Montana Postsecondary Workforce Report

Montana Department of
LABOR & INDUSTRY

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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

Montana Post-Secondary Workforce Report

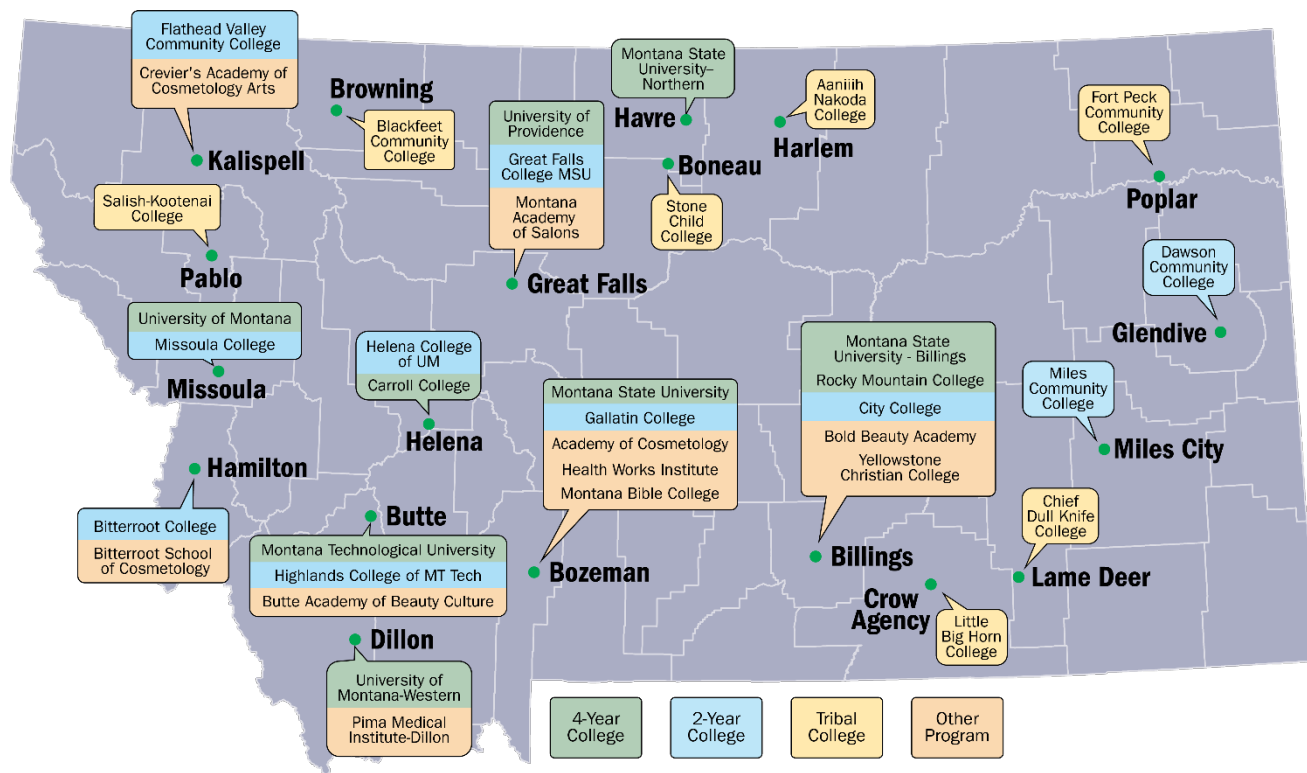A Report on Workforce Needs and Labor Market Outcomes of Graduates

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Post-Secondary Education System

Graduates from 2001-02 to 2019-20

~ 145,000 graduates

~ 170,000 degrees

36 post-secondary institutions*

Map of Montana post-secondary institutions:

