FEBRUARY 2017






TALENT 2.0
REGIONAL WORKFORCE STRATEGY
FORT COLLINS-LOVELAND METRO AREA

TIP strategies
AUSTIN • SEATTLE

ACKNOWLEDGEMENTS

TIP would like to thank the following individuals and organizations for their participation in this planning process:

Josh Birks, *Economic Health Director*
City of Fort Collins
SeonAh Kendall, *Economic Health Manager*
City of Fort Collins

David May, *President & CEO*
Fort Collins Area Chamber of Commerce
Ann Hutchinson, *Executive Vice President*
Fort Collins Area Chamber of Commerce

Kelly Jones, *Economic Development Director*
City of Loveland

Mindy McCloughan, *President & CEO*
Loveland Chamber of Commerce

Jacob Castillo, *Economic Development Director*
Larimer County

Andy Montgomery, *CEO*
Northern Colorado Economic Alliance

Joni Friedman, *Director*
Larimer County Workforce Center

Gordan Thibedeau, *President & CEO*
United Way of Larimer County

FINANCIAL SUPPORTERS

This project would not be possible without the financial support of the following:

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TIP STRATEGIES, INC. is a privately held Austin and Seattle based economic development consulting firm committed to providing quality solutions for public and private sector clients. Established in 1995, the firm's primary focus is economic development strategic planning.

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EXECUTIVE SUMMARY

In the spring of 2016, the Fort Collins Area Chamber of Commerce brought together a group of partners to assess the region's workforce, identify key challenges, and develop a regional talent strategy. TIP Strategies, economic and workforce development strategy consultants, was hired to assist in the effort. This regional workforce strategy—Talent 2.0—is an extension of a study commissioned by the City of Fort Collins in 2014, also conducted by TIP Strategies.

With the input from more than 50 of the region's employers and findings from an in-depth analysis of the regional workforce and labor market, three primary workforce challenges were identified. These challenges are:

1. Over the last five years, the Fort Collins–Loveland economy added almost 20,000 jobs but only 11,000 workers. This imbalance, combined with low unemployment and high underemployment, has resulted in many employers having difficulty finding the talent they need.

2. Over the next five years, employers will have at least 28,000 openings to fill. The labor force adds only about 2,000 to 3,000 workers each year. As a result, the labor market will likely tighten.

3. Almost one-quarter of all workers in the MSA are 55 or older. With the upcoming wave of retirements, employers will need to start succession planning now in order to prepare for the loss of those key individuals.

The Talent 2.0 Regional Workforce Strategy provides a platform for collectively addressing these regional challenges by identifying opportunities for collaboration and for addressing common needs. The strategic plan provides an overarching vision and a common agenda.

The strategic vision for the plan is:

"A dynamic labor market with a strong talent pipeline that supports employers' current and future needs and provides residents with good career options and opportunities to improve their skills."

This vision of a dynamic labor market creates a virtuous cycle within the workforce system, which in turn supports a strong and diverse regional economy. In the context of this vision, the partners coalesced around three opportunity areas to serve as the centerpiece of this regional workforce strategy:

1. **INCREASE ACCESS.** Actively support employers in finding, attracting, and retaining the talent that they need.
2. **IMPROVE ALIGNMENT.** Align education and workforce resources more closely with the business community and the local talent pool.
3. **REMOVE BARRIERS.** Collectively address structural issues that serve as barriers to a secure talent pipeline.

This framework takes into account what each partner is doing around talent and what each partner is positioned to do. It acknowledges that a common agenda can help align efforts and resources to amplify the reach and impact of the activities of each organization. Finally, it recognizes the existing and effective programs and builds mechanisms for scaling these initiatives to achieve results at a regional level.

The primary strategies under each of these opportunities is summarized below.

OPPORTUNITY 1. INCREASE ACCESS

Actively support employers in finding, attracting, and retaining the talent that they need

1.1. YOUR PLACE: NORTHERN COLORADO. Design and launch a talent campaign to support the recruitment of prospective employees to the Fort Collins-Loveland MSA.

1.2. LOCAL TALENT. Help connect regional employers with residents and residents with better economic opportunities.

1.3. AWARENESS. Build greater awareness of the region's job opportunities and strong employment base.

1.4. HR BEST PRACTICES. Coordinate with the Workforce Center, the Northern Colorado Human Resources Association, Mountain States Employers Council, and others to hold workshops on talent management topics for employers and HR professionals.

1.5. RETENTION. Partner with employers to coordinate solutions that address common barriers to talent retention.

OPPORTUNITY 2. IMPROVE ALIGNMENT

Align education and workforce resources more closely with the business community and the local talent pool

2.1 BUSINESS ENGAGEMENT. Streamline business engagement and input mechanisms.

2.2 EDUCATION & TRAINING CAPACITY. Support education and training institutions in strengthening the "home grown" talent pipeline.

OPPORTUNITY 3. REMOVE BARRIERS

Collectively address structural issues that serve as barriers to a secure talent pipeline

3.1 ADVOCATE. Advocate around key structural issues.

3.2 EDUCATE. Organize a series of symposiums on each topic to educate relevant audiences, generate discussion about possible solutions, and identify a core group of champions that will lead taskforces.

3.3 ACHIEVE. Assemble taskforces of champions and "doers" to move solutions forward.

Implementing the strategy will require a great deal of ongoing collaboration, communication, and coordination. As such, the Steering Committee, with the addition of key stakeholders, should continue to serve a governance role to monitor implementation. In addition, a backbone organization should be designated to maintain the strategic coherence of the effort, manage fundraising and outreach activities, and provide additional project management and support. This structure will provide the support needed for the successful implementation of Talent 2.0 over the next five years.

TALENT 2.0 |
A REGIONAL WORKFORCE STRATEGY
for the Fort Collins-Loveland Metro Area

INTRODUCTION

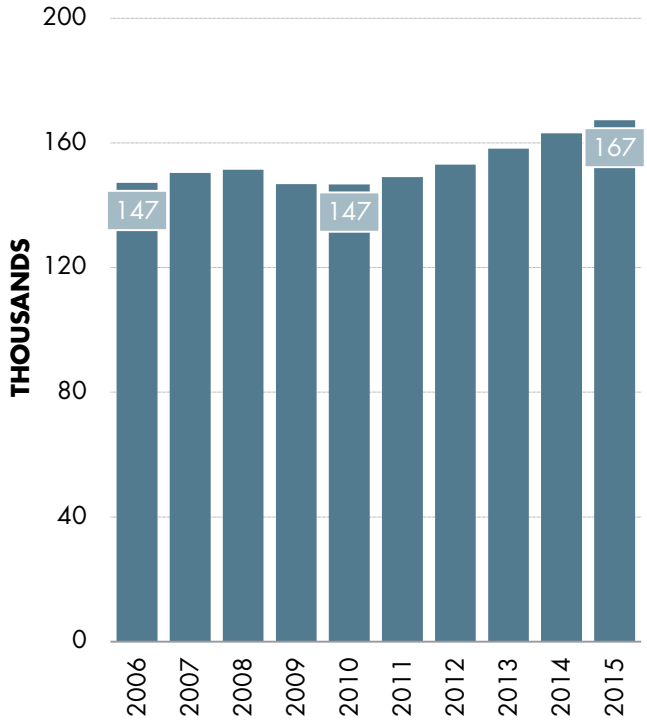
In the spring of 2016, the Fort Collins Area Chamber of Commerce brought together a group of partners to assess the region's workforce, identify key challenges, and develop a regional talent strategy. The group included the Cities of Fort Collins and Loveland, Larimer County Workforce Center, Larimer County Economic Development, the Loveland Chamber of Commerce, Northern Colorado Economic Alliance, and United Way of Larimer County. TIP Strategies, an economic and workforce development strategy consultancy, was hired to assist in the effort. The resulting workforce strategy—Talent 2.0—is an extension of a study commissioned by the City of Fort Collins in 2014, also conducted by TIP Strategies.

As part of the process, TIP conducted a series of roundtable discussions with more than 50 employers from a wide range of industries across the region. These discussions provided insights into the current challenges that employers in the Fort Collins-Loveland Metropolitan Statistical Area (MSA) are facing. It also provided mechanisms for validating the findings from the quantitative labor analysis. The findings from this research are summarized in the following three key challenges:

THE CHALLENGES

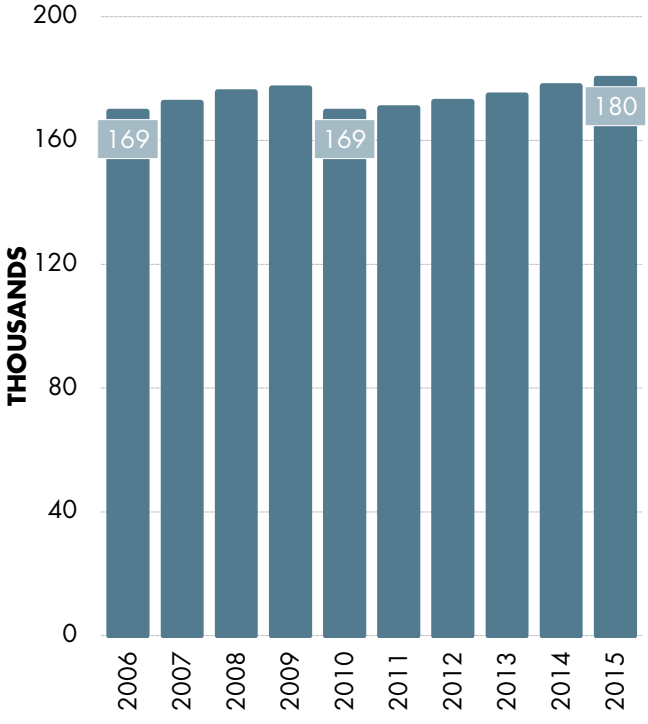
1 Over the last five years, the Fort Collins–Loveland economy added almost 20,000 jobs but only 11,000 workers. This imbalance, combined with low unemployment and high underemployment, has resulted in many employers having difficulty finding the talent they need.

FIGURE 1. TOTAL EMPLOYMENT
FORT COLLINS – LOVELAND MSA, 2006-2015



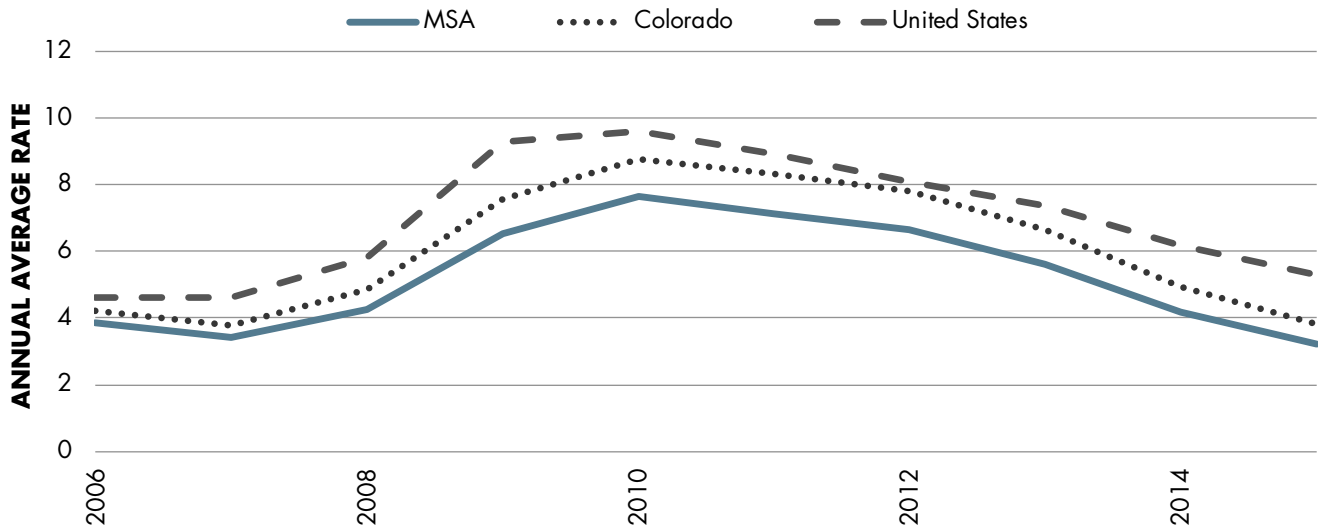
Source: EMSI 2016.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

FIGURE 2. CIVILIAN LABOR FORCE
FORT COLLINS – LOVELAND MSA, 2006 - 2015



Source: US Bureau of Labor Statistics via Moody's Analytics.

FIGURE 3. AVERAGE ANNUAL UNEMPLOYMENT RATE
FORT COLLINS – LOVELAND MSA, 2006 - 2015



Source: US Bureau of Labor Statistics, Local Area Unemployment Statistics (state and local), Current Population Survey (national).

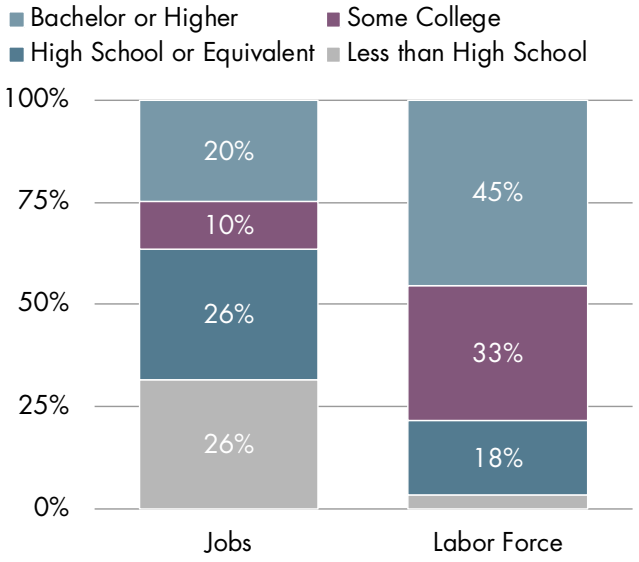
This finding is consistent with what employers reported in each roundtable discussion held as part of the strategic planning process. Employers report that they are increasing expectations of existing employees' productivity, choosing not to grow, or expanding in other communities.

When employers were asked about their current workforce challenges, a number of common themes emerged:

- **Hiring difficulty and retention challenges cut across skill and wage levels—from high-skilled professionals to low-wage service jobs.** In high-skilled occupations, employers have trouble attracting C-level executives, young professionals, racially/ethnically diverse talent, and talent from the Denver metro area as well as the coasts. The perception that the Fort Collins-Loveland employment base lacks diversity and depth contributes to the challenge attracting skilled talent from larger markets. In addition, the difficulty finding employment for trailing spouses or partners also serves as a barrier.

  For middle skills and low-skilled jobs, employers reported having difficulty finding workers to fill jobs with high physical requirements such as warehousing,

FIGURE 4. UNDEREMPLOYMENT: JOBS VS LABOR FORCE, FORT COLLINS-LOVELAND MSA
EDUCATIONAL REQUIREMENTS AND ATTAINMENT



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed, ACS.

waste collection, and construction. Entry-level positions in food services and housekeeping/janitorial services are also difficult to fill. For positions that require employees who can pass a drug test, it is even more difficult to find qualified applicants.

With 45 percent of the labor force having a bachelor's degree or higher and only 20 percent of the jobs requiring a degree, underemployment is a major concern for employers. Specifically, it is challenging for employers because overqualified workers are often looking for better opportunities, and turnover related to underemployment can be costly. As a result, some employers are reluctant to hire over-qualified candidates. Conversely, the overabundance of highly educated workers can push less skilled (but appropriately qualified) workers into jobs for which they are also overqualified. The waterfall effect means that workers with a high school diploma or less are faced with grim employment prospects.

In addition, differences in generational expectations can contribute to workplace tensions and make retaining young talent difficult. Another retention challenge is that recent graduates and young professionals often leave the region to work in Denver or other larger urban markets.

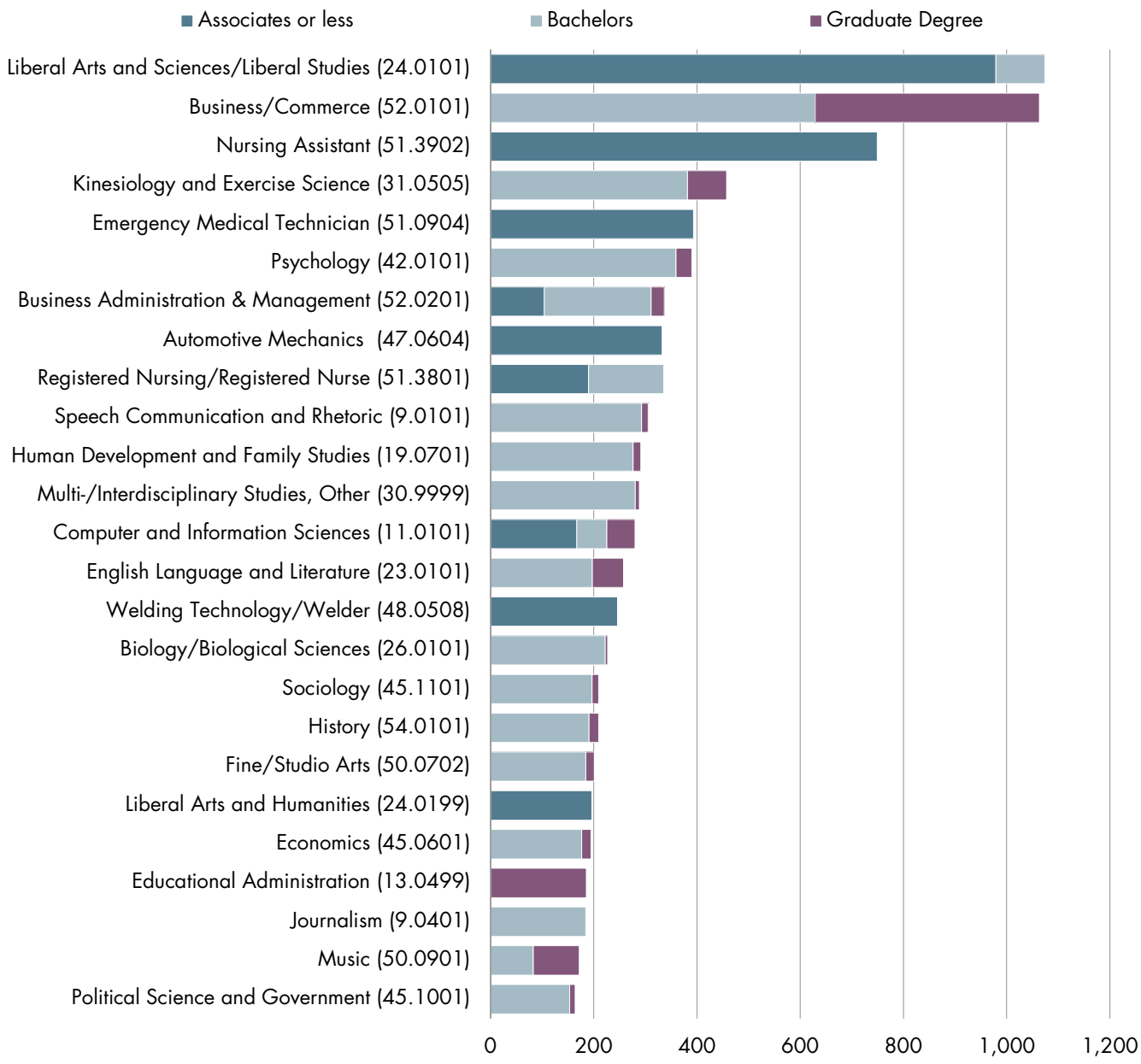
- **Although the education and training infrastructure in the region is strong, some barriers exist that weaken the local talent pipeline.** In general, there are a great many workforce development resources that could help connect employers to the talent they need, but there is a fairly low level of awareness among employers about the resources that exist. In addition, the mechanisms for engaging employers and getting their input on curricula and hiring needs is sometimes inefficient. In terms of the education infrastructure, training providers have trouble, at times, finding qualified instructors to teach courses that support high-demand occupations. In addition, students (and their parents) are not fully aware of career options that require less than a four-year degree, and many students do not choose fields of study based on employment opportunities. The most popular fields of study for students in the Fort Collins-Loveland region (Figure 5) are liberal arts, business, nursing assistant, kinesiology, and emergency medical technician. These choice patterns do not align well with regional occupational demand, particularly for middle skills occupations.

- **Housing, transportation, and childcare are structural challenges that affect a wide range of workers.** Housing affordability is an issue that faces most income levels and influences both the purchase and rental markets. Many employers mentioned housing affordability as a very significant barrier to finding the talent they need. Transportation and mobility was another major issue—the lack of public transportation connections with Denver and the traffic on I-25. Quality childcare for affordable prices was another area that many different employers mentioned as a barrier, particularly for lower wage earners.

These common themes provide greater visibility into the workforce challenges that employers in the Fort Collins-Loveland region currently face in finding and keeping the talent that they need. With the number of jobs growing more quickly than the labor pool, the regional labor market has tightened in recent years and the unemployment rate has dropped to historically low levels. This tightening of the labor market has made employers more acutely aware of weaknesses in the local talent pipeline and structural barriers that face the regional workforce.

FIGURE 5. TOP 25 LARGEST FIELDS OF STUDY AT REGIONAL INSTITUTIONS*

RANKED BY AVERAGE NUMBER OF COMPLETIONS, ALL AWARD LEVELS



Source: National Center for Education Statistics, IPEDS Survey.
* Includes completions for Aims Community College, Colorado State University, Front Range Community College, University of Northern Colorado, IBMC College, Healing Arts Institute, CollegeAmerica-Fort Collins, and Academy of Natural Therapy.

