Benchmark 2023 Colorado Employment Data and 2024 Economic Outlook and Trends United States and Colorado



Overview

Purpose and Summary

This month, the purpose of the chartbook is to review the Colorado benchmark data for 2023 and 2022. Every March, the Bureau of Labor Statistics (BLS) benchmarks the Current Employment Statistics (CES) survey data using information collected from the Quarterly Census of Employment and Wages (QCEW) data produced by the Colorado Department of Labor and Employment (CDLE) Labor Market Information (LMI) group in Denver.

The 2023 QCEW data produced by LMI showed that the CES monthly estimates for Colorado significantly understated actual employment by industry and MSA. Hopefully, BLS will work with LMI to produce Colorado CES estimates that are more accurate in the future.

Highlights

- Real Gross Domestic Product
- Inflation
- Benchmarking, U.S. and Colorado Employment, and Top Ten Industries
- Colorado Employment by MSA
- Colorado Employment by Wage Level
- Unemployment and Wages
- Summary Trends and Forecast

Note: Later in March, BLS will publish CES employment data through February for Colorado. That report will place less emphasis on employment and more attention on the general economy. Real Gross Domestic Product United States

United States Forecast The Conference Board Forecast

The Conference Board (TCB) U.S. Forecast

TCB United States Forecast

The Conference Board U.S. Economic Forecast is the base for this analysis.

What Did Not Happen

- In the second half of 2022, TCB called for a shallow recession at the end of 2022 or early 2023. Instead, there was modest growth.
- The August 2023 forecast called for a mild recession in Q4 2023 and Q1 2024. The Q3 2023 economy was better than expected, and modest growth occurred in October and November.
- The September, October, and November forecasts called for a slowdown in Q4 2023 and a shallow recession in Q1 2024.

What is Likely to Happen

- There will not be a recession in 2024; however, real GDP growth will turn negative in Q2 and Q3, and the labor market will weaken. Inflation will remain volatile, and it will eventually approach the Fed's target rate.
- Throughout 2023, there were concerns about the number of rate hikes in the months ahead. Then, the discussion switched to rate cuts.
- Some economists projected six rate cuts in 2024. Now, there is uncertainty about the number.

Drivers

The TCB forecast identified the following drivers:

- Elevated inflation is moderating.
- Rate cuts are likely, but the number is uncertain.
- Leaders have less concern about energy disruptions in the Middle East.
- The increased economic stability in Q4 2024 carries into 2025.

Headwinds

The TCB forecast identified the following headwinds:

- High-interest rates have curtailed business investment. This will diminish...hopefully.
- Labor markets will remain tight.
- High-interest rates will reduce the number of housing permits issued.
- Volatility caused by fiscal policy and debt could impact government spending. There is significant, but reduced funding from infrastructure-related legislation.
- Reduced savings levels and increased consumer debt will reduce personal consumption.
- Political volatility is prevalent at all levels.

U.S. Real GDP Growth The January 2024 Conference Board Forecast

Real GDP and Economic Growth

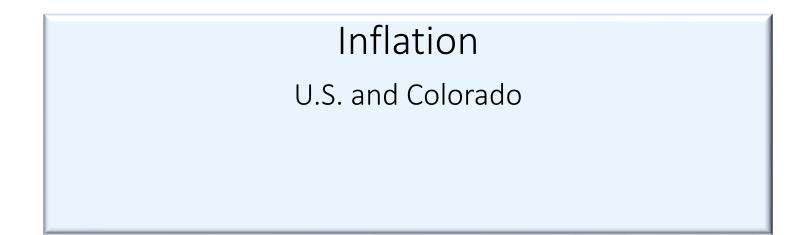
The Conference Board forecast projects real GDP growth of 2.5% in 2023 and 1.2% in 2024. Real disposable income will increase by 1.0%, and real personal consumption will increase by 0.9% in 2024. Residential investment will increase by 1.1% in 2024, and non-residential investment will change by -0.7%. Government spending will increase by 3.1% in 2024, down from 4.0%.

Other Economic Factors

There will be slower growth in exports in 2024, a decrease from 2.4% to 1.4%. The U.S. unemployment rate will be 3.6% in 2023 and 4.0% in 2024. The annual PCE inflation and core rates will be 2.2% in 2024. Rate cuts will begin in mid-2024, and the Fed Funds rate will decline to 4.125%. Rates will reach 3.0% in late 2025.