- Flathead Valley Community College; Crevier's Academy of Cosmetology Arts — Kalispell
- Salish-Kootenai College — Pablo
- University of Montana; Missoula College — Missoula
- Bitterroot College; Bitterroot School of Cosmetology — Hamilton
- Blackfeet Community College — Browning
- Helena College of UM; Carroll College — Helena
- Montana Technological University; Highlands College of MT Tech; Butte Academy of Beauty Culture — Butte
- University of Montana-Western; Pima Medical Institute-Dillon — Dillon
- University of Providence; Great Falls College MSU; Montana Academy of Salons — Great Falls
- Montana State University; Gallatin College; Academy of Cosmetology; Health Works Institute; Montana Bible College — Bozeman
- Montana State University–Northern — Havre
- Stone Child College — Boneau
- Aaniiih Nakoda College — Harlem
- Montana State University - Billings; Rocky Mountain College; City College; Bold Beauty Academy; Yellowstone Christian College — Billings
- Little Big Horn College — Crow Agency
- Chief Dull Knife College — Lame Deer
- Miles Community College — Miles City
- Fort Peck Community College — Poplar
- Dawson Community College — Glendive

Legend: 4-Year College | 2-Year College | Tribal College | Other Program

Source: 2022 MTDLI Statewide College Report.
- = Tribal and Vocational programs not included in workforce outcomes

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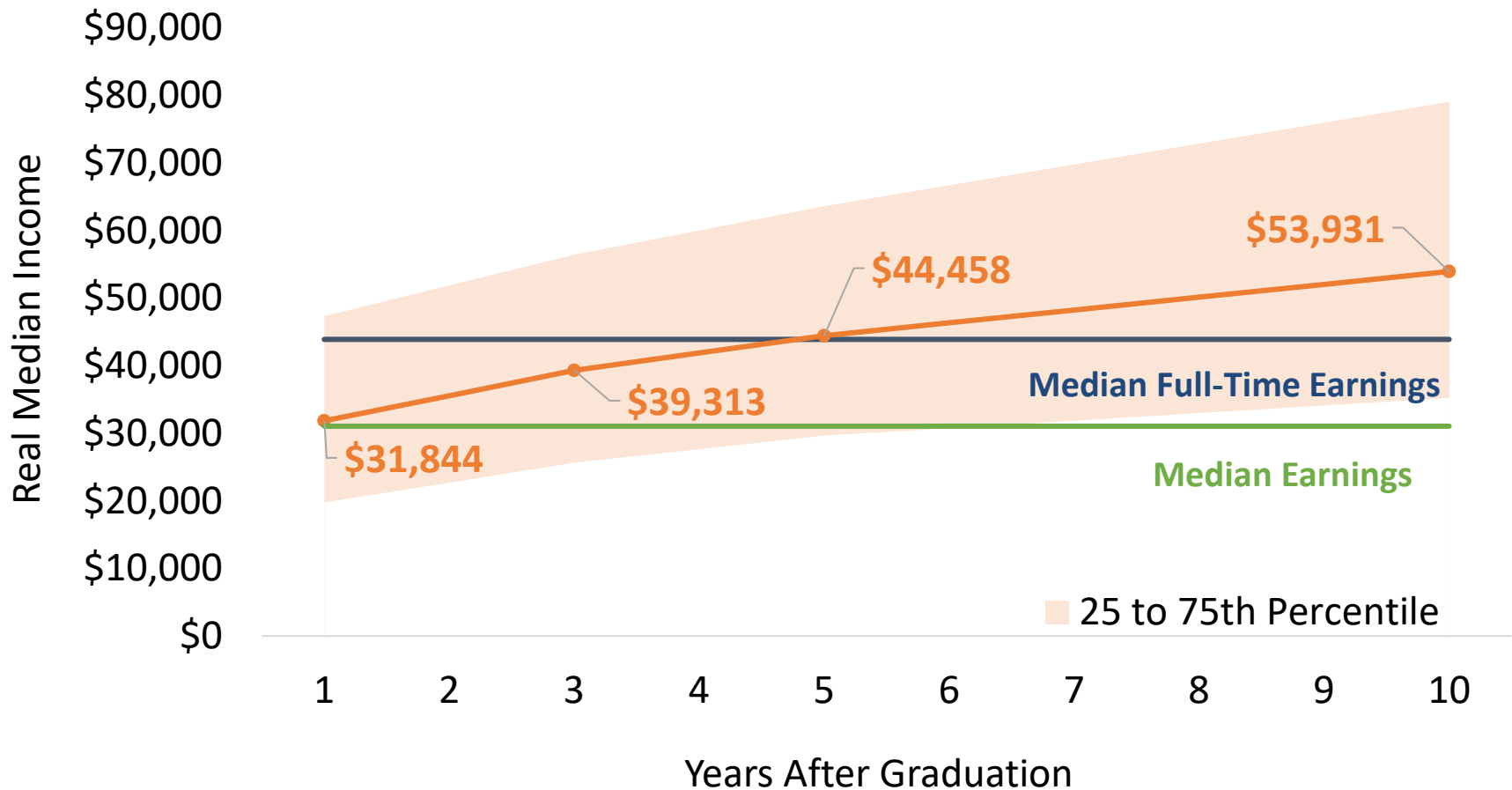
Higher Education System Contribution

