

Economic Outlook and
Trends through
November 2024
United States and
Colorado

Colorado-based Business and Economic Research cber.co Prepared December 20, 2024

Early Winter in La Plata County

Economic Outlook and Trends

Purpose and Overview

The purpose of this chartbook is to review the outlook and performance of the U.S. and Colorado economies. It uses the Conference Board (TCB) forecast as a base for this analysis.

Over the past two years, the TCB projections were revised during the year as the economy was stronger than originally anticipated. The 2024 U.S. labor market has been solid, and the stock market is on track to show healthy gains in 2024. Inflation is steady but declining slower than desired.

Much of the uncertainty associated with the election has passed, yet there is ambivalence about how policy changes from a new administration will affect the economy in 2025. The inauguration is a month away. Buckle your seat belts. Things will be different than the past four years.

Contents

This month, the chartbook addresses the following topics.

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Gross Domestic Product, and Real Disposable Income

U.S. Real GDP Growth

The Conference Board Forecast (December 17, 2024)

Real GDP and Economic Growth

The Conference Board Forecast projects real GDP growth of 2.7% in 2024. Real disposable income will increase by 2.7%, and Real personal consumption will increase by 2.6% in 2024. Residential investment will increase by 3.6%, and non-residential investment will change by 4.1%. Government spending will be solid in 2024 (3.4%), down from 3.9% in 2023.

Other Economic Factors

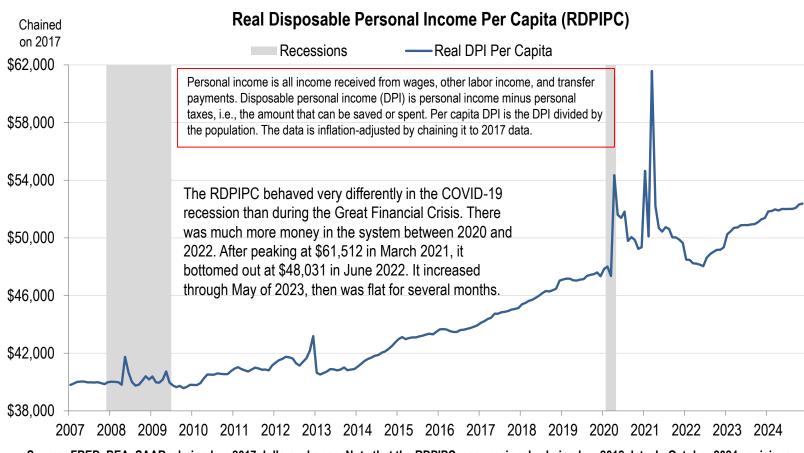
This year, there will be higher growth in exports than expected (3.2%), The U.S. unemployment rate will be 4.1% in 2024, an increase from 3.1% in 2023. The annual PCE inflation will be 2.5%, and the core rate will be 2.8%. The Fed Funds rate will decline to 4.375% in 2024. Rates will reach 3.125% in 2025.

Conference Board US Real GDP Growth Forecast

| | Q1 2023 | Q2 2023 | Q3 2023 | Q4 2023 | Q1 2024 | Q2 2024 | Q3 2024 | Q4 2024 | 2023 | 2024 | 2025 |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|---------|-------|------|------|
| Real GDP | 2.8% | 2.5% | 4.4% | 3.2% | 1.6% | 3.0% | 2.8% | 2.0% | 2.9% | 2.7% | 1.8% |
| Real Disposable Income | 10.9% | 3.4% | 1.4% | 3.2% | 5.6% | 1.0% | 0.8% | 1.5% | 5.1% | 2.7% | 1.6% |
| Real Personal Consumption | 4.9% | 1.0% | 2.6% | 3.5% | 1.9% | 2.8% | 3.5% | 2.5% | 2.5% | 2.6% | 2.4% |
| Residential Investment | -4.3% | 4.5% | 7.7% | 2.6% | 13.7% | -2.8% | -5.0% | -3.0% | -8.3% | 3.6% | 0.9% |
| Nonresidential Investment | 5.3% | 9.9% | 1.1% | 3.8% | 4.5% | 3.9% | 3.8% | 4.9% | 6.0% | 4.1% | 3.1% |
| Total Gov't. Spending | 5.1% | 2.9% | 5.7% | 3.6% | 1.8% | 3.0% | 5.0% | 3.6% | 3.9% | 3.4% | 2.9% |
| Exports | 2.0% | -4.8% | 4.9% | 6.2% | 1.9% | 1.0% | 7.5% | 3.0% | 2.8% | 3.2% | 3.2% |
| Unemployment Rate | 3.5% | 3.6% | 3.7% | 3.7% | 3.8% | 4.0% | 4.2% | 4.2% | 3.6% | 4.1% | 4.1% |
| PCE Inflation (%Y/Y) | 5.0% | 3.9% | 3.4% | 2.8% | 2.7% | 2.6% | 2.3% | 2.3% | 3.8% | 2.5% | 2.0% |
| Core PCE Inflation (%Y/Y) | 4.9% | 4.6% | 3.9% | 3.2% | 3.0% | 2.7% | 2.7% | 2.8% | 4.1% | 2.8% | 2.2% |

Source: The Conference Board, https://www.conference-board.org/publications/Economic-Forecast-US, cber.co.

Real Disposable Personal Income Per Capita United States



Real Disposable Personal Income Per Capita

In November 2024, RDPIPC was \$52,372. It was 2.1% greater than November 2023.

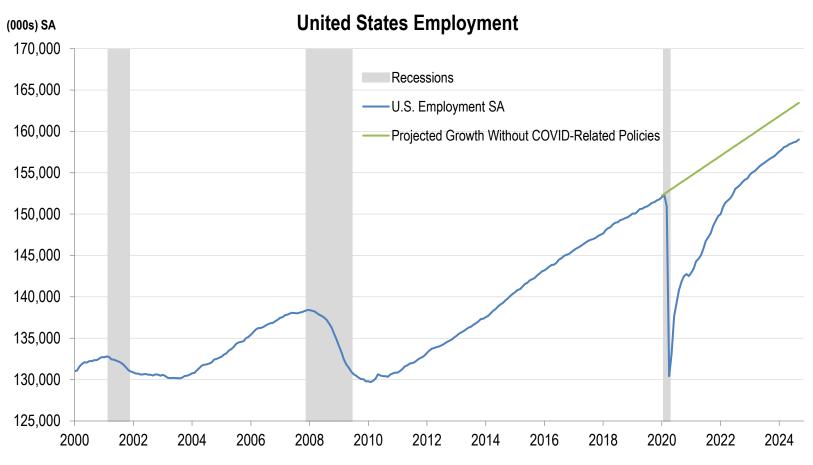
The monthly YOY increase has been positive since January 2023. It has been between 2.0% and 3.1% in 2024.

| RDPIPC (Average) | | | | | | | | | |
|------------------|----------|----------|--|--|--|--|--|--|--|
| Year | RDPIPC | % Change | | | | | | | |
| 2016 | \$43,659 | 1.1% | | | | | | | |
| 2017 | \$44,710 | 2.4% | | | | | | | |
| 2018 | \$46,057 | 3.0% | | | | | | | |
| 2019 | \$47,251 | 2.6% | | | | | | | |
| 2020 | \$50,056 | 5.9% | | | | | | | |
| 2021 | \$51,719 | 3.3% | | | | | | | |
| 2022 | \$48,652 | -5.9% | | | | | | | |
| 2023 | \$50,871 | 4.6% | | | | | | | |
| | | | | | | | | | |

Source: FRED, BEA, SAAR, chained on 2017 dollars, cber.co. Note that the RDPIPC was previously chained on 2012 data. In October 2024, revisions were made to data after 2019.

U.S. and Colorado Employment, Unemployment, and Earnings

Employment United States



U.S. Employment

Between 2012 and 2019, average monthly U.S. employment increased by 197,800. The green line projects what employment would have been if that rate had continued through 2024.

The range of the change in monthly YOY employment was -20.2 million to 14.2 million. The monthly change in employment from 2020 to 2024 averaged about 127,000 per month.

Average YTD employment through November 2024 (blue line) was 158.5 million, 1.6% more than for the same period last year.

The average monthly change in employment through November 2024 is 212,200.

Source: BLS, SA, cber.co.

Notice About Colorado Employment Data - BLS

Colorado Labor Data

Our country is fortunate to have the Bureau of Labor Statistics and the Labor Market Information (LMI) group within CDLE. LMI collects the QCEW data that is the foundation for the monthly CES employment reports for the state.

Unfortunately, for the past two years there have been data collection and processing problems in Colorado. As a result, the notice to the right was posted on the BLS website.

In 2023, the data produced during the year showed that Colorado had one of the weakest labor markets in the country. After the benchmark revisions, the updated data showed Colorado had one of the stronger labor markets.

