



# MONTANA POST-SECONDARY WORKFORCE REPORT

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# OUTLINE

## Graduate Workforce Outcomes

- Retention in MT Workforce
- Wage and income progression
- By degree, program, and industry

## Supply and Demand Analysis

- By Occupation
- By Program of Study
- By Region

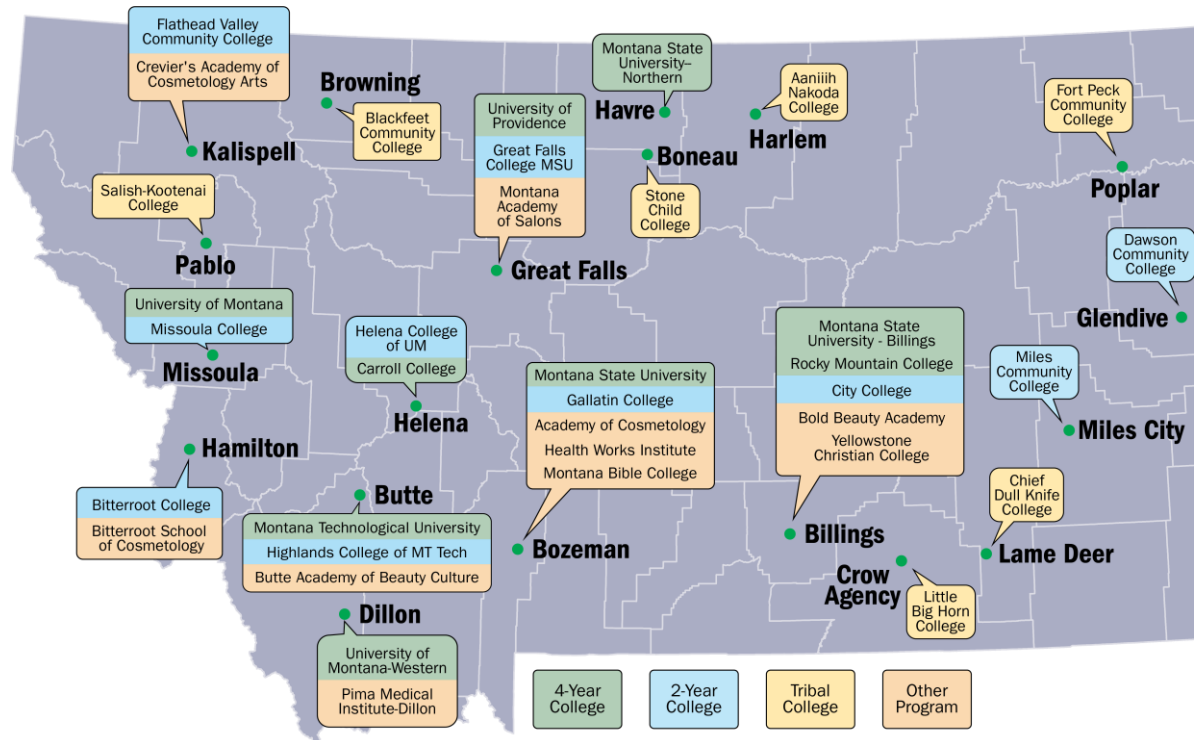


# Montana Post-Secondary Workforce Report

A Report on Workforce Needs and  
Labor Market Outcomes of Graduates

# POST-SECONDARY EDUCATION SYSTEM

- Graduates from 2001-02 to 2019-20
- ~ 145,000 graduates
- ~ 170,000 degrees
- 36 post-secondary institutions\*



**MONTANA UNIVERSITY SYSTEM**

SOURCE: 2022 MTDLI STATEWIDE COLLEGE REPORT

\*=TRIBAL AND VOCATIONAL PROGRAMS NOT INCLUDED IN WORKFORCE OUTCOMES





## GRADUATE WORKFORCE OUTCOMES

How well do graduates from the post-secondary education system fare in the Montana workforce?