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

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Graduate Workforce Outcomes

Real Median Income

$90,000
$80,000
$70,000
$60,000
$50,000
$40,000
$30,000
$20,000
$10,000
$0

$53,931

$44,458

$39,313

$31,844

Median Full-Time Earnings

Median Earnings

25 to 75th Percentile

1   2   3   4   5   6   7   8   9   10

Years After Graduation

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.

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Income Drivers: Work Experience

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.

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Income Drivers: Higher Education

Workforce Outcomes of Graduates by Degree

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

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Income Drivers: Apprenticeship

Average Real Wage vs. Years After Graduation

- Apprenticeship: $63,522 → $70,246
- Bachelors Degree Work Exp: $27,480 → $56,237
- Bachelors Degree No Exp: $20,150 → $52,886
- Associate Degree Work Exp: $31,318 → $48,601
- Associate Degree No Exp: $22,030 → $42,720

Legend:
- Apprenticeship
- Bachelors Degree Work Exp
- Associate Degree Work Exp
- Bachelors Degree No Exp
- Associate Degree No Exp

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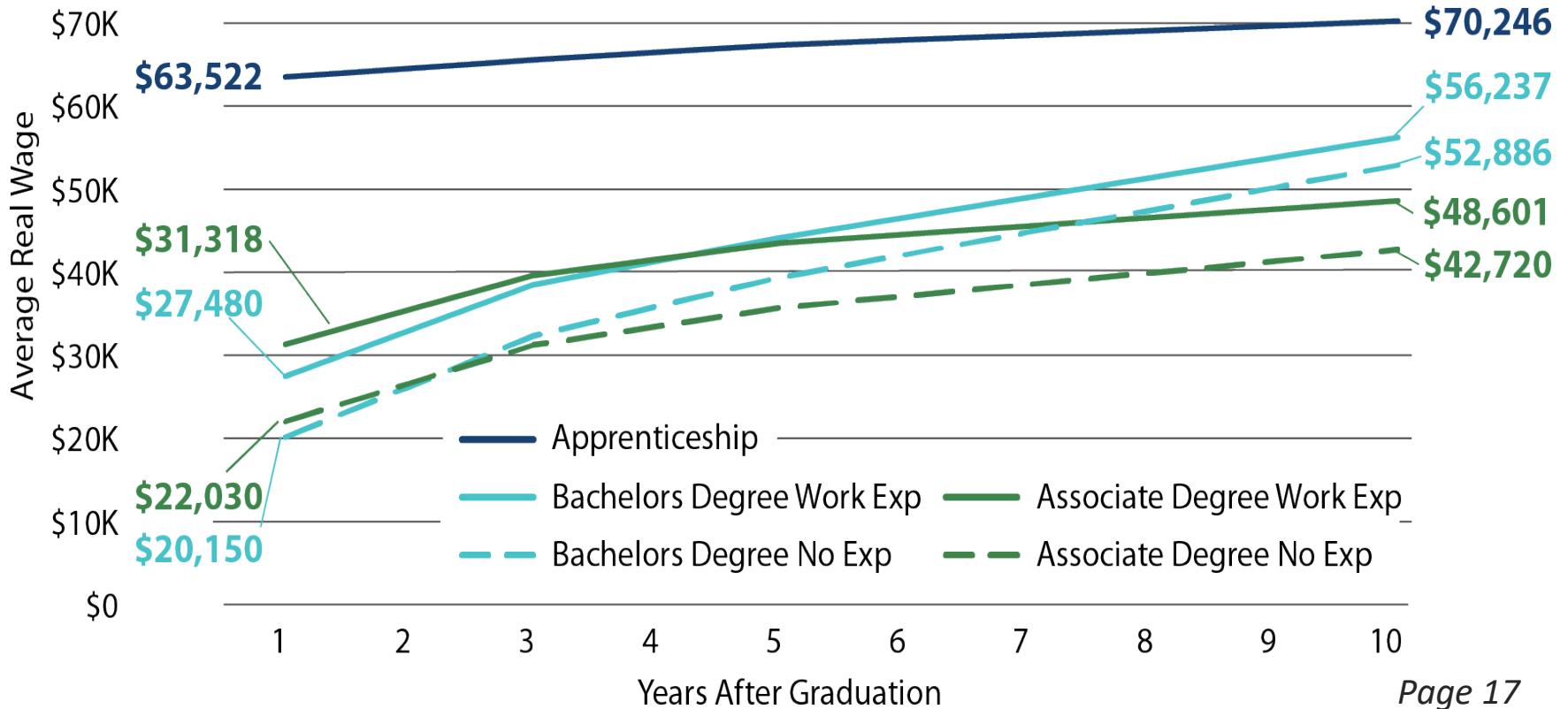
Source: *MTDLI, OCHE, RMC, CC, UP, and apprenticeship graduate data wage match. Wages reflect average real wages reported in 2021 dollars using the CPI-U. Apprenticeship includes all degree types. Work experience defined as working at least two quarters per year in the five years prior to graduation. All apprenticeship completer have work experience.*

