

# local insights

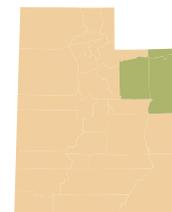
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An economic and labor market analysis of the Uintah Basin Area

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## Return on Knowledge



BY ERIC MARTINSON, ECONOMIST

Ben Franklin once said, “If a man empties his purse into his head, no one can take it from him. An investment in knowledge always pays the highest return.” For the inaugural issue of Local Insights, the Department of Workforce Services decided to analyze the Uintah Basin’s economy through the lens of education. When approaching an analysis like this, the usual questions instantly come to mind: Do more highly educated people necessarily make more money? What does the education profile look like for the various industries in the Uintah Basin? Which industries employ the highest proportion of degreed workers? The aim of this article is to answer these

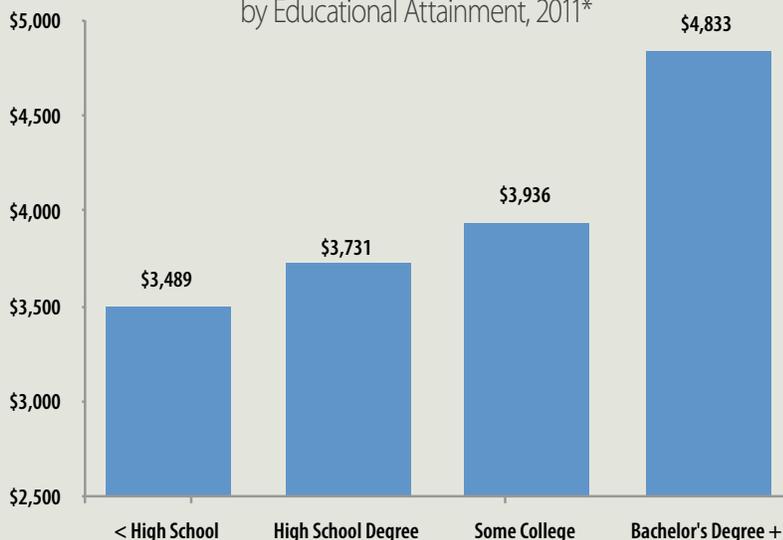
and other questions, which will hopefully allow us to gain some interesting insights into the educational profile of the area as well as the effects of education on workers in the region.

The data used in this analysis were compiled from the Local Employment Dynamics (LED) database, which is a partnership between the U. S. Census Bureau and Utah’s Department of Workforce Services (DWS). The Census Bureau merges the data from the DWS with current demographic information to produce this series. This merging of various data provides the ability to analyze details like average monthly wage between entire industries even down to localized geographic areas. Previous inabilities to cross-tabulate dynamics like employment turnover rates by educational attainment levels or new hire counts by gender are now possible. There is an endless array of information that the relatively new LED data can provide. This article implements the analysis of a couple of different dynamics, such as the industry sectors, educational attainment and average monthly wage, in order to form a picture of the Uintah Basin region as pertaining to education and the broader economy. Because the scope here is education, data used incorporate only those 25 years and older, an age by which one can reasonably expect to have finished her or his undergraduate studies.

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Graph 1: Average Monthly Wages by Educational Attainment, 2011\*



\* For Workers 25 years old and above.

Source: Utah Department of Workforce Services

### Higher Education = Higher Wages

Irrespective of industry, as a worker’s level of education increases, typically so does



## Return on Knowledge Cont.

that worker's average monthly wage. By how much? This depends on the level of education and on the industry. For instance, in mining, the Uintah Basin's most important industry, a worker who has some college education (who has not yet earned a bachelor's degree) will make an average of \$2,261 more a month than will an associate who only has a high school degree. A health-care employee with a bachelor's degree will make, on average, \$1,739 per month more than her or his associate who has only taken some college courses but has not yet graduated. A utilities professional with at least a bachelor's degree makes, on average, \$3,522 more than his or her associate who only has a high school degree. In fact, those who have at least a bachelor's degree make an average of \$897 more in monthly wages than those who have just some college experience (Graph 1). Additionally, those with at least a bachelor's degree make \$1344 more per month, on average, than do those with just a high school degree. As the proverb goes, "Education pays more."

