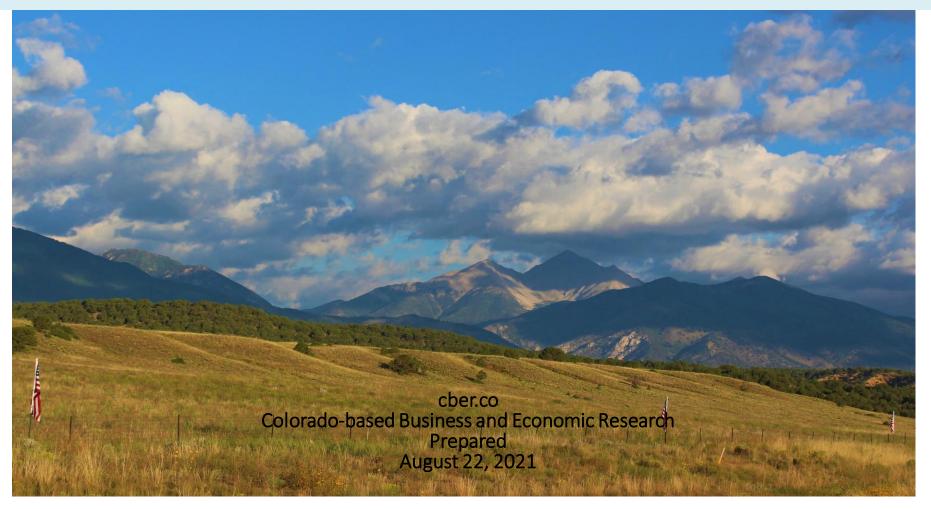
Review of Colorado Economy Through July 2021



Overview

The purpose of this chartbook is to review U.S. and Colorado data that show how both economies are recovering from COVID-19 policies.

In July, U.S. and Colorado job growth exceeded expectations. The federal stimulus programs have been a mixed blessing – they have helped and hindered the recovery from COVID-19 policies.

There are different rates of recovery by industry sectors, occupations, states, and MSA areas.

The value for real U.S. GDP returned to the pre-pandemic level during Q2 2021. Total employment for the U.S. and Colorado will return to pre-pandemic levels in 2022.

Highlights

United States

- Real GDP
- Employment and Unemployment
- Business Applications
- Major Indices
- S&P 500 and WTI Oil Prices

Colorado

- Colorado Employment
- Business Applications
- Select Industry Data
- Summary Colorado

Highlights

Key Points – United States

- During June and July, Colorado added about 900,000 workers each month. Growth continues to be uneven across geographies, industries, and occupations.
- Many businesses are having problems finding qualified workers.
- Some people will not find a job!
- The fast-paced recovery is masking problems that will prevent faster growth. Some industries may not recover. Others may add jobs below pre-pandemic levels.
- Consumer spending will increase at a slower rate in Q3 and Q4.
- The price of oil has been above \$60 per barrel since April 2021.
 It is much higher than anticipated.
- The Federal Reserve says inflation is a short-term annoyance that will not turn into hyperinflation.
- Most major indicators point to slower growth in the months ahead.

Key Points - Colorado

- Through the first seven months of 2021, Colorado added 106,900 jobs. Sectors with higher average wages have recovered more quickly.
- The Colorado Springs and rural counties have experienced the fastest recovery.
- In Colorado, the July inflation rate was 3.5%. The U.S. rate was 5.4%.
- Colorado business applications are increasing at a decelerating rate.
- Oil production has slipped to 2017 levels; however, production increased for three consecutive months beginning in April.
- The number of passengers at DIA continues to increase.
- Through Q2, the number of housing permits is above the level for the same period in 2020 despite rising input costs and supply chain disruptions.

The United States Economy



Real Gross Domestic Product United States

Key Points

The economy will expand at a slower rate in the second half of 2021.

Real GDP will grow by 6.0% in 2021, with increased consumer spending of 8.2%. A more modest rate of growth is expected in 2022.

Total U.S. employment will return to pre-COVID levels in 2022.

U.S. Real GDP Growth

The Conference Board Forecast (August 11, 2021)

Real GDP and Economic Growth in 2021

The Conference Board August 11 forecast calls for real GDP growth of 7.0% in Q3 2021, followed by 2.9% in Q4. Real GDP growth for 2021 will be 6.0%, with an increase in personal consumption of 8.2%. Consumer spending will grow at a slower rate because much of the pent-up demand has been met. The unemployment rate will decline slowly in 2021 and 2022.

Other Economic Factors

The rapid rate of growth in the first half of 2021 has led to increased inflation. Some economists have projected hyperinflation. Likely the disruptions in the supply chain will subside, and inflation will approach the Fed's target rate of 2.0% next year. Continued government spending will support economic growth in 2022 and beyond.

Conference Board US Real GDP Growth Forecast

									•		
	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	2020	2021	2022
Real GDP	- 5.1%	- 31.2%	33.8%	4.5%	6.3%	6.5%	7.0%	2.9%	- 3.4%	6.0%	4.0 %
Personal Consumption	- 6.9%	- 33.4%	41.4%	3.4%	11.4%	11.8%	4.0%	3.9%	- 3.8%	8.2%	
Residential Investment	20.3%	- 30.8%	60.0%	34.4%	13.3%	9.8%	1.0%	3.0%	6.8%	10.9%	
Nonresidential Investment	-8.3%	-30.3%	18.7%	12.5%	12.9%	8.0%	5.4%	6.9%	-5.3%	7.9%	
Total Gov't. Spending	3.7%	3.9%	-2.1%	-0.5%	4.2%	-1.5%	0.3%	1.0%	2.5%	0.7%	
Exports	-16.3%	- 59.9%	54.5%	22.5%	-2.9%	6.0%	4.1%	6.6%	- 13.6%	4.5%	
Unemployment Rate	3.8%	13.1%	8.8%	6.8%	6.2%	5.9%	5.2%	4.9%	8.1%	5.6%	
PCE Inflation (%Y/Y)	1.7%	0.6%	1.2%	1.2%	1.8%	3.8%	4.1%	4.3%	1.2%	2.8%	
Core PCE Inflation (%Y/Y)	1.8%	1.0%	1.5%	1.4%	1.7%	3.4%	3.6%	3.9%	1.4%	3.3%	

Source: The Conference Board and cber.co.

