



Looking for a new job has changed significantly in the last few decades. Much of advertising and applying for jobs has moved online, while in-person job application has become less prevalent. Businesses post vacancies on their own websites, through third party job posting boards, and even on social networks for job seekers to respond to electronically. The move to a digital job postings process has created a boom of ‘real-time’ data on the labor market that can be collected from the internet and is often available before many official sources of economic data. Information about whether employers are hiring, what occupations are in demand, and what skills are needed to fill jobs can all come from job postings. Working with job postings data from the Montana Department of Labor & Industry’s MontanaWorks.gov, this month’s article summarizes the value that this data can add to overall knowledge of the labor market.

## MontanaWorks.gov

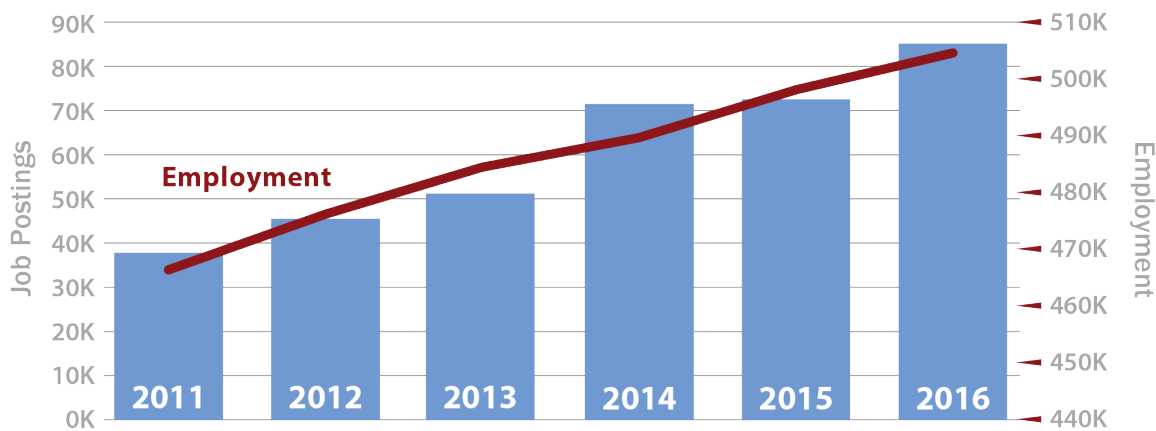
As part of its mission to promote the well-being of Montana’s workers and employers, the Montana Department of Labor & Industry hosts an online job postings board at MontanaWorks.gov where job seekers and businesses can search for and post job openings in Montana for free. MontanaWorks.gov job announcements include many from the National Labor Exchange, a public-private partnership that collects job postings from around the web and makes them available for state job boards. When an employer makes a job advertisement, it is counted as one job posting (even when one job announcement is intended to fill multiple positions).



## Job Postings as a Measure of Economic Growth

For a lot of job seekers, the measure of a good economy often comes down to the question “are businesses hiring?” In many ways, online job postings data is one of the most straightforward ways to answer that. Online job postings are generally available earlier than many datasets and can provide an early look at what employers are doing in terms of hiring. The simplest way to look at job postings data is the number of job announcements at any given time. If the number of job announcements is increasing, then it could imply that the job market is growing. Over the last 5 years, Montana has seen steadily increasing job postings. **Figure 1** shows Montana’s job postings increasing each year along with total employment. More jobs mean more job postings because a larger economy must have more nominal turnover as well.

