

Montana Employment Projections



Job Growth from 2023-2033

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State of Montana

Greg Gianforte, Governor

Montana Department of Labor & Industry

Sarah Swanson, Commissioner

Created by:

Data & Operations Bureau

Nick Holom, Senior Economist

Amy Watson, State Economist

Olivia Hayes, Economist

For more information contact:

Data & Operations Bureau

P.O. Box 1728

Helena, MT 59624-1728

(406) 444-4100

lmi.mt.gov

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Executive Summary

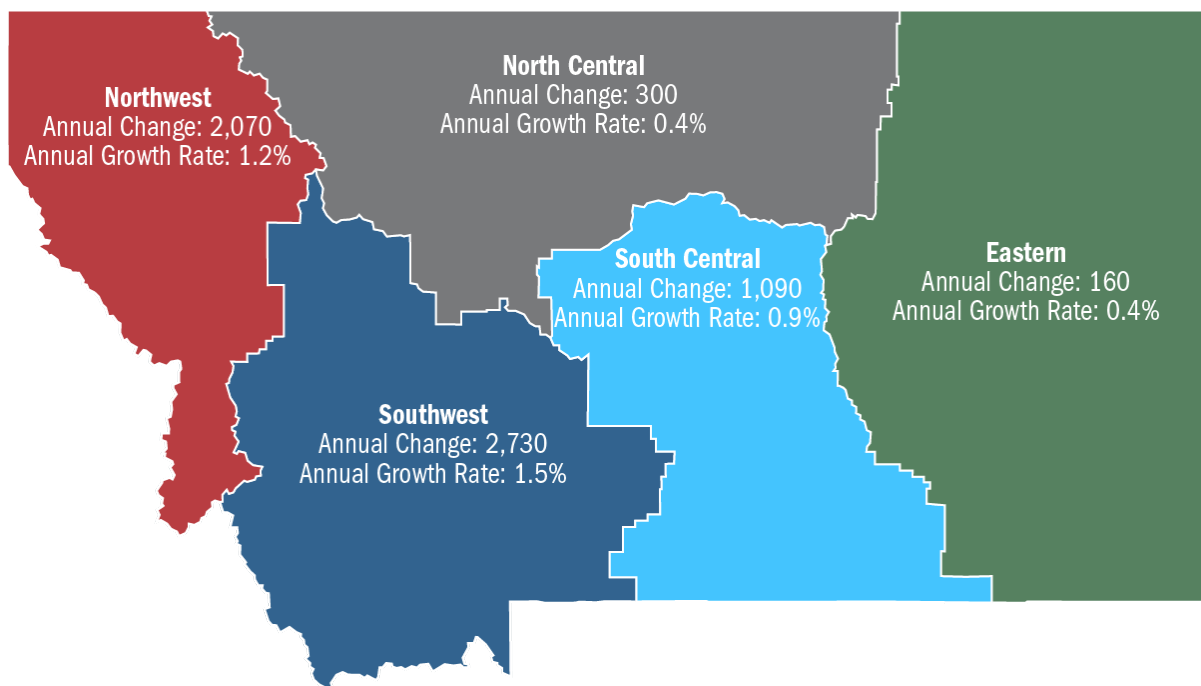
The Montana Department of Labor & Industry (MTDLI) strives to empower Montanans through work and opportunity. Employment projections offer essential insights into future occupational skills, helping align educational programs and training with market demands. This guidance benefits employers, educational institutions, and job seekers.

Montana's job market has shown strong resilience, adding over 18,000 jobs in 2022, a state record. Growth moderated in 2023, adding 8,600 jobs, aligning with long-term trends. Despite projected slower growth due to worker shortages and low unemployment, Montana's employment is expected to exceed 600,000 by 2033. MTDLI forecasts an annual addition of 6,400 jobs (1.1% growth) through 2033, with higher in-migration rates offsetting some workforce constraints from the aging population.

Highlights include:

- Total employment is projected to grow by 1.1% annually through 2033, resulting in approximately 6,400 new jobs each year. Although this represents a slower growth rate compared to recent years, it aligns with the state's long-term trend and exceeds the national average for employment growth.
- Labor force participation rates are projected to decline by one percentage point to 62% over the next ten years due to an aging population.
- The state's working-age population is anticipated to grow by 1.3% annually, reaching 1,030,000 by 2033. In-migration is the primary factor driving this growth, which helps counterbalance the decline in labor force participation rates.
- Healthcare is expected to add the most jobs over the next decade, with an average of 1,310 new positions each year. This growth is driven by increased in-migration and an aging population, both of which boost demand for healthcare services.
- Construction employment is projected to grow at the fastest rate through 2033, with an average annual growth rate of 2.3%. This expansion is fueled by population growth and increased infrastructure investments.
- The Northwest (includes Missoula and Kalispell) region and Southwest region (includes Bozeman, Helena, and Butte) are expected to have strong job growth, fueled by population increases and expansion in various sectors such as construction, healthcare, and professional services (Figure 1). Forecasts of growth in the South-Central region are steady, supported by sectors like healthcare and construction, despite challenges in mining. North-Central (Great Falls) and Eastern regions are forecasted to have moderate job growth, both stabilizing after economic fluctuations.

FIGURE 1: Montana Projection Regions with Average Annual Growth Rates



Source: Montana Department of Labor & Industry Employment Projections, 2022-2033.

Montana is projected to see significant demand for workers over the next decade, with over 71,590 job openings annually through 2033. Most openings (51%) will come from turnover, while 40% will result from retirements and labor force exits. The remaining 9% of openings will come from job growth. The state's aging population and increased retirements contribute to this demand.

Occupational Demand Highlights:

- High-Demand Occupations: Food preparation and serving, office and administrative support, and sales.
- Growth-Driven Occupations: Computer and mathematical fields, healthcare occupations, and construction occupations.
- For those planning their careers, high-demand, high-paying occupations include:
 - Earning Between \$45,000-\$65,000: Truck drivers, carpenters, and electricians.
 - Earning Over \$65,000: General and operations managers, registered nurses, and medical and health services managers.
- STEM Growth: Top roles include support specialists, software developers, and health services managers.
- Apprenticeship Expansion: High-wage, high demand occupations include electricians, plumbing, truck drivers, accountants, and chefs.

The Montana Department of Labor & Industry (MTDLI) projects a promising yet measured growth environment for the state's job market over the next decade. Montana is well-positioned to continue its trend of robust employment growth. Despite challenges such as an aging population and worker shortages, the state's proactive measures and high in-migration rates help mitigate these issues. Significant opportunities will arise in healthcare, construction, and various high-demand occupations, presenting a diverse array of career paths for Montanans.

About Employment Projections

Every year, the Montana Department of Labor & Industry (MTDLI) produces employment projections in conjunction with the U.S. Department of Labor to be used by a variety of groups and individuals to help plan workforce development. Employment projections are produced over a two-year and ten-year time frame, by industry and occupation, as well as for the state and five sub-state regions. The five substate regions are shown in Figure 1.

Employment forecasts are an estimate of the future demand for workers based on historical employment data and the knowledge that is available at the time of the forecast. Because the economy is constantly changing, the forecasts are not going to be exactly right. Instead, projections should be viewed as the most likely employment growth outcome given the current knowledge and information about the economy. Additionally, projections focus on long-term employment growth, rather than short-term and temporary fluctuations in the business cycle. Therefore, employment forecasts are published as a linear average over the two-year and ten-year period, even though the underlying forecast may include variations from that trend.

