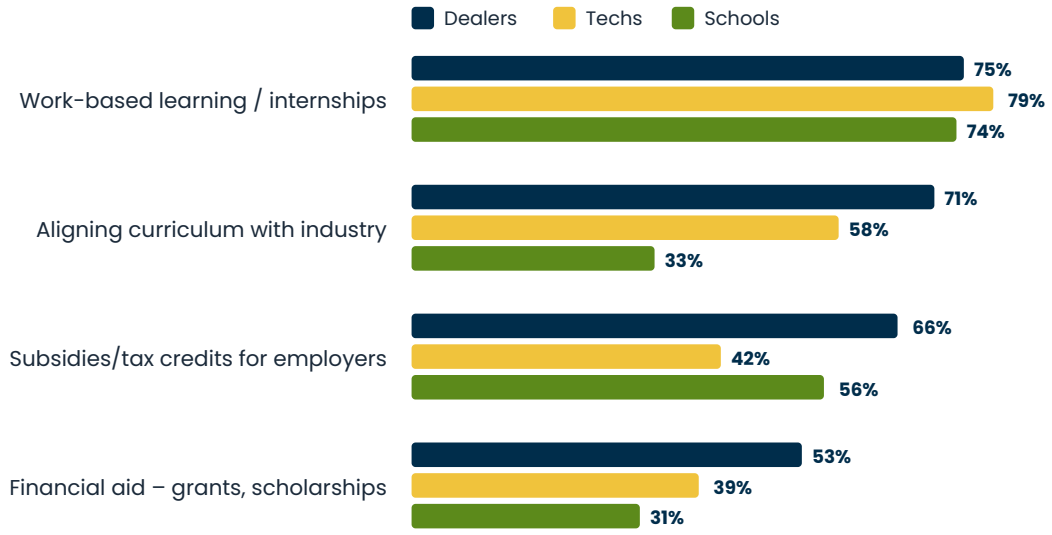
Solutions Stakeholders Agree On

Surveying stakeholders across the ag and construction industries revealed an unprecedented level of consensus not only about the scope of the shortage but what can be done about it. Overwhelmingly, all stakeholders agree that increasing work-based learning/internships is the most effective approach to growing the pipeline of technicians (Chart 15).

This aligns with what high schoolers themselves say. Jobber's Blue Collar Report found 75% of high schoolers are interested in exploring vocational schools that offer paid, on-the-job training.

Chart 15 · Cross-group comparison of policy priorities

% of each group selecting each intervention (multi-select). Work-based learning achieves near-unanimous support.



Source: 2026 AED surveys — dealers (n=126), technicians (n=33), schools (n=41).

Many dealers and their OEM partners are already committed to providing apprenticeships, internships or other types of work-based learning opportunities (Charts 16 and 17). Programs such as those offered by John Deere, Komatsu and Caterpillar combine classroom training through partnerships with tech schools, with paid work at participating dealerships. Many also offer virtual options that allow students to work at dealerships while completing online training.

Chart 16 · What Dealers are Already Doing

Dealer Action	% of Dealers	Why it's Important
School partnerships	79%	Schools need support; dealers need graduates
Increased pay	71%	Even entry-level techs know they can command good wages
Community promotion	63%	Lack of awareness of industry and tech careers are root causes
Offer apprenticeships	57%	The No. 1 policy demand across stakeholders
Tool allowances	48%	Tool cost one of largest barriers to entry

Source: 2026 AED dealer survey. Multiple responses allowed.

SOLUTIONS

School Outreach and Work-Based Learning

Students in these programs may receive all or part of their tuition paid by the dealer and they may also receive tool discounts. Upon graduation, "as long as the student doesn't have any issues, I don't know a dealer that won't hire them," says Jason Kinzey, John Deere service development manager. Beyond apprenticeships, as Chart 16 shows, dealers are also making significant investments in pay and other efforts.

More than 70% of dealers plan to increase pay this year, even though 74% increased wages by more than 10% over the last five years and 27% increased them by more than 20%. Despite this ongoing investment, the technician vacancy rate remains at 10.7% and positions stay open for months, proof that raising pay, while important, cannot solve the structural pipeline problem dealers face.