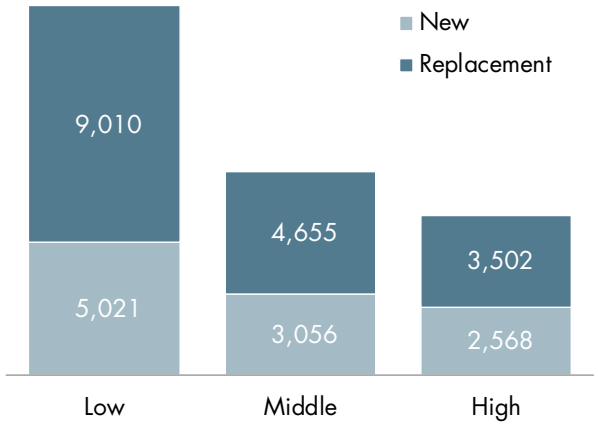
2 Over the next five years, employers will have at least 28,000 openings to fill. The labor force adds only about 2,000 to 3,000 workers each year. As a result, the labor market will likely tighten.

EMSI, a leading data provider, projects conservatively that employers in the Fort Collins-Loveland MSA will have almost 28,000 openings to fill between 2016 and 2020. More than 60 percent of these openings are replacement jobs due to turnover from natural attrition and retirements.

As shown in Figure 2 on page 1, the MSA has added between 2,000 and 3,000 workers each year. If this trend continues, the labor market will continue to tighten with demand for workers outstripping supply.

Between 2016 and 2020, we estimate that the projected worker shortfall is at least 5,000.

FIGURE 6. EMPLOYMENT BY SKILL LEVEL
FORT COLLINS-LOVELAND MSA, 2016-2020



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
Note: **Low-skilled** occupations are those occupations that require a high school diploma or less and no on the job training. **Middle skills** occupations are those occupations that require at least a high school diploma and some additional training but less than a bachelor's degree. **High-skilled** occupations are those that require a bachelor's degree or higher. **Replacement** demand is an estimate of the number of workers required to replace existing workers who leave the occupation due to a variety of factors including retirement, career advancement, or exiting the workforce to raise children or attend school.

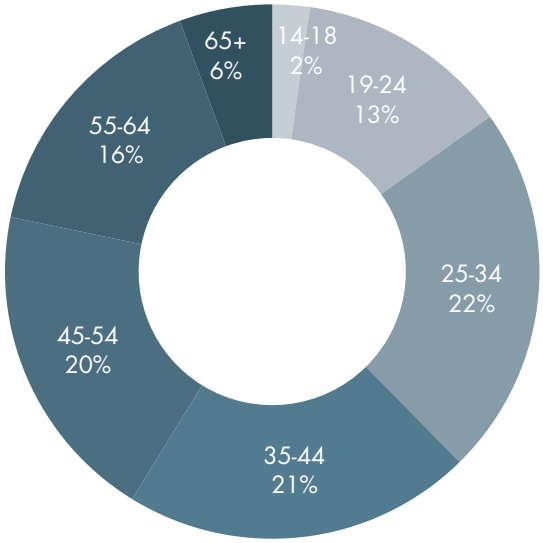
3 Almost one-quarter of all workers in the MSA are 55 or older. With the upcoming wave of retirements, employers will need to start succession planning now in order to prepare for the loss of those key individuals.

Currently, 6 percent of the MSA's workforce is over 65 years old and 16 percent is 55 to 64 years old. In other words, 22 percent of the MSA's workforce will be eligible for retirement in the next 10 years.

Within certain occupations, the situation is more acute. Figure 8 lists the highest demand middle skills and high-skilled occupations. Among the 27 middle skills and high-skilled occupations that are considered high-demand, 26 occupations have more than 25 percent of their workers 55 years of age and older. This means that in many of these high-demand occupations, a quarter or more of workers will be eligible for retirement in the next 10 years.

Employers reported that this is a major concern for them. Transferring institutional knowledge and preparing the next generation of managers will be extremely important in succession planning for key individuals who are soon retiring.

FIGURE 7. EMPLOYMENT DEMOGRAPHICS
FORT COLLINS-LOVELAND MSA



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

FIGURE 8. HIGH-DEMAND OCCUPATIONS BY SKILL LEVEL, FORT COLLINS-LOVELAND MSA, KEY INDICATORS

SOC CODE	DESCRIPTION	2015 Jobs	DEMAND FACTORS: Projected Annual Openings (2016-20)	New jobs	Replacement	Wage Premium over US	DEMOGRAPHICS: % 55+ Years	% 65+ Years
MIDDLE-SKILL *(More than high school, less than four years)*								
49-9071	Maintenance & Repair Workers, General	1,614	86	11%	89%	0.92	27% ◀	7%
29-1141	Registered Nurses	2,235	65	14%	86%	0.91	27% ◀	5%
53-3032	Heavy & Tractor-Trailer Truck Drivers	1,062	47	40%	60%	0.88	28% ◀	7%
51-9111	Packaging & Filling Machine Workers	588	35	32%	68%	1.59	15%	2%
49-9041	Industrial Machinery Mechanics	505	31	52%	48%	1.11	24% ◀	3%
43-3031	Bookkeeping, Accounting, & Auditing Clerks	1,937	31	30%	70%	0.97	32% ◀	9%
29-2061	Licensed Practical/Vocational Nurses	396	28	52%	48%	1.02	26% ◀	5%
51-4041	Machinists	369	23	45%	55%	1.12	27% ◀	5%
41-9022	Real Estate Sales Agents	655	19	73%	27%	0.84	39% ◀	13% ◀
49-1011	First-Line Supvsr., Mechanics, Install, & Repair	351	17	54%	46%	1.12	27% ◀	4%
11-9141	Property, Real Estate, & Community Assoc. Mgrs.	248	15	66%	34%	1.17	40% ◀	14% ◀
43-6013	Medical Secretaries	451	15	63%	37%	1.07	29% ◀	6%
47-4011	Construction & Building Inspectors	196	8	17%	83%	1.17	38% ◀	11% ◀
51-8031	Water/WW Treatment Plant Operators	203	8	32%	68%	1.21	30% ◀	6%
13-2021	Appraisers & Assessors of Real Estate	116	5	61%	39%	1.38	32% ◀	9%
HIGH SKILL *(Four-year degree or above)*								
25-1099	Postsecondary Teachers	3,438	139	30%	70%	0.80	30% ◀	11% ◀
11-1021	General and Operations Managers	2,172	102	41%	59%	0.77	23% ◀	4%
13-2011	Accountants and Auditors	1,622	83	38%	62%	0.84	25% ◀	6%
25-2021	Elementary School Teachers, Except Special Education	1,503	63	42%	58%	0.85	28% ◀	5%
25-2031	Secondary School Teachers, Except Special and Career/Tec	1,071	46	39%	61%	0.84	28% ◀	5%
13-1111	Management Analysts	671	39	73%	27%	0.73	38% ◀	12% ◀
25-2022	Middle School Teachers, Except Special and Career/Techni	760	31	41%	59%	0.87	28% ◀	5%
25-3099	Teachers and Instructors, All Other	335	17	58%	42%	0.73	25% ◀	8%
21-1014	Mental Health Counselors	283	12	44%	56%	1.17	25% ◀	6%
21-2021	Directors, Religious Activities and Education	128	6	39%	61%	1.15	39% ◀	13% ◀
29-1069	Physicians and Surgeons, All Other	166	5	-	100%	1.30	31% ◀	9%
21-2099	Religious Workers, All Other	64	3	56%	44%	1.25	45% ◀	20% ◀

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

These challenges, however, are not necessarily unique to this region. In the most recent survey by Manpower, 46 percent of US employers report that they are having difficulty finding the talent they need. In particular, the top 10 occupations that employers have difficulty filling are listed in Figure 10.

FIGURE 9. PERCENT EMPLOYERS REPORTING DIFFICULTY FILLING JOBS, HISTORICAL COMPARISON

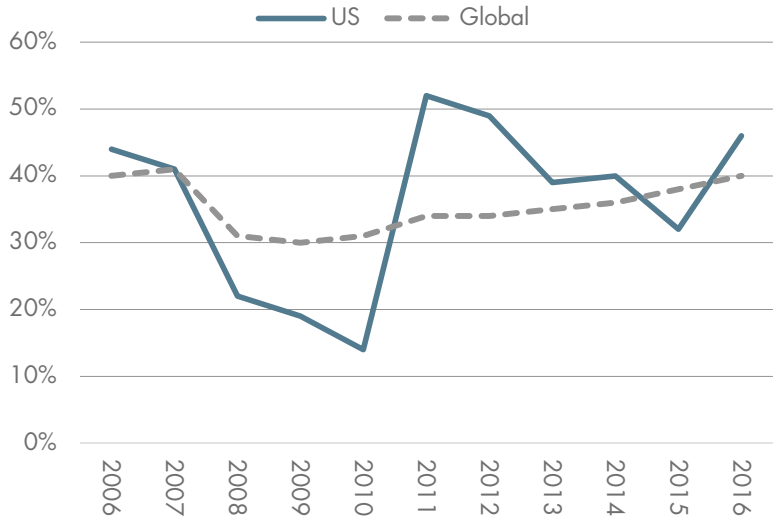


FIGURE 10. TOP 10 JOBS EMPLOYERS ARE HAVING DIFFICULTY FILLING NATIONALLY

UNITED STATES
1. Skilled Trades
2. Drivers
3. Sales Representatives
4. Teachers
5. Restaurants & Hotel staff
6. Accounting & Finance staff
7. Nurses
8. Laborers
9. Engineers
10. Technicians

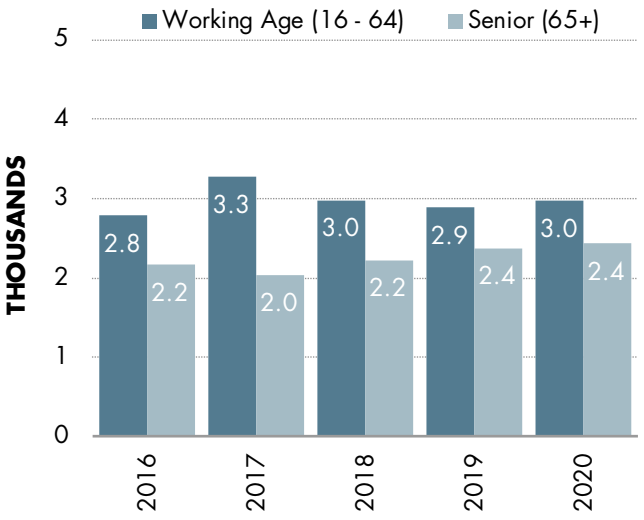
Source (both figures): ManpowerGroup, 2016-2016 Talent Shortage Survey.

In addition, the uptick of retirements is a national trend. However, the Fort Collins-Loveland region's reputation as a retirement destination likely amplifies the challenge. The Colorado State Demography Office projects that the region's senior population will increase by over 26 percent over the next five years while the working age population will increase by only 7 percent.

In summary, the continued strength of the regional economy, accompanied by a wave of retirements and a labor force that is not keeping pace with this demand has created a difficult hiring environment for local employers. The fact that these trends are mirrored at the national—and sometimes global—level further complicates the situation. As a result, employers in the Fort Collins-Loveland MSA are currently having difficulty accessing the talent they need, and this difficulty is likely to increase with the further tightening of the labor market over the near term.

FIGURE 11. POPULATION PROJECTIONS

FORT COLLINS-LOVELAND MSA,
RESIDENTS 16+, YEAR-OVER-YEAR CHANGE (#)



Source: Colorado State Demography Office.

TALENT 2.0 | A REGIONAL WORKFORCE STRATEGY

The communities who address these challenges collectively will be better positioned for success. Identifying opportunities for collaboration and for addressing common needs is the first step toward collective action. It is in this spirit that the coalition of partners in the Fort Collins-Loveland region came together to create the Talent 2.0 Regional Workforce Strategy.

The statement below provides an overarching vision to guide the strategic direction of the plan:

"A dynamic labor market with a strong talent pipeline that supports employers' current and future needs and provides residents with good career options and opportunities to improve their skills."

This vision of a dynamic labor market creates a virtuous cycle within the workforce system, which in turn supports a strong and diverse regional economy. In the context of this vision, the partners coalesced around three opportunity areas to serve as the centerpiece of this regional workforce strategy:

OPPORTUNITY 1. INCREASE ACCESS
Actively support employers in finding, attracting, and retaining the talent that they need

OPPORTUNITY 2. IMPROVE ALIGNMENT
Align education and workforce resources more closely with the business community and the local talent pool

OPPORTUNITY 3. REMOVE BARRIERS
Collectively address structural issues that serve as barriers to a secure talent pipeline

This framework takes into account what each partner is doing around talent and what each partner is positioned to do. It acknowledges that a common agenda can help align efforts and resources to amplify the reach and impact of the activities of each organization. Finally, it recognizes the existing and effective programs and builds mechanisms for scaling these initiatives to achieve results at a regional level.

The report that follows outlines strategies and actions to support each of the opportunity areas. In addition to the strategies and actions, selected strategic projects are pulled out and developed in more detail. A guide for implementation recommends a governance structure, partnerships, and metrics to ensure progress in each opportunity area is made, tracked, and reported. Finally, a detailed labor analysis is included to document the current and projected labor market conditions.

OPPORTUNITY 1. INCREASE ACCESS

Actively support employers in finding, attracting, and retaining the talent that they need

PRIORITY PROJECTS

1. Talent Campaign
2. The Underemployment Project
3. Plan for Success(ion)

As discussed in the introduction, the difficulty finding talent affects employers from a wide range of industries and cuts across the full range of skill and wage levels. Increasing support for local employers in their quest to hire and retain talent is one area where a collaborative approach can have a significant and community-wide impact. Programs, tools, and information that better position the community as a destination for talent will help employers access a larger talent pool. These kinds of collective actions will help to extend the reach of local employers' recruiting efforts both within and beyond the metro area. They also provide more opportunities to connect local talent and employers, providing residents with access to better opportunities.

1.1. Your Place: NORTHERN COLORADO. Design and launch a talent campaign to support the recruitment of prospective employees to the Fort Collins-Loveland MSA.

A coordinated talent campaign would help employers address some of their talent management challenges and focus in on the areas where they can have the most success. Formalized and standardized recruitment tools and assistance can ensure that employers have access to high-quality information resources and showcase the aspects of the community that will gain the most traction with their prospective employees. Joint marketing can demonstrate the strength and depth of the MSA's employment base and labor market. Building buzz through social media can also attract the attention of prospective employees.

The "Your Place: NORTHERN COLORADO" campaign could be built off of the Colorado Tourism Office's "Come to Life" campaign and the Office of Economic Development and International Trade's (OEDIT) "This is Your Place" campaign to leverage established brands that already have traction in the marketplace.

1.1.1. Create a talent portal that provides information about working, living, and relocating to the region.

- NorthernColorado.com could be expanded to serve this function or a new portal could be developed.
- Tailor messaging and content to appeal to young families with additional pages for specific target groups—C-level executives, young professionals, and more racially diverse talent.
- Statewide talent initiatives, including TalentFoundCO.org and Skillful.com should be considered and integrated into the Northern Colorado talent portal to avoid duplication and leverage these resources to the fullest extent possible.

1.1.2. Assemble a multi-generational and diverse group of "ambassadors" that are willing to help sell the community by participating in recruitment events and activities.

- Educate ambassadors about the opportunities in the region and distribute information packets.
- Encourage these ambassadors to participate in the talent campaign both online (social media) and in person.
- Use a tool such as Social Toaster to engage these ambassadors and push content out to their networks.

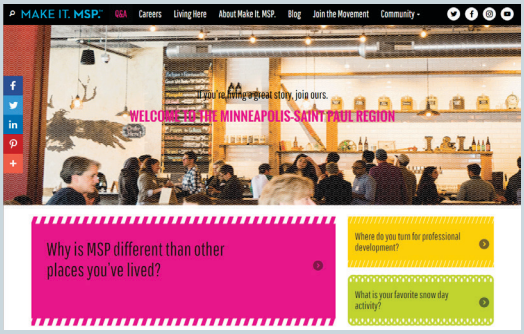
1.1.3. Partner with existing business networks (chambers of commerce, business associations, and industry associations) to create a program by which spouses and partners of recruits can be connected to potential employers or job opportunities.

- Create a network of participating employers. This could be as simple as a list-serve or a more formal structure for circulating resumes and matching the trailing spouse/partner with specific job openings.
- Gather resumes and information about the type of employment opportunity the spouse/partner is seeking.
- Distribute this information to the network of participating employers.
- Help connect the trailing spouse/partner with any employers who have appropriate job opportunities.

1.1.4. Develop a recruitment services program to support employers.

- Package and distribute information resources to employers for recruits that cover topics of interest including housing, education, industry data, entertainment, and recreation resources. These should be in multiple formats—online, presentation, and print. *(See also Strategy 1.3.1.)*
- Work with employers to define compelling community tour routes with customizable add-ons to appeal to the interests of individual recruits. Offer to give the tours as part of the program.
- Provide community presentation templates for employers to use for their recruitment events. These presentations should contain pertinent statistics and information about the Fort Collins-Loveland MSA. They could also be tailored to the interests of particular audiences, for example, cost of living comparisons between the MSA and the communities where prospective employees live. The presentations could be offered as a service to employers and could include a panel of community ambassadors that would field questions.

MAKE IT. MSP



Make It. MSP is Greater MSP's talent initiative that was developed and launched in 2015. The makeitmsp.org Web site serves as the platform for the initiative, providing information on the initiative as well as information for individuals considering a move to the MSP region.

To heighten its impact, Make It. MSP has recruited more than 100 "Makers" to its "Makers Hub" network, in which community-minded individuals and organizations collaborate around four specific areas:

- Radical Welcomers – dedicated to personally welcome newcomers to MSP
- Career Acceleration – working to help more than 3,000 local professional advance their career
- Leaders of Color – supporting leadership development opportunities that showcase rising leaders of color in the region
- Get Involved. MSP – connecting civic engagement opportunities with residents to help get them more deeply involved in the community

The initiative is focused on three target talent groups: newcomers, professionals of color, and tech talent.

For more information about the initiative, visit Make It. MSP's recent talent report at: http://makeitmsp.org/wp-content/uploads/2016/11/Regional-Talent-Report-Web.pdf

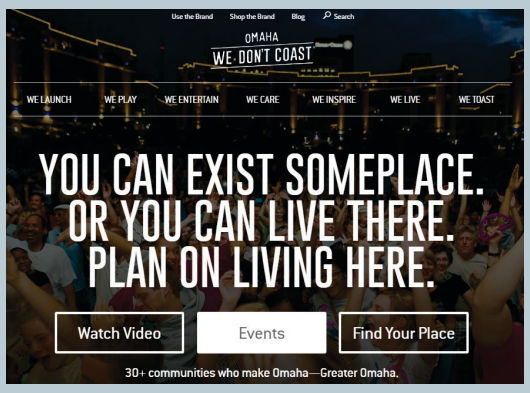
1.1.5. Organize talent roadshows to create opportunities for local employers to jointly market to prospective talent pools.

- Travel to South by Southwest to represent regional employers at the Job Market exhibition—this would be specifically for recruiting tech talent.
- Attend select veterans' job fairs jointly with regional employers to recruit veterans to the Fort Collins-Loveland MSA.
- Track markets that have talent local employers need to identify opportunities for joint marketing in response to layoffs or other events that might free up talent in those competing markets.
- Look for opportunities to take the talent roadshow to other markets where a critical mass of local companies is recruiting. This should be coordinated with any trade missions or industry trade shows related to local industry clusters (manufacturing, clean energy, healthcare, technology, software, craft brewing, etc.).

1.2. LOCAL TALENT. Help connect regional employers with residents and residents with better economic opportunities.

The growing regional economy and talent shortage offers current residents with opportunities to seek better employment by upskilling or retraining. It also offers underemployed residents opportunities to find employment for which they are appropriately skilled. While many effective tools and resources exist to help residents connect with opportunities that utilize or align with their skills, in some cases there is a low level of awareness about the available tools. One of the best ways to work with current residents to help them find well-matched jobs in the local economy is by raising awareness of resources and strengthening direct connections to employers.

OMAHA: WE DON'T COAST



The Omaha Chamber of Commerce launched the "We Don't Coast" campaign in an effort to support their local technology companies in talent recruitment. This campaign supplemented their efforts to strengthen their local talent pipeline.

As part of the initiative, the Chamber tracked announced layoffs from companies around the country and then structured a recruitment initiative around the layoff event.

In one particular case, they targeted soon-to-be-laid-off Microsoft employees in Seattle as well as IT workers in Seattle with a specific Omaha connection. They sought to reach their audience by handing out stickers and messages written in code that directed people to a special Web site. This Web site had a comparison of Omaha and Seattle as well as links to job listings from five Omaha-based companies.

In addition, the Chamber attended specific IT-focused events to get in front of their target audiences and leveraged social media outlets (Facebook, LinkedIn, and Reddit) to distribute their messaging to a wider tech-oriented audience.

1.2.1. Raise awareness of existing tools and resources available to help residents find jobs that align with their skills and to help employers find talent.

- Create a searchable online resource directory on the talent portal and distribute this directory to employers, employer organizations, career centers, and career counselors. This directory should

include local programs such as Skillful, Career Coach, Prove It!, CareerWow!, career fairs, workshops, customized training solutions, training grants, etc.

- Leverage and promote state resources and tools such as www.careerwisecolorado.org, talentfoundco.org, and www.skillful.com
- Hold orientation workshops for employers and for job seekers (including graduating students) that present the resources available to them and showcase the directory.
- Train individuals who are conducting Business Retention and Expansion (BRE) visits on resources available to employers. This will enable these individuals to refer employers to a specific resource when they uncover a need.
- Launch a public relations campaign to showcase success stories in local media, including social media. These success stories should feature partnerships between workforce development organizations and employers as well as job seekers that have benefited from the services.