## HIGHER EDUCATION SYSTEM CONTRIBUTION

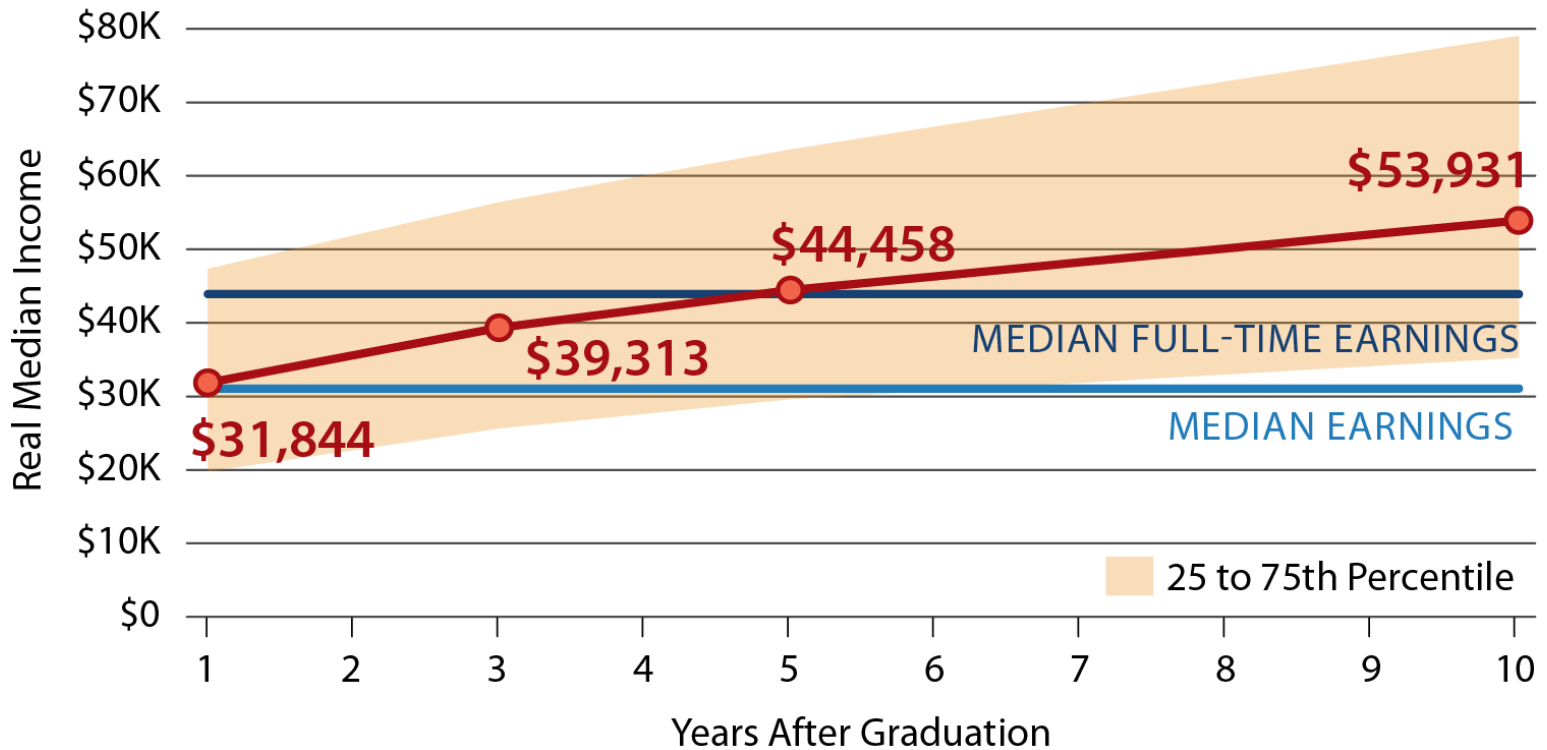


**11,700** grads per year on average.

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

Graduates work in **every** county in the state.

# GRADUATE INCOME PROGRESSION (10 YEARS)



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.

