Montana Postsecondary Workforce Report

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Statewide College Report- Update

Initial report published in 2017

Update released Oct 2022

Research topics include:

1. Graduate workforce outcomes
2. Supply and Demand Analysis
Graduates from 2001-02 to 2019-20

~ 145,000 graduates

~ 170,000 degrees

36 post-secondary institutions*

Source: 2022 MTDLI Statewide College Report.
* = Tribal and Vocational programs not included in workforce outcomes
Higher Education System Contribution

11,700 Graduates per year on average

74% of graduates work in Montana sometime in the ten years after graduation

Graduates work in every county in the state

Source: 2022 Montana Postsecondary Workforce Report
Graduate Workforce Outcomes

Source: DOR, OCHE MUS, RMC, CC, UP, and apprenticeship income data match summarized by MTDLI. Income is defined as lines 7, 12, 17, and 18 on the MT income tax return.
Employers value work experience.

87% of graduates with prior work experience work in Montana a year after graduation. Compared to 47% among non-incumbents.

$11,000 Wage premium for graduates with prior work experience a year after graduation. Diminishes to $4,000 ten years after graduation.

Most (56%) graduates have prior work experience.

Source: MTDLI, OCHE, RMC, CC, UP, and apprenticeship graduate data wage match. Real wages reported in 2021 dollars using the CPI-U. Incumbent workers were employed at least two quarters per year five years before graduating.
## FIGURE 1.8
Workforce Outcomes of Graduates by Degree

<table>
<thead>
<tr>
<th>Degree</th>
<th>1 Year After</th>
<th></th>
<th>10 Years After</th>
<th></th>
<th>Annual Income Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Filing</td>
<td>Median Income</td>
<td>% Filing</td>
<td>Median Income</td>
<td></td>
</tr>
<tr>
<td>CTS &lt;1 year</td>
<td>79%</td>
<td>$26,818</td>
<td>64%</td>
<td>$37,412</td>
<td>4%</td>
</tr>
<tr>
<td>CAS &gt;1 year</td>
<td>85%</td>
<td>$28,250</td>
<td>72%</td>
<td>$41,096</td>
<td>4%</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>85%</td>
<td>$32,452</td>
<td>73%</td>
<td>$51,095</td>
<td>5%</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>67%</td>
<td>$28,584</td>
<td>52%</td>
<td>$52,883</td>
<td>7%</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>62%</td>
<td>$44,144</td>
<td>50%</td>
<td>$62,397</td>
<td>4%</td>
</tr>
<tr>
<td>Graduate Certificate</td>
<td>58%</td>
<td>$59,474</td>
<td>58%</td>
<td>$97,721</td>
<td>6%</td>
</tr>
<tr>
<td>Doctoral Degree</td>
<td>54%</td>
<td>$58,053</td>
<td>38%</td>
<td>$75,766</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: MTDLI, OCHE, RMC, CC, UP, and apprenticeship graduate data wage match. Real wages reported in 2021 dollars using the CPI-U. Percent filing resident or non-resident Montana income taxes.
Source: MTDLI, OCHE, RMC, CC, UP, and apprenticeship graduate data wage match. Wages reflect average real wages reported in 2021 dollars using the CPI-U. Apprenticeship includes all degree types. Work experience defined as working at least two quarters per year in the five years prior to graduation. All apprenticeship completers have work experience.
Income Drivers: Program of Study

High Wages:
- Engineering
- Computer Science
- Architecture

Low Wages:
- Liberal Arts
- Social Science
- Physical Science
- Communication

High Retention:
- Health Science
- Construction
- Business

Low Retention:
- Education
- Human Services

Source: 2022 Montana Postsecondary Workforce Report
10% of graduates choose to pursue further education *instead* of entering the labor market.

24% of graduates choose to pursue further education *and* enter the labor market.

Most graduates who pursue further education do so in-state.

Those who go out-of-state most commonly go to colleges in the west.
Review: Workforce Outcomes

• Most (75%) students work in Montana after graduation
  • 34% continue their education

• Income above statewide median
  • Higher earning for incumbent workers, apprenticeship completers, and select programs.
  • Positive returns to higher education

Are there enough graduates?
Demand:
Average number of job openings projected per year through 2030.

Supply:
Average number of graduates per year over the last four academic years.

Source: MTDLI Employment Projections, 2020-2030
Supply and Demand Analysis

62% of high-demand occupations are undersupplied

- Social Work and Mental Health
- Construction
- Early Childhood Education
- Healthcare Professionals (Graduate-Level)

Solution: More Graduates?

It depends...

Source: 2022 MTDLI Statewide College Report.
Why is a Job Undersupplied?

• Option 1: There aren’t enough graduates
  ➢ Increase post-secondary capacity

• Option 2: Graduates pursue different career
  ➢ Not a high-wage occupation

• Option 3: Graduates leave the state
  ➢ Montana not offering competitive wages compared to other states

And more....
Expansion Candidates

Focus on **undersupplied, high-wage, high-demand** occupations requiring some post-secondary education

<table>
<thead>
<tr>
<th>High-Wage</th>
<th>Low-Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrician</td>
<td>Early Childhood Education</td>
</tr>
<tr>
<td>Plumbers</td>
<td>Mental Health Counselor</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>Social Work</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>Nursing Assistant</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td></td>
</tr>
<tr>
<td>Software Developer</td>
<td></td>
</tr>
</tbody>
</table>

Source: 2022 MTDLI Statewide College Report.
Supply and Demand by Program

11,750 students graduating annually from 85 programs.

52% of programs are producing **enough graduates to meet or exceed** future workforce demand.

Source: 2022 MTDLI Statewide College Report.
Undersupplied Programs

1. Health Science
   • Nursing
   • Physical Therapy
   • Medical Assistants
   • Substance Abuse and Addiction Counseling

2. Education
   • Elementary Ed
   • Special Ed

3. Construction
   • Electrical
   • Plumbing
   • Heavy Equipment Operation

4. STEM
   • Computer and Info Systems

5. Humanities
   • Social Work
   • Law

Source: 2022 MTDLI Statewide College Report.
Regional Supply and Demand

Rural areas have the most significant unmet demand.

Only 22% of programs offered in the Eastern Region are meeting employer demand.

In-State migration provides key source of labor supply.

Source: MTDLI, OCHE, RMC, CC, UP, and apprenticeship graduate data wage match. Location at the time of graduation identified as the location of institution where the individual graduated. Location one year after graduation identified by the location of the graduate’s primary employer. Arrow shows net migration between regions.
More Information at lmi.mt.gov