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

Employment and Unemployment United States and Colorado

Key Points

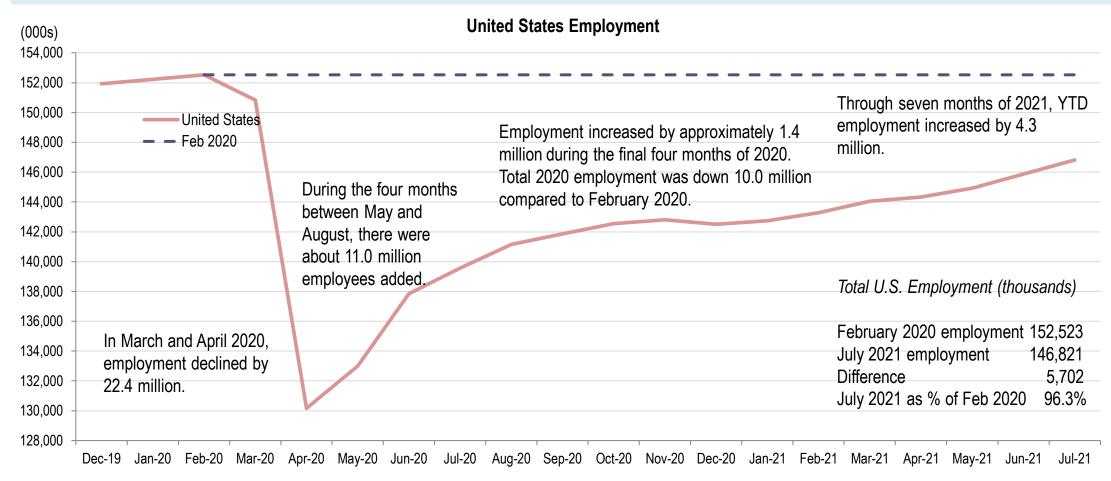
U.S. employment has increased by 4.3 million through the first seven months of 2021.

Employment for women continues to improve.

The Colorado unemployment rate is greater than the U.S. rate.

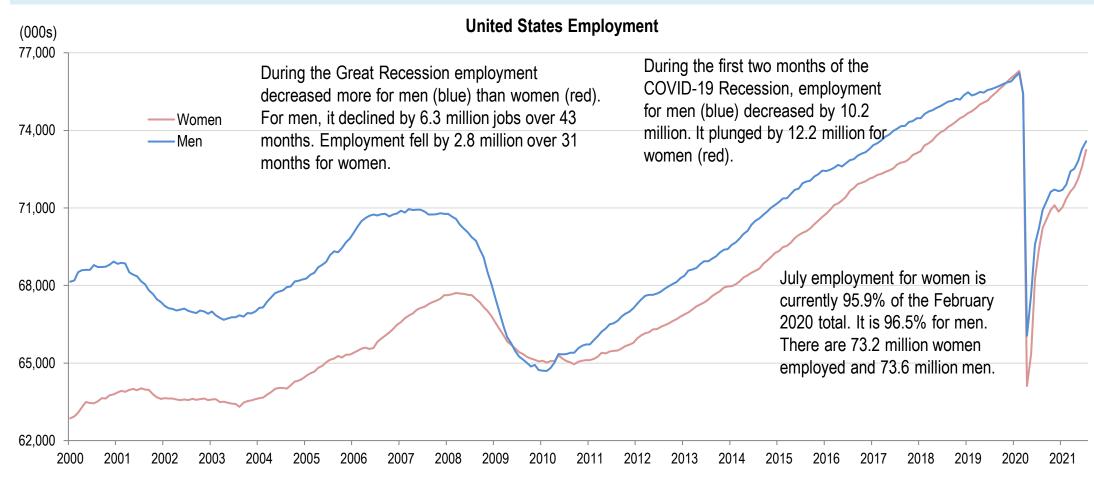
The number of job openings is at record levels.

Change in Employment United States



Source: Bureau of Labor Statistics, cber.co.

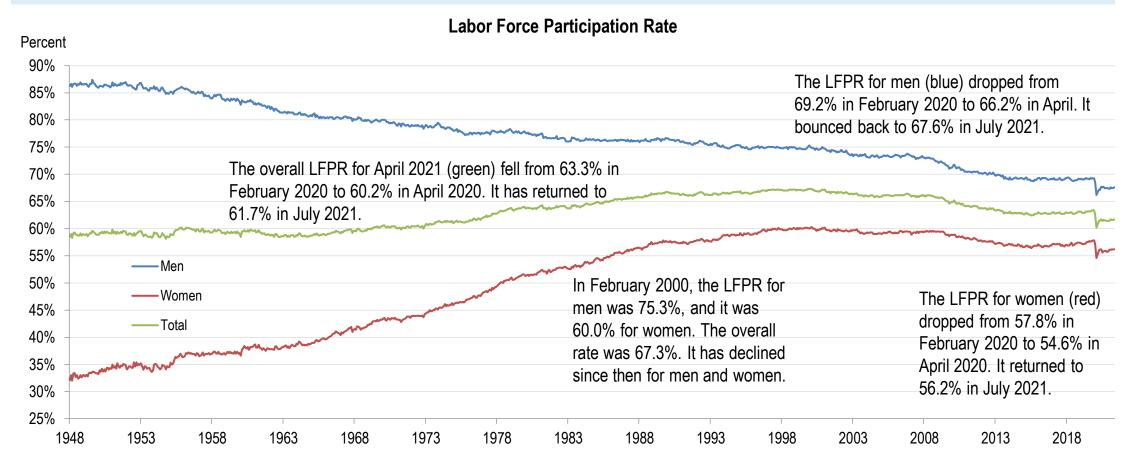
Change in Employment (Men and Women) United States



Source: Bureau of Labor Statistics, cber.co.

