APPLICATIONS OF LABOR MARKET INTELLIGENCE TO PROGRAM PLANNING, DEVELOPMENT, DELIVERY, AND ASSESSMENT: LIGHTCAST PROPOSAL

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1 BACKGROUND AND RATIONALE

Authors propose acquisition of the Lightcast Analyst subscription to provide access to Labor Market Intelligence. This plan is supplemented with an organizational change plan that facilitates effective adoption.

The integration of Lightcast will not only help align our programs with employer needs but also foster a culture of data-driven decision-making while enhancing transparency and student success.

2 WHAT IS LABOR MARKET INTELLIGENCE?

Labor Market Intelligence also known as Labor Market Information refers to data and insights about the employment and job market conditions in a specific geographic area or industry. Labor Market Information includes a wide range of data related to job vacancies, employment trends, wages, skills demand, education and training requirements, and related factors that influence the labor market dynamics.

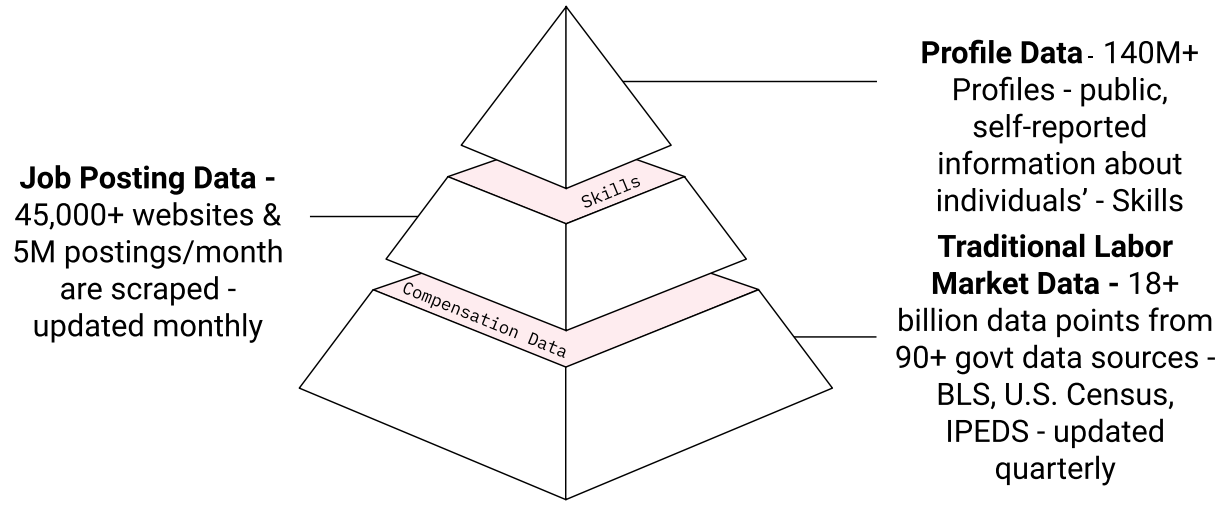
Key components of Labor Market Information include:

- Employment Trends. Information about changes in employment levels, growth or decline in various industries, and shifts in the job market over time.
- Occupational Outlook:. Data on the demand for specific job roles and occupations, including projections for future employment opportunities.
- Job Vacancies:. The number of job openings in various sectors and industries, indicating current demand for specific skills.
- Wages and Earnings. Data on average salaries, wages, and compensation for different job positions and industries.
- Education and Training Requirements. Information about the skills, qualifications, and education levels required for various job roles.
- Skills Demand. Insights into the skills and competencies that are in high demand by employers, which can influence education and training programs.
- Regional and Industry Analysis. Breakdown of employment and wage data by geographic regions and industries, helping stakeholders identify local job market trends.
- Unemployment Rates. Data on the percentage of the labor force that is unemployed and actively seeking employment.
- Demographic Information. Insights into the demographic composition of the workforce, including age, gender, ethnicity, and other relevant factors.

Labor Market Intelligence plays a crucial role in guiding workforce development strategies, helping educational institutions align their programs with industry needs and assisting students in making informed career decisions. It provides a comprehensive view of the job market, helping stakeholders adapt to changing economic conditions and make decisions that promote economic growth and stability.

3 WHAT IS LIGHTCAST?

Lightcast (https://lightcast.io) is a data and software company formed by merger of Economic Modeling Specialists International (Emsi) and Burning Glass Technologies. Lightcast aggregates, scrapes, deduplicates, and compiles data from over 90 government data sources, over 140 millions of LinkedIn profiles, and over 45,000 career websites. It offers this data as a subscription service through intuitive, Tableau-like interface and over 90 API endpoints.



4 BENEFITS AND PROPOSED APPLICATIONS

In order to be successful and to maximize return on investment Labor Market Intelligence data should be incorporated at every stage of student life-cycle and across maximum list of stakeholders. Integration of the Market Labor Intelligence data is predicted to result in benefits including but not limited to the following:

- Program Alignment with Employer Needs. The Lightcast Analyst will serve as a cornerstone in aligning our academic offerings with the demands of the job market. Through data-driven insights, academic programs can tailor their curricula to equip students with the skills most valued by employers, ensuring enhanced employability upon graduation.
- Academic and Strategic Planning. Integrating Labor Market Intelligence into our academic and strategic planning processes will empower us to prepare students from all backgrounds for meaningful careers. It will allow us to address workforce and economic development needs within our communities, positioning us as catalysts for local growth.

- Enhancing Recruitment and Enrollment. Leveraging the Lightcast Analyst will enable us to communicate the value of our degrees to prospective students, parents, and the community. This is especially critical for disciplines such as liberal arts, as it showcases the practical skills and attributes developed through our programs.
- Advising and Student Support. Integrating Labor Market Intelligence into our advising practices will transform how we guide students toward career success. Advisors armed with Labor Market Intelligence insights can help students make informed decisions about their career paths, facilitate internships, and promote skill development aligned with industry needs.
- Grant Applications and Funding Acquisition. Incorporating Labor Market Intelligence from the Lightcast Analyst into grant applications demonstrates our commitment to data-driven outcomes. It enhances our credibility and increases the likelihood of securing funding for program enhancements and new initiatives.
- Communication of the Return on Investment (ROI). Incorporating labor market data such as salary data, advancement in the ranks of the employer, and percentage of unfilled positions helps better communicate the return on investment offered by higher education.
- Career Outcomes and Program Assessment. Ultimate testimony to the value of higher education are the career outcomes. Following learning assessment this provides evaluation of sills developed during higher education as applicable to real-life scenarios. Evaluation outcomes 1-year and 5-years past graduation is a critical part of academic program review.
- Development and Alumni Relations. Though not intended for this purpose Lightcast Analyst can help identify alumni together with their position titles. This information could inform advancement and alumni engagement.
- Supplementary Compensation Research. Because Lightcast constantly crawls and gathers data it provides near real-time compensate data that can be narrowed down by employer, position, city, county, state, zip-code, and more. This data is more responsive than CUPA-HR survey information that often is year behind the market.

> “Tertiary education has seen unprecedented growth in the past decade, but there is a significant share of graduates who struggle to find good jobs, while employers say they cannot find the people with the skills they need. The tertiary education sector needs to reinvent itself to give people greater ownership over what they learn, how they learn, when they learn and where they learn to meet tomorrow’s demand for knowledge and skills”
>
> *Andreas Schleicher, Director, OECD Directorate for Education and Skills*

5 ORGANIZATIONAL CHANGE PLAN

KEY STAKEHOLDERS AND THEIR ROLES

Champions and sponsors of change who understand and advocate for Labor Market Intelligence's use:

- President
- Vice President for Academic Affairs
- Vice President for Student Affairs
- Assistant Vice President for Graduate Studies

Power users (5 licenses):

- Director of Career Services
- Director of Student Success
- Director of Institutional Research
- Director of the Center for Teaching, Innovation, & Research
- Assistant Vice President for Graduate Studies

Users:

- School Directors
- Department Chairs
- Career Services
- Vice President for Academic Affairs
- President
- Director of Human Resources
- Director of Alumni Relations

ACTIONS

To ensure broad adoption of Lightcast, we propose the following actions:

- Raise Awareness. Foster institutional understanding of Labor Market Intelligence by raising awareness of available information, the role it plays in institutional planning, and how can it benefit individual units and most importantly their students.
- Provide Training. Conduct training sessions for academic program heads, advisors, career services, and relevant staff to familiarize them with the Lightcast Analyst's features and functionalities. Integrate Labor Market Intelligence into actibvities of the Center for Teaching, Innovation, & Research.
- Facilitate Departmental Integration. Encourage academic programs to establish cross-functional teams that include faculty, career services, and industry advisors. These teams will collaborate to utilize Labor Market Intelligence in program design and student advising.

- Centralize Communication of the Return on Investment (ROI). Develop a centralized platform to communicate career path information, average alumni salaries, and industry demand for each academic major. This platform will empower students in making well-informed decisions. Embed this information on program webpages.
- Integrate into Policy. Design organizational processes such as new program development workflow to include and require Labor Market Intelligence research
- Evaluate. Implement metrics to assess the impact of Labor Market Intelligence integration, including improved program alignment, increased internship placements, and change in graduate employability rates, employer ranks, and salaries.

6 COST

We propose allocating $17,900 to secure a 1-year subscription to the Lightcast Analyst. Contingent on successful adoption during the first year, this subscription can be renewed for approximately $14,400 per annum under a 3-year contract. This investment will foster data-driven decision-making, enhance student outcomes, and further our institution's mission of providing upward mobility for the San Luis Valley.

Lightcast Analyst coupled with an organizational change plan to foster its adoption represents a transformative step forward for Adams. By integrating Labor Market Intelligence into our decision-making processes and program offerings, we are setting the foundation for improved long-term student success, better upward mobility, and meaningful contributions to the workforce. By communicating Labor Market Intelligence at every stage of student education we are promoting transparency, intentional career planning, and better articulation of return on investment (ROI) Adams has to offer. Your support will empower us to embrace the future with confidence and purpose.

7 ADDITIONAL RESOURCES

Pre-recorded demo: https://share.vidyard.com/watch/U6nHn97SnWoovCfn5SEd56?

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A APPENDIX A: LIGHTCAST QUOTE AND PROPOSAL

Margaret and Jacek,

Thank you for the meeting to discuss the top priorities for labor market data related to program development and assessment. Additionally, our data can help assess workforce demand for grants, identify workforce skill demand, optimize marketing efforts, and gain deeper insight into employer partners.

ABOUT LIGHTCAST

Lightcast's (formerly Emsi Burning Glass) goal is to unlock new possibilities in the labor market. To do this, we inform and connect three critical audiences: people looking for work, employers looking for skilled employees, and educators looking to build relevant academic programs.

SUPPORT

Should Adams State University choose to partner with Lightcast, the university will have unlimited support with a dedicated Account Manager for Analyst. Every project starts with a kick-off call and training customized to your objectives.

PRICING – a la carte

PRODUCTS*	USER SEATS	3-YEAR PRICE*	1-YEAR PRICE
Analyst	Up to 5	$14,400	*$17,900*

**** Standard 3-year contract with a 6% increase year over year.***

Pricing is good until September 30th, 2023.

ANALYST - SOLUTION OVERVIEW

Lightcast will provide Adams State with access to Analyst, a comprehensive labor market analytics tool that includes ***traditional labor market data***, ***job posting analytics***, and ***professional profile analytics***—all in one place. This integration empowers users to perform ad hoc gap analyses by comparing the demand for jobs and skills seen in job postings with the supply of those same skills in professional profiles.

With Analyst, Adams also gets unlimited access to industry, occupation, education, and demographic data within the contract-specified regions. This traditional labor market information is updated quarterly and includes historic data from 2001 as well as 10-year forward-looking projections.

EXAMPLE USE CASES

- **Program Development** - Offer programs that address skill gaps in the current workforce
- **Market Research** - Assess the market for programs serving working professionals in your region while identifying target personas for ad campaigns
- **Employer Engagement and Partnerships** - Identify top regional employers and new business development opportunities

FEATURES

- Industry, occupation, program, and demographic analysis for your region
- Job posting analytics that cover posting intensity, skills, certifications, job titles, and companies
- Profile analytics that provide granular insight into the companies, jobs, and skills reported by professionals that make up your regional workforce
- Compare and contrast the supply and demand of skills in the regional workforce to perform ad hoc skill gap analysis.
- Input-output model
- User-friendly GIS tool
- Exportable reports in PDF, Excel, and Word

B APPENDIX B: SAMPLE REPORT - SAN LUIS VALLEY


Lightcast
Economy Overview
6 Colorado Counties
Lightcast Q3 2023 Data Set | lightcast.io

Contents

Report Parameters

6 Counties

8003	Alamosa County, CO	8079	Mineral County, CO
8021	Conejos County, CO	8105	Rio Grande County, CO
8023	Costilla County, CO	8109	Saguache County, CO

Class of Worker

QCEW Employees, Non-QCEW Employees, and Self-Employed

The information in this report pertains to the chosen geographical areas.

Economy Overview

46,858

Population (2022)

Population **grew by 172** over the last 5 years and is projected to **grow by 1,385** over the next 5 years.

20,521

Total Regional Employment

Jobs **grew by 82** over the last 5 years and are projected to **grow by 1,593** over the next 5 years.

$52.0K

Avg. Earnings Per Job (2022)

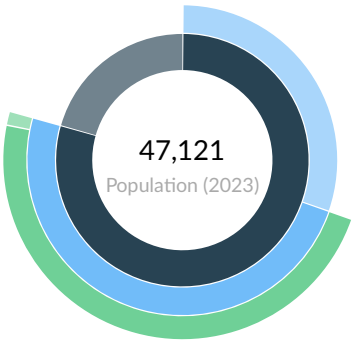
Regional average earnings per job are **$28.8K below** the national average earnings of $80.8K per job.

Takeaways

- As of 2022 the region's population **increased by 0.4%** since 2017, growing by 172. Population is expected to **increase by 3.0%** between 2022 and 2027, adding 1,385.
- From 2017 to 2022, jobs **increased by 0.4%** in 6 Colorado Counties from 20,439 to **20,521**. This change **fell short of the national growth rate of 3.8% by 3.4%**. As the number of jobs increased, the **labor force participation rate increased from 61.6% to 63.4% between 2017 and 2022**.
- Concerning educational attainment, **17.4% of the selected regions' residents possess a Bachelor's Degree** (3.4% below the national average), and **8.6% hold an Associate's Degree** (0.2% below the national average).
- The top three industries in 2022 are Local Government, Excluding Education and Hospitals, Education and Hospitals (Local Government), and Crop Production.