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Income Drivers: Program of Study

Wages

High

Low

Engineering Computer Science Architecture	Health Science Construction Business
Liberal Arts Social Science Physical Science Communication	Education Human Services

Low **Retention** High

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Source: 2022 Montana Postsecondary Workforce Report
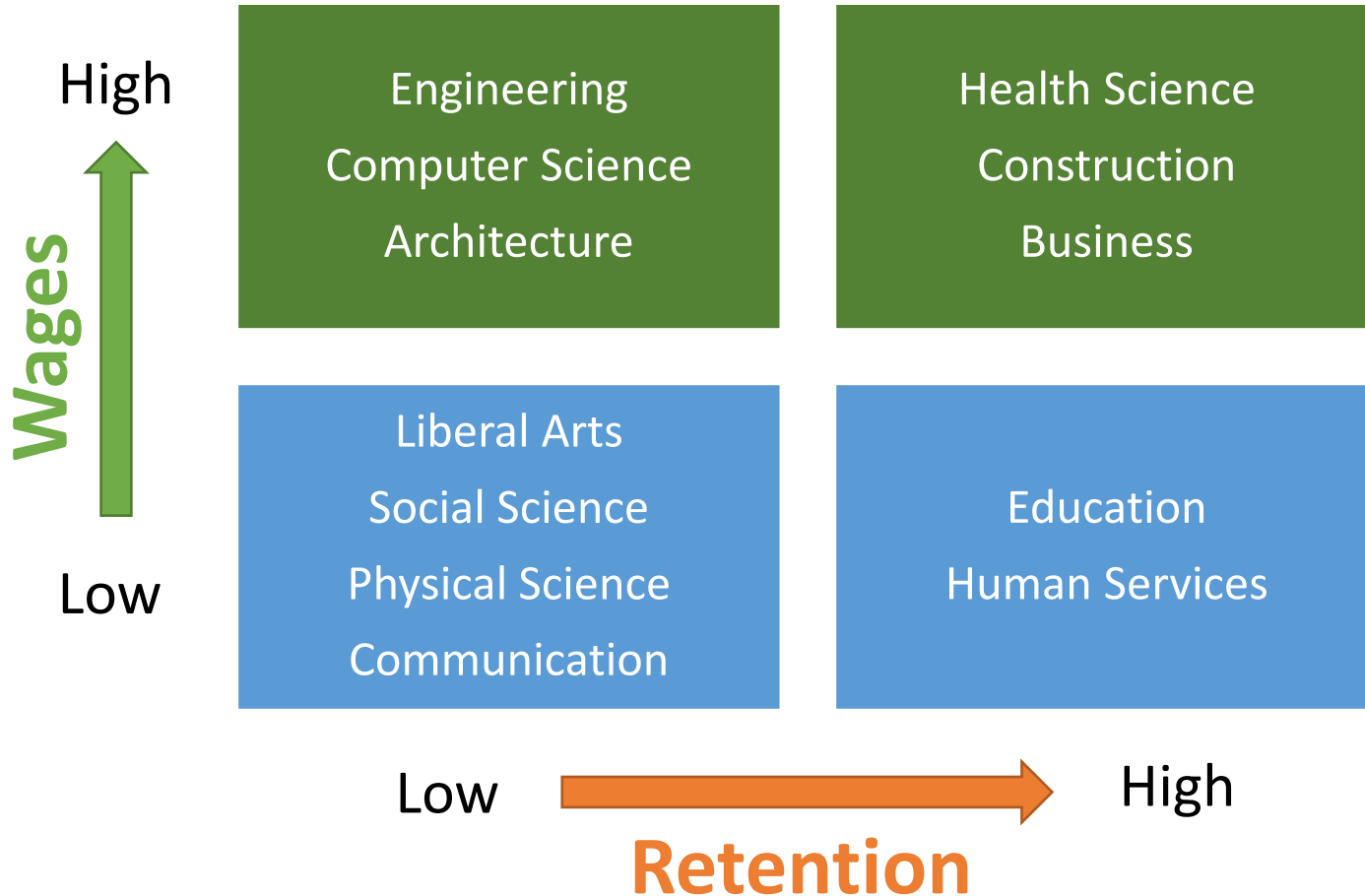
Continuing Education