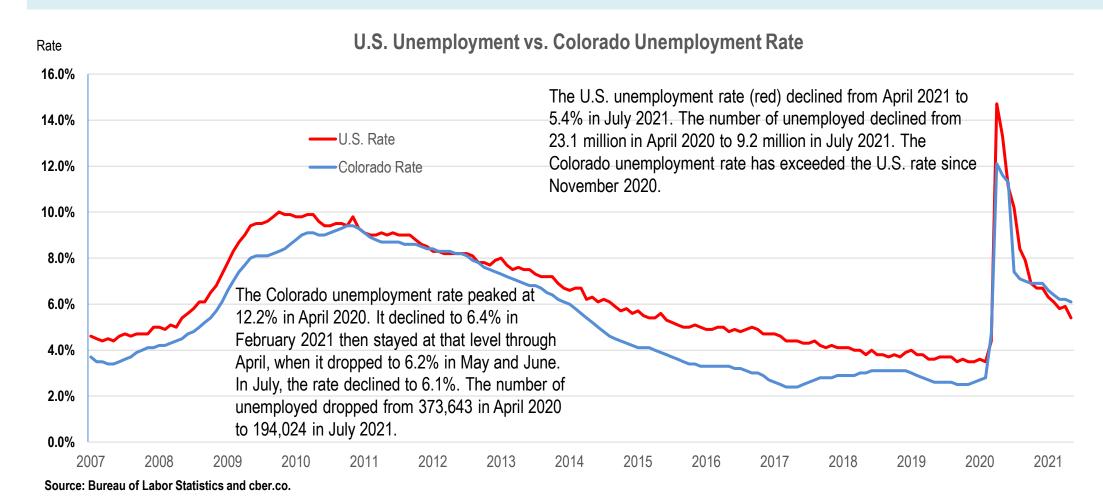
Labor Force Participation Rate (LFPR)

United States Total, Men, and Women



Source: FRED, BLS, cber.co.

U.S. and Colorado Unemployment Rate



Job Openings and Separations United States

2010

U.S. Job Openings and Separations (000s)16,500 In May 2020, the number of job openings exceeded 15,000 the number of separations by 829,000. By June 2021, the number of job openings was 4.4 million greater 13,500 Between April 2014 and March 2020, the unemployment than the separations. In June 2021, there were over rate was low, and openings (blue) exceeded separations 10.0 million job openings. 12,000 (red). In March and April, there were 28.1 million 10,500 separations (total). Many businesses cannot find qualified workers 9,000 despite an unemployment rate of 5.4% and over 9.2 million unemployed workers. 7,500 6,000 **Openings** 4,500 Separations 3,000 1,500

2014

2016

2018

2012

Source: JOLTS, BLS, cber.co.

2006

2020

2008

Business Applications

United States

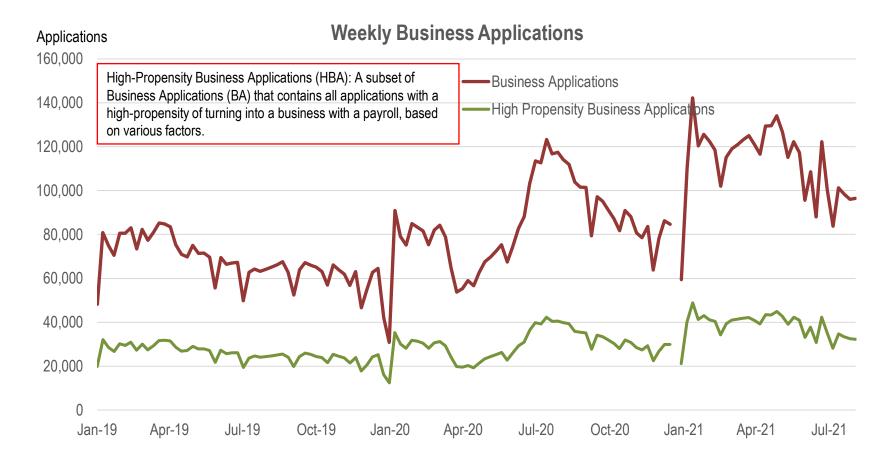
Key Points

U.S. business and high propensity applications for 2020 increased at a faster rate than in 2019.

Both U.S. applications and high propensity applications increased at a greater rate during the first 32 weeks of 2021 than the same period in 2020.

U.S. Weekly Business Applications

Total and High Propensity 2019 through 2021



Source: FRED, U.S. Census Bureau, NSA, cber.co.

Business Applications

There were 4.3 million business applications (burgundy) in 2020, a 22.4% increase over 2019. The number of applications through the first 32 weeks of 2021 is 38.9% greater than the same period in 2020.

High Propensity Business Applications

There were 1.3 million high propensity applications (green) in 2020, a 14.9% increase over 2019. The number of high propensity applications through the first 32 weeks of 2021 is 32.5% greater than the same period in 2020.

Major Indices

NAHB, Consumer Sentiment Index, NFIB Small Business Optimism Index, and Manufacturing and Services PMI Indices

Key Points

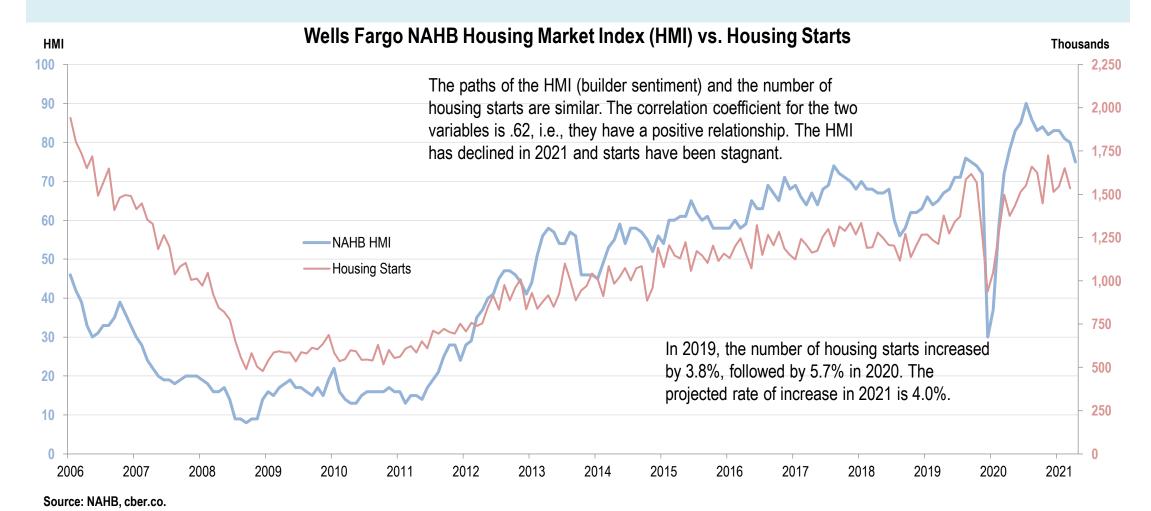
The housing market was strong in 2020. Growth has been flat, and optimism has slipped in 2021.