	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	2022	2023	2024
Real GDP	2.2%	2.1%	4.9%	2.0%	1.0%	-0.7%	-0.4%	1.5%	1.9%	2.5%	1.2%
Real Disposable Income	10.8%	3.3%	-1.0%	-1.0%	1.0%	0.0%	0.0%	1.0%	-6.0%	4.2%	1.0%
Real Personal Consumption	3.8%	0.8%	3.1%	2.3%	1.1%	-0.8%	-1.0%	1.0%	2.5%	2.2%	0.9%
Residential Investment	-5.3%	-2.2%	6.7%	0.0%	0.0%	1.0%	1.0%	2.0%	-9.0%	-10.8%	1.1%
Nonresidential Investment	5.7%	7.4%	-0.1%	-1.1%	5.7%	7.4%	-0.1%	-1.1%	5.2%	4.0%	-0.7%
Total Gov't. Spending	4.8%	3.3%	5.8%	3.7%	2.5%	2.4%	2.2%	2.1%	-0.9%	4.0%	3.1%
Exports	6.8%	-9.3%	5.4%	2.0%	2.0%	1.0%	1.0%	2.0%	7.0%	2.4%	1.4%
Unemployment Rate	3.5%	3.6%	3.7%	3.7%	3.8%	3.9%	4.1%	4.3%	3.6%	3.6%	4.0%
PCE Inflation (%Y/Y)	5.0%	3.9%	3.3%	2.7%	2.5%	2.3%	2.0%	2.0%	6.5%	3.7%	2.2%
Core PCE Inflation (%Y/Y)	4.8%	4.6%	3.8%	3.2%	2.6%	2.3%	2.1%	2.0%	5.2%	4.1%	2.2%

Conforance Poord US Pool CDD Crowth Earonat



From "Transitory Inflation" to "Higher for Longer"

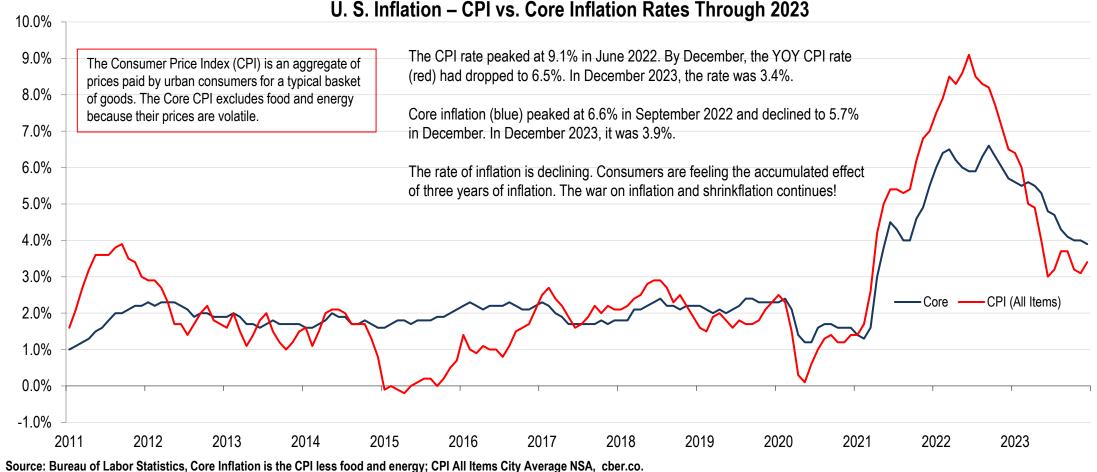
Higher for Longer

- In a Press Briefing by Press Secretary Jen Psaki and Secretary of the Treasury Janet Yellen on May 7, 2021, Yellen stated that the data did not point to inflation racing out of control.
- In a recent interview, Janet Yellen stated, "I regret saying it (inflation) was transitory. It has come down, but I think 'transitory' means a few weeks or months to most people."
- Yellen was in good company.
- Because inflation was not transitory, the Federal Reserve raised interest rates. At the start of 2024, some economists projected that rate hikes had ended and there could be as many as six rate cuts this year. More pragmatic economists foresaw a bumpy road en route to the Federal Reserve target rate of 2.0% and summed up the situation with the phrase, "higher for longer."

Inflation Trends

- Inflation has decreased significantly since the NSA CPI rate peaked at 9.1% in June 2022. The core rate topped out at 6.6% in September.
- By December 2023, the CPI rate had fallen to 3.4%, and the core rate had dropped to 3.9%.
- In 2024, the CPI rate dropped slightly and has moved sideways.
- The PCE Price Index, used by the Federal Reserve, reported an inflation rate of 2.6% in December. The peak for the PCE Index was 7.1% in June 2022.

CPI Inflation U.S. CPI vs. Core Inflation



Colorado-based Business and Economic Research https://doi.org/10.1011/j.com/10011/j.com/10011/

Bi-Monthly Change in Colorado CPI All Items vs. Core

10.0% 8.0% CPI (All Items) Core 6.0% 4.0% The inflation rate is much higher in Colorado than the U.S. The U.S. December 2023 CPI rate (all items) was 3.4% and 4.5% for Colorado. The core rate for all U.S. items was 3.9% 2.0% compared to 4.8% for Colorado. Bimonthly data is only available for Colorado from 2019 to present. 0.0% -2.0% 2019 2020 2021 2022 2023

Colorado All Items vs. Core (All less Food and Energy)

Source: Bureau of Labor Statistics, NSA, cber.co.

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Benchmarking, U.S. and Colorado Employment, and Colorado Employment for Top Industries

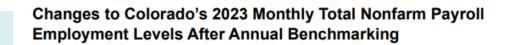
Benchmarking

BLS has a rigorous process for producing its CES data series. Historically, there have been minor revisions. For a variety of reasons, that process broke down in 2023.

