

2025 ECONOMIC OUTLOOK SEMINAR • CELEBRATING 50 YEARS OF INSIGHT

# MONTANA'S AI FUTURE

Rethinking How to Staff and Run Your Business



presented by



**BUREAU OF BUSINESS AND  
ECONOMIC RESEARCH**  
UNIVERSITY OF MONTANA

**NorthWestern**  
Energy

## ABOUT THE BUREAU OF BUSINESS AND ECONOMIC RESEARCH

The Bureau of Business and Economic Research is the main research unit of the College of Business at the University of Montana. Established in 1948, its mission is to inform Montanans about the economic climate in which they live and work. In addition to conducting its economic outlook seminar across the state at the beginning of each year, BBER researchers are engaged in a wide range of applied research projects that deal with different aspects of the state economy, including survey research, economic analysis, health care research, forecasting, wood product research and energy research.

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## DATES AND LOCATIONS

### **Helena**

January 28  
Helena Great Northern Hotel

### **Great Falls**

January 29  
Hilton Garden Inn

### **Missoula**

January 31  
Hilton Garden Inn

### **Billings**

February 4  
Big Horn Resort

### **Bozeman**

February 5  
The Commons

### **Butte**

February 6  
NorthWestern General Office

### **Kalispell**

February 11  
Wachholz College Center

### **Sidney**

March 11  
MSU Richland County Extension

### **Miles City**

March 12  
Sleep Inn & Suites

# WELCOME TO THE 50<sup>TH</sup> ECONOMIC OUTLOOK SEMINAR

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Brian Bird, CEO, NorthWestern Energy



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# MONTANA'S AI FUTURE

## Rethinking How to Staff and Run Your Business

by Patrick M. Barkey  
Director of Research

**50 YEARS Montana Economic Outlook Seminar**



### BBER Economic Outlook Seminars 1976 - 2025

- 50 ..... Years
- 450 ..... Programs
- 4,050 ..... Presentations
- 60,750 ..... Graphs and Charts
- 118,750 ..... Miles Traveled

### The Evolution of Artificial Intelligence

- Pre-Chat GPT (November 2022) advances were less noticed
- Ability to write text, compose music, and create digital art, has captured headlines and users
- Speed of development has been torrid
- Deep learning models process extremely large and varied sets of unstructured data and perform more than one task.
- Is AI a “second industrial revolution?”



## AI and Productivity

- AlphaZero was set up in late 2017. Almost immediately, it began training by playing hundreds of millions of games of chess against itself. After about four hours, it was the best chess-playing entity that ever had been created.

## AI and Productivity

- Bahala says each of his calls at Concentrix is monitored by an artificial intelligence (AI) program that checks his performance. He says his volume of calls has increased under the AI's watch.

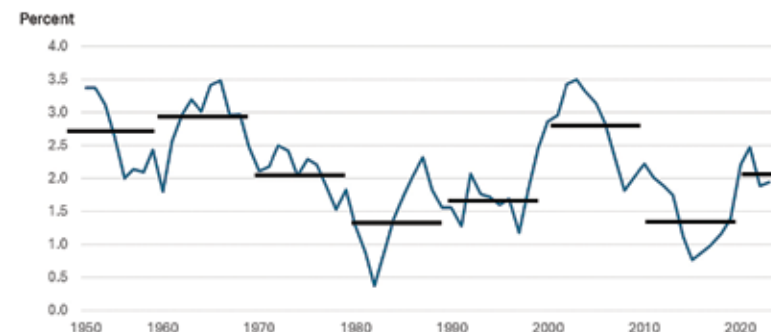
At his previous call center job, without an AI program, he answered at most 30 calls per eight-hour shift. Now, he gets through that many before lunchtime. He gets help from an AI “co-pilot,” an assistant that pulls up caller information and makes suggestions in real time

## AI and Productivity

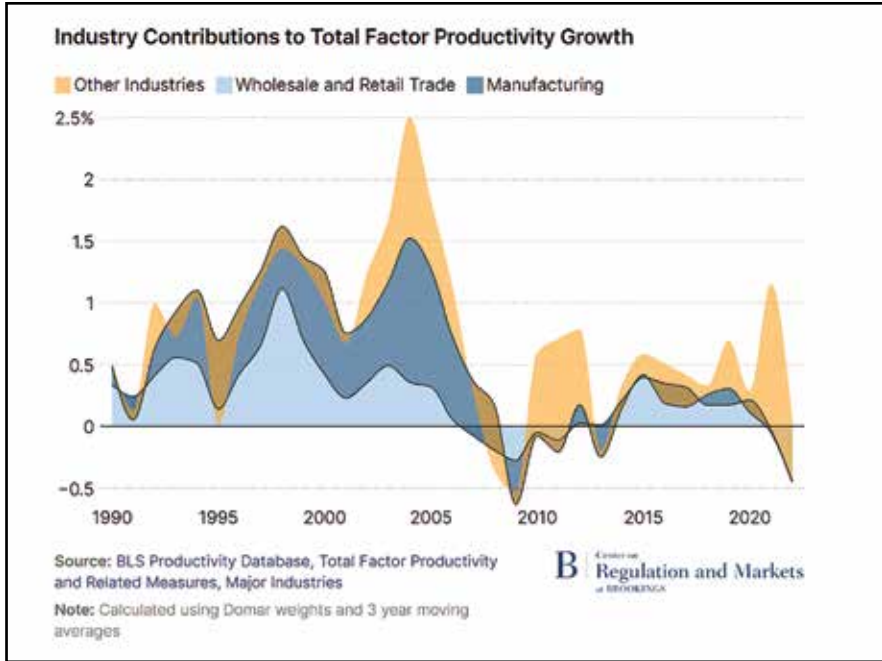
- Peng et al. (2023) hired programmers on Upwork to write an HTTP server in Javascript; half of the programmers got access to CoPilot (this was before CoPilot was widely available) half did not.

Conditioning on completing the task, the average completion time from the treated group is 71.17 minutes and 160.89 minutes for the control group. This represents a 55.8% reduction in completion time.

## U.S. Productivity Growth Since World War II, 1950-2023



Percentage change in output per hour, all workers, U.S.  
Source: Federal Reserve Bank of St. Louis (FRED)



# MONTANA'S AI FUTURE

## Rethinking How to Staff and Run Your Business

by Patrick M. Barkey  
 Director of Research

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**50 YEARS Montana Economic Outlook Seminar**

## The Economic Outlook for the U.S. and Montana Economies - 2025

Jeffrey A. Michael, Director  
Bureau of Business and Economic Research  
University of Montana



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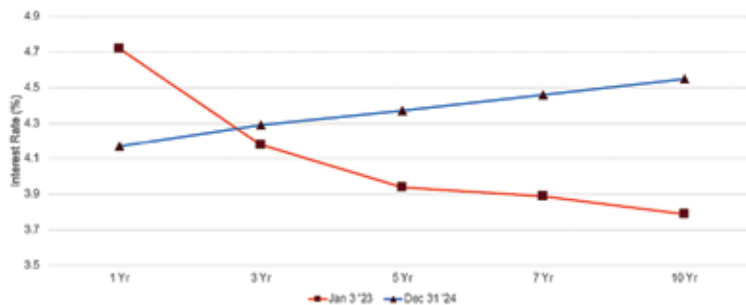
## U.S. Outlook: Soft Landing Meets Policy Uncertainty

- Growth Beats Forecasts.
- Inflation is Down, but Not Defeated
- Policy Uncertainty: Tariffs, Immigration, Tax Cuts.
- Fed signals pause to rate cuts in 2025.
- Global Risks



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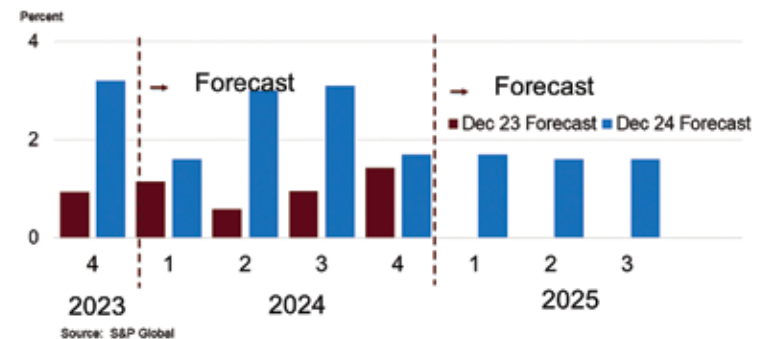
### Yield Curve Inverted in 2022: Wrongly Predicting a Recession in 2023 or 2024



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### U.S. Growth Beat The Forecast in 2023 & 2024

Percent Growth, Real Gross Domestic Product, 2023Q4 – 2025Q3

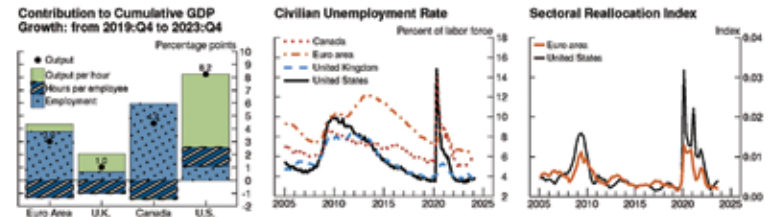


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## Recent US GDP Growth

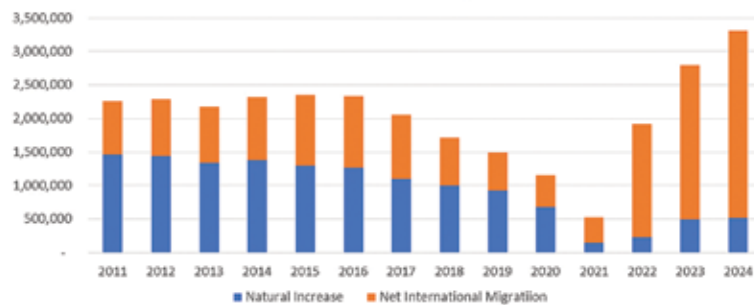
- Unsnarling of pandemic disrupted supply-chains
- More dynamic labor and business adjustment
- Technology-driven productivity? AI?
- Increased Population Growth

## U.S. Economy Has Been More Dynamic Than Other Developed Nations: Labor Market Flexibility, New Businesses, Productivity

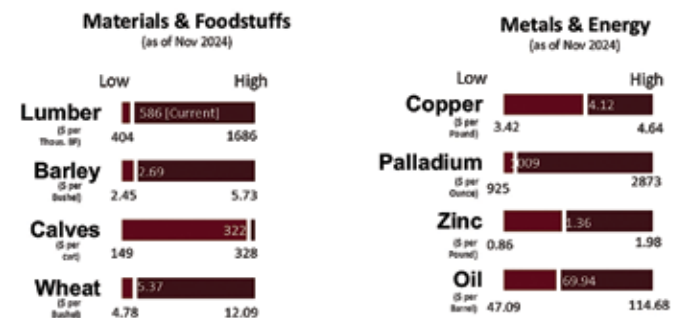


Source: Federal Reserve, "Why US GDP is Recovering Faster Than Other Advanced Economies"

## U.S. Population Growth Surge Driven By International Migration



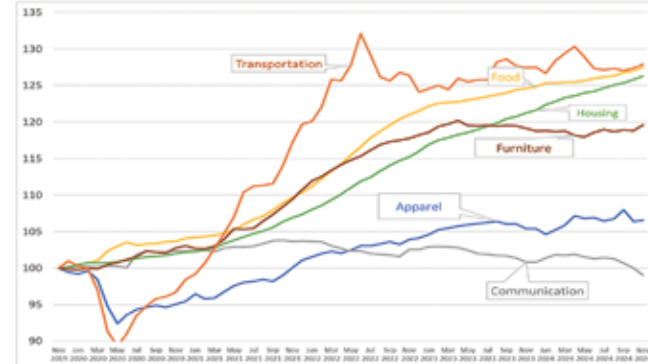
## Commodity Prices Have Softened Mostly



## Inflation has decreased...for now (year ago % change)



## 5-year price change in selected goods and services

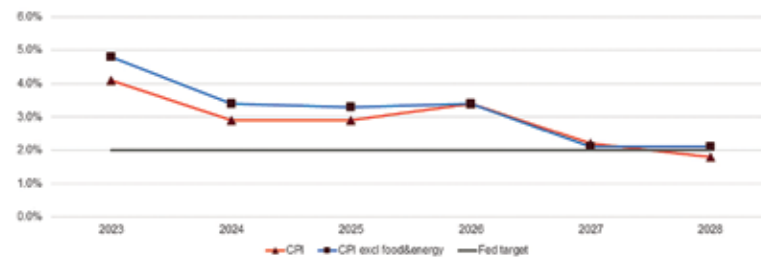


## Trump Policy Agenda & Economic Outlook

- Tariffs
- Deportations & Reduced Immigration
- Tax Cuts
- Less Regulation
- Spending Cuts
- Federal Reserve

## Inflation Forecast

Trump policy projected to increase inflation by 1 percentage point in 2025&2026.

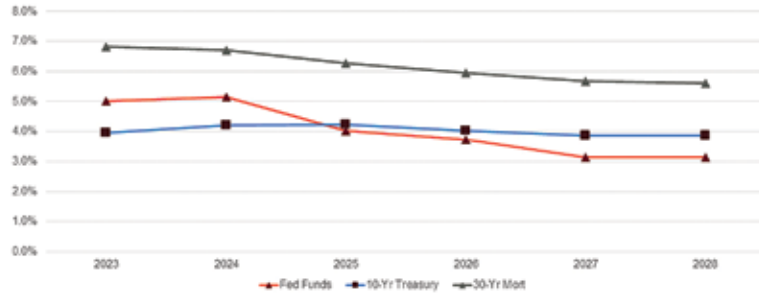


Source: S&P Global



## Interest Rate Forecast

Fed expected to pause rate cuts in 2025 due to persistent inflation. Interest rates expected to be 0.5-1.0% higher than earlier forecast.