### Educational Profile of Uintah Basin

Currently, 88.8 percent of Uintah Basin's employed workers have a high school degree or equivalent (Graph 2). This is right on par with the state average of 89.9 percent. However, only 20.7 percent of Uintah Basin's workers have a bachelor's degree, compared to Utah's average of 31.2 percent.

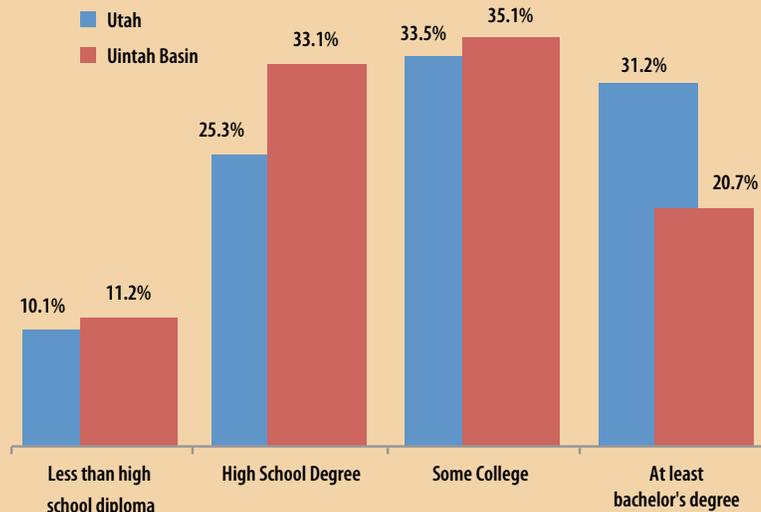
There are many different factors that explain this phenomenon. One simple reason is the unique economy of the Uintah Basin. The most dominating industry in Duchesne and Uintah counties is the oil and gas industry. The majority of positions within this industry can be and are filled by workers without bachelors' degrees. Support industries like transportation also typically employ mostly

those who lack bachelors' degrees. Because of the Uintah Basin's unique economy that is rooted in oil and gas, some of those who do earn bachelors' degrees never make it back to the region (if their degrees were earned outside of the area) or migrate away once their degrees are earned.

Some promising trends, however, can help to increase the area's degreed workers. A growing healthcare industry continues to exhibit the need for more degreed workers. Also, as the population continues to grow, so will the need for education services. As Graph 3 shows, healthcare and education are industries whose profile is skewed more towards a higher level of education relative to other important industries in the area. Other industries important to the Uintah Basin like retail, mining, and transportation tend to employ mostly those with some college or less.

Just because 83 percent of the employees in the mining (oil and gas) industry do not have a bachelor's degree does not mean that the mining industry does not highly value those who do have degrees. In fact, as of

Graph 2: Educational Attainment of Uintah Basin's Employed Workers, 2011\*



\* For Workers 25 years old and above. Source: Utah Department of Workforce Services

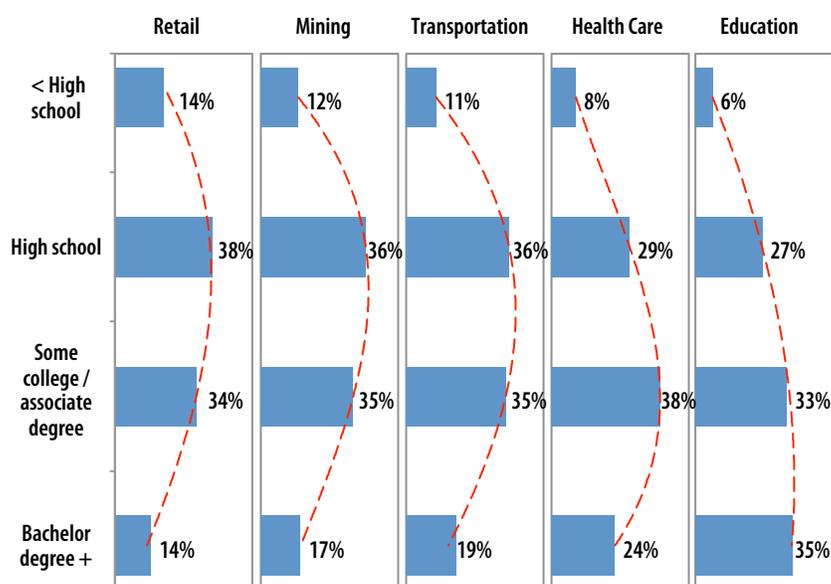
2010, the mining industry employs the highest proportion of total workers in the area with at least a bachelor's degree — virtually the same proportion of degreed workers that education employs (16.0 percent) among the total pie of degreed workers. Healthcare, public administration and transportation each employ 12.1 percent, 8.1 percent and 7.8 percent of degreed workers respectively. These figures should not be surprising as these are the industries that employ the most Uintah Basin residents.