The Michigan Consumer Sentiment Index fell in July. Consumers are disappointed with the performance of the economy.

The NFIB Small Business Optimism Index declined in July because of the disruption of supply chains.

The indices for manufacturing and services have been in expansionary territory for 14 consecutive months.

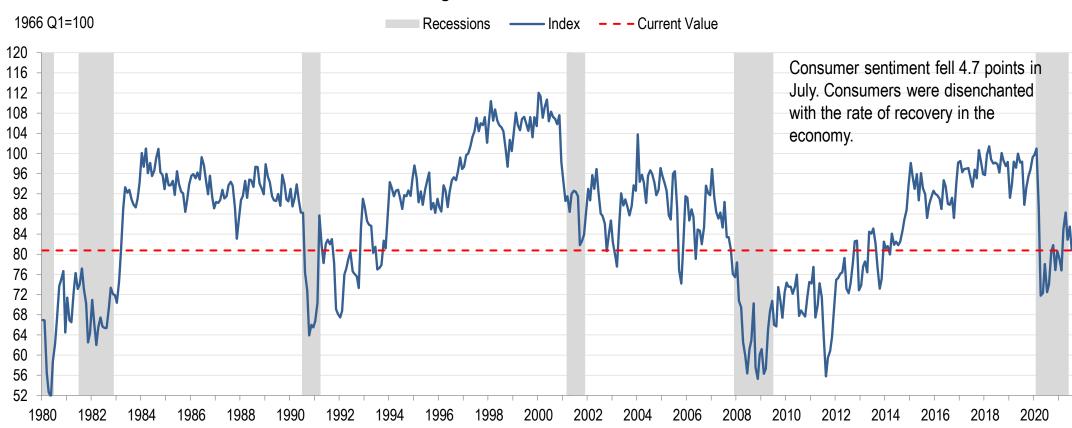
Wells Fargo NAHB HMI vs. Housing Starts



Consumer Sentiment Index

University of Michigan

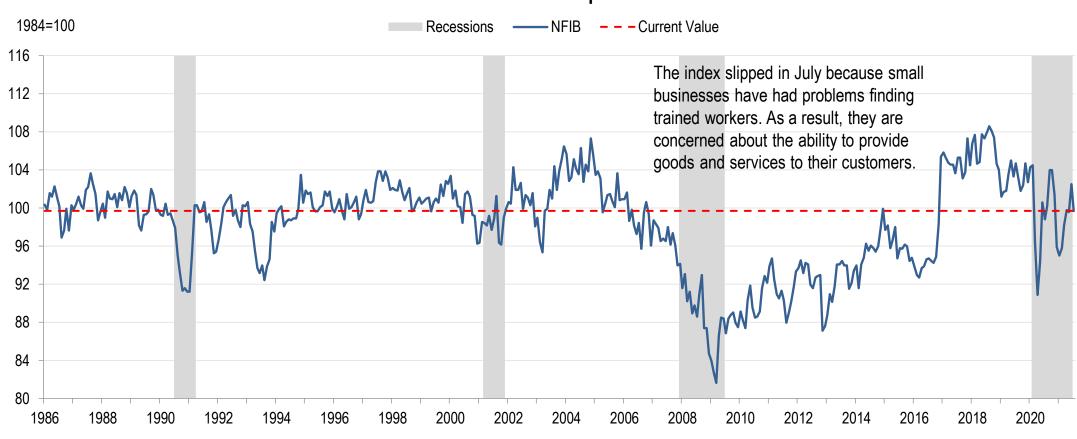
Michigan Consumer Sentiment Index



Source: University of Michigan, cber.co.

NFIB Small Business Optimism Index United States

NFIB Small Business Optimism Index

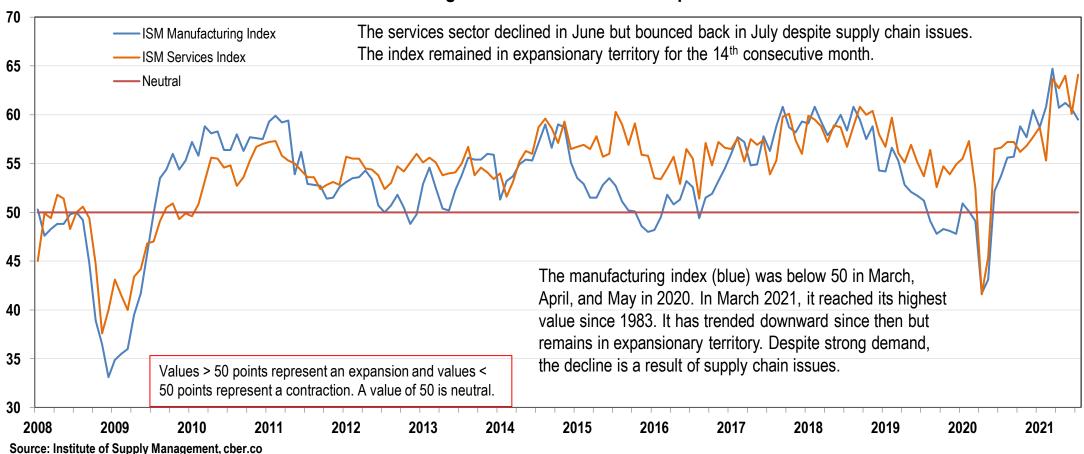


Source: NFIB, cber.co.