Source: S&P Global



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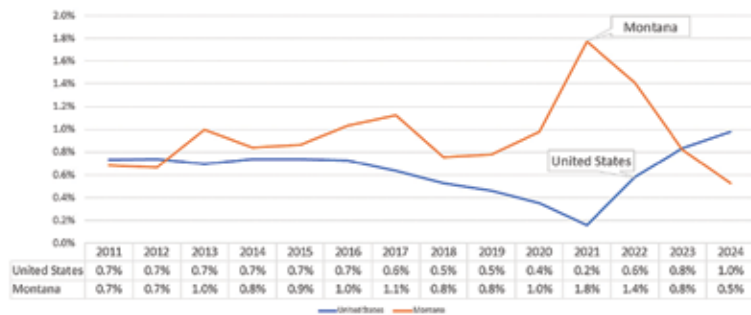
## The Montana Economy in 2024

- NAR ranks Montana as the “least affordable” state
  - Based on current home listings compared to local incomes
- Population growth rate is lowest in two decades
  - In-migration has fallen 75% from 2021 peak
- Job growth remains very strong – top 5 state
  - Strong visitation year drives gains in hospitality & retail
- Construction maintains strong earnings growth
  - Other pandemic boom sectors moderate
- A challenging year for resource-based industries
  - Major facility closures in mining and wood products



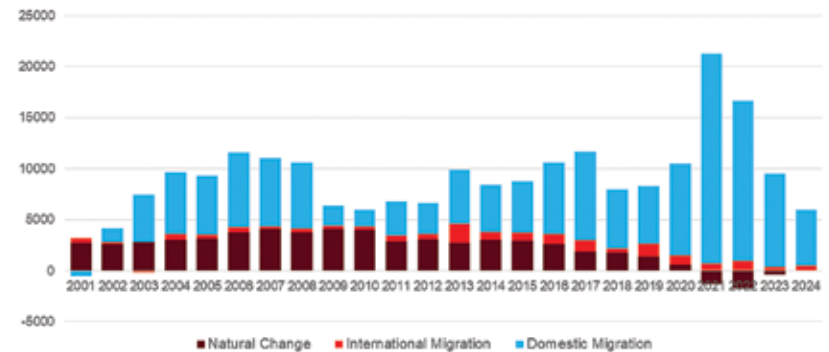
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## Montana and US Population Growth



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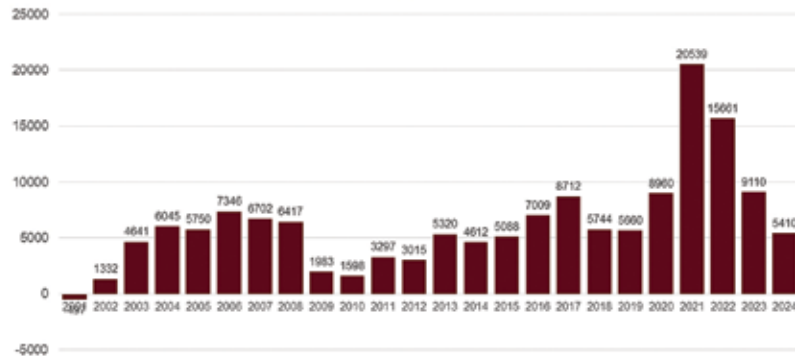
## Montana Population Change by Components



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## Net Domestic Migration to Montana



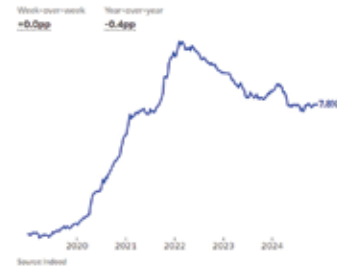
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## Job postings mentioning remote work or AI

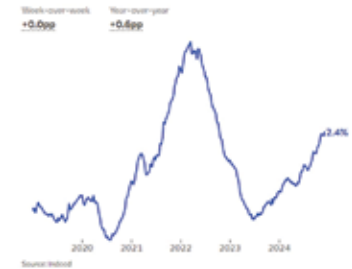
### Remote work

Share (%) of job postings mentioning remote/hybrid terms  
Up to and including November 30, 2024

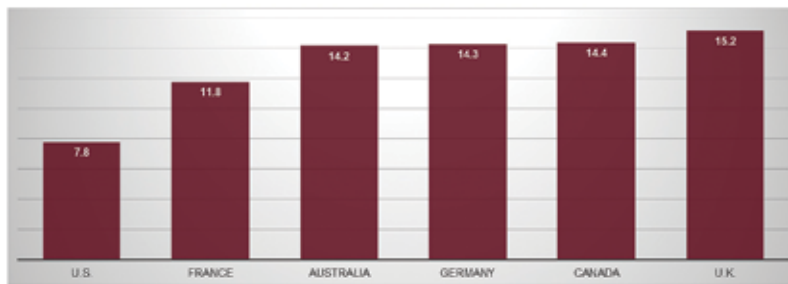


### Artificial Intelligence (AI)

Share (%) of job postings mentioning AI terms  
Up to and including November 30, 2024



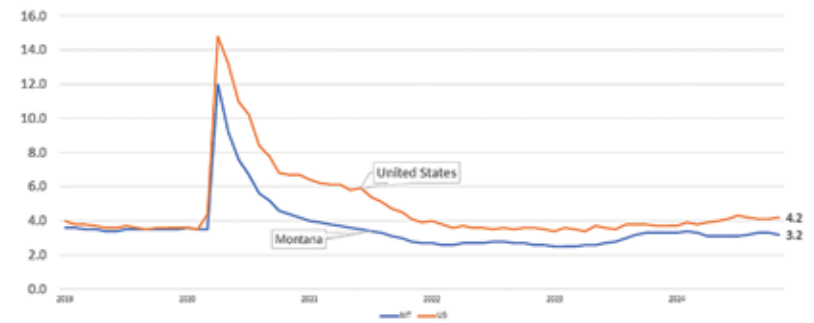
## Job Postings Remote/Hybrid Work: U.S. only nation tracked by Indeed with decline



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## Unemployment Rate (%)



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## Job Growth And Wages

(June 2023 – June 2024)  
Source: BLS OCEW

Overall Top 5 in the U.S. for Job Growth  
(1.6% MT vs. 0.8% US)

But Bottom Tier in Average Wage Growth  
(3.8% MT vs. 4.4% US, not inflation adjusted)

Job Growth in 2024 Was Skewed Towards Lower-Paying Service Sectors

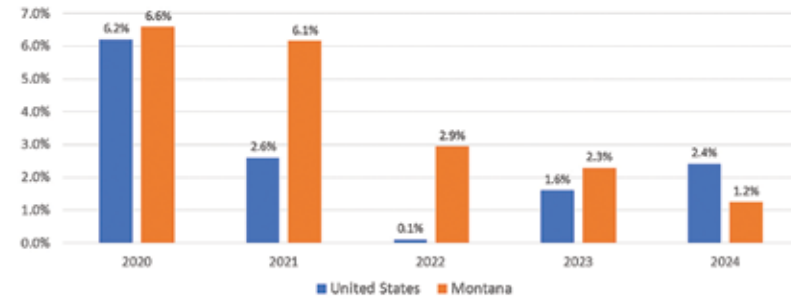
| Industry                             | Employment Change | % Change | Avg Weekly Wage |
|--------------------------------------|-------------------|----------|-----------------|
| Trade, Transportation, and Utilities | 1,690             | 1.7%     | \$1,003         |
| Leisure and Hospitality              | 1,359             | 1.7%     | \$511           |
| Education and Health Services        | 1,351             | 1.7%     | \$1,198         |
| Construction                         | 1,064             | 2.8%     | \$1,292         |
| Government                           | 1,064             | 1.2%     | \$1,265         |
| Professional and Business Services   | 1,016             | 1.9%     | \$1,430         |
| Other Services                       | 800               | 4.2%     | \$812           |
| Goods-Producing                      | 373               | 0.5%     | \$1,290         |
| Manufacturing                        | -27               | -0.1%    | \$1,253         |
| Information                          | -148              | -2.6%    | \$1,593         |
| Financial Activities                 | -431              | -1.8%    | \$1,449         |
| Natural Resources and Mining         | -684              | -4.7%    | \$1,348         |



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## Total Real Personal Income Growth

(Q3 to Q3 change, source BEA)



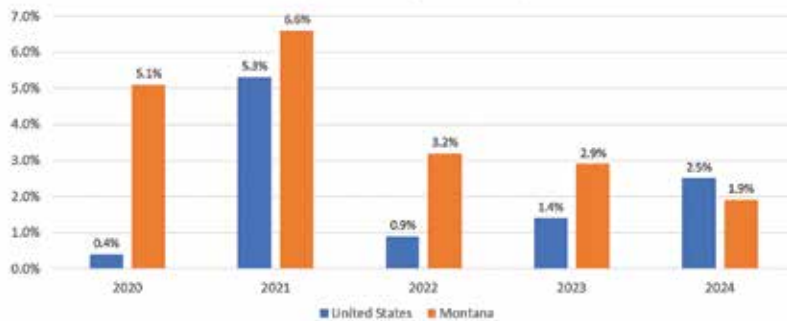
Total personal income: broad measure of income that includes government transfers and investment earnings



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## Total Real Non-Farm Earnings Growth

(Q3 to Q3 change, source BEA)



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## Five Year Growth Non-Farm Earnings By Industry Sector (thousands \$, annual avg.)

### Biggest Contributors to Montana's Income Growth Compared to Pre-Pandemic

- Professional, Scientific, Tech Services
- Construction and Real Estate
- Health care
- Hospitality

### Sectors with Little to No Growth

- State and Local Government
- Military
- Forestry
- Mining and Energy

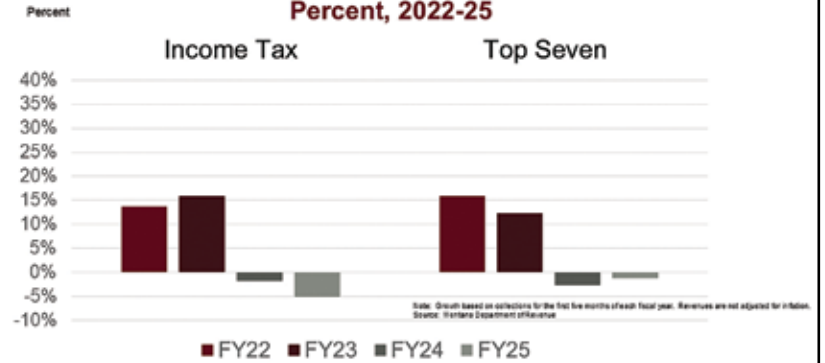
|                                      | 2019-24 (annual avg.) | 2019-24 (avg %) |
|--------------------------------------|-----------------------|-----------------|
| Prof., scientific, and tech services | \$ 239,759            | 8.5%            |
| Construction                         | \$ 226,152            | 6.5%            |
| Real estate                          | \$ 210,851            | 19.1%           |
| Health care                          | \$ 168,725            | 3.0%            |
| Accommodation and food               | \$ 126,802            | 6.9%            |
| Admin. and support services          | \$ 107,588            | 9.3%            |
| Wholesale trade                      | \$ 91,389             | 5.7%            |
| Retail trade                         | \$ 78,270             | 2.4%            |
| Finance and insurance                | \$ 63,549             | 3.5%            |
| Federal civilian                     | \$ 60,231             | 3.7%            |
| Other services (priv)                | \$ 57,236             | 3.7%            |
| Manufacturing                        | \$ 50,826             | 2.9%            |
| Information                          | \$ 31,948             | 5.4%            |
| Arts, entertainment, recreation      | \$ 30,470             | 5.7%            |
| Transportation and warehousing       | \$ 28,506             | 1.7%            |
| Educational services (priv.)         | \$ 17,806             | 6.1%            |
| State and local govt.                | \$ 16,485             | 0.3%            |
| Management of companies              | \$ 15,774             | 6.6%            |
| Military                             | \$ 5,678              | 1.0%            |
| Forestry and related activities      | \$ 4,220              | 1.5%            |
| Mining, oil and gas                  | \$ 2,167              | 0.2%            |
| Utilities                            | \$ (1,184)            | -0.3%           |

### One-Year Change in Non-Farm Earnings By Industry Sector (thousands \$, 2024Q3-2023Q3)

- Construction, Tourism, Health Care Maintaining Strong Growth
  - Slowdown in Professional, Scientific, Tech Services
  - Largest Income decline in Mining
- Compared to Five-Year Average
- Largest Gain: Construction
  - Largest Drop: Real Estate

|                                      | 2023Q3 to 2024Q3 | %      |
|--------------------------------------|------------------|--------|
| Construction                         | \$ 272,387       | 6.3%   |
| Health care                          | \$ 146,707       | 2.3%   |
| Retail trade                         | \$ 101,382       | 2.9%   |
| Federal civilian                     | \$ 97,494        | 5.3%   |
| Admin. and support services          | \$ 94,117        | 5.9%   |
| Wholesale trade                      | \$ 84,561        | 4.3%   |
| Other services (priv)                | \$ 70,892        | 4.1%   |
| Prof., scientific, and tech services | \$ 61,262        | 1.6%   |
| Arts, entertainment, recreation      | \$ 55,375        | 8.7%   |
| Accommodation and food               | \$ 55,318        | 2.3%   |
| Management of companies              | \$ 44,774        | 16.3%  |
| Finance and insurance                | \$ 41,565        | 2.0%   |
| Utilities                            | \$ 39,170        | 9.8%   |
| Transportation and warehousing       | \$ 34,521        | 2.0%   |
| State and local govt.                | \$ 25,127        | 0.5%   |
| Educational services (priv.)         | \$ 15,463        | 4.2%   |
| Military                             | \$ 9,255         | 1.6%   |
| Manufacturing                        | \$ (18,272)      | -0.9%  |
| Forestry and related activities      | \$ (19,129)      | -5.9%  |
| Real estate                          | \$ (82,982)      | -3.7%  |
| Information                          | \$ (84,017)      | -10.0% |
| Mining, oil and gas                  | \$ (190,004)     | -14.1% |

### Year over Year Growth in Montana Tax Revenue, Percent, 2022-25



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Montana is among the lowest states for export dependence.