**FIGURE 1:**  
**MontanaWorks Job Postings and Employment, 2011-2016**

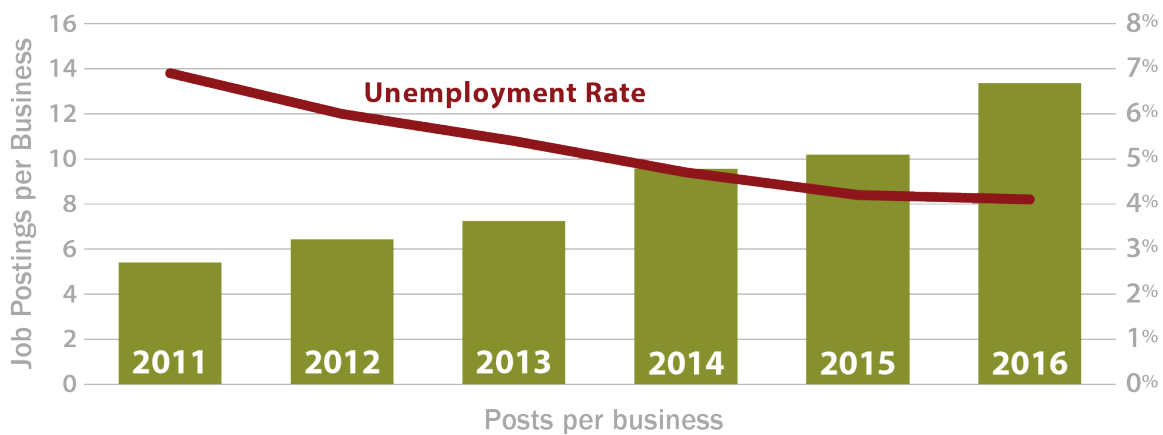


Source: MontanaWorks.gov and Local Area Unemployment Statistics (LAUS)

However, **Figure 1** also shows that a growing economy isn’t the only thing that impacts job postings. Between 2014 and 2015, job postings stayed relatively flat while employment grew. Other factors were influencing the number of job postings. Changes in turnover and worker availability, such as large waves of retirements, can lead to employers making more job postings. Additionally, online job postings do not indicate whether the position was ever filled and can overrepresent the number of job openings when employers post a position multiple times after initial attempts fail to yield qualified applicants.

**Figure 2** shows the average number of posts per business that used MontanaWorks.gov, as well as the unemployment rate. In 2011, the average business made under six different job announcements a year, which has climbed to over thirteen in 2016. Job postings growth exceeded employment growth in 2016, and the increase in postings per employer suggests that lower unemployment rates and labor market tightness are leading to employers increasing the frequency of their job postings.

**FIGURE 2:**  
**MontanaWorks Job Postings per Business vs. Unemployment, 2011-2016**



Source: MontanaWorks.gov and Local Area Unemployment Statistics (LAUS)

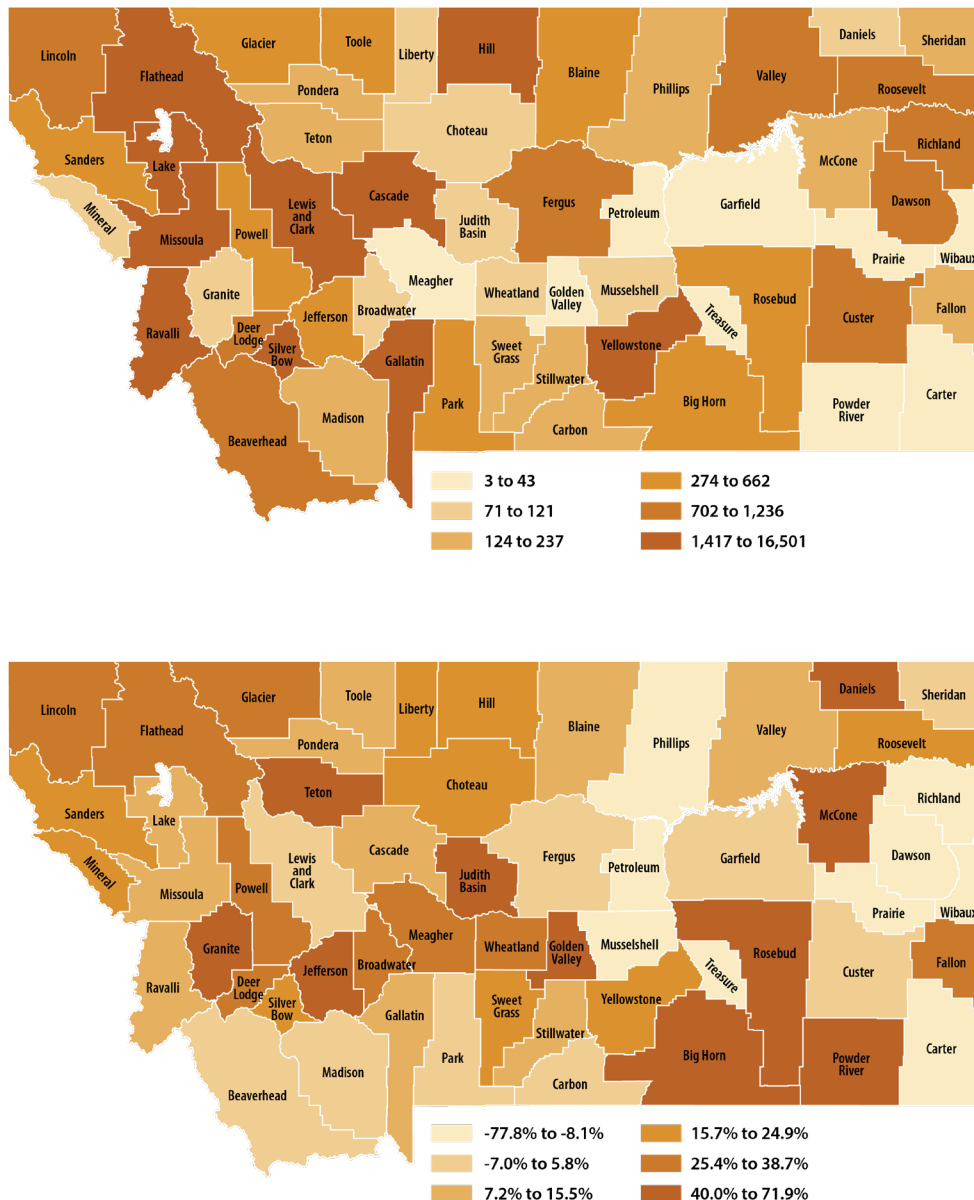
Behavioral factors of employers may also play a role in some changes. Not all job postings are put on the internet, and not all job postings on the internet end up where analysts are looking (in this case on MontanaWorks.gov). Some jobs are more likely to be posted online than others. Businesses with strong connections to training providers, like universities, may use those connections to fill positions, while others may use headhunters or recruiters to fill positions. These differences can lead to changes in behavior (like an employer using online job postings more frequently) looking like economic growth even though it is simply a change in how and where businesses search for employees.