1.2.2. Enhance programs that foster direct connections between residents and employers.

- Enhance and expand internship programs in partnership with workforce centers, school districts, Colorado State University (CSU), University of Northern Colorado (UNC), Front Range Community College (FRCC), and Aims Community College (Aims).
- Expand area apprenticeships by promoting the use of programs such as CareerWise Colorado and ApprenticeshipUSA.
- Create a network of nonprofit and community service organizations that provide their work-ready clients with better access to job opportunities or training programs for high-demand jobs. This can be done through a mechanism similar to the trailing spouse/partner network.
- Work collaboratively with employers to target traditionally hard-to-reach populations such as opportunity youth, older workers, or women re-entering the workforce. Joint outreach to target these populations and a set of wrap-around services to support them can be effective.
- Work with the region's underemployed residents to assist them in finding a "right-sized" job (*See the Underemployment Project on page 15.)*
- Work with local employers to help them with succession planning as a way to retain near-retirement talent while accelerating the development of younger employees (*See Plan for Success(ion) on page 15.*)

1.3. AWARENESS. Build greater awareness of the region's job opportunities and strong employment base.

One of the barriers to recruitment that employers cited is the lack of awareness by residents and prospective employees of the different sectors and employers in the Fort Collins-Loveland MSA. Creating and distributing better information resources that highlight the depth and diversity of the region's employment base can help address this barrier.

1.3.1. Compile and maintain key economic data, a list of job postings that includes high-demand skills and certifications, and major employers by sector.

- Use this information to demonstrate the depth of the regional employment base to potential recruits and residents alike.

- Package this information with other recruitment information to create packets for employers and "ambassadors."
- Update the information at least quarterly.

1.3.2. Distribute this information through various channels that will reach both residents and prospective recruits.

- Publish the information on the talent portal and make it available for download from the portal.
- Publicize this information on websites that are commonly used to research the community and make the information available to HR professionals in the region.
- Distribute it through a wide range of online media channels and in partnership with the CSU Career Center and Larimer County Workforce Center.
- Present this information to career counselors and to high school and college students who are entering the job market.
- Include the information in the Leadership Fort Collins/Leadership Northern Colorado curricula to better educate regional leaders about the regional economy.
- Write a series of blog posts or articles about job searching in Larimer County that highlight the most in-demand occupations and skills as well as employers who are hiring.

1.4. HR BEST PRACTICES. Coordinate with the Workforce Center, the Northern Colorado Human Resources Association, Mountain States Employers Council, and others to hold workshops on talent management topics for employers and HR professionals.

Employers who participated in the roundtable discussions related to this project demonstrated an interest and need for more education on talent management to address some of the human resource challenges they face. By creating a more formalized, confidential peer exchange, best practices can more readily be shared across organizations, thereby helping to strengthen regional employers' competitive positioning in the "War for Talent".

1.4.1. Organize and host talent management workshops. The NoCo Manufacturing Partnership has several examples that can be replicated.

- Hold the workshops at multiple locations around Larimer County.
- Help raise awareness of the workshops among employers through joint outreach activities and across multiple business networks.
- Post short video blogs and webinars of the workshops on the talent portal's section on Employer Resources.

1.4.2. Identify relevant topics such as:

- How to become an employer of choice
- Importance of culture
- Cultivating employee loyalty through employee engagement
- Supercharging training and development of Millennials
- Succession planning to prepare for Boomer retirements
- Recruiting best practices

1.5. RETENTION. Partner with employers to coordinate solutions that address common barriers to talent retention.

Many of employers share a set of common issues that affect their abilities to retain talent. However, there is not a forum for sharing what these issues are and finding ways to address them collectively. A widespread survey across employers and industries can serve this function, and a taskforce structure can help move solutions forward to implementation.

1.5.1. Survey employees and employers to identify what could improve their community satisfaction in order to document potential demand. Do this in close coordination with the area business retention and expansion program. Employee engagement tools such as TINYpulse could be used as a survey platform. Ideas that surfaced in focus groups were:

- A commercial flight, known as a "Nerd Bird," that would fly between the Northern Colorado Regional Airport and Silicon Valley.
- A group transportation option (shuttle or public transportation) to key places or key events along I-25 between Larimer County communities and Denver.
- Better resources and community support for diversity in the community, potentially in connection with CSU. This is both for minority populations and for foreign-born workers.

1.5.2. Prioritize ideas and implement those that are ranked highest.

- Evaluate and rank ideas to determine which are of the highest priority.
- For the highest priority ideas, conduct a feasibility study, if needed.
- Assemble a taskforce to move the highest priority, feasible ideas forward.

STRATEGIC PROJECTS

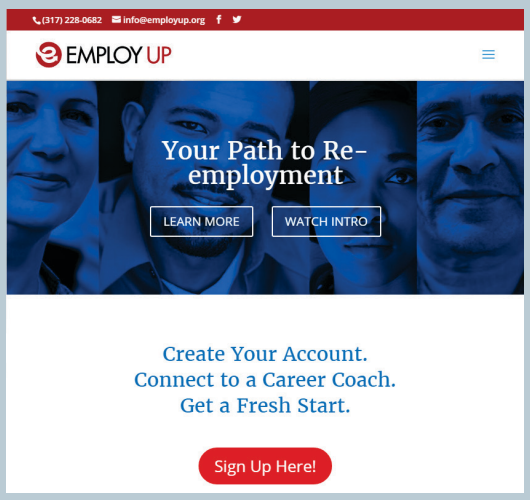
1. The Underemployment Project

The Underemployment Project is a concerted effort to help individuals find jobs appropriate to their skillsets. The effort begins with helping employers identify underemployed individuals in their own organization and matching them with internal openings that better match their skills. This helps address retention challenges related to underemployment. The second pillar of the effort is to reach out directly to underemployed individuals.

a. Work with employers to identify underutilized talent and help them better optimize their labor force.

- **i.** Hold a workshop with HR Managers or hiring managers that teaches them how to best mine their current pool of employees for latent talent or underutilized skills.
- **ii.** In partnership with individual employers, conduct a short survey of employees that asks the following questions:
  - Do you feel underutilized in your current role? If so, why?
  - Do you have a degree or credential that you are not using in your current role? If so, what?
  - Do you have past experience that could be useful to your current employer? If so, what?
  - If you have a LinkedIn profile, please update it and share the link in the space below:
- **iii.** Summarize the survey results and provide them back to the employer.

EMPLOYUP



Employ Up, a Department of Labor funded initiative in Central Indiana, helps underemployed residents and the long-term unemployed find better employment opportunities.

For underemployed individuals, a career coach and Employ Up counselor helps assess job readiness and skills and develop a service plan. Next, individuals can update any skills through Career Prep. Once Career Prep is completed, individuals are placed in one of three re-employment pathways—rapid re-employment, short-term training, or career pathway training. Finally, prepared individuals are placed at an employer's facility either for a job or further work-based training.

b. Create resources for underemployed individuals to help them find job opportunities that better match their skillset.

- **i.** Catalog their resumes and skills using an online platform such as LinkedIn.
- **ii.** Hold workshops and provide coaching to these individuals to market their skills better and to find better jobs.
- **iii.** Connect them to retraining or additional training, as needed, to align skills to available opportunities.

2. Plan for Success(ion)

With a wave of retirements coming over the next 10 years, employers must have a plan for accomplishing the duties of retiring key individuals. Plan for Success(ion) will help employers create succession plans that will assist them in the transition.

- **a.** Assist companies in assessing their needs and crafting a transition strategy.
  - **i.** Assemble a suite of assessment tools that can help employers identify which attributes of their retiring employees make them successful in those positions and how they can develop talent with these attributes.
  - **ii.** Train or hire an expert that can provide technical assistance one-on-one to companies.
  - **iii.** Provide the assessment tools and technical assistance to companies to help them develop a transition plan for key positions that will be vacated by retiring workers.
- **b.** Organize educational and information-sharing opportunities for employers to enhance their knowledge of succession planning.
  - **i.** Hold workshops on topics relevant to succession planning.
  - **ii.** Create peer working groups that meet quarterly to provide a forum for peers to share information and best practices as well as to work through issues together.
  - **iii.** Develop a resource guide for employers to use to identify training programs and funds needed to develop talent as part of the succession plan.
  - **iv.** Create opportunities for business to business mentorships.

OPPORTUNITY 2. IMPROVE ALIGNMENT

Align education and workforce resources more closely with the business community and the local talent pool

Most employers in the Fort Collins-Loveland MSA rely heavily on the local labor pool to fulfill their talent needs. The local labor pool and its associated talent pipeline are shaped by the K-16 education systems and by workforce development resources. The alignment of the talent pool and education and workforce resources with the needs of the business community requires strong mechanisms for employer engagement and the capacity to support the development of local talent.

PRIORITY PROJECTS

1. Enhanced Industry-Education Alignment
2. Front Range Community College High School Program Expansion

2.1. BUSINESS ENGAGEMENT. Streamline business engagement and input mechanisms.

Currently, employers forge relationships with many different institutions, programs, and individual instructors to provide them with feedback on the skillsets they need and the quality of education/training programs. In addition, education and workforce training programs often have separate business advisory councils or other such input mechanisms. This structure means that employers must provide the same input over and over again, which can be very time consuming. As a result, employers often only selectively engage or do not engage at the level that education and training institutions need.

At the same time, employers are very interested in expanding their engagement directly with students, to build relationships with potential employees and to help improve their career-readiness.

WORK-BASED LEARNING DEFINED

Work-based learning is an educational strategy that helps students develop career-readiness through real-life work experiences. These experiences provide them with opportunities to apply academic and technical skills in a work setting, typically at an employer's work site. They are often coordinated with school activities to help students understand why they are learning certain academic or technical skills and how they can be applied in the "real world." In addition, the experiences provide students with opportunities to explore different careers and work settings and build basic employability skills.

A range of different activities are considered to be work-based learning. These include:

- Job shadowing
- Career days
- Work site tours
- Internships
- Mentorships
- Service learning

2.1.1. Continue to support the sector partnership model as a means of business engagement.

- Partner with the NoCo Manufacturing Partnership and the Northern Colorado Health Sector Partnership to conduct annual employer surveys to document needs in critical occupations.
- Coordinate with sector partnerships to use industry skills panels to evaluate curricula (career and technical, community college, and university) and provide direct input in an effort to create a more centralized business advisory function.
- Monitor the needs of other industries, and facilitate the launch of new partnerships as needed.

2.1.2. Provide opportunities for employers to build relationships with students and showcase their place of work as well as opportunities for students to learn about a wider range of career options.

- Expand work-based learning and career exploration opportunities for students such as internships, Career Road Trips, Career Rise, job shadowing, and career fairs.
- Create a directory of companies and volunteers who are willing to provide these opportunities for students to help career counselors and students identify the opportunities more easily.
- Develop a toolkit for employers to use to organize meaningful work-based learning experiences that will ensure the realization of benefits for both the employers and students. Examples include ConnectEdStudios and New York State P-Tech Toolkit.

2.2. EDUCATION & TRAINING CAPACITY. Support education and training institutions in strengthening the "home grown" talent pipeline.

Although many great programs exist in the region, the capacity and reach of the programs will need to increase in order to meet the regional demand for talent, particularly around high-demand occupations. A better understanding of where additional capacity is needed will be the first step, and then supporting institutions in identifying funding and addressing constraints to growth will be the second step.

2.2.1. Organize a consortium of education and training providers to take a deep dive into regional training capacity with respect to industry demand.

- Create a program inventory of workforce training programs at Aims, CSU, FRCC, UNC, and the school districts that are related to the critical occupations identified by the sector partnerships and to other high-demand occupations.
- Document program enrollment, completions, and constraints (student awareness, classroom/lab space, instruction equipment, instructors, clinical space).
- Use this information to identify gaps in programming and how gaps can be addressed.

2.2.2. Advocate (with employers) for the removal of legislative obstacles to expanding training programs that support high-demand occupations.

HOUSTON'S COMMUNITY COLLEGE PETROCHEMICAL INITIATIVE

As part of the Community College Petrochemical Initiative, nine community colleges came together to assess the region's training capacity to support the petrochemical industry. The consortium first identified the industry's critical occupations. It then identified related training programs at the community colleges and school districts. For each training program, they collected current enrollment and completions and documented program constraints. With the completed inventory, they then analyzed the regional training capacity in the context of occupational demand.

This exercise allowed the group to identify gaps in training. With the information about program constraints, they were better able to customize their efforts to address these training gaps.

- In particular, jointly advocate in support of funding for FRCC's Allied Health School.
- Utilize the information from Strategy 2.2.1 to document the need for additional programs and advocate for funding as needed.

2.2.3. Assist (with employers) education and training institutions in finding the instructors they need.

- Explore the feasibility of providing subsidies for instructors in occupations where pay differential between workplace wages and instructor wages is high (e.g. computer science, engineering). Employers could contribute with donations.
- In conjunction with sector partnerships, set up programs for "instructors on loan", where employers would provide qualified employees or recent retirees to serve as course instructors for a one-year term.

2.2.4. Help build awareness of programs that support high-demand careers to influence students' choices in careers and paths of study.

- Educate career counselors at regional high schools about high-demand careers and career exploration tools available for their students to make more educated choices about their class selection.
- Work with career offices at Aims, CSU, FRCC, and UNC to ensure their students have information about high-demand jobs and employment opportunities.
- Gather testimony from employers utilizing these programs for use in promotion.

STRATEGIC PROJECTS

1. Front Range High School Programs

Front Range Community College currently has a variety of programs offered to high school students. These programs allow students to earn college credit and tuition is covered by the school district. High School Select classes are taught at local high schools; each high school offers a different set of classes. The Campus Select program allows high school students to take college courses that apply to their career and academic plan (ICAP) for both high school and college credit at a FRCC campus. The College Now—Career Pathways program offers a year-long program with eight career and technical program options. The programs include: Animal Technology & Research; Architecture, Landscape, & Interior Design; Automotive Technology & Service; Computer Careers Exploration (Microsoft & FRCC Networking Basics Certificate); Criminal Justice Careers Exploration; Culinary Arts; Holistic Health; Medical Careers Exploration (Dementia Care Certificate, prep for CNA); Practical Mechanics; Welding & Metal Fabrication, and Wildlife, Forestry, & Natural Resources. These programs provide high school students with great opportunities to explore career pathways while gaining college credit before high school graduation.

There are a number of examples of career academies that take further steps to align career exploration for high school students with high-demand occupations and to provide students with opportunities to graduate from high school with an associate's degree or industry certificate to increase their career-readiness and marketability in the local employment market. Expanding FRCC's current programs could help better align the talent pipeline and provide high school students with more opportunities to move straight into middle skills careers after graduation or to move into high-skilled careers earlier.

- **a.** Through the consortium activities in Strategy 2.2.2, identify programs that could fit appropriately into one of FRCC's high school programs.
- **b.** Work with FRCC and the regional school districts to identify and secure funding sources needed to implement additional programs.
- **c.** Assist FRCC, if needed, in finding high-quality instructors to support the new programs.
- **d.** Partner with sector partnerships, business associations, and employers to visit with high school classes and promote new programs as well as the types of careers that they support.

OPPORTUNITY 3. REMOVE BARRIERS

Collectively address structural issues that serve as barriers to a secure talent pipeline

PRIORITY PROJECTS

1. Advocate for I-25 Corridor improvements
2. Annual Issues Forum

The issues of housing affordability and regional mobility were common concerns for employers and often cited as significant barriers to the recruitment and retention of talent. These issues are not exclusively workforce issues, but they do have a measured impact on the regional talent supply and talent pipeline. Creating a structure for identifying these types of structural issues and collectively addressing them can help the Fort Collins-Loveland region overcome these barriers.

3.1. ADVOCATE. Advocate around key structural issues.

Coming together to speak with a unified voice before policy makers can be an effective means of influencing policy changes, programs, and funding that will resolve some of the key structural issues. Creating a common agenda helps keep conversations focused and consistent. Organizing an Annual Issues Forum keeps stakeholders engaged and informed and provides an opportunity to keep a pulse on community needs.

3.1.1. Create an advocacy agenda and inform relevant policy makers of the region's key issues.

- Continue to advocate for I-25 Corridor improvements.
- Advocate on behalf of FRCC to secure funding for the Allied Health School.
- Incorporate affordable housing as an issue on the local advocacy agenda.

3.1.2. Hold an Annual Issues Forum.

- Conduct a poll to identify and prioritize other needs.
- Update stakeholders on the progress made in these and other issue areas.

3.2. EDUCATE. Organize a series of symposiums on each topic to educate relevant audiences, generate discussion about possible solutions, and identify a core group of champions that will move a solution forward.

Providing more opportunities to learn about the issues, discuss possible solutions, and generate ideas will help build support for the solutions and engage stakeholders to a greater degree. These symposia can be organized in conjunction with the Issues Forum or separately, but should provide a greater level of detail about the issues and more open conversations about how to address them.

3.2.1. Explore the range of affordable housing policies that could be considered to address the housing challenges in the region.

- Include a discussion of what employers are doing to help their employees who struggle to find housing.

3.2.2. Present and discuss models of mobility that go beyond the expansion of I-25.

- Include discussions of employers' shared needs and collaborative solutions.

3.2.3. Use this model to raise awareness and seek solutions for other issues identified in 3.1.2.

3.3. ACHIEVE. Assemble taskforces of champions and "doers" to move solutions forward.

The taskforce model for implementation provides a means of expanding the implementation responsibility and resources beyond the coalition of partners that have developed this plan. The most successful taskforces have champions who are willing to lead the taskforce and keep it moving forward. Identifying these champions is a critical step in the process of setting up the taskforces.

3.3.1. Identify taskforce participants through the symposiums and strategic outreach.

- Find community leaders who are passionate about the issue to serve as "champions."
- Enlist other key individuals and organizations that are uniquely positioned to make an impact on the issue areas.

3.3.2. Launch the taskforce.

- Call an organizational meeting to kickoff the taskforce's work.
- Provide administrative support for the taskforce, as needed.
- Monitor implementation progress of taskforce and report progress at the Issues Forum.

IMPLEMENTATION

The Talent 2.0 Regional Workforce Strategy provides a common set of goals and strategies that provide a collective impact agenda to address the region's key workforce challenges. Implementing the strategy will require a great deal of ongoing collaboration, communication, and coordination.

The existing Steering Committee should continue to serve a governance role to monitor implementation. Key stakeholders who will be vital to the successful implementation of the plan could be invited to join the Steering Committee.

Designating an organization to serve a convener can help ensure continued implementation progress. The Fort Collins Area Chamber of Commerce has served in that role during the development of this plan.

The Steering Committee should have sufficient staffing capacity to fulfill the following roles:[1]

1. Maintain strategic coherence of the effort.

- Ensure accountability by collecting and reporting data on key performance metrics.
- Monitor metrics and evaluate progress.
- Build and maintain strong relationships with Steering Committee members and the broader stakeholder community.
- Facilitate knowledge sharing, such as best practices and research among Steering Committee members and key stakeholders.
- Organize and provide support—logistics, administrative, and research—for Steering Committee meetings and activities.

2. Manage fundraising and outreach activities.

- Develop communications materials, with input from the Steering Committee, to be used for community outreach.
- Engage with a broader audience to build buy-in from additional stakeholders.
- Coordinate with other major initiatives, as appropriate, to align and leverage one another's' activities.
- Create and lead the execution of a fundraising plan, with input from the Steering Committee, to ensure the fiscal sustainability of the Talent 2.0 Initiative.

PROSPECTIVE STEERING COMMITTEE

- City of Fort Collins
- City of Loveland
- Fort Collins Area Chamber of Commerce
- Larimer County Economic Development
- Larimer County Workforce Center
- Loveland Chamber of Commerce
- Northern Colorado Economic Alliance
- United Way of Larimer County

PROSPECTIVE IMPLEMENTATION PARTNERS

- Aims Community College
- Colorado Office of Economic Development
- Colorado State University
- Front Range Community College
- Larimer County Workforce Development Board
- Mountain States Employers Council
- Northern Colorado Health Sector Partnership
- Northern Colorado Manufacturing Partnership
- Poudre School District
- Thompson School District
- Community-Based Organizations (various)
- Individual Employers
- Local and Regional Foundations

[1] Excerpt from the Backbone Toolkit, published by the Collective Impact Forum and developed by FSG.

3. Provide additional project management and support.

- Serve as the central point of contact for information regarding the initiative.
- Conduct any needed research relevant to strategy implementation.
- Maintain a document library to support the initiative and share as appropriate.
- Organize, launch, and manage any taskforces or working groups that are established to move strategies forward.
- Serve as a resource for partners to troubleshoot or provide additional staffing capacity.

The structure for strategy implementation—the actual doing—is another consideration. Some communities have designated a lead partner organization for each opportunity area. The lead partner, then, organizes and coordinates a working group. Another alternative would be for the convener to establish and manage working groups around each of the opportunity areas. Either of these working group models is most successful where a clear champion emerges who leads the working group forward.

A third alternative is to have more binding agreements, such as Memoranda of Understanding, with partners who commit to the implementation and funding of specific strategies or projects. This would be the most formal structure for implementation.

COMMON METRICS

To track progress of the initiative over time, the Steering Committee and the partner organizations will need to agree on a set of metrics that can be measured over the course of the initiative. These metrics should correspond directly to Talent 2.0's goals and should be contextualized in terms of how the region is performing against a peer group.

Recommended metrics are:

- **GROWTH PARITY.** Ratio of the change in jobs (year-over-year) to the change in labor force (year-over-year)
- **LABOR FORCE PARTICIPATION.** Ratio of civilian labor force to total population 16+
- **UNEMPLOYMENT.** Ratio of unemployed to civilian labor force
- **UNDEREMPLOYMENT.** Ratio of the percent of jobs requiring a bachelor degree or higher to the percent of the labor force with a bachelor degree or higher
- **WORKFORCE EFFICIENCY.** Percent of residents who live and work in the region
- **WAGES.** Cost-of-living adjusted wages
- **INCOME EQUITY.** Ratio of the hourly earnings of the 90th percentile to the 10th percentile

An example of a dashboard is included on the following page.