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### Trump Administration Policy Changes and Montana's Economy

- Montana has relatively low dependence on exports
- Montana will be relatively unimpacted by immigration changes
- Strong support for energy sector
- Federal spending uncertainty
  - Medicaid
  - Military
  - Civilian Jobs and agencies

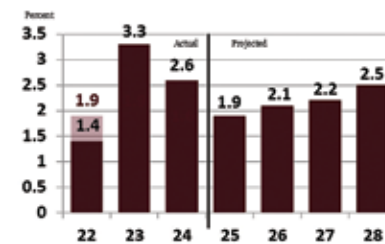
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## Montana: Looking Ahead

- **Slower Growth In 2025**
  - Population growth slows further
  - Interest rate sensitive sectors will get little relief
  - Full impact of mining & wood products closures/layoffs
- **Growth Improves After 2025**
  - Moderate population growth
  - Tech industry continues to mature & scale
  - New investment likely in mining, energy, tourism

Growth in Nonfarm Earnings,  
Montana, 2022-2028



Source: BBER and U.S. Bureau of Economic Analysis

## The Outlook for Health Care

Patrick M. Barkey, Director of Research  
Bureau of Business and Economic Research  
University of Montana

## Is Montana Health Care Getting Healthy?

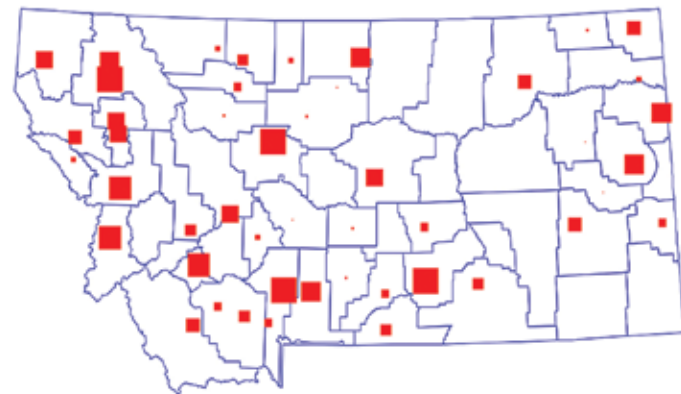
- COVID was hugely disruptive to most health care providers, and damaging to health outcomes
- Labor costs spiked, inflation pushed up costs, demand for discretionary care slumped
- Medical care price growth almost stopped
- Some regulatory innovations helped (cross-state licensing, tele-health)
- Pre-COVID trends in job/wage growth, medical inflation have now resumed
- Impacts of “great retirement” have persisted

## Health Care Employment Rank, 2023



## Hospitals Are Major Employers Across Montana

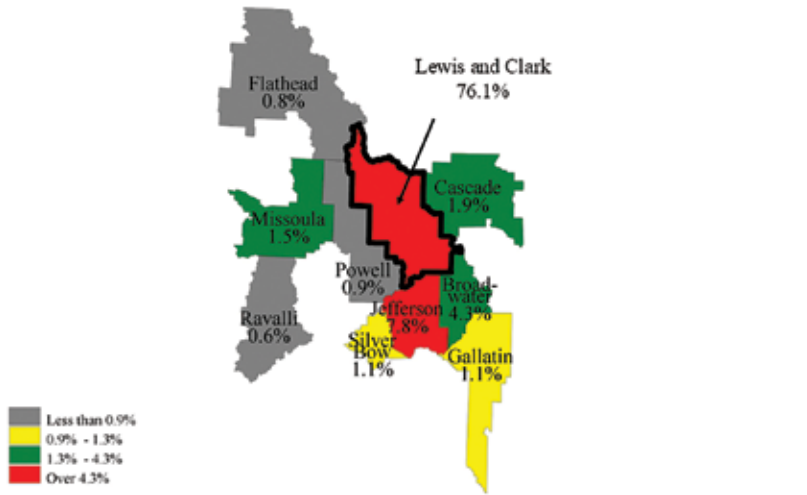
Montana hospital employment by hospital, 2023





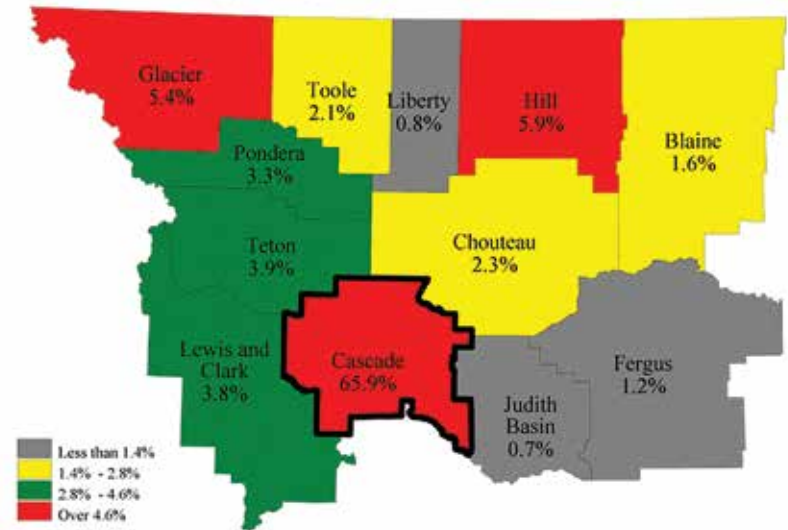
### Lewis and Clark County Hospital Charges

By County Where Patients Reside, 2019



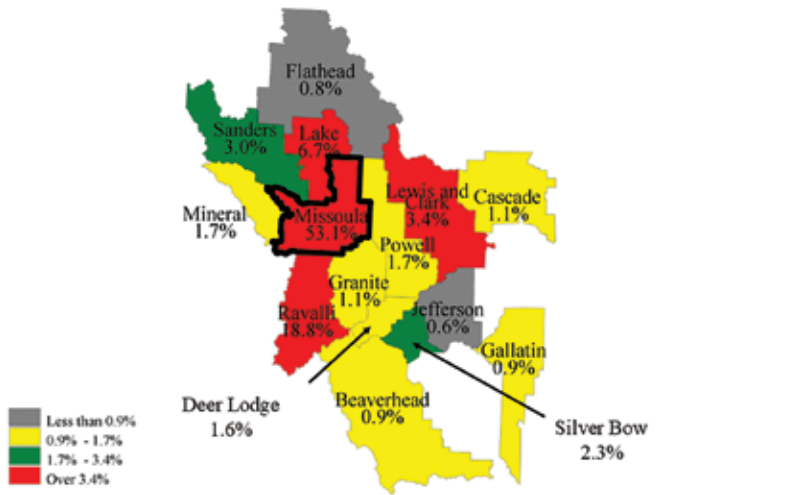
### Cascade County Hospital Charges

By County Where Patients Reside, 2019



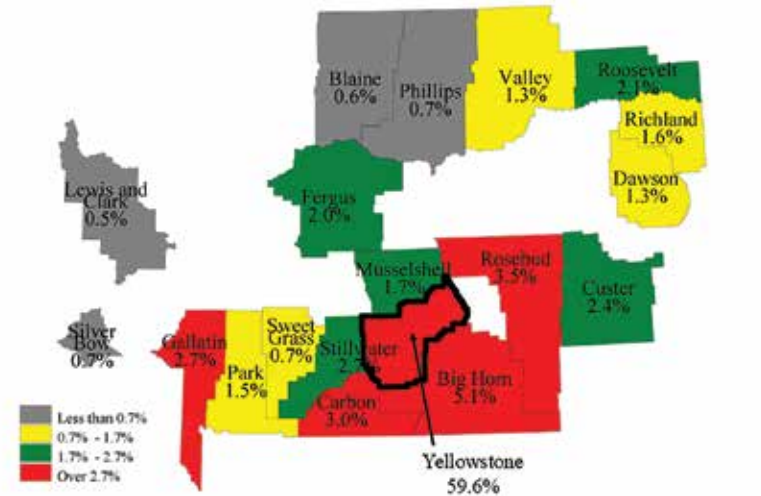
### Missoula County Hospital Charges

By County Where Patients Reside, 2019

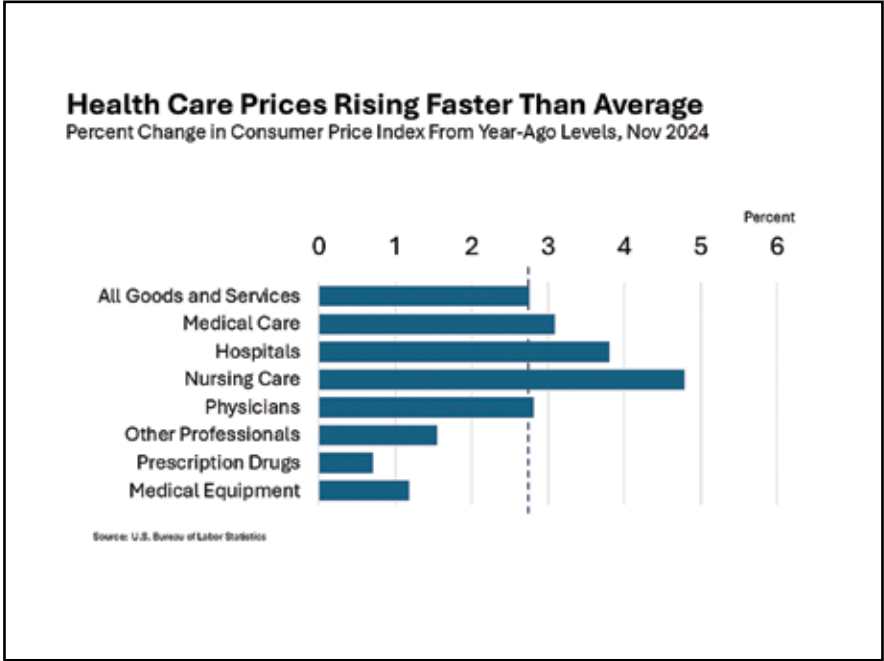
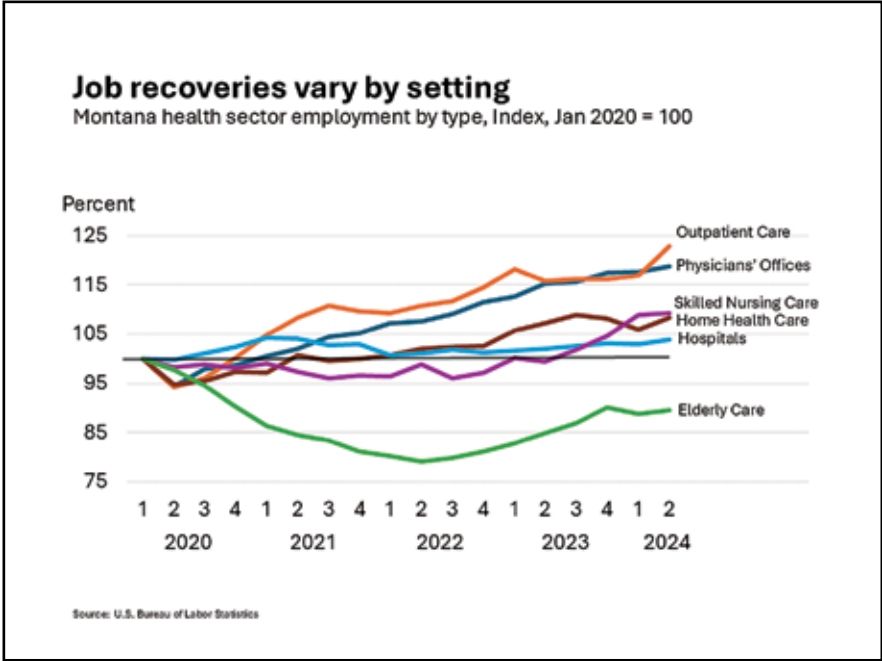
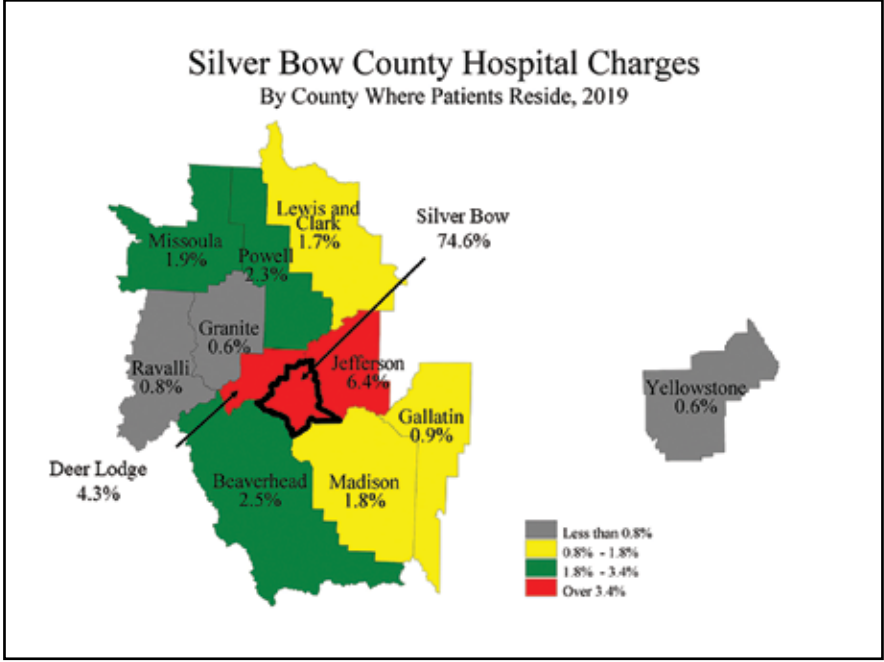
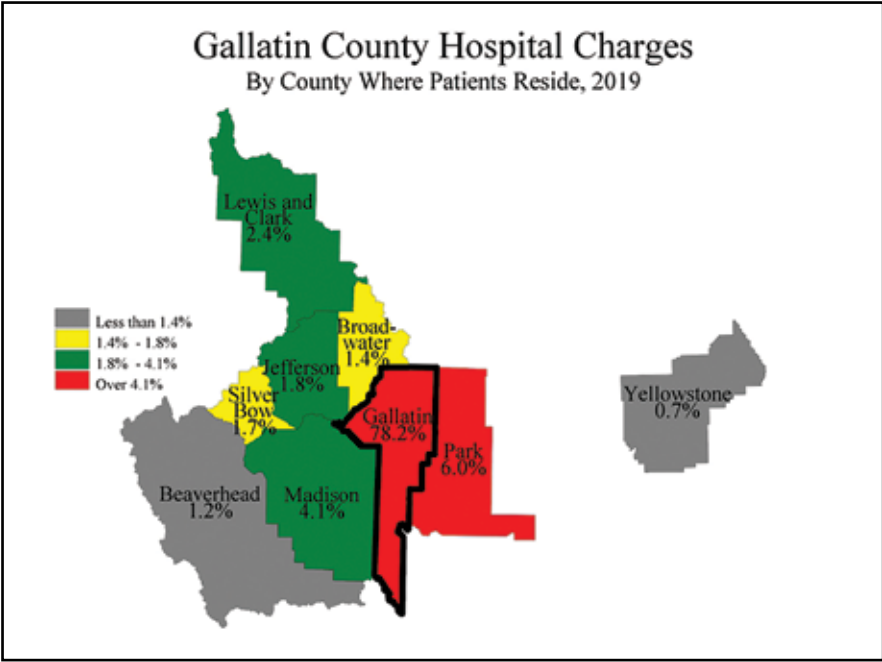