### More on Educational Attainment by Industry

The '100 percent stacked bar' chart breaks down educational attainment by industry (Graph 4). The two groups, ones with less than a high school degree and those with only a high school degree, were combined into the 'high school or less' category (in blue).

The stacked chart is sorted based on those with a bachelor's degree (in green); industries with the highest proportion of degreed workers are prioritized from the top down.

Graph 3: Educational Attainment by Industry, 2011\*

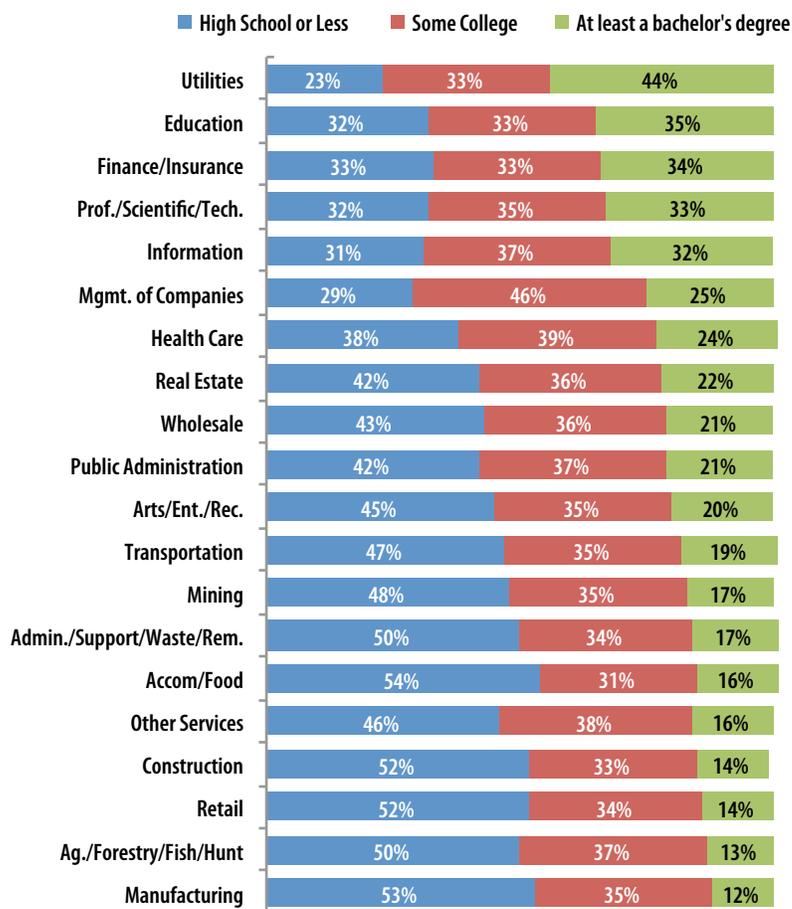


As can be seen in Graph 4, the utilities industry employs the highest percentage of bachelor's-degreed workers at 44 percent. Employees with some college make up 33 percent, leaving 23 percent who have at most a high school degree.

Graph 4 shows that 35 percent of the education industry's workforce in the Uintah Basin is comprised of bachelors' degrees. This leaves 33 percent who have some college and 32 percent who have at most a high school degree.

In mining, the Uintah Basin's largest industry by total earnings and number of employed, 17 percent of the workforce is equipped with degreed employees, leaving 35 percent who have some college and 48 percent who have at most a high school degree or equivalent. Transportation, construction, and retail follow a similar profile.

