



PIPELINE REPORT

& AVIATION MAINTENANCE
TECHNICIAN SCHOOL
DIRECTORY

2023

 OliverWyman



2023 PIPELINE REPORT

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ABOUT THE AUTHORS

This year, two organizations collaborated, combining their respective datasets to offer a more comprehensive view of the aviation technical pipeline. This partnership led to enhancements in calculations and methodologies, accounting for certain modifications in trends and findings compared to previous year reports. We anticipate that this year and forthcoming reports will offer a more thorough insight into the aviation technician landscape, enhancing our ability to inform collective workforce initiatives.



ATEC is a partnership of aviation maintenance technician schools, organizations that support them, and employers that hire their graduates. The council is committed to advancing and bolstering technician education through its communication channels, advocacy initiatives, and networking events. To learn more, visit www.atec-amt.org.

OliverWyman

Oliver Wyman—a business of Marsh McLennan (NYSE: MMC)—is a global leader in management consulting. With offices in more than 70 cities across 30 countries, Oliver Wyman combines deep industry knowledge with specialized expertise in strategy, operations, risk management, and organization transformation. CAVOK, a division of Oliver Wyman, is an aviation services and consulting firm that supports certification and maintenance programs for clients worldwide.

OVERVIEW

This report is a compilation of information about Federal Aviation Administration (FAA) airframe and powerplant (A&P) mechanic certificate holders, the aviation maintenance technician schools (AMTS, part 147 programs, or A&P schools) that prepare the majority of those individuals for careers in aviation maintenance, and the companies that employ maintenance professionals.

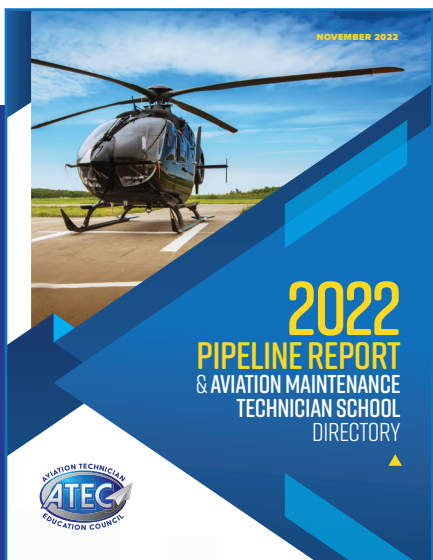
ATEC publishes the report annually as ***The Pipeline Report***.

This year's edition covers the period since the last version was published in November 2022. Supporting data was collected through an ATEC-conducted survey of educational institutions holding an FAA certificate issued under Title 14 of the *Code of Federal Regulations* (CFR) part 147. The survey took place between March 24 and June 5, 2023. Fifty-six percent of FAA-certificated AMTS responded to the questionnaire, contributing programs are recognized with an asterisk (*) in the list of AMTS provided on page 21.

Additional data was gathered from the National Center for Education Statistics, FAA Airmen Certification Branch personnel, the FAA maintenance school database, the FAA U.S. Civil Airmen Statistics, Regional FAA Active Airmen Tables, FAA data downloads, Aviation Week Network, and the FAA airmen certification database.

The information in this report is based on data available as of September 15, 2023.

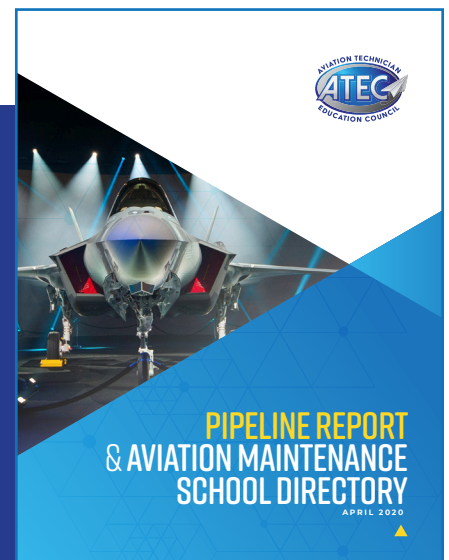
2022



2021



2020-2019

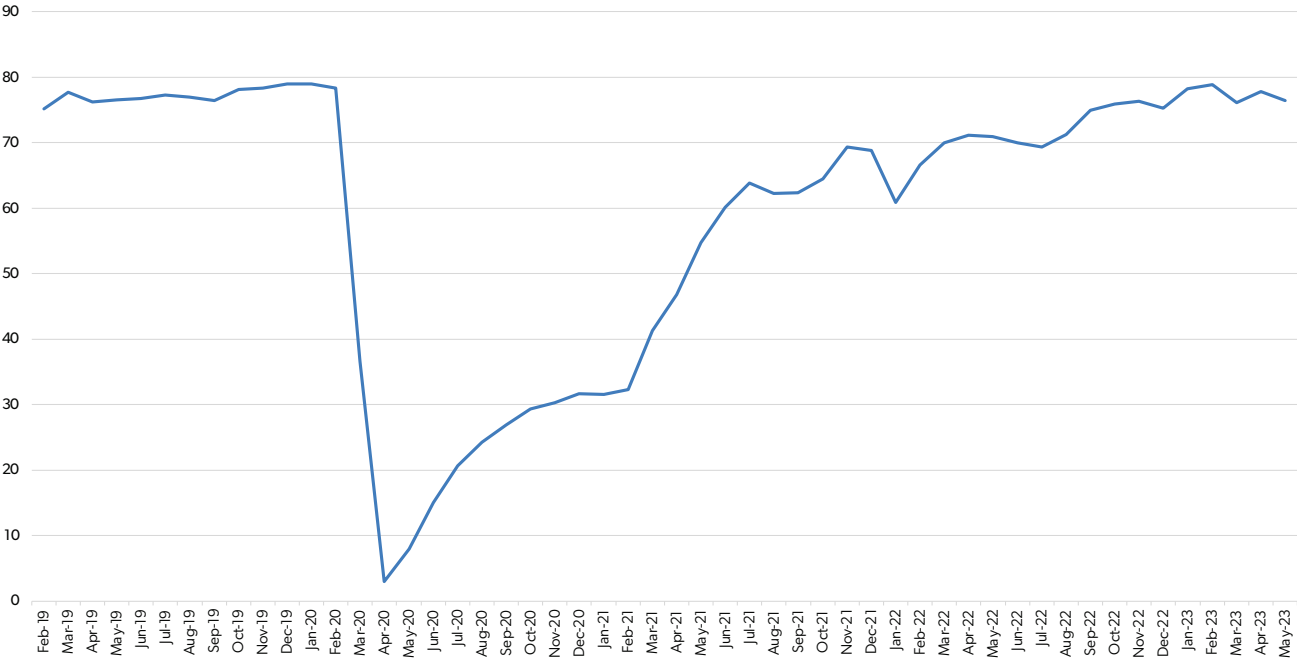


INDUSTRY BACKDROP

Global air traffic is inching toward pre-pandemic levels. The International Air Transport Association reported that traffic at the end of October as measured in revenue passenger kilometers was 98.2 percent of pre-pandemic levels.

The Bureau of Transportation Statistics show that passenger traffic as measured in scheduled service passengers in May 2023 was higher than May 2022 by 7.7 percent and higher than May 2019 by 0.5 percent.

Figure 1
Passenger Airline Traffic



U.S. airlines transported 3 percent more passengers in November than in the same month in 2019, Airlines for America said.

According to Oliver Wyman’s 2023 *Fleet and MRO Forecast*, fleet size is 100 percent of 2019 levels, but MRO activity is 102 percent.

The figures underscore that, in the U.S. at least, air travel has now surpassed pre-pandemic levels.

Many airlines that trimmed their workforces during the uncertain days of 2020 now find themselves scrambling to meet demand. Mainline fleets are growing as well. As 2023 came to a close, U.S. airlines were operating 500 more mainline aircraft than they were at the end of 2019. Regional jet fleets have shrunk, but the overall trend is larger aircraft coming into the fleet.

In the aircraft maintenance world, an already strained labor force is being stressed in multiple ways.

Airlines need qualified staff to keep their fleets flying, and many third-party maintenance providers are seeing strong demand from customers that rely on them. One major U.S. maintenance provider reported in mid-summer 2023 that they are turning away work because of capacity constraints caused by labor.

Workforce pipelines are changing as well. For instance, many airlines that used to rely on pulling technicians from third-party shops and regional partners are now recruiting newly trained employees and, in some cases, paying for them to attend accredited schools.