In addition to the performance indicators listed above, each opportunity area will have associated output measures to demonstrate the status of implementation.

THIS REGIONAL INDICATORS DASHBOARD is a set of shared metrics that tracks the region's change on critical economic, environmental, and social outcomes. Measuring change in the areas that matter most for continued long-term success will help improve our region's economic competitiveness. 2016 is the second year of this effort.

MSP TREND: Reflects change between most current data available and the last prior data available. All data reflects the 16-county metropolitan statistical area (MSA) unless otherwise indicated.

PEER RANK: 1=BEST, 12=WORST The 11-peer regions are listed on the reverse of this document.
PEER TREND: (ARROW) Denotes change in MSP performance relative to previous year's peer ranking.

ECONOMY

PERCENT OF JOBS RELATED TO FOREIGN DIRECT INVESTMENT
3.9%
NEW METRIC IN 2016
MSP TREND: BETTER
PEER RANK: 8 ⇔

VALUE OF EXPORTS
$21.2B
MSP TREND: WORSE
PEER RANK: 6 ⇩

EMPLOYMENT GAP WHITE-OF COLOR (AGED 16-64 YRS)
13.0
PERCENTAGE POINT
MSP TREND: S
PEER RANK: 1

PERCENT F
FEMALES A
16-64 YRS WO
78.0%
P TREND: BETTER
RANK: 1 ⇔

JOB QUALITY

PERCENT OF JOBS THAT ARE FAMILY SUSTAINING[1]
69.3%
MSP TREND: BETTER
PEER RANK: 4 ⇧

YEARLY PERCENT CHANGE IN JOBS
1.8%
MSP TREND: SAME
PEER RANK: 10 ⇩

BUSINESS VITALITY

AVERAGE WEEKLY WAGE
$1,084
MSP TREND: BETTER
PEER RANK: 6 ⇩

ESTABLISHM S
SURVI S
OR MORE
a for Minnes
71.1
MSP TREND: WORSE
PEER RANK: 3 ⇧

ENTS ISSUED PER
,000 WORKERS
1.95
MSP TREND: BETTER
PEER RANK: 6 ⇩

LOANS TO BUSINESSES UNDER $1M IN REVENUE
$705M
NEW METRIC IN 2016
MSP TREND: WORSE
PEER RANK: 7 ⇩

INNOVATION CAPITAL

ANNUAL AMOUNT OF VENTURE CAPITAL
This data is for Minnesota (30 deals)
$372M
MSP TREND: BETTER
PEER RANK: 10 ⇔

STTR/SBIR FEDERAL DOLLARS[2]
$27M
MSP TREND: WORSE
PEER RANK: 5 ⇧

TALENT

NET MIGRATION OF 25-34 YEAR OLDS
+1,719
PEOPLE
MSP TREND: WORSE
PEER RANK: 8 ⇔

PERCENT OF POPULATION EMPLOYED IN ADVANCED INDUSTRIES[3]
9.4%
MSP TREND: BETTER
PEER RANK: 8 ⇔

NUMBER OF H1-B VISAS REQUESTED PER 1000 WORKERS
2.4
MSP TREND: NA
PEER RANK: 7 ⇔

PERCENT OF FOREIGN-BORN POPULATION AGED 16-64 WORKING
75.0%
MSP TREND: BETTER
PEER RANK: 1 ⇧

TALENT AVAILABILITY

POPULATION 25+ WITH ASSOCIATE'S DEGREE OR HIGHER
50.0%
MSP TREND: BETTER
PEER RANK: 3 ⇔

POPULATION 25+ WITH A BACHELOR'S DEGREE OR HIGHER
40.0%
MSP TREND: BETTER
PEER RANK: 5 ⇧

1. Annual wage > $31,000, or 130% of poverty for a household of 4, as per USDA's requirements for SNAP benefits.

2. Small Business Technology Transfer (STTR) The Small Business Innovation Research (SBIR)

3. As defined by Brookings, industries are advanced if a greater share of their workforce is STEM oriented than the U.S. average (21 percent) and their R&D spending is at least $450 per worker.

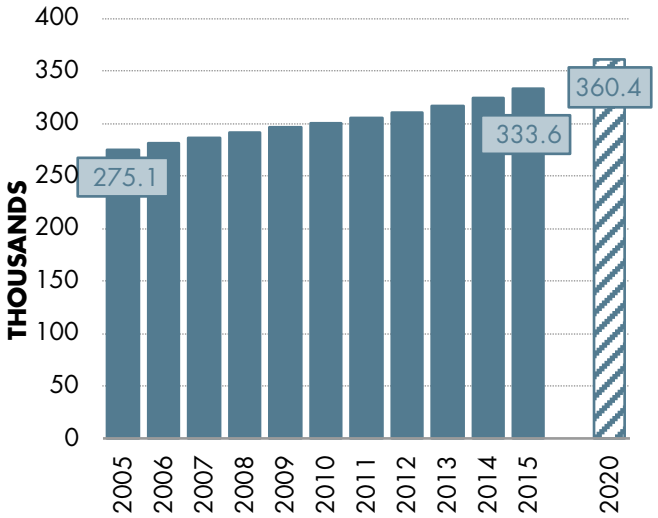
APPENDIX A: LABOR ANALYSIS

POPULATION

FIGURE 12. POPULATION TRENDS, MSA
ANNUAL ESTIMATES JULY 1 OF EACH YEAR

Over the last 10 years, the Fort Collins-Loveland MSA has grown from 275,100 to 333,600. By 2020, the State Demography Office projects that the population will surpass 360,000.

Source: US Census Bureau, Population Estimates program.
Projections from Colorado State Demography Office.



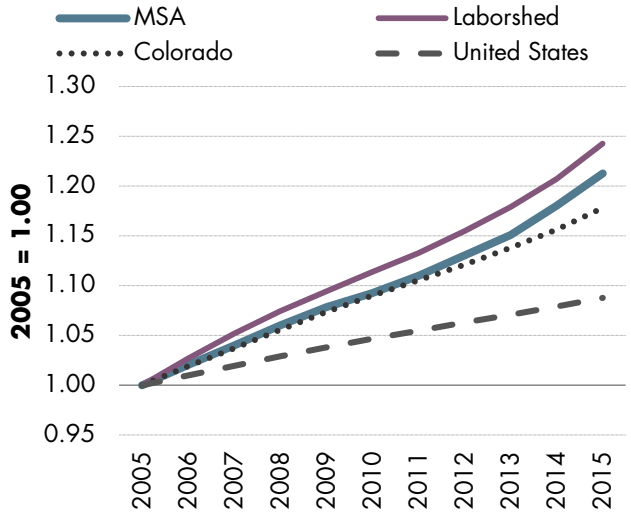


FIGURE 13. POPULATION TRENDS, MSA
GROWTH SINCE 2005

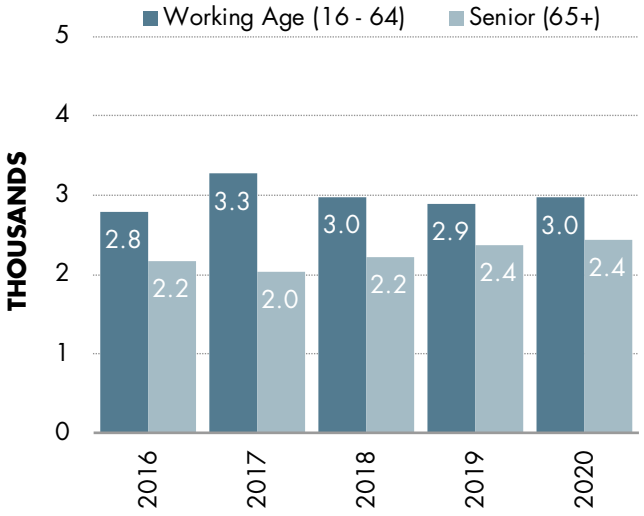
Between 2005 and 2015, the Fort Collins-Loveland MSA grew 21 percent. At the same time, the State of Colorado increased 18 percent and the US increased 9 percent. Only the laborshed, which includes Weld County, grew faster than the MSA. It grew 24 percent over the ten-year period.

Source: US Census Bureau, Population Estimates program.
Note: via Moody's Analytics.

FIGURE 14. POPULATION PROJECTIONS, MSA
RESIDENTS 16+, YEAR-OVER-YEAR CHANGE (#)

The Colorado State Demography Office projects that the working age population will increase by almost 7 percent over the next five years, adding about 3,000 residents each year. By comparison, the senior population is expected to increase by over 26 percent, adding about 2,000 residents each year.

Source: Colorado State Demography Office.



LABOR FORCE CHARACTERISTICS

FIGURE 15. LABOR MARKET OVERVIEW

As of December 31, 2015, the Fort Collins-Loveland MSA had a civilian labor force of 182,000 people. Among this labor force, 3.0 percent were unemployed. This is the lowest unemployment rate among the laborshed, state, and US. The region's laborshed has a workforce of 330,000 and an unemployment rate of 3.3 percent.

GEOGRAPHY	CIVILIAN LABOR FORCE	EMPLOYED	UNEMPLOYED	UNEMPLOYMENT RATE
United States	157,833,000	149,929,000	7,904,000	5.0%
Colorado	2,832,289	2,733,831	98,458	3.5%
Laborshed	329,581	318,879	10,751	3.3%
MSA	**181,887**	**176,455**	**5,459**	**3.0%**

Source: US Bureau of Labor Statistics, Local Area Unemployment Statistics (state and county labor market data); US Census Bureau, Current Population Survey (national labor market data).

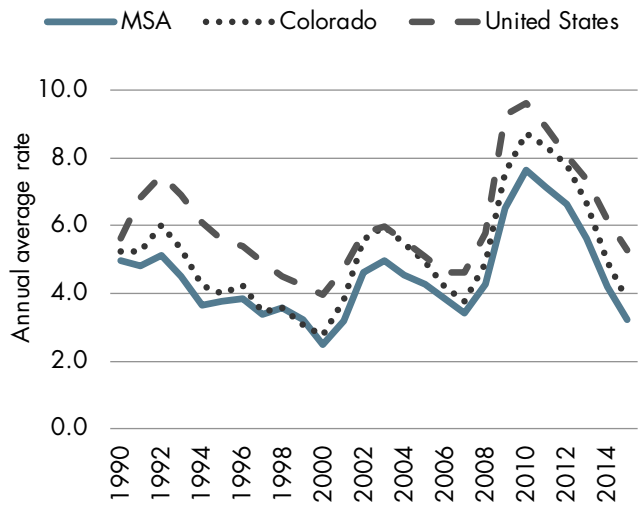


FIGURE 16. AVERAGE ANNUAL UNEMPLOYMENT RATES

1990-2015

The MSA's unemployment rate is consistently below that of the state and the US.

Source: US Bureau of Labor Statistics, Local Area Unemployment Statistics (state and local), Current Population Survey (national).

FIGURE 17. AVERAGE ANNUAL UNEMPLOYMENT RATES

CURRENT RATE VS HISTORICAL RANGE

Over this time period, the unemployment rate in the MSA reached a low of 2.5 percent in 2000 and peaked at 7.6 percent in 2010. This range is more compact and lower than the state and the US.

Source: US Bureau of Labor Statistics, Local Area Unemployment Statistics (state and local), Current Population Survey (national).

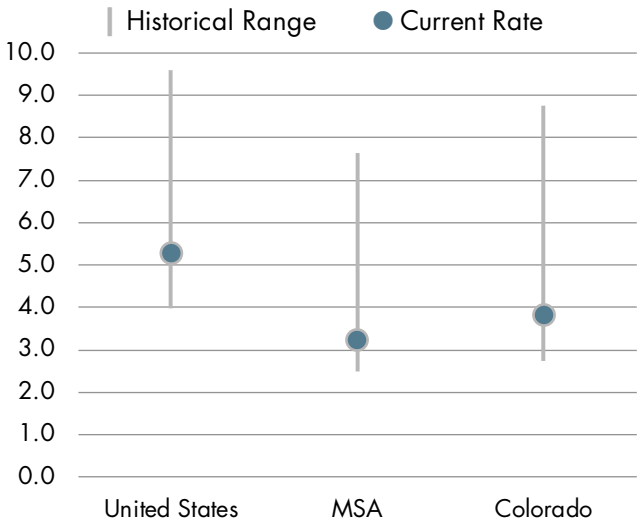
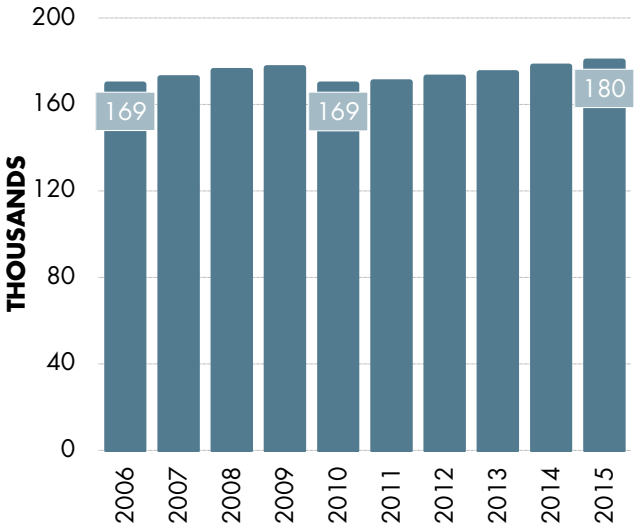


FIGURE 18. CIVILIAN LABOR FORCE, MSA
AS OF DEC 31, 2006–2015

The civilian labor force in the MSA has grown from 169,000 to 180,000 over the last 10 years, a gain of 9 percent. During the recession, the labor force declined 8 percent between 2009 and 2010, but it has since recovered.

Source: US Bureau of Labor Statistics via Moody's Analytics.



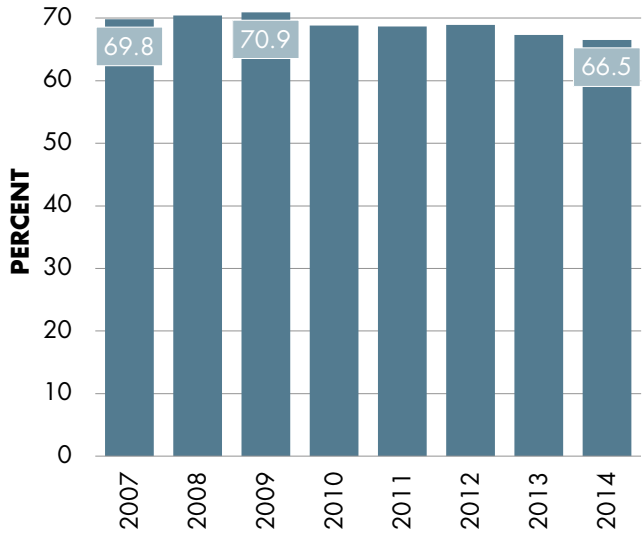


FIGURE 19. LABOR FORCE PARTICIPATION RATE, MSA
2007–2014

In the years leading up to the Great Recession, the labor force participation rate of the Fort Collins–Loveland MSA rose to a peak of 70.9 percent. In 2010, the rate dropped down to 68.8 and has since declined to 66.5 percent.

Source: Census Bureau, American Community Survey.

FIGURE 20. COMPARATIVE LABOR FORCE PARTICIPATION RATES
2014

Although the labor force participation rate of the MSA has declined, it remains significantly above the national rate of 62.9. The labor force participation rates of the laborshed and the state are both about 1 percentage point above the MSA's.

Source: Census Bureau, American Community Survey.

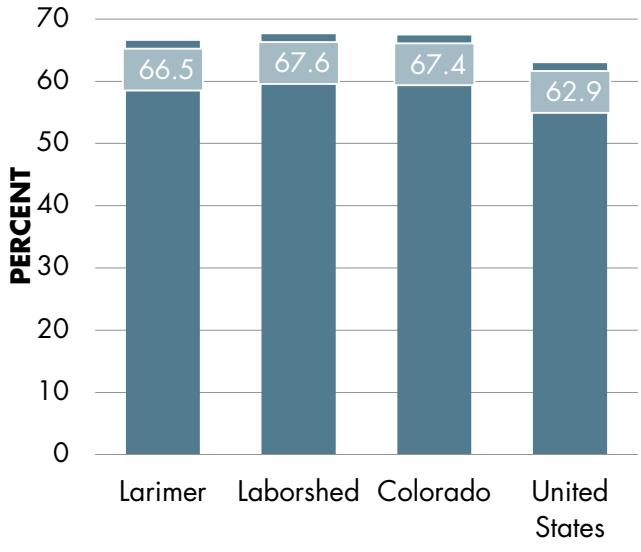
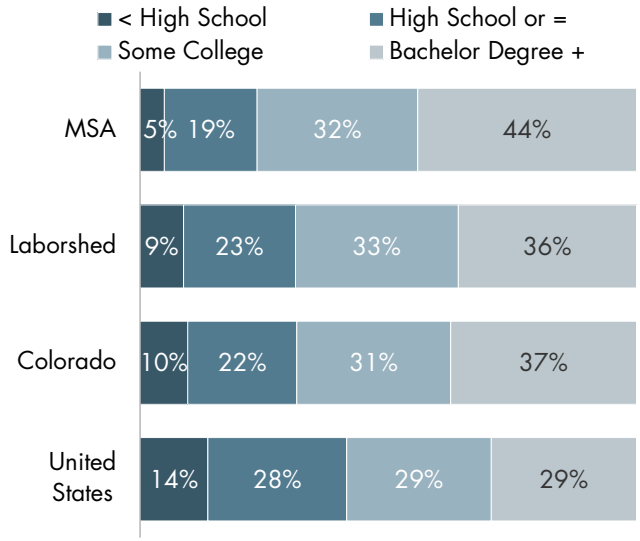


FIGURE 21. EDUCATIONAL ATTAINMENT
POPULATION 25+, 2014

In 2014, 44 percent of the population 25 years of older in the MSA held a bachelor's degree or higher. Another 32 percent had attended some college or earned a post-secondary certificate or associate's degree. The MSA is, by far, the most highly educated of the four geographies compared here.

Source: ACS via Moody's Analytics.



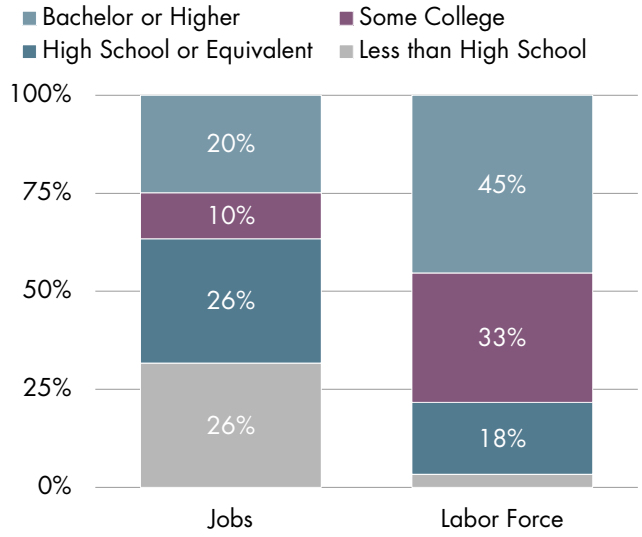


FIGURE 22. JOBS VS LABOR FORCE, MSA
EDUCATIONAL REQUIREMENTS AND ATTAINMENT

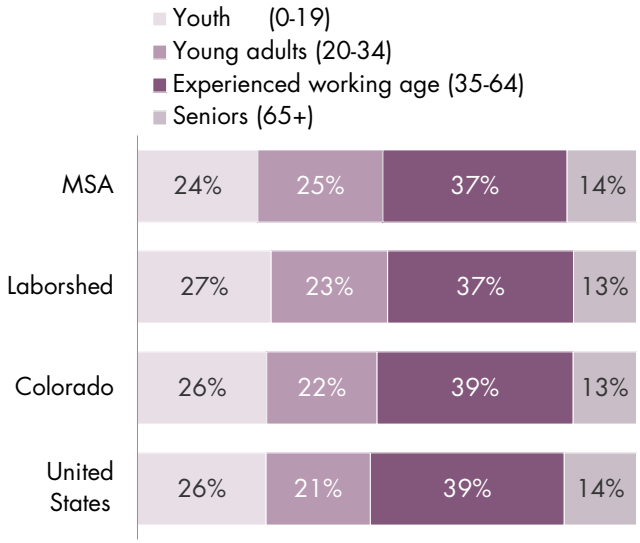
A comparison of the education level that jobs require and the educational attainment of the labor force reveals a high degree of mismatch. In the MSA, 20 percent of jobs require a bachelor's degree or higher while 45 percent of the labor force has achieved that level of educational attainment. On the other hand, 52 percent of jobs require a high school diploma or less while 21 percent of the population has this level of education.

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed, ACS.

FIGURE 23. AGE DISTRIBUTION
2014

In the MSA, the working age cohort is the largest age cohort. However, this cohort represents a smaller share of the population than it does in the state and the US. The young adult cohort in the MSA represents a larger share of the population, which is often characteristic of a college town. The senior cohort is 14 percent of the population, which is in line with the US. According to the State Demography Office, this cohort is projected to grow as a share of the population over the next five years.

