

Earn While You Learn

Montana's Growing Apprenticeship Landscape

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LABOR & INDUSTRY

Montana's Registered Apprenticeship Program (MRAP) serves as a successful model for meeting the state's growing demand for skilled workers. Traditionally recognized as a vital pathway for professions like plumbers and electricians, the apprenticeship model has now expanded to encompass diverse occupations, including childcare workers and nurses. By offering comprehensive training and hands-on experience, apprenticeship equips individuals with the necessary skills to excel in their chosen fields.

Growth in the Apprenticeship Program

Since 2000, MRAP has successfully trained over 12,600 apprentices across a diverse range of occupations. While apprenticeships have long been a cornerstone of Montana's workforce development efforts, MRAP has experienced remarkable growth in the past decade. In 2023, Montana boasts a historic high of nearly 3,000 active apprenticeships - more than doubling participation over the last ten years (see **Figure 1**). The program experienced its most substantial expansion in 2022, adding over a thousand new apprenticeships. It continues to thrive with an additional 750 apprenticeships initiated in the first nine months of 2023.

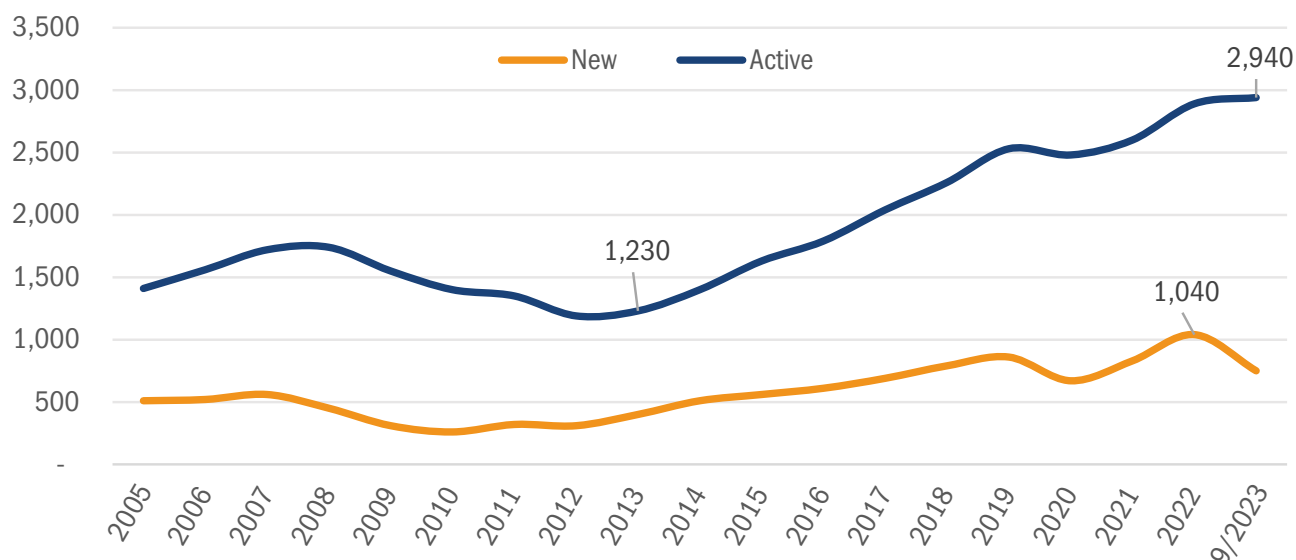
Business engagement is a vital component of a successful registered apprenticeship program. Businesses play a role by identifying crucial skills, designing program structures, and providing

What is Registered Apprenticeship

Montana's Registered Apprenticeship program integrates classroom learning and practical on-the-job training, enabling apprentices to earn while they learn. The program spans one to four years and culminates in an industry-endorsed certificate. Businesses partner with the program to develop customized curricula, ensuring apprentices are equipped to meet precise employer standards. Endorsed by the U.S. Department of Labor, Montana's Department of Labor & Industry supervises the initiative, conferring official credentials to apprentices.