The LMI group within CDLE produced the document to the right that shows how significant the revisions were for the 2023 Colorado CES employment series.

Based on the CES data published by BLS during the year (2023), Colorado had one of the weakest economies for job creation. After the benchmark revisions were applied, Colorado had one of the strongest labor markets in the U.S.

The LMI group within CDLE has worked diligently during 2023 to ensure that BLS data for Colorado is more accurate in 2024.



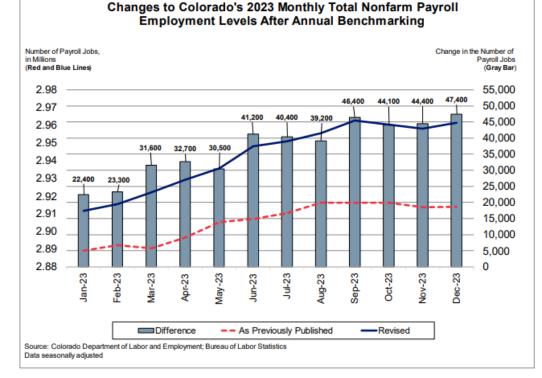
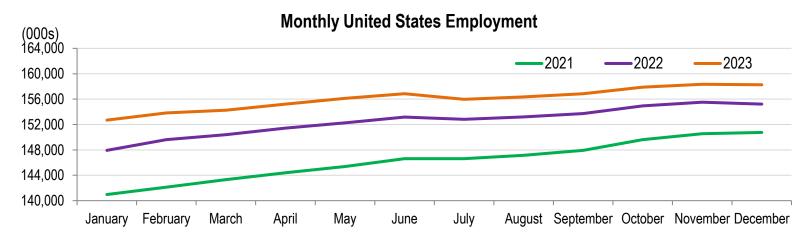
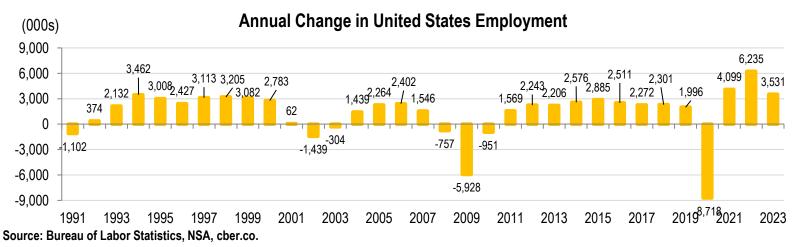


Chart information:

- Colorado's total nonfarm payroll employment levels in 2023 were revised upward in all 12 months after annual benchmarking.
- The monthly revisions ranged from an employment level increase of 22,400 jobs (January 2023) to an employment level increase of 47,400 jobs (December 2023).
- · As revised, Colorado's total nonfarm payroll employment levels moved from 2,911,500 in January 2023 to 2,961,400 in December 2023. As previously published, Colorado's total nonfarm payroll employment levels had increased from 2,889,100 in January to 2,914,000 in December.
- These data are seasonally adjusted and are produced by the Colorado Department of Labor and Employment and the Bureau of Labor Statistics.

Employment and Change in Employment United States





U.S. Employment

Average annual employment for 2023 was 156.1 million, an increase of about 3.5 million over 2022.

Employment was 146.3 million in 2021.

As seen in the chart (lower left), YOY changes in employment from 2012 to 2019 ranged from a low of 2.0 million in 2019 to 2.9 million in 2015.

The change in employment for 2024 will return to pre-pandemic levels or lower.

Change in Colorado Employment Colorado 1970 to 2024

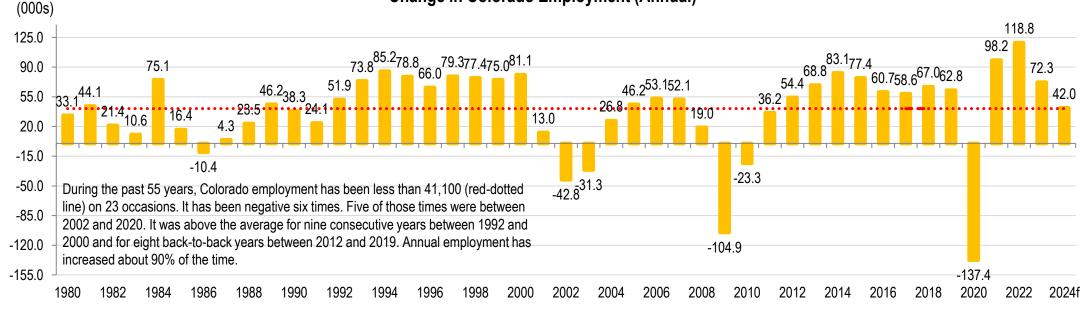
Change in Colorado Employment – 55 Years For the 55 years between 1970 and 2024, average annual employment is 41,100.