	Population (2023)	Labor Force (Apr 2023)	Jobs (2022)	Cost of Living	GRP	Imports	Exports
Region	47,121	23,113	20,521	108.9	$2.06B	$3.11B	$2.80B
State	5,876,749	3,216,299	3,211,779	111.1	$479.35B	$329.78B	$407.91B

Apr 2023 Labor Force Breakdown



	Population
16+ Civilian Non-Institutionalized Population	37,379
Not in Labor Force (16+)	14,266
Labor Force	23,113
Employed	22,519
Unemployed	594
Under 16, Military, and institutionalized Population	9,742

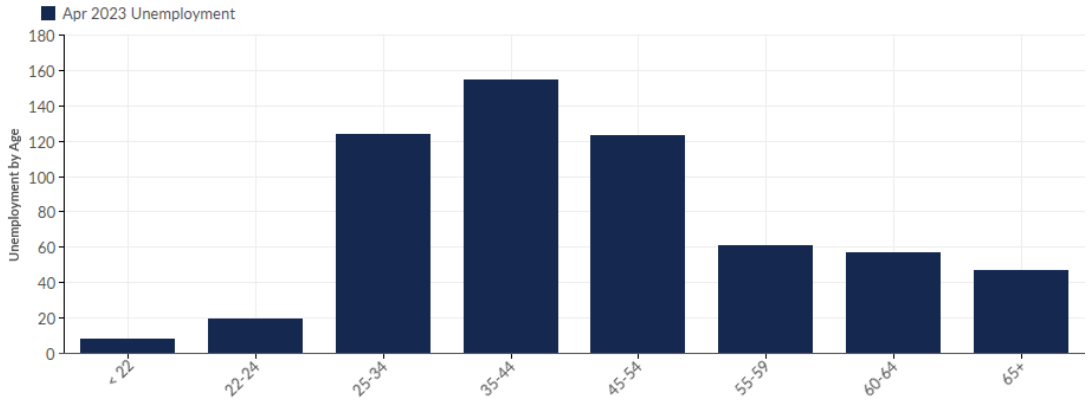
Educational Attainment

Concerning educational attainment, **17.4% of the selected regions' residents possess a Bachelor's Degree** (3.4% below the national average), and **8.6% hold an Associate's Degree** (0.2% below the national average).

	% of Population	Population
Less Than 9th Grade	6.1%	1,921
9th Grade to 12th Grade	5.7%	1,807
High School Diploma	29.7%	9,389
Some College	22.7%	7,190
Associate's Degree	8.6%	2,724
Bachelor's Degree	17.4%	5,501
Graduate Degree and Higher	9.9%	3,129

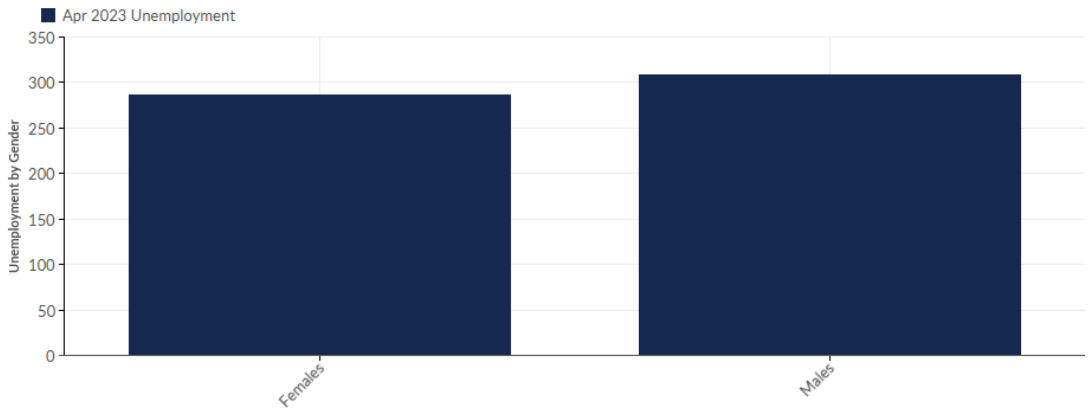
Unemployment by Demographics

Unemployment by Age



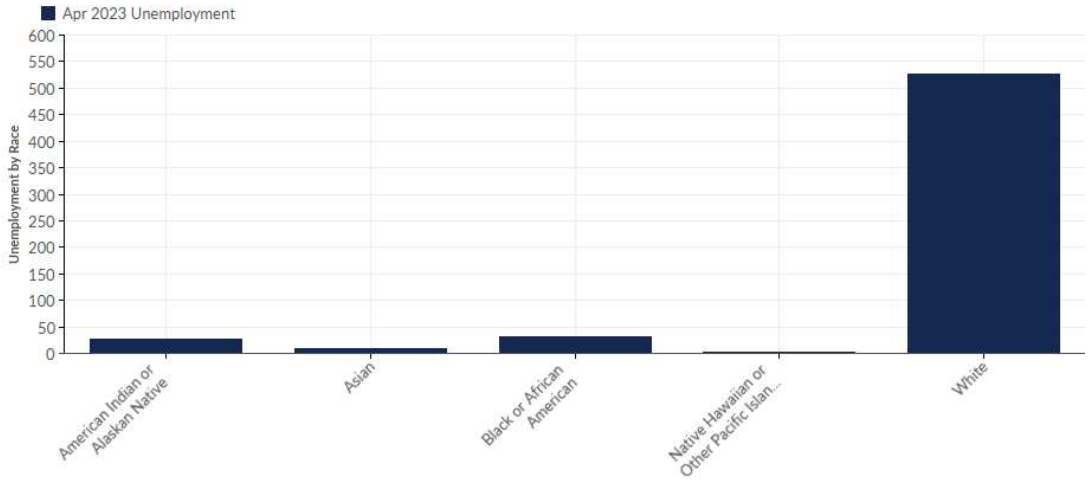
Age	Unemployment (Apr 2023)	% of Unemployed
< 22	8	1.35%
22-24	19	3.20%
25-34	124	20.88%
35-44	154	25.93%
45-54	123	20.71%
55-59	61	10.27%
60-64	57	9.60%
65+	47	7.91%
Total	594	100.00%

Unemployment by Gender



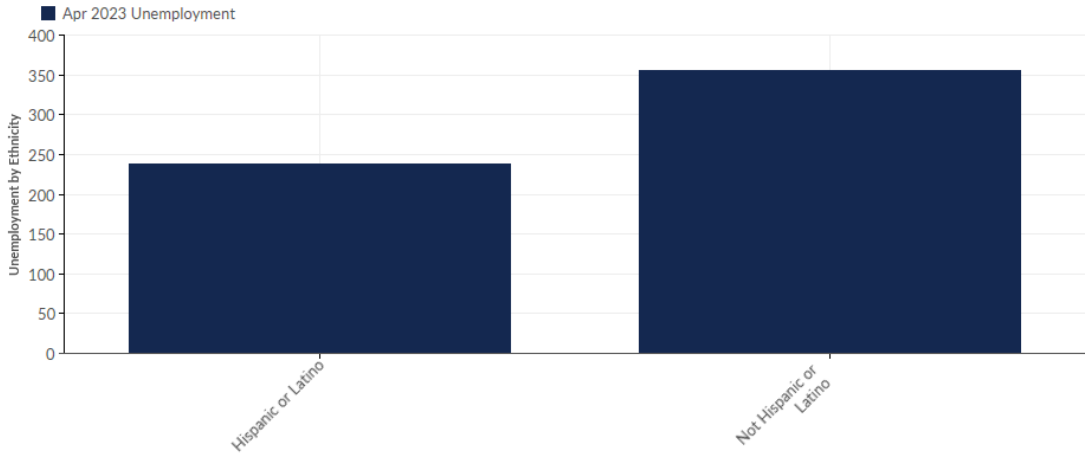
Gender		Unemployment (Apr 2023)	% of Unemployed
Females		286	48.15%
Males		308	51.85%
	Total	594	100.00%

Unemployment by Race



Race		Unemployment (Apr 2023)	% of Unemployed
American Indian or Alaskan Native		26	4.38%
Asian		9	1.52%
Black or African American		30	5.05%
Native Hawaiian or Other Pacific Islander		2	0.34%
White		527	88.72%
	Total	594	100.00%

Unemployment by Ethnicity

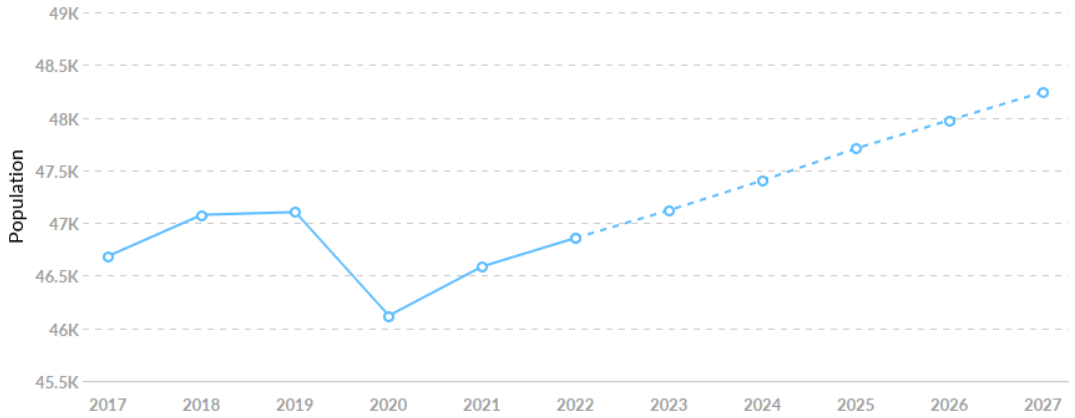


Ethnicity		Unemployment (Apr 2023)	% of Unemployed
Hispanic or Latino		238	40.07%
Not Hispanic or Latino		356	59.93%
	Total	594	100.00%

Historic & Projected Trends

Population Trends

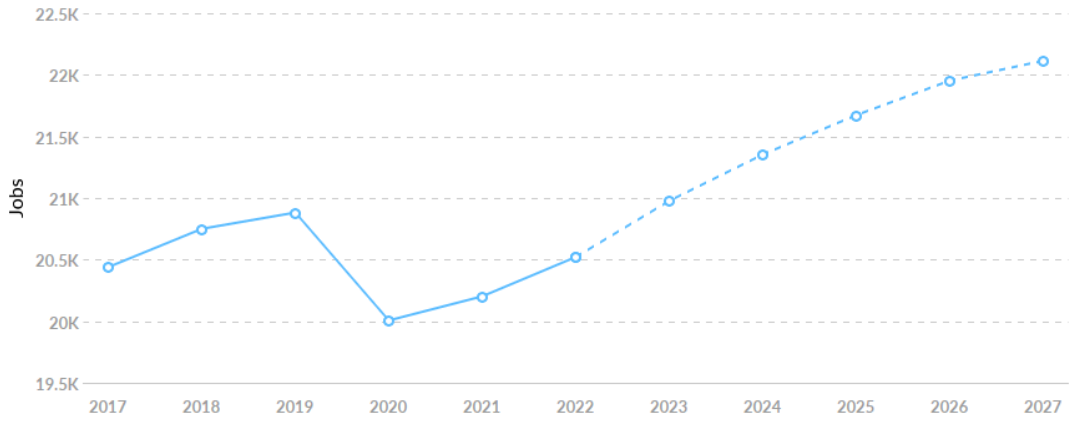
As of 2022 the region's population **increased by 0.4%** since 2017, growing by 172. Population is expected to **increase by 3.0%** between 2022 and 2027, adding 1,385.



Timeframe	Population
2017	46,686
2018	47,077
2019	47,103
2020	46,120
2021	46,587
2022	46,858
2023	47,121
2024	47,404
2025	47,708
2026	47,976
2027	48,243

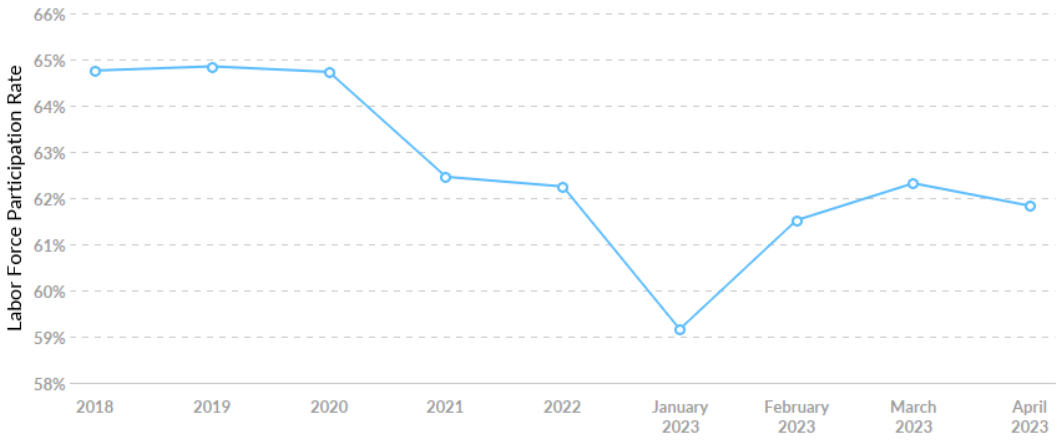
Job Trends

From 2017 to 2022, jobs **increased by 0.4%** in 6 Colorado Counties from 20,439 to **20,521**. This change **fell short of the national growth rate of 3.8% by 3.4%**.



Timeframe	Jobs
2017	20,439
2018	20,750
2019	20,882
2020	20,006
2021	20,202
2022	20,521
2023	20,977
2024	21,353
2025	21,673
2026	21,953
2027	22,114

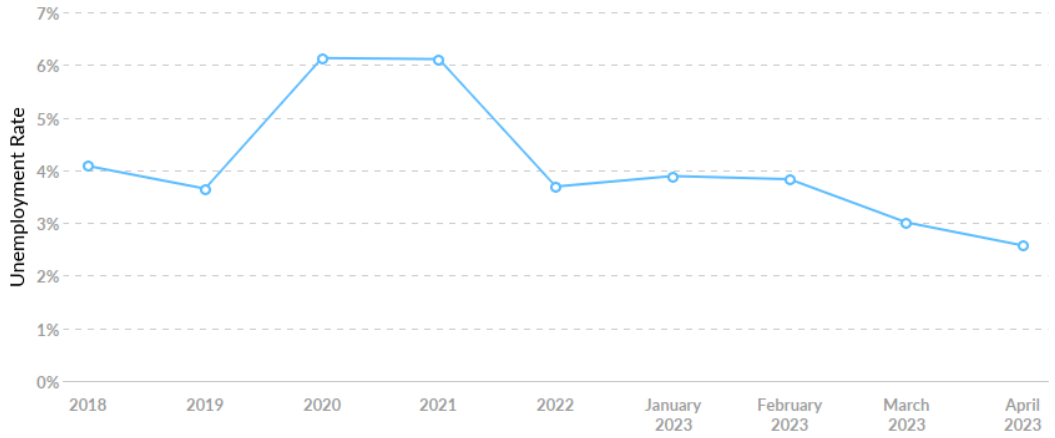
Labor Force Participation Rate Trends



Timeframe	Labor Force Participation Rate
2018	64.76%
2019	64.85%
2020	64.73%
2021	62.46%
2022	62.25%
January 2023	59.16%
February 2023	61.52%
March 2023	62.32%
April 2023	61.83%

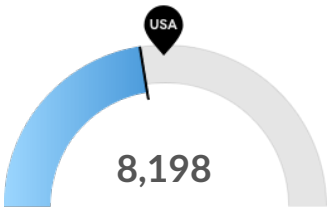
Unemployment Rate Trends

Your areas had an April 2023 unemployment rate of 2.57%, **decreasing from 4.08%** 5 years before.