ISM PMI Composite Indices

Manufacturing vs. Services

ISM Manufacturing PMI vs. Services PMI Composite Indices



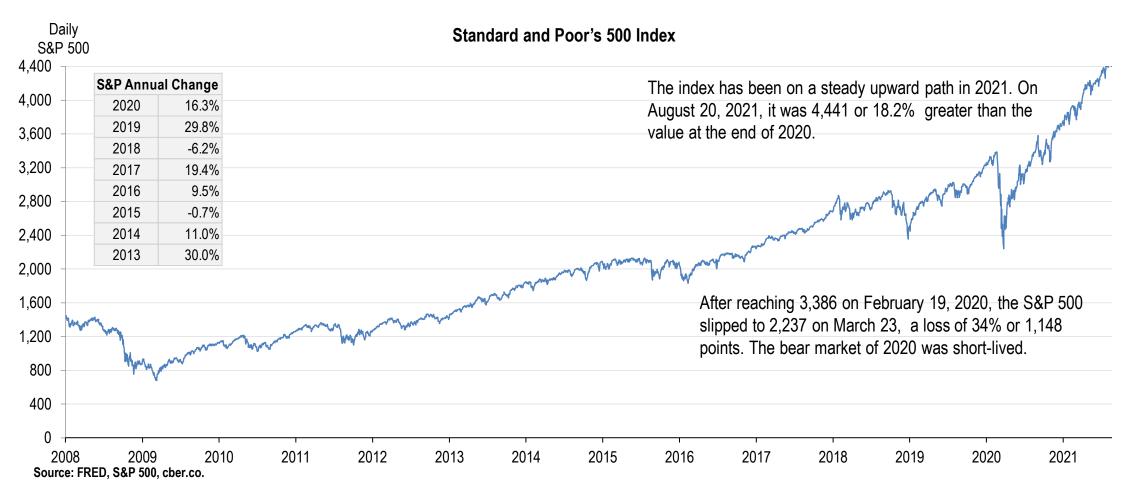
S&P 500 Index and WTI Crude Oil Prices

Key Points

The S&P Index posted double-digit gains in 2020. Strong growth has continued in 2021.

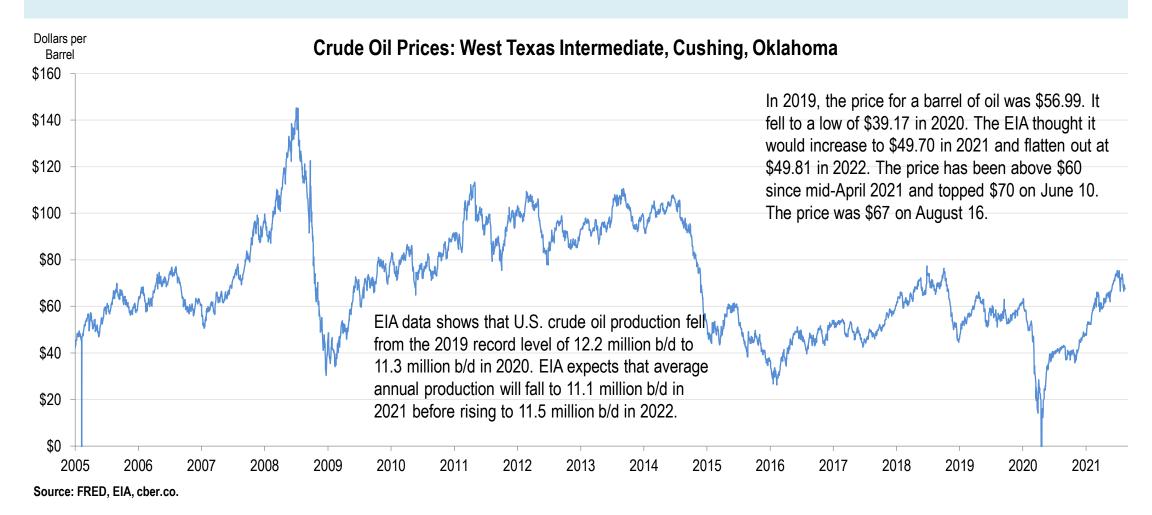
In 2020 the price for a barrel of oil declined because of lower demand. In 2021 demand increased, and the price has been above \$60 per barrel since mid-April.

Standard and Poor's 500 Index

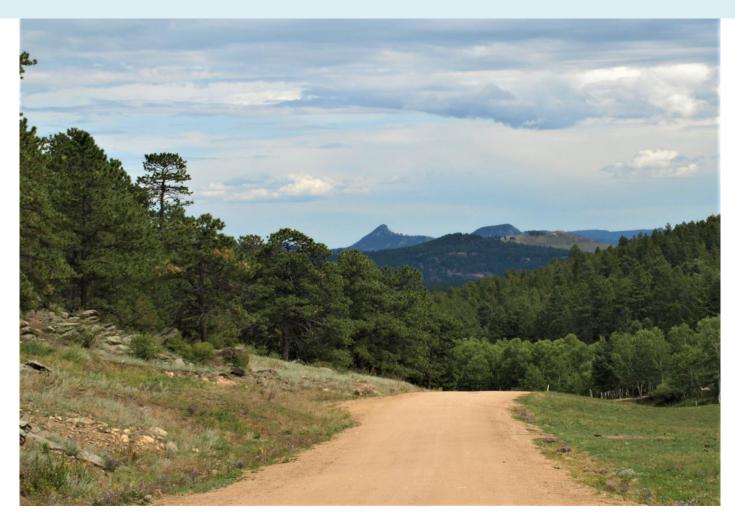


Crude Oil Prices

West Texas Intermediate



Colorado



Colorado Employment

Change in Total Employment, Labor Force Participation Rate (LFPR), MSA Employment, and Summary of Employment

Key Points

The July 2021 seasonally adjusted employment data for Colorado was 85,400 less than February 2020. The July 2021 value was 97.0% of the February 2020 value.

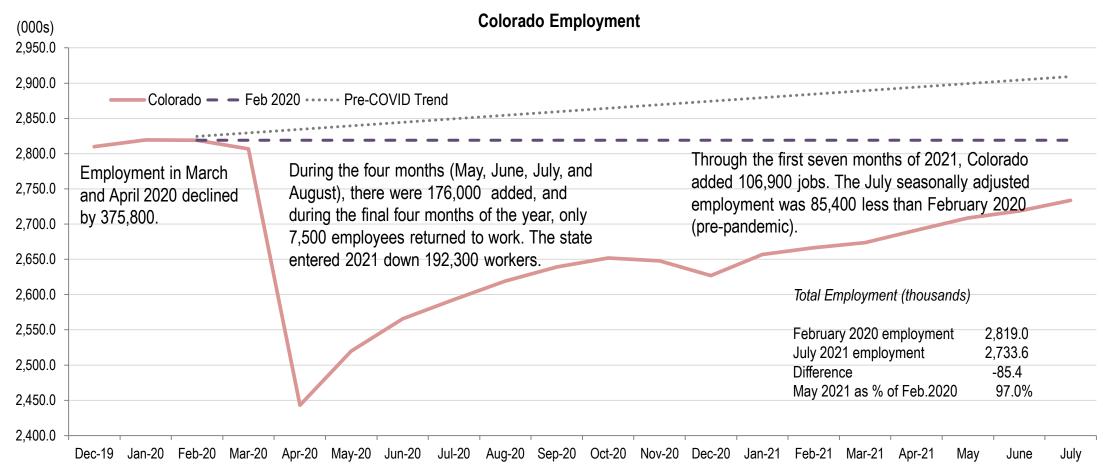
Only a handful of sectors had a greater level of employment in July 2021 than the level in February 2020.