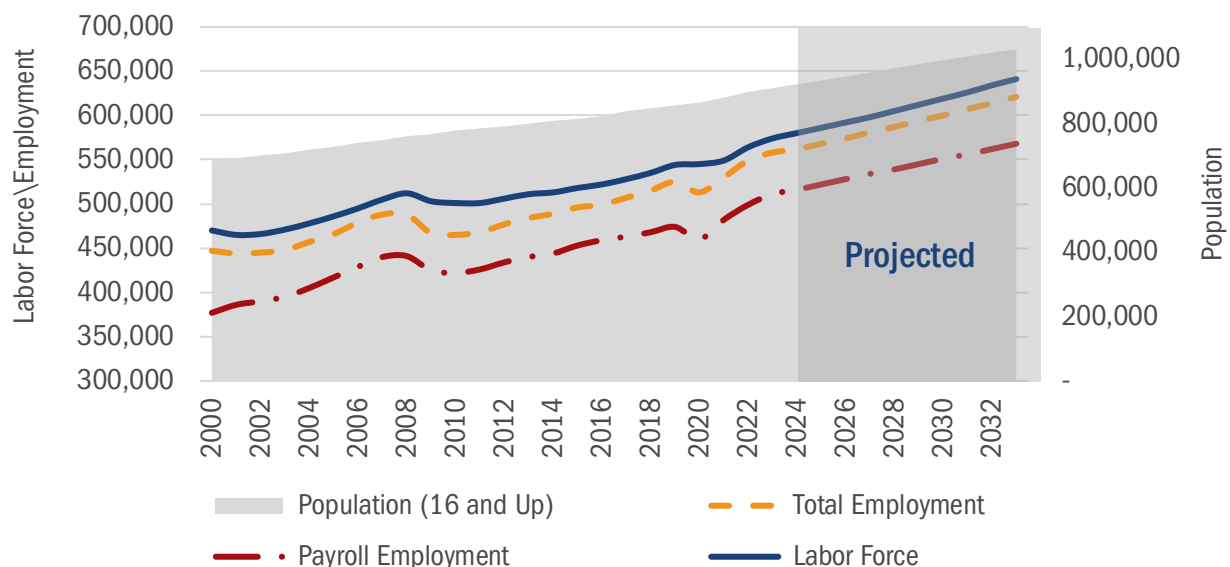
This report provides a broad overview of this year's statewide and regional projections along with commonly requested tables of high-demand jobs by specific categories (such as jobs requiring a bachelor's degree, jobs that pay higher than \$65,000, and apprenticeable jobs). For detailed information on methodology, see Appendix A. For information of past forecast accuracy, see Appendix B.

Overview of Montana's 2023-2033 Projections

Montana's job market has shown remarkable resilience and growth over the past few years. In 2022, Montana added over 18,000 jobs, marking a record high for the state. Following the pandemic recession in 2020, employment grew by over 3.5% per year in 2021 and 2022. This notable growth was driven by the rehiring of laid-off individuals and a higher-than-normal influx of out-of-state workers, facilitated by remote work policies. Looking forward, employment growth is projected to continue at a moderated rate due to a shortage of available workers and persistently low unemployment rates. Despite a slowdown in growth, total employment in Montana is projected to surpass 600,000 by 2033.

Figure 2 illustrates the historical and projected employment from 2000 to 2033. MTDLI projects the state will add an average of approximately 6,350 jobs per year through 2033, translating to 1.1% employment growth annually. Employment growth is anticipated in the near term, driven by higher in-migration rates and a significant increase in job openings following the pandemic recession. Long-run growth is primarily constrained by tight labor markets; however, positive migration trends will help offset some of the workforce supply constraints caused by the state's aging population.

FIGURE 2: Total Employment, Payroll Employment, Labor Force and Working Age Population



Source: MTDLI Employment Projections, 2023-2033.

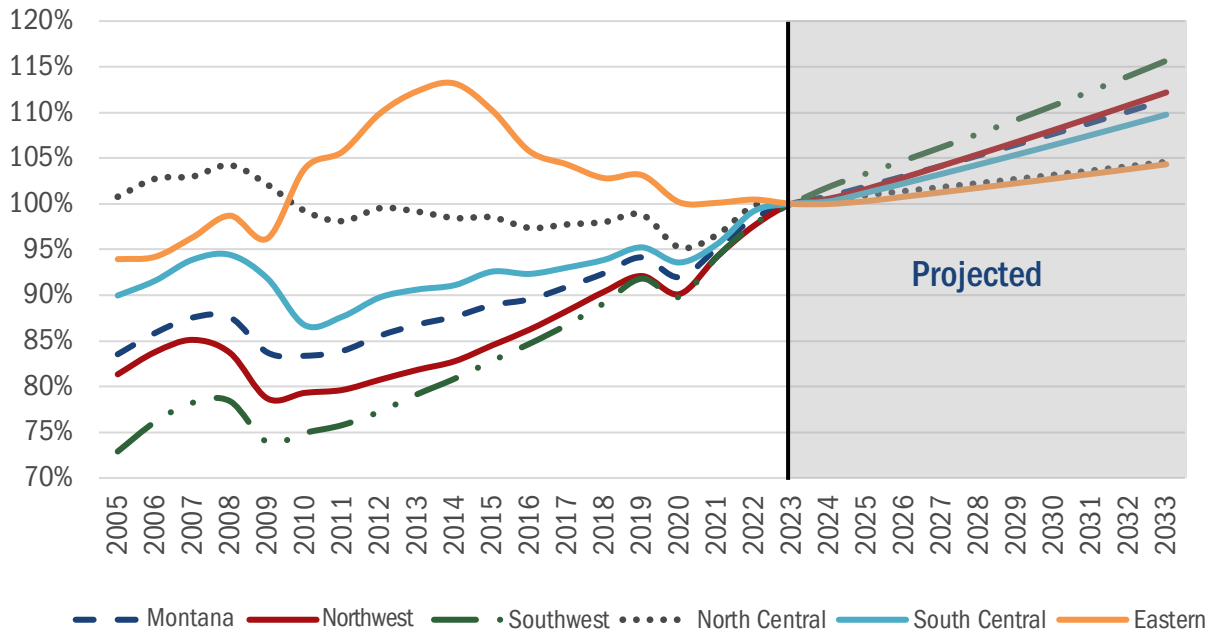
All regions of Montana are projected to experience employment growth over the next decade, although the extent of growth will vary (Figure 3). The Southwest region, which includes Bozeman, Helena, and Butte, is forecasted to have the highest annual growth, adding approximately 2,730 jobs per year at a growth rate of 1.5%. This growth is supported by a strong influx of population and job gains across various industries, including construction, retail trade, accommodation and food service, and professional services. Total employment in this region is projected to grow by 13% by 2033 compared to 2023 levels.

The Northwest region, encompassing Missoula and Kalispell, is expected to have the second-highest growth rate, with an annual increase of 2,070 jobs at a growth rate of 1.2%. Similar to the southwest, this region benefits from a strong population influx and diverse job creation across multiple sectors.

Employment in the South-Central region, including Billings, is projected to grow by 0.9%, translating to an annual addition of 1,090 jobs. Despite challenges such as the retirement of Colstrip units 1 and 2 and a decrease in mining and utilities industry wages, the region is expected to see growth in healthcare, construction, and leisure activities.

The Eastern region, which experienced a boom-and-bust cycle due to the Bakken oilfields, is now stabilizing. Employment is projected to grow modestly by 0.4%, adding approximately 160 jobs per year. The North-Central region is also expected to see moderate growth, with an annual increase of 300 jobs at a growth rate of 0.4%.

FIGURE 3: Regional Employment Indexed to 2023



Source: MTDLI Employment Projections, 2023-2033

Industry Growth

Montana's employment landscape is set to evolve significantly over the next decade. Projected employment growth rates by industry reveal a dynamic job market, with some sectors poised for robust expansion and others facing challenges. Total employment, including self-employed workers, is projected to grow more slowly than payroll employment as a tight labor market raises wages, drawing some self-employed workers into payroll jobs.

Key Industry Projections:

- Construction is expected to be the largest contributor to job creation in Montana until 2033. The construction sector is projected to maintain a 10-year average of 930 jobs added annually through 2033 (Figure 4). This growth is driven by increased demand for residential construction projects due to Montana's high population growth, particularly in the northwest and southwest regions. Additionally, government outlays for infrastructure are expected to further stimulate construction employment.
- Healthcare and social assistance, while struggling through the pandemic, is anticipated to grow steadily. The sector is projected to add 1,440 jobs annually from 2023 to 2025 and 1,310 jobs per year through 2033, reflecting a growth rate of 1.6%. Despite challenges such as nursing home closures and healthcare worker burnout, demand for healthcare services remains high due to an aging population.
- Professional and technical services have shown remarkable growth over the past decade, emerging as one of Montana's fastest-growing industries. The sector is projected to add 430 jobs annually from 2023 to 2025 and 510 jobs per year through 2033. The ability of professionals to work remotely has shielded the industry from the negative impacts of the pandemic and facilitated migration to Montana. The continued evolution of remote work practices and technological innovations is expected to further bolster this sector's growth.
- Accommodation and food services face challenges in maintaining past growth rates, with a projected growth rate of 1.2% compared to 2.1% previously. The industry is expected to add 540 jobs annually from 2023 to 2025 and 740 jobs per year through 2033. Workforce shortages and competition for limited workers, exacerbated by the industry's traditionally lower wages, are key factors limiting growth.