It appears the problem is unique to Colorado and BLS is taking steps to fix it. It will be necessary for those who rely on employment data to be patient. In time, the benchmark revisions for 2024 will be published.

Notice on BLS Website

The following notice was on the Economic Release page for the employment data released on December 20, 2024.

Suspension of Publication of Colorado Data

Effective with the release of January 2025 data, both the Current Employment Statistics (CES) and Local Area Unemployment Statistics (LAUS) programs will be temporarily suspending publication of monthly data for Colorado. This suspension is because of ongoing issues with the modernization of Colorado's unemployment insurance (UI) system. Because of these issues, the Quarterly Census of Employment and Wages (QCEW) suspended publication of critical input data used in the production of CES and LAUS estimates.

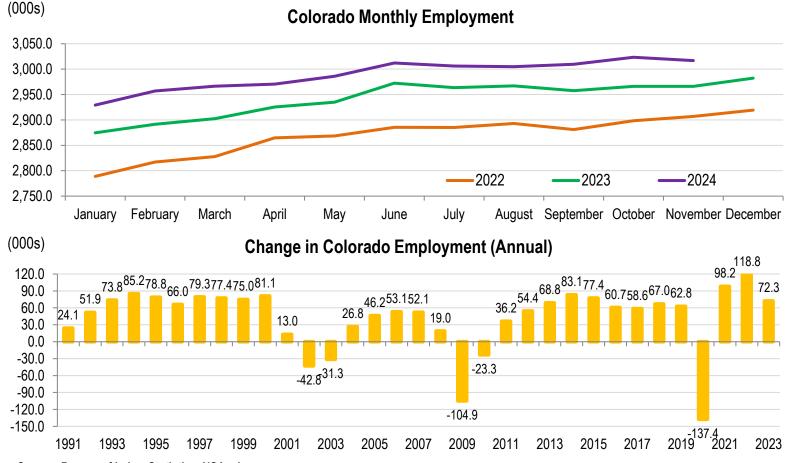
Furthermore, revisions to estimates for 2024 that are scheduled to be issued by both programs in early 2025 will be affected. CES will be unable to complete the 2024 benchmark process for Colorado, while LAUS data revisions for 2024 will use the same inputs from CES and QCEW that had been used during the 2024 estimating year.

The State Employment and Unemployment news release for January 2025 is scheduled for March 17, 2025. The Metropolitan Area Employment and Unemployment news release for January 2025 is scheduled for March 21, 2025.

Additional information is available at www.bls.gov/sae/notices/2024/notice-regarding-suspension-of-publication-of-Colorado-employment-and-unemployment-data.htm.

Source: Bureau of Labor Statistics, https://www.bls.gov/news.release/laus.nr0.htm

Employment and Change in Employment Colorado



Colorado Employment and Change

Through November 2024, the average total Colorado employment was 2,989,300. The average YOY <u>change in annual employment</u> through September 2024 was 50,950.

Based on benchmark revisions to U.S. wage and salary employment (CES) earlier in the year, it is likely that Colorado 2024 employment will be revised downward in the March 2025 benchmark revisions.

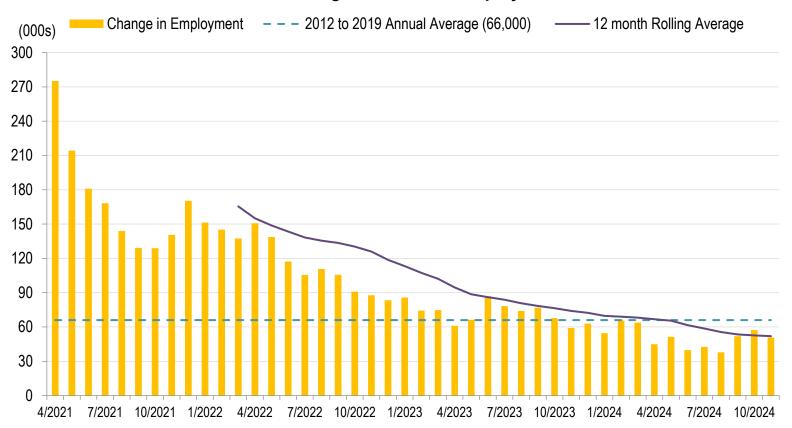
The average monthly change in employment was 6,025 in 2023. By comparison, the change in the average monthly employment from 2012 to 2019 was 5,500.

The average YOY change in monthly employment for 2024 is 4,246 per month. Employment growth is solid, but it has slowed significantly.

YOY Change in Employment

Colorado

YOY Change in Colorado Employment



Change in Employment

From 2012 to 2019, average annual employment was 66,000 (blue dotted line). The average monthly change was 5,500.

April 2021 was the first month after the pandemic that the change in YOY employment was positive (274,700). Since then, the YOY monthly employment has trended downward. In November 2024, it was 50,800.

In March 2022, the <u>12-month rolling average</u> (purple solid line) peaked at 165,475. It has since trended downwards and was 51,950 in November 2024.

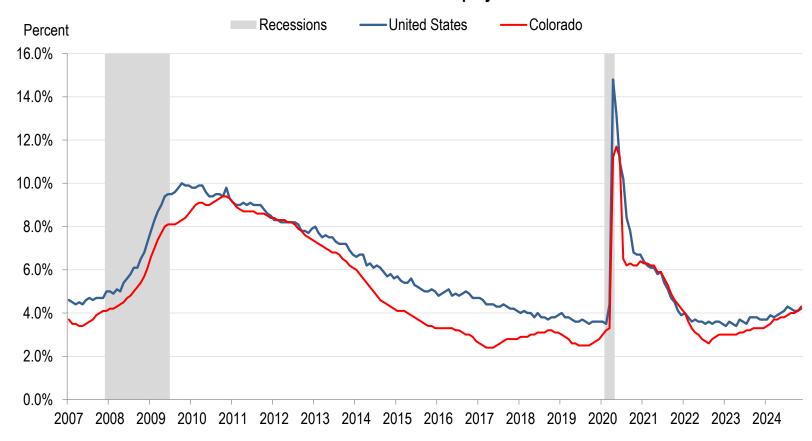
Either way, the change in Colorado employment has slowed. It is returning to a more sustainable rate of growth.

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

Unemployment Rate

United States and Colorado

U.S. and Colorado Unemployment



Source: BLS, SA, cber.co.

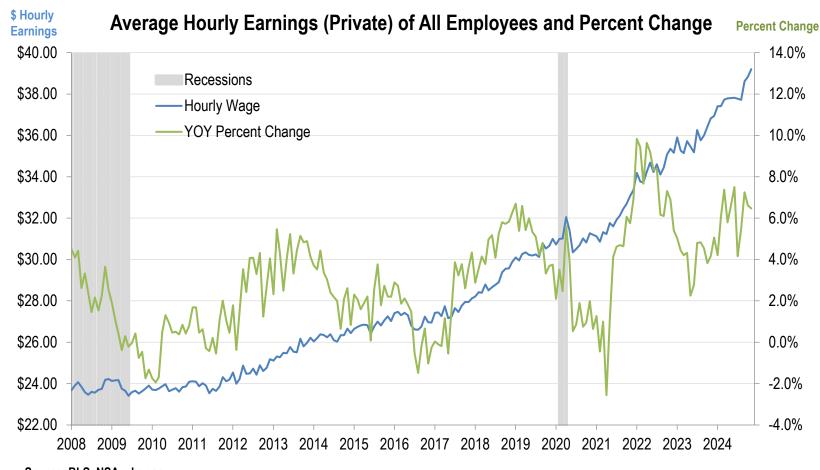
Unemployment Rate

The unemployment rates were 4.3% in Colorado (red) and 4.2% in the United States (blue) in November 2024. Both rates have risen significantly since January 2023; however, the current rates are historically low.

The Colorado unemployment rate for men was 4.4% and 4.0% for women. It was 3.2% for individuals with some college education, 2.6% for a college degree, 4.5% for a high school diploma, and 8.2% for less than a high school diploma.

| 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% | | | | | | | |
| | | | | | | | | | |

Average Hourly Earnings of All Employees (Private) Colorado



Hourly Earnings, Percent Change, and CPI The November 2024 private hourly earnings for Colorado (blue) were \$39.20, a YOY increase of 6.5% (green).

The rate of YOY earnings growth peaked at 9.4% in February 2022. For 2021 through 2023, the change in YOY hourly earnings was less than the increase in inflation. The increase in recent wage rates is above the inflation rate.

| Colorado Hourly Earnings and Change | | | | | | | | |
|--|--------------|-----------------|--------|--|--|--|--|--|
| Year | CO CPI | Earnings | Change | | | | | |
| 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: E | BLS, cber.co | | | | | | | |

Colorado Government and Growth Sector Employment

Government Employment and Growth Sectors

Analysis of Government and Growth Sectors

This section analyzes two groups of industries for 1990 to 2023:

- Government sectors (federal, state education, state government excluding education, local education and local government excluding education)
- Five growth sectors (construction, professional business services, education and health services, leisure and hospitality, and the combined state and local governments).