The shifts are reshaping how maintenance providers attract talent and put more pressure on workforce pipelines to produce more skilled workers.



PHOTO CREDIT Tulsa Tech



PHOTO CREDIT WSU Tech

KEY CONCLUSIONS AND RECOMMENDATIONS

This year's publication takes a closer look at the industry's recovery back to and even beyond its pre-pandemic size. It also examines how the maintenance labor force is changing to support it, and how it must continue to grow and innovate to support expected demand, both from traditional sources and emerging aerospace industry segments.

The certificated mechanic workforce is growing, but not fast enough to meet demand. FAA data show the number of certificated mechanics has grown an average of 2.3 percent per year over the past 5 years. Current estimates show that commercial aviation alone will be 31,000 mechanics short of its needs by 2031. The projection does not consider other demand sources, such as business aviation or urban air mobility.

ATEC's latest survey found that 67 out of every 100 new mechanics went through A&P school. The other 16 came from military and 18 from civilian work experience.

While the AMTS pathway to certification remains well traveled, growth is slow. New entrants increased by just 1.8 percent last year. Pre-pandemic, this figure was routinely in double digits.

Women make up 2.7 percent of the mechanic workforce—a figure that is growing by just tenths of percentage points annually.

The percentage of military veterans transitioning to civilian maintenance jobs grew by double digits for the second consecutive year. While encouraging, the pool of untapped veterans with maintenance experience remains large. ATEC estimates that less than 10 percent of veterans with maintenance backgrounds are transitioning to similar roles on the civilian side.

Each of the areas above offers opportunities to increase the number of mechanic candidates in the workforce pipeline. Survey respondents highlighted the biggest issues with increasing enrollments and helping candidates get across the finish line and earn their A&P certifications.

Key takeaways and resultant initiatives:

- ▶ Last year's successful reform of part 147 positioned lack of awareness and program marketing as the foremost impediment to the expansion of A&P program enrollment. Effectively addressing this challenge necessitates a concerted effort at both the local community level and through broader initiatives aimed at enhancing awareness among specific target populations, such as high school students. Encouragingly, an initiative led by ATEC to deploy comprehensive aviation maintenance curriculum is fostering establishment of feeder programs into certification pathways, including A&P schools (see *Choose Aerospace*, page 14).
- ▶ A leading challenge that will continue to fester as the workforce shortage gets worse: the availability of qualified instructors. Difficulty finding and retaining instructors is becoming more acute as technical workforce demand increases, and AMTS are arguably hit the hardest when faced with industry competition (and associated salaries) for the same talent. A new initiative aims to tackle the shortage of aviation instructors by aiding professionals transitioning to the classroom and addressing challenges schools have to retain new educators with minimal teaching experience (see *ATEC Academy*, page 14).

- ▶ The rate of A&P students becoming certificated mechanics is at an all-time low. Respondents reported that only half of graduates obtained a mechanic certificate, citing fear of testing as the leading reason for failure to test. ATEC is at the forefront of a push for all AMTS to better integrate testing into A&P training, resulting in a testing process that is built into the program and alleviating the idea that testing is “elective” (see Progressive Testing, page 18).
- ▶ Twenty percent of AMTS report that a shortage of Designated Mechanic Examiners (DMEs) is affecting their ability to certificate graduates. ATEC estimates that the mechanic designee population needs to increase by 30 percent to accommodate the current flow of graduates—with more needed to facilitate necessary growth. Test capacity will be a bottleneck without prompt action. ATEC is encouraging quick FAA action to expand examiner availability by incorporating designated examiners into the Organization Designation Authorization (ODA) program. New policy is expected to be out by July 2024 and should open the door to adding more examiners (see Testing Capacity, page 18).



PHOTO CREDIT AIM



PHOTO CREDIT United Airlines

THE WORKFORCE

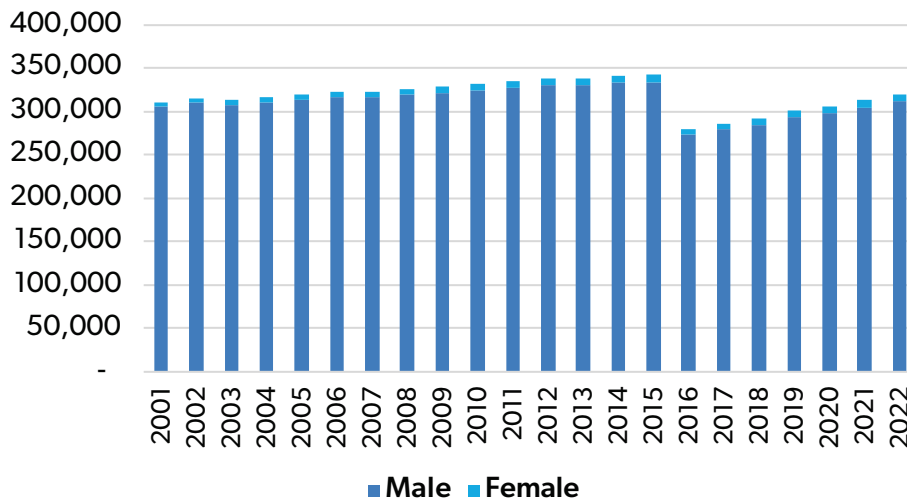
MAINTENANCE PERSONNEL

According to Oliver Wyman’s 2023 *Global Fleet and MRO Market Forecast*, the U.S. civil aviation maintenance workforce—including both certificated mechanic and noncertificated technicians—includes more than 317,000 maintenance personnel. This includes employees in parts manufacturing and distribution, in-house airline maintenance organizations, and those working in maintenance, repair, and overhaul either for part 145 repair stations or air carriers.

CERTIFICATED MECHANICS

The FAA airmen certification database includes 320,042 certificated mechanics, a 2.2 percent increase over the previous year’s population. The number of mechanics has stayed relatively flat over the past two decades. Adjusting for 2016—when the FAA required application for reissued plastic certificates—the population has grown at the average annual rate of 2.3 percent over the past 5 years.

Figure 2
Certificated Mechanics



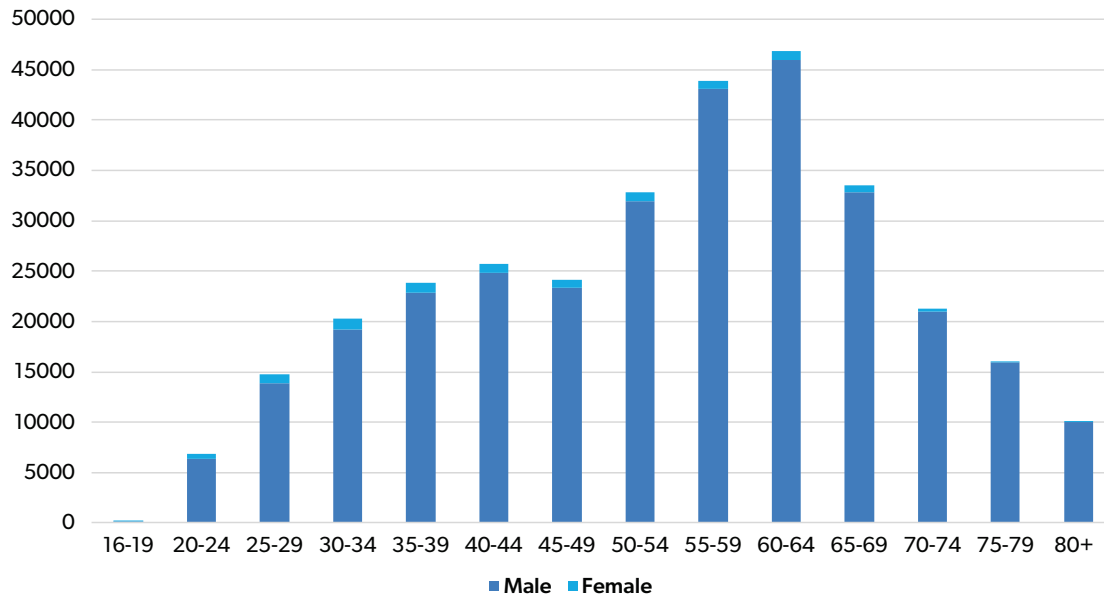
The FAA does not monitor the employment status or active engagement of mechanic certificate holders. Certificated mechanics are removed from the airmen database only in specific circumstances: upon notification of their death, suspension or revocation of the certificate, or upon reaching 90 years of age. Consequently, the count of actively working mechanics is considerably lower than the total number of individuals possessing a certificate, as highlighted by the notable disparity between the FAA figures for certificated mechanics and Oliver Wyman’s estimated total technical workforce population.