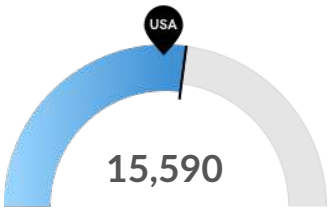
Timeframe	Unemployment Rate
2018	4.08%
2019	3.65%
2020	6.13%
2021	6.11%
2022	3.69%
January 2023	3.89%
February 2023	3.83%
March 2023	3.01%
April 2023	2.57%

Population Characteristics



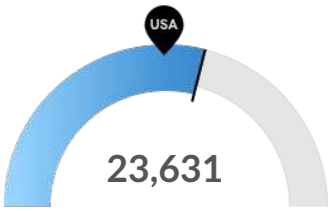
Millennials

Your area has 8,198 millennials (ages 25-39). The national average for an area this size is 9,516.



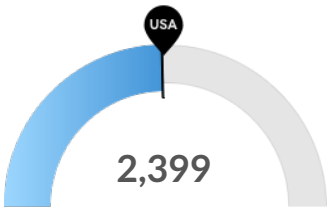
Retiring Soon

Retirement risk is high in your area. The national average for an area this size is 13,847 people 55 or older, while there are 15,590 here.



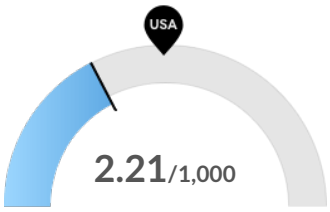
Racial Diversity

Racial diversity is high in your area. The national average for an area this size is 18,958 racially diverse people, while there are 23,631 here.



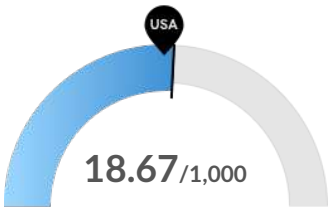
Veterans

Your area has 2,399 veterans. The national average for an area this size is 2,447.



Violent Crime

Your area has 2.21 violent crimes per 1,000 people. The national rate is 3.59 per 1,000 people.

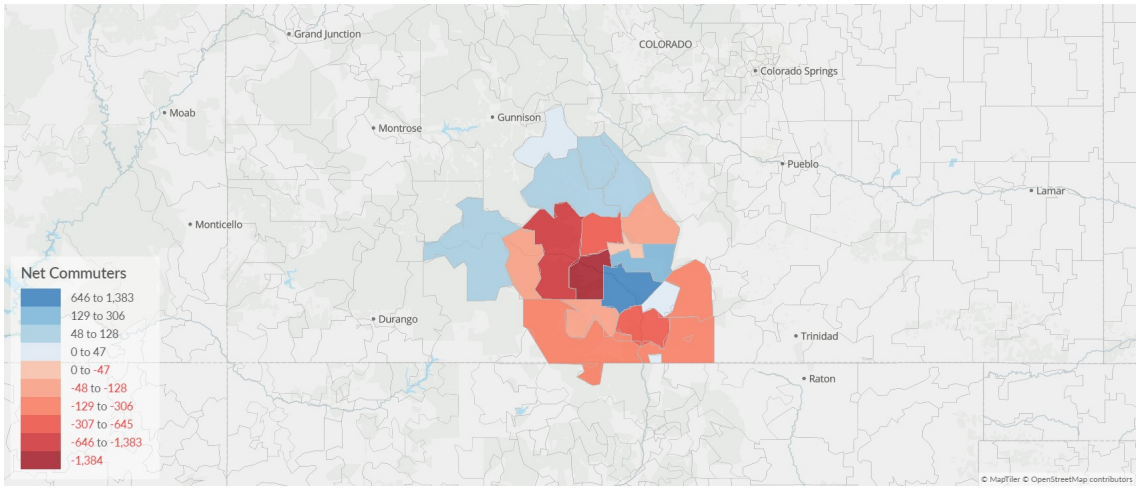


Property Crime

Your area has 18.67 property crimes per 1,000 people. The national rate is 17.8 per 1,000 people.

Place of Work vs Place of Residence

Understanding where talent in the region currently works compared to where talent lives can help you optimize site decisions.



Where Talent Works

ZIP	Name	2022 Employment
81101	Alamosa, CO (in Alamos...	9,019
81144	Monte Vista, CO (in Rio...	2,515
81125	Center, CO (in Rio Gran...	1,040
81140	La Jara, CO (in Conejos ...	988
81132	Del Norte, CO (in Rio G...	877

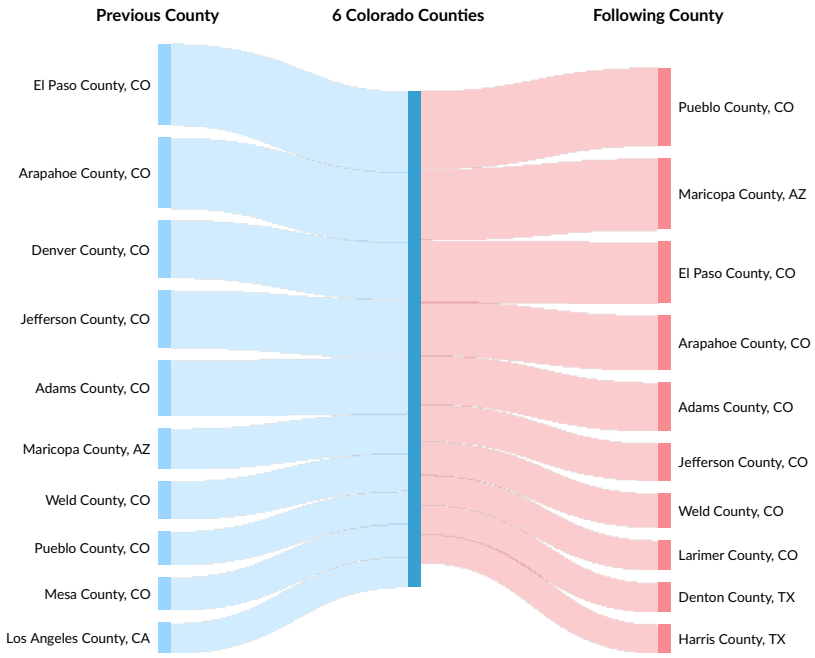
Where Talent Lives

ZIP	Name	2022 Workers
81101	Alamosa, CO (in Alamos...	8,287
81144	Monte Vista, CO (in Rio...	3,900
81132	Del Norte, CO (in Rio G...	1,522
81125	Center, CO (in Rio Gran...	1,347
81140	La Jara, CO (in Conejos ...	1,036

Inbound and Outbound Migration

The table below analyzes past and current residents of 6 Colorado Counties. The left column shows residents of other counties migrating to 6 Colorado Counties. The right column shows residents migrating from 6 Colorado Counties to other counties.

As of 2020, 103 people have migrated from El Paso County, CO to 6 Colorado Counties. In the same year, 98 people left 6 Colorado Counties migrating to Pueblo County, CO. The total Net Migration for 6 Colorado Counties in 2020 was 23.



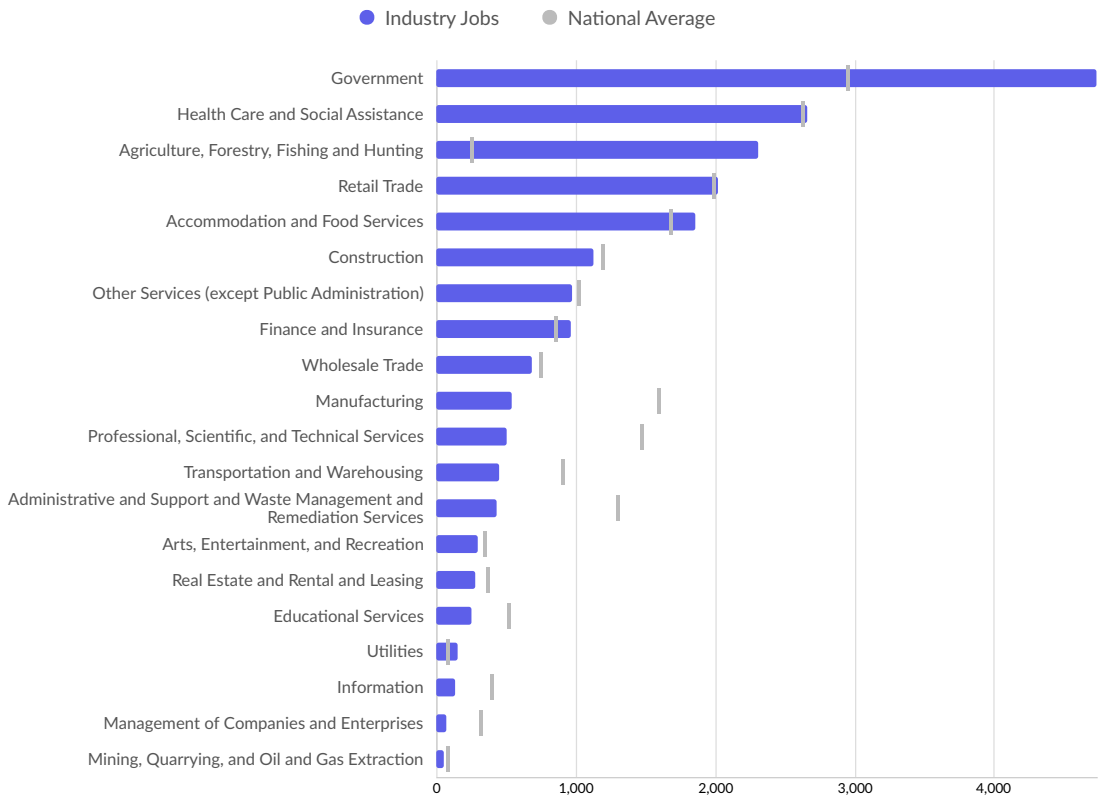
Top Previous Counties	Migrations
El Paso County, CO	103
Arapahoe County, CO	89
Denver County, CO	73
Jefferson County, CO	72
Adams County, CO	71
Maricopa County, AZ	51

Top Previous Counties	Migrations
Weld County, CO	48
Pueblo County, CO	42
Mesa County, CO	42
Los Angeles County, CA	38
Douglas County, CO	31
Larimer County, CO	26
Grand County, CO	21
King County, WA	20
Routt County, CO	20

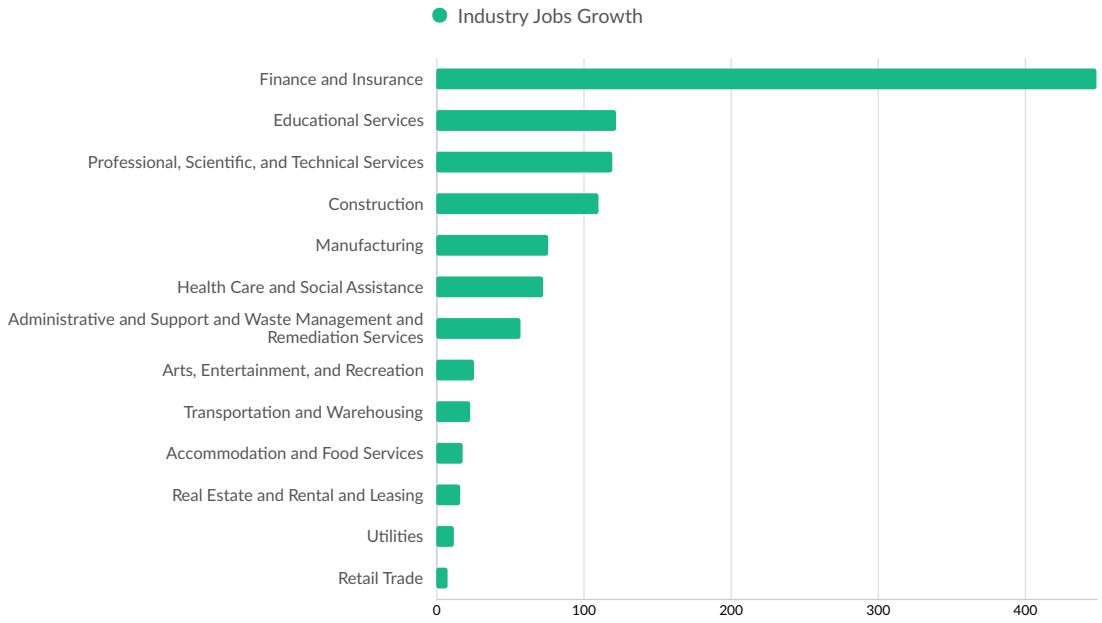
Top Following Counties	Migrations
Pueblo County, CO	98
Maricopa County, AZ	90
El Paso County, CO	78
Arapahoe County, CO	69
Adams County, CO	61
Jefferson County, CO	47
Weld County, CO	43
Larimer County, CO	38
Denton County, TX	37
Harris County, TX	36
Denver County, CO	30
Chaffee County, CO	29
San Diego County, CA	29
Sandoval County, NM	29
Douglas County, CO	28