The analysis for these industry groups includes the relative change (%) in annual employment (employment share) and the location quotient (LQ). The annual location quotient, or sector concentration, is the percent of Colorado sector employment divided by the percent of U.S. sector employment.

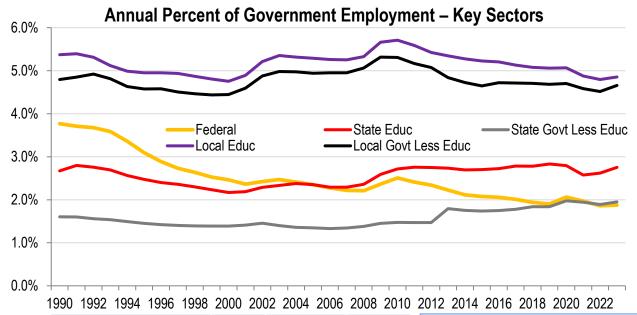
Key Findings - Government Sectors

- Colorado has historically had a small and impressive group of federal facilities. The change in their employment was minimal, while total employment increased. As a result, the LQ declined between 1990 and 2023.
- The LQ for state education has consistently been high. It has increased as universities with larger enrollments increased in popularity and the University of Colorado purchased hospitals. In addition, state government employment increased aggressively over the past decade.
- The LQ for local government is slightly above 1.0, and local education is below 1.0.

Key Findings – Five Growth Sectors

- The change in construction employment has been volatile.
- PBS and L&H are state competencies that have experienced rapid employment growth; however, their location quotient has declined.
- There has consistently been a shortage of healthcare (EHS) workers. This sector is not a competency for Colorado. Its LQ is less than 1.0.
- The combined state and local government LQ has increased over the past decade based on a higher-than-normal concentration of state employees.

Percent of Government Employment (Key Sectors) Colorado



| Sector of Employment | 1990 | 2023 | % Change |
|------------------------------|---------|---------|----------|
| Federal (yellow) | 57,300 | 55,200 | -3.7% |
| State Educ (red) | 40,600 | 81,000 | 99.5% |
| State Govt Less Educ (grey) | 24,400 | 57,400 | 135.2% |
| Local Educ (purple) | 81,700 | 142,800 | 74.8% |
| Local Govt Less Educ (black) | 72,900 | 137,000 | 87.9% |
| Total | 276.900 | 473,400 | 71.0% |

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

of 3.3 million. It increased to 5.9 million in 2023, an increase of 77.9%. The percent increases in state and local government employment, excluding higher education) were above this level. Higher education employment was more than 77.9%, and local education was slightly less.

In 1990, Colorado had a population

Colorado Government Employment

This chart compares federal, state, and local government employment as a percent of total CES employment between 1990 and 2023. All government sectors were 18.2% of total employment in 1990 and 16.1% of total employment in 2023. In 1990, there were 1.52 million employees and there were 2.94 million in 2023.

Federal (yellow) – Colorado has had a small group of federal facilities. Other sectors grew, and the percentage of employment for them declined between 1990 and 2023.

State Education (red) – Employment in Colorado higher education nearly doubled between 1990 and 2023 as universities with larger enrollments increased in popularity. They were at 2.8% of total employment in 1991 and 1992. They declined to 2.4 % in 1993 and remained there through 2008. Since then, higher education employment has been between 2.6% and 2.8% of total employment.

State Excluding Education (grey) – Between 1990 and 2012, state employment was between 1.3% and 1.6% of total employment. Between 2013 and 2023, it increased from 1.8% to 2.0%. This increase coincides with the start of concerns from business leaders about overreach in state government.

Local Education (purple) – Between 1990 and 2010, local education employment was volatile and between 4.8% and 5.7% of total employment. Between 2011 and 2023, it trended downward and was between 4.9% and 5.6%.

Local Excluding Education (black) – Between 1990 and 2010, local government employment was volatile and between 4.4% and 5.3% of total employment. Between 2011 and 2023, it trended downward and was between 4.7% and 5.2%.

Concentration of Government Employment Colorado

The Location Quotient The LQ is calculated by dividing the

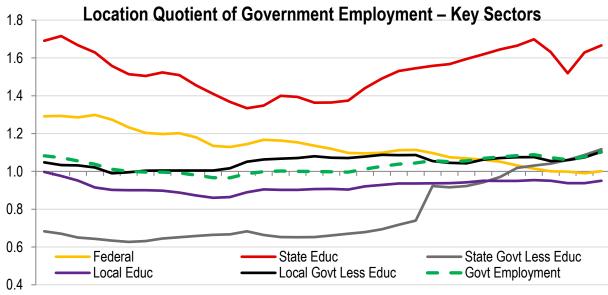
state percent of employment by

1.0 means the percentages are

concentration than the U.S.

federal sector percent. A value near

similar. If the percent is greater than 1.0 then Colorado has a higher



| 1990 1 | 1992 | 1994 | 1996 | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2020 | 2022 |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

| Sector of Employment | 1990 | 2023 |
|------------------------------|------|------|
| Federal (yellow) | 1.29 | 1.00 |
| State Educ (red) | 1.69 | 1.67 |
| State Govt Less Educ (grey) | 0.68 | 1.12 |
| Local Educ (purple) | 1.00 | 0.95 |
| Local Govt Less Educ (black) | 1.05 | 1.10 |

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

Concentration of Colorado Government Employment

This chart compares the location quotient (concentration) of federal, state, and local government annual employment from 1990 to 2023.

State Education (red) – Employment in Colorado higher education has risen with the increased popularity of the larger universities and the purchase of hospitals by the University of Colorado. The range of the LQ was 1.33 to 1.72.

Federal (yellow) - Colorado has had a small group of federal facilities. Major federal facilities include BLM, EPA, USGS, Reclamation, NOAA, USPS, Federal Courts, and federal labs. Employment has been flat for the past 33 years. The LQ has declined.

Total Government (green dotted line) – the range of the LQ values is 1.0 to 1.08. Total government employment typically has a LQ of 1.0.

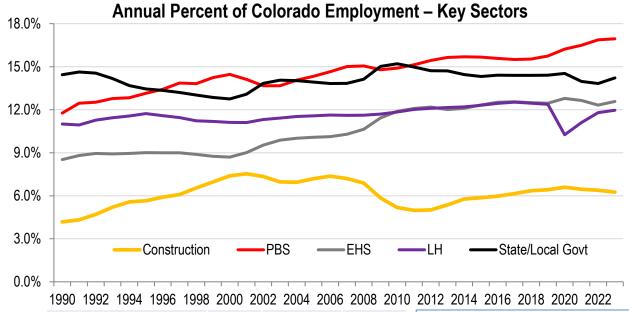
State Excluding Education (grey) – After remaining below 0.8 for 22 years, the LQ value has risen for the past decade and was 1.1 in 2023. This increase has been accompanied by policies that have increased concerns about policy overreach.

Local Education (purple) – K-12 public education has consistently had LQ values slightly less than 1.0. It is challenged by declining enrollments because of lower fertility rates, needed maintenance on facilities, and concerns about hiring too many administrators and not enough teachers.

Local Excluding Education (black) – Local governments derive revenue from retail sales and other taxes. Employment growth is usually restricted by their budgets.

Percent of Colorado Employment

Construction, PBS, EHS, LH, State and Local Govt.



| Sector of Employment | 1990 | 2023 | % Change |
|----------------------------|---------|-----------|----------|
| Construction (yellow) | 63,500 | 183,300 | 189.4% |
| PBS (red) | 178,900 | 498,500 | 178.6% |
| EHS (grey) | 129,600 | 369,900 | 185.4% |
| LH (purple) | 167,300 | 351,800 | 110.3% |
| State & Local Govt (black) | 219,600 | 418,200 | 90.4% |
| Total | 758,900 | 1,821,700 | 140.0% |

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

In 1990, Colorado had a population of 3.3 million. It increased to 5.9 million in 2023, an increase of 77.9%. The combined percent for the changes in state and local government employment were below this level. The growth rates for the other four sectors were well above this level.

Percent of Employment – Const, PBS, EHS, LH, S&L Govt

This chart compares Construction; Professional Business Services (PBS), Education, Health and Social Assistance Services (EHS), Leisure and Hospitality (L&H), and State and Local Government (SL Govt) employment as a percent of total CES employment between 1990 and 2023. In 1990, these sectors were 55.7% of total employment in 2000 and 61.9% in 1991. In 1990 there were 1.52 million employees and there were 2.94 million in 2023.

Construction (yellow) – Construction employment was volatile. Its range of employment was between 4.2% in 1990 and 7.5% in 2001.

PBS (red) – PBS employment posted steady growth in employment share; it was between 11.8% in 1990 and 16.9% in 2023.