## Online Job Postings Around Montana

Job postings data can also help job seekers understand job opportunities across the state. **Figure 3** shows the number of job postings for Montana's counties in 2016, as well as the over-the-year percent change. Counties with larger populations tend to have more job postings, but also tend to have more people to choose from when hiring. Over-the-year change can give an idea of what areas are seeing either greater job growth or a more restricted labor supply where workers are becoming more in demand. While western Montana has the counties with the most job postings, the areas with job postings growth in 2016 are more dispersed throughout the state.

An easier way to look at the data is through a ratio of postings to employment. The postings to employment ratio is larger when there are a relatively large number of job postings compared to the local economy, and smaller when there is a relatively small number of postings. **Figure 4** maps each county's job postings to employment ratio. Eastern Montana tends to have a high ratio of postings to employment, suggesting there are more opportunities for job seekers. Eastern Montana has consistently low

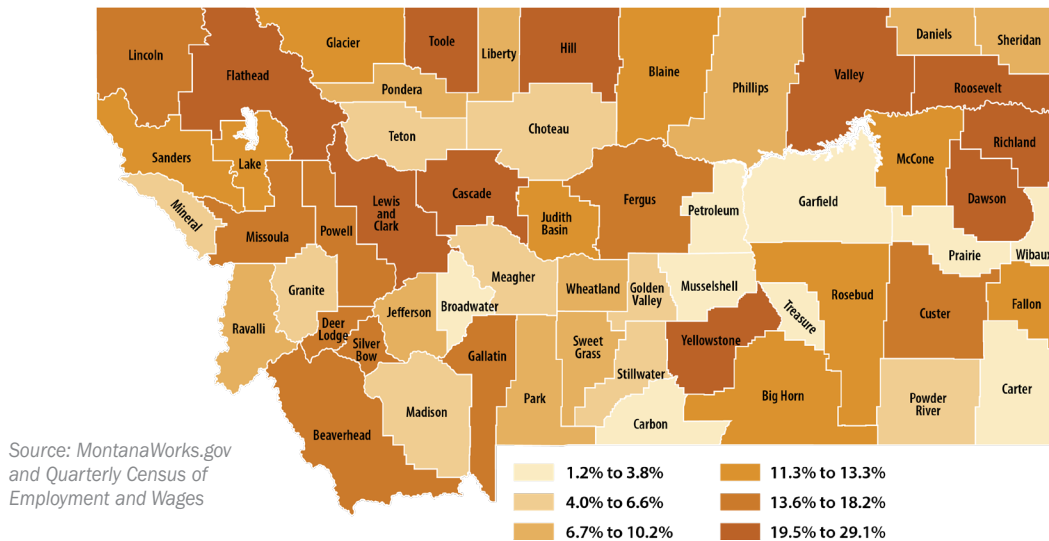
**FIGURE 3:**  
**Job Postings Counts and 1-Year Percent Change by County, 2016**