Demographics

Women make up 2.7 percent of the population, a number that is trending up but only by tenths of a percent every year. A decade ago, women made up 2.2 percent of the mechanic population.

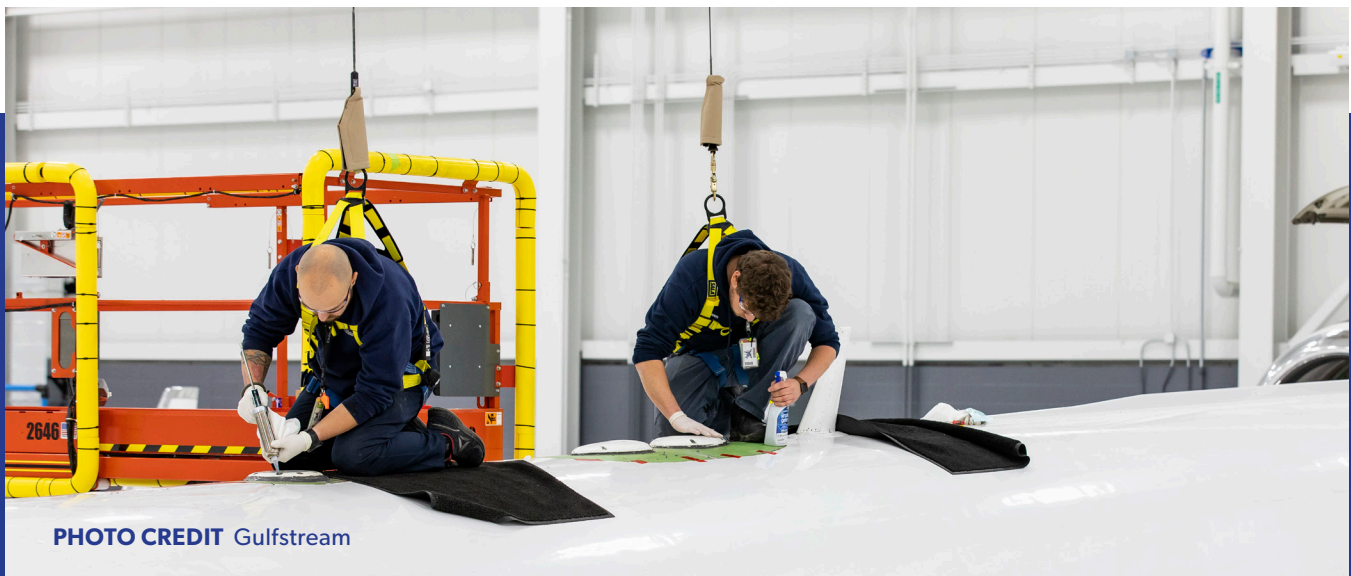
The aviation mechanic population continues to grow older. Forty percent of the mechanic population is over 60—up two basis points from last year.

Figure 3
Mechanic Age Distribution



Over the next 10 years, one out of every three certificated mechanics—more than 90,000 mechanics in total—will reach retirement age.

The average FAA mechanic is 53, which is 11 years older than the usual U.S. worker as reported by the Bureau of Labor Statistics. Females compose a much younger demographic; the average female mechanic is 46.

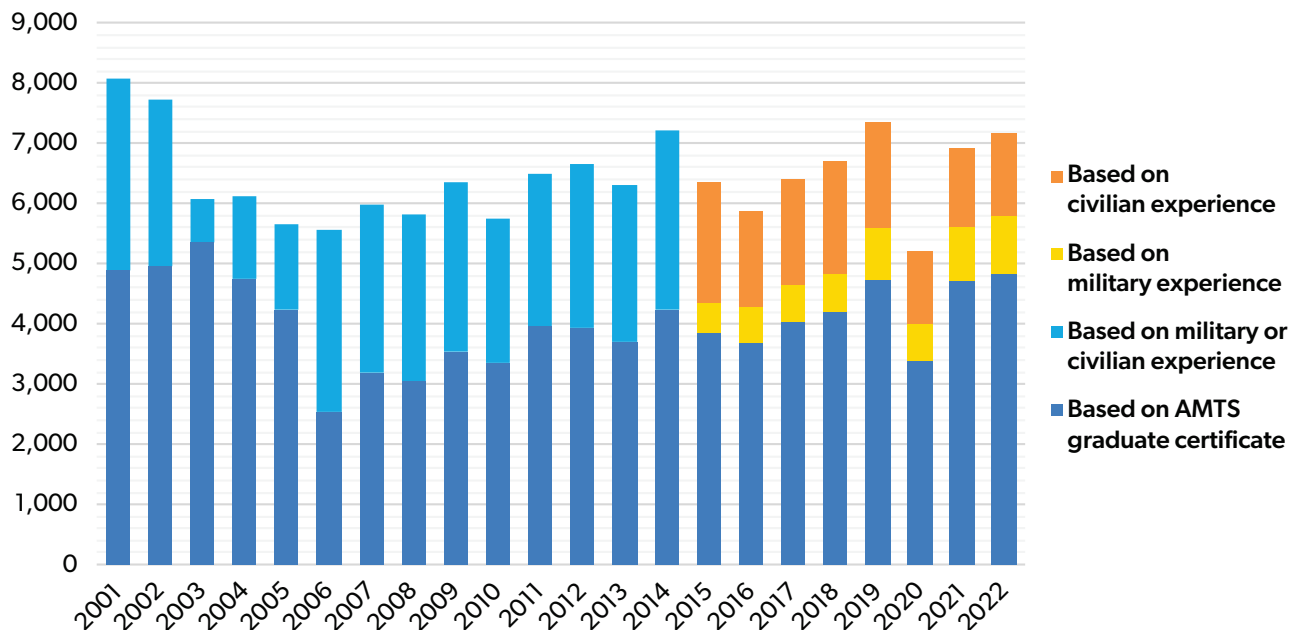


Supply

The FAA issued 7,119 new mechanic certificates last year, marking a 2.7 percent rise from the preceding year. Growth is well below the 9 percent rate enjoyed leading into the pandemic and exacerbates the anticipated shortage in maintenance personnel. According to ATEC estimates, approximately 7,500 would-be mechanics were lost since 2020—those losses are expected to persist until we can restore pre-pandemic momentum.

Sixty-seven out of every 100 new mechanics obtained certification on the basis of A&P school training. The other 16 came from military and 18 from civilian work experience.

Figure 4
New Mechanic Certificates



While the AMTS pathway to certification remains the most frequently traveled, the growth of new entrants has significantly slowed, increasing by only 1.8 percent—well below the pre-pandemic, double-digit growth rates. This deceleration is likely attributed to smaller enrollments in 2020 and 2021, with the expectation that numbers will hopefully rebound with larger class sizes matriculating in 2022 and 2023. Even with the stall, schools are producing more female mechanics than the experienced-based pipelines—6.5 percent of AMTS-sourced mechanics were female, compared to 3 percent for those sourced from military or civilian experience.

Among the three certification pathways (AMTS, military experience, and civilian experience), the only route experiencing a decline in certifications was civilian experience, with a decrease of 5 percent. However, the repairman population demonstrated a steady growth of 1.6 percent, consistent with the average observed over the previous 5 years.

Meanwhile, the military pathway continued its double-digit growth for the second consecutive year. Although this trend implies that stakeholders are making strides in facilitating the transition of veterans to the civilian sector, the 1,118 individuals who obtained FAA certification based on military experience represent only a fraction of the estimated 22,000¹ exiting service members with aviation

¹This estimate is derived from a 2020 Government Accountability Office report (GAO-20-206) stating more than 22,000 service members with aviation maintenance backgrounds separated from the Air Force and Navy in 2018.

maintenance backgrounds. ATEC estimates the civil aviation industry is capturing less than 10 percent of veterans with at least some aviation maintenance experience.