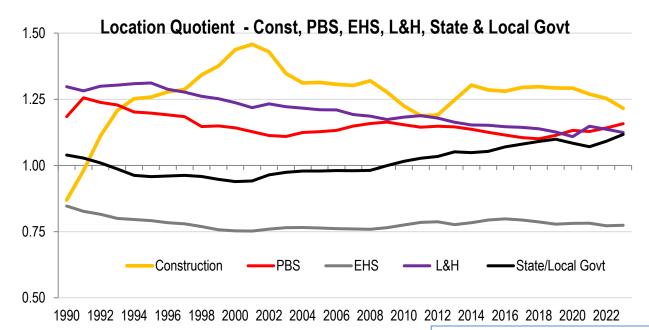
EHS (grey) – The percentage of EHS employment was flat between 1990 and 2001. It increased between 2013 and 2020, followed by a COVID-19 downturn in 2020 and 2021. The range of employment share was 8.5% in 1990 and a peak of 12.8% in 2020.

L&H (purple) – L&H had limited growth in employment share from 1990 to 2019. The sector declined sharply in 2020 as a result of COVID-related policies. The share was 11.0% in 1990, and the peak was 12.4% in 2019. After the 2020 downturn, the employment share was 12.0% in 2023.

SL Govt (black) – The employment share of State and Local Government was volatile. The low point was 12.8% in 2000. The peak was 15.2% in 2010.

Concentration of Colorado Employment

Construction, PBS, EHS, LH, State and Local Govt



| Sector of Employment | 1990 | 2023 |
|------------------------------|------|------|
| Construction (yellow) | .85 | 1.22 |
| PBS (red) | 1.18 | 1.16 |
| EHS (grey) | 0.85 | 0.77 |
| L&H (purple) | 1.30 | 1.12 |
| State and Local Govt (black) | 1.04 | 1.12 |

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

The Location Quotient

The LQ is calculated by dividing the state percent of employment by federal sector percent. A value near 1.0 means the percentages are similar. If the percent is greater than 1.0 then Colorado has a higher concentration than the U.S.

Location Quotient – Const, PBS, EHS, LH, S&L Govt

This chart compares the location quotient (concentration) for Construction, Professional Business Services (PBS), Education, Health and Social Assistance Services (EHS), Leisure and Hospitality (L&H), and State and Local Government between 1990 and 2023.

Construction (yellow) – The volatility of Construction employment was associated with the growth and downturns in the Colorado economy. The location quotient rose to 1.46 in 2001. It fell to 1.18 in 2012 and was 1.22 in 2023. The range of the LQ was a low value of .85 in 1990. The largest LQ value was 1.46 in 2001.

PBS (red) – The PBS sector has been a source of strong growth. The LQ peaked at 1.28 in 1991 and dipped to 1.09 in 2018. It rebounded to 1.16 in 2023.

EHS (grey) – There has consistently been a shortage of healthcare workers. The location quotient was 0.85 in 1990 and .77 in 2023.

L&H (purple) – In 1990, the L&H LQ was 1.30. It edged up to 1.31 in 1994 and 1995, then declined to 1.11 in 2000. It was 1.12 in 2023.

State and Local Govt (black) – The LQ of state and local government was below 1.05 from 1990 to 2012. Between 2013 and 2023, there was significant growth in state higher education and state government. The LQ was 1.12 in 2023.

U.S. and Colorado Inflation

Chair Powell's Comments

FOMC's Decision on Interest Rates December 18, 2024

Chair Jay Powell's Comments – December 18, 2024 FOMC Decision on Interest Rates

Recent indicators suggest that economic activity has continued to expand at a solid pace. Since earlier in the year, labor market conditions have generally eased, and the unemployment rate has moved up but remains low. Inflation has made progress toward the Committee's two percent objective but remains somewhat elevated.

The Committee seeks to achieve maximum employment and inflation at the rate of two percent over the longer run. The Committee judges that the risks to achieving its employment and inflation goals are roughly in balance. The economic outlook is uncertain, and the Committee is attentive to the risks to both sides of its dual mandate.

U.S. November

CPI Oct 2.6% Nov 2.7% PCE Nov 2.4% Core Oct 3.3% Nov 3.3% PCE Nov 2.8% Colorado November (published bi-monthly) CPI Sept 1.4% Nov. 2.0% Core Sept 2.0% Nov. 2.5%

In support of its goals, the Committee decided to lower the target range for the federal funds rate by 1/4 percentage point to 4-1/4 to 4-1/2 percent. In considering the extent and timing of additional adjustments to the target range for the federal funds rate, the Committee will carefully assess incoming data, the evolving outlook, and the balance of risks. The Committee will continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities. The Committee is strongly committed to supporting maximum employment and returning inflation to its two percent objective.

In assessing the appropriate stance of monetary policy, the Committee will continue to monitor the implications of incoming information for the economic outlook. The Committee would be prepared to adjust the stance of monetary policy as appropriate if risks emerge that could impede the attainment of the Committee's goals. The Committee's assessments will take into account a wide range of information, including readings on labor market conditions, inflation pressures and inflation expectations, and financial and international developments.

Source: https://www.federalreserve.gov/newsevents/pressreleases/monetary20241218a.htm, cber.co.

From "Transitory Inflation" to "Accumulated Rate of Inflation" Annual Accumulated Rate of Inflation

Higher for Longer Interest Rates

In 2021, some economists thought inflation was transitory. Next, they thought it would return to the Federal Reserve target rate of 2.0% before December 2023. Instead, consumers have had to deal with the accumulated effects of inflation from 2021 to 2023.

| Annual CPI | | | | | | | | |
|------------|------------|------------|--|--|--|--|--|--|
| Year | U.S. | Denver MSA | | | | | | |
| 2014 | 1.5% | 2.8% | | | | | | |
| 2015 | -0.4% | 1.2% | | | | | | |
| 2016 | 1.0% | 2.8% | | | | | | |
| 2017 | 2.1% | 3.4% | | | | | | |
| 2018 | 2.5% | 2.7% | | | | | | |
| 2019 | 1.7% | 1.9% | | | | | | |
| 2020 | 1.2% | 2.0% | | | | | | |
| 2021 | 5.3% | 3.5% | | | | | | |
| 2022 | 8.5% | 8.0% | | | | | | |
| 2023 | 3.8% | 5.2% | | | | | | |
| Source: Bl | _S, cber.o | 00 | | | | | | |

Annual U.S. vs. Colorado CPI Rates

The table above shows the annual Denver MSA CPI was more than the U.S. CPI for eight of the past ten years.

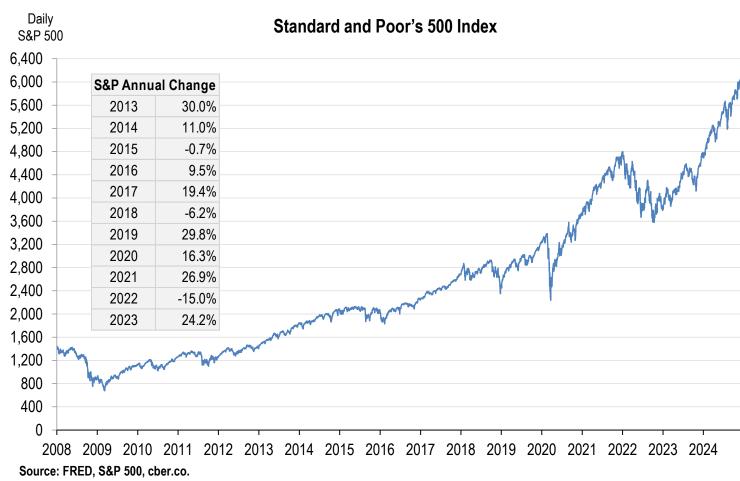
| | Annual and Accumulated Rate of Inflation – United States and Colorado 2021 to 2023 | | | | | | | | |
|-------|--|--------|-----------|-----------------------------|-------|----------|-------|-----------|--|
| | United | States | | | | Colorado | | | |
| 2021 | 2022 | 2023 | All Years | Components | 2021 | 2022 | 2023 | All Years | |
| 4.7% | 8.0% | 4.1% | 17.7% | CPI | 3.5% | 8.0% | 5.2% | 17.7% | |
| 3.6% | 6.2% | 4.8% | 15.2% | Core | 2.5% | 7.1% | 5.4% | 15.7% | |
| 3.8% | 9.6% | 5.7% | 20.2% | Food and Beverage | 2.9% | 9.9% | 5.9% | 19.7% | |
| 3.5% | 11.4% | 5.0% | 21.1% | Food at Home | 1.8% | 11.1% | 4.8% | 18.5% | |
| 4.5% | 7.7% | 7.1% | 20.5% | Food Away From Home | 4.4% | 9.1% | 8.0% | 23.0% | |
| 3.3% | 7.2% | 6.4% | 17.8% | Housing | 1.6% | 7.6% | 7.8% | 17.9% | |
| 7.9% | 17.7% | 1.6% | 28.9% | Household Energy | 4.4% | 12.3% | 11.4% | 30.6% | |
| 6.8% | 14.5% | 2.4% | 25.2% | Fuels and Utilities | 2.5% | 9.8% | 10.5% | 24.4% | |
| 14.6% | 15.5% | 0.2% | 32.6% | Transportation | 13.0% | 12.7% | 2.2% | 30.2% | |
| 13.7% | 11.9% | -0.4% | 26.8% | New and Used Motor Vehicles | 8.2% | 13.4% | -0.1% | 22.6% | |
| 35.8% | 32.1% | -10.6% | 60.4% | Motor Fuel | 41.9% | 21.1% | -5.6% | 62.3% | |