## 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.

**56%** of 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.

# INCOME DRIVERS: HIGHER EDUCATION

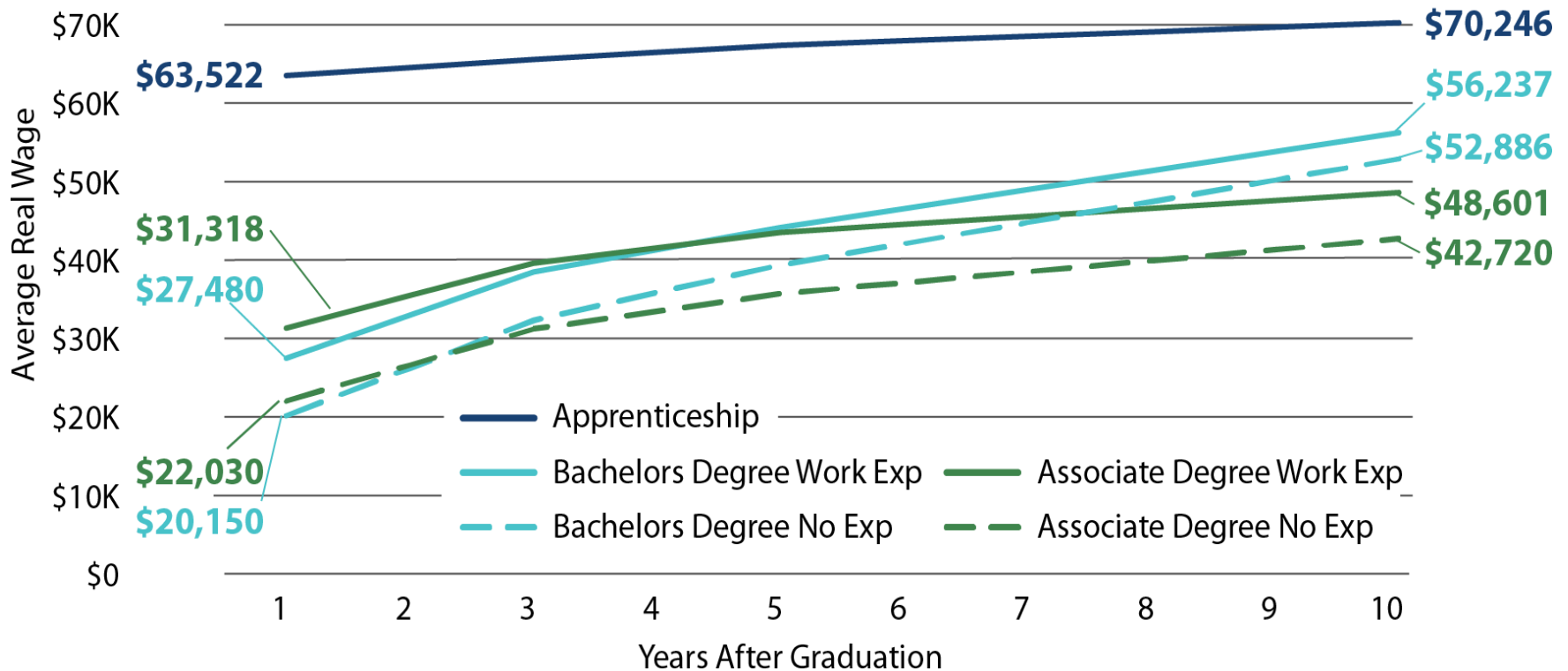
## Workforce Outcomes of Graduates by Degree

	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%

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.