### Yellowstone County Hospital Charges

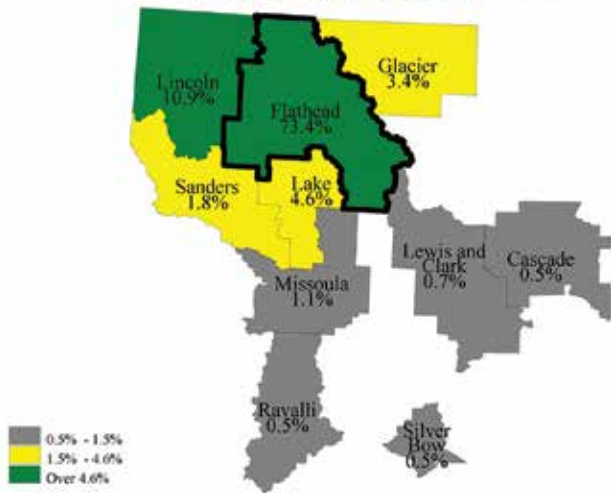
By County Where Patients Reside, 2019





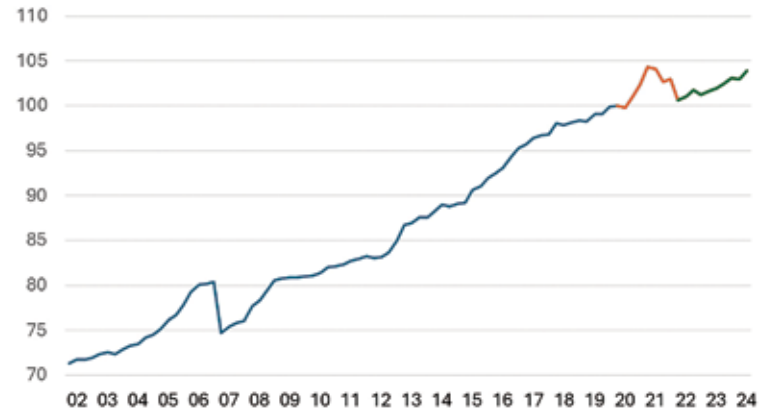


### Flathead County Hospital Charges By County Where Patients Reside, 2019



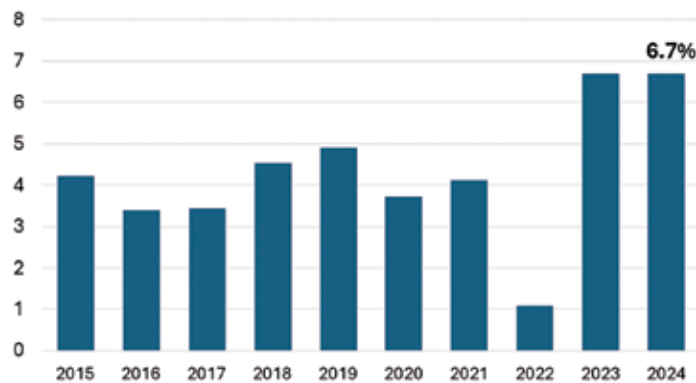
### Hospital Job Growth Has Resumed

Montana hospital employment, Index, Jan 2020 = 100



### Health Insurance Premiums Are Growing Again

Percentage Change in Employer Premiums, Family Coverage



Source: Kaiser Family Foundation

### Health Care Stock Prices Are in the Tank

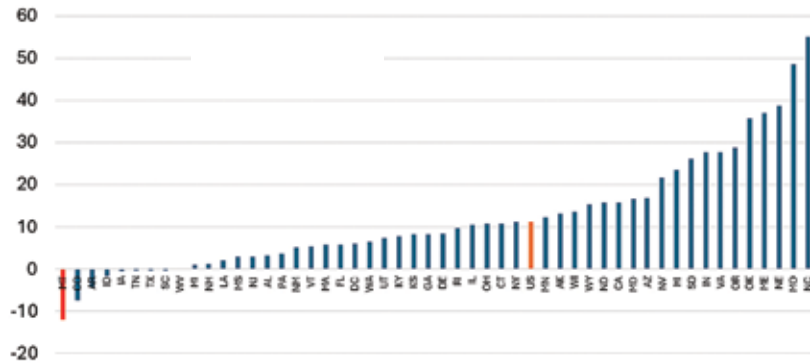
Health Care Index vs. S&P 500 Index Since Feb 2023



Source: FactSet

### Montana Has Shed More Medicaid Enrollees Than Any Other State Since Feb 2020

Cumulative Percentage Change in Medicaid Enrollees by State



Source: U.S. Center for Medicare/Medicaid Services

### Why Matter?

→ Large impacts of Medicaid

#### Providers:

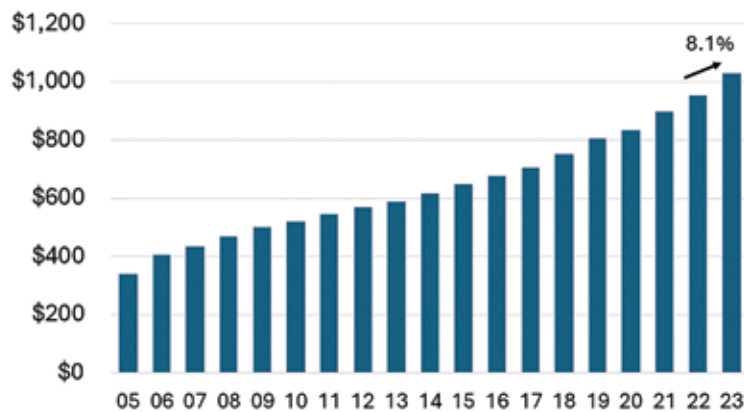
- Improved payer mix, less uncompensated care
- Improved financial performance of hospitals, particularly small and rural providers

#### Long run impacts on children:

- Reduces mortality and disability in adulthood, better mental health outcomes
- Increases adult employment, increases adult wages
- Raises college enrollment rates

### Medicare Spending Growing Faster Than Economy

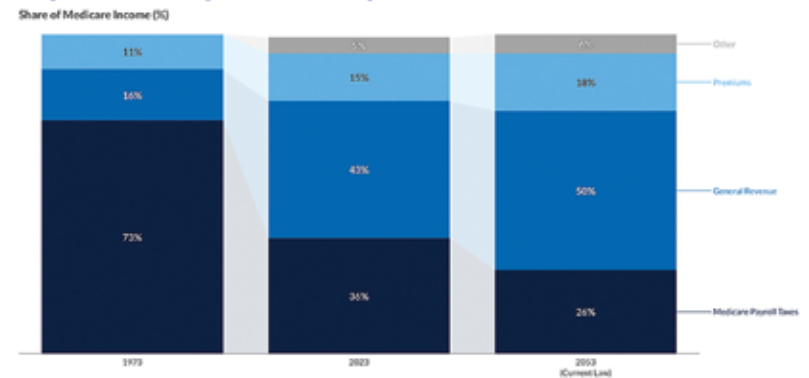
Medicare Spending, 2005-2023, \$ Billions



Source: CMS

### Trust Fund Depletion is Not the Biggest Medicare Challenge

The general fund is the largest source of financing for Medicare



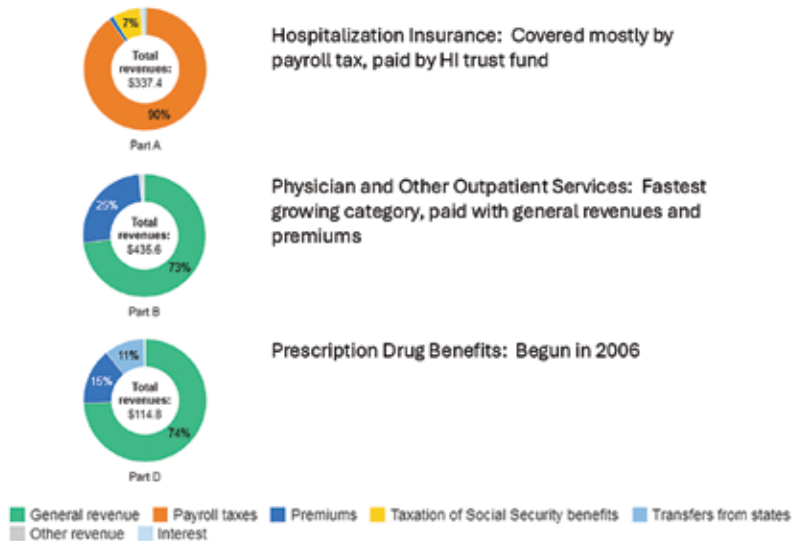
### Why Are Medicaid's Impacts on Health So Hard to Find?

- Oregon Medicaid experiment in 2008 failed to show difference in health care outcomes for those with and without Medicaid
- Similar findings (not as robust) have been found for all health insurance, not just Medicaid
- Lifestyle choices (hypertension, diabetes, obesity) are dominant factors in health
- Those who lack insurance still have access to medical care

### Montana Has a Huge Stake in the Financial Sustainability of Medicare

- In 2021, there were 244,107 Montanans enrolled in Medicare
- That 22% share of the total population was the fifth highest of all states
- In many parts of Montana, 50% or more of health expenditures come from Medicare spending
- Medicare actuaries project that the Hospital Insurance trust fund will be exhausted by 2036 (ten years later than projected in 2019)

Three Spending Categories of Medicare



### Implications for the Future

- HI trust fund will be insolvent "soon." Solvable with a small increase in the payroll tax rate. Easier if this is done sooner
- Burdens on federal budgets and individual premiums are not as easily solved.
- Politically popular actions (price controls) have not proved practical or sustainable
- Pressures continue to expand Medicare

## Two Paths for Reform

- Administrative approach:
- Implicitly accepts basic structure of the program, government pays for health care that providers deliver
- Cost control from a top-down approach
- Change program parameters, including tax rates, eligibility age
- Similar actions taken in the past have a mixed track record (e.g., electronic medical records)

## Two Paths for Reform

- Market-based approach:
- Politically toxic, “third rail”
- Addresses health care cost growth with market forces rather than administrative actions
- Most proposals replace open-ended coverage with a cash benefit, packaged with insurance for catastrophic costs
- Can a 60-year old program really be changed?



# INSTITUTE FOR TOURISM & RECREATION RESEARCH

## Montana Tourism Outlook for 2025: Balancing Innovation and Tradition

2025 BBER Economic Seminar  
Dr. Melissa Weddell, PhD, MBA






## PRESENTATION OUTLINE

- Who we are
- ITRR Research Projects
- Travel Industry
- Outdoor Recreation Economy
- AI and Tourism Industry
- 2025 Tourism Outlook






## ITRR RESEARCH PRIORITIES + CYCLE

**ITRR** serves as the research arm for Montana's tourism and recreation industry

**Established in 1987** at the University of Montana's W.A. Franke College of Forestry and Conservation

**Funded** by a portion of the revenues from the state Lodging Facility Use Tax

**Objective Research** in tourism and recreation to support industry for strategic planning, marketing, policymaking, and management overseen by the TAC

**Supports Montana Public Agencies & Businesses** through reliable, objective research on visitor services and facility management

**38 YEARS OF PROVIDING TRAVEL, TOURISM, AND RECREATION RESEARCH**







**Dr. Melissa Weddell**  
Director & Research Faculty

**Carter Birmingham**  
Social Scientist & Research Associate

**Stacy Blythe**  
Social Scientist & Research Associate

**Rika Bradford**  
Social Scientist and Research Associate

**Kara Gow**  
Assistant Director of Economic Analysis

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Program Assistant & Qualitative Specialist

**Matthew Fitzgrew**  
Data Engineer & Research Associate

**Megan Schuss**  
Project Manager & Research Associate

**Rachel Shouse**  
Communications Director

**Glenna Tawney**  
Research Project Director & Event Manager

**Ava Workens**  
Graduate Student

**Emma Kallouth-Lopez**  
Graduate Student







## ITRR ONGOING RESEARCH PROJECTS

- Quarterly Nonresident Analysis
- Quarterly Resident Analysis
- Annual Economic Impacts and Outlook
- Tourism and Recreation Monitoring
- State Park Visitation
- Survey Kits



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## 2023-24 TAC RESEARCH PROJECTS

- Yellowstone Flood Recovery & Resiliency
- Tourists' Preferences for Stargazing in Eastern MT
- Impacts of Short-term Rentals in Montana
- Montana Agritourism & Recreation: 20 Years Later
- Recreation Access (Cooke City/Silver Gate)
- Understanding Eastern Montana Visitor

## 2024-25 TAC RESEARCH PROJECTS

- Montana's Paleontological Tourism
- Contributions and Impacts of Montana Museums
- Impacts of Montana Meetings and Conventions
- A Study of Flathead Lake Level Impacts on the Tourism Economy
- Understanding Reservoir Recreation (Canyon Ferry)
- Montana's Outfitting Industry
- Understanding Tourist Disengagement with Montana

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## ITRR DATA DASHBOARDS (PUBLICLY AVAILABLE)



**Nonresident Survey Full Data Summary**  
Dive in to complete customizable access to summary percentages from our complete nonresident survey.



**Nonresident Survey Mailback Crosstabs**  
Examine how trip characteristics like Activities or Sites Visited on trip vary across cross-sections of nonresident visitors.



**Visitor Trends Nonresident Visitation**  
Learn how many nonresidents visit Montana by examining visitation trends.



**Resident Survey National Park Visitation Q1, 2023**  
Our most recent resident report from Q1, 2023 highlights Montana residents' visitation to Yellowstone and Glacier National Parks.