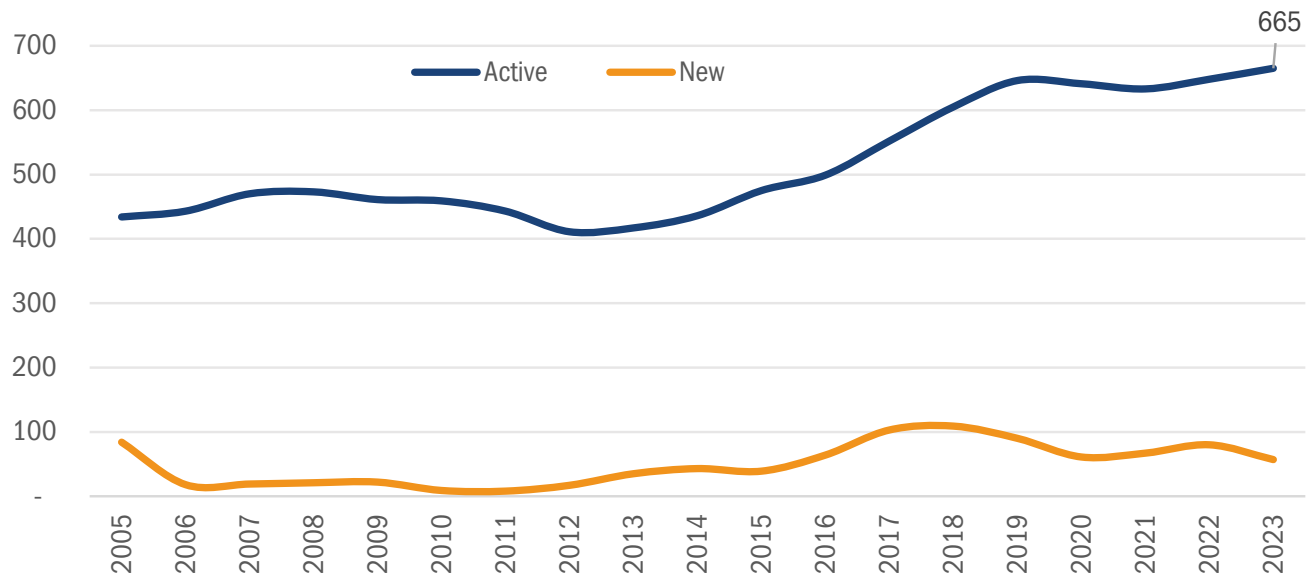
hands-on training to apprentices. They sponsor apprentices, offering them wages and mentorship from existing staff for practical guidance. In return, businesses gain highly trained workers tailored to their specific requirements.

FIGURE 1
Active and New Apprenticeship



Source: MTDLI Registered Apprentice Program. Data from 2000 to September 30, 2023.

FIGURE 2
Active and New Apprenticeship Businesses Sponsors



Source: MTDLI Registered Apprenticeship Program. Data from 2018 to September 30, 2023.

In 2023, Montana saw record-breaking business engagement, with over 660 Montana businesses utilizing registered apprenticeship programs for employee training. **Figure 2** illustrates the state's growing trend. Over the past decade, the number of business sponsors has surged by 60%, reflecting the increasing preference of Montana businesses for the apprenticeship model to meet their evolving workforce demands.

Montana Apprenticeship Outcomes

On average over the past five years, just under 300 apprenticeships have completed each year. The Montana Registered Apprenticeship Program graduates more apprentices per year than the average two-year college or community college in the Montana University System.¹ Most (86%) of Montana Registered Apprenticeship Program completers work for a Montana employer five years after completing their program – making them more likely than non-completers to work in the state. In addition, apprenticeship graduates achieve higher wages than those who do not complete an apprenticeship.