Industry Characteristics

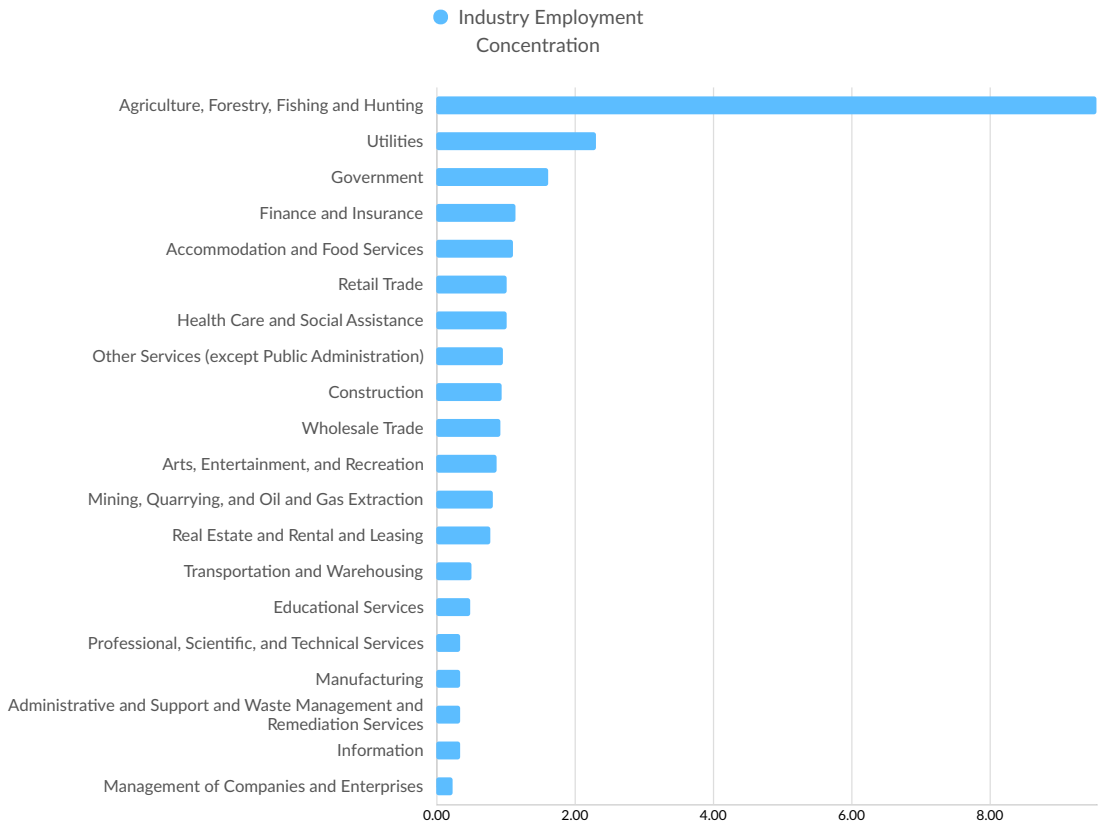
Largest Industries



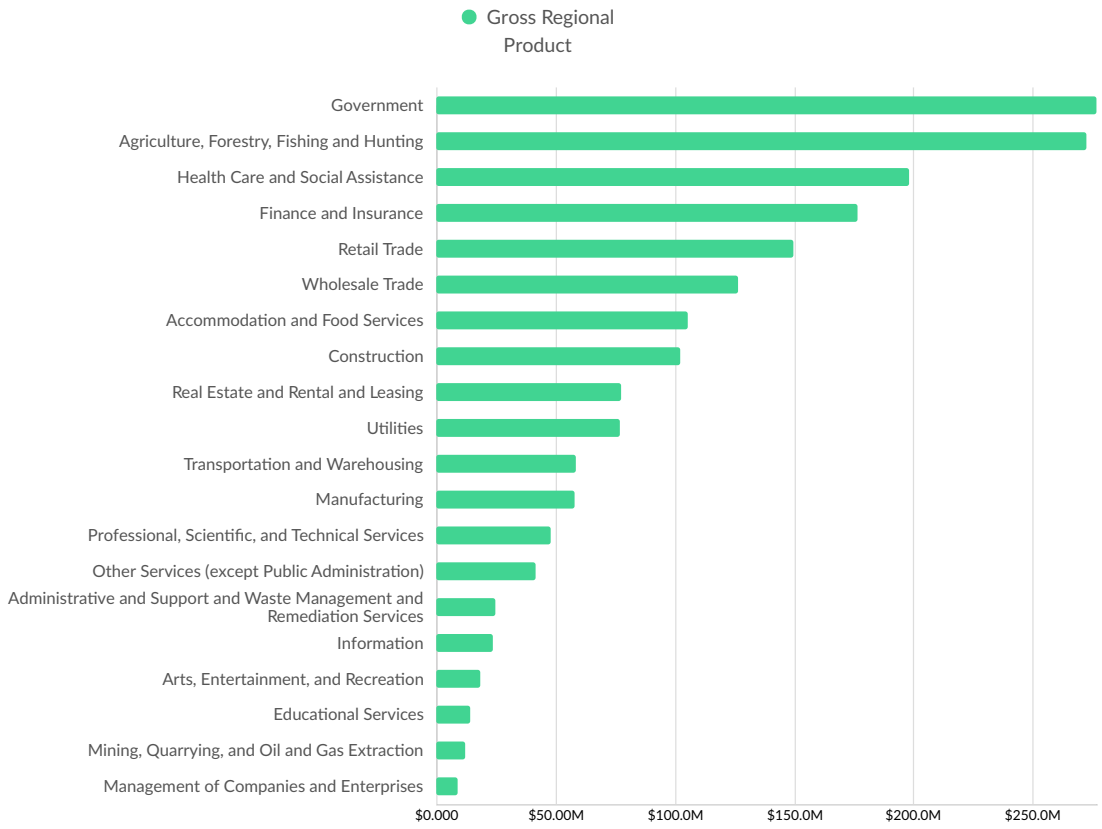
Top Growing Industries



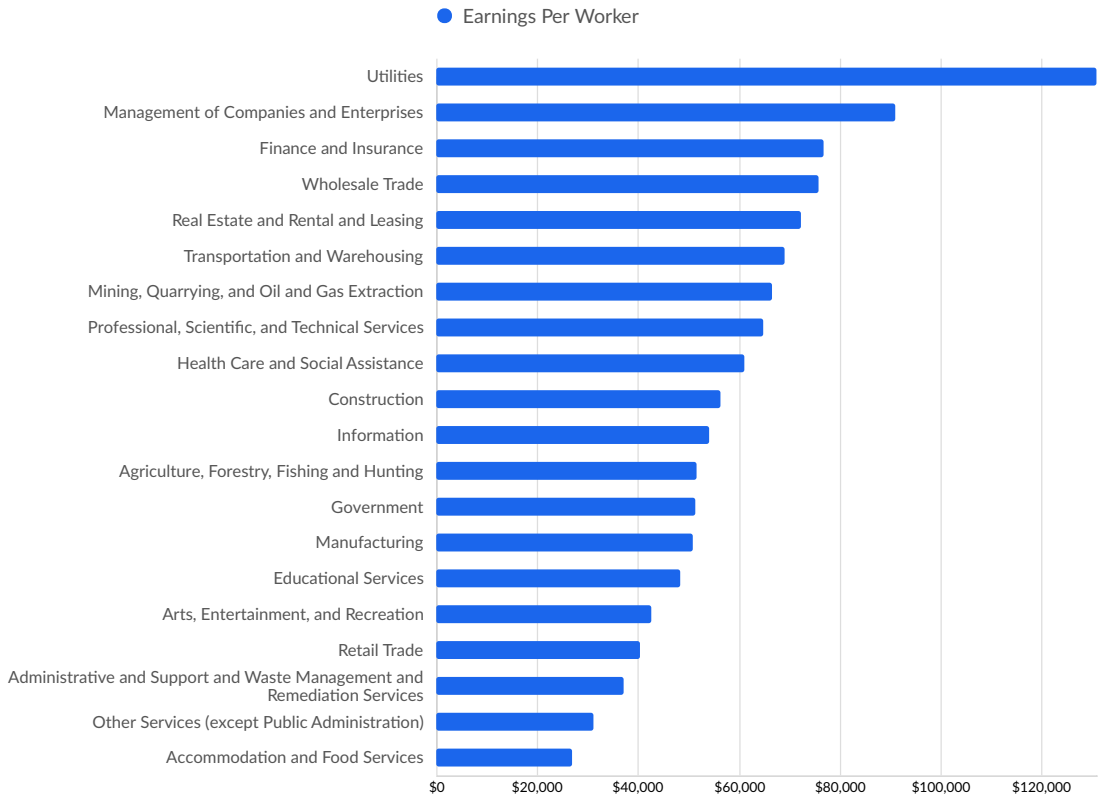
Top Industry Employment Concentration



Top Industry GRP



Top Industry Earnings



Business Characteristics

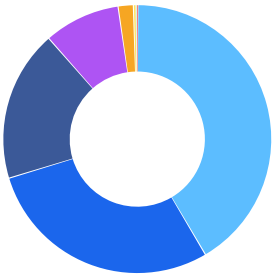
3,325 Companies Employ Your Workers

Online profiles for your workers mention 3,325 companies as employers, with the top 10 appearing below. In the last 12 months, 441 companies in your area posted job postings, with the top 10 appearing below.

Top Companies	Profiles
Adams State University	405
San Luis Valley Health	210
State Of Colorado	136
Valley-Wide Health Systems	103
Friday Health Plans	57
Trinidad State Junior College	54
San Luis Valley Boces	48
Alamosa School District	39
Walmart	39
United States Forest Service	36

Top Companies Posting	Unique Postings
Life Care Centers of America	81
Space	64
Lockheed Martin	61
Colorado State Government	53
Enterprise Operations	51
Douglas County School District	49
Sonic Drive-In	41
Walmart	41
CompHealth	40
Sage Hospitality	40

Business Size

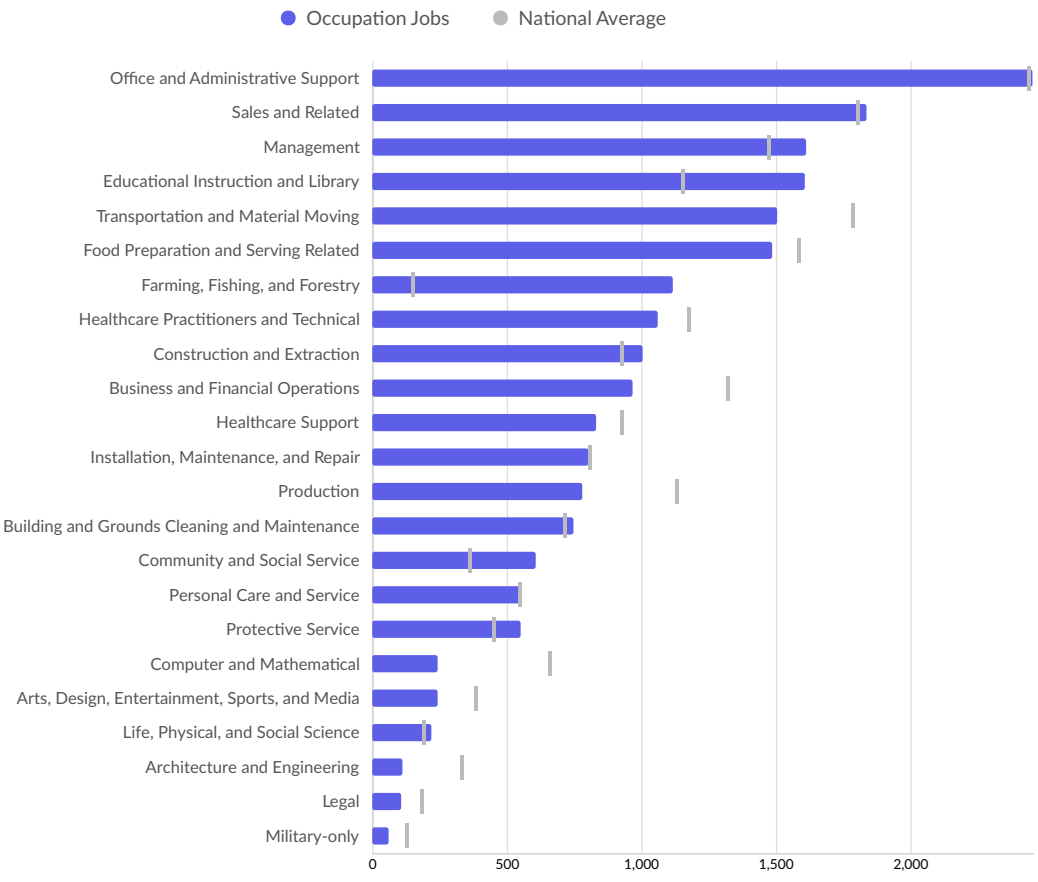


	Percentage	Business Count
1 to 4 employees	41.4%	998
5 to 9 employees	28.8%	693
10 to 19 employees	18.2%	439
20 to 49 employees	9.2%	221
50 to 99 employees	1.8%	44
100 to 249 employees	0.3%	8
250 to 499 employees	0.2%	4
500+ employees	0.0%	1

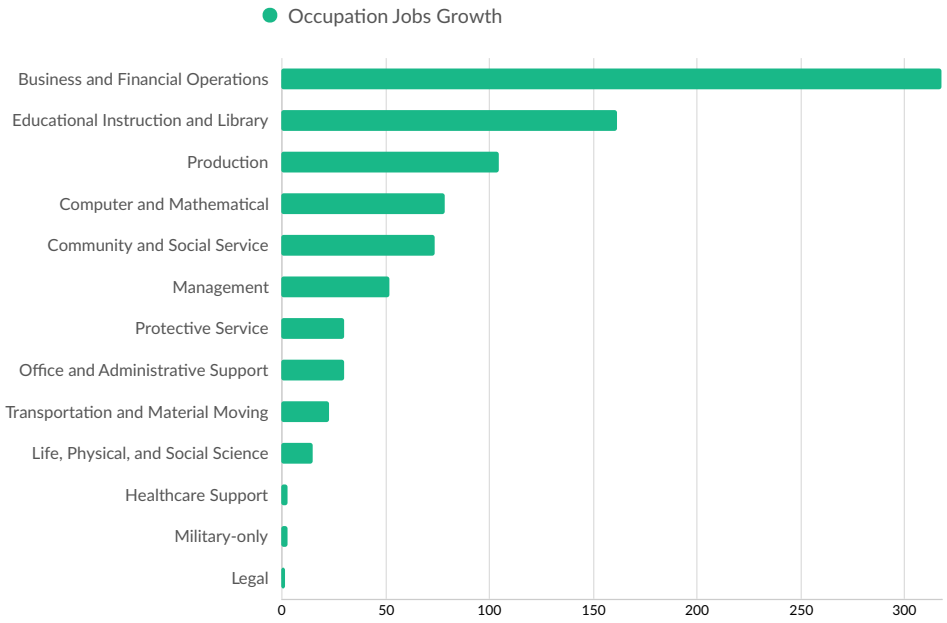
**Business Data by DatabaseUSA.com is third-party data provided by Lightcast to its customers as a convenience, and Lightcast does not endorse or warrant its accuracy or consistency with other published Lightcast data. In most cases, the Business Count will not match total companies with profiles on the summary tab.*