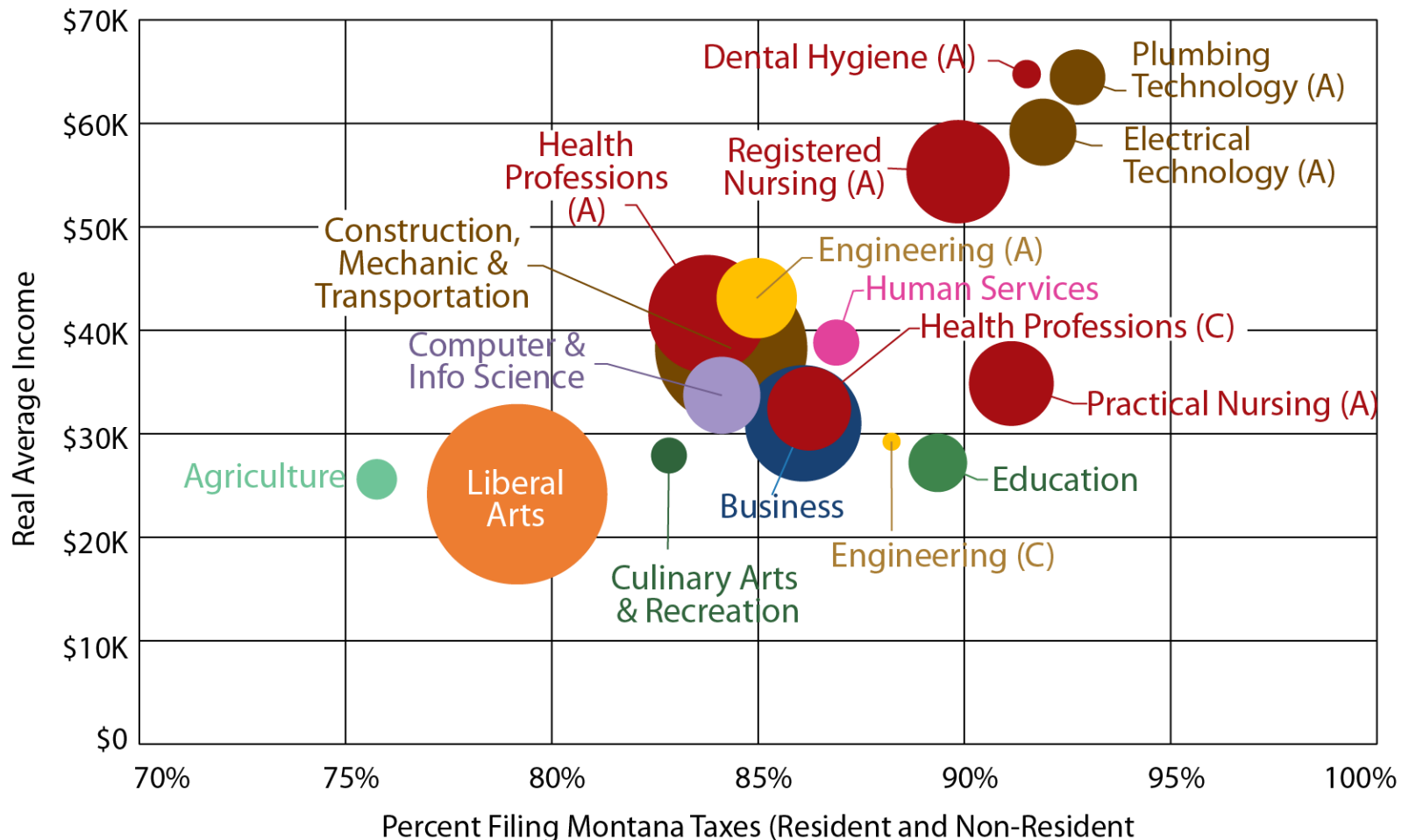
# HIGHER EARNINGS FOR APPRENTICESHIP



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.