FIGURE 4: Montana Compounding Annual Employment Growth, Historic and Projected

Industry	2021-2023 Growth Rate	2023-2025 Growth Rate	2023-2025 Annual Job Growth	2013-2023 Growth Rate	2023-2033 Growth Rate	2023-2033 Annual Job Growth
Healthcare	2.0%	1.9%	1,440	1.5%	1.6%	1,310
Construction	5.5%	2.1%	800	4.4%	2.3%	930
Accommodation & Food	5.4%	0.9%	540	2.1%	1.2%	740
Professional & Technical	6.0%	1.5%	430	3.5%	1.7%	510
Retail Trade	1.8%	0.6%	400	1.1%	0.6%	370
Manufacturing	1.1%	0.9%	200	1.7%	1.2%	290
Wholesale Trade	4.0%	1.6%	300	1.0%	1.1%	220
Other	2.9%	1.0%	190	1.2%	1.1%	210
Local Government	1.7%	1.0%	210	1.2%	0.9%	200
Admin & Support Services	4.1%	0.6%	130	1.8%	0.7%	160
Agriculture	3.0%	1.9%	130	3.7%	1.9%	140
Finance	2.0%	0.7%	110	1.3%	0.8%	140
Arts & Entertainment	1.8%	0.9%	110	1.2%	1.0%	130
Transportation & Warehousing	0.0%	0.7%	120	0.8%	0.6%	110
Education	1.9%	0.3%	120	0.3%	0.3%	100
Real Estate	3.8%	0.4%	30	2.8%	0.9%	60
Management	-3.7%	3.0%	60	0.7%	1.6%	40
Mining	4.5%	1.4%	100	-2.7%	0.5%	30
State Government	-0.4%	0.6%	70	0.0%	0.2%	30
Utilities	1.8%	0.6%	20	-0.9%	0.3%	10
Federal Government	2.7%	0.0%	0	0.8%	0.0%	0
Postal Service	-2.4%	0.7%	10	-0.6%	0.1%	0
Information	-0.1%	-1.1%	-60	-2.1%	-0.4%	-20
Payroll Employment	2.9%	1.1%	5,630	1.5%	1.1%	5,730
Total Employment	2.5%	1.0%	5,340	1.4%	1.1%	6,350

Source: MTDLI Employment Projections, 2023-2033.

Montana's job market is poised for diverse growth across various sectors. The construction, healthcare, and professional and technical services sectors are expected to drive significant job creation, reflecting broader economic trends and the evolving demands of Montana's growing population. Meanwhile, challenges in the accommodation and food services sector highlight the ongoing competition for skilled workers and the impact of wage levels on industry growth. By understanding these projections, Montana can better align its workforce development efforts to meet future economic needs.

Occupational Demand

In the next decade, Montana is projected to have an annual total of 71,590 job openings, with new jobs accounting for 9% of the total. The majority of projected job openings are due to worker movement between occupations. Half of all job openings, 51% or roughly 36,320, are due to workers transferring to a new occupation, leaving behind an open position in the occupation that was left. Another 40% of job openings will be due to workers exiting the labor force, for reasons such as retirement or enrolling in school.

The largest occupational group in terms of total openings is food preparation and serving-related occupations, reflecting the large number of jobs in these roles and the higher turnover experienced by lower-wage jobs (Figure 5). This group is expected to have 11,600 annual openings with a median wage of \$28,280. High turnover rates contribute to the significant number of openings in this category.

Office and administrative support occupations rank second, with 7,680 annual openings and a median wage of \$40,900. This is followed by sales and related occupations, which have 7,430 annual openings and a median wage of \$36,520. Both categories are characterized by a high volume of jobs and notable turnover rates.

Certain occupation groups have a higher proportion of job openings due to growth rather than turnover, indicating increasing demand for relevant skills. These include:

- **Healthcare Practitioners and Technical Occupations:** 21% of openings due to growth, with 2,520 annual openings and a median wage of \$77,910.
- **Construction and Extraction Occupations:** 18% of openings due to growth, with 4,370 annual openings and a median wage of \$56,960.
- **Legal Occupations:** 18% of openings due to growth, with 400 annual openings and a median wage of \$71,270.
- **Computer and Mathematical Occupations:** 16% of openings due to growth, with 1,480 annual openings and a median wage of \$79,990.
- **Architecture and Engineering Occupations:** 15% of openings due to growth, with 810 annual openings and a median wage of \$76,890.

Sources of Job Openings

New Jobs refer to jobs from growth in employment.

Exits refer to people who leave their job and exit the labor force, such as to retire or to enroll in school.

Transfers are workers who leave one occupation for a different occupation, like a career change or promotion.

Total Openings are the number of annual job openings from exits, transfers, and new jobs.

This methodology changed in 2016, see [bls.gov](https://www.bls.gov) for more information.

FIGURE 5: Annual Projected Demand by Occupation Group, 2023-2033

Rank	Occupation Group	Annual Openings				MT Median Wage
		New Jobs	Exits	Transfers	Total Openings	
1	Food Preparation and Serving Related	670	4,840	6,090	11,600	\$28,280
2	Office and Administrative Support	150	3,630	3,900	7,680	\$40,900
3	Sales and Related	320	3,240	3,860	7,430	\$36,520
4	Transportation and Material Moving	530	2,270	3,150	5,950	\$42,240
5	Construction and Extraction	800	1,450	2,120	4,370	\$56,960
6	Healthcare Support	480	1,620	1,810	3,900	\$36,410
7	Management	490	1,230	1,680	3,400	\$93,850
8	Building/Grounds Cleaning Maintenance	210	1,480	1,660	3,350	\$35,890
9	Personal Care and Service	200	1,030	1,630	2,870	\$31,160
10	Business and Financial Operations	360	940	1,450	2,750	\$64,290
11	Installation, Maintenance, and Repair	320	1,030	1,320	2,670	\$50,240
12	Educational Instruction and Library	140	1,280	1,240	2,650	\$48,950
13	Healthcare Practitioners and Technical	540	1,130	860	2,520	\$77,910
14	Production	190	950	1,300	2,440	\$44,720
15	Computer and Mathematical	240	460	780	1,480	\$79,990
16	Community and Social Service	180	440	560	1,180	\$46,040
17	Farming, Fishing, and Forestry	100	380	640	1,110	\$40,470
18	Arts, Design, Entertainment, Sports, and Media	100	410	570	1,080	\$45,980
19	Protective Service	60	460	520	1,030	\$52,350
20	Life, Physical, and Social Science	80	190	630	910	\$63,110
21	Architecture and Engineering	120	300	400	810	\$76,890
22	Legal	70	160	170	400	\$71,270
	Total, All	6,350	28,920	36,320	71,590	\$45,690

Source: MTDLI Employment Projections, 2023-2033.

Montana's job market is characterized by a high demand for positions that generally require minimal formal education and on-the-job training. Figure 6 highlights the top ten detailed occupations with the most job openings projected from 2023 to 2033. These occupations are crucial for the state's economy, employing large numbers of people despite their lower wages and higher turnover rates due to the minimal skill requirements.

The education and work experience listed is the minimum required to enter the profession as determined by the U.S. Department of Labor, Bureau of Labor Statistics. For occupations without a clear path to entry, the BLS determines the typical path based on the current minimum qualifications of workers filling those positions. At these minimums, the worker will likely be earning less than the average wage for the industry.