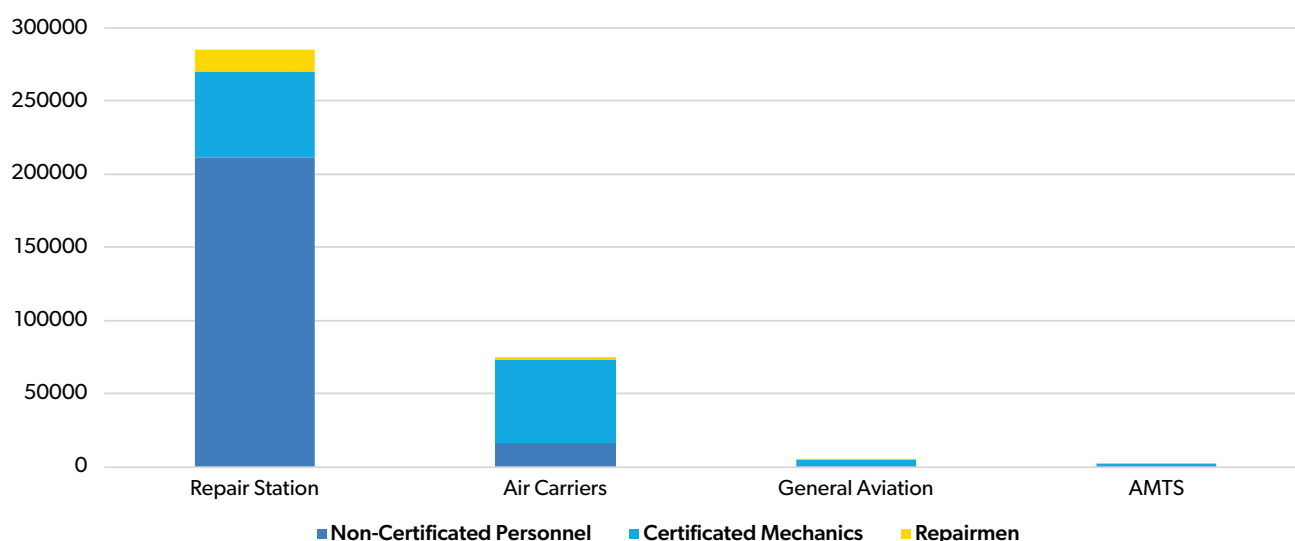
EMPLOYERS

In 2022 the FAA reported that 38 percent of certificated mechanics were engaged in general aviation, working for repair stations, air carriers, or AMTS.² There was a slight decrease of 0.3 percent in the number of mechanics employed by these air agency certificate holders during that year.

Certificated mechanics account for 33 percent of all aviation technical personnel employed in these segments—including 76 percent of the air operator maintenance workforce, 20 percent of the repair station workforce, and 88 percent of the general aviation workforce.

Nearly 80 percent of all technical personnel and half of all certificated mechanics are employed by repair stations.

Figure 5
Technical Personnel Aviation Employers



PROJECTED SHORTAGE

Oliver Wyman’s 2022 report *Not Enough Mechanics* predicts that there will be a shortage of aircraft maintenance workers (certificated and non-certificated) in North America this year, with a gap between supply and demand of between 8 and 12 percent. By 2027, the shortage is expected to be at its worst, with a supply deficit of more than 48,000 workers, or a shortfall of about 27 percent.

With the upcoming mass exodus of mechanics reaching retirement age, the influx of new mechanics will be insufficient to meet replacement needs for the next decade. Based on historical output, 77,611 mechanics will enter the field in the next 10 years, 13,000 short of what is needed to replace those reaching retirement age.

²The information is based on analysis of FAA repair station and air operator data for entities certificated under 14 CFR parts 91, 133, and 137 (“general aviation”), parts 121, 125, 129, and 135 (“air carriers”), and part 147. The dataset does not include certificated employee counts for design approval holders, those that work as maintenance contractors, or those employed elsewhere in the supply chain.

Figure 6
New Mechanics vs. Retiring Mechanics

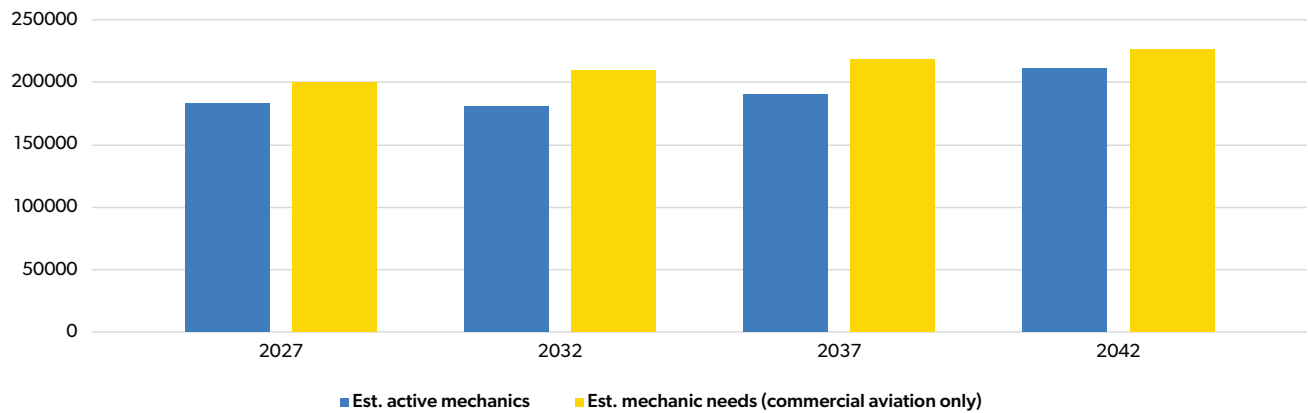
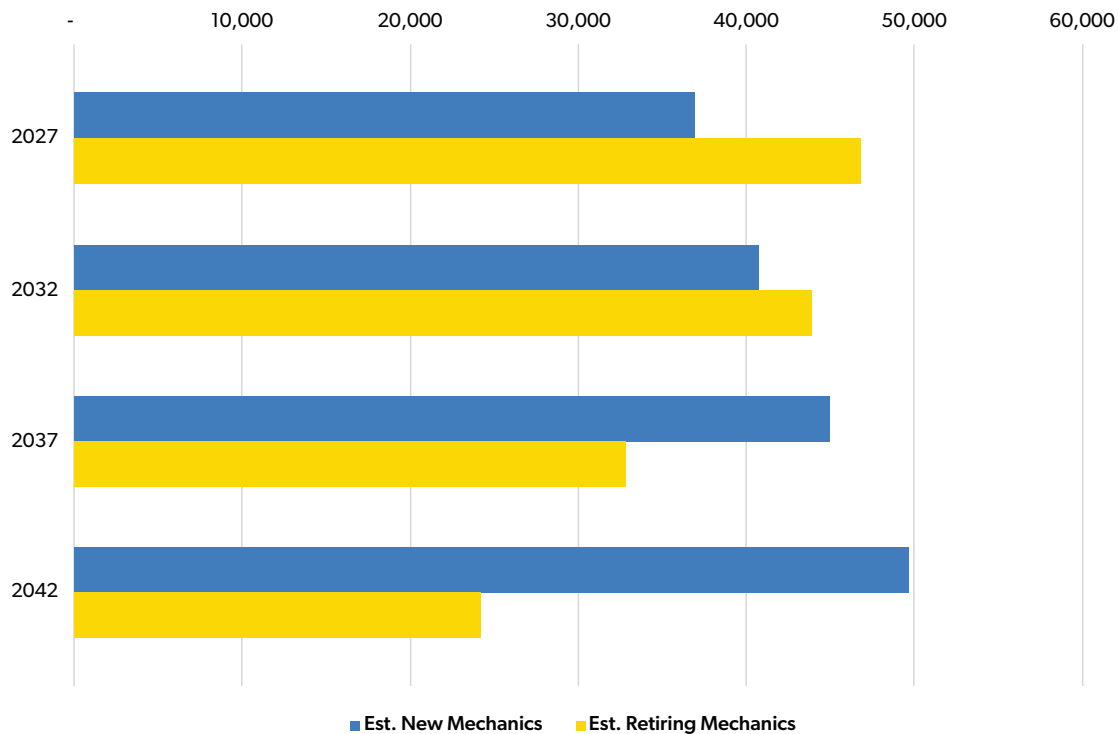


Figure 7
Mechanic Shortage Projection



When taking into consideration new demand driven by anticipated industry growth, the mechanic population is expected to fall 16,000 mechanics short of meeting just commercial aviation needs by 2042.³

The projection does not consider noncommercial personnel needs, meaning it leaves no bandwidth available to meet increased workforce demand for rotorcraft, business aviation, general aviation, or emerging technologies.