# ASSOCIATE AND CERTIFICATE OUTCOMES

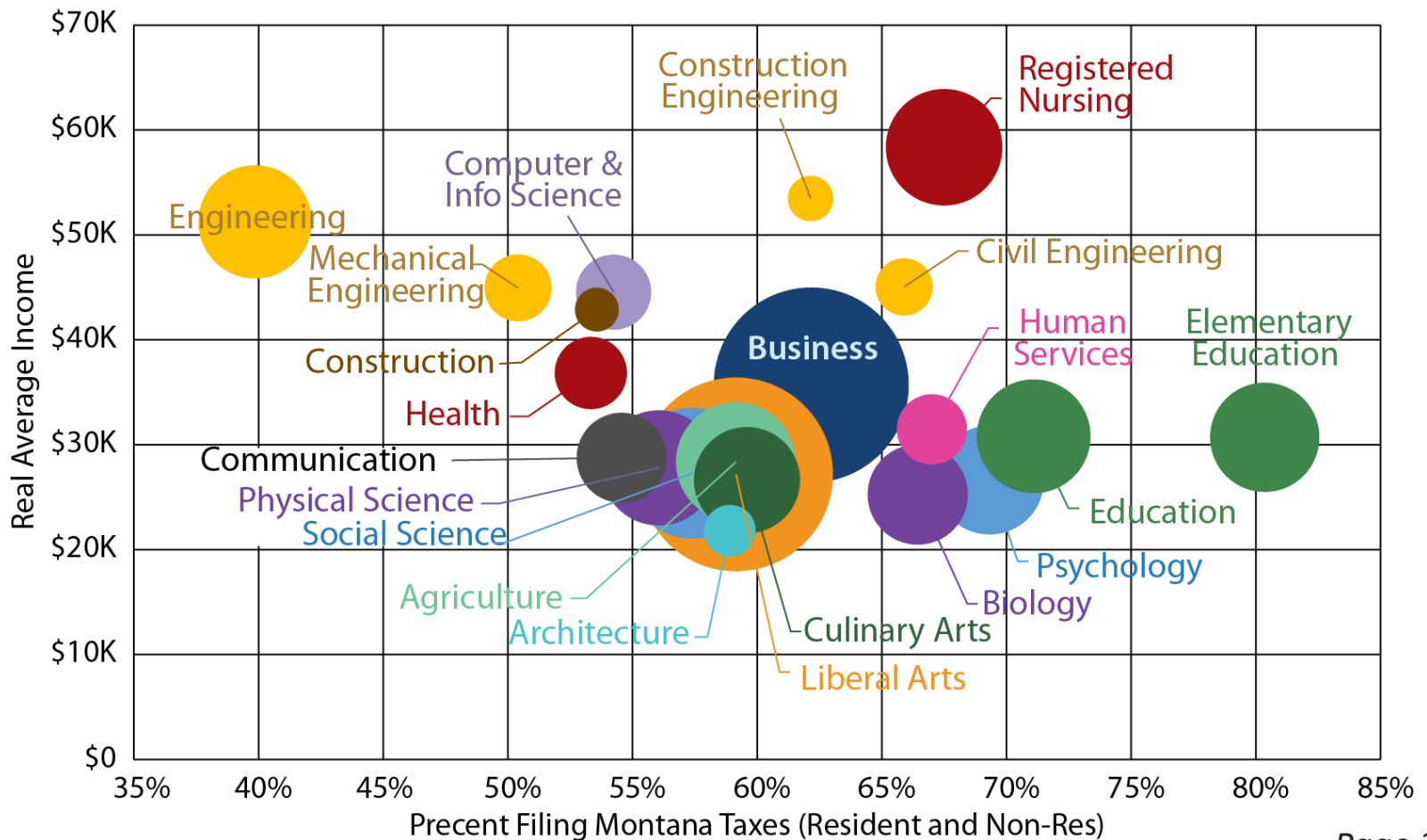
## ONE-YEAR AFTER GRADUATION



Source: MTDLI, OCHE, RMC, CC, UP, and apprenticeship graduate data wage match.  
National Student Clearinghouse (NSC) enrollment data.