Graph 4: Educational Attainment by Industry, 2011\*



### Relativity

While the overall average wage per worker in a given industry tells us which industries typically pay more for the average worker, the wage difference within those industries between workers with a high school diploma and those with a bachelor's degree tells us which industries tend to value higher education more in terms of compensation. In this analysis, the average monthly wages per worker at any level of education can be measured by the y-axis in Graph 5. The average difference in monthly wages between those with high school diplomas only and those with at least a bachelor's degree can be tracked on the x-axis of the same graph. Finally, this analysis relates these characteristics to the relative size of each industry based on the percentage of total employed workers in the Uintah Basin. Once again, on the same graph the relative size can be seen by the size of the bubble that represents each given industry.

For example, it is observed that the utilities industry (in the upper far right of the graph) provides the highest overall average monthly wage per worker at just over \$7,000 per month. This industry also expresses the largest gap in average monthly wages between those with high school diplomas only and those with bachelor's degrees, with the latter group making an average of \$3,522 more than the former. However, as we can see by the size of the industry's bubble, the utilities sector is tiny compared to other industries, employing in total just 1.6 percent of all employed workers in the region.

\* For Workers 25 years old and above. Source: Utah Department of Workforce Services



## Return on Knowledge Cont.

What immediately can be taken away from this graph is that having a bachelor's degree pays more in any industry within the Uintah Basin. While your return on investment will differ according to industry, most industries pay on average anywhere from \$500 to over \$2,000 each month per worker with a bachelor's degree. Having a degree almost always adds significant value to any business, as the data makes quite clear.

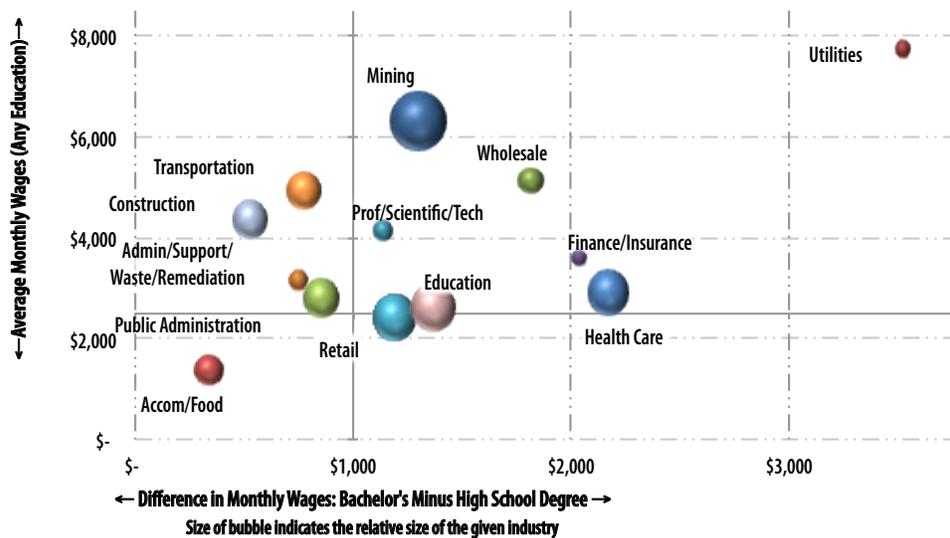
Another fascinating tidbit can be seen within the mining sector. This graph now makes visually apparent what was discussed above: mining, on average, is one of the highest-paying industries in the Uintah Basin. The average worker, regardless of educational attainment, will make more than \$6000 per month. What's more, the mining sector values employees with bachelors' degrees. On average, employees with a bachelor's degree will earn \$1,296 more a month than an associate who has only a high school degree. This is particularly striking when you consider the fact that the mining sector has increased the number of degreed workers by 103 percent (or 283 jobs) from the year 2000 to 2010.

Yet another detail that should capture the reader's attention concerns the healthcare industry. While the average employee in the healthcare industry may not make as much in monthly wages as those in mining, construction or even transportation, those who do have a bachelor's degree will make an average of \$2,169 more in a month than will their colleagues with just a high school diploma. As one of the leading industries in the region, this is an important detail as the need for more healthcare graduates continues to increase. Granted, the range of wages in this industry varies considerably between say, a janitor and a physician with the same industry. This article has shown that, by and

large, industries value education. Typically speaking, the higher your level of education, the higher the wages you are likely to receive. As always, there are industries that will pay more for higher levels of education than others. But in a dominating industry like mining, although a bachelor's degree is not needed to perform the vast majority of positions, higher education is still well rewarded. When a degreed worker makes over \$1000 more per month than those with a high school degree or less, it behooves the Uintah Basin to continue to aim for a higher population of workers with at least a bachelor's degree. The current momentum of the oil and gas industry should serve as an impetus for continued growth in industries that rely on degreed workers, thus raising the standard of living in the Uintah Basin. ■