Workforce Characteristics

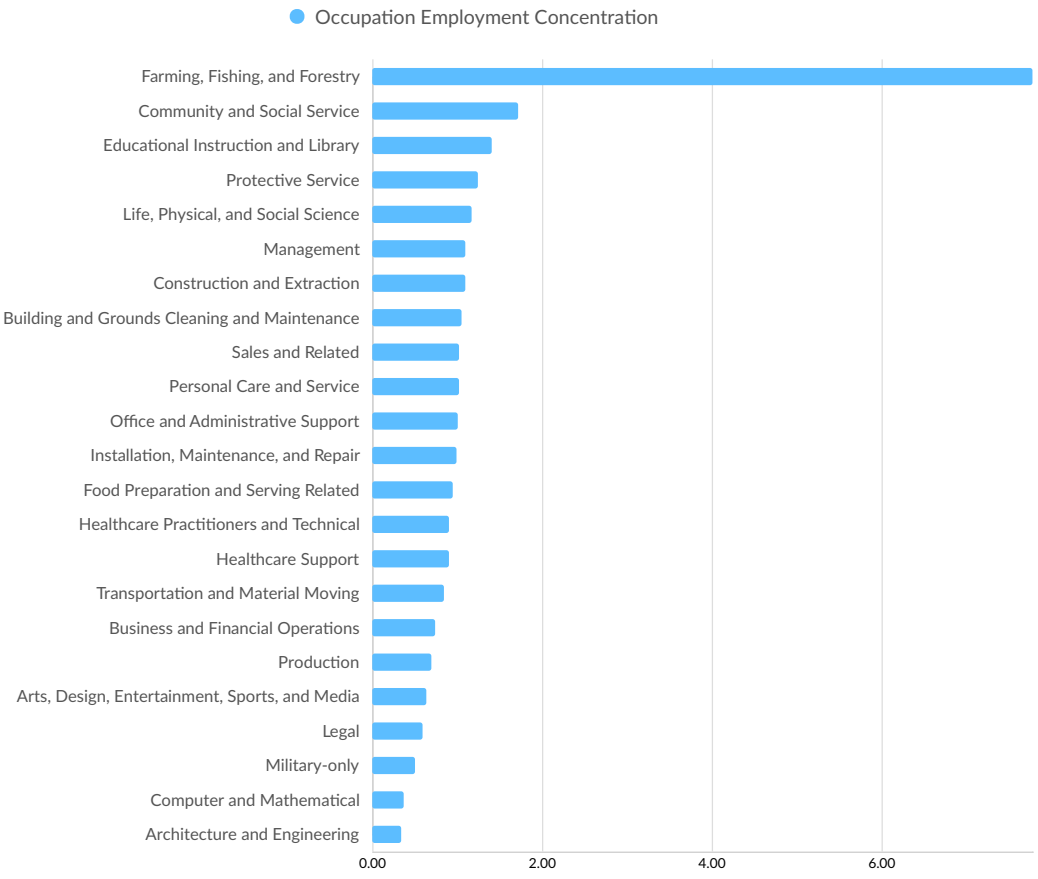
Largest Occupations



Top Growing Occupations

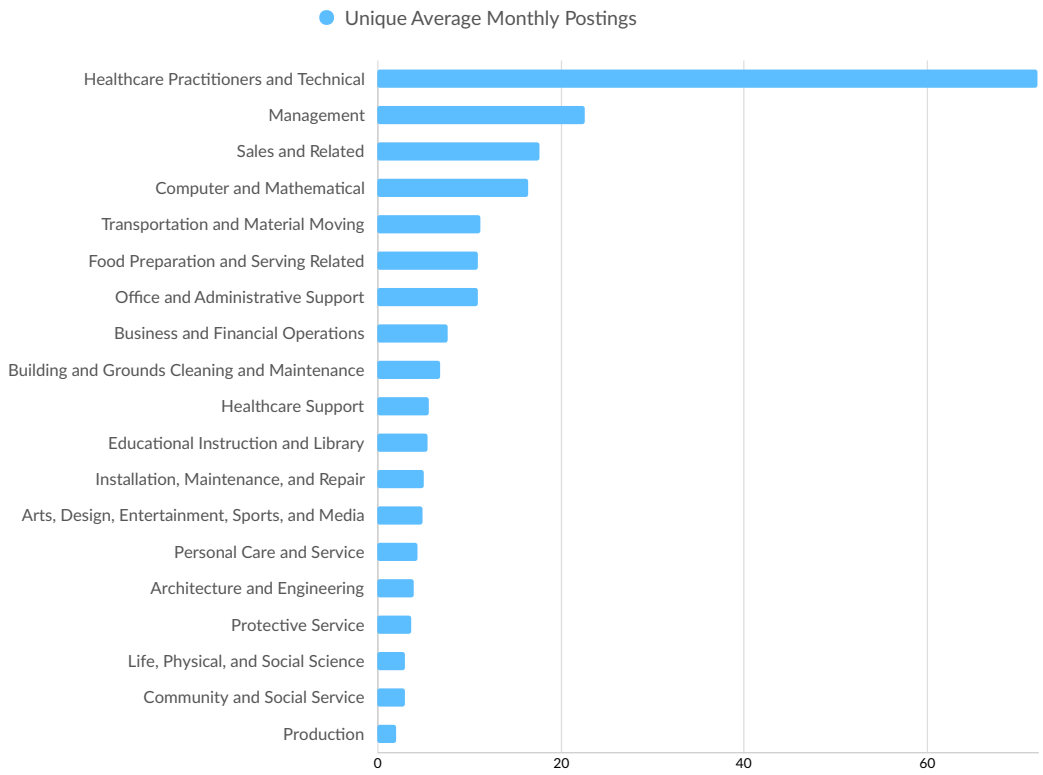


Top Occupation Employment Concentration

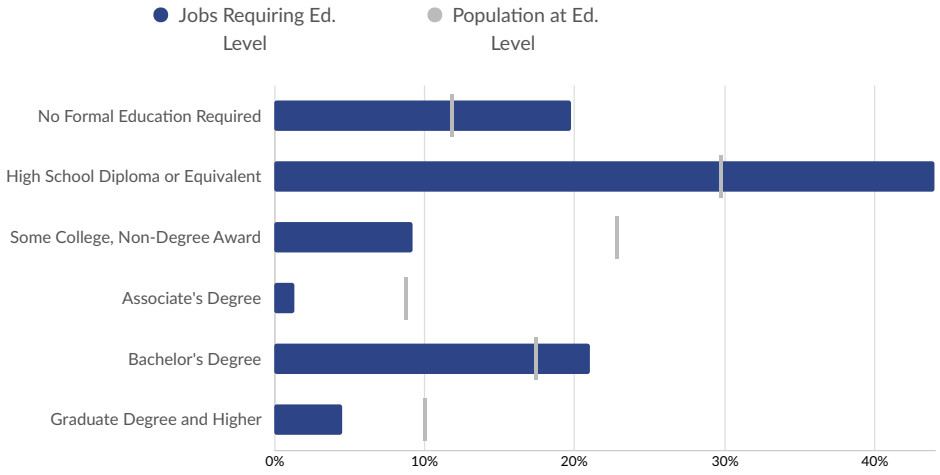


Top Occupation Earnings

Top Posted Occupations



Underemployment

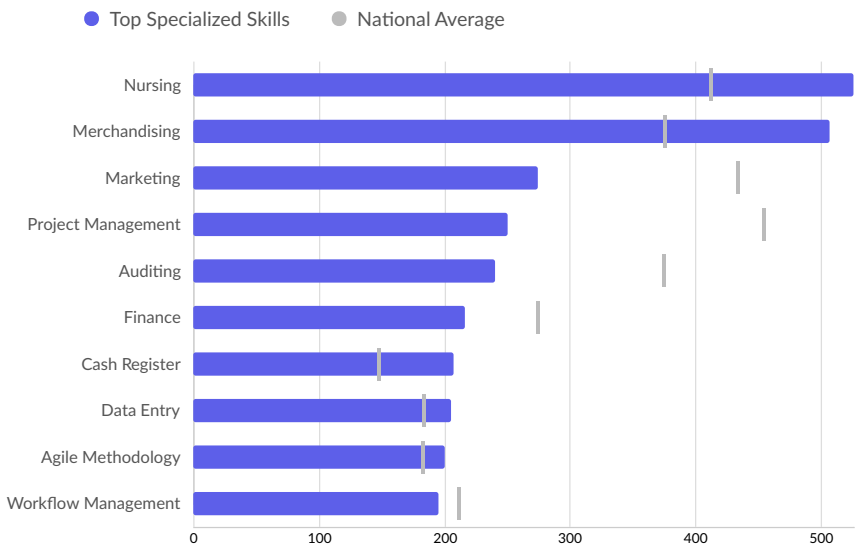


Educational Pipeline

In 2021, there were 946 graduates in 6 Colorado Counties. This pipeline has shrunk by 1% over the last 5 years. The highest share of these graduates come from "Counseling Psychology" (Master's or Higher), "Liberal Arts and Sciences/Liberal Studies" (Associate's), and "Teacher Education, Multiple Levels" (Master's or Higher).

School	Total Graduates (2021)	Graduate Trend (2017 - 2021)
Adams State University	946	

In-Demand Skills



C APPENDIX C: BACKGROUND AND PEER RESEARCH

EDUCATION AND EMPLOYMENT RESEARCH CENTER

How Colleges and Universities are Using Labor Market Information (LMI): A National Snapshot

Michelle Van Noy, Monica Reid Kerrigan, Victoria Coty, Genevive Bjorn, and Jennifer Lenahan

MAY 2023

Authors

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Acknowledgments

The authors would like to thank the many people who contributed to this report. We appreciate the insights shared on draft versions of the survey by colleagues at the membership association and colleges. We appreciate the time college faculty and administrators generously shared by participating in the survey. We are grateful to Daniel Douglas, who provided helpful feedback on earlier drafts. We are particularly grateful for the technical expertise of the Rutgers Bloustein Center for Survey Research in developing and conducting the survey, including Camille D'Andrea Romer, Carissa Greco, and Chris Wyce. At EERC, Tracy Cangiano skillfully provided research support through various phases of the project, Angel Butts of The Word Angel LLC provided excellent editorial assistance, and Tim Duffy for design support.. The authors are solely responsible for any errors.

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Contents

Background

To ensure the relevance and quality of programs and credentials, higher education institutions are considering better aligning with industry needs and supporting students' transition to careers. At the same time, over the past decade, more data have become available to help inform institutional efforts on the labor market.[1] This labor market information (LMI) includes a range of information such as more recently available "real-time jobs" data – that is, job postings gathered from across the internet and deduplicated and coded to identify job openings and their requirements, as well as traditional sources of data from state labor departments, industry advisory boards, and other informal networks. Real-time jobs data have become increasingly available in recent years through the proprietary systems of LightCast (formerly Burning Glass and EMSI) and Jobs EQ, who offer their data services to higher education institutions nationwide. At the same time, many states have developed their own information tools based on state wage records, and state labor departments continue to produce and distribute traditional data on the labor market. The rapid development and expansion of these data tools for examining labor market trends seem to offer the potential to alter how higher education institutions approach their understanding of the labor market and inform what they do. Current empirical investigations of these issues are limited, as we document in a systematic review.[2]

Rutgers Education and Employment Research Center (EERC) investigated colleges' and universities' LMI usage to illuminate these trends. We examined how this changing environment is reflected nationally in higher education practice using case studies of institutional practices at ten colleges and universities.[3] Then, to explore the national landscape, we surveyed individuals with LMI familiarity at educational institutions to examine how and why they used LMI. This report highlights the findings from this survey. We begin by describing our methodology. Next is a discussion of our findings, which is organized into two sections: one on the institutional motivations and uses for LMI and another on the institutional barriers and supports for using LMI. We end the paper with several recommendations for policy and practice on LMI usage by educational institutions.

1 Advance CTE. (2017, November). *Putting labor market information in the right hands: A guide.* https://careertech.org/resource/putting-lmi-right-hands-guide; College Excellence Program. (2016, September 8). *Using labor market information to improve student success.* Aspen Institute. https://www.aspeninstitute.org/publications/using-labor-market-data-improve-student-success/

2 Bjorn, G. & Kerrigan, M.R. (2023). *The Evolution, Conceptualization, and Use of Labor Market Information (LMI) in Postsecondary Institutions: A Systematic Literature Review.* EERC Working Paper, Piscataway, NJ: Education and Employment Research Center, Rutgers University.

3 Kerrigan, M.R., Coty, V., Lenahan, J., Bjorn, G., & Van Noy, M. (2023). *Emerging insights into the use of labor market information in postsecondary education*. Rutgers Education and Employment Research Center.

Methods

Survey Design.[4] We partnered with the Bloustein Center for Survey Research (BCSR; New Brunswick, NJ) to develop the "Labor Market Information Use at Higher Education Institutions" questionnaire. Preliminary survey items were developed using the findings from ten case studies exploring how higher education institutions used LMI. After refining the survey items and questionnaire for several months, we constructed the survey in Qualtrics, an online survey tool, then solicited feedback from experts in higher education, including college practitioners, academics, and association leaders. Two higher education professionals conducted pretests of the survey in 2021 and shared their feedback before it was finalized. Additional methods details are reported in Appendix A.

Survey Sample. Because the population of LMI users in higher education is undefined, our next task was to formulate a reasonable sample of higher education professionals to field the survey. Based on conversations with case study participants, we constructed a list of job titles we expected would use LMI in their work or know how LMI is used at their respective institutions. We then purchased contact information for higher education professionals with these job titles from a higher education directory provider, Higher Education Publications (HEP). We supplemented our outreach to those on the list we purchased from HEP by sharing the survey with case study participants, higher education professionals who participated in the case study selection process, higher education membership groups, and state-level higher education groups. We also shared the survey via social media posts.

Data Collection. We worked with researchers from BCSR to pursue two streams of survey outreach and data collection: outreach to those on the purchased directory, which was conducted by the BCSR team, and our own outreach to higher education professionals. The first group of contacts were sent closed survey links that allowed the BCSR team to track the response status of each individual. The BCSR team sent initial survey invitations to the purchased list of contacts via Qualtrics on 28 February 2021; data collection continued for nine weeks. During this time, the EERC team led the second stream of outreach to higher education professionals using anonymous survey links. Anyone who saw the link could access and respond to the survey, and recipients were invited to forward the survey to any appropriate colleagues.

After data collection ended, the BCSR team conducted tests to ensure that surveys included in the data set were both unique and mostly (i.e., at least 57%) complete. This process resulted in 438 usable responses. Only 429 respondents indicated whether their institution was a two- or four-year institution, however, as shown in Table 1. As a result, our analysis derives from a sample size of 239 two-year and 190 four-year college respondents, totaling 429 respondents. The majority (56%) of participants represented two-year colleges, 229 of which were public institutions (i.e., community colleges) and 10 were private. Among the four-year colleges in our sample there were 101 public and 89 private institutions.

4 A more detailed discussion of our survey methodology can be found in Appendix A.

TABLE 1. Survey Respondents by Sector

	NUMBER	PERCENTAGE
Two-year public college	239	54%
Two-year private college	10	2%
Four-year public college	101	23%
Four-year private college	89	20%
Valid total	**439**	**100**

Data analysis. We excluded some respondents from the analysis. In addition to the surveys we excluded in the first step for being incomplete, we further excluded findings on private two-year colleges because the sample size (i.e., *n* = 10) was small compared to public two-year colleges (*n* = 229). The remaining analyses do not include public two-year colleges.

Participants. Table 2 shows how participants described their level of involvement with LMI at their institution. More than half of the survey respondents (56%) indicated using LMI reports or products generated by someone else at the institution. Almost half (49%) of respondents directly worked with LMI sources to analyze or generate reports with LMI, and about one-third (33%) indicated that they are involved in creating or overseeing policies and processes for LMI usage.

TABLE 2. Participants' Self-Reported Involvement with LMI by Sector

RESPONSES	TWO-YEAR PUBLIC	FOUR-YEAR PUBLIC	FOUR-YEAR PRIVATE	ALL
Participant involved in creating and/or overseeing policies and processes for LMI use	38%	30%	26%	33%
Participant works directly with information sources to analyze LMI or generate LMI reports	53%	43%	48%	49%
Participant uses LMI reports or products generated by someone else or another group on campus	60%	56%	48%	56%
Participant does not use LMI directly but can address how LMI is used at the institution	10%	23%	25%	17%

Participants' job titles are shown in Table 3. The largest groups of survey respondents were directors, chief executive officers, vice presidents, and provosts – individuals in decision-making positions who were likely to take a broad approach to LMI usage at their institution rather than to apply it at an individual program level. In contrast, roles with more limited program-level knowledge, such as faculty and staff, were the smallest groups of respondents.