Average Annual Change by Decade (Thousands)							
1970 to 1979	49.7	2000 to 2009 11.2					
1980 to 1989	26.4	2010 to 2019 54.6					
1990 to 1999	65.0	2020 to 2024f 38.8					

Change in Colorado Employment – Booms and Busts – 2020 to 2023

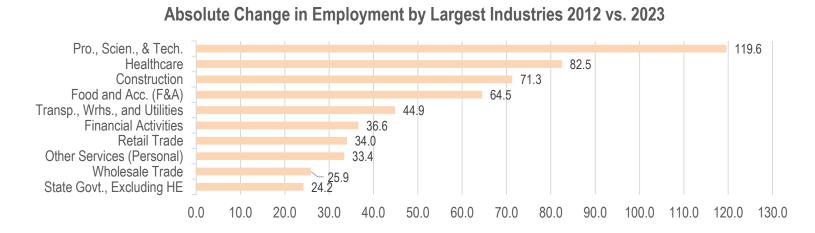
A quick look at the employment chart below shows that Colorado has a boom-and-bust economy. For example, between 2012 and 2019, Colorado employment increased at an average annual rate of 66,600 per year. The average annual growth for 2020 to 2023 was 38,000. The state experienced record losses (-137,400) in 2020 because of COVID-related policies. In 2022, there were record gains (118,800) as the state recovered, with above-average growth in 2021 (98,200) and 2023 (72,300).

Change in Colorado Employment (Annual)



Source: Bureau of Labor Statistics, cber.co. Note: This data reflects changes made by BLS and LMI for Q4 2022 and Q1 2023 data.

Change in Industry Employment 2012 to 2023 Change in Employment for Twelve Years (Largest Industries)



Change by Largest Industries

The change in employment includes the eight years of economic recovery from the Great Financial Crisis (2012 to 2019), the lockdown caused by COVID-related policies (2020), and the three years of recovery (2021, 2022, and 2023).

The three industries with high average annual wages (AAW) added 182,100 employees. The four industries with medium AAW increased their employment by 222,900 workers, and the three categories with low AAW added 131,900 workers. During this period, there were 536,900 workers added by these industries.

Source: Bureau of Labor Statistics, NSA, cber.co.

Colorado-based Business and Economic Research https:cber.co

Change in Employment Largest Industries (2012 to 2023)

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Industry	Change	Pct.	2023 Empl.
Prof., Scien. & Tech.	119.6	4.5%	293.4
Healthcare	82.5	2.5%	321.6
Construction	71.3	4.2%	183.8
Food and Acc. (F&A)	64.5	2.1%	290.3
Trans, Wrhs., and Util.	44.9	4.2%	115.5
Financial Activities	36.6	1.9%	180.5
Retail Trade	34.0	1.1%	273.3
Other Services	33.4	2.6%	127.1
Wholesale Trade	25.9	2.1%	117.7
State Govt., Exc. Educ.	24.2	4.7%	57.4
Total	536.9		1,960.6
Total All Industries	XXX	2.2%	2,942.0

Industry Employment Change

This chart and table show the ten industries with the most change in employment for the twelve years, 2012 to 2023. These ten sectors accounted for 66.6% of total employment and 78.4% of the total change. These ten industries added 536,900 jobs, and all industries added 684,700 workers.

Colorado Employment by MSA

Summary of Employment Change by MSA 2012 to 2023 (12 years), 2020 to 2023 (4 years), 2022 vs. 2023

Summary of Changes in Employment by MSA

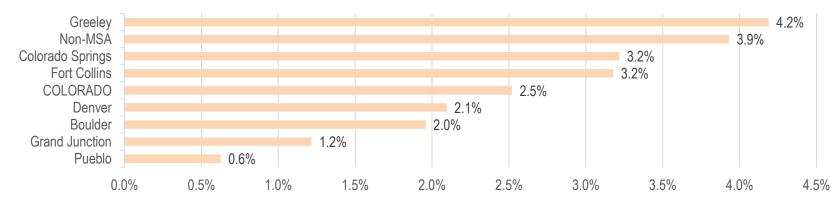
This section looks at the change in employment by MSA for three periods (2012 to 2023, 2020 to 2023, and 2022 to 2023). Highlights follow:

- The employment changes are the greatest in the Denver MSA, followed by the Colorado Springs MSA and the 47-county non-MSA areas.
- It is surprising that Boulder has a slower job growth rate since it is a high-tech hub.
- Despite regulations and anti-fossil fuel legislation, the long-term change in employment in Northern Colorado has been stronger than the state average, except for 2020 to 2023.