FIGURE 6: Top Ten Occupations by Total Openings, 2023-2033

Rank	Occupation	Minimum Requirements		Annual Openings			Total Openings	MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers		
1	Fast Food and Counter Workers	<HSE	ST OJT	170	1,880	2,010	4,060	\$28,250
2	Retail Salespersons	<HSE	ST OJT	110	1,060	1,280	2,460	\$33,660
3	Cashiers	<HSE	ST OJT	-20	1,160	1,170	2,310	\$29,360
4	Home Health and Personal Care Aides	HSE	ST OJT	280	840	700	1,830	\$30,740
5	Waiters and Waitresses	<HSE	ST OJT	50	720	1,020	1,790	\$20,990
6	Stockers and Order Fillers	HSE	ST OJT	140	580	900	1,620	\$37,220
7	Office Clerks, General	HSE	ST OJT	30	750	720	1,500	\$40,480
8	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	<HSE	ST OJT	70	650	650	1,380	\$36,510
9	Cooks, Restaurant	<HSE	MT OJT	210	530	630	1,370	\$34,880
10	Bartenders	<HSE	ST OJT	90	370	800	1,270	\$21,880

Source: MTDLI Employment Projections, 2023-2033. Notes: <HSE = less than high school diploma; HSE = High school diploma or equivalent; ST OJT = short-term on-the-job training; MT OJT = medium-term on-the-job training.

Fast food and counter workers top the list with 4,060 annual openings and a median wage of \$28,250. This role requires less than a high school education and short-term on-the-job training. The high turnover in this occupation is indicative of the entry-level nature of the job and its lower pay.

Retail salespersons follow closely with 2,460 annual openings and a median wage of \$33,660. This occupation also requires short-term on-the-job training, making it accessible to a broad demographic.

Cashiers are the third most in-demand occupation, with 2,310 annual openings and a median wage of \$29,360. The demand for cashiers remains high despite advancements in automated checkout technologies.

Home health and personal care aides, who play a crucial role in supporting Montana's aging population, have 1,830 annual openings and a median wage of \$30,740. This occupation requires a high school diploma and short-term on-the-job training, offering a pathway into the healthcare field.

Waiters and waitresses rank fifth with 1,790 annual openings and the lowest median wage among the top ten at \$20,990. This job is often a starting point for individuals entering the workforce, especially in the hospitality sector.

Other notable occupations include stockers and order fillers with 1,620 annual openings and a median wage of \$37,220, and office clerks who have the highest median wage among the top ten at \$40,480 and 1,500 annual openings. Janitors and cleaners, except maids and housekeeping cleaners, and restaurant cooks are also in high demand, offering median wages of \$36,510 and \$34,880, respectively. Lastly, bartenders have 1,270 annual openings with a median wage of \$21,880.

Occupational Demand – High Wage Jobs

Montanans planning for their first career or considering a career change can benefit from exploring high-demand occupations with high pay. Figures 7 and 8 illustrate the occupations that offer competitive wages and have significant projected openings over the next decade.

Figure 7 shows the top occupations in Montana paying between \$45,000 and \$65,000 annually. These roles often require more work experience or post-secondary education. The most in-demand job in this wage bracket is heavy and tractor-trailer truck drivers, with 980 annual openings and a median wage of \$56,610. This occupation typically requires postsecondary non-degree awards and short-term on-the-job training.

Other high-paying occupations in this category include various skilled trades. Carpenters have 670 annual openings with a median wage of \$50,340, while electricians have 380 annual openings with a median wage of \$64,590. These trades often require completion of an apprenticeship program.

Notably, only two of the top ten occupations in this wage range require education beyond high school. Business operations specialists and computer user support specialists highlight the importance of technical and administrative skills, offering median wages of \$63,960 and \$50,890, respectively.

FIGURE 7: Top Ten Occupations Earning Between \$45,000-\$65,000, 2023-2033

Rank	Occupation	Minimum Requirements			Annual Openings			MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers	Total Openings	
1	Heavy and Tractor-Trailer Truck Drivers	PS ND	ST OJT	100	390	500	980	\$56,610
2	Construction Laborers	<HSE	ST OJT	150	220	330	700	\$47,590
3	Carpenters	HSE	Appren	130	230	310	670	\$50,340
4	First-Line Supervisors of Retail Sales Workers	HSE	<5 yrs	30	240	370	640	\$47,480
5	Computer User Support Specialists	SC AS	MT OJT	60	210	350	620	\$50,890
6	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HSE	MT OJT	50	150	250	460	\$57,470
7	First-Line Supervisors of Office and Administrative Support Workers	HSE	<5 yrs	10	190	240	440	\$59,230
8	Operating Engineers and Other Construction Equipment Operators	HSE	MT OJT	80	140	220	430	\$58,550
9	Business Operations Specialists, All Other	Bach		40	150	230	410	\$63,960
10	Electricians	HSE	Appren	80	120	190	380	\$64,590

Source: MTDLI Employment Projections, 2023-2033. Notes: <HSE = less than high school diploma; HSE = High school diploma or equivalent; SC AS = Some college or Associate's; PS ND = Postsecondary no degree; Appren = Apprenticeship; Bach = Bach degree; ST OJT = short-term on-the-job training; MT OJT = medium-term on-the-job training; LT OJT = long-term on-the-job training; <5 yrs = less than five years of experience.

Figure 8 highlights occupations in Montana with median wages over \$65,000. These high-wage roles are critical for attracting talent and supporting economic growth. While most in-demand occupations in this wage range require a bachelor's degree or higher, there are notable exceptions that underscore the value of technical skills and experience in specific trades.

FIGURE 8: Top Ten Occupations Earning Over \$65,000, 2023-2033

Rank	Occupation	Minimum Requirements		Annual Openings				MT Median Wage
		Educ	Work Exp	Rank	Occupation	Educ	Work Exp	
1	General and Operations Managers	Bach	5+ yrs	130	260	570	970	\$84,990
2	Registered Nurses	Bach		130	380	230	740	\$79,170
3	First-Line Supervisors of Construction Trades and Extraction Workers	HSE	5+ yrs	130	210	290	640	\$76,130
4	Accountants and Auditors	Bach		60	140	210	400	\$67,190
5	Managers, All Other	Bach	<5 yrs	50	110	150	310	\$100,920
6	Medical and Health Services Managers	Bach	<5 yrs	90	80	110	270	\$102,910
7	Plumbers, Pipefitters, and Steamfitters	HSE	Appren	50	80	140	270	\$77,520
8	First-Line Supervisors of Mechanics, Installers, and Repairers	HSE	<5 yrs	30	110	120	260	\$73,320
9	Market Research Analysts and Marketing Specialists	Bach		40	60	120	230	\$69,380
10	Software Developers	Bach		80	40	90	220	\$109,270

Source: MTDLI Employment Projections, 2023-2033. Notes: HSE = High school diploma or equivalent; Appren = Apprenticeship; Bach = Bach degree; 5+ yrs = five or more years of experience; <5 yrs = less than five years of experience.

At the top of the list are general and operations managers, with 970 annual openings and a median wage of \$84,990. This role typically requires a bachelor's degree and over five years of work experience. Registered nurses follow closely, with 740 annual openings and a median wage of \$79,170, reflecting the high demand for healthcare professionals.

First-line supervisors of construction trades and extraction workers, who oversee construction projects and ensure safety and efficiency, have 640 annual openings and command a median wage of \$76,130. This role usually requires a high school diploma and significant field experience. Accountants and auditors, essential for maintaining financial accuracy and compliance, have 400 annual openings and a median wage of \$67,190.

Medical and health services managers, requiring a bachelor's degree and less than five years of experience, have 270 annual openings and offer a median wage of \$102,910. Plumbers, pipefitters, and steamfitters have 270 annual openings with a median wage of \$77,520, requiring a high school diploma and apprenticeship training.

Managers in various other roles, requiring a bachelor's degree and less than five years of experience, have 310 annual openings with a median wage of \$100,920. First-line supervisors of mechanics, installers, and repairers, with 260 annual openings and a median wage of \$73,320, typically need a high school diploma and less than five years of experience.

Market research analysts and marketing specialists, requiring a bachelor's degree, have 230 annual openings and a median wage of \$69,380. Software developers, offering 220 annual openings and a high median wage of \$109,270, highlight the demand for advanced technical skills in the state.

Occupational Demand – Education Level

Most of Montana's projected job openings are in occupations that do not require post-secondary education. These jobs often offer lower pay and have high turnover rates as workers gain skills and advance in their careers to longer-term, more stable employment. Figure 9 illustrates that worker demand and average wages vary significantly based on the minimum education required for the occupation.