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.

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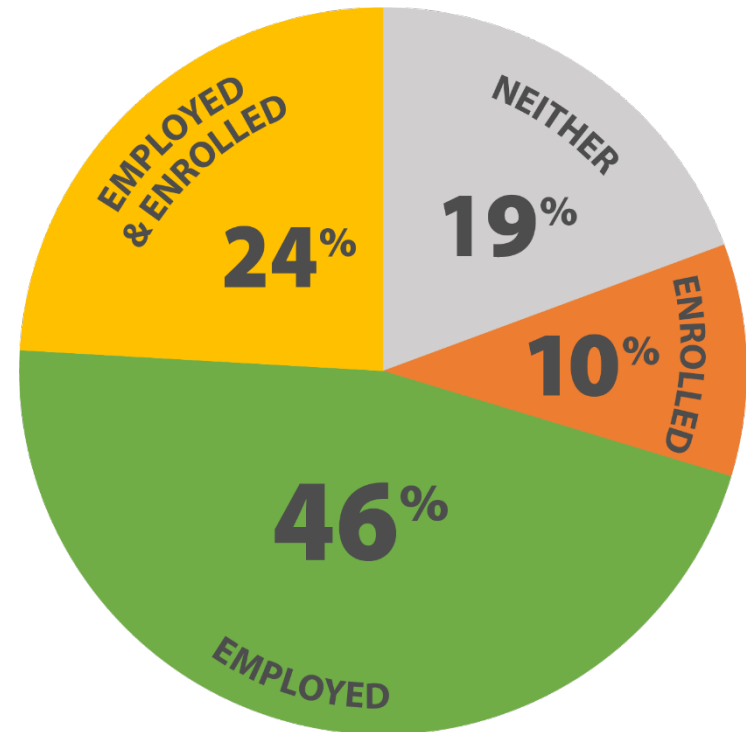
Review: Workforce Outcomes