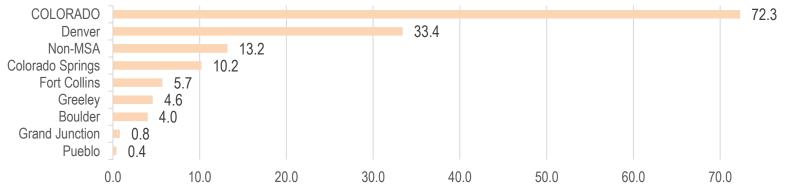
Employment Change by MSA								
Area	Change for 2012 to 2023	CAGR	Change for 2020 to 2023	CAGR	Change 2022 vs. 2023	% Change	2023 Employment	
COLORADO	684.7	2.2%	214.7	1.3%	72.3	2.5%	2,942.0	
Denver MSA	412.9	2.5%	124.2	1.4%	33.4	2.1%	1,627.2	
Non MSA	52.7	1.4%	19.2	1.0%	13.2	3.9%	349.0	
Colorado Springs MSA	79.5	2.3%	34.7	2.2%	10.2	3.2%	327.2	
Boulder MSA	44.5	2.0%	13.0	1.0%	4.0	2.0%	208.2	
Fort Collins MSA	48.7	2.6%	14.8	1.5%	5.7	3.2%	185.0	
Greeley MSA	32.9	2.9%	5.0	0.2%	4.6	4.2%	114.4	
Grand Junction MSA	7.4	1.0%	2.3	0.5%	0.8	1.2%	66.6	
Pueblo MSA	6.1	0.8%	1.5	0.3%	0.4	0.6%	64.4	
Source: BLS, cber.co.								

Change in MSA Employment 2022 vs. 2023

Percent Change in Employment by MSA 2022 vs. 2023



Absolute Change in Employment by MSA 2022 vs. 2023 (Thousands)



MSA Employment Growth

The absolute change in employment was the most in the Denver MSA, followed by the non-MSA areas (47 counties) and the Colorado Springs MSA.

Annual 2023 state employment was 72,300 more than in 2022. The Greeley MSA and the non-MSA areas had the highest relative growth. The Greeley MSA is rebounding from state energy regulations and policies.

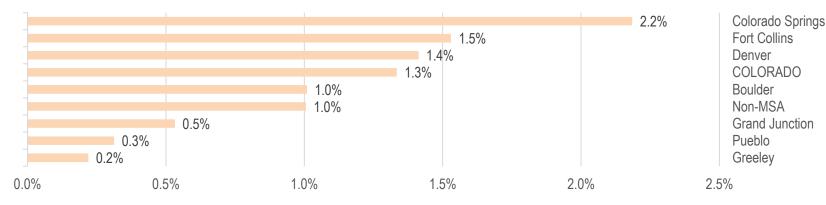
Colorado Springs and Fort Collins have shown steady growth. It is ironic that the change in employment for the Boulder MSA is below the state average, given that it is a tech hub for Colorado.

Source: Bureau of Labor Statistics and cber.co.

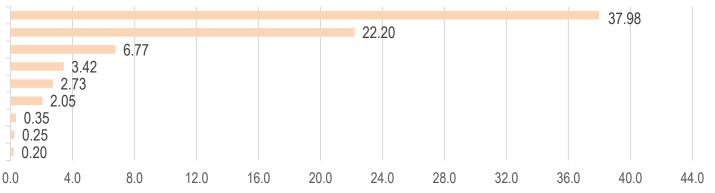
80.0

Change in MSA Employment for 2020 Through 2023 Colorado MSA area

Percent Change in Employment by MSA 2020 vs. 2023



Average Annual Change in Employment by MSA 2020 vs. 2023 (Thousands)



MSA Employment Growth

The percent change for the four years 2020 to 2023 was the most in the Colorado Springs MSA, followed by the Fort Collins and Denver MSAs. All three MSAs were above the average rate for Colorado.

Average annual state employment increased by 37,980 for this four-year period. The Denver MSA had the most workers added, followed by Colorado Springs.

COLORADO

Colorado Springs

Denver

Non-MSA

Boulder Grand Junction

Greelev

Pueblo

Fort Collins

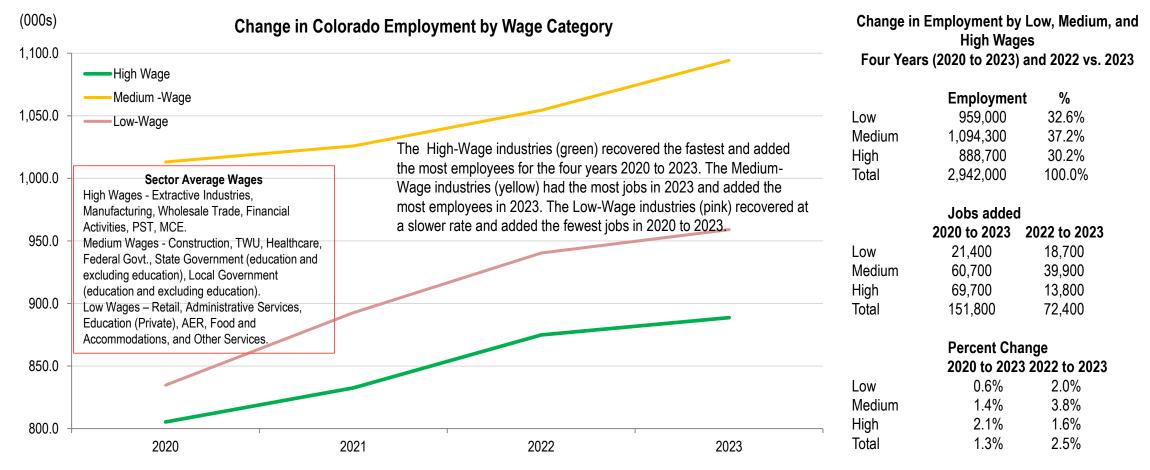
The Greeley MSA was adversely affected by regulations and efforts to reduce the impact of fossil fuels in Colorado. There are many hypotheses for the slower-than-expected growth in Boulder County.