Over the next decade, it is projected that 72% of all job openings (51,190 per year) will be in jobs requiring a high school education or less. Specifically, 24,030 annual openings will be for roles requiring less than a high school education, with an average annual wage of \$34,564. Additionally, 27,160 annual openings will be for positions requiring a high school diploma, with an average annual wage of \$49,320.

Occupations that require some post-secondary education but less than a bachelor's degree account for another 8,290 annual openings. These include roles requiring postsecondary non-degree awards and associate degrees, with average wages of \$50,815 and \$51,060, respectively. Another 10,290 annual openings will be in occupations that require a bachelor's degree, offering a significantly higher average wage of \$81,267.

Only 2% of annual job openings will be in occupations requiring a degree beyond a bachelor's degree, but these roles offer the highest wages. Occupations requiring a master's degree have 900 annual openings with an average wage of \$82,274, while those requiring a professional or doctoral degree have 860 annual openings with an average wage of \$130,255.

Wages increase with education level, highlighting the financial benefits of higher education. The average wage for occupations requiring a high school education is \$49,320, while occupations requiring a bachelor's degree offer an average wage of \$81,267. For roles requiring a master's degree, the average wage rises to \$82,274, and for those needing a professional or doctoral degree, the average wage is \$130,255.

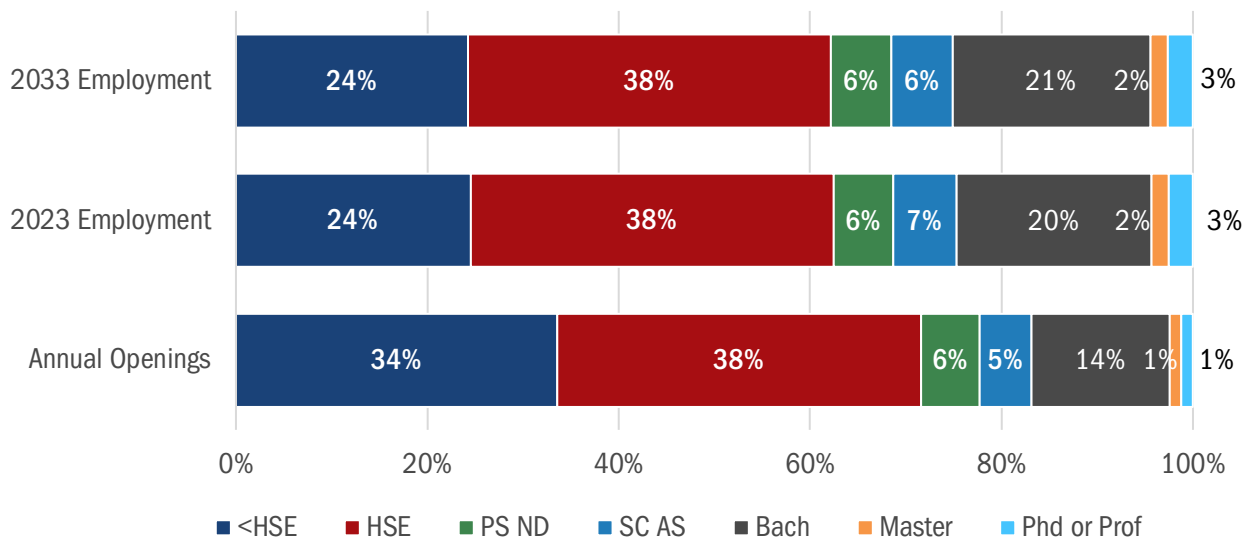
FIGURE 9: Job Openings by Minimum Education Level, 2023-2033

Annual Openings					
Minimum Education	New Jobs	Exits	Transfers	Total Openings	MT Average Annual Wage
<HSE	1,400	10,310	12,320	24,030	\$34,564
HSE	2,370	10,860	13,940	27,160	\$49,320
PS ND	470	1,700	2,230	4,400	\$50,815
SC AS	270	1,650	1,970	3,890	\$51,060
Bach	1,440	3,660	5,190	10,290	\$81,267
Master	180	340	380	900	\$82,274
Phd or Prof	190	410	260	860	\$130,255

Source: MTDLI Employment Projections, 2023-2033. Notes: <HSE = less than high school diploma; HSE = High school diploma or equivalent; SC AS = Some college or Associate's; PS ND = Postsecondary no degree; Appren = Apprenticeship; Bach = Bach degree; Master = Master's degree; PhD or Prof = Doctoral or professional degree.

Montana's occupational distribution by minimum education is expected to remain consistent over time. Jobs requiring a high school education or less are expected to make up approximately 62% of employment in 2023 and 2033 (Figure 10). There is more turnover in lower-wage, lower-education occupations, which accounts for the larger share of openings (72%) compared to employment (62%). In 2033, it is expected that more than 38% of workers will require some post-secondary education.

FIGURE 10: Employment and Job Openings By Minimum Education



Source: MTDLI Employment Projections, 2023-2033.

Using minimum education requirements for workforce planning should be approached with caution. While they may indicate the lowest level of training needed to enter an occupation, additional education and training is often necessary to progress in a career and achieve mastery of job duties. A survey of the typical education of workers in many occupations shows that workers tend to have higher levels of education than the minimum requirements suggest.¹ Employers who hire workers at the minimum level should expect to provide further training to bring these employees up to the productivity levels of the current and previous workforce. Minimum education requirements suggest that only 36% of jobs require education beyond a high school degree, though 59% of workers who fill occupations have an education beyond a high school degree.

Workforce planners prioritize jobs that require postsecondary education due to the extensive preparation and training involved. Higher education levels generally result in higher wages and improved productivity, which can significantly benefit Montana's economy. Figure 11 highlights the top occupations requiring a bachelor's degree or higher.

General and operations managers are the most in-demand, with 970 annual openings and a median wage of \$84,990. This role typically requires a bachelor's degree and over five years of work experience. Registered nurses follow closely, with 740 annual openings and a median wage of \$79,170, reflecting the high demand for healthcare professionals.

Accountants and auditors have 400 annual openings and offer a median wage of \$67,190. This occupation requires a bachelor's degree and is crucial for maintaining financial accuracy and compliance in various industries. Another significant role is that of business operations specialists, with 410 annual openings and a median wage of \$63,960, demonstrating the need for expertise in improving organizational efficiency.

Medical and health services managers, requiring a bachelor's degree and less than five years of experience, have 270 annual openings and the highest median wage in this list at \$102,910. This role is vital for overseeing healthcare facilities and ensuring efficient operations.

¹ Based on occupational employment and O*NET Typical Education Survey.

FIGURE 11: Top Ten Occupations Requiring a Bachelor's Degree or Higher, 2023-2033

Rank	Occupation	Minimum Requirements		Annual Openings			Total Openings	MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers		
1	General and Operations Managers	Bach	5+ yrs	130	260	570	970	\$84,990
2	Registered Nurses	Bach		130	380	230	740	\$79,170
3	Business Operations Specialists, All Other	Bach		40	150	230	410	\$63,960
4	Accountants and Auditors	Bach		60	140	210	400	\$67,190
5	Elementary School Teachers, Except Special Education	Bach		20	160	150	330	\$61,080
6	Managers, All Other	Bach	<5 yrs	50	110	150	310	\$100,920
7	Medical and Health Services Managers	Bach	<5 yrs	90	80	110	270	\$102,910
8	Secondary School Teachers, Except Special Ed & CTE	Bach		10	110	130	250	\$52,730
9	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	Bach		60	80	110	250	\$52,490
10	Coaches and Scouts	Bach		20	90	120	230	\$41,740

Source: MTDLI Employment Projections, 2023-2033. Notes: Bach = Bach degree; 5+ yrs = five or more years of experience; <5 yrs = less than five years of experience.

For individuals willing to pursue post-secondary education without committing to the four years typically required for a bachelor's degree, many lucrative occupations are available. These roles often require some college education, an associate's degree, or specialized training programs. Figure 12 highlights the top ten occupations in Montana that require some postsecondary education but less than a bachelor's degree, projected from 2023 to 2033.