Table 3. Participants' Role at Their Institution as Percentage of Sector Respondents

ROLES	TWO-YEAR PUBLIC COLLEGES	FOUR-YEAR PUBLIC COLLEGES	FOUR-YEAR PRIVATE COLLEGES
Chief Executive Officer	18.34	13.86	22.47
Chief of Staff	0.87	4.95	1.12
Director of Branch Campus	1.31	0	1.12
Vice President	20.09	13.86	7.87
Provost	9.61	22.77	22.47
Instructional Program Dean/ Director	12.23	0.99	2.25
Director	22.71	34.65	37.08
Chief Student Affairs Officer	0.44	0	0.3
Faculty Member	2.18	2.97	0
Other, please specify:	7.42	0.99	1.12
Other, Staff	3.06	3.96	4.49
Other, Vice Chancellor/AVC	1.75	0.99	0
Total Percentage	100	100	100
Total Number	**229**	**101**	**89**

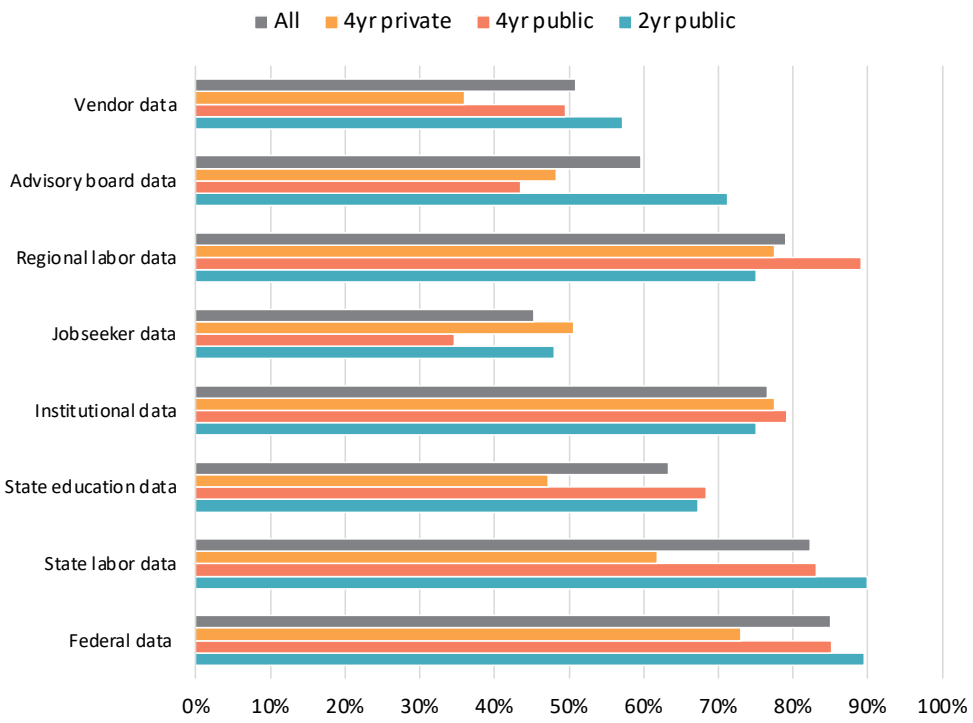
Institutional Motivations and Usages of LMI

To understand how institutions use LMI, we began by examining the types of LMI used by respondents and their motivations for using these data (e.g., their internal purposes for using the LMI and what they seek to learn from it). We then examined how often they used LMI, the stakeholders they shared the data with, and their purpose for discussing the LMI with those stakeholders. In addition to the quantitative analysis of these traits, we share some findings from participants' open-ended responses on the potential impacts of LMI usage. All data are reported in greater detail as tables in Appendix B.

Types of LMI Used.

It quickly became clear that there are myriad types of LMI, as shown in Figure 1. The kind of LMI used most by participating institutions was longstanding federal and state data. Further, public institutions were more likely to report using public data sources. For example, 90 percent of respondents at public two-year colleges and 85 percent of those at public four-year colleges reported using Federal data, such as those from the Bureau of Labor Statistics (BLS), versus about three-quarters (73%) of those at private four-year colleges. Similar

FIGURE 1. Types of LMI Used at Institutions as a Percentage of Respondents



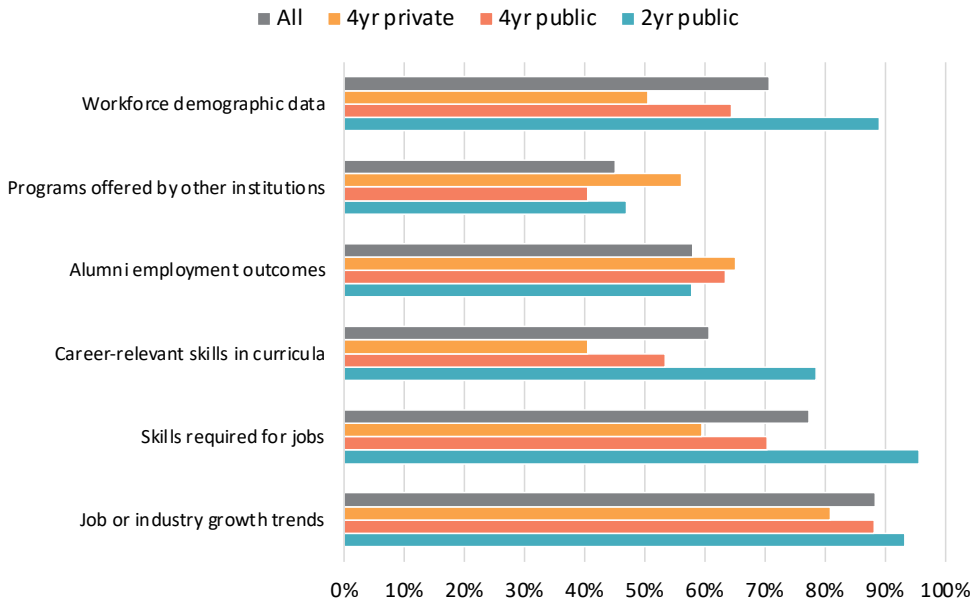
percentages of public institutions used state department of labor data, such as labor projections and workforce demographics. However, fewer respondents at private four-year colleges and universities (62%) reported using this type of LMI. Finally, two-thirds of participants from public two- and four-year colleges and almost half of all participants from private four-year institutions reported using state Department of Education data. Likewise, respondents at all institution types reported using LMI from a workforce development board, higher education system, or other regional entity (75% two-year, 89% public four-year, and 78% private four-year, respectively).

About three-quarters of survey participants across all institutional types indicated that they use LMI collected by their institution, such as employer or alumni surveys. Still, we observed variation among institutional types in using other forms of LMI. For instance, nearly two-thirds of respondents at public two-year colleges (71%) indicated they used LMI from advisory boards. In contrast, fewer than half of those at both public (44%) and private (48%) four-year institutions indicated they used such data. Rather than splitting based on two- versus four-year degree programs, the variation in rates of reported use of vendor data from companies such as Burning Glass or Chmura were related to whether the institution was public or private. While 57 percent of respondents at public two-year colleges and about half of those at public four-year colleges used vendor data, only about one-third (36%) of those at private four-year colleges did so.

What the Institutions Seek to Learn from LMI.

Figure 2 shows that the most common reasons respondents from all institution types turned to LMI were to learn about job or industry growth trends (88% overall) and to research the skills required for jobs (77% overall).

FIGURE 2. What Institutions Seek to Learn from LMI as a Percentage of Respondents

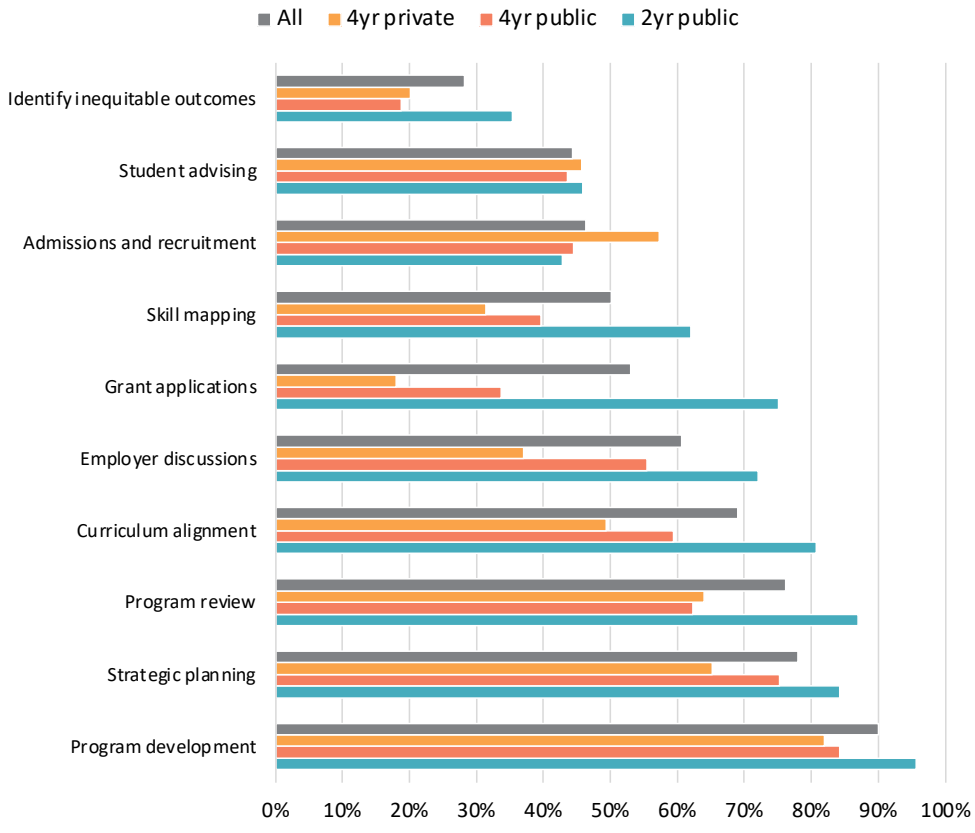


Whereas nearly all (96%) of two-year college respondents indicated using LMI to research the skills required for jobs, that information was sought by only 70 percent of public and 60 percent of private four-year respondents. Notably, the overall rate of respondents seeking information on job skills was skewed downward by respondents at four-year institutions. Similarly, over two-thirds of two-year college respondents (78%) indicated using LMI to learn about career-relevant skills already in curricula versus around half of those at four-year institutions (53% public and 40% private). Respondents from all institution types reported using LMI about equally as often to learn about alumni employment outcomes and degrees or programs offered by other institutions.

Internal Purposes for Using LMI.

As shown in Figure 3, respondents across institutions cited many reasons for using LMI. The most common internal purpose driving participants to use LMI was program development (90% overall). Nearly all respondents at two-year colleges (96%) used LMI for this purpose as well as most of those at four-year institutions (84%

FIGURE 3. Internal Purposes for Using LMI as a Percentage of Respondents



public and 82% private). Over two-thirds of respondents (78% overall) reported using LMI for strategic planning. Reflecting the closer alignment of public two-year programs with the labor market, this number was driven by respondents from those institutions, who reported using LMI for strategic planning at a rate far higher than those at four-year schools (84% two-year vs. 75% four-year public and 65% four-year private). The same pattern was repeated but was more pronounced with regard to the use of LMI for curriculum alignment. Respondents at public two-year colleges were more likely than those at public and private four-year institutions to report they used LMI for that purpose (81% of two-year vs. 59% of four-year public and 49% of four-year private).

Program review was another common reason for using LMI at all institutions (i.e., 87% at public two-year, 62% at public four-year, and 64% at private four-year). Participants indicated five key facets of the program review process affected by the use of LMI: expanding program capacity, closing programs, revising the review process, accreditation, and changing delivery modalities. A survey participant at a private four-year college explained how expanding program capacity was supported by LMI, "We used the data to expand program offerings: for example, the recent addition of an AS in Biology and an AAS in Cyber Security." Another participant noted that at their public four-year college, "occupational projections are used as a basis for expanding program capacity." On the other hand, a participant from a public two-year college reported, "Our institution evaluates the viability of current and proposed degrees and certificates," sometimes using those findings to revise or even close programs. Another participant, this one from a public four-year college, elaborated that "programs that don't measure up are reviewed and considered for sunset. For instance, two years ago, 13 programs were eliminated due to declining market trends or poor post-exit outcomes." In that case, determining program viability included the use of LMI to analyze labor market trends and student outcomes.

Other uses of LMI related to program review included program accreditation and the expansion of delivery methods. According to a private four-year college respondent, "LMI provides a source of program validity, especially for academic programs that do not have program-level accreditation." A private four-year college participant reported using LMI when deciding whether to "expand the delivery methods of our teacher education program to include an accelerated model for paraprofessionals in private and public K-12 systems in our region." In addition to uses related to program review, participants identified several other major reasons for using LMI, including employer discussions (61% overall), preparing funding applications (53% overall), and student advising (44% overall).

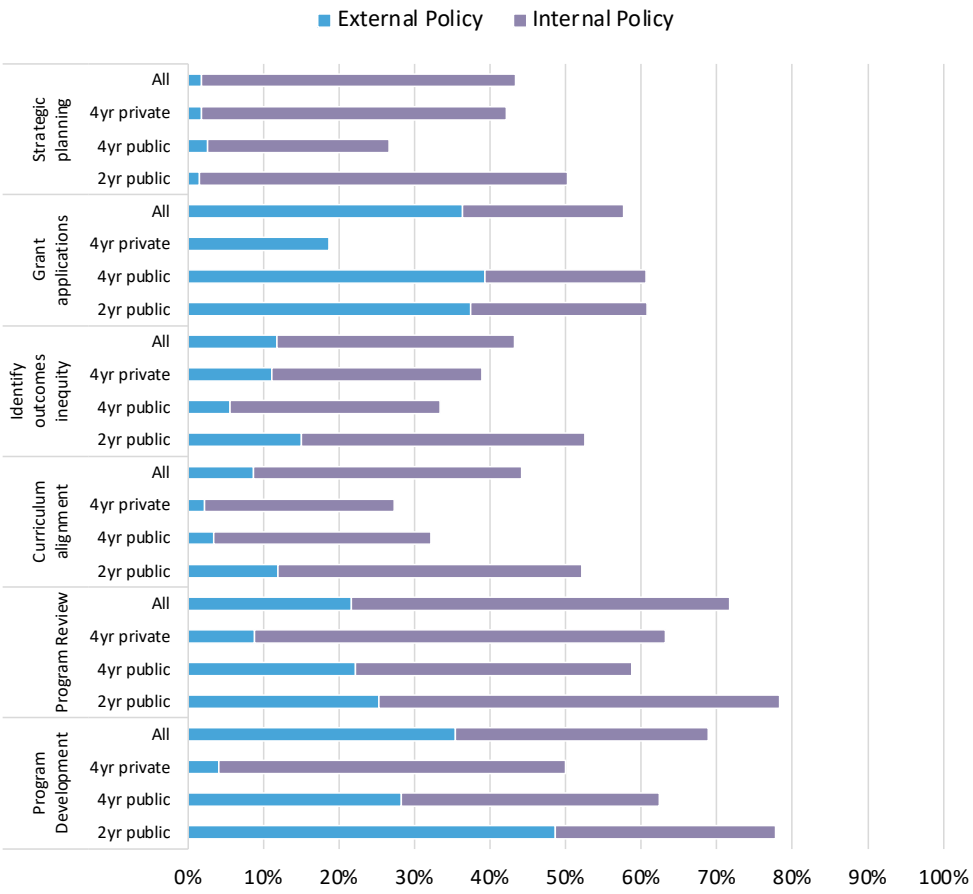
Frequency of Use of LMI in Work.