Accumulated Rate of Inflation

Inflation had a different impact on the various CPI components. For example, there was a temporary increase in sporting goods and appliance prices. The price increases for medical care, professional services, recreation, and wireless phone services were minimal. Price increases in many essential components, such as food, housing, and fuel, are shown in the table above. U.S. motor vehicle insurance increased by 31.5% for all years. The primary reasons were the integration of artificial intelligence, advanced technology, and the high costs of electric vehicles. Sometimes, deflation occurs, and prices decrease. Disinflation is more likely to occur. Prices will continue to increase but at a slower rate.

Saving, Borrowing, Consumption, and the Wealth Effect

Standard and Poor's 500 Index



Market Returns

2020 COVID-19 Policies

February 19, 2020 3,386

March 23, 2020 2,237 a change of **-34%** to 1,148 August 18, 2020 3,386 bear market was 149 days

2020 change was **+16.3%**

2021 COVID Recovery Bull Market

For most of 2021 – steady growth

December 31, 2021 4,766, a change of +26.9%

2022 Bear Market

December 31, 2022 3,839, a change of **-15.0%**

2023 Bull Market

Helped by a Santa Claus rally in December

December 29, 2023 4,739, a change of **+24.2%**

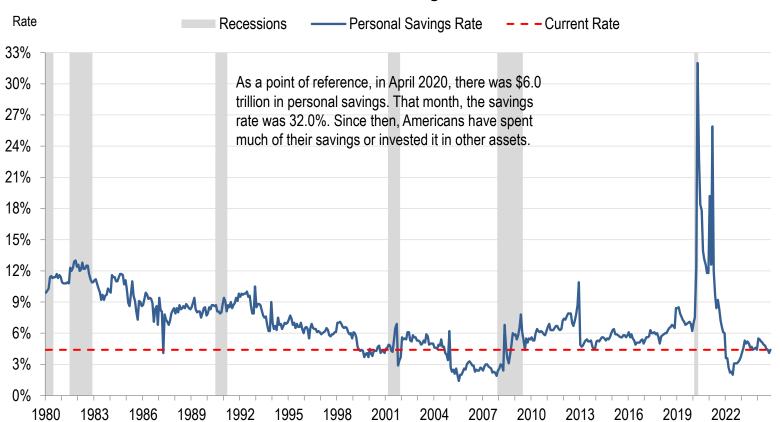
2024 Bull Market

November 18, 2024 5,872, YTD change **+23.1%**.

U.S. Personal Saving Amount and Rate

Percentage of Disposable Personal Income (DPI)

Personal Savings Rate



Personal Saving Rate

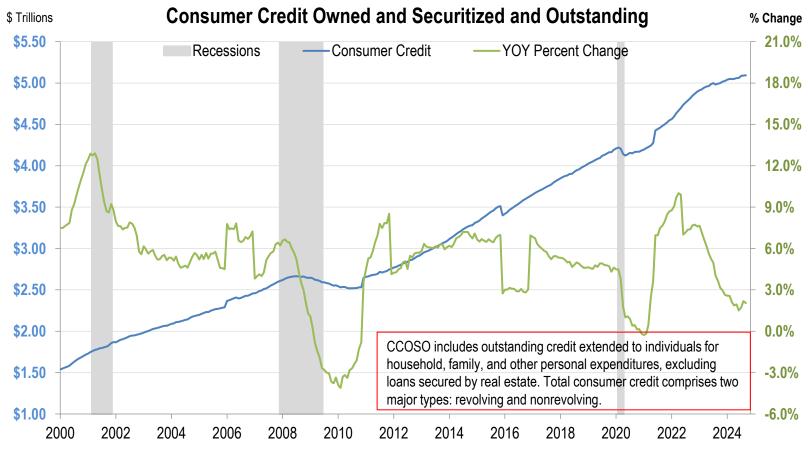
Americans have cleared out their savings accounts. The October 2024 personal savings rate was 4.4%, and savings were \$962.7 billion.

Since 2022, the highest level of savings was in January 2024. Savings were \$1,173.5 billion, and the savings rate was 5.3%.

| Year End Personal Savings (Billions) and Rate | | | | | | | | |
|--|----------------------|-------|--|--|--|--|--|--|
| 2017 | \$748.0 | 5.0% | | | | | | |
| 2018 | \$1,338.9 | 8.4% | | | | | | |
| 2019 | \$1,051.4 | 6.4% | | | | | | |
| 2020 | \$2,085.0 | 12.0% | | | | | | |
| 2021 | \$1,115.2 | 6.1% | | | | | | |
| 2022 | \$561.9 | 3.4% | | | | | | |
| 2023 | \$766.0 | 3.7% | | | | | | |
| Source: BEA | Source: BEA, cber.co | | | | | | | |

Source: Federal Reserve, FRED, cber.co. Note: In October 2024 the data going back to 2019 was updated.

U.S. Consumer Credit Outstanding United States



Source: FRED, Federal Reserve, G.19, SA.

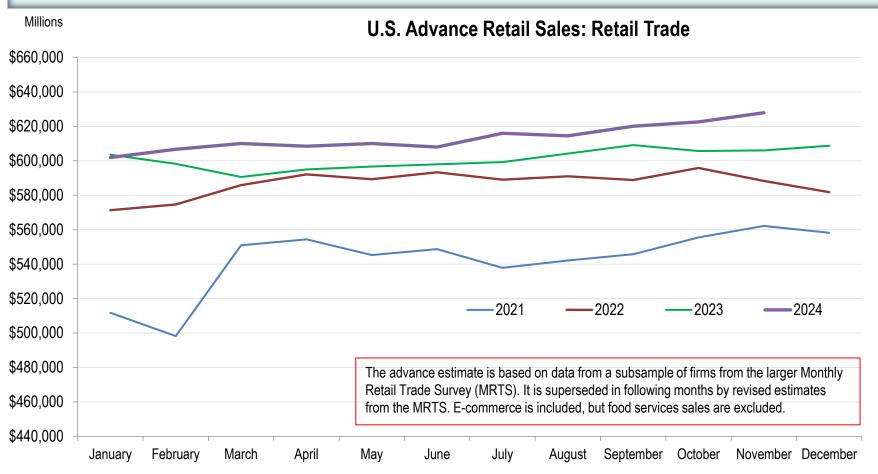
Consumer Credit

21.0% In October 2024, the YOY rate of outstanding consumer credit (including consumer loan defaults) increased by 2.3% (green). Securitized credit is about 5.1 trillion. It has been above \$5.0 trillion since November 2023 (blue).

From Q3 2008 to Q4 2010, consumers deleveraged and decreased the amount of consumer debt. The amount of credit authorized increased in 2018 and 2019 and declined in 2020 as consumers reduced expenditures and paid off debt during the pandemic (blue).

| Outstanding Credit (Billions) and Percent Change | | | | |
|--|-----------|------|--|--|
| 2017 | \$3,738.3 | 5.9% | | |
| 2018 | \$3,922.6 | 4.9% | | |
| 2019 | \$4,106.3 | 4.7% | | |
| 2020 | \$4,168.2 | 1.5% | | |
| 2021 | \$4,375.6 | 5.0% | | |
| 2022 | \$4,735.8 | 8.2% | | |
| 2023 | \$4,969.9 | 4.9% | | |
| Source: FRED, G-19, cber.co | | | | |

U.S. Advance Retail Sales: Retail Trade Monthly



Advance Retail Sales

Retail sales were weak in 2023 and the first quarter of 2024. YTD sales through November (purple) were \$6.7 trillion, 2.1% greater than for the same period in 2023 (green).