> *"The best thing a dealer can do is partner with their local schools. It's all about relationships. Dealers need to work with schools along the way, not just expect to hire their graduates when they haven't supported the school throughout the process."* — WES BECKER, DEALER OPERATIONS EXCELLENCE, BOBCAT

OEMs occupy a unique position to fund and scale solutions. Among the nine OEMs surveyed (Chart 17), support is spread remarkably evenly — most actions were cited by the same five of nine OEMs. The one action that stands out is promoting the career's benefits within the community, the single most common step.

Chart 17 · What OEMs are Already Doing

% of OEMs taking each action (n=9). Multiple responses allowed.

67%

Promote career benefits within community — the top OEM action

56%

Each of the eight other actions — from school donations and outreach to paid internships and equipment grants — was cited by 5 of 9 OEMs, showing broad, even engagement across the board.

OEM Action	% of OEMs	Why it's important
Promote career benefits within community	67%	Career awareness campaigns raise awareness and build brand
Donate funds to a technician school	56%	OEMs are in a unique position to offer financial support
Donate funds to a trade organization	56%	Helps bring solutions to scale
Outreach/partnership with tech or high schools	56%	OEMs active in school relationships — need continued alignment with dealers
Promote industry's use of technology to attract talent	56%	Tech positioning may help attract a generation raised on technology
Develop advanced digital tools to boost tech productivity	56%	Efficiency tech = fewer techs needed per unit of output — a demand-side lever
Create tech-focused training with paid internships	56%	Paid internships are one of the most effective OEM pipeline investments
Collaborate with stakeholders to standardize training & career paths	56%	Standardization could multiply impact across industries
Donate equipment to tech schools for training	56%	Hands-on training with real equipment is critical — OEMs can and do fill this gap

Source: 2026 AED OEM survey (n=9). Multiple responses allowed.

PROMOTING THE CAREER

Promoting Diesel Tech Careers: What Makes Ag and Construction Stand Out

The top reason potential techs don't enroll in vocational programs – cited by 66% of educators responding to the AED survey – is lack of knowledge of tech careers and their benefits such as good pay and job security. A negative perception of tech careers was cited by 49%, underscoring the profession's hard-to-shake reputation as a dirty, low status job.

Dealers share these concerns, ranking lack of industry visibility/awareness (64%) and negative perception of the industry (59%) as top factors contributing to the technician shortage (Chart 6).

Dealers and OEMs are actively working to overcome these issues, with 63% of dealers and 67% of OEMs saying they are out in their communities promoting the benefits of a career as a diesel technician, including:

- Alternative to expensive 4-year university degrees that may not lead to a good-paying job. (Roughly half of college grads are working in jobs that don't require a college degree.)
- Little to no student loan debt (many dealers underwrite training for minimum work commitment)
- Start earning sooner – most diesel tech programs are 2 years and there are many "work-while-you-learn" opportunities
- Wages comparable or better than many white-collar careers that require far more schooling. Experienced techs can easily make $100k+
- Continuing education opportunities
- Job security – current shortage plus growth projections mean techs will be in demand for decades to come
- Unlike many white-collar jobs, artificial intelligence won't replace diesel techs.

Making the case for the diesel tech career is a start. But as previously noted, diesel techs are in demand across many industries, meaning ag and construction industry stakeholders must specifically promote the benefits their jobs provide. The ATRI study asked diesel techs working in trucking who were considering moving to ag or construction what appealed to them about those industries.

They said ag and construction offer:

- More interesting work
- Better variety of work

Additionally, they believe ag offers:

- Better pay incentives for additional certification or training
- Availability and reimbursement of additional certification or training

Given the range of equipment types in ag and construction it makes sense that techs in these industries find the work more engaging, a positive that could be better promoted, industry leaders say. They also point to the high-tech nature of the work as another selling point. "Technology is huge in this industry and this job," says Ash Alt, manager of AGCO's after sales and technical training North America. "A tractor, sprayer, or planter has more technology than a space ship does," he says.