<https://www.umt.edu/tourism-recreation-research/interactive-data/>

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## MONTANA TRAVEL INDUSTRY OVERVIEW

| Year | Nonresident Visitors |
|------|----------------------|
| 2023 | 12,567,000           |
| 2022 | 12,409,000           |
| 2021 | 12,840,000           |
| 2020 | 11,202,000           |
| 2019 | 12,585,000           |

Q1 Q2 Q3 Q4

**Average tax burden reduced on every Montana household by tourism**

**\$930**

|   |  |
|---|--|
| <b>\$414M</b><br>STATE AND LOCAL TAXES          | <b>48,340</b><br>JOBS SUPPORTED                                    |
| <b>\$1.5B</b><br>EMPLOYEE COMPENSATION (DIRECT) | <b>1-IN-12</b><br>MONTANA WORKERS SUPPORTED BY OUT-OF-STATE TRAVEL |
| <b>\$4.8B</b><br>INDUSTRY OUTPUT (DIRECT)       |  |

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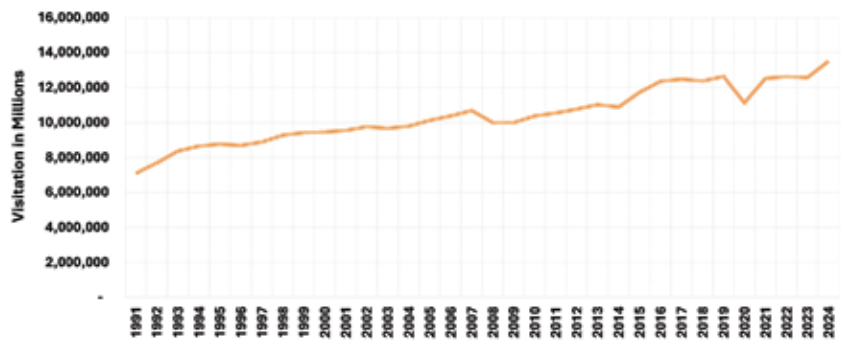
## MONTANA TRAVEL SPENDING BY REGIONS 2022/23



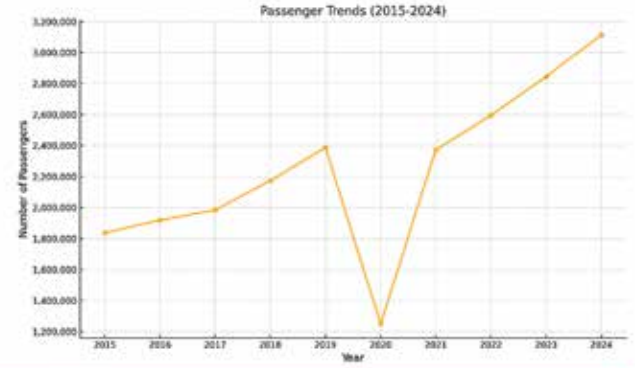
## MONTANA VISITOR PROFILE

- Average Nights Spent = 5
- 74% Repeat Visitors
- 48% Couples
- 55% Male
- 70% Enter by Driving
- 55-74 Years Old; Largest Age Groups
- 90% Report Satisfied/Very Satisfied with a Feeling of Being Welcomed
- Top Sites Visited
  - Yellowstone NP = 29%
  - Glacier NP = 24%
  - Hot Springs = 8%
  - Montana State Parks = 6%
- Top Reason
  - Vacation/Recreation = 40%
  - Passing through = 26%
  - Visiting Friends/Family = 22%
- Top Visiting States:
  - ID, WA, ND & WY

## MONTANA NONRESIDENT VISITATION TRENDS



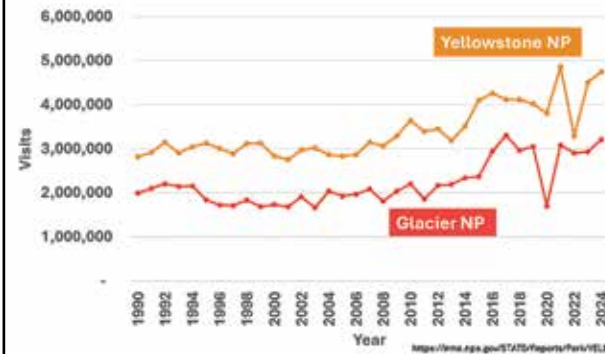
## AIRPORT DEBOARDINGS – 2015-2024



## OUTDOOR RECREATION ECONOMY

- In 2023, the economic impact of outdoor recreation nationwide is \$1.2 trillion, with employment for 5 million jobs
- The Montana outdoor industry grew 7.2% in 2023
- Montana's outdoor recreation sector contributed \$3.4 billion in 2023
- Montana's outdoor recreation economy accounted for 4.6% of the state's gross domestic product (GDP) in 2023, ranking it third in the nation for contribution to state GDP, tied with Alaska and behind only Hawaii and Vermont, according to the Bureau of Economic Analysis (BEA)

## NATIONAL PARK VISITATION 1990-2024



## MONTANA PUBLIC LAND VISITATION



| Year | State Park Visitation (55 Pa) | National Park Sites           | Visitation 2023 |
|------|-------------------------------|-------------------------------|-----------------|
| 2023 | 3,108,268                     | Yellowstone NP                | 4.5 Million     |
| 2022 | 3,036,121                     | Glacier NP                    | 2.93 Million    |
| 2021 | 3,381,507                     | Little Bighorn Battlefield NM | 227,000         |
| 2020 | 3,427,555                     | Bighorn Canyon NRA            | 218,000         |
| 2019 | 2,646,886                     | Big Hole NB                   | 55,000          |
| 2018 | 2,572,890                     | Grant-Kohrs Ranch NHS         | 27,000          |
| 2017 | 2,544,138                     |                               |                 |

## MONTANA TOURISM BUSINESS OWNER SURVEY RESULTS

### 2024 Business Report

- 43% increased visitor volume
- 30% remained the same
- 27% decreased visitor volume
- 48% reported a worker shortage

### 2025 Business Outlook

- 87% expect customer volume to increase/stay the same

### Opportunities

- Expand Shoulder Season
- Tourism Events
- Infrastructure & Marketing

### Challenges

- Weather & Natural Disasters
- Economic Downturn
- Housing & Labor
- Tourism Saturation
- Political & Regulatory Issues



## TOURISM BUSINESS OWNERS-USE OF AI

36% reported using AI

- Marketing/advertising: 35%
- Customer Services: 21%
- Data Analytics: 19%
- Choice Operations: 10%

How often do you use AI?

- Every day: 11%
- A few times a week: 17%
- A few times a month: 11%
- Rarely: 22.6%
- Never: 38.7%

Biggest Opportunities

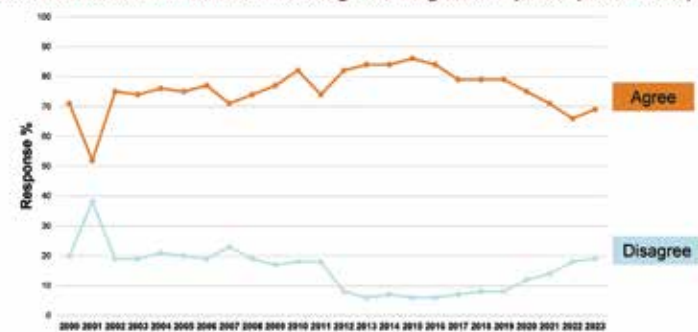
- Increased productivity: 27%
- Improved decision-making: 22%
- Enhanced customer service 20%

Greatest Challenges

- Lack of human interaction: 31%
- Lack of knowledge/expertise: 25%
- Privacy and data security 17%
- High cost of implementation: 14%
- Job displacement/automation 12%

## RESIDENT ATTITUDES ON TOURISM

The overall benefits of tourism outweigh the negative impacts (2000-2023)



## RESIDENT QUALITY OF LIFE & TOURISM PROSPERITY

### Improved Amenities

Enhanced infrastructure like roads, restaurants, shopping, parks, and cultural facilities benefit residents.

### Economic Benefits

Creates jobs, boosts incomes, and diversifies the economy.

### Sustainable Management

Sustainable tourism development, marketing, and management.

Lifestyle Improvements & Quality of Life  
Well-managed tourism supports quality of life without overwhelming resources.

Source: Adapted from (Gossett & Goff, 2010; Dini, 2010; Pilo & Reib, 2010; Cramer, 2010; Nantsohaphan, 2010; Piggamberi et al., 2010)

## 2025 TOURISM OUTLOOK & TRENDS

### Outlook

- Strong and steady visitation
- 87% of tourism business owners stated they anticipate visitor/customer volume to increase or stay the same
- Shoulder season opportunity
- Environmental & economic concerns

### Trends

Immersive Travel  
Sustainable Tourism  
Health and Wellness  
Slow Travel  
Music Festivals  
Detour Destinations  
Ski Resort Investment  
Last-Chance Tourism

**SAVE THE DATE**



**OCTOBER 21-23, 2025  
BILLINGS, MT**

HOSTED BY:     

**UNIVERSITY OF MONTANA** W.A. FRANKS COLLEGE OF FORESTRY AND CONSERVATION

**ITRR** INSTITUTE FOR TOURISM & RECREATION RESEARCH

**QUESTIONS?**

Institute for Tourism and Recreation Research  
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@itrmt    

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# Real Estate and Construction

Jeff Michael and Derek Sheehan  
Bureau of Business and Economic Research  
University of Montana



50 YEARS MONTANA ECONOMIC OUTLOOK SEMINAR

## Agenda: Understanding the Current Housing Market

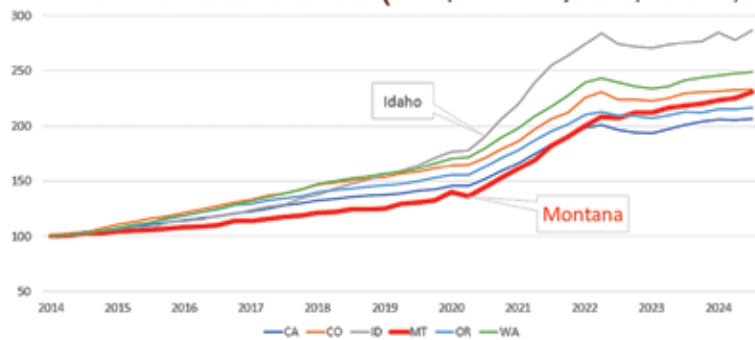
- Market Indicators
- Demand: Migration, Incomes, Interest Rates
- Supply: Rate Lock, Construction Costs, Permits
- Conclusions

Answering big social and policy questions around housing starts with understanding the market.



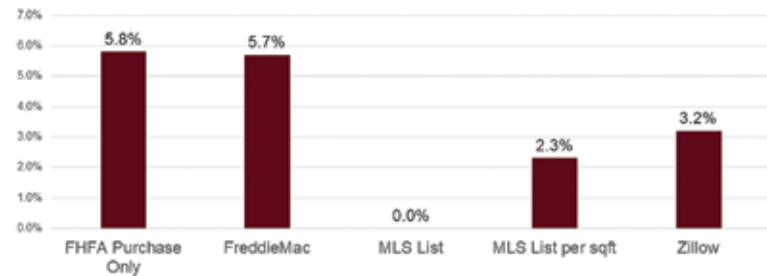
50 YEARS MONTANA ECONOMIC OUTLOOK SEMINAR

### Montana Home Price Trend Compared To Five Western States (FHFA purchase-only home price index)



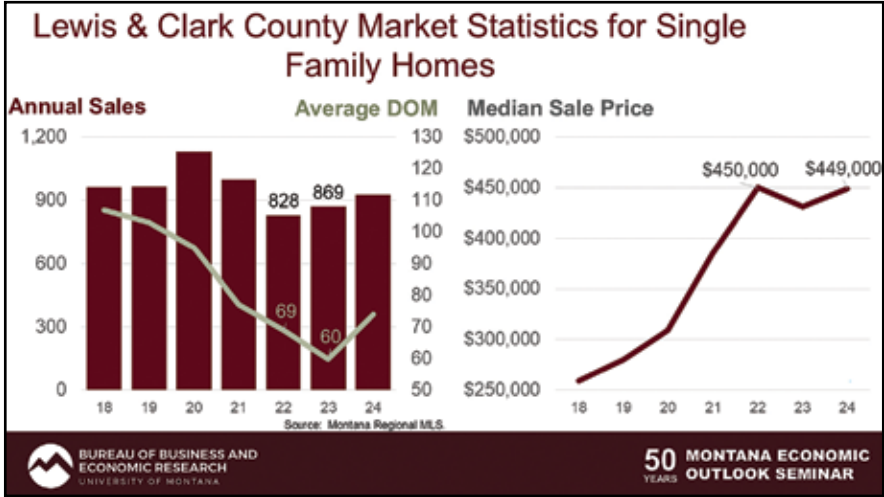
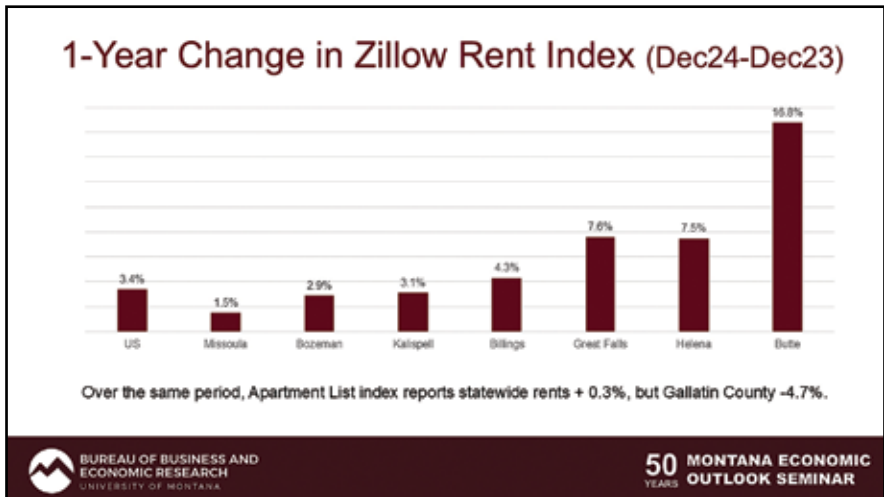
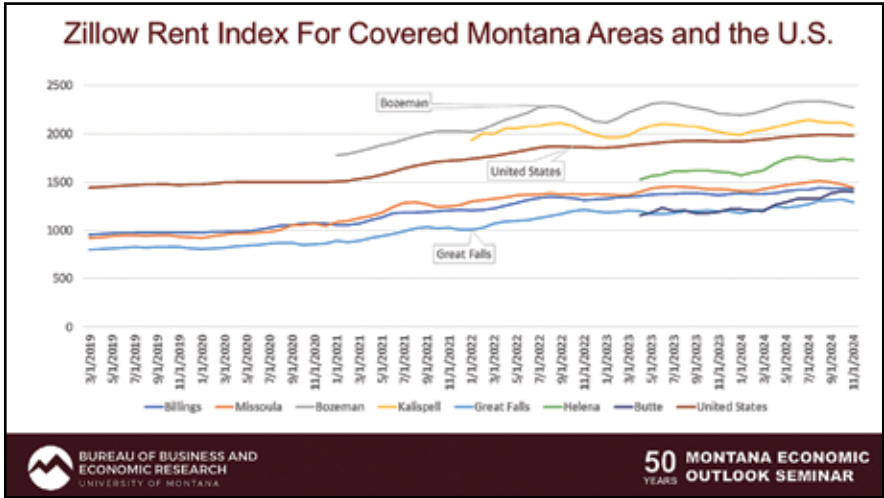
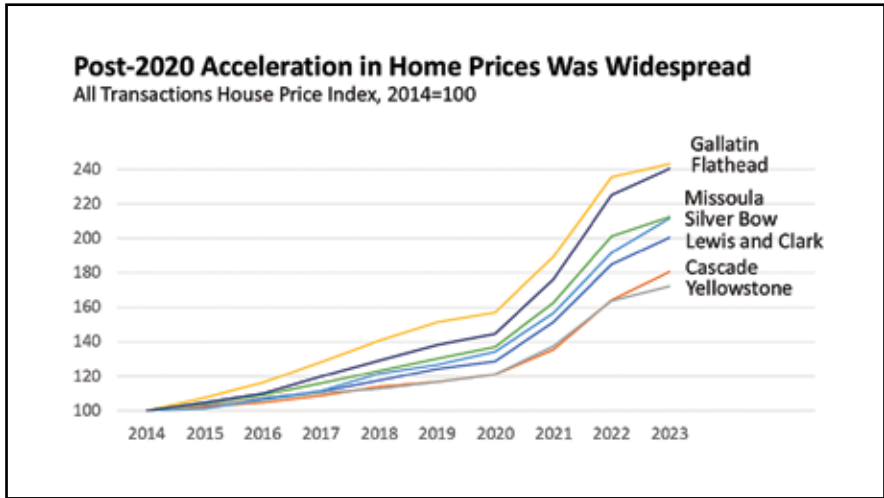
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### One-Year Change in Montana Home Prices (2024 Aug/Q3 – 2023 Aug/Q3)