Source: Bureau of Labor Statistics and cber.co.

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Colorado Employment by Wage Level (Low, Medium, High)

Change in Colorado Employment - Low, Medium, High Wages Four Years (2020 to 2023) and 2022 vs. 2023



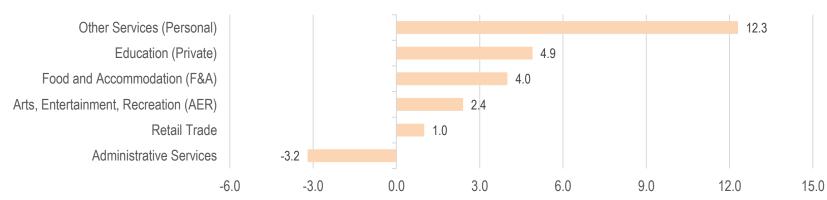
Source: Bureau of Labor Statistics, cber.co.

Change in Industry Employment 2020 vs. 2023 Change in Employment for Four Years (Low Wages)

Percent Change in Employment by Industry 2020 vs. 2023

Education (Private) 11.3% Other Services (Personal) 10.7% 4.1% Arts, Entertainment, Recreation (AER) Food and Accommodation (F&A) 1.4% Retail Trade 0.4% Administrative Services -2.0% -4.0% -2.0% 0.0% 2.0% 4.0% 6.0% 8.0% 10.0% 12.0%

Absolute Change in Employment by Industry 2020 vs. 2023 (Thousands)



Industry Employment Change Low Wages

Employment in other services increased by 12,300. In 2020, there were only 4,400 jobs lost, followed by an increase of about 7,400 jobs in 2021 and 9,300 in 2022 and 2023.

On the other hand, leisure and hospitality (AER and F&A) employment fell by 73,400 in 2020 and did not return to the 2019 level until 2023.

14.0%

Retail trade employment decreased by 10,300 in 2020. Although it rebounded in 2021 and 2022, the level of 2023 retail employment is about the same as in 2019.

Source: Bureau of Labor Statistics and cber.co.

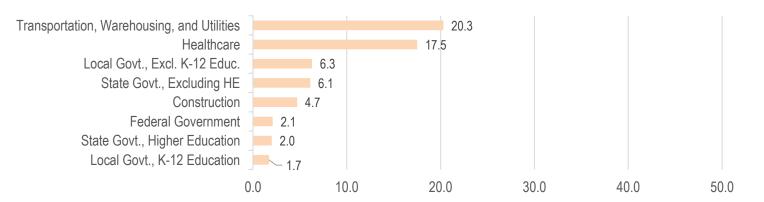
Colorado-based Business and Economic Research https://

Change in Industry Employment 2020 vs. 2023 Change in Employment for Four Years (Medium Wages)

Percent Change in Employment by Industry 2020 vs. 2023

Transportation, Warehousing, and Utilities 21.3% State Govt., Excluding HE 11.9% 5.8% Healthcare Local Govt., Excl. K-12 Educ. 4.8% Federal Government 4.0% Construction 2.6% State Govt., Higher Education 2.5% Local Govt., K-12 Education 1.2% 0.0% 4.0% 8.0% 12.0% 16.0% 20.0% 24.0%

Absolute Change in Employment by Industry 2020 vs. 2023 (Thousands)



Industry Employment Change Medium Wages

For 2020 to 2023, employment increased for TWU and healthcare by a combined total of 37,800 jobs. TWU employment increased all four years, and it gained 7,900 in 2022. Healthcare employment increased by 17,500 over the four years, with an increase of 13,200 in 2023.

Government employment (federal, state, and local) increased by 18,200 during from 2020 to 2023. There were 23,300 government jobs added in 2023, which offset losses in 2020 and 2021.

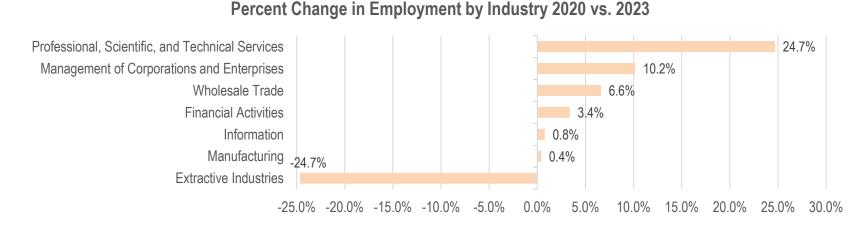
There were 4,700 construction jobs added from 2020 to 2023; however, employment increased by only 700 in 2023. Higher interest rates played havoc with the industry last year.