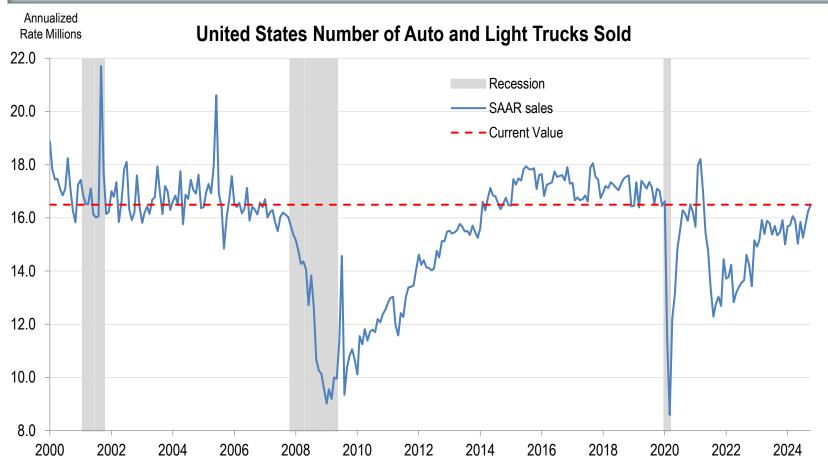
Consumers are spending. They are using credit cards and money from their savings accounts. They are selective in their purchases.

| Annual | Retail Sales (| (Trillions) |
|-------------|----------------|-------------|
| 2017 | \$5.04 | 4.4% |
| 2018 | \$5.25 | 4.2% |
| 2019 | \$5.40 | 2.8% |
| 2020 | \$5.56 | 3.0% |
| 2021 | \$6.51 | 17.0% |
| 2022 | \$7.04 | 8.2% |
| 2023 | \$7.21 | 2.4% |
| Source: Cen | sus, cber.co | |

Source: U.S. Census Bureau, FRED, cber.co. Data updated in April 2024. Note: Not adjusted for inflation.

U.S. Auto and Light Truck (ALT) Sales

Monthly (Seasonally Adjusted Annualized Rate in Millions)



Auto and Light Truck Sales SAAR

In November 2024, auto and light truck sales increased to 16.5 million (red dotted line). Monthly unit sales accelerated in November with year-end incentives. The industry faces challenges from elevated interest rates, high prices, high insurance costs, and a lack of enthusiasm for electric vehicles.

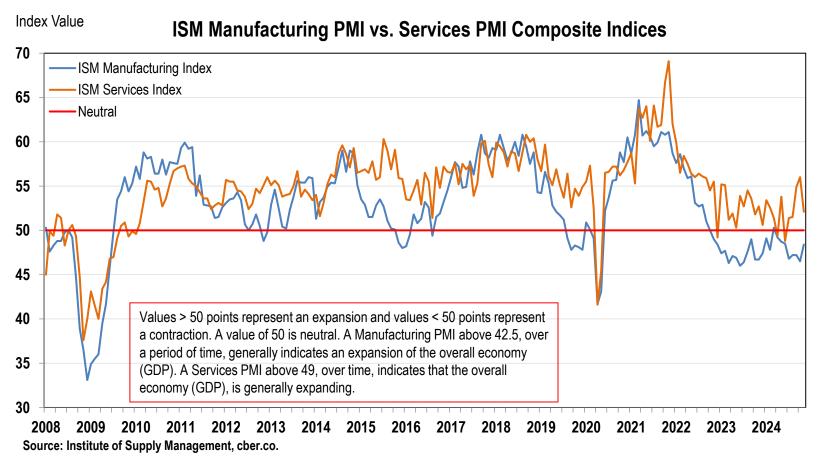
| | ALT.I. '(O I | | | | |
|------|-----------------------|--|--|--|--|
| | ALT Unit Sales | | | | |
| Year | Units Sold (Millions) | | | | |
| 2016 | 17.5 | | | | |
| 2017 | 17.2 | | | | |
| 2018 | 17.2 | | | | |
| 2019 | 17.0 | | | | |
| 2020 | 14.5 | | | | |
| 2021 | 14.9 | | | | |
| 2022 | 13.8 | | | | |
| 2023 | 15.5 | | | | |

Source: FRED, BEA, Seasonally Adjusted Annualized Rates (SAAR), cber.co.

U.S. Indicators

ISM Purchasing Managers Composite Indices

Manufacturing vs. Services



Manufacturing and Services PMI

The ISM manufacturing index (blue) was below 50 for 24 of the past 25 months.

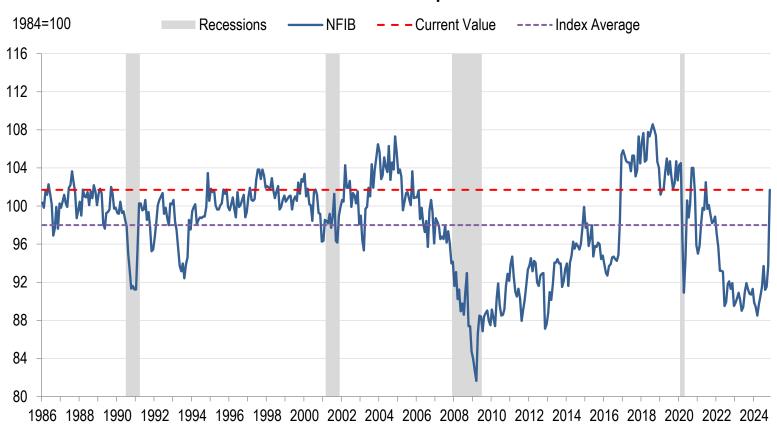
Demand continued to be weak. ISM reported that 63% of manufacturing GDP was in decline. Three of fourteen sectors in the survey reported gains. The Index value for November was up 1.9 points to 48.4

In November 2021, the ISM service index (orange) peaked at 69.1. In 2024, the index has been between 48.8 and 56.0. In November, it fell 3.9 points to 52.1.

In November, fourteen service industries posted gains, and three reported declines. Business activities, new orders, employment, and supplier deliveries were areas of weakness in November.

NFIB Small Business Optimism Index United States

NFIB Small Business Optimism Index



NFIB Small Business Index

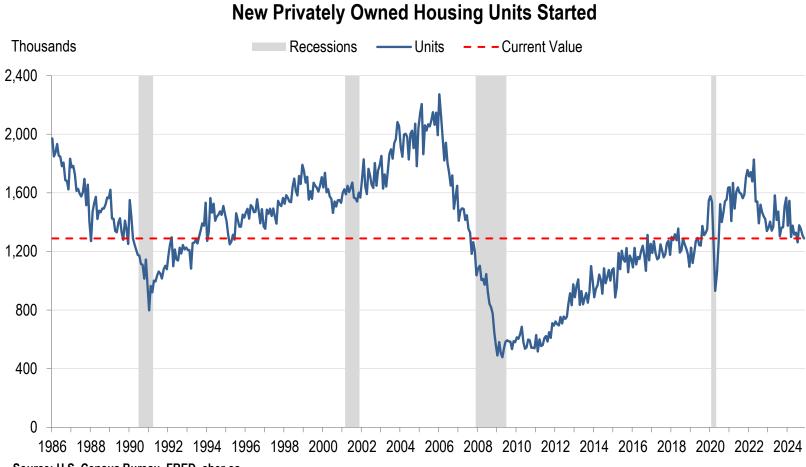
In November 2024, the NFIB index rose slightly to 101.7 (red dotted line). For 34 months, it was below the 50-year average of 98.0 (purple dotted line). In November, nine of the ten index optimism components increased, zero decreased, and one was unchanged.

The uncertainty index improved after the election.

There has been concern about government spending, massive deficits, higher prices and interest rates, and increased regulation. For more details, the NFIB monthly SBET report is available at https://www.nfib.com/.

Source: NFIB, cber.co.

New Privately-Owned Housing Units Started **United States**



New Privately Owned Housing Units Started

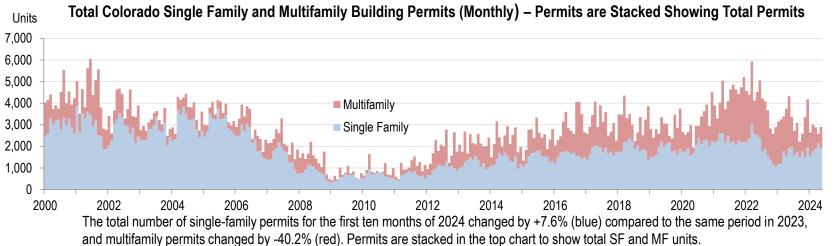
The demand for housing is high. The number of units will be impacted by changes in interest rates and the hurricanes in the South. There were only 1.29 million starts in November 2024 (red-dotted line). Since 2019, the number of housing starts has been volatile. Starts have been below 2.3 million units SAAR since July 2006. The peak since that date was 1.8 million units in April 2022.