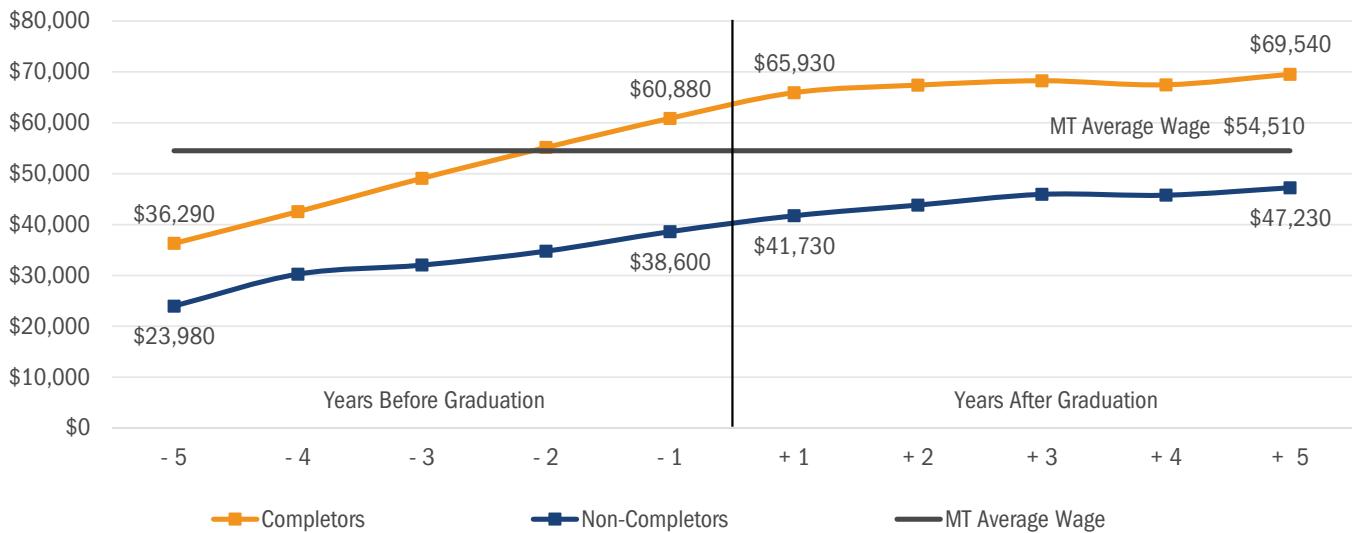
Apprenticeships consistently demonstrate their effectiveness in propelling workers towards higher income trajectories.

Time to Completion

Most apprenticeships require training for approximately 8,000 hours or four years. Some, such as firefighters and childcare workers, require only approximately two years of training (4,000 hours). Since 2000, the average time it takes to complete an apprenticeship is 41 months, or just under four years. On-time completion rates in apprenticeship are higher than MUS 4-year graduation rates, with 28% of apprentices completing within program length compared to 23% of students graduating in four years. When considering completions by cohort regardless of whether they are completed on-time, an average of 47% of apprentices complete their program.

¹ Watson, Amy. October 2022. "Montana Postsecondary Workforce Report" MTDLI. https://lmi.mt.gov/_docs/Publications/LMI-Pubs/Special-Reports-and-Studies/MTCollgeReport2022.pdf

FIGURE 3
Wages Before and After Apprenticeship by Completion Status

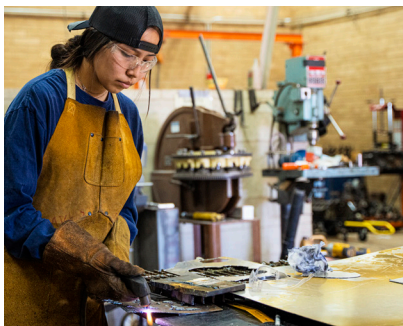


Source: MTDLI Registered Apprentice Program Data matched to UI Payroll Wage Data 2007 to 2023 Q1. Wages inflated to 2022 dollars using CPI-U from BLS. Wages rounded to thousands. US BLS and Montana Department of Labor & Industry, QCEW.