# BACHELORS' DEGREE OUTCOMES

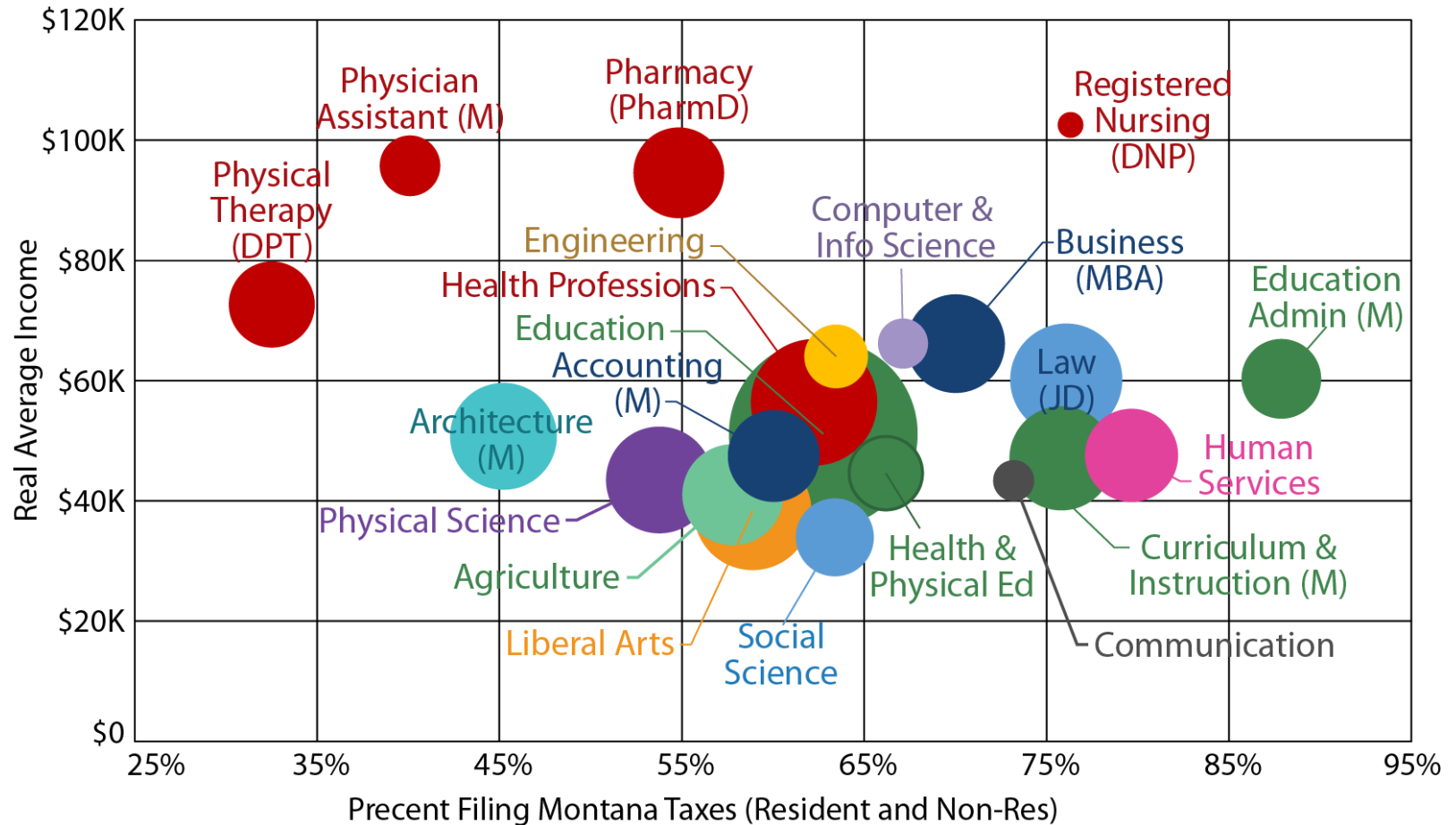
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Source: MTDLI, OCHE, RMC, CC, UP, and apprenticeship graduate data wage match.  
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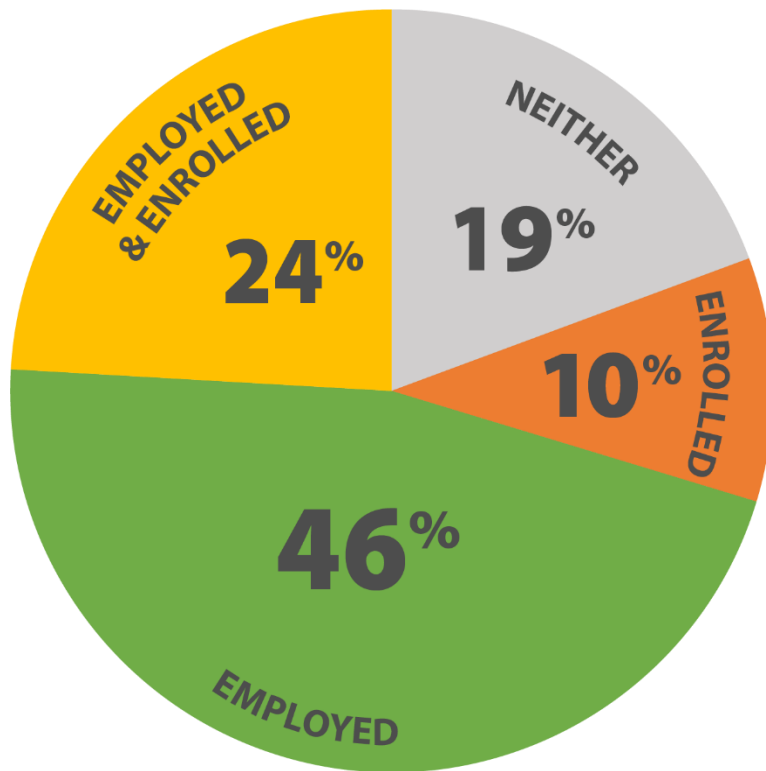
# GRADUATE DEGREE OUTCOMES