And new and seasoned techs alike value ongoing training to help them stay ahead of rapid technological advances and complex diagnostics systems – especially if there are financial incentives. "This is not a dead-end job," Alt says. "If you are willing to work hard and learn, the sky is the limit."

> *"This is not a dead-end job. If you are willing to work hard and learn, the sky is the limit."* - ALT ASH, AGCO

Despite the rewarding career opportunities available to diesel technicians, there remains a significant shortage of candidates who pursue the trade, costing industry billions in lost revenue and growth opportunities. The shortage has been decades in the making and won't be solved quickly.

Fortunately, there is broad consensus around solutions to this issue among dealers, OEMs, trade schools and even techs themselves. With enhanced support, industry stakeholders can continue to build a sustainable workforce for years to come.

SIDEBAR

Industry Call to Action: Six Priorities for Stakeholders

The shortage of qualified diesel technicians is real, costly and growing. But with near universal consensus across stakeholder groups around solutions and policy priorities, the next steps are clear:

01 **Continue to Scale Registered Apprenticeship Programs and other Work-Based Learning Across Member Dealers**

The number one policy demand across surveyed groups, endorsed by 79% of technicians themselves, is work-based learning or internships. At the same time, high school students who want to pursue vocational careers are increasingly demanding work-based learning options. Most major OEMs and their dealer networks have apprenticeship programs in place; the goal should be to work with schools and policy makers to find ways to scale these programs so that a majority of new technicians have a solid foundation to set them up for career success.

02 **Advocate for CTE Funding at Federal and State Levels** Sixty-three percent of schools lack proper funding; 59% lack modern training equipment. AED's government affairs team is already engaged in Washington. This report provides the updated economic case ($7 billion projected economic loss per year) to push for Perkins Act expansion, increased CTE appropriations, and employer training tax credits. Dealer visits by Congress members, such as Rep. Tim Walberg's 2025 tour of AED member Buck & Knobby, are proof that Congress is listening.

03 **Launch a Nationally Coordinated Industry Image Campaign**

One of the biggest drivers of the technician shortage – the stigma of a vocational education and career – cannot be solved by policy alone. It's a perception and cultural problem that requires marketing and advocacy – not just curriculum reform. Three-fourths of dealers cite the cultural bias toward 4-year college degrees as a top cause. The solution is a sustained, nationally coordinated campaign that repositions equipment technician careers as high-skill, high-pay, and high-tech — targeting students, parents, and school counselors in grades 6–10. AED Foundation's career days (4,400 students reached in 2024) and "Journey of a Technician" program are a strong foundation. The budget and reach need to match the scale of the problem.

04 **Build a Retention Playbook for Member Dealers** Seventy-nine percent of practicing technicians would leave under the right conditions. Recruitment gets the attention — retention deserves equal investment. There is an opportunity to develop and distribute a retention toolkit covering: mentorship program design, structured career paths with clear advancement milestones, compensation benchmarking and culture assessment tools. The 2- to 5-year churn window is the highest-value intervention point for member dealers today.

05 **Create an Agriculture Dealer Workforce Initiative** Agriculture dealers face the most severe shortage (4.26/5), longest vacancy periods (56% open >90 days), worst mid-career turnover, and highest market share risk. A dedicated agriculture-focused workforce initiative — including additional research to pinpoint causes and ag-specific solutions and a targeted tax credit advocacy push specific to agricultural equipment dealers — addresses the segment most at risk of permanent customer and market share loss.

06 **Keep the Momentum Going** AED and its members used prior technician shortage reports to advocate in Washington. This 2026 update shows the crisis is ongoing — and adds industry-specific data, OEM and technician voices, school system analysis, and an updated economic model showing $7 billion in annual losses. This and future reports will help congressional offices, state legislators, and the Departments of Education and Labor understand the urgent need for policy investment to create a well-trained, sustainable technician workforce.

POLICY PRIORITIES

AED Foundation Technician Shortage Policy Priorities

As this report has shown, the greatest challenge facing equipment dealers is the lack of skilled service technicians. AED seeks to address this shortage through expansion of its community-based, school-to-work partnership strategy. This initiative puts dealers, manufacturers, and educators together, working toward the common goal of growing a new generation of in demand, highly skilled technicians who can enjoy rewarding and secure positions in the equipment industry.