FIGURE 12: Top Ten Occupations Requiring Some Postsecondary Education, but Less Than a Bachelor's Degree, 2023-2033

Rank	Occupation	Minimum Requirements		Annual Openings			Total Openings	MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers		
1	Bookkeeping, Accounting, and Auditing Clerks	SC AS	MT OJT	30	610	480	1,120	\$42,710
2	Heavy and Tractor-Trailer Truck Drivers	PS ND	ST OJT	100	390	500	980	\$56,610
3	Nursing Assistants	PS ND		60	360	440	860	\$37,970
4	Computer User Support Specialists	SC AS	MT OJT	60	210	350	620	\$50,890
5	Teaching Assistants, Except Postsecondary	SC AS		10	250	260	520	\$33,800
6	Medical Assistants	PS ND		50	110	180	340	\$44,040
7	Automotive Service Technicians and Mechanics	PS ND	ST OJT	30	100	150	280	\$48,790
8	Dental Assistants	PS ND		20	90	140	250	\$44,400
9	Hairdressers, Hairstylists, and Cosmetologists	PS ND		30	100	120	250	\$34,830
10	Forest and Conservation Technicians	SC AS		0	40	140	190	\$51,880

Source: MTDLI Employment Projections, 2023-2033. Notes: SC AS = Some college or Associate's; PS ND = Postsecondary no degree; ST OJT = short-term on-the-job training; MT OJT = medium-term on-the-job training.

Bookkeeping, accounting, and auditing clerks are the most in-demand in this category, requiring medium-term on-the-job training and offering 1,120 annual openings with a median wage of \$42,710. Heavy and tractor-trailer truck drivers also see high demand, with 980 annual openings and a median wage of \$56,610, making it one of the highest-paying occupations in this category.

Another notable occupation is computer user support specialists, which requires some college or an associate's degree and medium-term on-the-job training, with 620 annual openings and a median wage of \$50,890. Similarly, automotive service technicians and mechanics have 280 annual openings and offer a median wage of \$48,790, reflecting the consistent demand for skilled trades in the automotive industry.

Many in-demand occupations in Montana only require a high school diploma or less and still offer high wages. These positions often require some level of prior work experience, one month to one year of on-the-job training, or a registered apprenticeship credential. Figure 13 illustrates the top occupations that earn \$45,000 or more and require a high school diploma or less.

FIGURE 13: Top Ten Occupations Earning Over \$45,000 that Require a High School Education or Less, 2023-2033

Rank	Occupation	Minimum Requirements		Annual Openings			Total Openings	MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers		
1	Construction Laborers	<HSE	ST OJT	150	220	330	700	\$47,590
2	Carpenters	HSE	Appren	130	230	310	670	\$50,340
3	First-Line Supervisors of Retail Sales Workers	HSE	<5 yrs	30	240	370	640	\$47,480
4	First-Line Supervisors of Construction Trades and Extraction Workers	HSE	5+ yrs	130	210	290	640	\$76,130
5	Sales Reps, Wholesale and Manufacturing, Except Technical and Scientific Products	HSE	MT OJT	50	150	250	460	\$57,470
6	First-Line Supervisors of Office and Admin Support Workers	HSE	<5 yrs	10	190	240	440	\$59,230
7	Operating Engineers and Other Construction Equipment Operators	HSE	MT OJT	80	140	220	430	\$58,550
8	Electricians	HSE	Appren	80	120	190	380	\$64,590
9	Plumbers, Pipefitters, and Steamfitters	HSE	Appren	50	80	140	270	\$77,520
10	Logging Equipment Operators	HSE	MT OJT	30	80	160	270	\$50,360

Source: MTDLI Employment Projections. 2023-2033. Notes: <HSE = less than high school diploma; HSE = High school diploma or equivalent; Appren = Apprenticeship; ST OJT = short-term on-the-job training; MT OJT = medium-term on-the-job training; 5+ yrs = five or more years of experience; <5 yrs = less than five years of experience.

Construction laborers top the list with 700 annual openings and a median wage of \$47,590. This role requires short-term on-the-job training and offers significant employment opportunities. Carpenters, part of Montana’s registered apprentice program, have 670 annual openings and a median wage of \$50,340, reflecting the demand for skilled trades in the construction industry. Similarly, electricians and plumbers, both requiring apprenticeship training, have 380 and 270 annual openings, respectively, with median wages of \$64,590 for electricians and \$77,520 for plumbers.

Supervisory roles also feature prominently among high-wage occupations. First-line supervisors of retail sales workers have 640 annual openings and a median wage of \$47,480, while first-line supervisors of construction trades and extraction workers enjoy a median wage of \$76,130 with 640 annual openings. These positions typically require several years of work experience in addition to a high school diploma.

Obtaining an advanced degree can lead to significant wage gains and open up opportunities in high-demand fields. Montana offers numerous such opportunities, particularly in healthcare, legal, and educational sectors. Figure 14 highlights the top ten occupations requiring an advanced degree by projected annual openings from 2023 to 2033.

FIGURE 14: Top Ten Occupations Requiring an Advanced Degree, 2023-2033

Rank	Occupation	Minimum Requirements		Annual Openings			Total Openings	MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers		
1	Lawyers	Phd or Prof		40	70	40	160	\$94,770
2	Nurse Practitioners	Master		50	20	20	100	\$127,570
3	Physical Therapists	Phd or Prof		30	30	20	90	\$85,020
4	Healthcare Social Workers	Master	Intern	10	30	40	80	\$58,060
5	Physician Assistants	Master		30	20	20	70	\$131,340
6	Pharmacists	Phd or Prof		10	30	20	70	\$133,480
7	Education Administrators, K-12	Master	5+ yrs	0	20	30	60	\$98,490
8	Librarians and Media Collections Specialists	Master		0	30	20	60	\$59,970
9	Ed, Guidance, Career Counselors & Advisors	Master		0	20	30	60	\$59,860
10	Health Teachers, Postsecondary	Phd or Prof	<5 yrs	10	20	20	50	\$101,860

Source: MTDLI Employment Projections, 2023-2033. Notes: Intern = Internship; Master = Master's degree; PhD or Prof = Doctoral or professional degree; 5+ yrs = five or more years of experience; <5 yrs = less than five years of experience.

Lawyers lead the list with 160 annual openings and a median wage of \$94,770. This profession typically requires a professional degree and provides a solid return on investment in education. Nurse practitioners, who need a master's degree, are also in high demand, with 100 annual openings and a median wage of \$127,570. This role offers a substantial wage premium for advanced education and plays a critical part in the healthcare system.

Physical therapists, requiring a professional degree, have 90 annual openings and a median wage of \$85,020, reflecting the growing need for rehabilitation services in an aging population. Physician assistants and pharmacists, both requiring master's or professional degrees, also offer lucrative wages at \$131,340 and \$133,480, respectively.

Healthcare Occupations in High Demand

Making up 15% of payroll employment, healthcare and social assistance is Montana's largest industry by employment and is expected to see significant growth from 2023 to 2033. The two main factors driving the increased demand for healthcare workers are Montana's aging population and continued in-migration. Montana's healthcare industry is projected to add 1,310 new jobs per year, on average, over the next decade. Figure 15 illustrates the top 10 healthcare occupations by the number of annual openings.

FIGURE 15: Top Ten Healthcare Occupations, 2023-2033

Rank	Occupation	Minimum Requirements		Annual Openings			Total Openings	MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers		
1	Home Health and Personal Care Aides	HSE	ST OJT	280	840	700	1,830	\$30,740
2	Nursing Assistants	PS ND		60	360	440	860	\$37,970
3	Registered Nurses	Bach		130	380	230	740	\$79,170
4	Medical Assistants	PS ND		50	110	180	340	\$44,040
5	Dental Assistants	PS ND		20	90	140	250	\$44,400
6	Licensed Practical and Vocational Nurses	PS ND		30	90	80	190	\$55,840
7	Veterinary Assistants and Laboratory Animal Caretakers	HSE	ST OJT	20	40	90	150	\$35,490
8	Pharmacy Technicians	HSE	MT OJT	20	60	70	150	\$43,050
9	Massage Therapists	PS ND		20	40	40	100	\$59,400
10	Nurse Practitioners	Master		50	20	20	100	\$127,570

Source: MTDLI Employment Projections, 2023-2033. Notes: HSE = High school diploma or equivalent; PS ND = Postsecondary no degree; Bach = Bach degree; Master = Master's degree; ST OJT = short-term on-the-job training; MT OJT = medium-term on-the-job training.