## ONE-YEAR AFTER GRADUATION



Source: MTDLI, OCHE, RMC, CC, UP, and apprenticeship graduate data wage match.  
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## 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.

# 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



## SUPPLY AND DEMAND ANALYSIS

Are there enough post-secondary graduates in the right fields to meet statewide workforce needs?

# SUPPLY AND DEMAND ANALYSIS

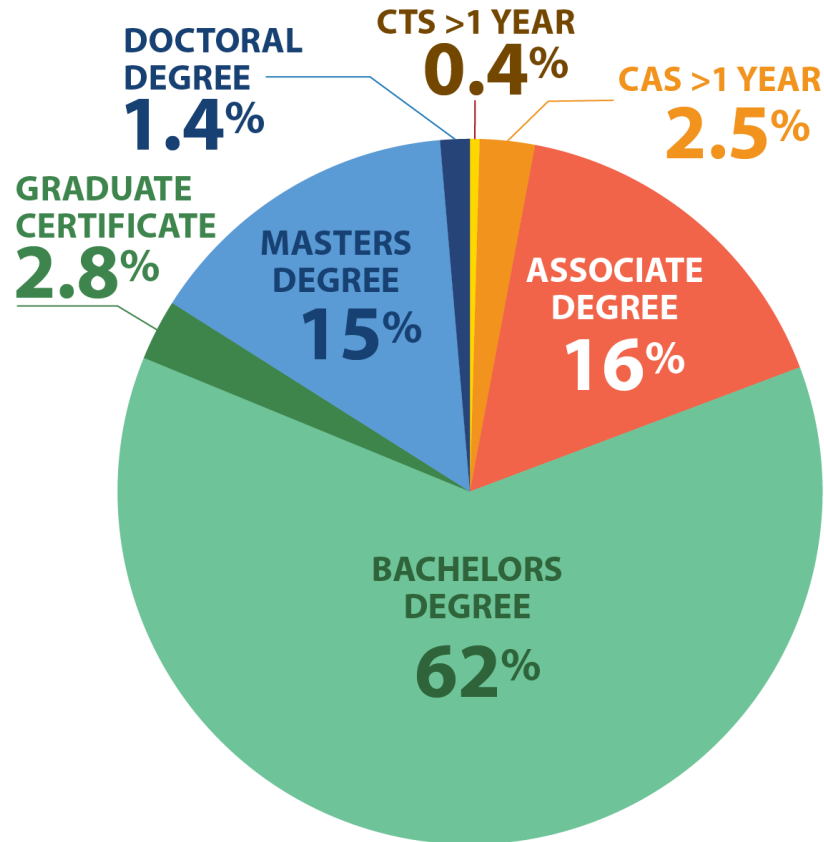
## PROJECTED JOB OPENINGS BY MINIMUM EDUCATION REQUIREMENT

### 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



## HOW TO “MEET DEMAND”

- Annual supply falls within demand range
  - New job growth + retirements
  - May need to fill openings from job turnover



## SUPPLY AND DEMAND ANALYSIS BY OCCUPATION

**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...



## 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: Graduate leaves the state
  - Montana not offering competitive wages

And more....