- 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
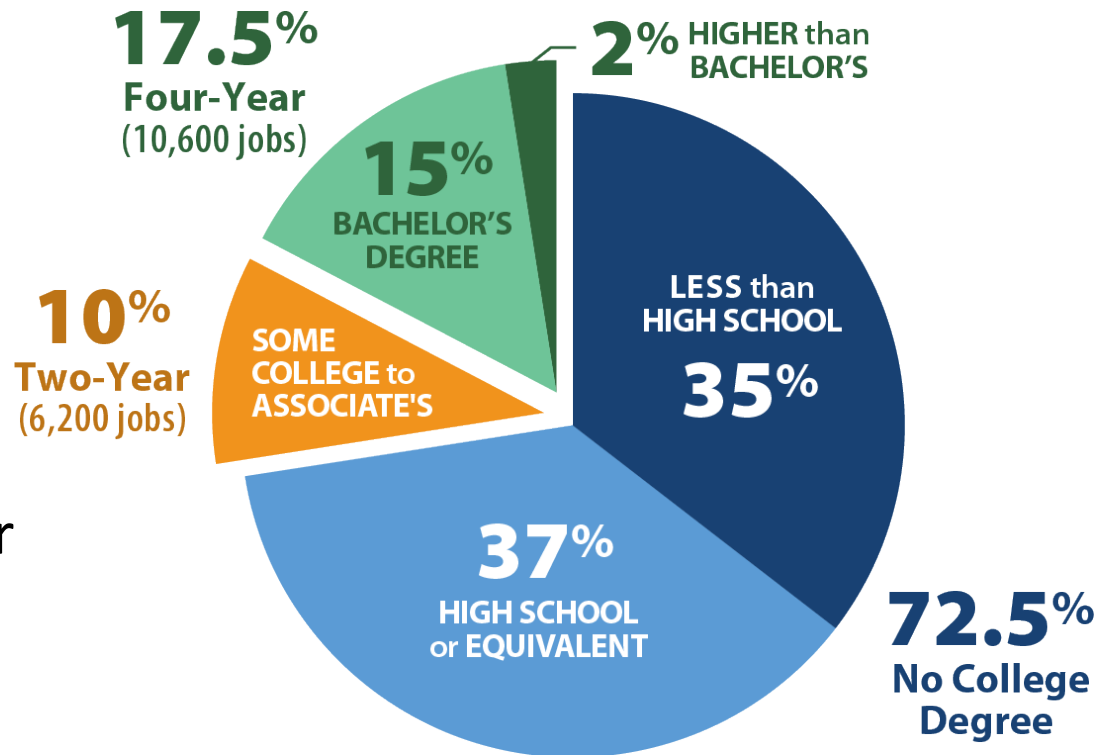
Are there enough graduates?

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Supply and Demand Analysis

DEMAND

Average number of job openings projected per year through 2030.

SUPPLY

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

17.5% Four-Year (10,600 jobs)

15% BACHELOR'S DEGREE

2% HIGHER than BACHELOR'S

10% Two-Year (6,200 jobs)

SOME COLLEGE to ASSOCIATE'S

LESS than HIGH SCHOOL **35%**

37% HIGH SCHOOL or EQUIVALENT

72.5% No College Degree

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…

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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….

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Expansion Candidates

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

| High-Wage	Low-Wage
Electrician	Early Childhood Education
Plumbers	Mental Health Counselor
Physical Therapy	Social Work
Physician Assistant	Nursing Assistant
Nurse Practitioner	
Software Developer	

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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.

OVER-SUPPLIED 21%

UNDER-SUPPLIED 48%

MEETS DEMAND 31%

Source: 2022 MTDLI Statewide College Report.
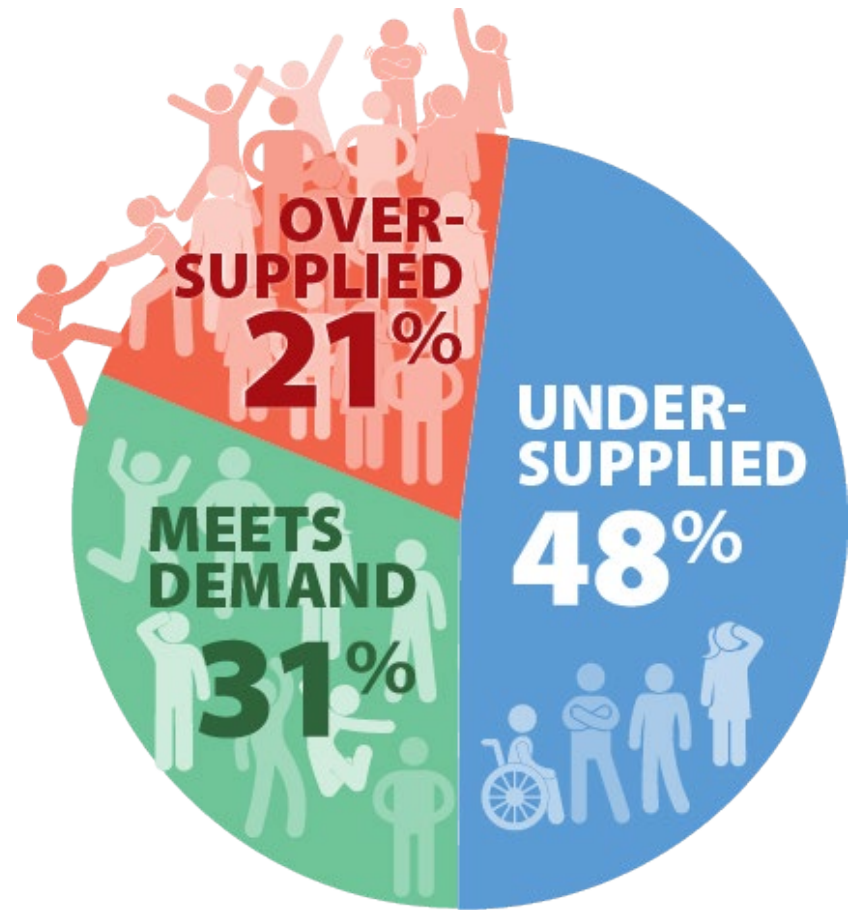
Undersupplied Programs