Nearly all of our survey respondents used LMI at work with some frequency. Only 6 percent of all respondents reported using it only rarely. Participants from two-year colleges used LMI on the job more frequently than those from four-year colleges. Of those who reported using LMI 'always' or 'often', most (61%) were from public two-year colleges, followed by those from public, then private, four-year colleges (43% and 29%, respectively).

Motivations for the use of LMI. Mandates (i.e., external and internal policies) impact motivations to use LMI, as shown in Figure 4. The largest reported overall impacts of mandates were internal policies for program review (50% overall), strategic planning (41% overall), curriculum alignment (36% overall), and program development

(34%). External policies also motivated LMI usage across institutions, of which the largest motivators were grant applications (36% overall), program development (35% overall), and program review (22% overall). It is important to remember that, as seen in Figure 3, many LMI applications were not motivated by mandates. For instance, a majority of respondents from all institution types chose to use LMI for student advising (68% overall), employer discussions (67% overall), and skills mapping (58% overall) without being mandated to do so.

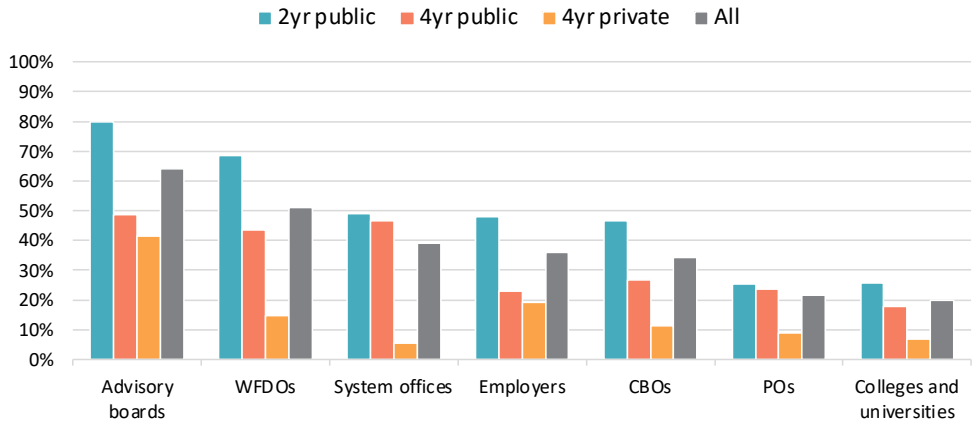
FIGURE 4. Motivators of Institutional LMI Usage as a Percentage of Respondents



Stakeholders with whom LMI is Shared.

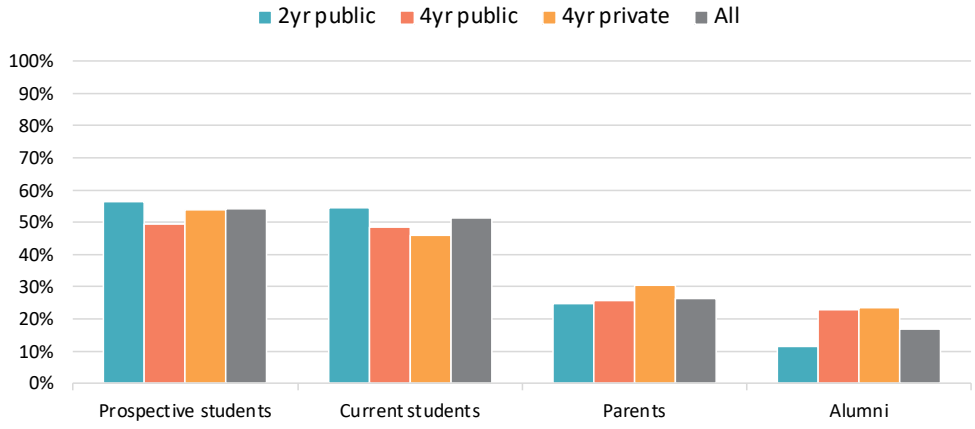
Across all institutions, the most common stakeholders with whom respondents shared LMI were groups and organizations, including advisory boards and workforce development organizations, as shown in Figure 5. Respondents at public two-year colleges were about twice as likely as their counterparts at private four-year institutions to report that they shared LMI with advisory boards (80% two-year vs. 42% four-year private). The relatively higher number of respondents at public two-years who reported sharing LMI with their advisory boards aligns with a broader observation among those participants who used LMI in their work with other external partners, including economic and workforce development organizations and community-based organizations.

FIGURE 5. Organization Stakeholders with Whom Respondents Shared LMI as a Percentage of Respondents



Note. WFDOs = workforce development organizations; CBOs = community-based organizations; and POs = professional organizations

FIGURE 6. Individual Stakeholders with Whom Respondents Shared LMI as a Percentage of Respondents

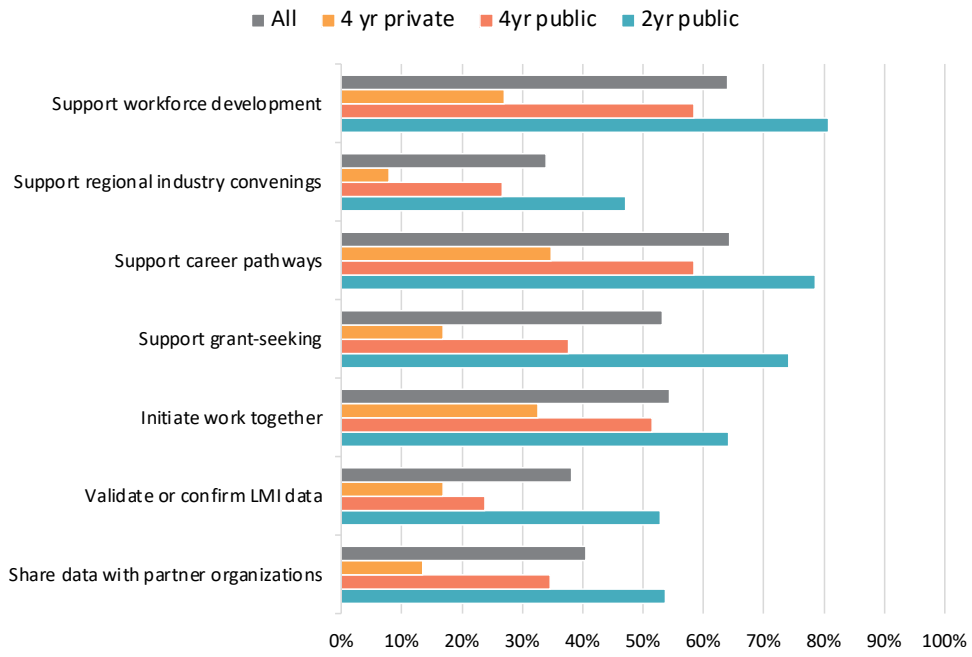


Data displayed in Figure 6 show that in addition to sharing LMI with organizations and external partners, many institutions reported sharing LMI with individuals, including prospective students (54% overall), current students (51% overall), parents (26% overall), and alumni (17% overall). Notably, all types of institutions shared LMI with prospective and current students about equally, at rates hovering around 50 percent. This usage shows that regardless of which credentials are offered by their home institution, about half of the respondents make information about the state of the labor market available to students for making decisions about their career paths.

Purpose of Discussing LMI with Stakeholders.

Respondents reported a variety of purposes for sharing LMI data with external partners, as shown in Figure 7. The purposes most commonly reported by respondents across institutions were to support career pathways and program articulation (64% overall), to support workforce development activities (64% overall), to create a shared context to initiate work together (54% overall), and to support grant-seeking efforts (53% overall). The participants most likely to report sharing LMI for each of these reasons were respondents at public two-year institutions, a finding that is consistent with the higher degree of engagement with external partners using LMI previously observed among that group. (See Figure 5.)

FIGURE 7. Purposes for Discussing LMI with Stakeholders as a Percentage of Respondents



Impact of LMI Usage.

When asked about the impacts of LMI usage, more than half of the 288 participants at all types of institutions who responded to this open-response question indicated that engaging with LMI had positive effects on new program development. A participant from a private four-year college explained how LMI helped his institution with program selection at both the undergraduate and graduate levels, "LMI has been useful in starting new programs over the past two years. We have used it to develop two undergraduate [programs] and one graduate program and decide against another." A participant from a public four-year college reported that LMI helped guide the development of new noncredit programs. "LMI has guided our selection of new noncredit professional certification courses in alignment with in-demand jobs in high-paying occupations." In that case, LMI was helpful for new program development because it provided actionable information about unmet workforce needs and regional stakeholder perspectives. Consulting LMI when developing new programs also helped "to minimize program failures and ensure programs are created that are responsive to local community labor force needs," explained another participant from a public four-year college. Further, a public two-year college participant described how "LMI helped us to recognize where there may be unmet workforce/labor needs that my college could develop a program to meet." Thus, LMI informed colleges from both local and regional workforce perspectives.

Participants who provided open responses about the impacts of COVID-19 on their LMI usage identified two types of effects: program closure and short-term training program development. Concerning program closure, a participant from a public two-year college explained, "These programs [RN-to-BSN nursing program and online associate and bachelor degree programs in Fire and Emergency Services Administration] are now closed to new admissions and will be terminated because of enrollment declines exacerbated by the coronavirus pandemic." With regard to short-term training program development, another respondent from a public two-year college reported that, "at the peak of the pandemic, for example, we used LMI to support efforts to create short-term programs certificates so unemployed people would find better or new jobs." Yet another noted that their institution is "paying closer attention to skills and competencies for short-term training opportunities." Thus, changing labor market conditions related to the COVID-19 pandemic have prompted some colleges to increase their focus on skill development.

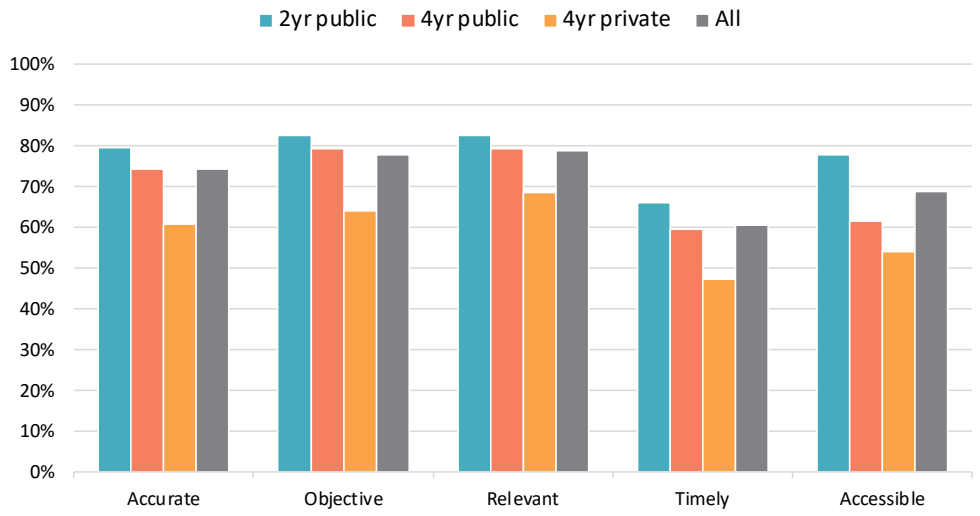
Institutional Supports and Barriers to Using LMI

A variety of factors helped support or acted as barriers to the use of LMI among institutions. We sought to understand these various factors. We examined the perceptions of trust in LMI among respondents. Further, we examined the potential supports for the use of LMI, including the institutional capability for LMI usage, institutional support for LMI usage, and external entities that support institutional LMI usage. Finally, we examined the potential barriers to expanding institutional LMI usage and the concerns about LMI.

Perceived Quality of Available LMI.

Respondents varied in their perceptions of the quality of the LMI they had access to, as shown in Figure 8. Using the Workforce Information Advisory Council's (2016) five dimensions of quality, we asked participants about the accuracy, objectivity, relevance, timeliness, and accessibility of LMI.[5] Public two-year respondents were most likely to agree or strongly agree that their LMI met each of these five quality criteria. The weakest quality dimension across all three sectors was timeliness, with two-thirds (66%) of public two-year respondents indicating that they thought their LMI was timely and about half of public and private four-year college respondents indicating such (59% four-year public and 47%, four-year private).

FIGURE 8. Perceived Quality of LMI By Sector, either Agreed or Strongly Agreed, as a Percentage of Respondents



5 Workforce Information Advisory Council. (2016). *The importance of workforce and labor market information*. U.S. Department of Labor. https://www.dol.gov/sites/dolgov/files/ETA/wioa/pdfs/Informational_Handout.pdf

When survey participants indicated concerns with LMI, data quality was a major theme. Across all three sectors they indicated concerns with data quality, particularly with regard to LMI's accuracy, relevance, and timeliness. While most participants across institution types indicated data accuracy as a major concern, there were nuances between two- and four-year colleges in their reporting of other concerns related to data quality.

Data accuracy and relevance were significant concerns for participants from public two-year colleges. A participant explained that "data often reflects large workforce areas or by state. It is not always reflective of the rural community in which we operate," wrote one two-year college participant. Another two-year college participant explained relevance this way: "info is not available specific to our needs." For those at public four-year schools, the major concerns were with data accuracy and timeliness. For instance, a participant from one such institution expressed concerns about the "accuracy and timeliness of outside data sources, specifically BLS data." At the same time, another noted that it was "knowing whether LMI data are accurate/comprehensive/up-to-date." A participant from a private four-year college explained that "the data lag is significant when dealing with LMI." Thus, participants from both two-year and public four-year colleges noted concerns about LMI's accuracy. Still, those at two-year schools were further concerned about the relevance of the data to their students and program offerings, whereas timeliness was a more frequent concern among those at four-year colleges.