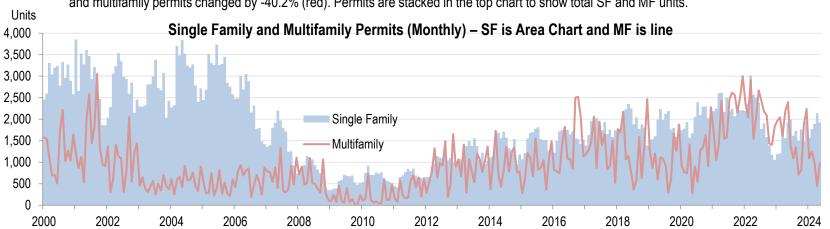
| Units Started (Annual) | | | | | | |
|------------------------|-------|--|------|-------|--|--|
| Year | Units | | Year | Units | | |
| 2005 | 2,073 | | 2016 | 1,177 | | |
| 2006 | 1,812 | | 2017 | 1,205 | | |
| 2007 | 1,342 | | 2018 | 1,247 | | |
| 2008 | 900 | | 2019 | 1,292 | | |
| 2009 | 554 | | 2020 | 1,397 | | |
| 2010 | 586 | | 2021 | 1,606 | | |
| 2011 | 612 | | 2022 | 1,551 | | |
| 2012 | 784 | | 2023 | 1,415 | | |
| 2013 | 928 | | | | | |
| 2014 | 1,000 | | | | | |
| 2015 | 1,107 | | | | | |

Colorado Indicators

Colorado Residential Building Permits

Single Family and Multifamily Units



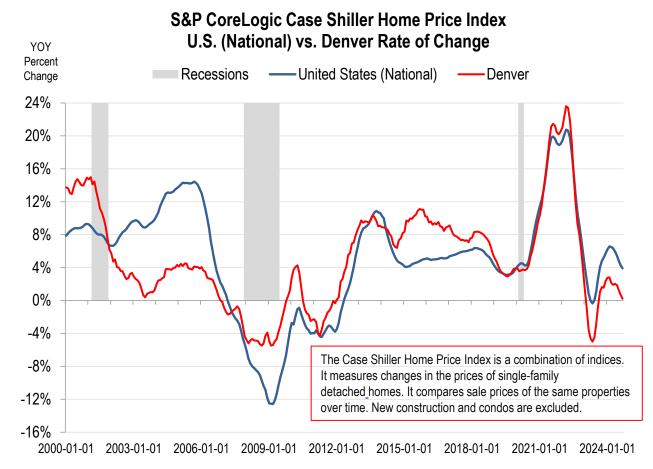


| Annual Building Permits | | | | | | |
|-------------------------|---------------|---------------------|--|--|--|--|
| Year | Single Family | Multi-Family | | | | |
| 2000 | 38,588 | 16,008 | | | | |
| 2001 | 36,437 | 18,570 | | | | |
| 2002 | 35,042 | 12,878 | | | | |
| 2003 | 33,894 | 5,732 | | | | |
| 2004 | 40,753 | 5,746 | | | | |
| 2005 | 40,018 | 5,732 | | | | |
| 2006 | 30,365 | 7,978 | | | | |
| 2007 | 20,516 | 8,938 | | | | |
| 2008 | 11,147 | 7,851 | | | | |
| 2009 | 7,261 | 2,094 | | | | |
| 2010 | 8,790 | 2,801 | | | | |
| 2011 | 8,729 | 4,779 | | | | |
| 2012 | 12,618 | 10,684 | | | | |
| 2013 | 15,773 | 11,745 | | | | |
| 2014 | 17,100 | 11,591 | | | | |
| 2015 | 20,025 | 11,846 | | | | |
| 2016 | 21,577 | 17,397 | | | | |
| 2017 | 24,338 | 16,335 | | | | |
| 2018 | 26,134 | 16,493 | | | | |
| 2019 | 24,756 | 13,877 | | | | |
| 2020 | 26,636 | 13,833 | | | | |
| 2021 | 30,246 | 26,278 | | | | |
| 2022 | 23,728 | 25,111 | | | | |

Source: TAMU Real Estate Center, U.S. Census Bureau, cber.co.

Case Shiller Home Price Index

YOY National vs. Denver Rate of Change



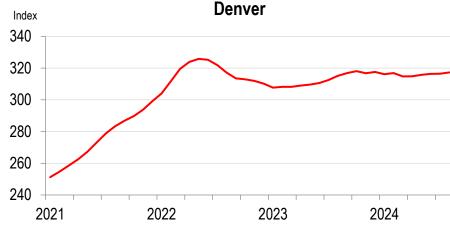
Source: FRED, S&P Case Shiller, cber.co.

Change in S&P CoreLogic Case Shiller Index

In September 2024, the YOY change in the U.S. index (blue) was +3.9%, and the Denver index (red) changed by 0.2%. (The Denver index is in the chart below). Note that the value for September 2024 is lower than the peak in May 2022.

In retrospect, the 2019 housing market favored buyers, and the U.S. YOY appreciation rate was about 4.0%. In the summer of 2020, the market began to favor sellers. In August 2021, YOY appreciation for Denver and the U.S. peaked above 20.0%.

S&P CoreLogic Case Shiller Home Price Index -



Colorado Single Family Market Review November

| Colorado Single Family Market Review | | | | | | | | | | |
|--------------------------------------|---------|----------|---------|----------|--------------------------------|----------|---------|----------|---------|-------|
| November 2023 November 2024 | | % Change | | YTD 2023 | | YTD 2024 | | % Change | | |
| | | | | | | | | | | |
| | 6,140 | | 6,187 | 0.8% | New Listings | | 103,576 | | 114,468 | 10.5% |
| | 5,095 | | 6,259 | 22.8% | Pending/Under Contract | | 80,261 | | 81,342 | 1.3% |
| | 5,728 | | 6,475 | 13.0% | Sold Listings | | 79,723 | | 78,855 | -1.1% |
| \$ | 525,000 | \$ | 550,000 | 4.8% | Median Sales Price | \$ | 532,000 | \$ | 549,000 | 3.2% |
| \$ | 682,964 | \$ | 752,831 | 10.2% | Average Sales Price | \$ | 687,239 | \$ | 717,226 | 4.4% |
| | 98.2% | | 98.2% | 0.0% | Percent of List Price Received | | 99.1% | | 98.8% | -0.3% |
| | 53 | | 66 | 24.5% | Days on Market Until Sale | | 48 | | 54 | 12.5% |
| | 75 | | 74 | -1.3% | Housing Affordability Index | | 74 | | 74 | 0.0% |
| | 21,494 | | 23,576 | 9.7% | Inventory Active Listings | | | | | |
| | 3.0 | | 3.3 | 10.0% | Months Supply of Inventory | | | | | |

Colorado Single Family Market Review

The YTD new listings and pending contracts increased in 2024, although there was a slight decline in sold listings. Median sales prices are higher than a year ago. In November 2024, there were 3.3 months of inventory.

Lower interest rates are likely to improve the performance of the Colorado residential real estate market.

New Listings - Measures new supply coming onto market.

Pending/Under Contract - A leading indicator of buyer demand.

Sold Listings – Home sales that are closed during the period.

Median Sales Price – Half of the activity is above the median and half of the activity is lower than this price point.

Average Sales Price – The sum of all home sales prices divided by the number of houses sold.

Percent of List Price Received – The percent difference from the last list price and the sales price.

Days on Market Until Sale – The average number of days it takes homes to sell.

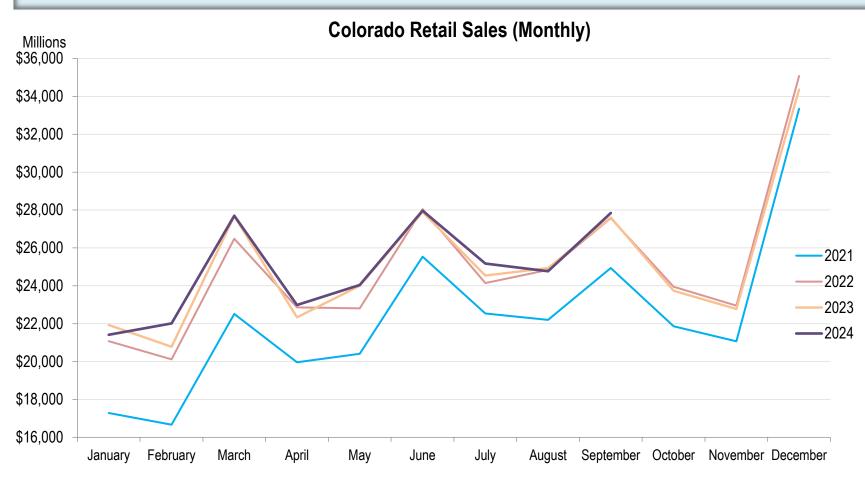
Affordability Index – A higher number means greater affordability.

Inventory of Active Listings – The number of homes available for sale at a given time. This may affect home prices.

Supply of Inventory – Measure of the balance between buyers and sellers. A balanced market ranges from four to seven months. A buyer's market has a higher number.

Source: CAR, https://coloradorealtors.com/, cber.co.