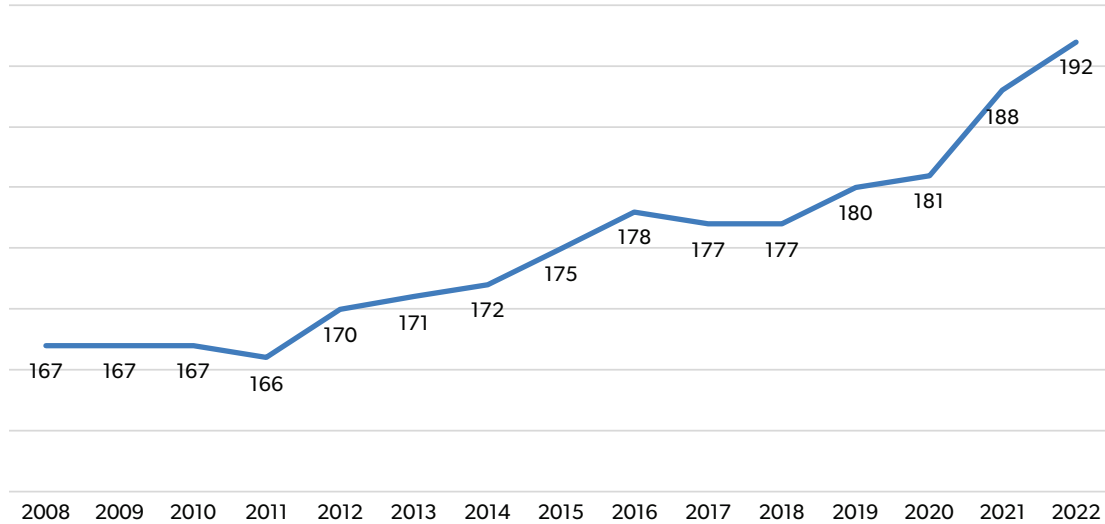
³The shortage calculation is based on projected demand set forth in the Boeing Pilot and Technician Outlook, which provides only projected demand for commercial aviation. ATEC's model assumes 80 percent of the current mechanic population under age 65 is actively engaged as an aircraft mechanic, that most of North American estimated demand (85 percent) comes from the U.S., and the average distribution of certificated vs. noncertificated personnel holds constant across all sectors of aviation at 33 percent.

AVIATION MAINTENANCE TECHNICIAN SCHOOLS

POPULATION AND ENROLLMENT

The upward trend in the number of certificated programs persisted in 2022, with the FAA overseeing a total of 192 AMTS during the year, reflecting a net increase of four new programs. Five new A&P schools joined the roster, and one program departed. The AMTS community expanded by 11 programs in the past 3 years.

Figure 8
Aviation Maintenance Technician Schools

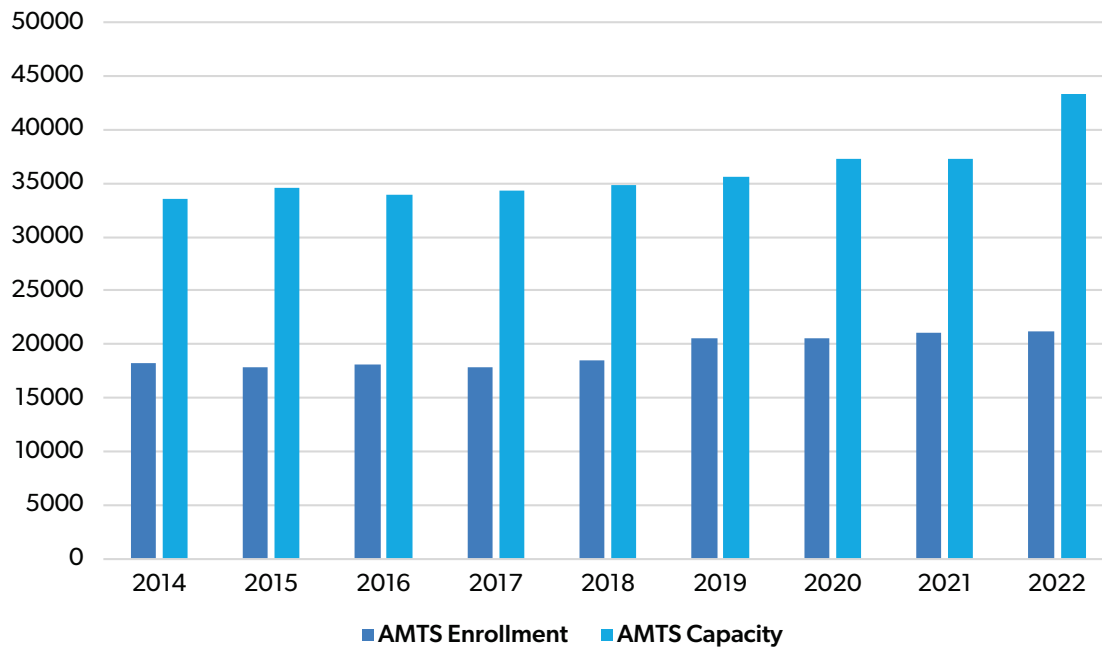


In less than a year after the new part 147 went into effect, 15 AMTS reported having added an additional training location to their FAA certificate's operations specifications. Under the new rule, programs have new-found flexibility to teach away from their primary location, facilitating extension of the A&P classroom to industry partner facilities, high schools, and other campuses. ATEC anticipates widespread use of the opportunity, expanding the footprint of aviation technical programs nationwide and increasing accessibility to potential students.

Despite a 16 percent surge in student capacity due to new programs and training locations, enrollments have remained nearly unchanged at 21,156. Over the past 3 years, a modest 3 percent increase falls well short of the 20 percent annual growth needed to meet projected workforce needs for the commercial market alone.

Because enrollments are not keeping pace with capacity increases, the AMTS load factor is on a declining trend. The student load factor, which represents the ratio of available A&P program seats to enrolled students, has reached an unprecedented low of 49. **Nationally, almost half of the available AMTS seats remain unoccupied, with one out of every two seats left vacant.**

Figure 9
AMTS Enrollment vs. Capacity

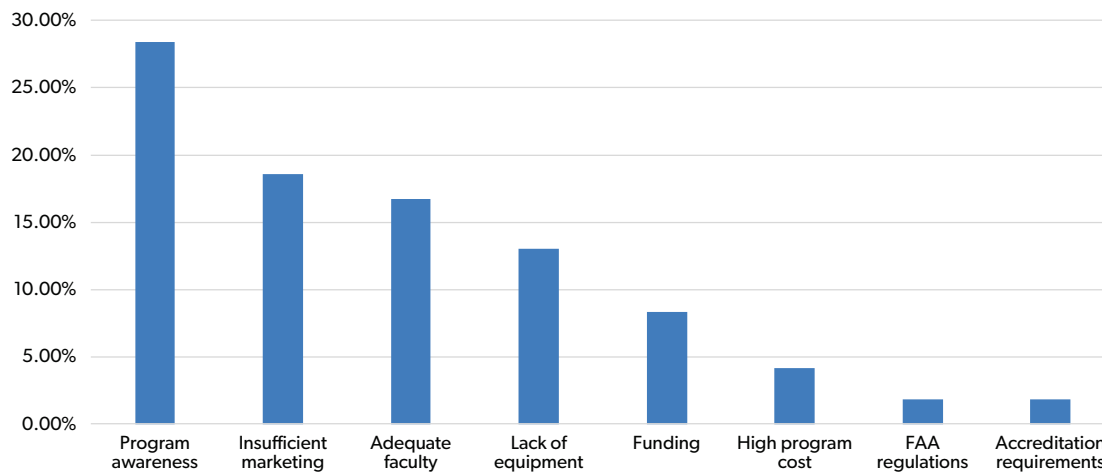


Barriers to Growth

The primary obstacle facing A&P programs over the past 5 years has been effectively eradicated through the recent reform of part 147—an enduring priority for ATEC. This accomplishment materialized following an extensive advocacy campaign, reaching its pinnacle with the promulgation of an industry-crafted rule last September. In sharp contrast to prior years, a negligible proportion of AMTS now cite FAA regulations as a hindrance to their growth.

Lack of program awareness has now taken over as the most significant barrier for program growth, with over 30 percent of AMTS citing it as a hindrance. And while marketing and advertising was widely cited as the most effective way to recruit students into an A&P program, most part 147 certificates are held by community colleges with little to no marketing dollars to spend on recruitment.