Participants from all types of institutions indicated data concerns on the theme of trustworthiness. These concerns were data transparency, lack of content, and insufficient staff preparation to use LMI reliably. Another set of concerns respondents from all institution types seemed to agree on had to do with the misunderstanding, misuse, and misinterpretation of LMI data. These are summarized by one participant as the "inability of end users to understand the data." Concerning misuse, another participant expressed concerns "about the misuse of the LMI we provide. LMI should be considered one important factor among a variety of other factors that ultimately lead to program creation and/or modification." Concerning misinterpretation, a participant explained:

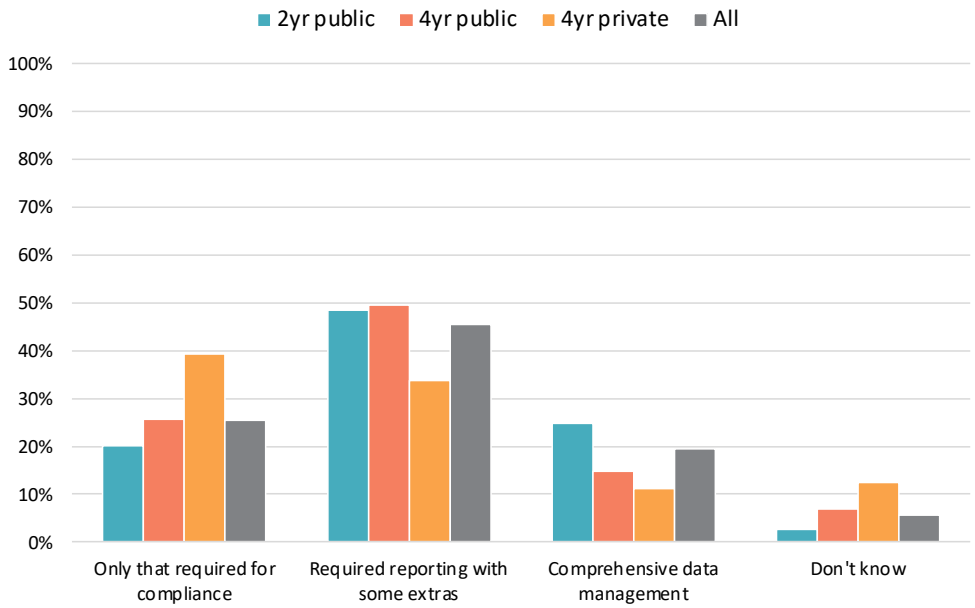
> All data have strengths and weaknesses; too often, data are interpreted without considering limitations. Also, occupational and industry taxonomies are becoming increasingly less descriptive of the labor market. Thus, analysis is often performed at levels of granularity that mask underlying trends—especially in new, emerging, or evolving employment, occupational, or skill demands.

Thus, skillful data interpretation and analysis are particularly important in evolving labor market conditions.

Institutional Capabilities for LMI Usage.

When asked about their institution's capabilities for LMI usage, half of the survey respondents from public institutions (48% two-year and 50% four-year) indicated that their institution had the capability to engage in required reporting plus limited additional analyses. These data are shown in Figure 9. The private four-year institutional respondents were less likely to report having that capability (34%), which makes sense given the more extensive compliance reporting that public institutions undertake. Twenty percent of public two-year college respondents, 26 percent of public four-year college respondents, and 39 percent of private four-year respondents indicated that their institution only could engage in the minimum analysis and reporting required

FIGURE 9. Institutional Capabilities for LMI Usage as a Percentage of Respondents

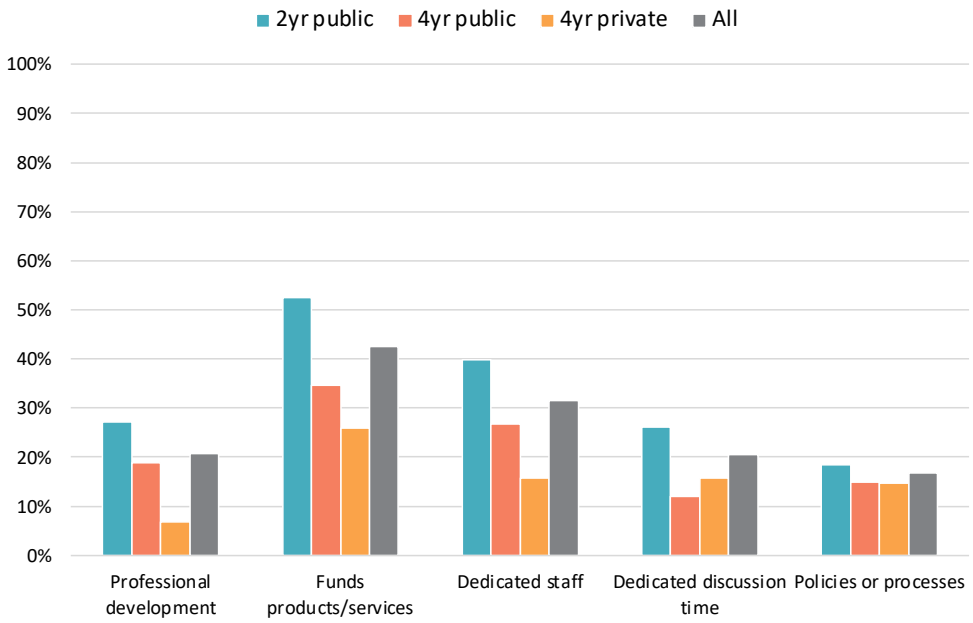


for compliance purposes. In contrast, a quarter of respondents from public two-years, 15 percent of those from public four-year, and only a tenth of respondents from private four-years reported that their institution had comprehensive data collection, analysis, and reporting capabilities.

Institutional Support for LMI Usage.

There was a notable lack of institutional support for LMI usage reported by respondents from all three sectors, as shown in Figure 10. Respondents from public two-year colleges were consistently the most likely to indicate that their college provided support. Even then, only 52 percent reported that their college provided funding to purchase LMI products or services. The next most common form of institutional support received by 40 percent of public two-year respondents was dedicated staff to support the collection, analysis, dissemination, and use of LMI. As we have seen among other survey items, respondents from public colleges tended to indicate more support for and usage of LMI than those from private four-year institutions. One area in which the respondents answered consistently across all three sectors was in developing policies or processes. Overall, about 17 percent of respondents indicated that their institution had policies or processes for using LMI.

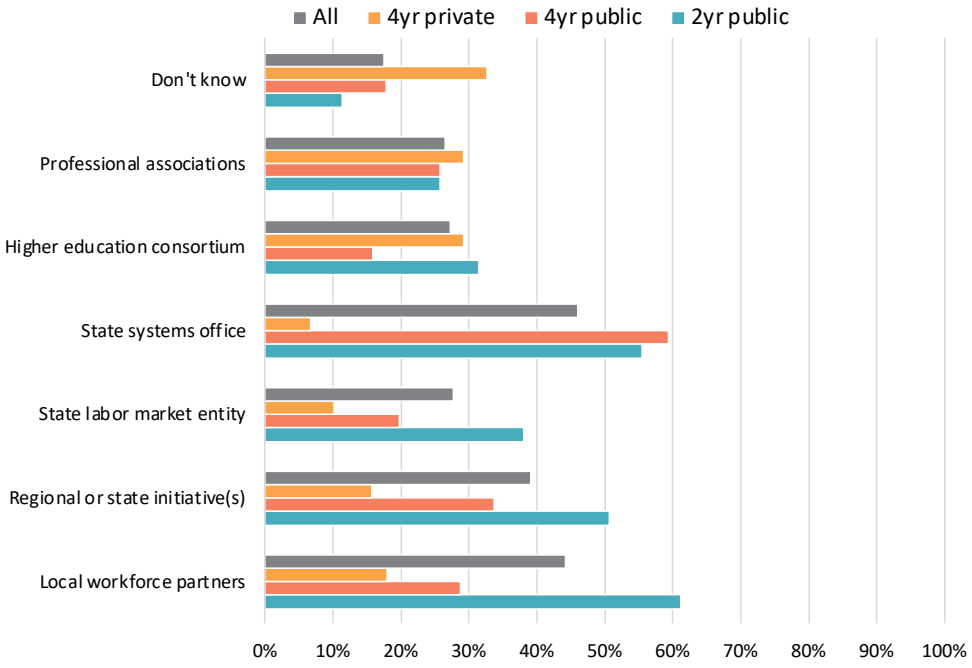
FIGURE 10. Institutional Support for LMI Usage as a Percentage of Respondents



External Entities that Support Institutional LMI Usage.

The external support for LMI usage varied significantly by sector but did not exceed about two-thirds of respondents, as shown in Figure 11. The most common form of external support was that provided by local workforce board partners to public two-year institutions (61% of two-year vs. 29% four-year public and 18% four-year private). About half of the respondents from both two-year and public four-year colleges (55% and 59% vs. 7% four-year private) identified state system offices as supporters of institutional LMI usage. Half of the public two-year respondents (51%) also indicated that regional or state sector initiatives supported LMI usage at their institution. However, only 34 percent of public four-year and 16 percent of private four-year respondents identified this as a support. Similarly, respondents from public two-year institutions were most likely to indicate support from a state labor market planning entity such as California's Centers of Excellence (38% two-year vs. 20% four-year public and 10% four-year private). Just under 30 percent of respondents from across all three sectors indicated that professional associations were a source of external support for LMI usage (26% overall). Finally, while nearly one-third of public two-year (31%) and private four-year (29%) respondents reported receiving the support of consortiums, only about 16 percent of those from public four-year institutions received that support.

FIGURE 11. External Entities that Support Institutional LMI Usage as a Percentage of Respondents

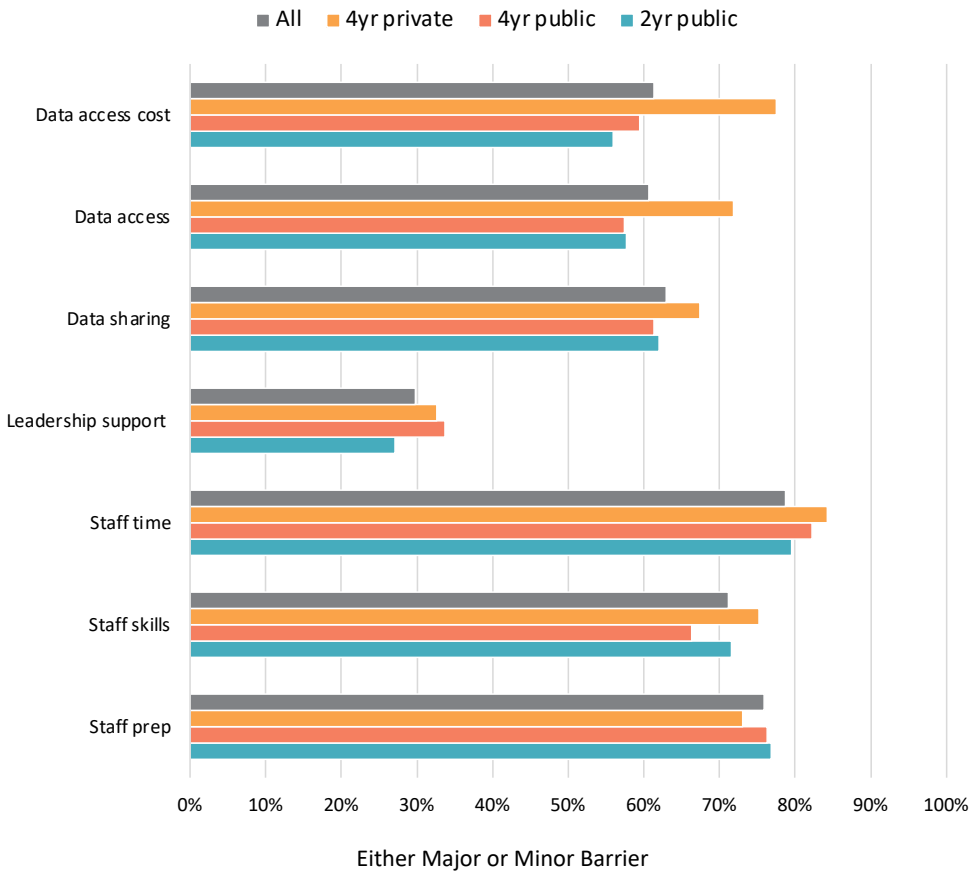


Barriers to Expanding Institutional LMI Usage.

Unlike other survey questions that ask about the nature of use or types of data used, the barriers to expanding LMI usage were reasonably consistent across the sectors, as shown in Figure 12. Nearly 80 percent of all respondents indicated that dedicated time for staff to conduct data-informed decision-making was a barrier to expanding LMI's use (79% overall), while only 30 percent of respondents indicated that leadership support for data-informed decision-making was a barrier. A majority of respondents overall identified other staff-related issues as barriers, including 76 percent cited a lack of preparation for interpreting and using LMI, 71 percent indicated concerns about the technical skills of staff to access or use LMI, and 63 percent cited issues with communication or the sharing of LMI data across departments.

Notably, there were two barriers that private four-year colleges were more likely to identify as issues at their institutions. One was access to needed LMI sources or metrics (72% of four-year private vs. 58% of two-year and 57% of four-year public). The other was the cost of gaining access to the data, which was cited as a barrier by 78 percent of private college respondents (vs. 56% of two-year and 59% of four-year public).

FIGURE 12. Barriers to Expanding Institutional LMI Usage as a Percentage of Respondents



Concerns About LMI.

Almost three-quarters (72% overall) of our survey participants across all categories indicated they had no concerns about LMI usage at their institutions. Similarly, when asked if others at their institution had raised concerns about LMI, a sizable group across all three sectors indicated either no such concerns had been raised (32% overall) or that they were unaware of any concerns (35% overall). Examples of data concerns from survey participants echoed the barriers identified by survey participants and displayed in Figure 12. The concerns of a public four-year college participant included "updated job titles, skills, wages, and lag in data reporting." A private four-year college participant expressed concerns about the "accuracy of government data, timeliness of data, and accuracy of proposed forecast models." Participants from all types of colleges indicated multiple and various data concerns.

Recommendations

As the economy shifts and the labor market responds to various crises and conditions, LMI has become increasingly relevant. LMI represents a significant opportunity for postsecondary institutions to understand better how their organizations and programs align with the changing labor market. We have demonstrated that LMI is useful for new program development, existing program review, curriculum alignment to valuable job skills, strategic planning, and winning grant funding. However, as our survey findings demonstrate, questions remain about the cost, sharing, and quality of LMI as well as the staff time and skill required to analyze and interpret the data. As a result, we offer several recommendations to three significant stakeholders: educational institutions, employers, and policymakers. Specific stakeholders can do the following to promote LMI quality and usage to improve higher education:

Educational institutions

- Develop institutional policies and procedures supporting data infrastructure, sharing, and LMI usage discussions. Specifically, policies and procedures should integrate multiple LMI sources and usages across divisions and departments to support current and future LMI purposes and initiatives.
- Prepare faculty and staff members to understand, use, and interpret LMI through ongoing, long-term professional development that includes dedicated time for learning and discussions.
- Collaborate with other institutions, agencies, state entities, and employer partners to advocate for more affordable, timely, accurate, and context-relevant LMI.

Employers and local workforce partners

- Extend collaboration efforts – including workforce development efforts, industry convenings, and career pathways programs – to four-year colleges while continuing to support two-year colleges.
- Share timely, relevant, and accessible skill information to support collaborations.

Policymakers

- Expand the external support of state entities (e.g., state systems offices, departments of labor, and state/regional initiatives) to a network of higher education institutions.
- Expand policy support to improve access to various types of LMI, reduce data access costs, and help colleges overcome other barriers to expanding LMI usages (e.g., supporting college staff professional development and data sharing across institutions and regions).

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