**A degreed worker makes over \$1,000 more per month than those with a high school degree or less.**

Graph 5: Average Wage (High School vs. Bachelor's Degree) by Industry, 2011\*



\* For Workers 25 years old and above. Source: Utah Department of Workforce Services

# Uintah Basin Leads the State in Employment

BY ERIC MARTINSON, REGIONAL ECONOMIST

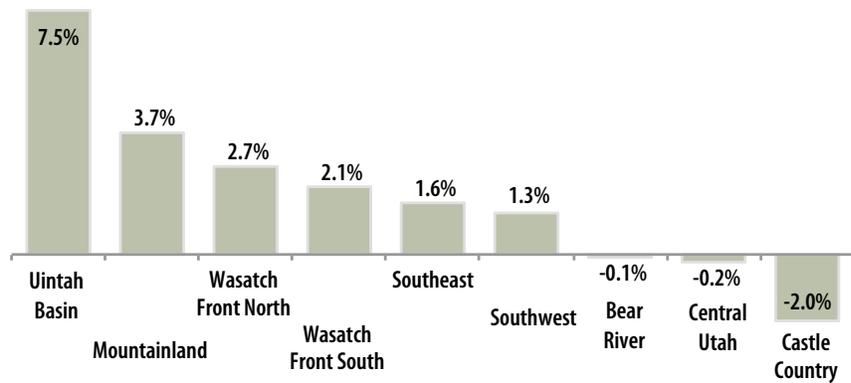
Uintah Basin is in the midst of a flourishing economic trend. Compared to any other region in Utah, the Basin was the top performing economic area in terms of total employment growth in 2011 (Graph 6).

Unemployment rates for all three counties within Uintah Basin are currently below 5 percent, rates that these counties have not seen since before the Great Recession. The combined total employment for 2011 was up 7.5 percent in Daggett, Duchesne, and Uintah counties from the previous year. This is the highest annual average growth in employment than in any other region in Utah in 2011. The big story here is about the natural resources sector, which has driven the majority of economic activity in the private sector in Duchesne and Uintah counties for several years now. Fueled by increased oil, natural gas, and mining activities in the Basin, the strong economic growth comes as gasoline prices are hitting record levels across the country, and show no signs of relenting in the foreseeable future.

## Duchesne County

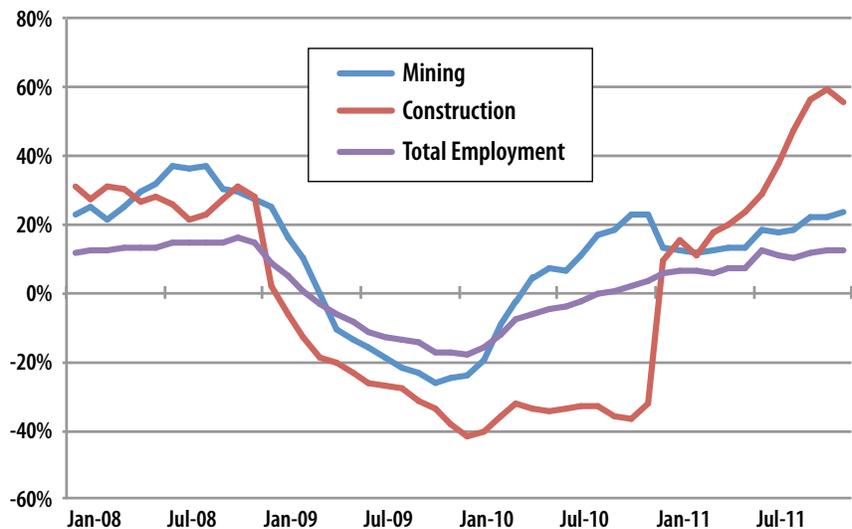
Driven by the natural resources spurt, Duchesne has seen an impressive upward economic trend during 2011. Current unemployment is at 4.2 percent, and Duchesne has added 11.5 percent more nonfarm jobs in December 2011 compared to 12 months before. The key drivers for the growth come from the mining, construction, and transportation industries (Graph 7).