The occupation with the most openings is home health and personal care aides, requiring a high school education and short-term on-the-job training, with 1,830 annual openings and a median wage of \$30,740. Other key occupations include nursing assistants, with 860 annual openings and a median wage of \$37,970, and registered nurses, with 740 annual openings and a median wage of \$79,170. Many top healthcare occupations require some post-secondary education, but not necessarily a bachelor's degree.

Occupational Demand – STEM

The STEM field (science, technology, engineering, and mathematics) is one of the most rapidly growing and highest-paying areas of the economy. Jobs in STEM will be vital to Montana's economic growth. Projected openings for Montana's top STEM occupations are shown in Figure 16. These occupations include healthcare roles, computer-related jobs, and engineering positions. Notable computer occupations topping the list include computer user support specialists, with 620 annual openings and a median wage of \$50,890, and software developers, with 220 annual openings and a median wage of \$109,270. Other significant occupations include medical and health services managers, with 270 annual openings and a median wage of \$102,910, civil engineers, with 140 annual openings and a median wage of \$80,140, and nurse practitioners, with 100 annual openings and a median wage of \$127,570.

FIGURE 16: Top Ten STEM Occupations Montana, 2023-2033

Rank	Occupation	Minimum Requirements			Annual Openings			MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers	Total Openings	
1	Registered Nurses	Bach		130	380	230	740	\$79,170
2	Computer User Support Specialists	SC AS	MT OJT	60	210	350	620	\$50,890
3	Medical and Health Services Managers	Bach	<5 yrs	90	80	110	270	\$102,910
4	Software Developers	Bach		80	40	90	220	\$109,270
5	Forest and Conservation Techs	SC AS		0	40	140	190	\$51,880
6	Licensed Practical and Vocational Nurses	PS ND		30	90	80	190	\$55,840
7	Computer Network Support Specialists	SC AS	MT OJT	20	60	100	180	\$59,240
8	Civil Engineers	Bach		20	40	70	140	\$80,140
9	Nurse Practitioners	Master		50	20	20	100	\$127,570
10	Dental Hygienists	SC AS		20	50	20	90	\$90,210

Source: MTDLI Employment Projections, 2023-2033. Notes: SC AS = Some college or Associate's; PS ND = Postsecondary no degree; Bach = Bach degree; Master = Master's degree; MT OJT = medium-term on-the-job training; <5 yrs = less than five years of experience.

Occupational Demand - Apprenticeships

Apprenticeships are a crucial and expanding training model for building a skilled workforce in Montana. The state's apprenticeship program continues to train workers for skilled, high-wage jobs through partnerships with business sponsors across the state. Figure 17 highlights the top ten apprenticeable occupations by projected annual openings from 2023 to 2033. While not every position is currently filled through apprenticeships, these occupations have significant potential for apprenticeship training. The leading occupations include restaurant cooks, bookkeeping and accounting clerks, and heavy and tractor-trailer truck drivers.

FIGURE 17: Top Ten Occupations with Apprenticeships in Montana, 2023-2033

Rank	Occupation	Minimum Requirements		Annual Openings			Total Openings	MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers		
1	Cooks, Restaurant	<HSE	MT OJT	210	530	630	1,370	\$34,880
2	Bookkeeping, Accounting, and Auditing Clerks	SC AS	MT OJT	30	610	480	1,120	\$42,710
3	Heavy and Tractor-Trailer Truck Drivers	PS ND	ST OJT	100	390	500	980	\$56,610
4	Nursing Assistants	PS ND		60	360	440	860	\$37,970
5	Registered Nurses	Bach		130	380	230	740	\$79,170
6	Construction Laborers	<HSE	ST OJT	150	220	330	700	\$47,590
7	Carpenters	HSE	Appren	130	230	310	670	\$50,340
8	Computer User Support Specialists	SC AS	MT OJT	60	210	350	620	\$50,890
9	Maintenance and Repair Workers, General	HSE	MT OJT	60	250	260	570	\$42,000
10	Childcare Workers	HSE	ST OJT	20	210	270	490	\$29,090

Source: MTDLI Employment Projections, 2023-2033. Notes: <HSE = less than high school diploma; HSE = High school diploma or equivalent; SC AS = Some college or Associate's; PS ND = Postsecondary no degree; Appren = Apprenticeship; Bach = Bach degree; ST OJT = short-term on-the-job training; MT OJT = medium-term on-the-job training.

Apprenticeship continues to grow in popularity in Montana, providing valuable training for high-wage, high-demand occupations. However, there is still significant potential for expansion into other lucrative fields that currently lack apprenticeship programs. Figure 18 highlights the top ten apprenticeable occupations in the U.S. that are not yet apprenticed in Montana but offer median wages above \$45,000.

The most in-demand occupation is general and operations managers, with 970 annual openings and a median wage of \$84,990. This is followed by first-line supervisors of retail sales workers, with 640 annual openings and a median wage of \$47,480, and accountants and auditors, with 400 annual openings and a median wage of \$67,190.

FIGURE 18: Top Ten U.S. Apprenticeable Occupations Not Yet Apprenticed in Montana, 2023-2033

Rank	Occupation	Minimum Requirements		Annual Openings			Total Openings	MT Median Wage
		Educ	Work Exp	New Jobs	Exits	Transfers		
1	General and Operations Managers	Bach	5+ yrs	130	260	570	970	\$84,990
2	First-Line Supervisors of Retail Sales Workers	HSE	<5 yrs	30	240	370	640	\$47,480
3	Accountants and Auditors	Bach		60	140	210	400	\$67,190
4	First-Line Supervisors of Mechanics, Installers, and Repairers	HSE	<5 yrs	30	110	120	260	\$73,320
5	Market Research Analysts and Marketing Specialists	Bach		40	60	120	230	\$69,380
6	Human Resources Specialists	Bach		30	70	130	220	\$58,560
7	Software Developers	Bach		80	40	90	220	\$109,270
8	Food Service Managers	HSE	ST OJT	20	60	120	200	\$59,740
8	Management Analysts	Bach	<5 yrs	30	70	90	200	\$78,660
10	Project Management Specialists	Bach		40	50	100	180	\$79,160

Source: MTDLI Employment Projections, 2023-2033. Notes: HSE = High school diploma or equivalent; Bach = Bach degree; ST OJT = short-term on-the-job training; 5+ yrs = five or more years of experience; <5 yrs = less than five years of experience.

Conclusion

Montana's labor market will continue to experience robust demand for workers, driven by long-term employment growth and significant labor force exits due to an aging population. This publication from the Montana Department of Labor & Industry outlines critical occupations projected to be in high demand and identifies key areas for workforce training. It serves as an essential guide for individuals considering a career change or starting their career journey, offering valuable insights to make informed decisions and explore pathways to well-paying, in-demand jobs. For a more interactive experience with the projections data, visit our projections dashboard at lmi.mt.gov/Projections.

Appendix A - Methodology

The Data and Operations Bureau of the Montana Department of Labor & Industry produces projections of employment growth by industry and occupation. The Department uses the methodologies recommended by the U.S. Department of Labor, ensuring accurate and consistent methodology across timelines and the most updated practices used among states.

Employment Projections

The employment projections are produced as a part of a contract with the Employment and Training Administration of the U.S. Department of Labor using the nationally recommended methodology for employment forecasts and the programs provided by the Projections Managing Partnership. The employment projections are published on the state labor market information website at lmi.mt.gov, and are also published nationally on the Employment and Training Administration's website at projectionscentral.com.

The projections are based on historic employment data from January 1990 to December 2023. The primary data source for the Montana industry employment projections is the Quarterly Census of Employment and Wages (QCEW), which is published jointly by the Bureau of Labor Statistics and the Montana Department of Labor & Industry. The QCEW covers payroll employment in Montana and is considered the most accurate data source because it is an actual count of employment from the wage records reported to Unemployment Insurance. The QCEW data is aggregated into the North American Industrial Classification System (NAICS) industries. For Montana's statewide and regional forecasts industry employment projections, two-digit NAICS industries are used.

All industries include only private employment except for the healthcare and education industries, which includes both public and private employment. Therefore, the government industry includes all public employment except for workers in the healthcare and education industries. The treatment of public healthcare and education employment is consistent with national recommendations from the Employment and Training Administration of the U.S. Department of Labor.