The most significant shortfalls are in leisure and hospitality and state and local government employment.

The LFPR has declined for three consecutive months.

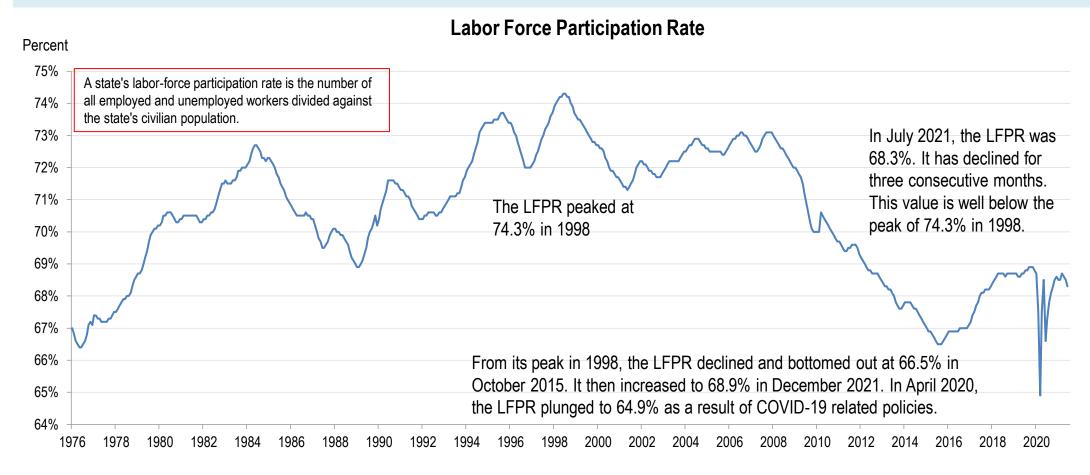
Colorado Springs is recovering faster than other Colorado MSAs.

Change in Employment Colorado



Source: Bureau of Labor Statistics, cber.co.

Labor Force Participation Rate Colorado



Source: BLS, cber.co.

Change in Employment by Area

MSAs and non-MSA

Change in Employment by MSA/Non – MSA
July 2021 vs. February 2020

Odly 2021 V3. I Colludity 2020							
	Employment (000s)	July 2021 vs. February	July 2021 vs.				
Area	February 2020	2020 (000s)	February 2020 %				
Colorado Springs	304.6	-3.9	98.7%				
Non-MSA	335.8	-8.3	97.5%				
Denver	1557.5	-43.1	97.2%				
Pueblo	65.1	-2.1	96.8%				
Grand Junction	65.0	-2.2	96.6%				
Fort Collins	176.4	-8.3	95.3%				
Boulder	201.1	-10.2	94.9%				
Greeley	113.5	-7.3	93.5%				
Colorado	2,819.0	-85.4	97.0%				

Source: BLS, cber.co

Note: The table is sorted in descending order by the far-right column/

Over the past year, the Colorado labor market has had an uneven recovery across regions, industries, and occupations.

As of July, the job market recoveries in Colorado Springs, the non-MSA areas, and Denver have occurred faster than in other areas. All are above the state average.

Employment in Greeley, Boulder, and Fort Collins is recovering at the slowest rates.

Overall, Colorado employment for July 2021 is 97.0% of the employment for February 2020.

Source: BLS, cber.co.

Summary of Employment Recovery

United States and Colorado

Employment through July 2021 was 85,400 below the value for February 2020. Most of the shortfall is in the tourism and state and local government sectors. The sectors in the two columns on the right may recover in late 2022 or 2023.

Recovered or Least Losses

- Retail trade
- Management of companies
- Transportation, warehousing, and utilities
- Professional, scientific, and technical services
- Federal government

Colorado +15,700.

These sectors account for about 26% of total employment.

U.S. -273.000

These sectors account for about 25% of total employment.

Short-Term Recovery (2021)

- Wholesale trade
- Financial activities
- Healthcare

Colorado -7.200.

These sectors account for about 22% of state employment.

U.S. -980,200 million. They account for about 24% of total U.S. employment.

Mid-Term Recovery (2022)

- Manufacturing
- Construction
- Administrative services
- Information
- Other services

Colorado -33,700.

These sectors account for about 24% of state employment.

U.S. -1.644,500. About 25% of all employment is in these sectors.

Long-Term Recovery (2022+)

- State government
- Local government
- Arts and entertainment
- Accommodations and food
- Extractive industries
- Educational services (private)

Colorado -60,200.

These sectors account for about 28% of total state employment.

U.S. -2,803,900 million. About 26% of U.S. jobs are in these sectors.

Source: BLS, cber.co.

Business Applications Colorado

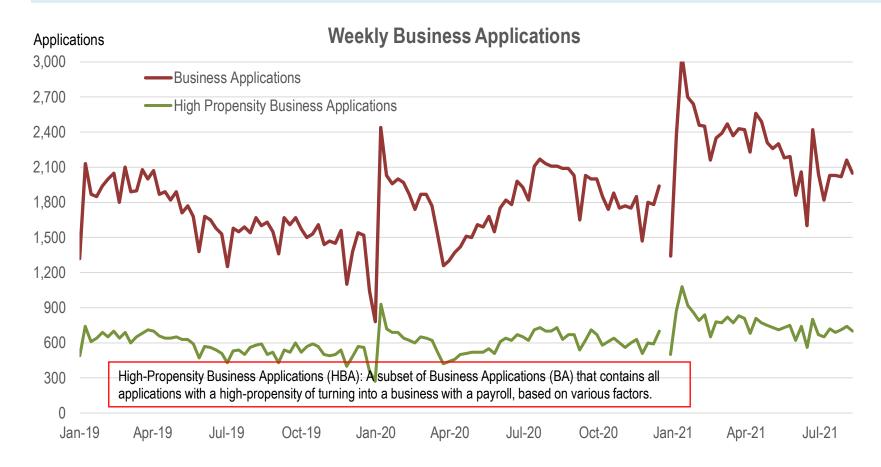
Key Points

Colorado business applications and high propensity applications increased faster during the first 32 weeks of 2021 than during the same period in 2020.