Figure 10
What is the most significant barrier to growth for your AMTS?



Resultant Initiatives

Choose Aerospace

To address awareness and marketing challenges, in 2020 ATEC initiated an aggressive strategy to aid development of pre-certification pipelines. A computer-based hybrid program designed to provide easy access to aviation maintenance curriculum is spreading into communities through partnerships with school districts, municipalities, employers, and community-based organizations.

The aviation maintenance curriculum, known as Choose Aerospace, successfully enrolled its inaugural student cohort in 2022 and is currently operational in 24 programs and school districts nationwide. If the 400 students enrolled in the Choose Aerospace curriculum are provided with a clear pathway to A&P program enrollment, it could result in an immediate and noteworthy 2 percent increase in AMTS enrollment.

If the initiative meets its ambitious goal of enrolling 10,000 students by 2027, it has the potential to generate substantial interest and create a robust pool of prospective students. This influx of interest could, in turn, sufficiently fill every available AMTS seat across the country, demonstrating the significant effect the program could have on the workforce shortage.

ATEC Academy

Another leading challenge that will continue to fester as the workforce shortage gets worse: the availability of qualified instructors.

An upcoming initiative is aimed at providing some relief to the growing void in the teaching workforce by establishing a resource to facilitate the transition of maintenance professionals and retirees into teaching roles.

With the scarcity of educators, especially those with aviation technical expertise, an increasing number of individuals are making the direct transition from industry to the education sector. These individuals often arrive on campus with minimal or no prior teaching experience, posing a potential hurdle to their success in the classroom.

Recognizing the need for targeted training and support, the ATEC Academy will provide a new resource to support school instructor recruitment and training initiatives. Leveraging the expertise of master instructors in our community, the course will assist recently appointed instructors to overcome challenges they'll encounter in the classroom.

The inaugural 3-month course is scheduled to start the weekend before the 2023 ATEC Annual Conference in Tucson.



DEMOGRAPHICS

Seventy-seven percent of A&P programs are public institutions; the remaining 23 percent of programs are made up of private, nonprofit institutions (7 percent) and private, proprietary programs (15 percent).

A few schools dominate overall enrollment. One-third of all A&P students are enrolled at one of the 10 largest A&P programs. The AMTS community is, therefore, composed mostly of smaller institutions, with more than half of AMTS estimating 60 or fewer enrollments.

As was the case last year, nearly half of all A&P students reside in Florida, New York, Texas, California, or Georgia. Alabama is closing in on the top five, reporting a 19 percent increase in enrollments last year. Oregon, Iowa, and New Jersey saw the fastest growth last year, reporting 228, 65, and 45 percent increase in enrollments, respectively.

Table 1

Rank	State	A&P Student Enrollment	Percent Change	Rank	State	A&P Student Enrollment	Percent Change
1	NY	2,678	-3%	25	MO	219	4%
2	FL	2,613	-9%	26	MN	210	8%
3	TX	1,990	-1%	27	OR	128	228%
4	CA	1,793	-8%	28	KY	127	0%
5	GA	921	-16%	29	WV	122	22%
6	AL	911	19%	30	PR	115	N/A
7	IL	763	23%	31	CT	109	9%
8	OH	686	10%	32	MD	109	30%
9	IN	608	-10%	33	AK	103	0%
10	TN	604	34%	34	LA	99	-7%
11	MI	593	43%	35	AR	86	-12%
12	OK	576	-27%	36	WI	70	32%
13	PA	538	-2%	37	IA	66	65%
14	VA	487	4%	38	NM	55	-11%
15	AZ	473	13%	39	HI	49	0%
16	NC	470	-7%	40	DC	44	0%
17	NJ	419	45%	41	ID	41	-34%
18	WA	385	6%	42	MS	36	-25%
19	KS	340	-14%	43	SD	25	0%
20	NV	299	-4%	44	NE	20	-20%
21	MA	290	7%	45	DE	19	-39%
22	UT	284	16%	46	MT	15	0%
23	CO	280	9%	47	VT	12	0%
24	SC	269	9%	48	NH	7	-65%

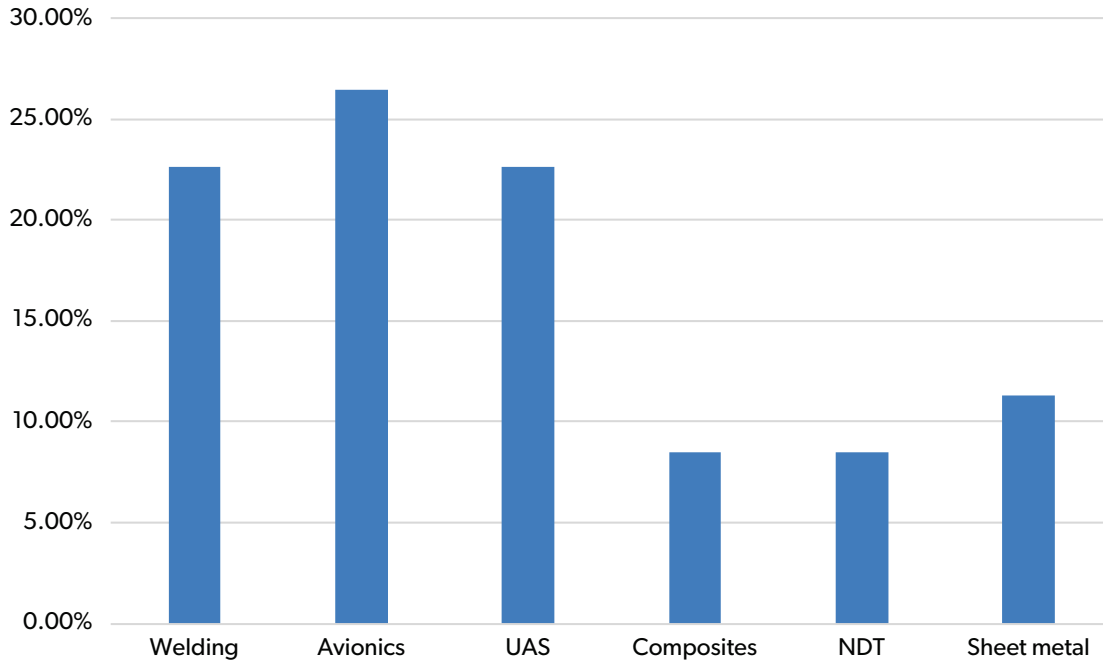
The regions experiencing significant demand for aviation maintenance align with areas marked by high supply. According to Oliver Wyman's *Global Fleet and MRO Market Forecast*,⁴ four out of the top five states boasting the highest employment in aviation maintenance also rank among the top five states with the highest school enrollment—specifically, TX, GA, FL, and CA.

⁴The forecast is published in partnership with the Aeronautical Repair Station Association. Its state-by-state analysis is available at <https://arsa.org/wp-content/uploads/2023/03/ARSA-OW-2023FleetandMarketReport-StatebyStateUSData.pdf>.

PROGRAMS AND DEGREES OFFERED

To meet the growing demand for specialized services, more than half of all AMTS provide stand-alone, aviation-related programs outside an A&P program, including welding, avionics, and unmanned aircraft systems.

Figure 11
Other than A&P, what technical aviation programs does your AMTS offer?



The ASTM NCATT Aircraft Electronics Technician (AET) certification remains the most popular third-party credential for A&P programs closely followed by Ground Radiotelephone Operators License (GROL), NC3 Multimeter certification, NC3 Precision Measuring Instruments, and NC3 Torque Fundamentals certification.

Seventy-five percent of all AMTS offer the A&P program as part of an associate's degree. One in ten schools offer an A&P program as part of a 4-year degree. The high school community holds 13 part 147 certificates.

GRADUATES

Demographics and Matriculation

In 2022 AMTS graduated around 9,300 A&P students.

The average graduation rate for an A&P program was 70 percent, a much-improved proportion over the past 4 years.

The average age of an A&P graduate is 25.