Colorado-based Business and Economic Research https:cber.co

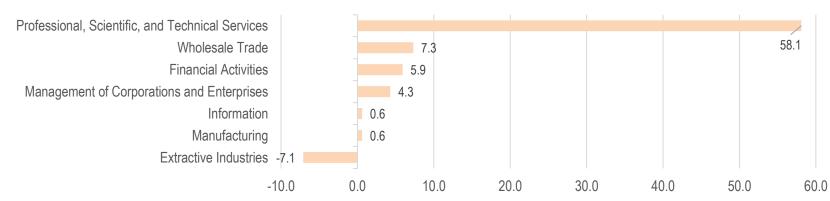
Source: Bureau of Labor Statistics and cber.co. 22

60.0

Change in Industry Employment 2020 vs. 2023 Change in Employment for Four Years (High Wages)



Absolute Change in Employment by Industry 2020 vs. 2023 (Thousands)



Industry Employment Change High Wages

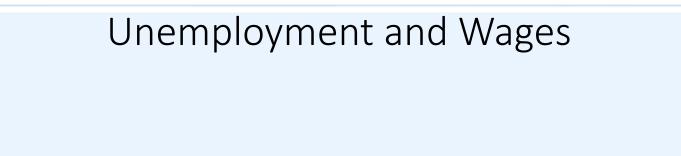
PST was the dominant sector for the four years 2020 to 2023, although the level of growth tapered off in 2023.

Similarly, both information and financial activities posted gains for the period; however, employment declined for both sectors in 2023.

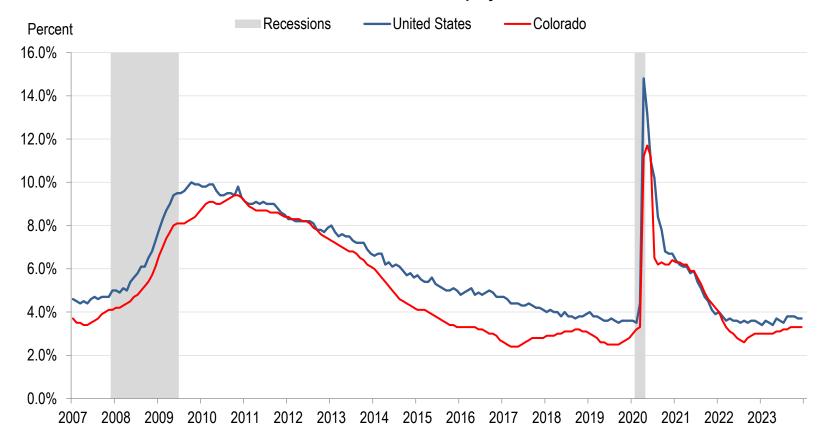
Regulations, restrictive legislation, and reduced demand during the pandemic caused employment in the extractive industries to taper off. The sector experienced a slight gain in 2023.

Source: Bureau of Labor Statistics and cber.co.

Colorado-based Business and Economic Research https:cber.co



Unemployment Rate United States and Colorado



U.S. and Colorado Unemployment

Unemployment Rate

The Colorado unemployment rate was 3.4% in December, and the U.S. rate was 3.7%. The economy operates inefficiently when the unemployment rate is this low.

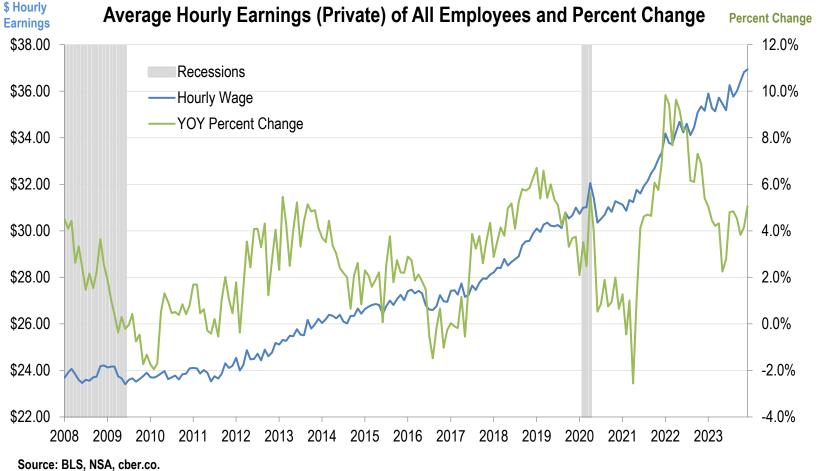
The U.S. and Colorado unemployment rates will increase in 2024.

Annual Unemployment Rate						
Year	United States	Colorado				
2016	4.9%	3.1%				
2017	4.4%	2.6%				
2018	3.9%	3.0%				
2019	3.7%	2.7%				
2020	8.1%	6.8%				
2021	5.3%	5.4%				
2022	3.6%	3.0%				
2023	3.6%	3.2%				

Source: BLS, SA, cber.co.