Graph 6: Year-Over Total Employment Percent Change, 2011\*



Source: Department of Workforce Services

Graph 7: Year-Over Percentage Change in Duchesne Mining and Construction Jobs through December 2011



Source: Department of Workforce Services

**Uintah Basin Leads the State in Employment Cont.**

**Mining**

Given the recent increase in gasoline prices across the nation and the Federal Government pushing for more domestic natural resources exploration and production, the boom in oil and gas activities has had a marked effect on the Duchesne economy. The mining industry has added 294 more jobs in December 2011 than it had 12 months before. This is an 18.1 percent increase year-over, and average growth in mining jobs during 2011 was a healthy 16.4 percent.

**Construction**

To support the growing economy in Duchesne County, construction activity was by far the strongest performing economic indicator in 2011. In December 2011, construction jobs increased by 56.1 percent over the previous December, or 288 more jobs year-over. The average growth rate in construction for 2011 in the county was an

impressive 32.4 percent. These gains were driven primarily by the oil and gas industry, which saw a major growth in pump/pipeline construction and some highway, street, and bridge construction connecting the various oil and gas rigs.

**Transportation**

The increased activities in mining and construction, in turn, led to a jump in activities in the transportation industry needed for the movement of raw materials necessary for production and construction. The transportation industry added 75 more jobs by the end of 2011 since December 2010. This is a 9 percent increase year-over, while the annual average growth in transportation was up 12 percent in 2011.

Other areas that have seen positive growth are education/healthcare/social services, professional/business services and wholesale trading. Utilities and manufacturing industries in Duchesne County have had a

bit of a rough year in 2011 as both sectors on average lost jobs compared to 2010.

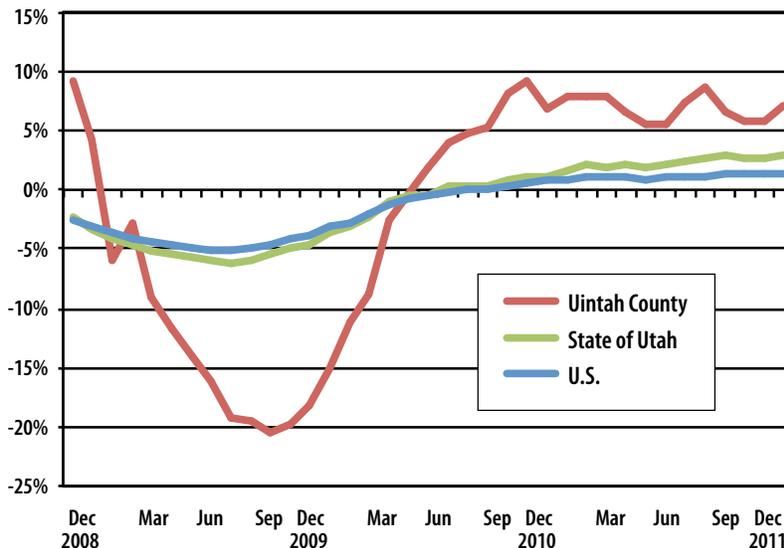
**Uintah County**

Like Duchesne County, Uintah County is home to major developments in the oil and gas industry. As a result, Uintah County has seen some very positive growth. Current unemployment is at 4.0 percent, and Uintah has added 7.2 percent more nonfarm jobs in December 2011 compared to 12 months before (Graph 8). The key drivers for the growth in Uintah County come largely from mining, but there has been growth in other industries like transportation and leisure/hospitality. Gross taxable sales have also been growing since Q4-2010.

**Mining**

Again, given the recent increase in gasoline prices across the nation and the Federal Government pushing for more domestic natural resources exploration and production, the boom in oil and gas activities has had a marked effect on the Uintah County economy. The mining industry added 376 more jobs by December 2011 than it had 12 months before. This is a 13.4 percent increase year-over, and average growth in mining jobs during 2011 was 17.6 percent. Recently, the U.S. Bureau of Land Management announced that it plans to approve a major Uintah Basin drilling expansion adding 3,765 additional wells. This expansion will take place in Anadarko's Greater Natural Buttes just south of Vernal. Since the entire state of Utah currently has about 6,100 gas producing wells, the proposed expansion by 3,765 wells would substantially boost Uintah county's and the entire State's energy industry.