As shown in **Figure 3**, wage progression for apprentices begins prior to program completion. One year post-graduation, apprentices earn an average of \$65,930 annually, surpassing the statewide average by \$11,400. Montana’s apprenticeship graduates earn more than double the wages of individuals completing associate’s and bachelor’s degree programs.² Over the five-year period post-graduation, average wages continue to climb, reaching \$69,540 per year. This figure exceeds the statewide average by \$17,300 and surpasses the earnings of those who did not complete apprenticeships by over \$22,000.

Apprenticeships in Montana offer a compelling return on investment, with participants in several

fields earning significantly higher average wages than entry-level workers in their occupations. **Figure 4** shows the top apprenticeships and average earnings in the first year post-completion. Three of these occupations earn average wages surpassing \$100,000, including Electrical Power-Line Installers/Repairers, Stationary Engineers/Boiler Operators, and Industrial Machinery Mechanics. Some of Montana’s core apprenticeship programs like, Plumbers and Electricians, also demonstrate remarkable earning potential. Their wages reached \$67,600 and \$61,820, respectively, exceeding the earnings of their entry-level counterparts a year after graduation.



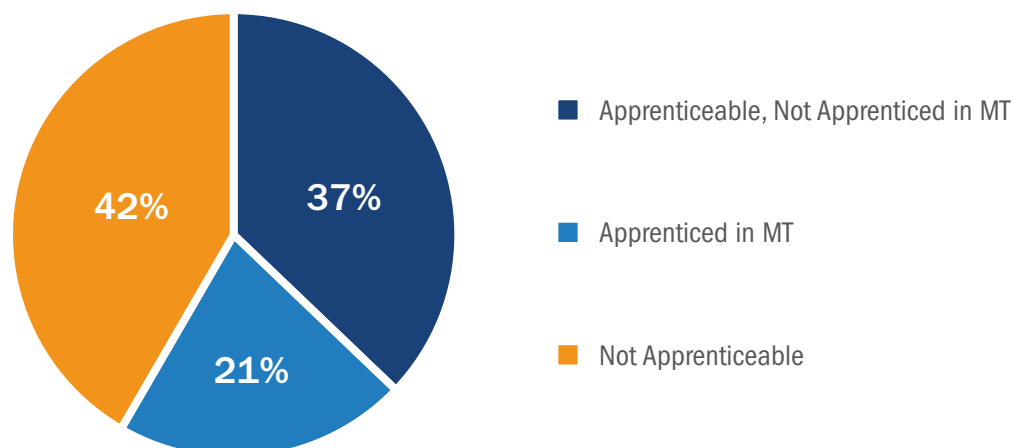
² Ibid.

FIGURE 4**Top Apprenticeships and Average Wage in First Year After Graduation**

ONET	Occupation	Apprentices	Graduated Apprentice Average Wage	Entry-Level Wage (25th Percentile)	State Average Wage
47-2111	Electricians	1,096	\$61,820	\$47,500	\$62,250
47-2152	Plumbers, Pipefitters, and Steamfitters	810	\$67,600	\$56,650	\$69,450
47-2211	Sheet Metal Workers	153	\$55,740	\$45,780	\$54,460
49-9051	Electrical Power-Line Installers/Repairers	148	\$114,050	\$82,780	\$94,250
31-1131	Nursing Assistants	119	\$34,060	\$32,340	\$37,710
39-9011	Childcare Workers	85	\$25,370	\$21,990	\$26,480
47-2031	Carpenters	77	\$47,220	\$39,020	\$48,130
47-2221	Structural Iron and Steel Workers	76	\$44,860	\$49,920	\$59,750
47-2011	Boilermakers	74	\$63,690	\$56,090	\$71,760
51-8021	Stationary Engineers/Boiler Operators	70	\$132,200	\$63,570	\$82,910
49-9041	Industrial Machinery Mechanics	65	\$113,180	\$46,340	\$61,810
33-2011	Firefighters	61	\$86,440	\$45,410	\$51,730
47-2073	Operating Engineers/Equipment Operators	38	\$56,560	\$48,110	\$57,690
47-2021	Brickmasons and Blockmasons	33	\$45,440	\$55,780	\$60,710
29-2072	Medical Records Specialists	22	\$45,210	\$38,810	\$46,530

Source: Graduated Average Wage from MTDLI Registered Apprenticeship Program and UI wage match for 2006Q1-2022Q1 exiters. Wage data from the May 2023 Bureau of Labor Statistics Occupation Employment Survey, Montana.