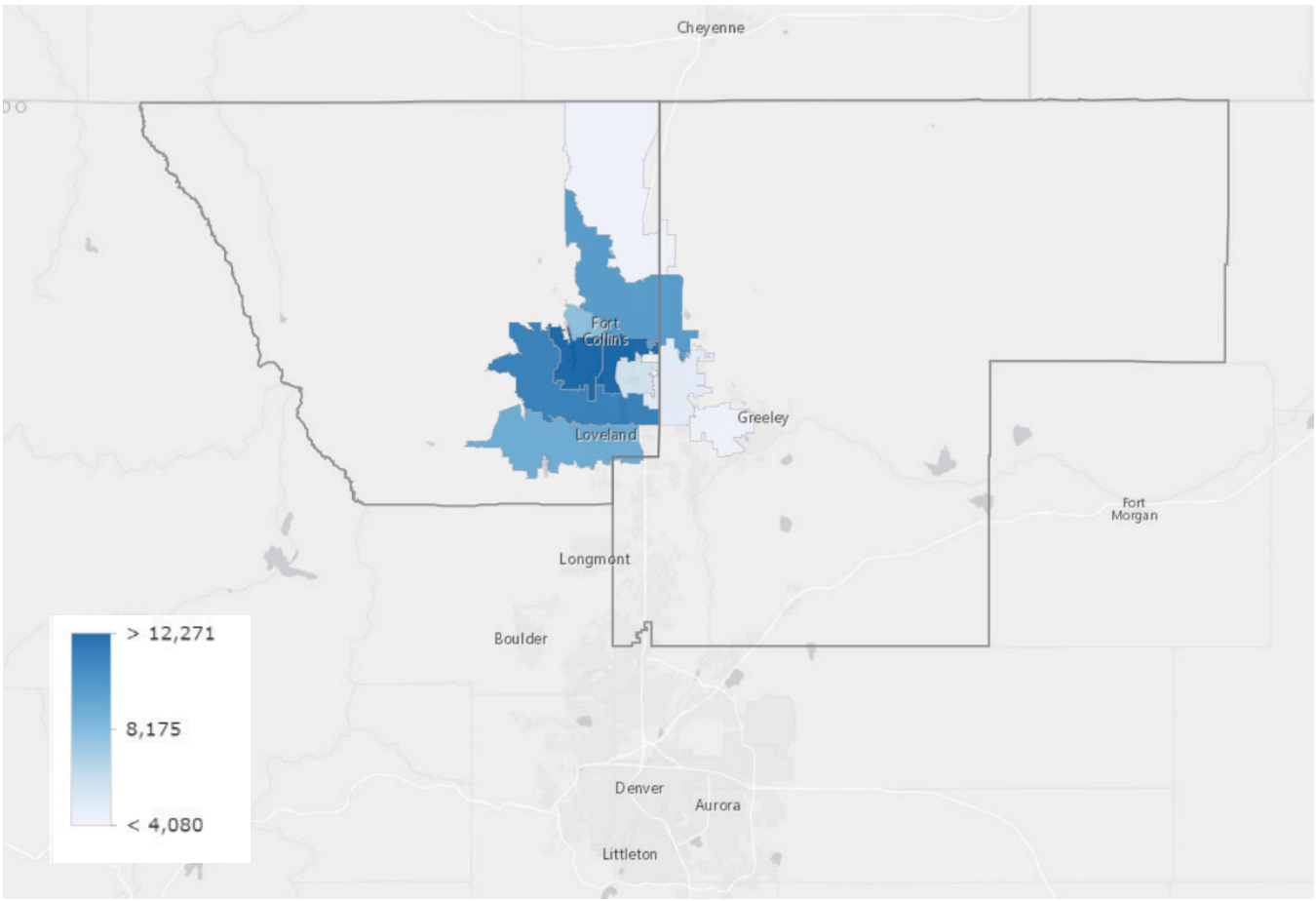
Source: ACS via Moody's Analytics.



COMMUTING

FIGURE 24. FORT COLLINS–LOVELAND MSA LABORSHED
EMPLOYEES BY ZIP CODE

In 2014, about 66 percent of workers in Larimer County lived in the top 10 ZIP codes shown in the map below. Roughly one-third of workers were in 80525, 80526, and 80538 alone, which are the core of Fort Collins and Loveland. The other 30 percent were from other ZIP codes in Larimer County, largely along the I-25 Corridor. Another 6 percent of workers commuted in from communities in Weld County—Windsor and Greeley.

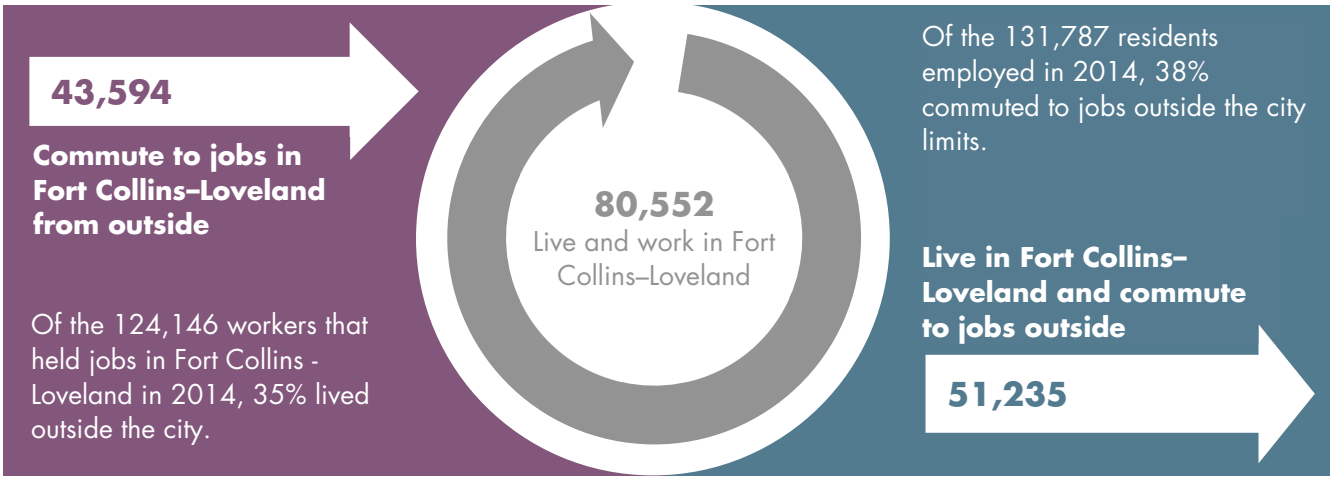


Source: LEHD, On the Map, TIP Strategies Research.
Note: Top 10 ZIP codes (in order) are 80525, 80526, 80538, 80524, 80537, 80521, 80528, 80550, 80634, and 80549.

FIGURE 25. INFLOW/OUTFLOW FOR FORT COLLINS–LOVELAND, 2014

FLOW OF WORKERS TO/FROM THE CITY

Just over 60 percent of workers in the Fort Collins–Loveland MSA both lived and worked in the region. The region is a net exporter of labor, with more workers commuting out of the region than commuting in. In 2014, 38 percent of workers, or 51,235 people, commuted out of the MSA for work and 35 percent, or 43,594 people, commuted into the MSA for work.



Source: US Census Bureau, Local Employment Dynamics.
Notes: Overlay arrows are for illustrative purposes and do not indicate directionality of worker flow between home and employment locations.

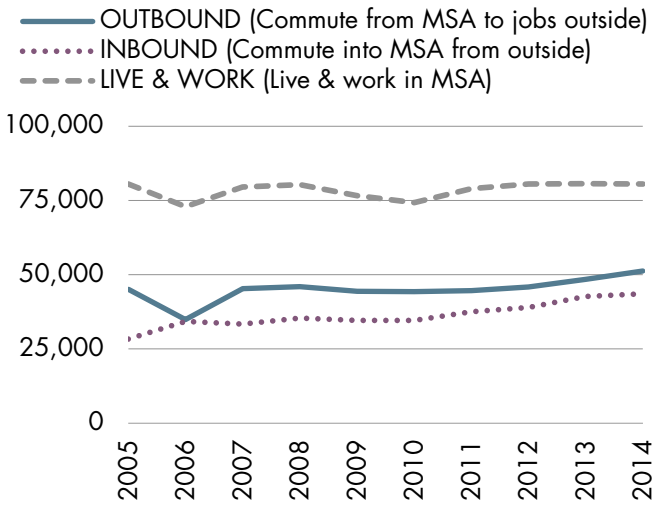


FIGURE 26. COMMUTING FLOWS, 2005-2014

NUMBER OF JOB HOLDERS

The number of workers who live and work in the MSA has fluctuated between 75,000 and 80,000 over the last 10 years. The number of inbound commuters has climbed steadily over time, growing from 28,000 in 2005 to 43,594 in 2014, an increase of 54 percent. At the same time, the number of outbound commuters rose from 45,067 to 51,235, and increase of just 14 percent.

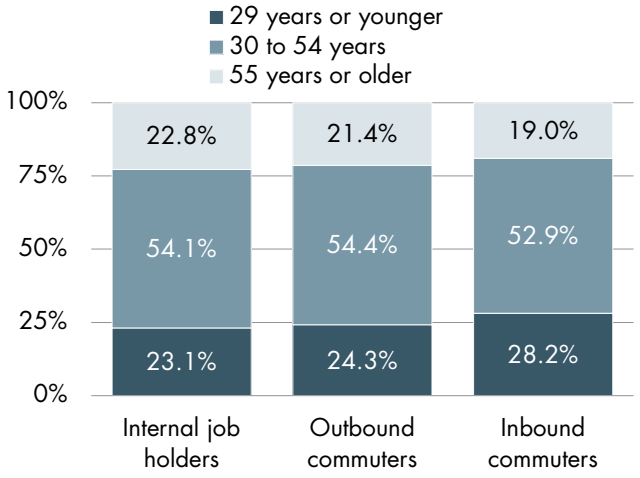
Source: US Census Bureau, Local Employment Dynamics.

SELECTED JOBHOLDER CHARACTERISTICS, 2014

SHARE OF WORKERS BY TYPE OF COMMUTING FLOW (INTERNAL, OUTBOUND, INBOUND)

FIGURE 27. AGE DISTRIBUTION

The internal job holders are somewhat older than the inbound commuters, with more workers over 55 years of age and fewer workers less than 29 years old. The outbound commuters have the highest share of workers of prime working age (30 to 54 years old).



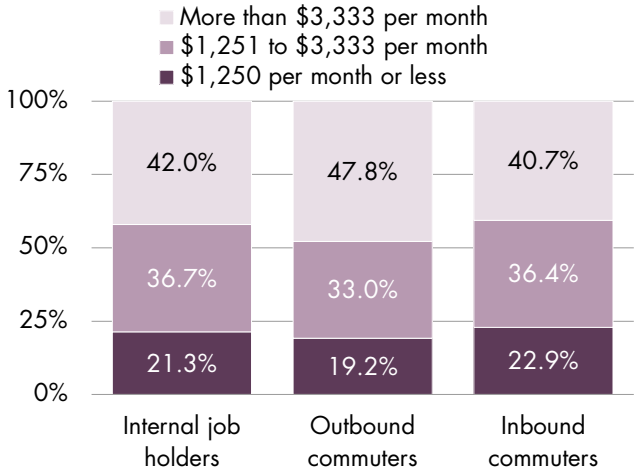
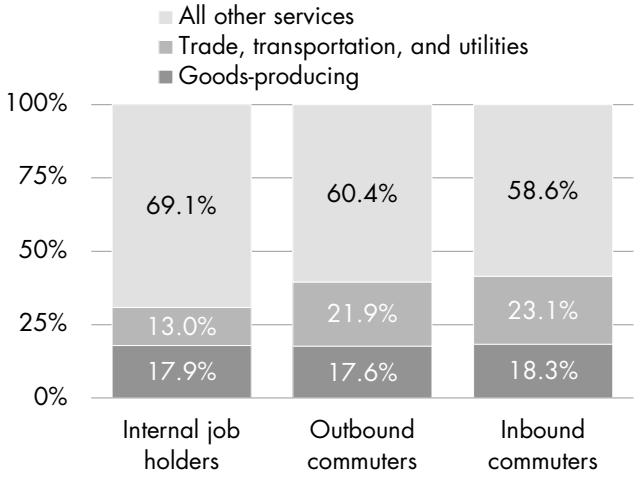


FIGURE 28. EARNINGS

Internal job holders also earn slightly more than the inbound commuters. The outbound commuters have the highest percentage of workers earning more than $3,333 a month.

FIGURE 29. INDUSTRY CLASS

The share of inbound commuters working in goods-producing and trade, transportation, and utilities in higher than in the outbound commuter group and the internal job holders. The share of internal job holders who work in services is significantly higher than the other two groups.



Source: (all figures) US Census Bureau, Local Employment Dynamics.

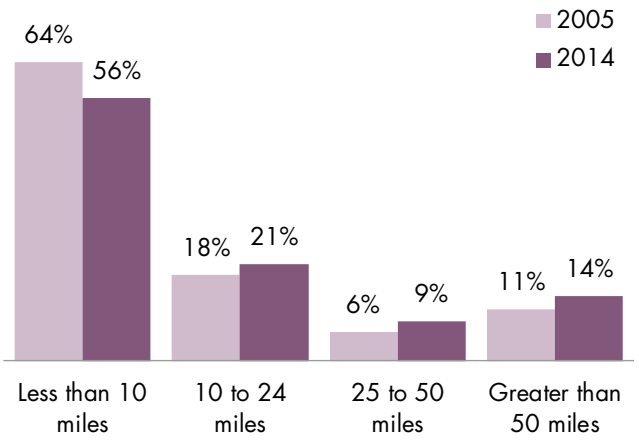
PEOPLE WHO WORK IN FORT COLLINS–LOVELAND MSA

FIGURE 30. DISTANCE TRAVELED, 2005 VS. 2014

SHARE OF JOB HOLDERS

In general, people working in the Fort Collins-Loveland MSA are travelling greater distances to work. The percentage of people commuting less than 10 miles decreased from 64 percent in 2005 to 56 percent in 2014. Each of the other categories increased by 3 percent each between 2005 and 2014.

Source: US Census Bureau, Local Employment Dynamics.



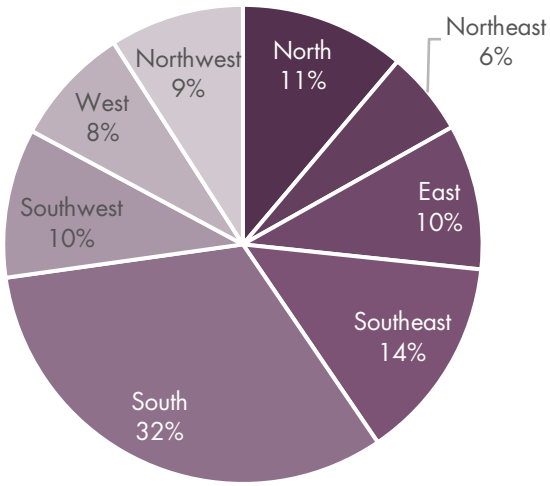


FIGURE 31. DIRECTION TRAVELED FROM WORK TO HOME, 2014

SHARE OF PEOPLE THAT WORK IN FORT COLLINS–LOVELAND

Most people who work in the Fort Collins-Loveland MSA live in a southerly direction (Southwest, South, or Southeast). This is largely a reflection of urbanization patterns in the region as the primary population centers lie to the south of the MSA.

Source: US Census Bureau, Local Employment Dynamics.

FIGURE 32. DESTINATION, 2014

TOP 10 CITIES WHERE FORT COLLINS–LOVELAND WORKERS LIVE

About one-third of the MSA's workers live in Fort Collins. Thirteen percent live in Loveland, and 4 percent live in Greeley. Only about 2 percent commute in from Denver.

Source: US Census Bureau, Local Employment Dynamics.

	City (Place)	Count	Share
1	Fort Collins city, CO	41,775	33.6%
2	Loveland city, CO	16,384	13.2%
3	Greeley city, CO	5,278	4.3%
4	Windsor town, CO	4,278	3.4%
5	Denver city, CO	2,944	2.4%
6	Wellington town, CO	1,846	1.5%
7	Longmont city, CO	1,712	1.4%
8	Colorado Springs city, CO	1,641	1.3%
9	Aurora city, CO	1,562	1.3%
10	Estes Park town, CO	1,541	1.2%
	All Other Locations	45,185	36.4%
	Total	**124,146**	**100.0%**

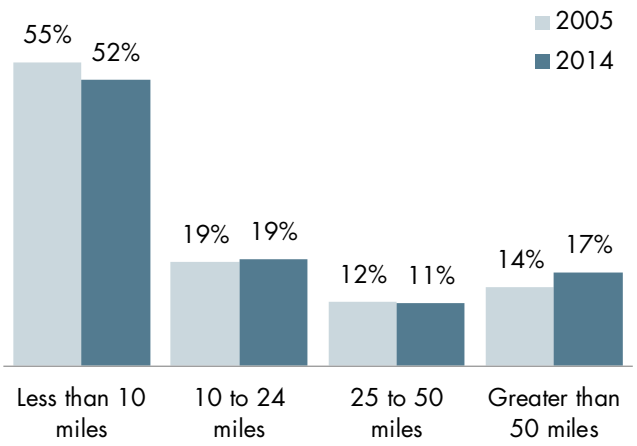
EMPLOYED PEOPLE WHO LIVE IN FORT COLLINS–LOVELAND MSA

FIGURE 33. DISTANCE TRAVELED, 2005 VS. 2014

SHARE OF JOB HOLDERS

Of the employed people who live in the Fort Collins-Loveland MSA, commute distances have increased as well, though not as much as for the workers coming into the MSA. The percent of employed residents who commute less than 10 miles decreased from 55 percent in 2005 to 52 percent in 2014. The percent of employed residents who travel more than 50 miles increased the largest amount—3 percent.

Source: US Census Bureau, Local Employment Dynamics.



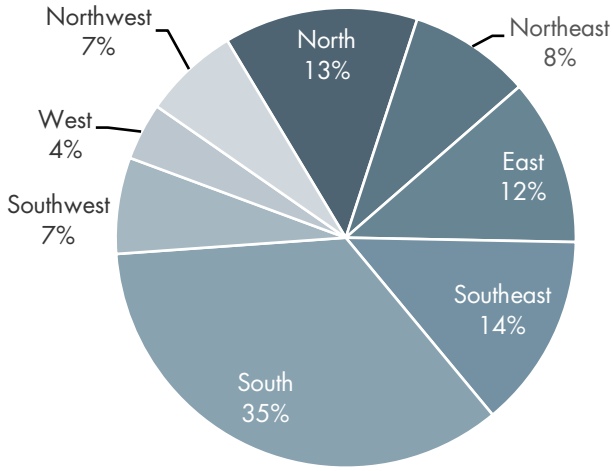


FIGURE 34. DIRECTION TRAVELED FROM HOME TO WORK, 2014

SHARE OF PEOPLE THAT LIVE IN FORT COLLINS–LOVELAND

The majority of employed people who live in the Fort Collins-Loveland MSA travel in a southerly direction to work.

Source: US Census Bureau, Local Employment Dynamics.

FIGURE 35. DESTINATION, 2014

TOP 10 CITIES WHERE EMPLOYED FORT COLLINS–LOVELAND RESIDENTS WORK

Fort Collins and Loveland are the top two cities where employed residents work. Fort Collins employs almost 37 percent while Loveland employs 13 percent. Just over 5 percent of employed residents work in Denver.

Source: US Census Bureau, Local Employment Dynamics.

	City (Place)	Count	Share
1	Fort Collins city, CO	48,240	36.6%
2	Loveland city, CO	17,154	13.0%
3	Denver city, CO	6,793	5.2%
4	Greeley city, CO	5,837	4.4%
5	Boulder city, CO	3,634	2.8%
6	Longmont city, CO	3,449	2.6%
7	Aurora city, CO	2,508	1.9%
8	Windsor town, CO	2,448	1.9%
9	Colorado Springs city, CO	2,413	1.8%
10	Estes Park town, CO	2,032	1.5%
	All Other Locations	22,672	17.2%
	Total	**131,787**	**100.0%**

Below are the top 20 sources of workers for the Fort Collins-Loveland MSA. Fort Collins and Loveland are, by far, the largest employment and residential centers. Greeley and Windsor are also important sources of labor and employment centers. Denver and Boulder are the largest destinations outside of Larimer County for workers in the MSA. They attract a net total of more than 3,000 each.

FIGURE 36. TOP 20 SOURCES OF WORKERS, 2014
CITIES WHERE FORT COLLINS - LOVELAND WORKERS LIVE, WITH NET FLOW

		People who WORK in Fort Collins - Loveland and live in this city	People who LIVE in Fort Collins - Loveland and work in this city	Net flow
1	Fort Collins city, CO	41,775	48,240	(6,465)
2	Loveland city, CO	16,384	17,154	(770)
3	Greeley city, CO	5,278	5,837	(559)
4	Windsor town, CO	4,278	2,448	1,830
5	Denver city, CO	2,944	6,793	(3,849)
6	Wellington town, CO	1,846	592	1,254
7	Longmont city, CO	1,712	3,449	(1,737)
8	Colorado Springs city, CO	1,641	2,413	(772)
9	Aurora city, CO	1,562	2,508	(946)
10	Estes Park town, CO	1,541	2,032	(491)
11	Johnstown town, CO	1,321	1,144	177
12	Evans city, CO	1,102	418	684
13	Berthoud town, CO	884	855	29
14	Westminster city, CO	785	1,419	(634)
15	Thornton city, CO	757	542	215
16	Arvada city, CO	741	426	315
17	Lakewood city, CO	707	1,300	(593)
18	Severance town, CO	680	42	638
19	Boulder city, CO	603	3,634	(3,031)
20	Lafayette city, CO	600	283	317

Source: US Census Bureau, Local Employment Dynamics.

In 2014, healthcare, food & lodging, retail, and manufacturing were the industries that drew people (on net) into the MSA for work. Healthcare and food & lodging have been importing workers for the last four years. Retail just became a net importer of workers in 2014.

Oil & gas, government, and education were the industries that drew workers out of the MSA. The MSA has been a net exporter of workers in these industries, for the most part, since 2005. However, 2014 saw considerable increases in the amount of workers leaving the MSA.

FIGURE 37. NET COMMUTING FLOWS BY NAICS INDUSTRY SECTOR, MSA

NET FLOWS = INBOUND - OUTBOUND FLOWS

Source: US Census Bureau, Local Employment Dynamics.

OCCUPATIONAL STRUCTURE

The top five occupational groups in the Fort Collins-Loveland MSA are office and administrative support, sales and related, food preparation, education, and construction.