Graph 8: Uintah County Year-Over Change in Nonfarm Jobs



Source: Utah Dept. of Workforce Services; U.S. Bureau of Labor Statistics.

**Transportation and Warehousing**

In 2011, transportation and warehousing continued to improve month after month

as mining activity continued to spike. In December, transportation added 100 more jobs than were present in 2010. As the demand for more natural resources continues to increase, the transportation industry will also continue to grow as it services mining activity.

### Leisure and Hospitality

The leisure and hospitality sector saw some important gains over 2011. The average number of jobs added in 2011 was 122, with the vast majority of gains coming from the accommodations and food services industry. In fact, the average gain in jobs within this area in 2011 was 12.4 percent.

Industries whose 2011 job counts were on average below those of 2010 were construction, information, arts/entertainment/recreation, and federal government. As mining continues to expand in Uintah County, the construction industry job outlook should see some improvements. In fact, last December saw the first increase in jobs for Uintah County since August 2011.

### Daggett County

The oil and gas boom in Uintah and Duchesne Counties is benefitting Daggett, whose unemployment rate is currently at 4.5 percent. Total employment in December 2011 remained relatively unchanged from the previous December, dropping just two jobs year-over.

Mining/construction/manufacturing had five more jobs than in December 2010, and accommodations/food services had 14 more jobs over the same period. Also, gross taxable sales have seen year-over positive growth throughout 2011, with Daggett standing at 10 percent higher in December 2011 than the previous December. ■

## Uintah Basin TOP JOBS in Demand



1. Truck Drivers, Heavy and Tractor-Trailer
2. Office Clerks, General
3. Customer Service Representatives
4. Cashiers
5. Registered Nurses
6. Operating Engineers and Other Construction Equipment Operators
7. Retail Salespersons
8. Stock Clerks and Order Fillers
9. Construction Laborers
10. Teachers and Instructors, All Other



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# Economic Analysis

Studies have shown that the world economy has been going through extraordinary changes in its organization, structure, integration and interdependency. Accelerating technological change has increased the intensity of business competition and economic development, forcing continual adjustments to a changing environment. Economies benefit from this technological change only when local chambers of commerce, government, businesses and others involved in economic development are able to accurately assess relevant economic factors to develop policies geared at boosting local economies in accordance with said technological advancements. With the power of economic information, policies are designed to maintain and help the local economy to grow, be more competitive in earnings and provide better job opportunities to give residents and employees a valuable tie to their community or business.

To gain a better understanding of an area and its economy, it is important to recognize current local and regional trends and conditions. Knowledge of the local economy typically comes from some sort of analysis. This kind of insight is part of the necessary preparation for an area to create an effective strategy in the decision-making process. Understanding what is happening in the area and why it is happening allows local chambers, government and businesses to make better choices. Every region in Utah has its own unique strengths and challenges and is typically different from any of the surrounding areas. Each area or business needs certain tools to answer necessary questions that will enable it to influence its job and income situation.

Workforce Research and Analysis (WRA), a division of the Utah Department of Workforce Services, understands the need for decision makers to have as much information as possible to improve the welfare of the resident population and promote opportunity. In an effort to strengthen the understanding of local economic areas, WRA uses the knowledge and experience of the department staff's economists. Years of education and experience working with labor statistics and local economic data give these economists the expertise to answer complex questions. WRA gathers data that include employment and payroll information through surveys and employer reporting, allowing the economists to shed light on how each area's economy is functioning. They are able to determine the strengths, weaknesses, trends and overall shape of the local economy and work to apply those ideas into indications about the future economy.

WRA produced this new quarterly publication focused on local economic analysis to provide relevant information for decision-making in the areas of regional planning, local economic development and policy design. Issues are available about the statewide economy and eight different sub-state areas: Bear River, Castle Country/Southeast, Central Utah, Mountainland, Southwest, Wasatch Front North, Wasatch Front South, and Uintah Basin. The statewide version will focus on items affecting the entire state of Utah, including job-training strategies, re-employment and labor exchange activities. All will provide the reader with an in-depth look at the economy. Each issue will also inform the reader of notable DWS policy changes and focus, explaining why it affects each area.

We hope you enjoy your experience with this publication.