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

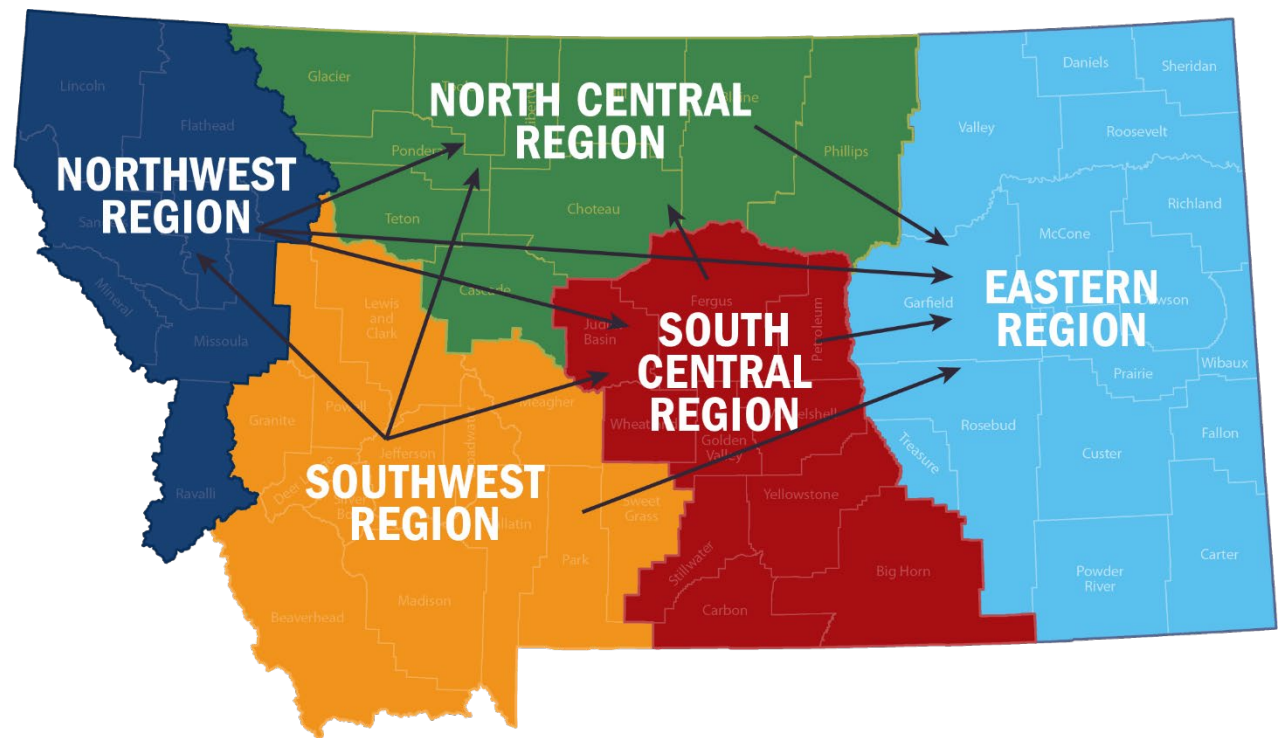5. Humanities
   - Social Work
   - Law

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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.

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More Information at
lmi.mt.gov