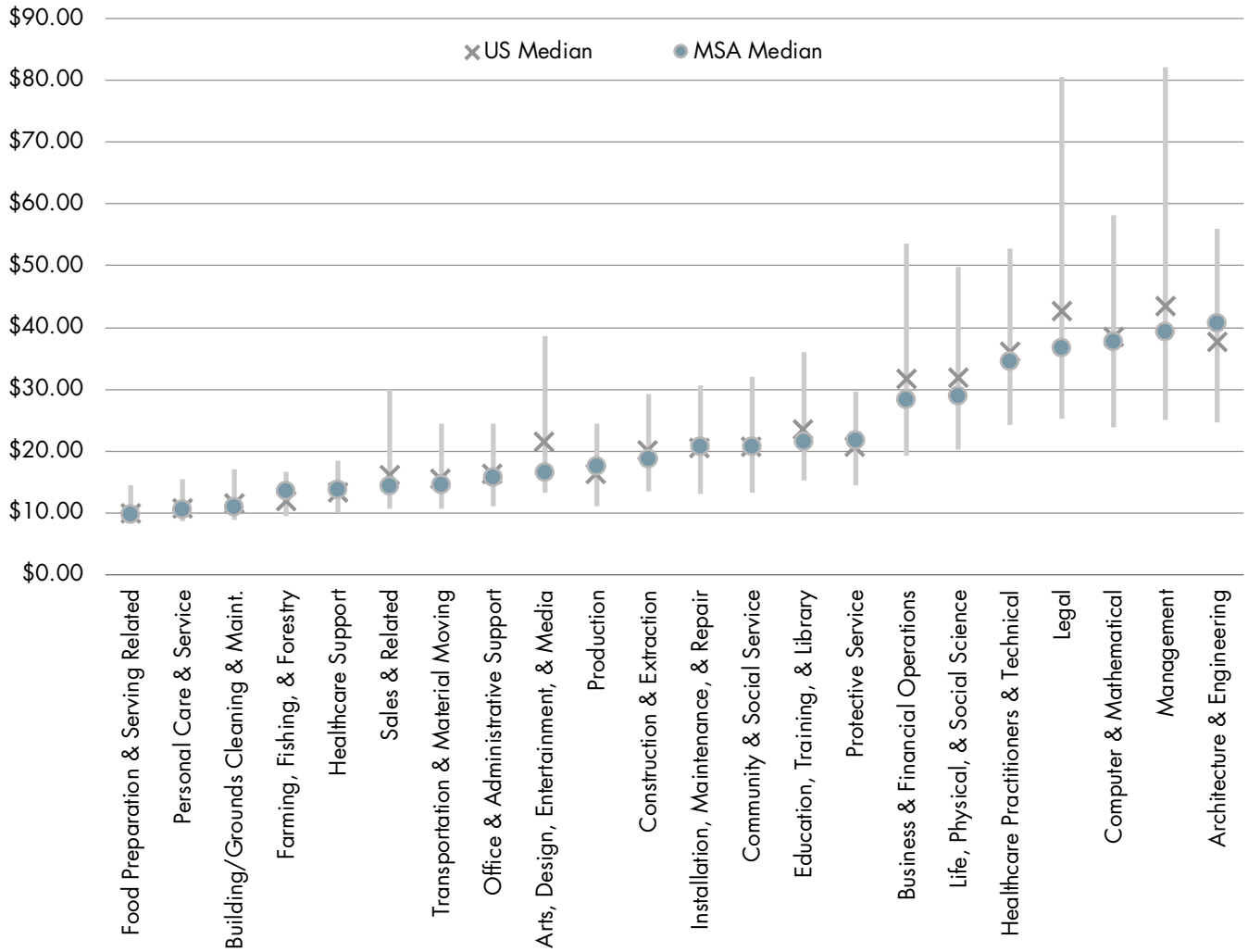
FIGURE 38. EMPLOYMENT BY OCCUPATION, MSA

SOC Code & Description	2015 Jobs
43 Office and Administrative Support	25,754
41 Sales and Related	18,585
35 Food Preparation and Serving Related	17,174
25 Education, Training, and Library	10,830
47 Construction and Extraction	9,718
13 Business and Financial Operations	8,316
29 Healthcare Practitioners and Technical	7,706
51 Production	7,572
11 Management	7,484
37 Building/Grounds Cleaning and Maintenance	6,369
53 Transportation and Material Moving	6,324
15 Computer and Mathematical	6,276
49 Installation, Maintenance, and Repair	6,220
39 Personal Care and Service	5,944
17 Architecture and Engineering	4,406
31 Healthcare Support	4,272
27 Arts, Design, Entertainment, Sports, and Media	3,277
33 Protective Service	3,040
19 Life, Physical, and Social Science	2,832
21 Community and Social Service	2,760
45 Farming, Fishing, and Forestry	797
23 Legal	761

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

FIGURE 39. MSA WAGES IN THE CONTEXT OF THE NATIONAL WAGE RATES
BY MAJOR OCCUPATIONAL GROUP

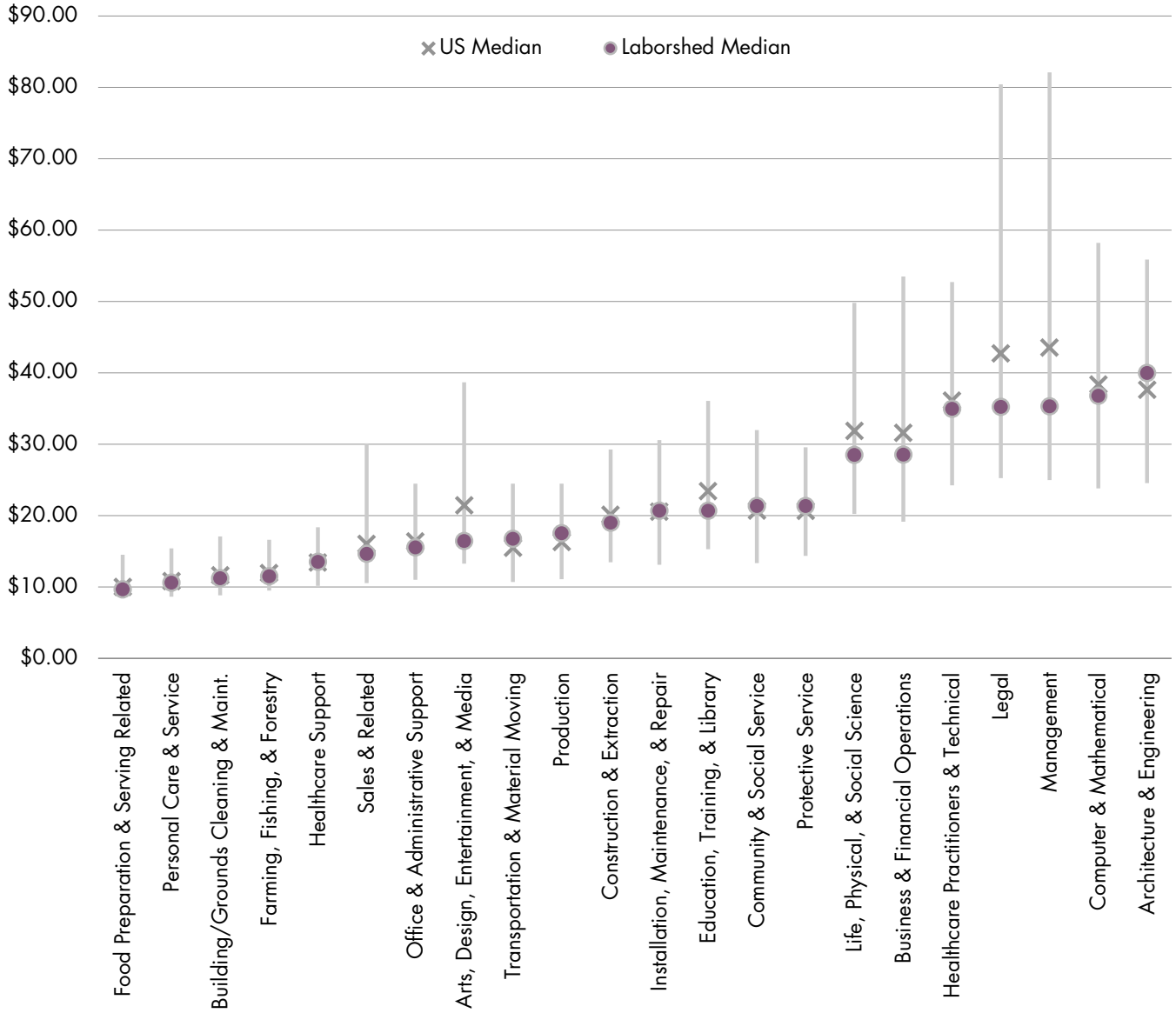
The median hourly wages in the MSA are, for the most part, in line with the US median with a few notable exceptions. Farming, architecture and engineering, and production occupations earn the highest premiums over the US median. Arts, legal, management, business operations, and sales occupations earn at least than 10 percent less than the US median.



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
Note: Line = US wage range from the 10th to the 90th percentile. Figures exclude military occupations.

FIGURE 40. LABORSHED WAGES IN THE CONTEXT OF THE NATIONAL WAGE RATES
BY MAJOR OCCUPATIONAL GROUP

In the laborshed, six different occupational groups earn at least 10 percent less than the US median. These are arts, management, legal, education, science, and business operations. Transportation and material moving earns the highest premium to the national median hourly wage.



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
Note: Line = US wage range from the 10th to the 90th percentile. Figures exclude military occupations.

Low-skilled occupations are those occupations that require a high school diploma or less and no on the job training. Middle skills occupations are those occupations that require at least a high school diploma and some additional training but less than a bachelor's degree. High-skilled occupations are those that require a bachelor's degree or higher.

In the Fort Collins-Loveland MSA, low-skilled occupations accounted for 46 percent of the jobs in 2015, middle skills occupations accounted for 31 percent, and high-skilled occupations accounted for 23 percent. Over the next five years, low-skilled occupations are expected to add 14,000 more jobs, while middle skills occupations will add almost 8,000 and high-skilled occupations will add about 6,000.

FIGURE 41. OCCUPATIONS BY SKILL LEVEL, 2015

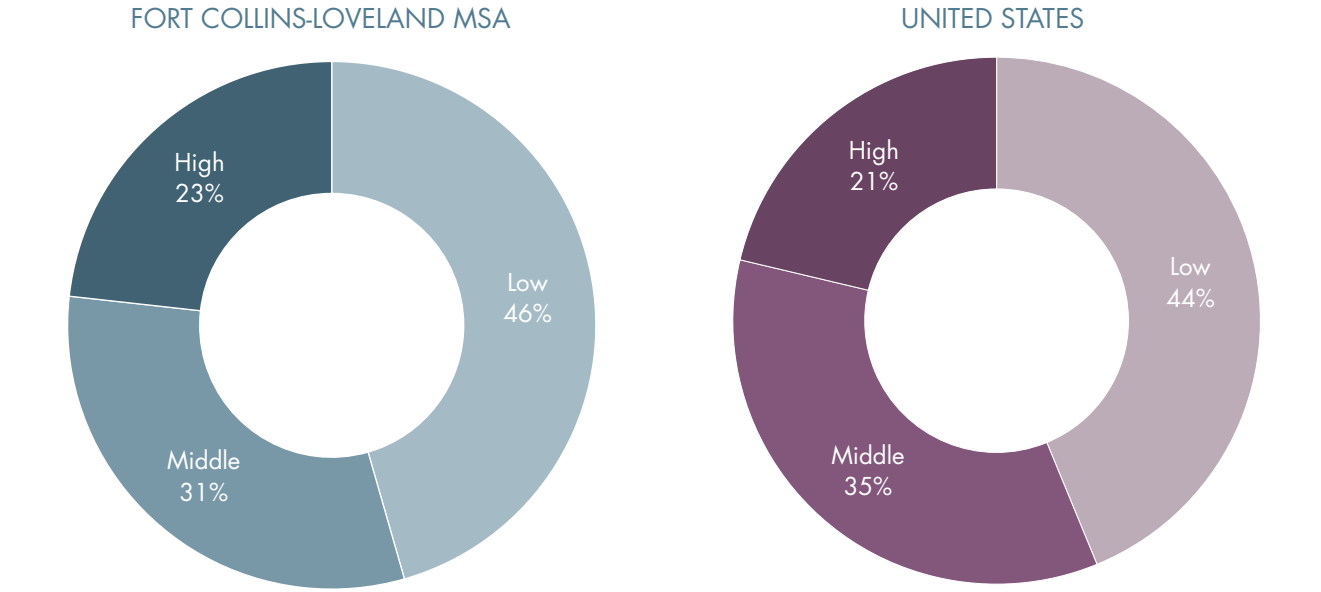
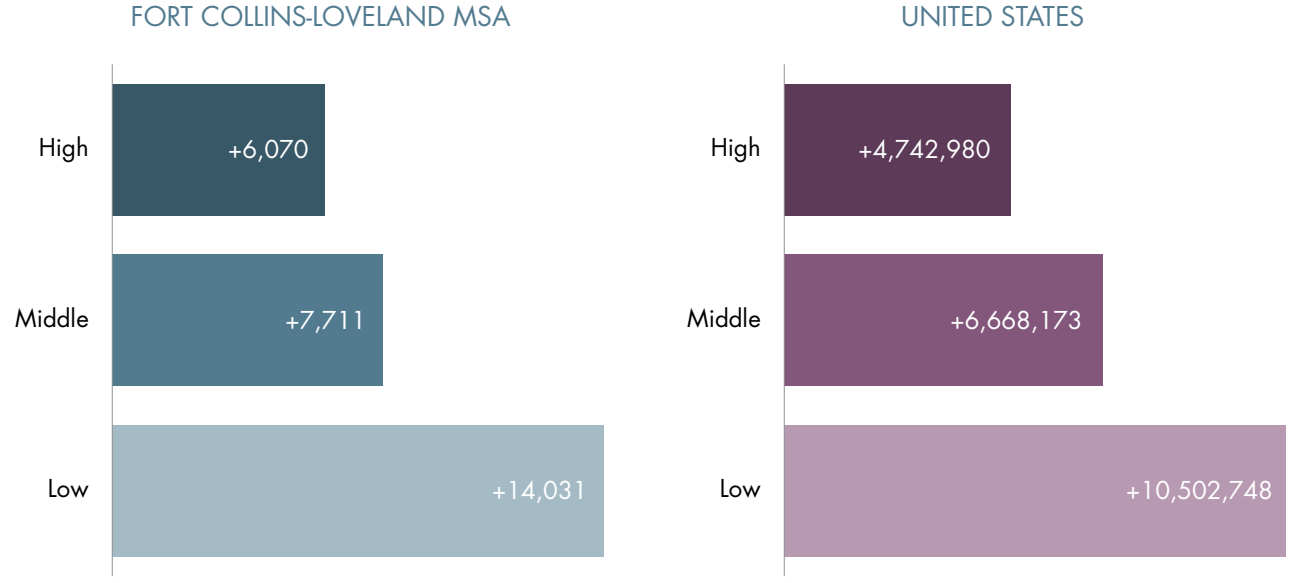


FIGURE 42. EXPECTED OCCUPATIONAL CHANGES BY SKILL LEVEL, OPENINGS 2016–2020



Source: (all figures) EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

The MSA has a number of occupational strengths related to its key industries. There are high concentrations of scientists of various types, computer hardware engineers, bike repairers, veterinarians, various types of assemblers, software developers, and various types of construction occupations. In most occupations, the wages are in line or below the US average. However, separating, filtering, and precipitating machine operators earn more than a 30 percent premium over the US average.

FIGURE 43. MSA OCCUPATIONAL STRENGTHS

TOP LQS

		MSA			
SOC CODE	DESCRIPTION	*2015 Jobs*	*2015 LQ (US=1.00)*	*Median Hourly Earnings*	*Wage Premium >10% over US Avg.*
19-1031	Conservation Scientists	429	18.62	$29.96	1.00
19-2021	Atmospheric & Space Scientists	142	10.87	$40.29	0.96
17-2061	Computer Hardware Engineers	863	9.59	$56.72	1.08
19-1032	Foresters	85	7.77	$23.80	0.83
49-3091	Bicycle Repairers	82	6.77	$13.22	1.04
19-2043	Hydrologists	52	6.49	$41.58	1.09
19-1022	Microbiologists	142	5.88	$27.02	0.80
19-1013	Soil & Plant Scientists	101	5.40	$24.75	0.86
51-2031	Engine & Other Machine Assemblers	194	4.72	$16.85	0.88
29-2056	Veterinary Technologists & Technicians	421	3.76	$12.63	0.82
51-2023	Electromechanical Equipment Assemblers	196	3.75	$15.23	0.95
27-2023	Umpires, Referees, & Other Sports Officials	86	3.67	$9.21	0.73
19-4093	Forest & Conservation Technicians	127	3.63	$16.33	0.97
15-1133	Software Developers, Systems Software	1,582	3.45	$50.76	1.02
51-9012	Separating, Filtering, & Precipitating Machine Operators	158	3.41	$25.15	1.31
51-7011	Cabinetmakers & Bench Carpenters	373	3.38	$13.34	0.86
47-2081	Drywall & Ceiling Tile Installers	423	3.33	$19.69	1.04
47-2131	Insulation Workers, Floor, Ceiling, & Wall	95	3.30	$15.03	0.90
19-2099	Physical Scientists, All Other	100	3.23	$43.63	0.94
11-9121	Natural Sciences Managers	201	3.22	$54.90	0.90
33-9021	Private Detectives & Investigators	121	3.10	$20.97	0.95
17-1022	Surveyors	149	2.96	$26.00	0.94
19-1023	Zoologists & Wildlife Biologists	65	2.94	$29.93	1.04
43-4199	Information & Record Clerks, All Other	615	2.77	$17.81	0.97
19-2031	Chemists	258	2.66	$30.54	0.86
47-2051	Cement Masons & Concrete Finishers	484	2.51	$16.45	0.88
19-4021	Biological Technicians	208	2.50	$18.19	0.89
21-1092	Probation Officers & Correctional Specialists	242	2.47	$22.98	0.91
47-2071	Paving, Surfacing, & Tamping Equip. Operators	158	2.45	$20.61	1.04
17-2081	Environmental Engineers	150	2.42	$35.48	0.88

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
Note: Occupations with at least 50 jobs in for MSA.

The tables below highlight the highest demand occupations based on a variety of factors. These lists are dominated by relatively low wage occupations related to retail, food services, administrative services, and healthcare.

FIGURE 44. TOP 10 OCCUPATIONS, BASED ON VARIOUS INDICATORS, MSA

Employment in 2015	LARGEST	Median hourly earnings
6,546	Retail Salespersons	$10.49
5,277	Combined Food Prep. & Servers, Incl. Fast Food	$9.05
4,987	Secretaries/Admin. Asst., Exc. Legal, Med., & Exec.	$16.14
3,669	Waiters & Waitresses	$8.95
3,535	Cashiers	$9.23
3,438	Teachers, Postsecondary	$26.23
3,257	Office Clerks, General	$14.63
2,668	Janitors & Cleaners, Exc. Maids & Housekeepers	$11.13
2,455	Customer Service Representatives	$13.97
2,236	Stock Clerks & Order Fillers	$11.27

Net change	FASTEST-GROWING, 2015-20 (#)	Median hourly earnings
+968	Combined Food Prep. & Servers, Incl. Fast Food	$9.05
+622	Retail Salespersons	$10.49
+501	Waiters & Waitresses	$8.95
+424	Office Clerks, General	$14.63
+415	Teachers, Postsecondary	$26.23
+360	Secretaries/Admin. Asst., Exc. Legal, Med., & Exec.	$16.14
+355	Cooks, Restaurant	$10.60
+327	Personal Care Aides	$9.82
+298	Cashiers	$9.23
+275	Customer Service Representatives	$13.97

% change	FASTEST-GROWING, 2015-20 (%)	Median hourly earnings
+43%	Substitute Teachers	$12.93
+43%	Counter Attendants, Cafeteria, & Concession	$8.94
+35%	Home Health Aides	$10.90
+35%	Cooks, Fast Food	$9.30
+32%	Molding, Coremaking, & Casting, Metal/Plastic	$15.68
+30%	Extruding & Drawing Machine, Metal/Plastic	$17.53
+29%	Security Guards	$10.04
+28%	Social & Human Service Assistants	$13.38
+27%	Hotel, Motel, & Resort Desk Clerks	$9.98
+27%	Personal Care Aides	$9.82

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
Note: Excludes military (MSA). Includes only those occupations with >50 jobs.

The lowest demand occupations are shown on the lists below. Most of these occupations are declining based on global and national trends, including those occupations related to computer and semiconductor manufacturing.