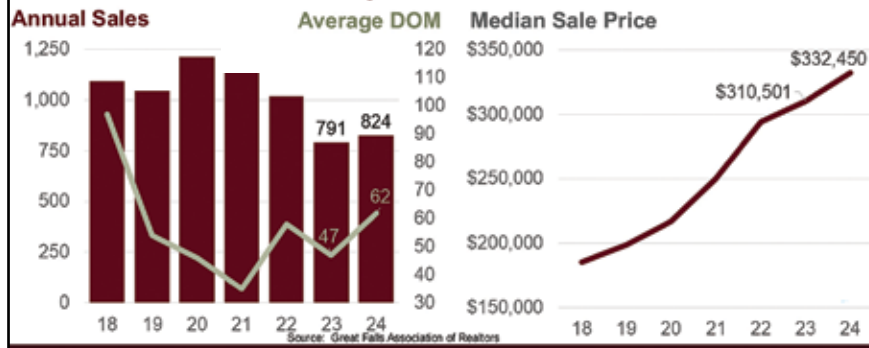


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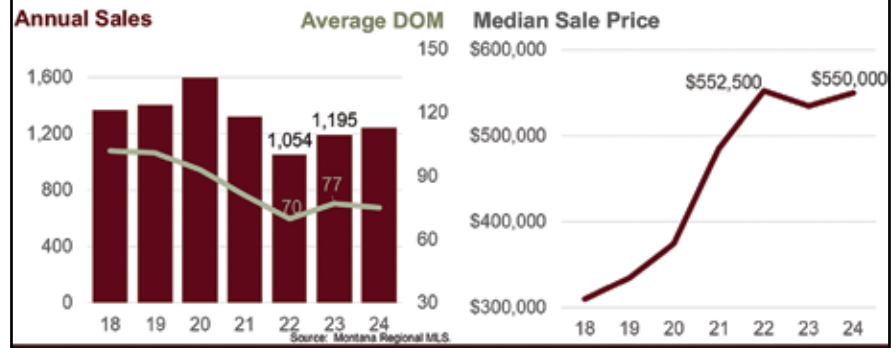
### Cascade County Market Statistics for Single Family Homes



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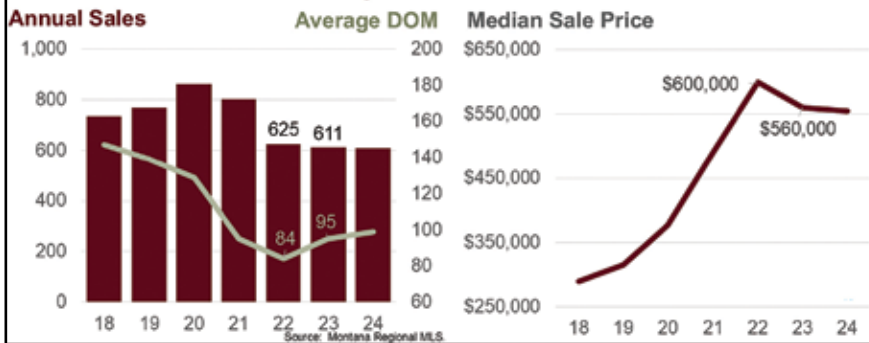
### Missoula County Market Statistics for Single Family Homes



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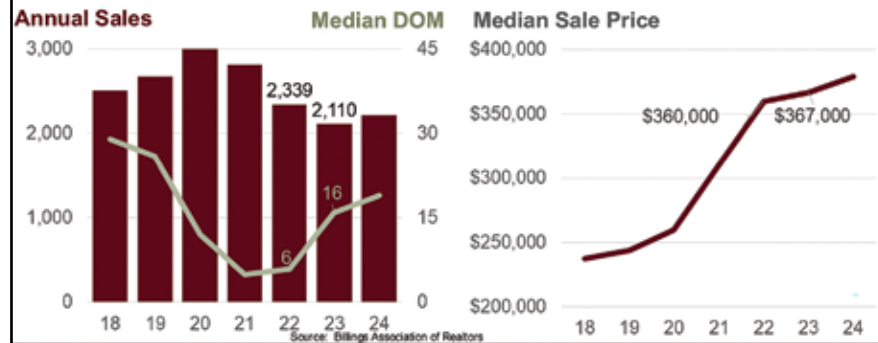
### Ravalli County Market Statistics for Single Family Homes



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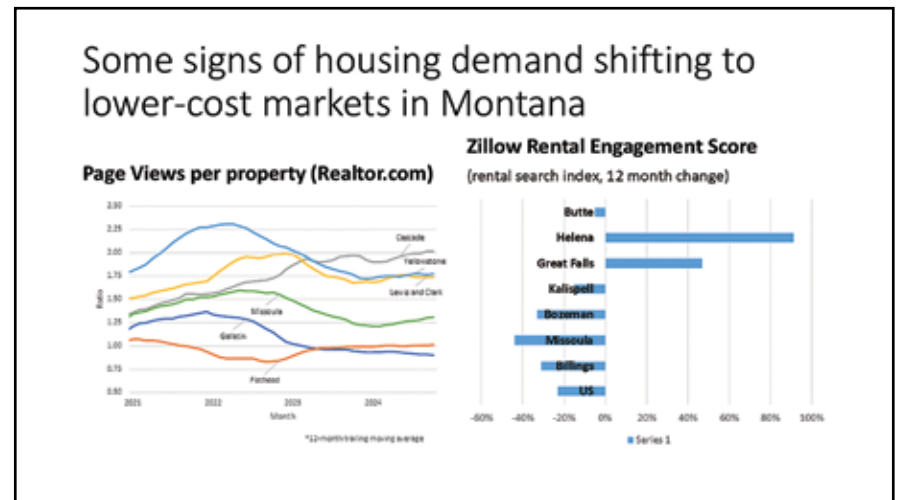
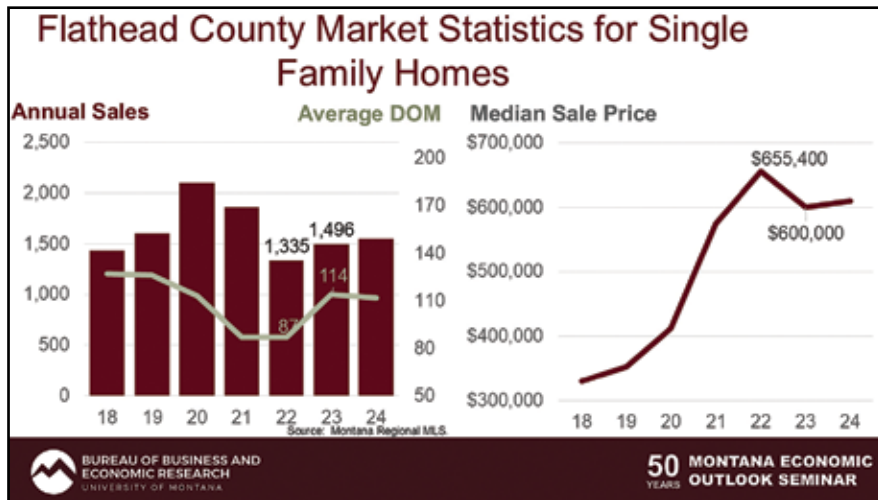
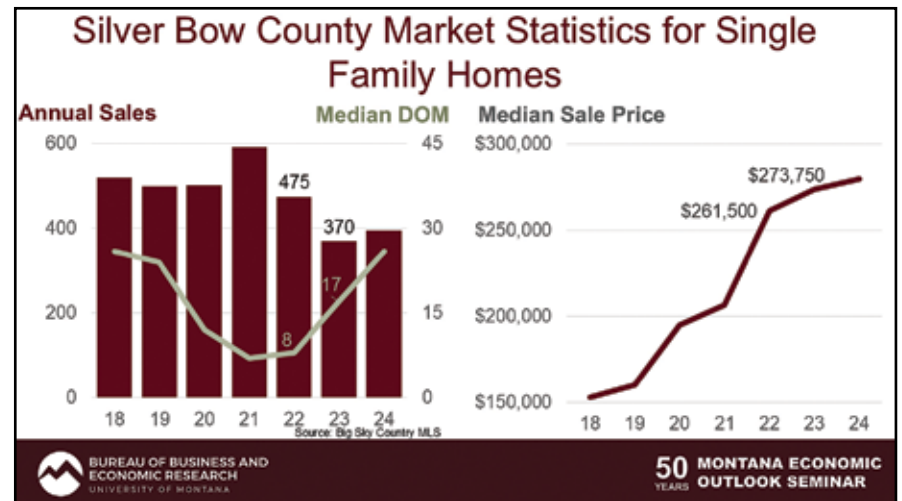
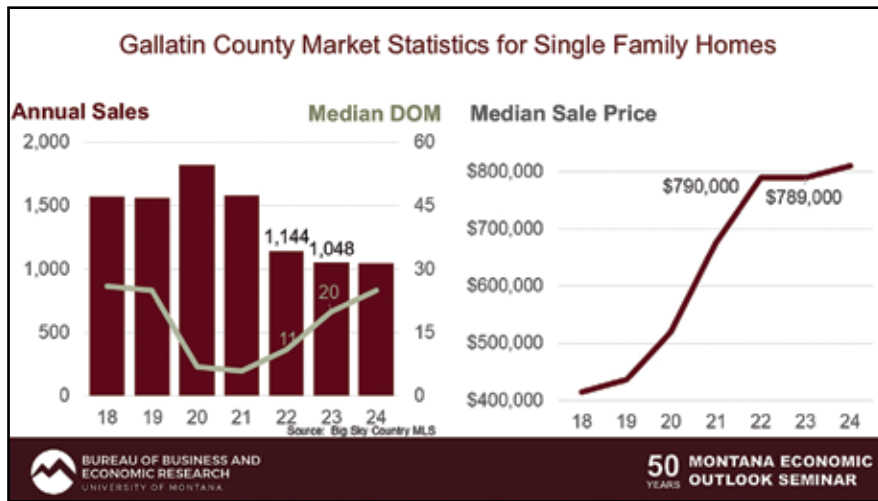
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### Yellowstone County Market Statistics for Single Family Homes

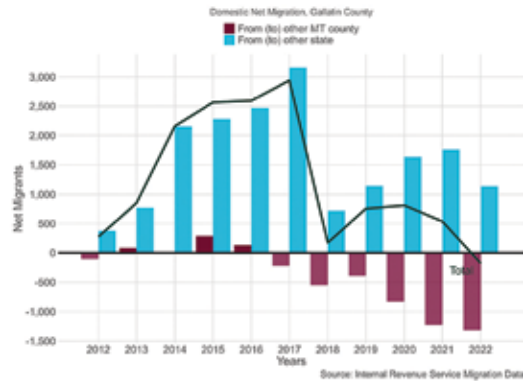


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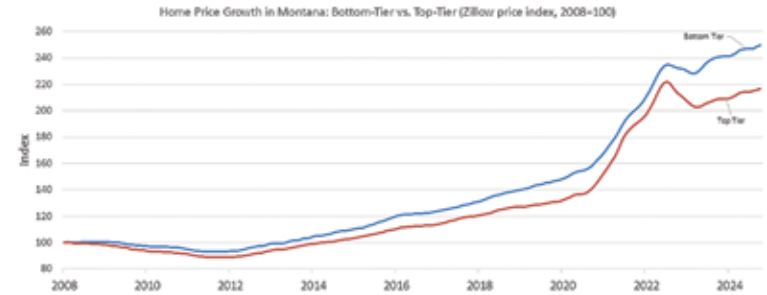
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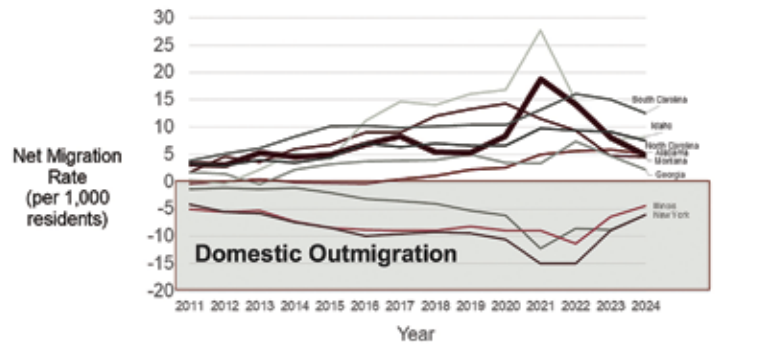
**High Housing Cost Counties Are Seeing Out-Migration To Other Counties in the State**



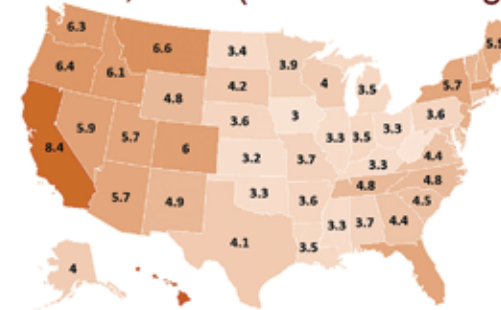
Since peak of pandemic-surge & interest rate increase, more affordable, "bottom tier" properties have appreciated more in Montana