U.S. applications increased more rapidly than Colorado applications, both in 2020 and the first 32 weeks of 2021.

Colorado Weekly Business Applications

Total and High Propensity 2019 through 2021



Source: FRED, U.S. Census Bureau, NSA, cber.co.

Business Applications

There were 91,790 business applications (burgundy) in 2020, a 6.2% increase over 2019. The number of applications through the first 32 weeks of 2021 is 27.3% greater than the same period in 2020.

High Propensity Business Applications

There were 31,050 high propensity applications (green) in 2020, a 4.3% increase over 2019. The number of high propensity applications through the first 32 weeks of 2021 is 24.6% greater than the same period in 2020.

Select Industry Data

Retail Sales, Inflation, DIA Passengers, Building Permits, and Oil Production

Key Points

Retail sales have rebounded after a sluggish start.

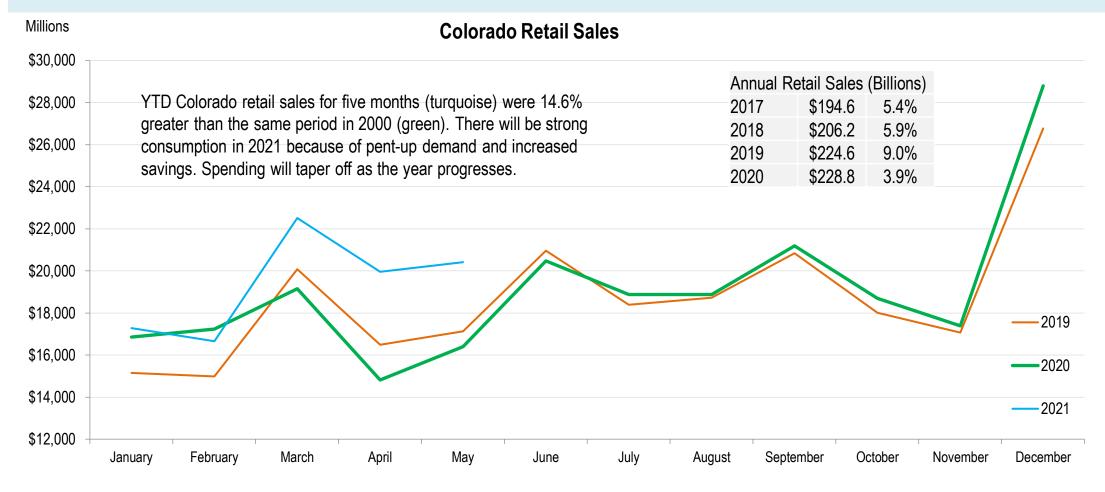
Inflation has risen rapidly in recent months.

The number of passengers at DIA continues to increase.

The total number of permits issued for single-family and multifamily housing through Q2 2021 is greater than the same period in 2020.

The production of oil in Colorado has declined because of state regulations and reduced global demand.

Colorado Retail Sales Monthly



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

Inflation

Last fall, some of the country's top economists said that pigs would fly before inflation rose significantly. They have recently indicated the flight time of the pigs will be short-lived.

The following are examples of the YOY increase in inflation in Colorado for July 2021.

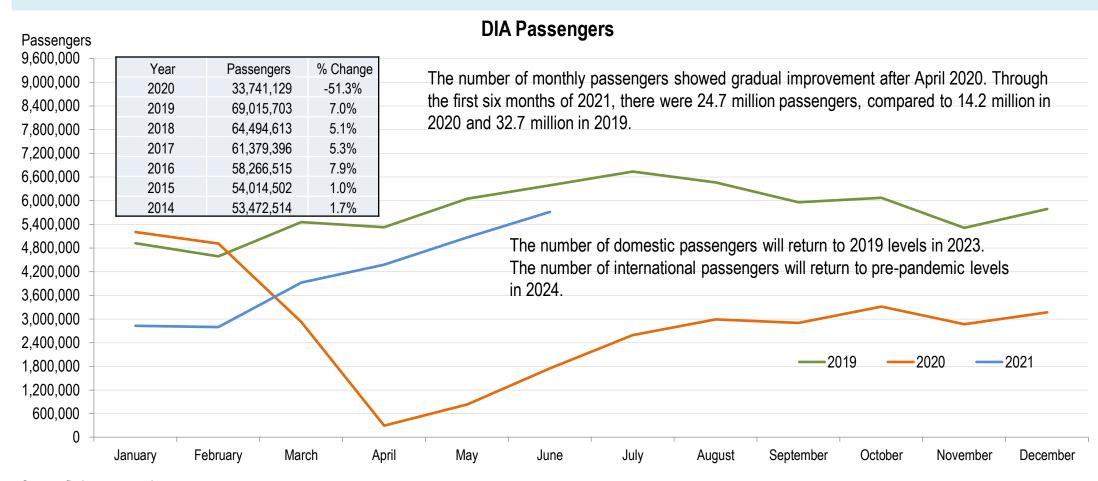
Recreation	4.0%	Household Energy	6.5%
Medical	3.8%	Food and Beverage	2.6%
Housing	1.5%	Household Furnishing	3.4%
Food at home	4.0%	Transportation	15.6%
School fees/childcare	0.6%	Apparel	15.0%
Electricity	2.2%	Used Vehicles	41.7%
Alcoholic Beverages	3.3%	Motor Fuel	37.7%

The overall July CPI for Colorado was 3.5% and it was 5.4% of the U.S.