FIGURE 44. TOP 10 OCCUPATIONS, BASED ON VARIOUS INDICATORS, MSA—CONTINUED

Net change	◂ FASTEST-DECLINING, 2015-20 (#)	Median hourly earnings
-166	Farmers, Ranchers, & Other Agricultural Mgrs.	$13.30
-118	Computer Hardware Engineers	$56.72
-42	Tellers	$12.53
-34	Interviewers, Except Eligibility & Loan	$15.42
-34	Electrical & Electronic Equip. Assemblers	$16.52
-27	Travel Agents	$14.22
-17	Electromechanical Equipment Assemblers	$15.23
-16	Editors	$24.05
-14	Door-to-Door Sales, Street Vendors, & Related	$7.64
-13	Advertising Sales Agents	$18.40

% change	◂ FASTEST-DECLINING, 2015-20 (%)	Median hourly earnings
-41%	Farmers, Ranchers, & Other Agricultural Mgrs.	$13.30
-41%	Travel Agents	$14.22
-14%	Computer Hardware Engineers	$56.72
-13%	Door-to-Door Sales, Street Vendors, & Related	$7.64
-11%	Editors	$24.05
-10%	Electrical & Electronic Equip. Assemblers	$16.52
-10%	Advertising Sales Agents	$18.40
-10%	Interviewers, Except Eligibility & Loan	$15.42
-9%	Electromechanical Equipment Assemblers	$15.23
-7%	Switchboard Operators, Incl. Answering Service	$11.55

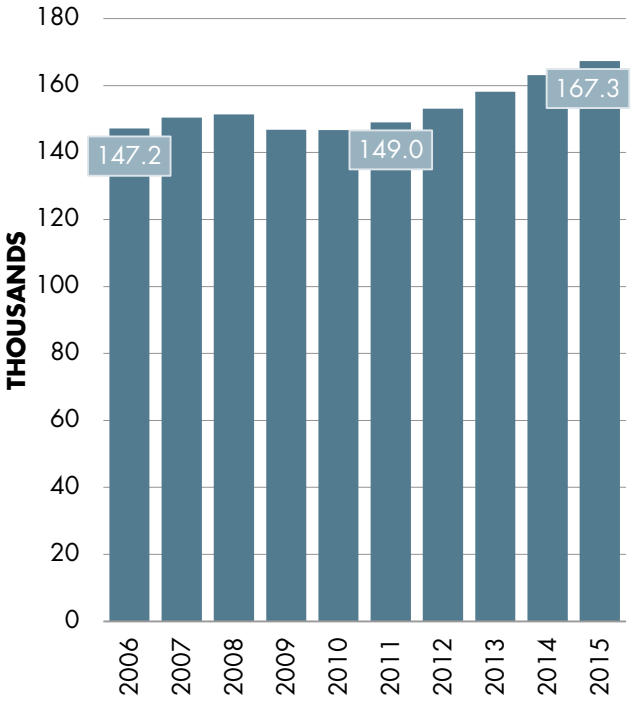
Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
Note: Excludes military (MSA). Includes only those occupations with >50 jobs.

DEMAND DRIVERS

FIGURE 45. TOTAL JOBS, MSA
2006 TO 2015

Over the last 10 years, employment in the MSA has grown from 147,200 to 167,300, an increase of almost 14 percent. Although employment declined slightly in 2009 and 2010, by 2012 employment had recovered to pre-recessionary levels.

Source: EMSI 2016.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed.



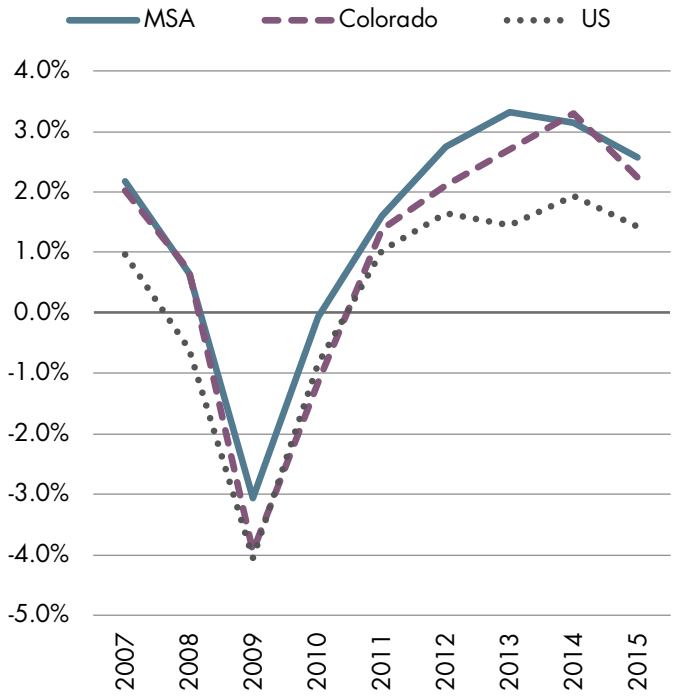


FIGURE 46. COMPARATIVE CHANGE IN JOBS
2007 TO 2015

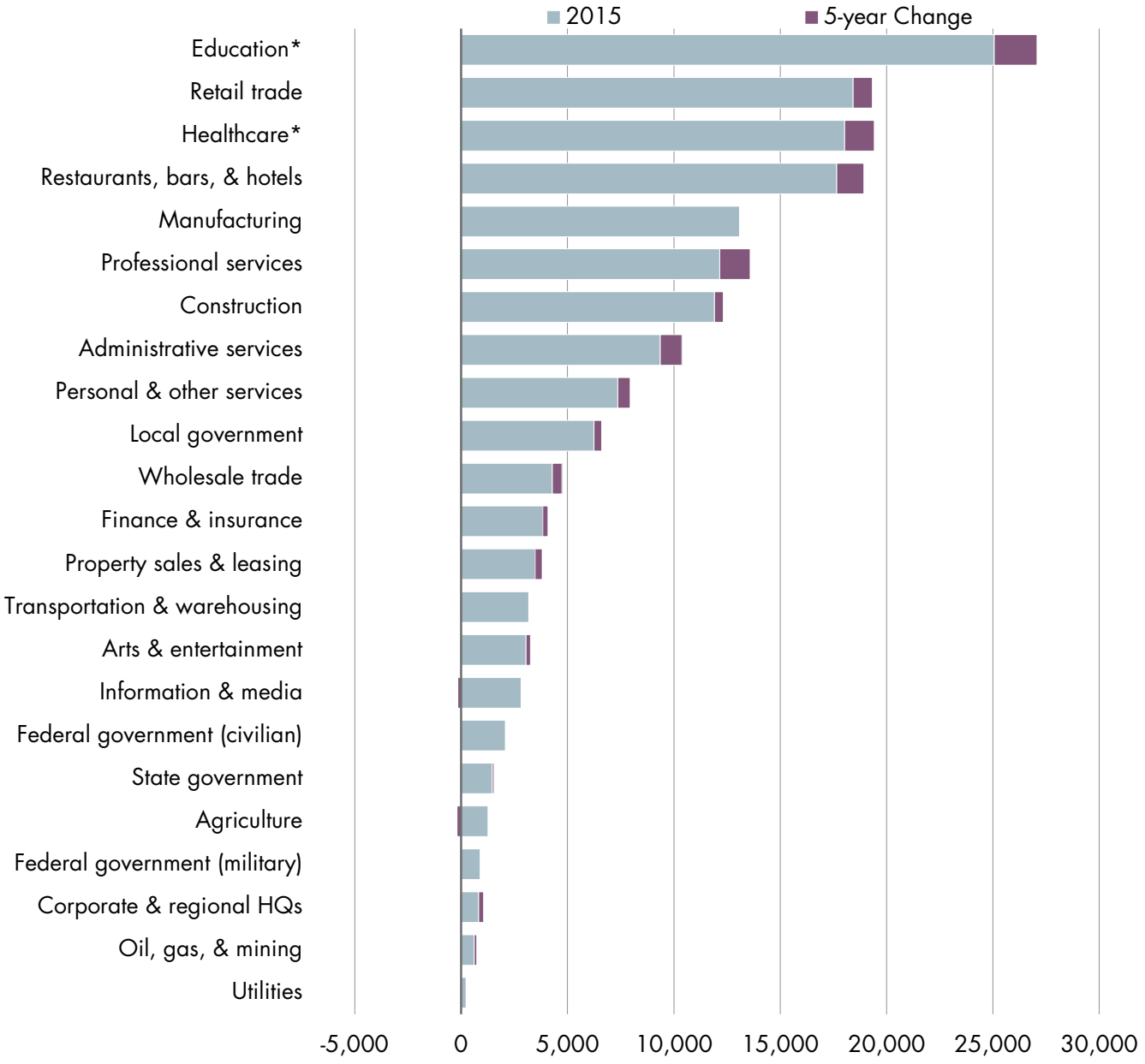
From 2007 to 2009, the MSA's employment growth tracked the state's. Starting in 2009, however, the MSA's employment growth outpaced the state's until 2014 when the state experienced an increase of more than 3 percent.

Since 2011, both the MSA and state have outpaced the US in terms of employment growth.

Source: 2016.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

The MSA remains a regional center for education, retail, healthcare, and entertainment. As such, employment in these sectors is high and expected to continue to grow over the next five years. Professional services is expected to experience strong growth and to overtake the manufacturing sector over the next five years as the fifth largest sector in the regional economy.

FIGURE 47. TOTAL EMPLOYMENT BY INDUSTRY, MSA
JOB BASE 2015 + PROJECTED 5-YEAR CHANGE



Source: 2016.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
*Note: Education includes all public schools, colleges, & universities, and healthcare includes all public hospitals.

FIGURE 48. INDUSTRY DISTRIBUTION (% OF TOTAL)

COMPARISON OF MSA WITH STATES AND NATION

The top three industry sectors of the Fort Collins-Loveland MSA account for about one-third of the total employment base. These sectors account for a greater share of the MSA's employment base than they do in the laborshed, state, and national economy. On the other hand, the wholesale trade, finance & insurance, and transportation sectors account for much smaller shares of the employment base.

NAICS Code & Description	MSA	Laborshed	Colorado	US
61 Education*	**15.1%**	**12.7%**	9.2%	**9.4%**
44-45 Retail trade	**11.1%**	**10.1%**	**9.8%**	**10.6%**
62 Healthcare & social assistance*	**10.8%**	**9.7%**	**11.5%**	**13.3%**
72 Lodging, restaurants, & bars	10.6%	9.0%	**9.6%**	8.5%
31-33 Manufacturing	7.9%	9.1%	5.2%	8.2%
54 Professional services	7.3%	5.5%	8.5%	6.4%
23 Construction	7.2%	8.5%	6.8%	5.4%
56 Administrative & support services	5.6%	5.7%	6.2%	6.3%
81 Personal & other services	4.4%	4.2%	4.9%	4.9%
9039 Local govt.	3.8%	3.9%	3.9%	3.6%
42 Wholesale trade	2.6%	3.0%	3.8%	3.9%
52 Finance & insurance	2.3%	2.5%	4.0%	3.9%
53 Property sales & leasing	2.1%	1.8%	2.1%	1.7%
71 Arts, entertainment, & recreation	1.8%	1.5%	2.2%	1.7%
51 Information	1.7%	1.3%	2.6%	1.9%
48-49 Transportation & warehousing	1.7%	2.6%	2.7%	3.4%
9011 Federal govt. (civilian)	1.5%	1.1%	1.9%	1.9%
9029 State govt.	0.9%	0.8%	1.2%	1.5%
11 Agriculture & forestry	0.8%	2.7%	1.0%	1.3%
55 Corporate & regional offices	0.5%	0.8%	1.3%	1.4%
21 Mining (incl. oil & gas)	0.4%	3.2%	1.2%	0.5%
22 Utilities	0.1%	0.2%	0.3%	0.4%

Source:2016.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
*Note: Education includes all public schools, colleges, & universities, and healthcare includes all public hospitals. Excludes military and unclassified employment.

Location quotients represent the concentration of employment locally in a particular sector relative to the concentration of employment in that sector nationally. A location quotient above 1.25 is considered particularly high. In the Fort Collins-Loveland MSA, four sectors have high LQs—education, lodging, construction, and property sales & leasing.

FIGURE 49. INDUSTRY CONCENTRATION (LQ)

COMPARISON OF MSA WITH STATES AND NATION

NAICS	Code & Description	MSA	Laborshed	Colorado	US
61	Education*	**1.60**	1.35	0.98	1.00
72	Lodging, restaurants, & bars	**1.33**	1.13	1.14	1.00
23	Construction	**1.33**	**1.49**	**1.26**	1.00
53	Property sales & leasing	**1.30**	1.16	**1.30**	1.00
71	Arts, entertainment, & recreation	1.15	0.97	**1.31**	1.00
44-45	Retail trade	1.04	0.98	0.92	1.00
31-33	Manufacturing	1.01	1.18	0.65	1.00
9039	Local govt.	0.99	1.04	1.05	1.00
54	Professional services	1.09	0.84	**1.29**	1.00
81	Personal & other services	0.89	0.87	0.99	1.00
51	Information	0.88	0.66	**1.38**	1.00
56	Administrative & support services	0.83	0.87	0.96	1.00
62	Healthcare & social assistance*	0.82	0.73	0.86	1.00
9011	Federal govt. (civilian)	0.82	0.60	1.04	1.00
21	Mining (incl. oil & gas)	0.75	**5.71**	**2.21**	1.00
42	Wholesale trade	0.67	0.78	0.96	1.00
9029	State govt.	0.61	0.54	0.78	1.00
11	Agriculture & forestry	0.58	**2.15**	0.74	1.00
52	Finance & insurance	0.58	0.65	1.03	1.00
48-49	Transportation & warehousing	0.50	0.71	0.76	1.00
22	Utilities	0.38	0.52	0.80	1.00
55	Corporate & regional offices	0.35	0.58	0.92	1.00

Source:2016.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
*Note: Education includes all public schools, colleges, & universities, and healthcare includes all public hospitals. Excludes military and unclassified employment.

The lists below show the top 10 industries based on a variety of factors.

FIGURE 50. TOP 10 INDUSTRIES
MSA

Employment	LARGEST,2015	Earnings per Worker
17,705	Education and Hospitals (State Government)	$46,319
13,859	Restaurants and Other Eating Places	$19,064
7,614	Education and Hospitals (Local Government)	$48,101
6,246	Local Government, Excluding Education and Hospitals	$67,324
3,454	Building Equipment Contractors	$63,674
2,867	Services to Buildings and Dwellings	$26,378
2,722	Employment Services	$32,893
2,473	Computer Systems Design and Related Services	$100,026
2,456	Federal Government, Civilian	$113,652
2,407	Other General Merchandise Stores	$30,508

Change	FASTEST-GROWING, 2015-20 (#)	Earnings per Worker
+2,486	Restaurants and Other Eating Places	$19,064
+2,375	Education and Hospitals (State Government)	$46,319
+914	Education and Hospitals (Local Government)	$48,101
+660	Computer Systems Design and Related Services	$100,026
+598	Traveler Accommodation	$25,036
+596	Building Equipment Contractors	$63,674
+585	Home Health Care Services	$33,796
+511	Offices of Other Health Practitioners	$37,581
+444	Other General Merchandise Stores	$30,508
+426	Plastics Product Manufacturing	$82,197

Change	FASTEST-GROWING, 2013-2018 (%)	Earnings per Worker
68%	Grain and Oilseed Milling	$71,232
58%	Veneer, Plywood, and Engineered Wood Product Manufacturing	$48,770
55%	Postal Service	$47,375
52%	Home Health Care Services	$33,796
50%	Amusement Parks and Arcades	$16,774
50%	Facilities Support Services	$100,274
47%	Electrical Equipment Manufacturing	$77,186
47%	Support Activities for Rail Transportation	$83,393
45%	Nondepository Credit Intermediation	$108,181
41%	Other Nonmetallic Mineral Product Manufacturing	$46,155

Source: QCEW Employees, Non-QCEW Employees & Self-Employed - EMSI 2013.4 Class of Worker.

The top 15 low-skilled occupations are listed below. Of these occupations, most of the openings are a result of replacement jobs, particularly among retail sales persons, food preparation, waiters, cashiers, stock clerks, and hosts. Personal care aids and self-enrichment teachers are the occupations where the number of openings is driven more by the addition of new jobs. The wages in these sectors are in line with the national median hourly wage. Seven of the 15 occupations have more than 20 percent of their workers aged 55 or older.

FIGURE 51. DEMAND FACTORS BY SKILL LEVEL, MSA

ESTIMATED ANNUAL OPENINGS (THROUGH 2020) WITH ESTIMATE OF NET CHANGE & REPLACEMENT DEMAND

			DEMAND FACTORS				DEMOGRAPHICS	
SOC CODE	DESCRIPTION	2015 Jobs	Projected Annual Openings (2016-20)	New jobs	Replacement	Wage Premium over US	% 55+ Years	% 65+ Years
LOW-SKILL *(High school or less)*								
41-2031	Retail Salespersons	6,546	337	29%	71%	1.00	23% ◀	8%
35-3021	Combined Food Prep. & Servers, Incl. Fast Food	5,277	296	33%	67%	1.00	10%	4%
35-3031	Waiters & Waitresses	3,669	249	21%	79%	0.96	6%	2%
41-2011	Cashiers	3,535	215	26%	74%	0.98	15%	5%
43-9061	Office Clerks, General	3,257	152	49%	51%	1.04	23% ◀	7%
43-4051	Customer Service Representatives	2,455	139	53%	47%	0.91	16%	3%
43-6014	Secretaries/Admin. Asst., Exc. Legal, Med., & Exec.	4,987	117	52%	48%	1.00	29% ◀	7%
43-5081	Stock Clerks & Order Fillers	2,236	107	31%	69%	1.01	19%	5%
35-2014	Cooks, Restaurant	1,966	107	44%	56%	0.96	10%	3%
37-2011	Janitors & Cleaners, Exc. Maids & Housekeepers	2,668	106	46%	54%	0.97	28% ◀	9%
53-7062	Laborers/Freight, Stock, & Material Movers, Hand	1,786	96	38%	62%	1.01	16%	3%
35-9031	Hosts & Hostesses	779	71	14%	86%	0.97	10%	6%
39-9021	Personal Care Aides	1,206	67	79%	21%	0.98	30% ◀	9%
13-1199	Business Operations Specialists, All Other	1,981	47	47%	53%	0.91	25% ◀	5%
25-3021	Teachers, Self-Enrichment Educ.	502	29	62%	38%	0.86	25% ◀	8%

Source:EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
Notes: Highlights: Wage premium = 10% or higher than US wages; %55+ = 20% or higher; %65+ = 10% or higher. Replacement demand is an estimate of the number of workers required to replace existing workers who leave the occupation due to a variety of factors including retirement, career advancement, or exiting the workforce to raise children or attend school.

Based on the indicators on the following page, the top middle skills jobs appear to be facing a shortage situation. Already eight occupations have median hourly wages more than 10 percent above the national median hourly wage. In addition, all but one of the occupations has more than 25 percent of its workforce aged 55 or older.

The top high-skilled jobs are similarly facing a wave of retiring workers. However, local wage premiums are present in only four of the occupations.

FIGURE 51. DEMAND FACTORS BY SKILL LEVEL, MSA—CONTINUED

ESTIMATED ANNUAL OPENINGS (THROUGH 2020) WITH ESTIMATE OF NET CHANGE & REPLACEMENT DEMAND

SOC CODE	DESCRIPTION	2015 Jobs	DEMAND FACTORS: Projected Annual Openings (2016-20)	New jobs	Replacement	Wage Premium over US	DEMOGRAPHICS: % 55+ Years	% 65+ Years
MIDDLE-SKILL *(More than high school, less than four years)*								
49-9071	Maintenance & Repair Workers, General	1,614	86	11%	89%	0.92	27% ◀	7%
29-1141	Registered Nurses	2,235	65	14%	86%	0.91	27% ◀	5%
53-3032	Heavy & Tractor-Trailer Truck Drivers	1,062	47	40%	60%	0.88	28% ◀	7%
51-9111	Packaging & Filling Machine Workers	588	35	32%	68%	1.59	15%	2%
49-9041	Industrial Machinery Mechanics	505	31	52%	48%	1.11	24% ◀	3%
43-3031	Bookkeeping, Accounting, & Auditing Clerks	1,937	31	30%	70%	0.97	32% ◀	9%
29-2061	Licensed Practical/Vocational Nurses	396	28	52%	48%	1.02	26% ◀	5%
51-4041	Machinists	369	23	45%	55%	1.12	27% ◀	5%
41-9022	Real Estate Sales Agents	655	19	73%	27%	0.84	39% ◀	13% ◀
49-1011	First-Line Supvsr., Mechanics, Install, & Repair	351	17	54%	46%	1.12	27% ◀	4%
11-9141	Property, Real Estate, & Community Assoc. Mgrs.	248	15	66%	34%	1.17	40% ◀	14% ◀
43-6013	Medical Secretaries	451	15	63%	37%	1.07	29% ◀	6%
47-4011	Construction & Building Inspectors	196	8	17%	83%	1.17	38% ◀	11% ◀
51-8031	Water/WW Treatment Plant Operators	203	8	32%	68%	1.21	30% ◀	6%
13-2021	Appraisers & Assessors of Real Estate	116	5	61%	39%	1.38	32% ◀	9%
HIGH SKILL *(Four-year degree or above)*								
25-1099	Postsecondary Teachers	3,438	139	30%	70%	0.80	30% ◀	11% ◀
11-1021	General and Operations Managers	2,172	102	41%	59%	0.77	23% ◀	4%
13-2011	Accountants and Auditors	1,622	83	38%	62%	0.84	25% ◀	6%
25-2021	Elementary School Teachers, Except Special Education	1,503	63	42%	58%	0.85	28% ◀	5%
25-2031	Secondary School Teachers, Except Special and Career/Tec	1,071	46	39%	61%	0.84	28% ◀	5%
13-1111	Management Analysts	671	39	73%	27%	0.73	38% ◀	12% ◀
25-2022	Middle School Teachers, Except Special and Career/Techni	760	31	41%	59%	0.87	28% ◀	5%
25-3099	Teachers and Instructors, All Other	335	17	58%	42%	0.73	25% ◀	8%
21-1014	Mental Health Counselors	283	12	44%	56%	1.17	25% ◀	6%
21-2021	Directors, Religious Activities and Education	128	6	39%	61%	1.15	39% ◀	13% ◀
29-1069	Physicians and Surgeons, All Other	166	5	-	100%	1.30	31% ◀	9%
21-2099	Religious Workers, All Other	64	3	56%	44%	1.25	45% ◀	20% ◀

Source:EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
Notes: Highlights: Wage premium = 10% or higher than US wages; %55+ = 20% or higher; %65+ = 10% or higher. . Replacement demand is an estimate of the number of workers required to replace existing workers who leave the occupation due to a variety of factors including retirement, career advancement, or exiting the workforce to raise children or attend school.