High wages significantly enhance worker retention rates in Montana. Apprentices who successfully complete the program are more likely to continue working in Montana than those who did not finish their apprenticeships. Over 90% of apprentices remained employed within the state three years post-completion, with 86% continuing to work in Montana even five years later. This demonstrates the program's enduring impact, not only in cultivating skilled professionals but also in anchoring them within the state's workforce—thereby bolstering local economies and growing the labor market.

FIGURE 5**Share of Projected Job Openings For Apprenticeable Occupations**

Source: MTDLI Registered Apprentice Program. Dept of Labor Apprenticeable Occupations and MTDLI 2022-2032 Employment Forecasts.

Apprenticeship and Future Demand

Approximately 58% of job openings in Montana are projected to be in apprenticeable occupations over the next ten years – translating to roughly 43,000 job openings per year through 2032. There are over four hundred apprenticeable occupations. MRAP programs have trained workers in about 25% of these occupations. About 21% of job openings in Montana are projected to occur in occupations with an existing MRAP program, translating to 15,600 openings per year (**Figure 5**).

Figure 6 illustrates the projected annual job openings for the next decade in some of Montana’s most popular apprenticeship programs. Several occupations are experiencing substantial demand, with construction laborers

leading at 890 annual job openings, followed by carpenters (760), registered nurses (640), and childcare workers (550). Additionally, these roles offer competitive salaries, with all but one exceeding \$45,000 per year. While the apprenticeship model has successfully trained Montana’s workforce, there is still untapped potential to expand into new occupations and address the 37% of worker demand that could be trained through MRAP. These unexplored opportunities range from project management specialists and business analysts to dental assistants and police officers. Expanding the apprenticeship program to encompass these diverse fields could further enrich the state’s workforce and bridge existing skill gaps.

FIGURE 6
Job Openings for Apprenticed Occupations

ONET	Occupation	Annual Job Openings	Montana Average Wage
47-2061.00	Construction Laborers	890	\$46,500
47-2031.00	Carpenters	760	\$48,130
29-1141.00	Registered Nurses	640	\$78,350
39-9011.00	Childcare Workers	550	\$26,480
47-2073.00	Operating Engineers/Equipment Operators	510	\$57,690
47-2111.00	Electricians	380	\$62,250
47-2152.00	Plumbers, Pipefitters, and Steamfitters	270	\$69,450
49-9021.00	HVAC Mechanics and Installers	240	\$53,180
49-9041.00	Industrial Machinery Mechanics	130	\$61,810
17-3011.00	Architectural and Civil Drafters	80	\$58,480
49-9051.00	Electrical Power-Line Installers/Repairers	60	\$94,250
47-2211.00	Sheet Metal Workers	50	\$54,460
49-9052.00	Telecommunications Line Installers/Repairers	50	\$57,490
47-2021.00	Brickmasons and Blockmasons	40	\$60,710
21-1091.00	Health Education Specialists	30	\$52,730

Source: MTDLI Registered Apprenticeship Program. OEWS wage data from the May 2023 Bureau of Labor Statistics Occupation Employment Survey, Montana. Excludes occupations where projections were suppressed.

Conclusion

Montana's Registered Apprentice Program's continual growth underscores its value, acknowledged by employers and apprentices alike. This mutually beneficial investment yields dividends by addressing critical skills gaps in the workforce and empowering workers to elevate both their careers and earnings. As Montana strategically prepares its workforce for the future, apprenticeship emerges as an opportunity to upskill the workforce while keeping workers employed and earning a wage. Through this approach, the state fosters a skilled workforce, bolstering economic resilience and prosperity for all.