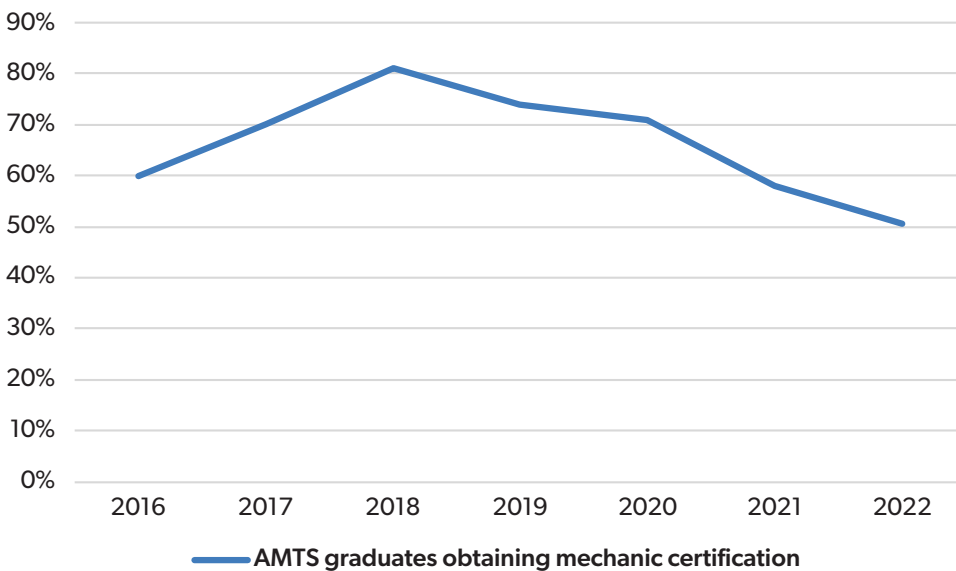
Consistent with previous years, 17 percent of graduates are veterans and 40 percent are a racial or ethnic minority. Foreign nationals made up 4 percent of the 2022 student population.

The female population made up 11 percent of the AMTS student body in 2022, a substantial spread over current workforce demographics. More good news: the female cohort grew by 40 percent over the previous year.

FAA Testing

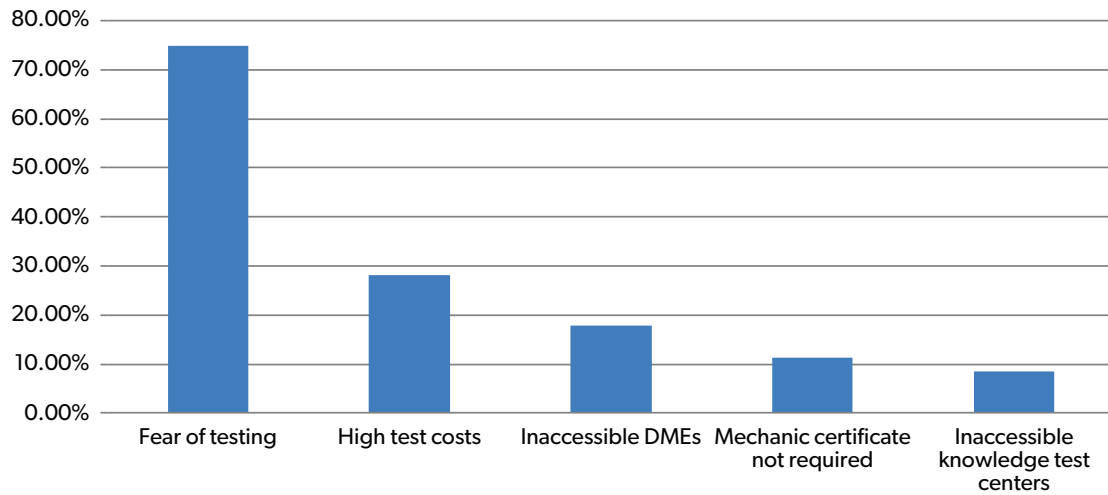
The number of graduates obtaining FAA mechanic certification dropped for the fourth year in a row. In 2022 only half of A&P graduates attempted and passed the FAA mechanic exam.

Figure 12
Graduates Obtaining Mechanic Certification



The primary reasons cited for graduates not taking the FAA mechanic test include fear of testing, inadequate preparation, and life distractions. Over a quarter of respondents mentioned high test costs as a significant factor, and 10 percent were deterred by job offers that didn't require certification.

Figure 13
What are the most significant barriers to obtain a mechanic certificate for AMTS program graduates?



Progressive Testing

ATEC is at the forefront of a push for all AMTS to better integrate testing into A&P training. Leveraging best practices from schools with high testing rates, schools are encouraged to incorporate FAA assessment throughout the program and eliminate the idea that testing is “elective.” For example, a student could complete the powerplant portion of her training and then be tested on it. This approach, rather than waiting to test on the entire curriculum at the end, is a proven method to encourage more students to complete both required training and testing.

Testing Capacity

A lack of DMEs is still a problem for nearly one out of every five AMTS, a fact that is continuing to drive ATEC initiatives focused on expanding access to FAA airman testing.

Last year, the FAA delegated 9,755 original issue mechanic tests to 249 examiners. Given annual AMTS graduates and the average number of tests administered per DME each year, the existing DME population would need to expand by almost 30 percent to accommodate all AMTS graduates.

Without a rapid increased in the number of mechanic examiners to support the system, testing capacity is on track to become the most significant bottleneck in the certification process as industry initiatives to increase enrollments and certification rates gain momentum.

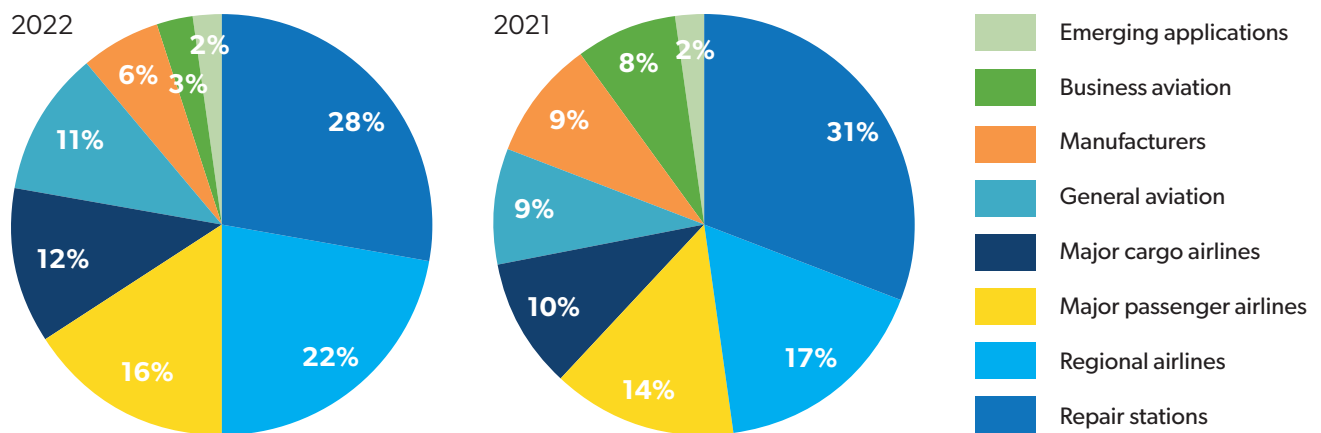
Expanding access to airman testing is a top priority for the council. It has focused its efforts on encouraging expansion of the ODA program to include examiner delegations, which would allow schools (and in some instances, industry partners) to manage FAA testing delegates to better meet student demand. The council has also recommended modifying DME qualifications and removing geographic limitations for a more practical approach to delegation and designee oversight.

Employers

Forty-eight percent of AMTS graduates had a job offer upon graduation, and 54 percent of those reported were placed in aviation jobs.

Among the aviation companies actively hiring, major passenger airlines have, for the first time, surpassed repair stations and regional airlines to become the largest employer of AMTS graduates, securing 28 percent of the population.

Figure 14
What aviation-related employers are hiring AMTS graduates?



The decline in the ranking of repair stations by two levels suggests that as the demand for entry-level personnel in commercial aviation intensifies, sectors traditionally seen as feeder programs will bear a more substantial share of technical personnel hiring challenges.

When asked what types of industry involvement prove most successful for recruitment, more than half of AMTS cited tuition reimbursement programs. This was followed by student job opportunities, signing bonuses, FAA testing reimbursement programs, and internship programs, all considered valuable but to a slightly lesser extent.

Salary and Wages

Survey respondents report an average starting hourly rate for AMTS alumni with an FAA certificate at \$28.13 per hour (or \$58,510 annually), an increase of a whopping 10 percent. Today, certificated mechanics are making 25 percent more than their peers that graduated just 2 years ago.⁸

Starting hourly pay for A&P graduates without a mechanic license is \$19.77 per hour, an increase of 17 percent over last year but more than \$17,000 a year less than their certificated peers.