AED's policy focus in this area calls for updating Federal laws that reflect current workforce needs and emphasizing career and technical education opportunities. AED also calls on Congress to increase funding for the Carl D. Perkins Act and other programs that support skills training and workforce development while strengthening incentives for employers that operate Registered Apprenticeship Programs.

AED's policy priorities align closely with recommendations from the dealer and educational communities, as seen in Chart 15.

Perkins V

On July 31, 2018, President Trump signed the Strengthening Career and Technical Education for the 21st Century Act into law. This bipartisan measure reauthorized the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) and continued Congress' commitment in providing nearly $1.4 billion annually for CTE programs for our nation's youth and adults.

Its latest iteration, Perkins V, expands opportunities for students to pursue technical education programs and career pathways, earning credentials that offer real value in the marketplace. It also allows states and local communities to implement a vision for CTE that balances those learners' needs with the current and emerging needs of the economy.

As part of the Trump Administration's move to dismantle the Department of Education and return education authority to the states, administration of Perkins V may be transferred to the Department of Labor. AED supports this move as a way to better align funding with the needs of the workforce and industry. But while the executive branch can reduce staff and reorganize functions, fully abolishing the department requires congressional approval, as its programs are currently funded by Congress.

Sources: CareerTech.org – Overview of Carl Perkins Act; Congress.gov – Perkins Act legislation; ncsl.org – What to Know About Trump's Order to Close the Education Department; ed.gov – Statement on Trump's Executive Order to Return Power Over Education to Local States and Communities

Workforce Innovation Opportunities Act

Signed into law on July 22, 2014, the Workforce Innovation Opportunities Act is designed to help job seekers access employment, education, training, and support services to succeed in the labor market and to match employers with the skilled workers they need to compete in the global economy. Congress passed the Act with a wide bipartisan majority. WIOA is currently up for reauthorization and stakeholders, including AED, recommend creating stronger connections between WIOA and Perkins V. Perkins V has many ties to WIOA, including a requirement that career and technical education programs be responsive to local, regional or state labor markets.

Sources: dol.gov – Workforce Innovation and Opportunity Act; CareerTech.org – **Advance CTE Recommendations for the Reauthorization of WIOA**

Registered Apprenticeship Programs

Registered Apprenticeship Programs are industry-driven career pathways where employers can develop and prepare their future workforce, and individuals can obtain paid work experience with a mentor, receive progressive wage increases, classroom instruction, and a portable, nationally-recognized credential. Registered Apprenticeships are industry-vetted and approved and validated by the U.S. Department of Labor or a State Apprenticeship Agency.

Most of the major construction and agriculture equipment makers and their dealer networks have technician apprenticeship programs where dealers sponsor students who then split their time between vocational school and hands-on experience at the dealership.

DEVELOPMENT INITIATIVES

AED Foundation Technician Development Initiatives

High School Diesel Technician Programs

In order for a secondary or high school technical program to become AED Foundation-recognized, the school must meet technical standards that are locally developed and mutually agreed on by AED and the school. The standards are derived from a subset of AED Foundation national technical college standards and provide a rational and seamless progression from secondary technical education. There are currently 148 AED Foundation-recognized high school programs in the United States. AED Foundation recognized high schools start training students as young as 15. Students in AEDF's recognized high school programs are required to go through both classroom and hands-on training.

Accredited College Diesel Technician Programs

The AED Foundation's accredited college programs offer students quality education that has been thoroughly assessed and adapted to meet AEDF's Standards for Equipment Technology. The AED Foundation has developed this program and accredited schools across the country to ensure students have exceptional training and education. Upon completion, students receive a certificate and the title of an AEDF Certified Technician, an essential indicator for dealers that the technician has completed training that aligns with industry standards and expectations.

Testing and Certifications

The AED Foundation makes a variety of tests and certifications available to schools, students, technicians and dealer. These range from a career aptitude test for students ages 13-17 to determine their abilities before pursuing a career as a technician to the Industry Certified Technician tests that can improve hiring, retention and evaluation.