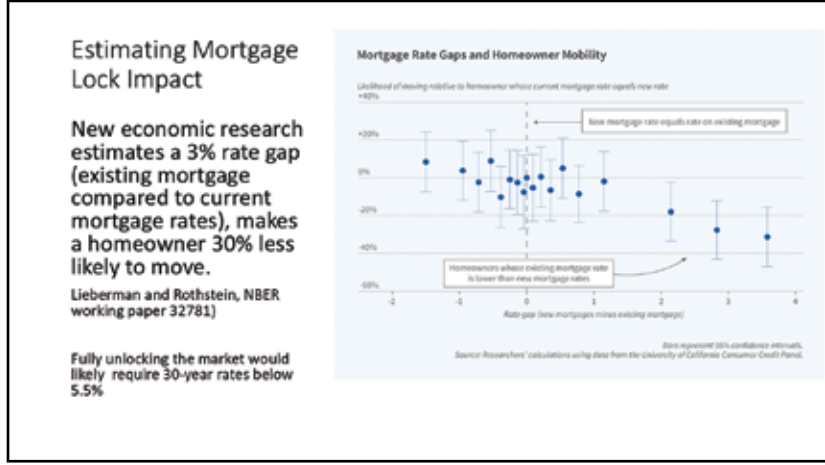
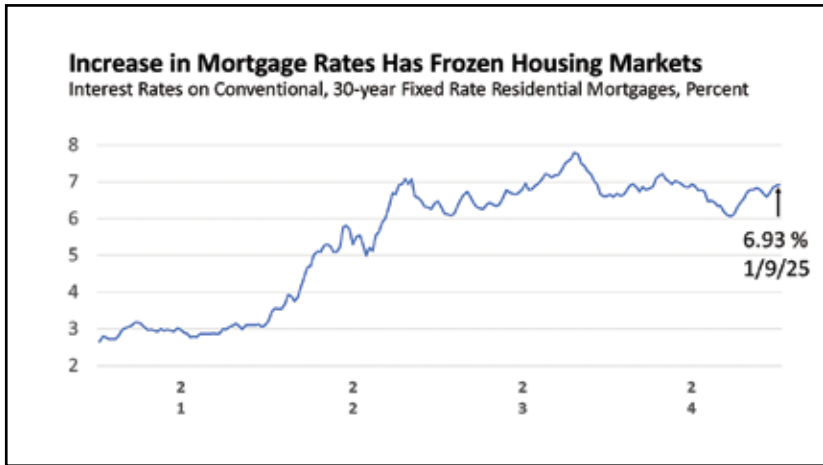
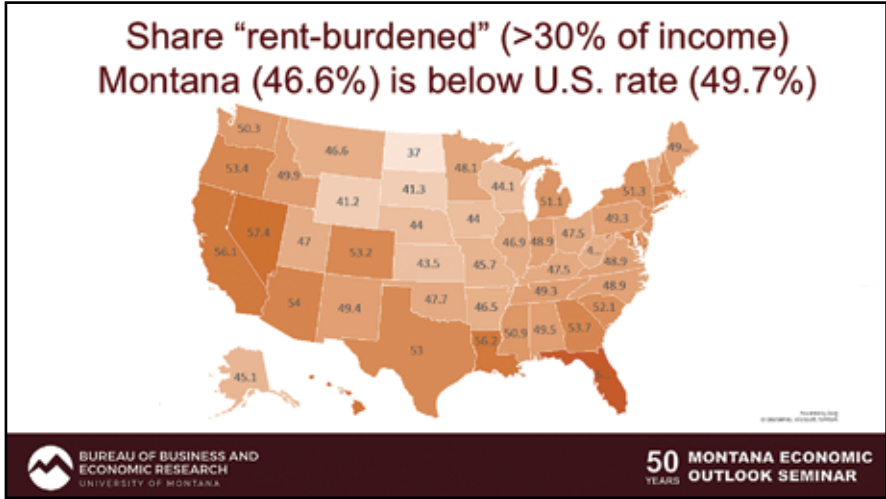
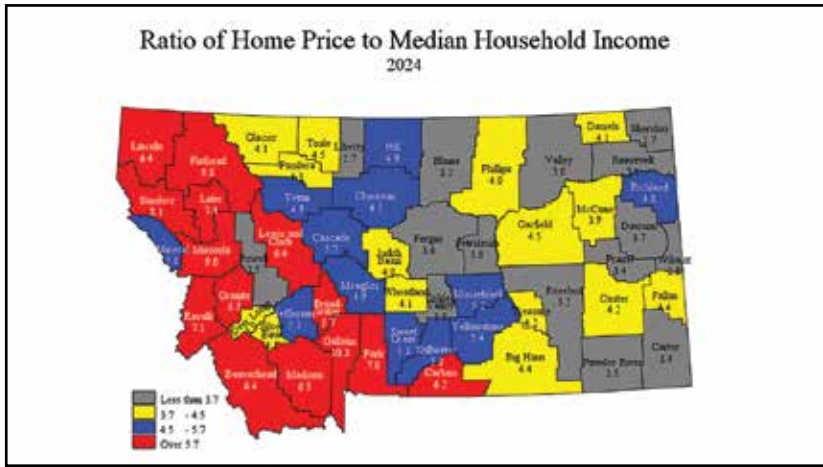


Has state-to-state migration returned to normal?



Ratio of Median Home Price to Median Income, 2024 (Montana 3<sup>rd</sup> highest)







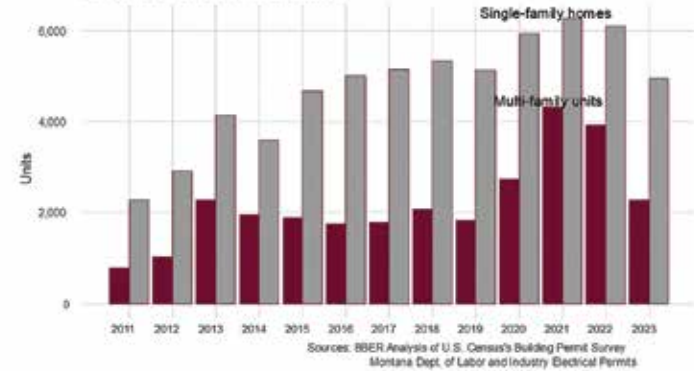
## Construction Material Prices Have Decreased Since 2022, But Still 35% Above 2020 Levels



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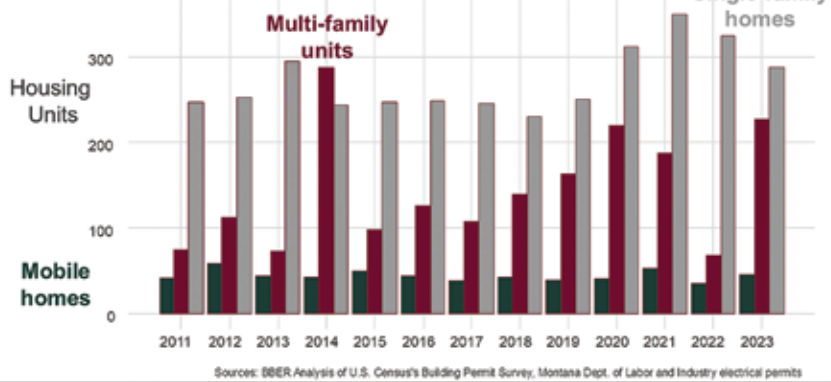
## Montana Authorized Units



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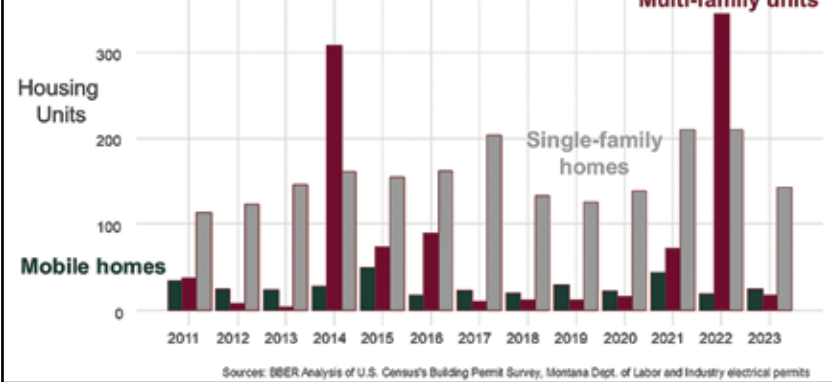
## Lewis and Clark County Housing Starts



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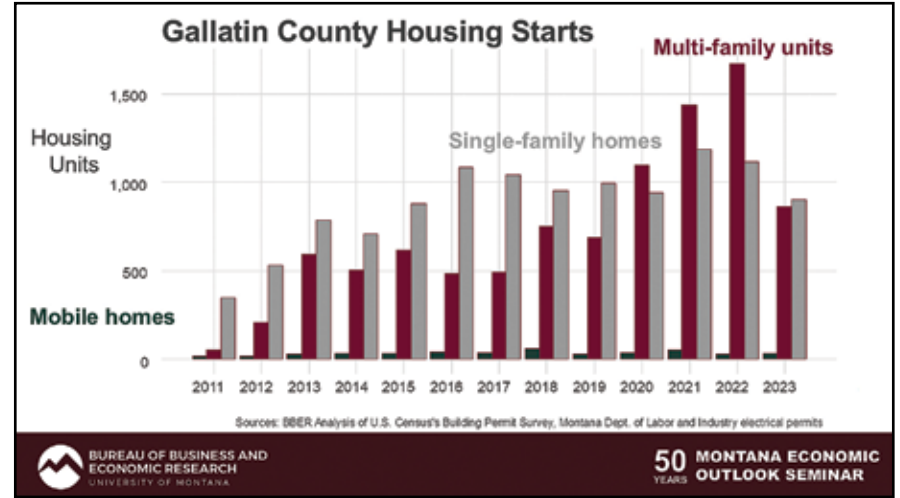
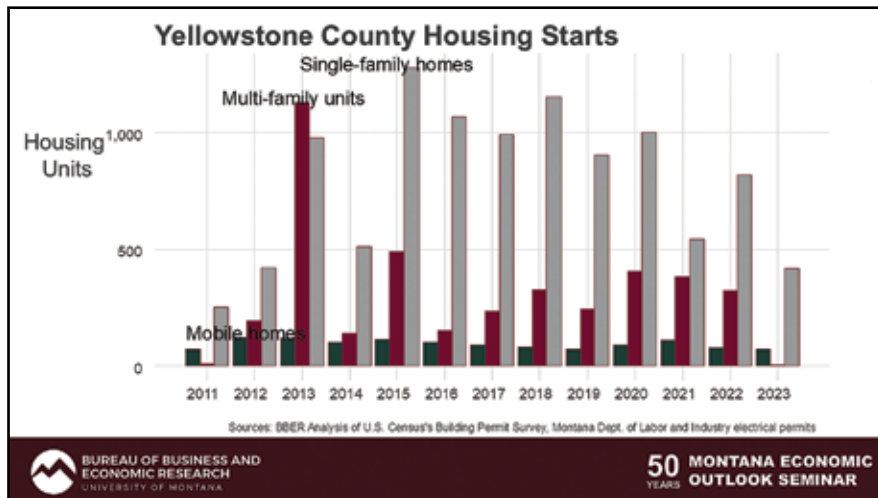
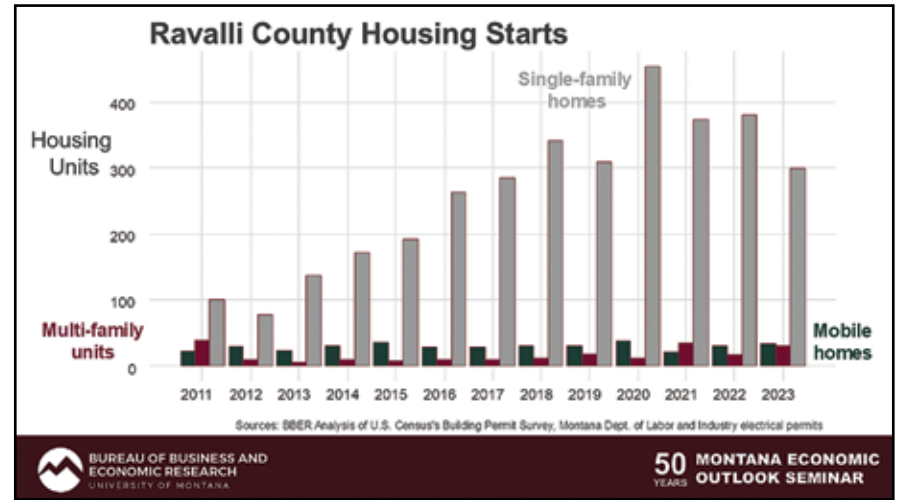
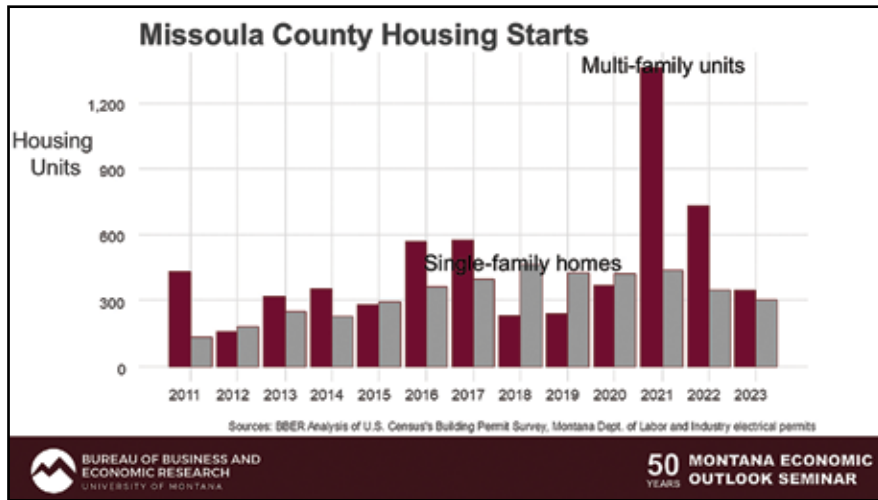
50 YEARS MONTANA ECONOMIC OUTLOOK SEMINAR

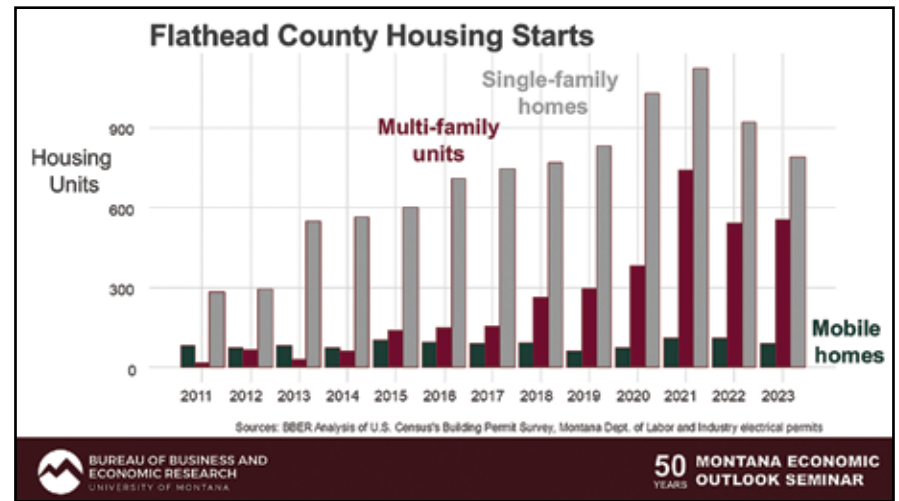
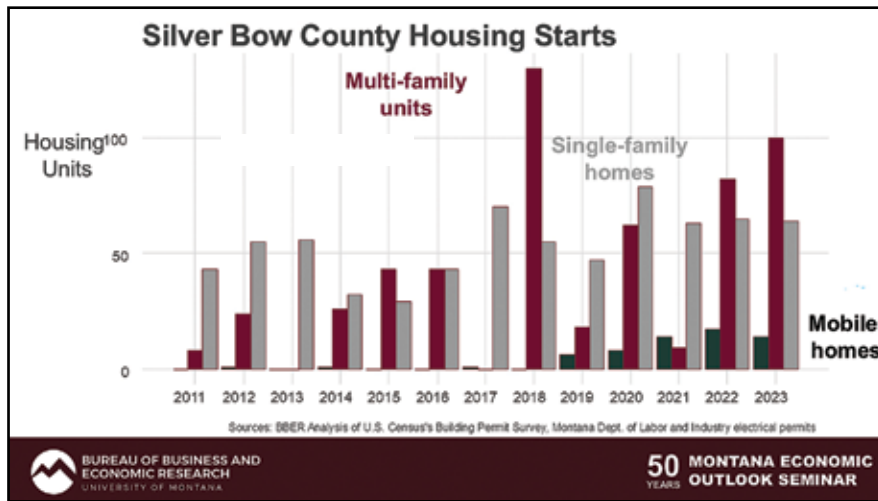
## Cascade County Housing Starts