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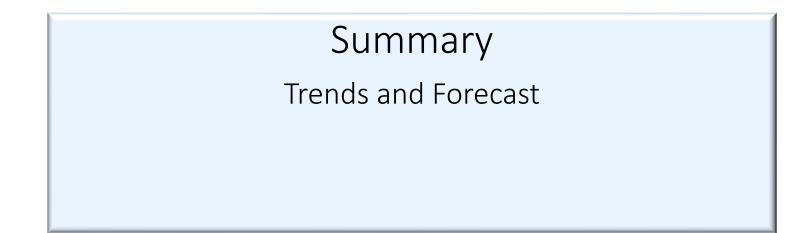
Average Hourly Earnings of All Employees (Private) Colorado



Hourly Earnings and Percent Change December private hourly earnings for Colorado (blue) were \$36.94, a YOY increase of 5.1% (green). The current rate of YOY earnings growth peaked at 9.4% in February 2022.

In 2023, YOY monthly hourly earnings were between 2.3% and 5.1% more than the same month in 2022. The YOY Colorado CPI was between 4.5% and 6.4%. The change in hourly earnings was less than the change in inflation.

Annual Earnings and Change							
Year	CO CPI	Earnings Chang					
2017	3.4%	\$27.60	2.0%				
2018	2.7%	\$28.92	4.8%				
2019	1.9%	\$30.37	5.0%				
2020	2.0%	\$30.99	2.0%				
2021	3.5%	\$31.97	3.2%				
2022	8.0%	\$34.47	7.8%				
2023	5.2%	35.91%	4.2%				
Source: BLS, cber.co							



Trends and Issues for 2024

This analysis focused primarily on the impact that the benchmark revisions to the 2023 wage and salary employment data will have on the Colorado economy. In two weeks, BLS will release employment data for February. The analysis of that data will go more in-depth on other pressing issues impacting the U.S. and Colorado economies.

Economic trends for 2024

- Economic activity and labor markets will be weaker than in 2023.
- Reduced savings levels and mounting consumer debt will cause a reduction in spending.
- The PST sector and advanced technology, will continue to drive the • Colorado economy.
- Affordable housing will continue to challenge Colorado leaders in finding ٠ workers.
- Office vacancies in downtown Denver will get worse.

Wildcard Issues for 2024

- The economy will become more stable when rate hikes transition to rate • cuts.
- Equity markets will remain volatile.
- There is a disconnect between Wall Street and Main Street.
- •
- Some energy policies will not have their desired effect. The U.S. and international geopolitical situation is unsettled and scary. The wars in Eastern Europe and the Gaza Strip will become more divisive within the U.S.
- The elections will be contentious. ٠
- Since the elimination of the Gallagher Amendment, property taxes have been an issue that affects all residents.
- Colorado will learn if its efforts to address homelessness are working. •
- Colorado will continue to be challenged by immigration policy. ٠

Colorado Economic Forecast 2024

In 2024, the Colorado real GDP	Colorado	More than 80				
growth rate will be 1.9% compared to 1.2% for the U.S.	Real GDP Value (billions) (chained 2017) % Change Real GDP	2021 \$406.96 6.8%	2022 \$416.11 2.2%	2023 \$430.20 3.4%	2024 \$438.4 1.9%	will pass thro There will be the Colorado
Colorado's job growth in 2024 will be more volatile and much weaker than in 2023, and the unemployment rate will increase	CES Employment (thousands) Annual Change (thousands) % Change Unemployment Rate	2,750.9 98.2 3.7% 5.5%	2,869.7 118.8 4.3% 3.1%	2,942.0 72.3 2.5% 3.2	2,984.0 42.0 1.4% 3.6%	The total nur 2024 building slightly highe
but remain lower than the U.S. rate.	Retail Sales (billions) % Change	\$268.3 17.3%	\$299.9 11.8%	\$304.4 1.5%	\$310.5 2.0%	construction estate marke 2024. Office
Retail sales for 2024 will remain sluggish. Inflation has declined,	Consumer Price Index (CPI)	281.8 3.5%	304.4 8.0%	320.3 5.2%	331.0 3.3%	at record hig
but it is more of a problem in Colorado than in other states.	DIA Passengers (millions)	59.0	69.0	77.8	82.0	After a sharp production in
Other challenges include high energy and housing costs, labor shortages, and high-interest rates.	Single Family Permits Multi-family Permits	30,246 26,278	24,000 25,000	20,000 19,000	21,000 19,000	state regulat demand, cru stabilized at
5	Oil Production (thousands) barrels	153,423	160,149	163,932	165,000	barrels (annu

80 million passengers nrough DIA in 2024. be solid travel activity at do Springs airport.

umber of SF and MF ing permits will be her than in 2023. The on (housing) and real ket will remain volatile in e vacancies will remain igh levels.

arp decline in crude oil in 2021 because of ations and reduced rude oil production has at about 165 million barrels (annually).

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Gary Horvath has produced annual employment forecasts of the state economy for over 30 years. They have been supplemented by monthly economic updates and indices that track economic performance over the short term. In addition, he has directed three statewide analyses that included reviews of all 64 county economies.

Horvath was the principal investigator for a state and federally funded project to prepare a nanotechnology roadmap for Colorado. As well, he was a co-founder of the Colorado Photonics Industry Association, a trade group for Colorado's Photonics cluster. Horvath has been an active board member of the group since its inception.

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