## WORKFORCE TRAINING TARGETS

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

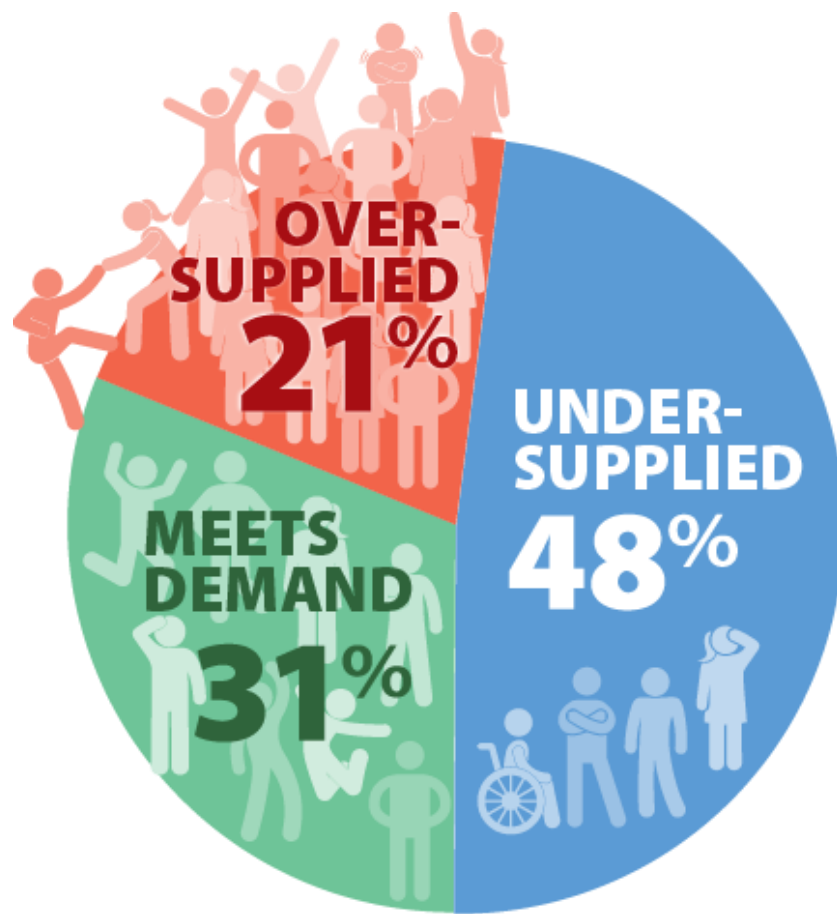
High Income (Above \$50,000)	Low Income (Less than \$50,000)
Electricians	Heavy Tractor-Trailer Truck Drivers
Plumbers	Nursing Assistants (CNA)
Carpenters	Early Childhood Education (CDA)
Dental Hygienists	Teaching Assistants
Licensed Practical Nurses (LPN)	Substance Abuse & Mental Health Counselors
Software Developers	Medical Assistants
	Paralegals
	Bookkeeping & Accounting Clerks

## SUPPLY AND DEMAND ANALYSIS BY PROGRAM

11,750 students graduating annually from 85 programs.

52%

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



# UNDERSUPPLIED PROGRAMS

## 1. Health Science

- **Nursing (CNA)**
- Physical Therapy
- **Medical Assistants**
- Substance Abuse and Addiction Counseling

## 2. Education

- Elementary Ed
- Special Ed
- **Early Childhood Ed (CDA)**

## 3. Construction

- **Electrical**
- **Plumbing**
- **Heavy Equipment Operation**

## 4. STEM

- **Computer and Info Systems**

## 5. Humanities

- Social Work
- Law





**MORE INFORMATION AT  
LMI.MT.GOV**

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