According to a study conducted by Oliver Wyman of aviation employers, average pay for aircraft mechanics and service technicians (without distinguishing certificated personnel from non-certificated personnel) is \$68,028 per year.

⁸Calculations assume a 40-hour work week at 52 weeks per year.

This figure tracks broadly with U.S. Bureau of Labor Statistics figures that show median pay for mechanics and technicians, certificated and uncertificated, is about \$31.50 per hour, or \$65,500 per year.

But base pay rates tell only part of the story. Data compiled by the Aircraft Mechanics Fraternal Association showed that beginning of 2023, 10 U.S. airlines had so-called “top-of-scale” hourly wages for mechanics of at least \$50 per hour, with Southwest Airlines, whose mechanics are represented by AFMA, leading the way at nearly \$59 per hour. At some airlines, getting to this top-of-scale rate takes as few as 5 years. The longest climb was 8 years of service.

Put another way, mechanics at these carriers can reasonably expect yearly annual wages of \$100,000-\$120,000 within 5 to 8 years of signing on—and that’s before potential overtime and benefits such as profit sharing and retirement fund contributions.

Return on Investment

Tuition costs are not generally seen as a barrier to starting an aviation technical career, given the relatively low cost of A&P programs when compared to income potential.

ATEC research and analysis of published tuitions (regardless of the degree conferred) for all AMTS found **the average tuition for an A&P program is \$17,728**. The rates are lower for public community colleges, with average tuition costs of \$9,485.

The average time it takes for a student to complete an A&P program is 22 months, with 11 institutions reporting completion opportunities in 12 months or less.



PHOTO CREDIT United Airlines

AVIATION MAINTENANCE TECHNICIAN SCHOOL DIRECTORY

Full programmatic and contact information for all aviation maintenance technician schools is available to ATEC members at www.atec-amt.org.

ATEC member schools in blue

*Program contributed to the ATEC survey

AK

University of Alaska Anchorage

University of Alaska Fairbanks*

Yuut Elitnaurviat Regional AMT School

AL

Alabama Aviation College – Albertville*

Alabama Aviation College – Mobile

Alabama Aviation College – Ozark*

AR

Arkansas Northeastern College

Arkansas State University Mid-South

Southern Arkansas University Tech – Camden*

University of Arkansas – Pulaski Technical College*

AZ

Chandler Gilbert Community College

Pima Community College*

Western Maricopa Education Center

CA

Antelope Valley College

Aviation Institute of Maintenance – Fremont*

California Aeronautical University*

Chaffey College

College of Alameda*

Cuesta College

Gavilan College*

MT San Antonio College

North Valley Occupational Center

Orange Coast College

Reedley College

Sacramento City College*

San Bernardino Valley College

San Diego Miramar College

San Joaquin Valley College

Solano Community College

Spartan College of Aeronautics and
Technology – Los Angeles*

Spartan College of Aeronautics and
Technology – Riverside

Victor Valley College

West Los Angeles College

CO

Cherry Creek Innovation Campus*

Colorado Northwestern Community College*

Spartan College of Aeronautics and Technology – Denver*

Warren Tech South

CT

Connecticut Aero Tech School*

Stratford School for Aviation Maintenance Technicians

DC

University of the District of Columbia Community College

DE

Delaware Technical Community College*

FL

Aviation Institute of Maintenance – Orlando*

Aviator College of Aeronautical Science and Technology

Broward College*

Central Florida Aerospace Academy*

Charlotte County Public Schools

Eastern Florida State College

Embry-Riddle Aeronautical University

Epic Aviation*

Florida State College at Jacksonville*

George T. Baker Aviation Technical College*

Haney Technical Center High School

International AeroTech Academy*

John C. Calhoun State Community College*

Lively Technical College

Lorenzo Walker Technical College

National Aviation Academy Inc – Clearwater*

Northwest Florida State College

GA

Atlanta Technical College*

Augusta Technical College*

Aviation Institute of Maintenance – Atlanta*

Central Georgia Technical College

Georgia Northwestern Technical College*

Middle Georgia State University*

Savannah Technical College*

South Georgia Technical College

HI

Honolulu Community College – Dept of Aeronautics

IA

Des Moines Public Schools*

Indian Hills Community College*

Iowa Western Community College*

ID

Idaho State University*

IL

Aviation Institute of Maintenance – Chicago*

Lewis University

Lincoln Land Community College*

Rock Valley College

Southern Illinois University Carbondale*

Southwestern Illinois College*

IN

Aviation Institute of Maintenance – Indianapolis*
Ivy Tech Community College*
Purdue University
Vincennes University Aviation Technology Center*

KS

Kansas State University Salina – Aero-
space and Technology Campus*
WSU Tech*

KY

Jefferson Community and Technical College
Somerset Community College

LA

Baton Rouge Community College
South Louisiana Community College*
Southern University at Shreveport*
Sowela Technical Community College

MA

Cape Cod Community College*
National Aviation Academy Inc – New England
Westfield Technical Academy*

MD

Pittsburgh Institute of Aeronautics – Hagerstown*

MI

Andrews University
Lansing Community College*
MIAT College of Technology – Canton*
School of Missionary Aviation Technology
Western Michigan University – College of Aviation*

MN

Lake Superior College
Minneapolis Community and Technical College
Northland Community and Technical College*

MO

Aviation Institute of Maintenance – Kansas City*
Gateway High
State Technical College of Missouri

MS

Hinds Community College
Northwest Mississippi Community College*

MT

Helena College University of Montana

NC

Aviation Institute of Maintenance – Charlotte*
College of the Albemarle*
Craven Community College
Forsyth Technical Community College
Guilford Technical Community College
Wayne Community College*

NE

Western Nebraska Community College*

NH

Nashua Community College*

NJ

Aviation Institute of Maintenance – Teterboro*

NM

Central New Mexico Community College*

Eastern New Mexico University – Roswell

NV

Aviation Institute of Maintenance – Las Vegas*

NY

Aviation High School*

Aviation Training Institute at Vaughn College

Dutchess Community College*

Lewis Wilson Technology Center*

Mohawk Valley Community College*

OH

Cincinnati State Technical and Community College*

Columbus State Community College*

Federal Aerospace Institute*

Great Oaks Joint Vocational School

Greene County Career Center

Mahoning County Career & Technical Center*

Miami Valley Career Technology Center*

Pittsburgh Institute of Aeronautics – Youngstown*

Sinclair Community College

Toledo Public Schools – Aerospace Center

OK

Canadian Valley Technology Center

Gordon Cooper Technology Center*

Metro Technology Center*

Southwest Technology Center*

Spartan College of Aeronautics and Technology – Tulsa*

Tulsa Technology Center*

OR

Columbia Gorge Community College*

Lane Community College

Portland Community College*

PA

Aviation Institute of Maintenance – Philadelphia*

Pennsylvania College of Technology

Pittsburgh Institute of Aeronautics – Pittsburgh*

PR

Puerto Rico Aviation Maintenance Institute

SC

Greenville Technical College*

Pittsburgh Institute of Aeronautics – Myrtle Beach*

Trident Technical College

SD

Lake Area Technical Institute

TN

Middle Tennessee State University*

North Central Institute

Northeast State Community College*

Tennessee College of Applied Technology – Memphis

Tennessee College of Applied Technology – Morristown*

Tennessee College of Applied Technology – Nashville

TX

Amarillo College*

Aviation Institute of Maintenance – Dallas*

Aviation Institute of Maintenance – Houston*

Crowley Academy of Aviation

Del Mar College*

Hallmark University

LeTourneau University

MIAT College of Technology – Houston*

Midland College*

Skyline Career Development Center

Southwest Texas Junior College

St. Philips College

Tarrant County College*

Texas State Technical College – Abilene

Texas State Technical College – Waco

U.S. Aviation Academy – Denton*

UT

Salt Lake Community College*

Southern Utah University*

Utah State University

VA

Aviation Institute of Maintenance – Manassas*

Aviation Institute of Maintenance – Norfolk*

Blue Ridge Community College

Liberty University*

VT

Burlington Technical Center

WA

Big Bend Community College*

Clover Park Technical College*

Everett Community College

Moody Bible Institute, Moody Aviation*

South Seattle College

Spokane Community College

WI

Fox Valley Technical College*

Milwaukee Area Technical College

WV

Marshall University Aviation Maintenance Technology Program*

Pierpont Community & Technical College – Aviation Technology*

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