Industry forecasts are developed by comparing various functional forms of time series models, which use past employment trends to predict employment in the future, with fit and analyst insight determining the appropriate model. Fit is determined using historic data. Industry projections are compared against the Montana forecasts developed by S&P Global and against other publicly available employment forecasts.

The total employment level is also estimated using a time series model. Data from the Local Area Unemployment Statistics (LAUS) is used to produce the total employment projection. The LAUS data is a model-based estimate that utilizes the national Current Population Survey to calculate the labor force and employment in Montana. Conceptually, the difference between the LAUS total employment estimate and the QCEW payroll employment number is the level of self-employment in Montana. Therefore, the difference between the two forecasts becomes the forecast for self-employment in Montana. The total employment and payroll employment forecasts are estimated using both a top-down and bottom-up approach with manual adjustment for internal consistency of forecasts.

Once industry forecasts are finalized, the industry employment is disaggregated into occupations using a third data source, the Occupational Employment Statistics (OES). The OES is a survey-based employment estimate that categorizes employment by occupation. The OES provides staffing patterns for each industry, which are used to disaggregate the industry projections into each occupation. For example, if registered nurses are currently 12% of the healthcare industry and 3% of the education industry, the forecast for the occupation of registered nurses would sum 12% of the expected employment in healthcare and 3% of the expected employment in education.

However, this process is complicated by change factors, which adjust the staffing patterns for expected changes in occupational mix in the upcoming ten years. The change factors are calculated at the national level by the Bureau of Labor Statistics with some occupations edited at the state level to adapt to Montana's economic conditions. Change factors adjust the current staffing patterns for predicted changes in future business practices. For example, if registered nurses comprise 12% of the healthcare industry in the current timeframe but are expected to comprise 14% of the healthcare industry in future years, the change factor would slowly change the amount of projected healthcare employment dedicated to registered nurses over the ten-year time frame.

The self-employed staffing pattern is developed following the averages of the state and national occupational data adjusted for the likelihood of the occupation being self-employed. The staffing pattern is automatically generated using national and state level data but is also manually adjusted using analyst insight. Analysts base those adjustments on self-employed occupation data from the Current Population Survey, data on farmers from the U.S. Department of Agriculture, and the Bureau of Economic Analysis's personal income accounts.

The Montana Department of Labor & Industry does not produce error ranges for the employment forecasts, although greater consistency is one of the criteria used when selecting the appropriate time series model for each industry. Some industries and occupations have stable growth paths that can be predicted with a great deal of certainty, while other industries are more susceptible to changing economic conditions. Employment growth in retail trade has continued a very steady pace over the last twenty years as Montana's population has grown. The constant steady growth gives greater confidence in the forecasted employment levels. In contrast, employment in the mining industry varies considerably with changing global prices for oil, energy, and commodities. Price changes at the global level are often difficult to predict, making the employment forecast for this industry uncertain.

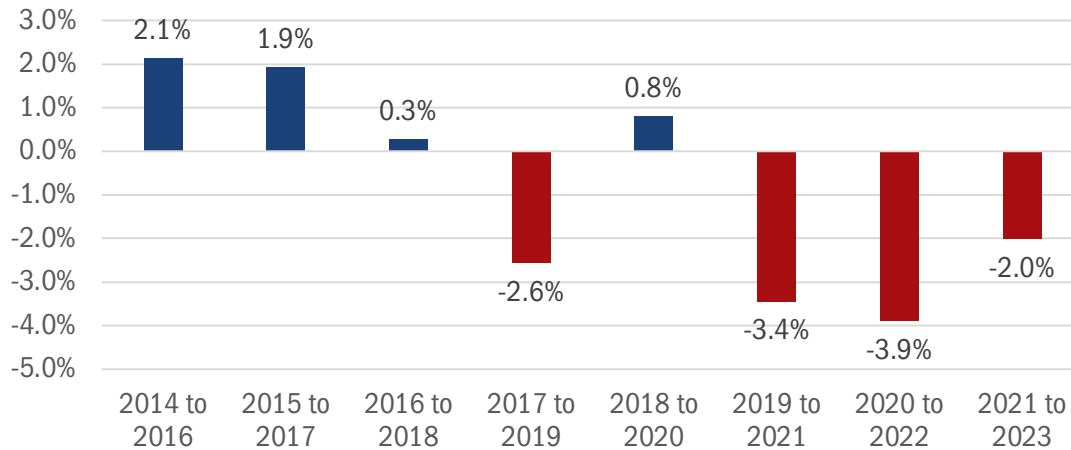
Knowing about forecast uncertainty helps to interpret the employment forecasts more appropriately. As an example, the 2023-2033 employment forecasts suggested there will be about 740 openings annually for registered nurses. In comparison, we expect only 250 openings per year for dental assistants. While neither estimate is likely to be correct, there is a greater demand for nurses than dental assistants (although both occupations are growing). The greater demand for nurses will persist even if the economy undergoes a structural shift or experiences a large recession. The relative demand of occupations is more stable and of greater certainty than the numerical demand.

Additional caveats are important to understand the projections as well. The employment projections do not account for current unfilled positions, but for the new job openings that are expected in the future. For example, if there were currently 500 unfilled openings for welders in Montana, and roughly 60 openings are expected next year, the worker demand here only presents the 60 openings expected, not the total 520 openings available for workers in the next year. In general, occupations with longer training times and faster expected growth will also be the occupations with greater unfilled demand.

Appendix B – Accuracy of Past Forecasts

Employment projections are updated annually as part of a contract with the Employment and Training Administration of the U.S. Department of Labor. The use of nationally recommended methodologies ensures accuracy and consistency across timelines, reflecting the most updated practices used among states. On average, MTDLI’s total employment projection is off by approximately 2% after two years (Figure 19). Prior to the pandemic, forecasts tended to overestimate employment. Following 2020, projections have been lower than actual employment, likely due to unprecedented in-migration and the unexpectedly rapid recovery from the pandemic's effects.

FIGURE 19: MTDLI Total Employment Error



Source: MTDLI Two-year projections 2014-2021.

Montana’s employment projection has been off by less than 1% a year later. As the economy has returned to more stable growth post-pandemic, the total employment forecast for 2023 was off by just 0.67% (Figure 20). However, many industries were under-projected as employment growth in 2023 continues to outpace expectations. This surge in growth was partially due to high in-migration and the economy’s unexpected resilience in the face of high inflation and rising interest rates. Notable overperforming industries included healthcare, education, arts & entertainment, wholesale trade, and professional and technical industries.

FIGURE 20: Accuracy of 2022-2032 Industry Forecasts in 2023

Industry	2022-2032 Projection for 2023	Actual 2023	Projection Minus Actual	% Difference (Absolute Value)
Retail Trade	62,199	62,442	-243	0.39%
Professional & Technical	28,258	28,386	-128	0.45%
Other	18,713	18,828	-115	0.61%
Construction	37,162	36,814	348	0.95%
Admin & Support Services	20,786	21,012	-226	1.08%
Wholesale Trade	18,650	18,864	-214	1.13%
Agriculture	7,031	6,940	91	1.31%
Accommodation & Food	59,126	59,928	-802	1.34%
Local Government	21,325	21,643	-318	1.47%
Finance	17,327	17,063	264	1.55%
Healthcare	75,460	76,689	-1,229	1.60%
Education	40,118	40,780	-662	1.62%
Arts & Entertainment	12,314	12,528	-214	1.71%
Postal Service	1,961	1,996	-35	1.75%
Transportation & Warehousing	16,630	16,331	299	1.83%
Manufacturing	22,244	21,776	468	2.15%
Utilities	2,824	2,888	-64	2.22%
Information	5,744	5,603	141	2.52%
Real Estate	7,114	6,925	189	2.73%
Management	2,041	2,103	-62	2.95%
State Government	12,254	12,642	-388	3.07%
Federal Government	9,677	10,157	-480	4.73%
Mining	6,434	6,768	-334	4.93%
Payroll Employment	506,627	510,626	-3,999	0.78%
Total Employment	561,262	557,510	3,752	0.67%

Source: MTDLI QCEW and 2022-2032 Employment Projections