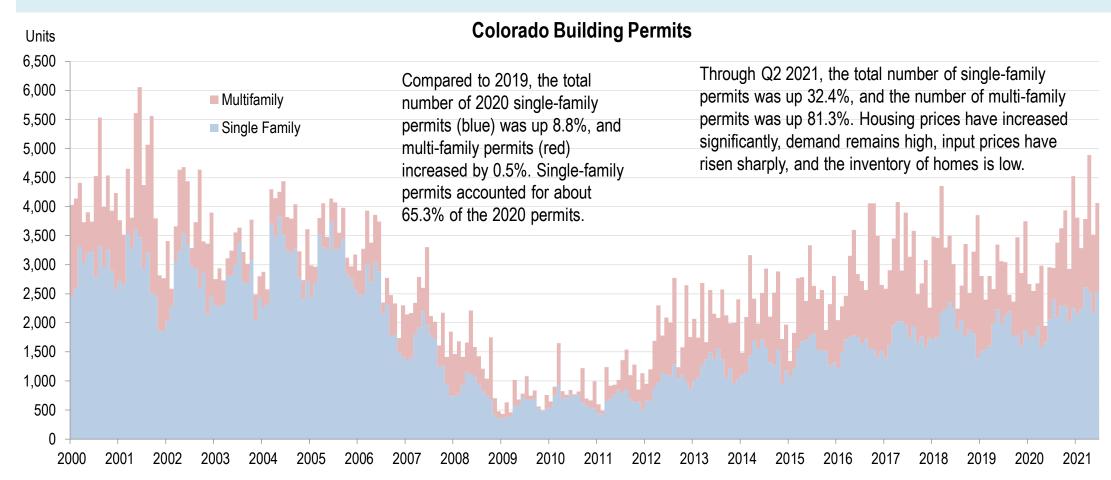


Denver International Airport Passengers Monthly



Source: flydenver.com, cber.co.

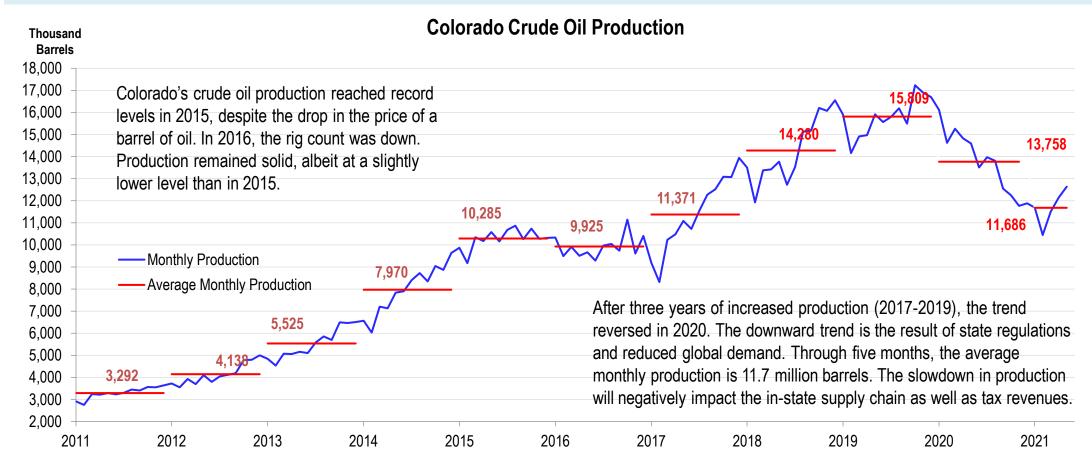
Colorado Residential Building Permits Units



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

Colorado Field Production of Crude Oil

2011 to 2021 (Thousand Barrels)



Source: EIA, cber.co.

Summary

Summary of Colorado Forecast

Colorado's real GDP growth rate will be slightly higher than the U.S. rate in 2021 and 2022.

Employment will return to its 2019 level in 2022. It has been stronger than expected in Q2 2021 but will not maintain the current pace in the second half of the year.

Retail sales have rebounded in 2021 as a result of pent-up demand.

In 2021 and 2022, Colorado inflation will be greater than in recent years.

Colorado Economic Forecast						
	2019	2020	2021	2022		
Real GDP Value (billions)	\$356.28	\$351.07	\$379.00	\$398.00		
% Change Real GDP	3.9%	-1.5%	8.0%	5.0%		
CES Employment (thousands)	2,790.1	2,644.6	2,728.6	2,794.6		
Annual Change (thousands)	62.8	(145.5)	134.0	56.0		
% Change	2.3%	-5.2%	5.1%	2.0%		
Unemployment Rate	2.7%	7.3%	6.1%	5.1%		
Retail Sales (billions)	\$224.6	\$227.0	\$252.0	\$262.0		
% Change	9.0%	1.1%	11.0%	4.0%		
Consumer Price Index	1.9%	2.0%	3.2%	2.6%		
DIA Passengers (millions)	69.0	33.0	52.0	61.0		
Single Family Permits	24,756	26,489	28,900	27,350		
Multi-family Permits	13,877	13,738	14,950	14,200		
Oil Production (thousands) barrels	189,707	172,000	155,000	165,000		

In 2020, the number of passengers through DIA was about half of the 2019 total. Domestic flights will return to their 2019 level in 2023. International flights will return to their pre-pandemic level in 2024.

There was an increase in the number of building permits issued in 2020. There will be more permits issued in 2021 as demand for new homes remains high. Also, there is a need for affordable housing in many metro and mountain communities.

State regulations and reduced demand caused a decline in oil production in 2020 and 2021. Oil production will increase in 2022.

cber.co Review of Colorado Economy Through July 2021

This analysis is for informational purposes only. Any opinions or interpretations of data are those of the presenter. As such, they do not represent the viewpoints of any group or particular organization.

For further information contact Colorado-based Business and Economic Research (cber.co). ©Copyright 2020 by cber.co.

Data contained in the tables, charts, and text of this presentation is from sources in the public domain. With appropriate credit, it may be reproduced and shared without permission. Please reference, "Colorado-based Business and Economic Research" (cber.co). Additional presentations are available at https://cber.co.

For additional information contact cber.co at cber.co or gary@garyhorvath.com.

ACKNOWLEDGEMENTS

A special thank you to Ana and Allyson Horvath for their review and comments on this publication.

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. 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.

Horvath has also served on the Board of Directors for the Economic Development Council of Colorado, Northwest Denver Business Partnership, Adams County Economic Development, and Broomfield Economic Development Corporation. Horvath has also been the chair of the photonics/electronics committee in the Governor's Office of Economic Development and International Trade early stage and proof of concept grant program.