METHODOLOGY

Survey, Economic Impact and Growth Projection Methodologies

The Associated Equipment Distributors Foundation contracted Randall Reilly to produce this study, which builds off previous work done by the College of William and Mary and the University of Illinois. Past studies included results from surveys conducted over AED dealer members. The goal of this year's report was to provide a more broad-based perspective of the technician shortage and its effect on additional stakeholders. To that end, the authors not only deployed surveys to AED and NAEDA dealer members, but also to nonmember dealers, diesel technician training schools, OEMs and Randall Reilly's audience of technicians.

To add context and real-world perspective to the survey results, Randall Reilly conducted interviews over a select group of OEMs, dealers and educators. Excerpts from those interviews are included in this report.

Survey Design and Respondents

Surveys were conducted in January-February 2026 by AED, NAEDA and Randall Reilly across four independent groups. All groups received parallel questions on shortage severity, causes, and policy solutions, enabling the first direct cross-perspective comparison in AED Foundation research history.

Group	Raw N	Adjusted N	Adjustment Notes
U.S. Dealers	132	126	Multi-respondent companies aggregated to single company records; responses averaged/unioned by field type
Canada Dealers	46	40	Exact duplicates removed (kept earliest submission); companies domain-aggregated
OEMs	11	9	2 OEMs had 2 respondents - aggregated to company-level records
Technicians (U.S. only)	33	33	No duplicates; personal email domains — company aggregation not applicable
Schools (U.S. only)	42	41	One duplicate resolved; distinct institutions
Total	**264**	**249**	**Net reduction of 15 records from raw**

Economic Impact Methodology

The figure of $699,300 in lost revenue per unfilled technician job per year is calculated from an industry standard 2,000 hours per year billed by the average technician, multiplied by an average hourly rate (ag and construction) of $185, for an hourly billing loss per unfilled tech role of $370,000 in gross revenue. Industry executives interviewed for this report recommended combining this hourly billing loss with the related parts sales loss of .89 cents per billable hour, or an additional $329,300, for a total of $699,300 in gross revenue loss per unfilled technician job. The $699,300 multiplied over the 9,991 annual dealer technician shortage (calculated using BLS data and growth projections from the AED survey), gives us $7 billion in lost revenue per year.

Growth Projection Methodology

The 17.4% three-year headcount growth target uses a headcount-weighted average — each dealer's stated growth percentage is weighted by current technician employment, so larger operations have proportionally greater influence on the aggregate figure. Bucket midpoints were used to assign numeric values to response ranges (e.g., "16–20%" = 18%). US and Canada surveys used different bucket labels; midpoints were adjusted independently for each.

PARTNERS

About the Partners

The AED Foundation

The AED Foundation (AEDF) is the non-profit foundation for the equipment industry and is the sister organization to Associated Equipment Distributors (AED), the international trade association for equipment distributors, manufacturers, and service providers. The AED Foundation is actively addressing the serious shortage of skilled professionals in the equipment distribution industry through expansion of its "community-based, school-to-work" school partnership strategy. AEDF is putting dealers, manufacturers, and educators together, working toward the common goal of growing a new generation of highly in demand, highly skilled, and highly rewarding technical positions in the equipment industry.

Randall Reilly

Randall Reilly delivers effective hiring solutions for skilled labor. Equipment dealers, private fleets, and trucking companies rely on Randall Reilly to hire truck drivers, diesel and automotive technicians, warehouse professionals, and other essential frontline talent. Our solutions are powered by AI-driven technology and one of the largest proprietary data sets of drivers and technicians. Our experienced recruiting teams can fully manage or support the hiring process. By combining data intelligence, marketing innovation, and industry expertise, we help organizations solve complex talent challenges and drive growth.

AUTHOR

About the Author

Linda Longton

Linda Longton is an independent researcher and journalist with decades of experience covering the construction, trucking and ag markets. She has won Jesse H. Neal awards (considered the Pulitzer for B2B journalism) for Driver Deficit, an in-depth report on trucking's driver shortage, and Death by Trench, covering one of construction's most serious safety issues. She has produced research used by OEMs, suppliers, industry associations and B2B media outlets on topics including workforce issues, technology adoption and buyer behaviors.