Source: [MontanaWorks.gov](http://MontanaWorks.gov)

unemployment rates, which may motivate employers to post jobs online to draw workers from farther away. Missoula and Gallatin Counties have relatively low ratios compared to other counties with large cities, suggesting less opportunity for job seekers there. Employers in these counties have access to a large supply of labor coming from Montana's flagship universities, providing employers with connections that may make them less reliant on online job postings.

**FIGURE 4:**  
**County Job Posting to Employment Ratio, 2016**



Overall, it's important to note that the number of postings doesn't always line up with growth or employment in the area. Lewis and Clark and Gallatin Counties provide a good example of this. Both counties had approximately 9,000 job postings, and a job postings growth rate of about 7%. However, according to the Quarterly Census of Employment and Wages (QCEW), Gallatin County had nearly 20,000 more jobs than Lewis and Clark County in 2016, and employment in Gallatin County grew by nearly 2,500 jobs between 2015 and 2016, while Lewis and Clark County employment remained relatively stable. Job postings data seem to indicate that each local economy had a similar experience in 2016, while in reality, Gallatin County was growing significantly faster. Overall labor supply, industry and occupation mix, and other factors led Lewis and Clark County to appear like Gallatin County despite different economic trends.

## Occupations Appearing in Job Postings

Online job postings hint at the types of occupations that are most in demand, have the most turnover, or may be growing the fastest. A job seeker can find occupations that are in demand by looking at the jobs with the most number of postings, seen in [Figure 5](#). Though not included here, job postings can also contain interesting data on specific qualifications and skill requirements for occupations.

**Figure 5** also shows the most projected annual openings based on the Montana Department of Labor & Industry's employment projections. Registered nurses, retail salespersons, and truck drivers are the three top occupations for job postings. Six of the ten most-posted jobs are also projected to have the most annual openings. In instances that job postings data is unavailable, projections data provides a reasonable alternative.

**FIGURE 5:**  
**Top 10 Occupations for Job Postings and Projections, 2016**

Job Posting Occupations	Rank	Projections Occupations
Registered Nurses	1	Cashiers
Retail Salespersons	2	Retail Salespersons
Truck Drivers, Heavy and Tractor-Trailer	3	Combined Food Prep and Serving <i>Including Fast Food</i>
Cashiers	4	Waiters and Waitresses
Combined Food Prep and Serving <i>Including Fast Food</i>	5	Registered Nurses
Customer Service Representatives	6	Office Clerks, General
First-Line Supervisors/Managers of Retail Sales Workers	7	Bartenders
Nursing Assistants	8	Maids and Housekeeping Cleaners
Secretaries <i>Except Legal, Medical, and Executive</i>	9	Janitors and Cleaners <i>Except Maids and Housekeeping</i>
Maids and Housekeeping Cleaners	10	Nursing Assistants

Source: Job Postings from MontanaWorks.gov, Projections from MT Department of Labor & Industry

## Conclusion

Data from internet job postings are a growing source of real-time information on the labor market. Users can see where postings are more prevalent and what occupations are sought after, and compare this information to other labor market statistics. The early availability of job postings data compared to other data sources make it even more attractive to many users. While job postings data can provide job seekers with information on employment opportunities, the data are not the best source of information on the economic performance of a region. Adjustments to data collection on job postings, increases in usage, and improvements in the ability to locate all jobs will go a long way towards making the data a more complete measure of economic performance. In the meantime, you can show your support for online job postings data by checking out MontanaWorks.gov and seeing what jobs are available that match your interests.