Colorado Retail Sales Monthly



Colorado Retail Sales

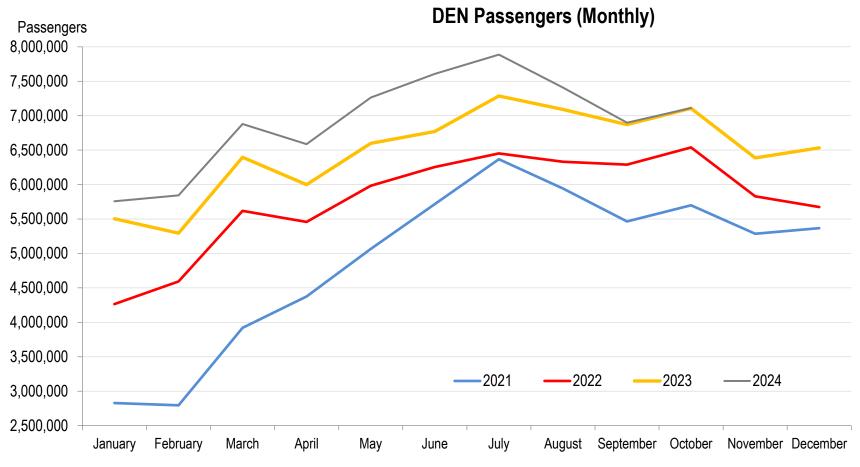
Year-over-year retail sales through September 2024 (dark purple) were 1.0% greater than the same period in 2023.

| Annual Retail Sales (Billions) | | | | | |
|--------------------------------|---------|-------|--|--|--|
| 2017 | \$194.6 | 5.4% | | | |
| 2018 | \$206.2 | 5.9% | | | |
| 2019 | \$224.6 | 9.0% | | | |
| 2020 | \$228.8 | 1.9% | | | |
| 2021 | \$268.3 | 17.3% | | | |
| 2022 | \$299.9 | 11.8% | | | |
| 2023 | \$302.6 | 0.9% | | | |
| | | | | | |

Source: Colorado Department of Revenue, https://cdor.colorado.gov/retail-sales-reports, cber.co. Note: Not adjusted for inflation.

DEN and COS Passengers

Monthly



Air Travel

There were 69.2 million passengers through DIA in the first ten months of 2024 (grey line), an increase of 6.7% compared to the first ten months of last year.

There were 2.3 million passengers through COS in 2023. Through ten months in 2024, there were 2.07 million passengers, a YTD YOY increase of 7.7%. In September and October, there was a slowdown in the number of passengers at both airports.

| Year | DIA Passengers |
|------|----------------|
| 2016 | 58,266,515 |
| 2017 | 61,379,396 |
| 2018 | 64,494,613 |
| 2019 | 69,015,703 |
| 2020 | 33,741,129 |
| 2021 | 58,828,552 |
| 2022 | 69,286,461 |
| 2023 | 77,837,917 |
| | |

Source: flydenver.com, https://www.flydenver.com/about-den/governance/reports-and-financials/, administration/governance, COS airport, https://coloradosprings.gov/flycos/monthly-traffic-reports, cber.co.

Colorado Forecast

Colorado Economic Forecast 2024

In 2024, Colorado's Real GDP growth will increase by 2.5%, similar to the U.S. rate.

The job market will taper off to about 44,000 in 2024. The unemployment rate will increase significantly but remain lower than the U.S. rate.

Consumers will continue to be resilient. Retail sales for 2024 will improve, but they will remain sluggish. The inflation rate has declined, but the accumulated effect is problematic for many. Other challenges include high energy costs, lack of affordable housing, and labor shortages.

| Colorado Economic Forecast | | | | | | |
|--|----------|----------|----------|----------|--|--|
| | 2021 | 2022 | 2023 | 2024 | | |
| Real GDP Value (billions) (chained 2017) | \$406.96 | \$416.11 | \$430.20 | \$441.00 | | |
| % Change Real GDP | 6.8% | 2.2% | 3.4% | 2.5% | | |
| CES Employment (thousands) | 2,750.9 | 2,869.7 | 2,942.0 | 2,986.0 | | |
| Annual Change (thousands) | 98.2 | 118.8 | 72.3 | 44.0 | | |
| % Change | 3.7% | 4.3% | 2.5% | 1.5% | | |
| Unemployment Rate | 5.5% | 3.1% | 3.2 | 3.7% | | |
| Retail Sales (billions) | \$268.3 | \$299.9 | \$302.6 | \$308.8 | | |
| % Change | 17.3% | 11.8% | 0.9% | 2.0% | | |
| Consumer Price Index (CPI) | 281.8 | 304.4 | 320.3 | 331.0 | | |
| • , | 3.5% | 8.0% | 5.2% | 3.3% | | |
| DIA Passengers (millions) | 59.0 | 69.0 | 77.8 | 82.0 | | |
| Single Family (SF) Permits | 30,246 | 24,000 | 20,000 | 20,000 | | |
| Multi-family (MF) Permits | 26,278 | 25,000 | 19,000 | 12,000 | | |
| Oil Production (thousands) barrels | 153,423 | 160,149 | 163,932 | 165,000 | | |

More than 80 million passengers will pass through DIA in 2024. There will be increased travel activity at the Colorado Springs (COS) airport.

The total number of SF and MF 2024 building permits will be less than in 2023. There will be much weaker MF growth. The construction (housing) and real estate markets will remain volatile in 2024. Office vacancies will remain at high levels.

Annual production of crude oil has stabilized at more than 160 million barrels. Fossil fuels will play an integral role in the U.S. and Colorado economies in the future.

Economic Development in Colorado

Economic Development in Colorado

OEDIT Advanced Industries Early-Stage Capital and Retention Grant Program

OEDIT Advanced Industries Program

The Advanced Industries Early-Stage Grant Program was established in 2011 to drive innovation, accelerate commercialization, encourage public-private partnerships, increase access to early-stage capital, and create a solid foundation that increases the competitiveness of advanced industries in Colorado. The industries are listed below:

- advanced manufacturing
- aerospace
- •bioscience
- electronics
- energy and natural resources
- infrastructure engineering
- •technology and information.



OEDIT Program Success Stories

May 18, 2023 – Al Grants awarded to 43
Colorado Startups and Researchers
Across the State

November 16, 2023 – Al Grants to 32 Colorado Startups and Researchers

May 16, 2024 – Al Grants to 42 startups and Researchers

November 2024 – OEDIT announces awards to 22 early stage companies

OEDIT AI Program Details

Applicants may receive up to \$250,000. The amount may be more than \$250,000 if the proposal impacts multiple advanced industries. The program is intended to fill a gap in funding and does not compete against existing programs. Applications are open twice a year.

The upcoming application will open on January 1, 2025. It will remain open through March 2025.

https://oedit.colorado.gov/advancedindustries-early-stage-capitalretention-grant

Source: OEDIT website, cber.co.

Economic Development in Colorado Elevate Quantum

National Quantum Initiative

The National Quantum Initiative Act was signed into law by President Trump to accelerate quantum research and development for the economic and national security of the United States.

The NQI Act provided a coordinated federal effort to advance quantum science and technology and develop the infrastructure (research, education, and workforce development) to support the growth of the technology.

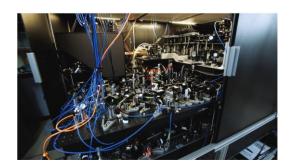
Additional information about NQI can be found at https://www.quantum.gov/

Quantum in the Mountain West

Elevate Quantum website https://www.elevatequantum.org/about/

Workforce Development Plan https://www.colorado.edu/initiative/cubit/sites/default/files/attached-files/2024_quantum_roadmap.pdf

CUbit Quantum Initiative https://www.colorado.edu/initiative/cubit/



Elevate Quantum

Between May 2023 and the summer of 2024, Elevate Quantum navigated a state and federal process that led to its designation by the Economic Development Administration as a Regional Technology and Innovation Hub4. With federal, state, private sector, and non-profit funding and a partnership with New Mexico and Wyoming, the region will soon have access to over \$120 million (plus federal funding) for quantum programs, infrastructure, and capacity building.

There are currently 3,000 quantum employees and at least 30 quantum companies in the region. Through the cooperative effort of Elevate Quantum, there will be more than 50 new quantum companies and at least 10,000 quantum jobs in the Mountain West region.



cber.co Economic Outlook and Trends through November 2024 Colorado and the United States

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For additional information contact cber.co at cber@cber.co, garyhorvath.com, or garyhorvath.com, or garyhorvath.com, or <a href="ma

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ABOUT THE AUTHOR

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 and been a recognized leader in the photonics cluster. He has served on the Board of Directors for the Economic Development Council of Colorado, Northwest Denver Business Partnership, Adams County Regional Economic Partnership, and Broomfield Economic Development Corporation. Horvath has also been the chair of the electronics sub-committee in the Governor's Office of Economic Development and International Trade early stage and proof of concept Advanced Industries grant program, and he served on the 2021 Colorado Legislative Redistricting Commission.