EDUCATION AND TRAINING

FIGURE 52. INSTITUTIONS INCLUDED IN THE ANALYSIS

LARIMER & WELD COUNTY INSTITUTIONS THAT PARTICIPATE IN IPEDS, PLUS FRONT RANGE COMMUNITY COLLEGE

The laborshed includes eight post-secondary institutions.

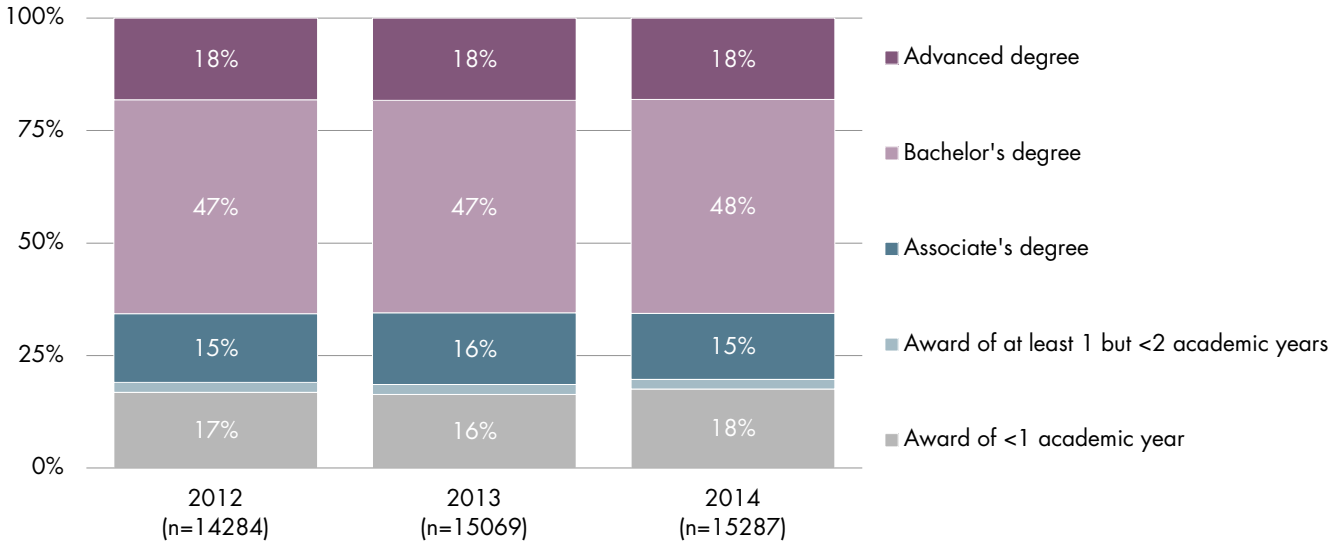
UNITID	INSTITUTION NAME	CITY	SECTOR
126207	Aims Community College	Greeley	Private, Non-Profit, 2-year
126818	Colorado State University-Fort Collins	Fort Collins	Public, 4-year or above
127200	Front Range Community College	Westminster	Private, Non-Profit, 2-year
127741	University of Northern Colorado	Greeley	Public, 4-year or above
372329	IBMC College	Fort Collins	Private, Non-Profit, 2-year
381866	Healing Arts Institute	Fort Collins	Private, For-Profit, Less than 2-year
448761	CollegeAmerica-Fort Collins	Fort Collins	Public, 4-year or above
449454	Academy of Natural Therapy Inc	Greeley	Private, Non-Profit, 2-year

Source: National Center for Education Statistics, IPEDS Survey.
Note: Aims Community College was listed as public before but now is coded private.

FIGURE 53. DISTRIBUTION OF FOR-CREDIT COMPLETIONS BY AWARD LEVEL

FOR-CREDIT COMPLETIONS BY SELECTED INSTITUTIONS FOR THREE MOST RECENT ACADEMIC YEARS

Over the past three years, the eight regional institutions have graduated between 14,000 and 15,000 students. More than half of these students have earned a bachelor's degree or higher.

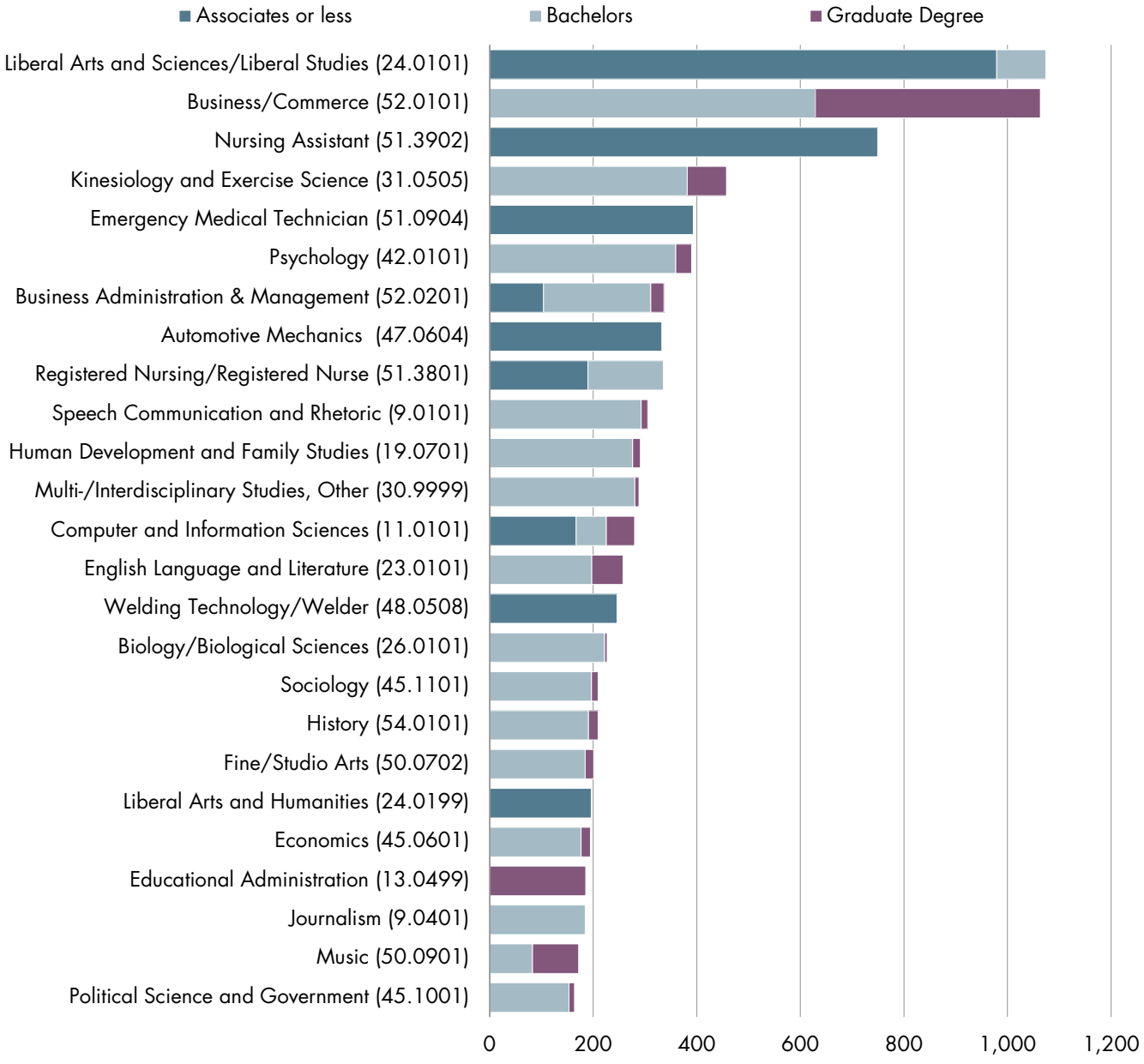


Source: National Center for Education Statistics, IPEDS Survey.

FIGURE 54. 25 LARGEST FIELDS OF STUDY AT REGIONAL INSTITUTIONS

RANKED BY AVERAGE NUMBER OF COMPLETIONS, ALL AWARD LEVELS

By far the most popular fields of study are liberal arts and business. Some of the degrees conferred track to high-demand occupations, in particular nursing and business administration. However, many of the high-demand occupations, such as industrial maintenance, machining, and teachers, are not among the top 25 fields of study.



Source: National Center for Education Statistics, IPEDS Survey.

INFORMATION TECHNOLOGY

While information technology is an industry sector in and of itself, it is also an important talent cluster that plays an essential role in many of the Fort Collins-Loveland MSA's key economic drivers. The table below shows the share of IT occupations by major sector.

The primary IT occupations account for 2 percent of public hospital staff, 3 percent of public education's, 8 percent of manufacturing's, and over 16 percent of professional services'. Software developers, computer systems analysts, and computer user support specialists are the top occupations across industries.

FIGURE 55. ROLE OF IT OCCUPATIONS IN THE MSA'S MAJOR SECTORS
OCCUPATIONS AS A SHARE OF TOTAL EMPLOYMENT IN THE INDUSTRY

- Less than 0.25%
- Greater than 0.25%, but less than 1.0%
- Greater than 1.0%, but less than 2.5%
- Greater than 2.5%, but less than 5.0%
- Greater than 5.0%

SOC Code	Description	Jobs	Median hourly wage	Professional services	Manufacturing	Government: Public education (state and local, all levels)	Government: Public hospitals (state and local)	Government: Other local, state, and federal (excl. educ. & hospitals)
11-3021	Computer & Info. Systems Managers	346	$59.72	0.7%	0.5%			
15-1121	Computer Systems Analysts	596	$38.70	1.6%	0.5%		0.4%	
15-1122	Information Security Analysts	22	$48.15	0.3%				
15-1131	Computer Programmers	210	$37.15	0.8%				
15-1132	Software Developers, Applications	1,093	$36.77	3.1%	1.3%	0.3%		
15-1133	Software Developers, Systems Software	1,601	$50.76	4.1%	3.6%			
15-1134	Web Developers	270	$14.90	1.0%				
15-1141	Database Administrators	89	$40.60					
15-1142	Network & Computer Systems Admin.	433	$36.17	1.0%	0.3%	0.3%		
15-1143	Computer Network Architects	101	$48.45	0.3%				
15-1151	Computer User Support Specialists	1,086	$22.89	1.7%	0.6%	1.4%		0.3%
15-1152	Computer Network Support Specialists	334	$33.00	0.5%		0.4%		
15-1199	Computer Occupations, All Other	401	$45.58	1.1%	0.3%	0.3%		1.3%
15-2031	Operations Research Analysts	102	$37.84					
15-2041	Statisticians	54	$42.98					
	TOTAL	6,738	—	16.6%	7.9%	3.4%	2.0%	2.7%

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

In seven out of the 15 primary IT occupations, the Fort Collins-Loveland MSA has a significantly strong LQ, that is higher than 1.25. The occupation with the highest LQ is software developers, systems software. There are also high concentrations of statisticians, computer network support specialists, all other computer occupations, computer user support specialists, web developers, and software developers (applications).

Software developers (systems software) is the IT occupation with the largest number of jobs in 2016. While it will likely remain the occupation with the highest number of jobs, it is the only IT occupation that is projected to decline by 2020. Software developers (applications) and computer user support specialists are the next largest occupations and are expected to add about 100 jobs each by 2020. Computer systems analysts are another important occupation, employing almost 600 in 2016. This occupation is expected to grow by almost 100 jobs also by 2020.

ABOUT LOCATION QUOTIENTS (LQS)

Location quotient (LQ) is a way of quantifying how concentrated a particular occupation is in a region as compared to the nation. LQs are calculated as an occupation's share of total local employment divided by the same occupation's share of employment at the national level:

(local employment in occupation x / total local employment -all occupations) (national employment in occupation x / total national employment-all occupations)

If the local occupation and national occupation are perfectly proportional, the LQ will be 1.00. LQs greater than 1.25 are presumed to indicate a comparative advantage; those below 0.75 suggest areas of weakness.

FIGURE 56. PRIMARY OCCUPATIONS, MSA
RELATIVE CONCENTRATIONS (2016) AND PROJECTIONS (2016-2020)

SOC Code	Description	Location Quotient (LQ) 2015	Employment 2016 (estimated)	Employment 2020 (projected)	
11-3021	Computer & Info. Systems Managers	0.86	346	381	▲
15-1121	Computer Systems Analysts	0.90	596	689	▲
15-1122	Information Security Analysts	0.24	22	29	▲
15-1131	Computer Programmers	0.57	210	231	▲
15-1132	Software Developers, Applications	1.29	1,093	1,183	▲
15-1133	Software Developers, Systems Software	3.45	1,601	1,593	▼
15-1134	Web Developers	1.41	270	303	▲
15-1141	Database Administrators	0.67	89	100	▲
15-1142	Network & Computer Systems Admin.	1.01	433	468	▲
15-1143	Computer Network Architects	0.61	101	115	▲
15-1151	Computer User Support Specialists	1.48	1,086	1,194	▲
15-1152	Computer Network Support Specialists	1.53	334	359	▲
15-1199	Computer Occupations, All Other	1.52	401	417	▲
15-2031	Operations Research Analysts	0.94	102	114	▲
15-2041	Statisticians	1.55	54	62	▲

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

The primary IT occupations all pay more than the regional median hourly wage of $19.97, with the exception of web developers. Computer and information systems managers and software developers (systems software) are the highest paid occupations. Web developers and computer user support specialists are the lowest paid occupations.

In most of the primary IT occupations, the local wages are in line with the national wages. However, the local median hourly wage for information security analysts, statisticians, and all other computer occupations is more than 10 percent higher than the national median hourly wage in those occupations. This could be a signal of upward wage pressure in these occupational groups. The median hourly wages for web developers and software developers (applications) are more than 20 percent lower than the national median hourly wage for these occupations.

The occupations with the highest number of openings between 2016 and 2020 are expected to be computer users support specialists, software developers (both types), and computer systems analysts. The openings are largely driven by new growth. However, all of the openings for software developers (systems software) are replacement.

The age distribution for the primary IT occupations is fairly young. Only one occupation—operations research analysts—has a workforce in which more than 20 percent of workers are aged 55 and older.

FIGURE 57. STAFFING ENVIRONMENT, MSA
STAFFING ENVIRONMENT INDICATOR, WAGES, OPENINGS, AGE PROFILE

SOC Code	Description	Earnings MSA ($/hr)	Earnings % of US	Job Openings, 2016-2020 Total (projected)	% New Growth / % Replacement	Share of workers age 55+
11-3021	Computer & Info. Systems Managers	**$59.72**	97%	53	67% / 33%	17%
15-1121	Computer Systems Analysts	**$38.70**	97%	126	73% / 27%	18%
15-1122	Information Security Analysts	**$48.15**	**112%**	<10		Insf. Data
15-1131	Computer Programmers	**$37.15**	99%	44	49% / 51%	15%
15-1132	Software Developers, Applications	**$36.77**	79%	155	58% / 42%	14%
15-1133	Software Developers, Systems Software	**$50.76**	102%	96	100%	14%
15-1134	Web Developers	$14.90	52%	48	69% / 31%	8%
15-1141	Database Administrators	**$40.60**	104%	20	59% / 41%	16%
15-1142	Network & Computer Systems Admin.	**$36.17**	98%	60	59% / 41%	11%
15-1143	Computer Network Architects	**$48.45**	102%	21	65% / 35%	11%
15-1151	Computer User Support Specialists	**$22.89**	98%	167	64% / 36%	13%
15-1152	Computer Network Support Specialists	**$33.00**	109%	43	58% / 42%	12%
15-1199	Computer Occupations, All Other	**$45.58**	**114%**	38	43% / 57%	15%
15-2031	Operations Research Analysts	**$37.84**	101%	19	59% / 41%	**24%**
15-2041	Statisticians	**$42.98**	**110%**	11	63% / 37%	Insf. Data

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.
Note: . Replacement demand is an estimate of the number of workers required to replace existing workers who leave the occupation due to a variety of factors including retirement, career advancement, or exiting the workforce to raise children or attend school.

Most of the primary IT occupations require a bachelor's degree and do not necessarily require work experience or on-the-job training. Web developers and computer network support specialists require an associate's degree, and computer user support specialists require some post-secondary coursework and moderate on-the-job training. Statisticians require master's degrees. Computer & information systems managers and computer network architects require more than five years of experience while information security analysts and database administrators require less than five years of related work experience.

FIGURE 58. EDUCATION & TRAINING

EDUCATION LEVEL, WORK EXPERIENCE, AND ON-THE-JOB TRAINING

		Education & Training		
SOC Code	Description	Typical education needed for entry	Work experience in a related occupation	Typical on-the-job training (OJT) needed to attain competency in the occupation
11-3021	Computer & Info. Systems Managers	Bachelor's degree	5 years or more	None
15-1121	Computer Systems Analysts	Bachelor's degree	None	None
15-1122	Information Security Analysts	Bachelor's degree	Less than 5 years	None
15-1131	Computer Programmers	Bachelor's degree	None	None
15-1132	Software Developers, Applications	Bachelor's degree	None	None
15-1133	Software Developers, Systems Software	Bachelor's degree	None	None
15-1134	Web Developers	Associate's degree	None	None
15-1141	Database Administrators	Bachelor's degree	Less than 5 years	None
15-1142	Network & Computer Systems Admin.	Bachelor's degree	None	None
15-1143	Computer Network Architects	Bachelor's degree	5 years or more	None
15-1151	Computer User Support Specialists	Some college, no degree	None	Moderate-term OJT
15-1152	Computer Network Support Specialists	Associate's degree	None	None
15-1199	Computer Occupations, All Other	Bachelor's degree	None	None
15-2031	Operations Research Analysts	Bachelor's degree	None	None
15-2041	Statisticians	Master's degree	None	None

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

Regional educational institutions graduate about 350 students, on average, each year. The most popular field of study is computer and information sciences and 125 of these completions are post-secondary certificates. The second most popular field of study is information science.

FIGURE 59. RELEVANT COMPLETIONS AT REGIONAL INSTITUTIONS

THREE-YEAR ANNUAL AVERAGE OF DEGREES/AWARDS CONFERRED, 2012-2014

	Degrees/awards by				
Field of Study (CIP Code)	Certificate (<2 years)	Associate's*	Bachelor's	Advanced**	Annual average degrees/awards conferred (all levels)
Computer and Information Sciences (11.0101)	125	42	58	55	280
Information Science/Studies (11.0401)	0	0	26	25	51
Computer Systems Networking and Telecommunications (11.0901)	10	0	0	0	10
Computer Science (11.0701)	0	3	3	0	6
Web Page, Digital/Multimedia and Information Resources Design (11.0801)	3	0	0	0	3
Computer Programming/Programmer (11.0201)	0	0	2	0	2
Computer Support Specialist (11.1006)	0	0	0	0	0

Source: National Center for Education Statistics, IPEDS Survey. TIP Strategies, Inc.

REAL-TIME LABOR MARKET INFORMATION: Figure 60 shows a summary of online job postings in the region for information technology jobs. Currently, there are 262 unique job postings for the industry posted by 85 employers. The vast majority are for software developers (applications) in Fort Collins. The average salary posted is 72 percent of the US average. Java, Linux, and technical support are the top skills desired.

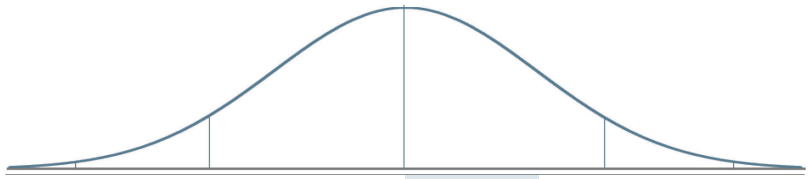
FIGURE 60. SUMMARY FOR JOB POSTINGS CLASSIFIED AS INFORMATION TECHNOLOGY

HIRING SCALE

OPENINGS

Current job openings:	262
Direct employers competing:	85
Average posting duration:	40

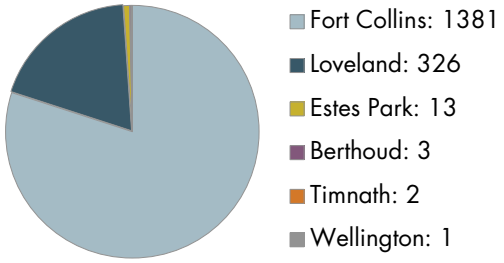
SALARY RANGE



Percentile	10th	25th	Median	75th	90th
Local	$51,350	$64,500	$79,150	$93,750	$106,950
National	$67,450	$87,200	$109,200	$131,150	$150,950
US=1.00	0.76	0.74	0.72	0.71	0.71

GEOGRAPHIC DISTRIBUTION

Share of postings by city Jan 1 – Jun 30, 2016



TOP 10 COUNTS *(based on 1,729 postings from Jan 1, 2016 to Jun 30, 2016)*

Employers	# postings
Hewlett-Packard Company	304
Agrium, Inc	50
Danaher Corporation	49
Avago Technologies	49
Colorado State University	36
Keysight Technologies	31
Cherokee Nation	30
University of Colorado	30
Hach Company	30
Object Technology Solutions, Inc.	27

Hard skills	# postings
Java	298
Linux	277
Technical support	232
Quality Assurance	226
JavaScript	217
Microsoft SQL Server	200
Structured query language	174
Python	153
C-sharp	151
HTML5	137

Occupations	# postings
Software Developers, Applications	357
Computer Occupations, All Other	333
Computer User Support Specialists	257
Computer Systems Analysts	170
Network and Computer Systems Admin.	153
Web Developers	142
Software Developers, Systems Software	101
Computer and Info. Systems Managers	78
Computer Programmers	55
Database Administrators	35

Certifications	# postings
Driver's License	61
Secret Clearance	58
Project Management Professional	46
Cisco Certified Network Associate	34
Certified Info. Systems Security Professional	21
Cisco Certified Network Professional	20
Project Management Institute	19
Certified Software Analyst	18
System Administrator	18
BPM Programming Languages	14

Source: Wanted Analytics; TIP Strategies.