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### Some conclusions

- Prices moderating, but it doesn't look like a price bubble
  - Underbuilding + steep increase in construction costs
  - Solid lending standards, low borrower-distress
- In-Migration is back to normal, could decrease further
  - Within state shifts occurring
- For-rent and for-sale market disconnect
  - Multi-family building surge hitting the market
  - Affordability issues are most acute in the for-sale market
- Mortgage rates will stay stubbornly high
  - Will not decrease enough to unlock the market in 2025

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50 YEARS MONTANA ECONOMIC OUTLOOK SEMINAR

# Montana Ag Situation and Outlook

**Joel Schumacher**

[jschumacher@montana.edu](mailto:jschumacher@montana.edu)

Department of Agricultural Economics and Economics  
Montana State University Extension

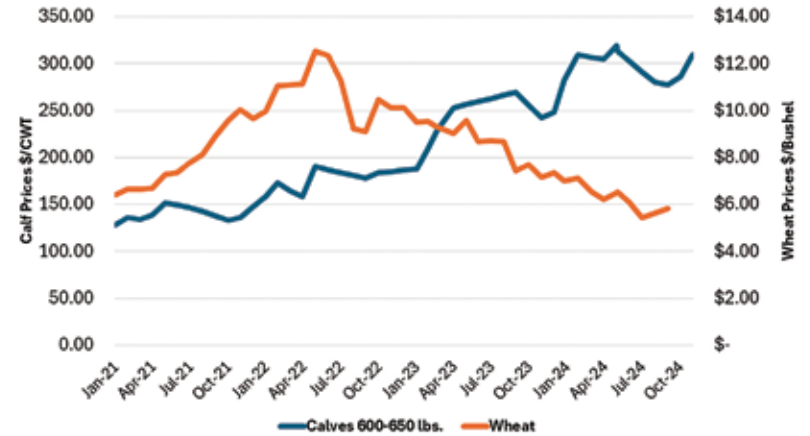
**Eric Belasco**

[eric.belasco@montana.edu](mailto:eric.belasco@montana.edu)

Department of Agricultural Economics & Economics

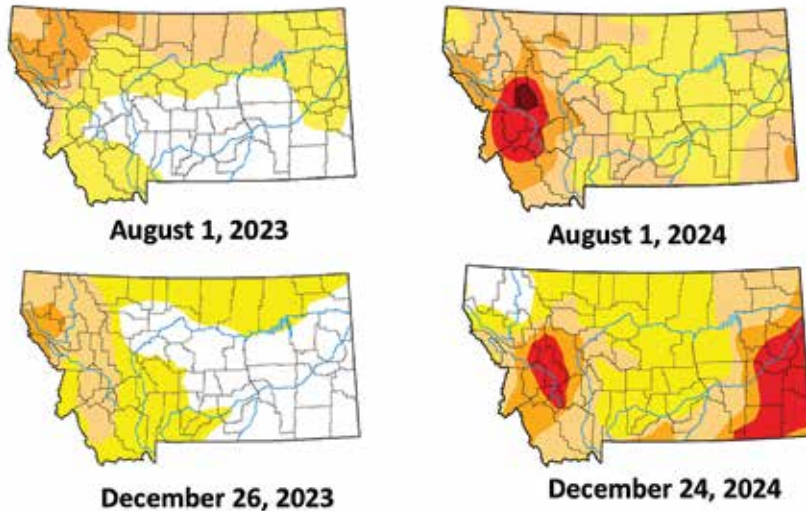


## Strong Calf Prices & Lower Wheat Prices



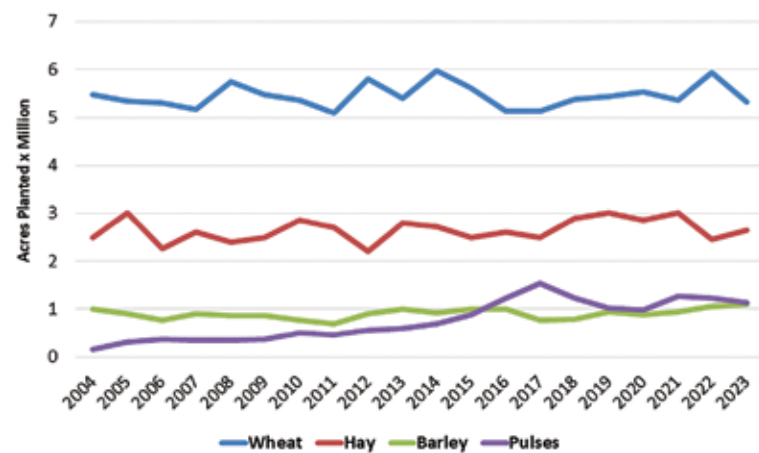
Source: USDA QuickStats (inflation-adjusted)

## Drought Conditions



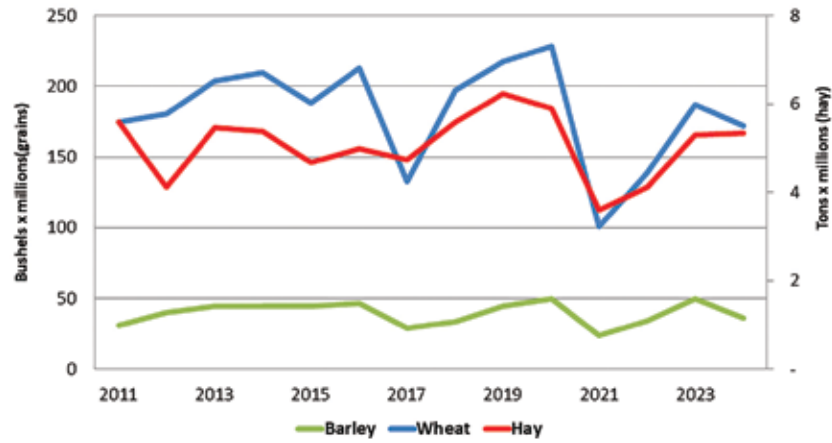
Source: UNL Drought Monitor

## Crop Acreage 2004 - 2024



Source: USDA Quick Stats

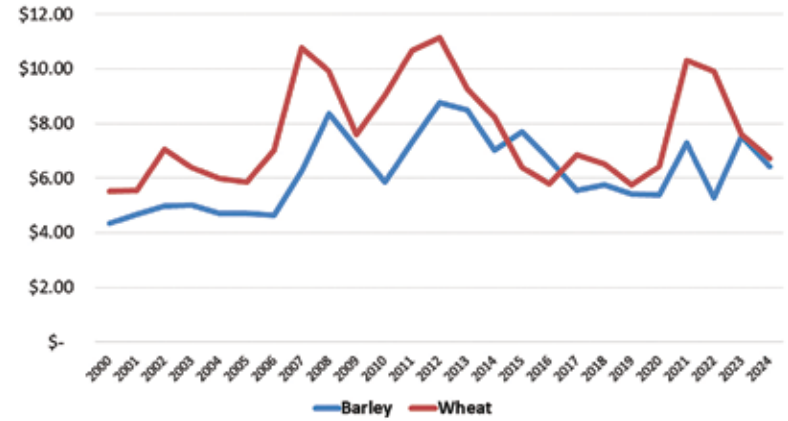
### Near Average Production 2024



Source: USDA QuickStats

5

### Wheat and Barley Prices, 2000 – 2024



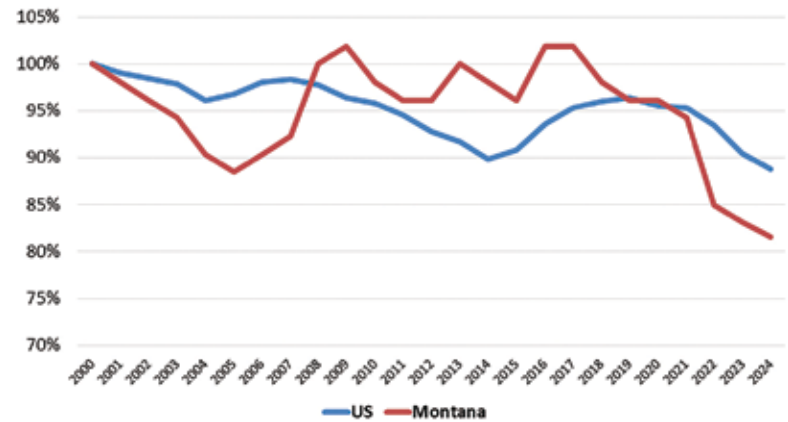
Source: USDA QuickStats, Aug. 2024, Inflation Adjusted, Marketing Year Data (6/1-5/31)

6

## LIVESTOCK

7

### Percent Change in US & Montana Cattle Herd



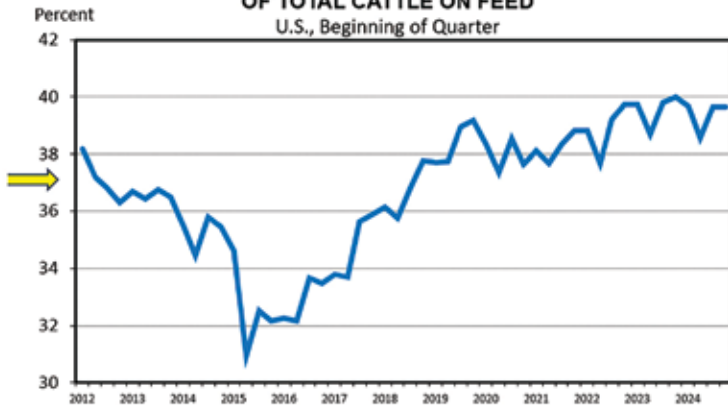
18% (480,000 head) decrease in total cattle inventory from 2000 – 2024 Montana Herd  
 11% (11,041,000 head) decrease in total cattle inventory from 2000-2024 US Herd  
 Source: NASS, January 1 inventory

8



## US Cattle Herd Rebuilding

HEIFERS ON FEED AS A PERCENT OF TOTAL CATTLE ON FEED  
U.S., Beginning of Quarter



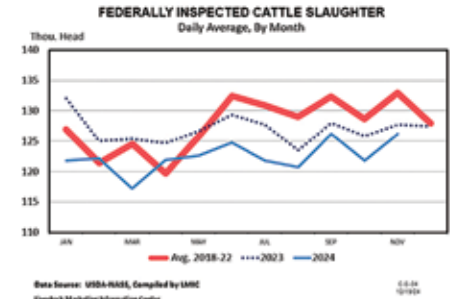
Data Source: USDA-NASS, Compiled by LMIC

10/25/24



## National Trends

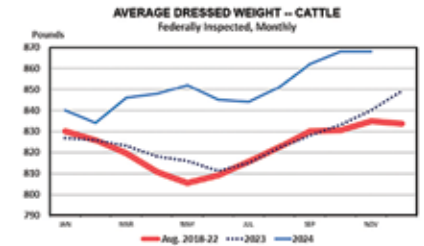
Cattle slaughter lower in 7 of 9 months



Data Source: USDA-NASS, Compiled by LMIC  
Livestock Marketing Information Center

11/14/24

Heavier animals at slaughter

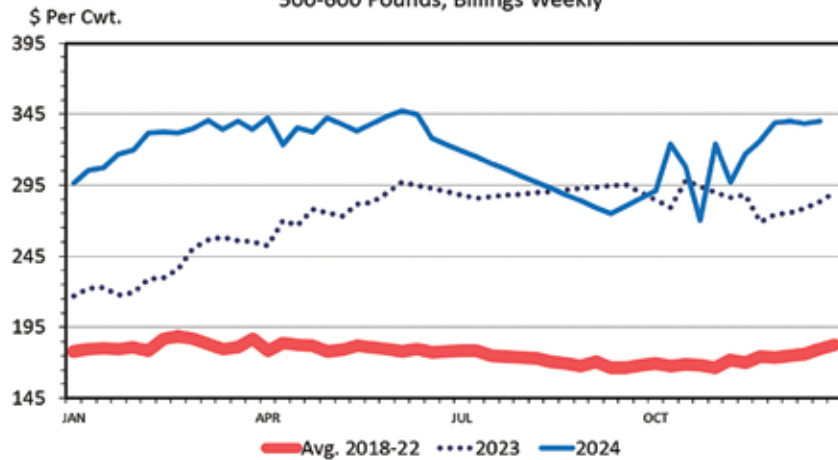


Data Source: USDA-NASS, Compiled by LMIC  
Livestock Marketing Information Center

11/14/24



## MED. & LRG. #1 STEER CALF PRICES 500-600 Pounds, Billings Weekly



Data Source: USDA-AMS, Compiled by LMIC

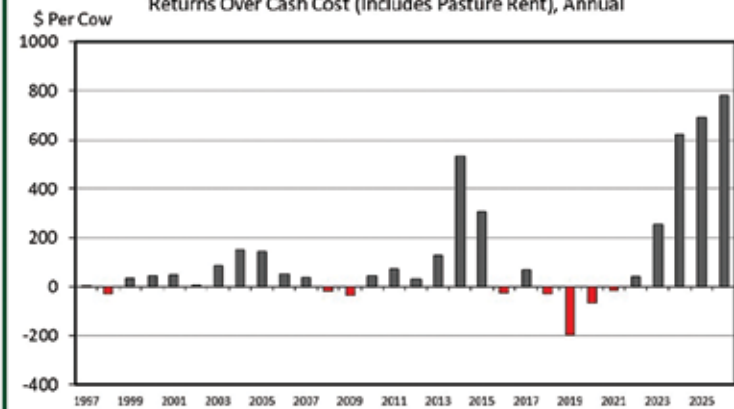
12/23/24

11



## US Cow/Calf Returns

ESTIMATED AVERAGE COW CALF RETURNS  
Returns Over Cash Cost (Includes Pasture Rent), Annual



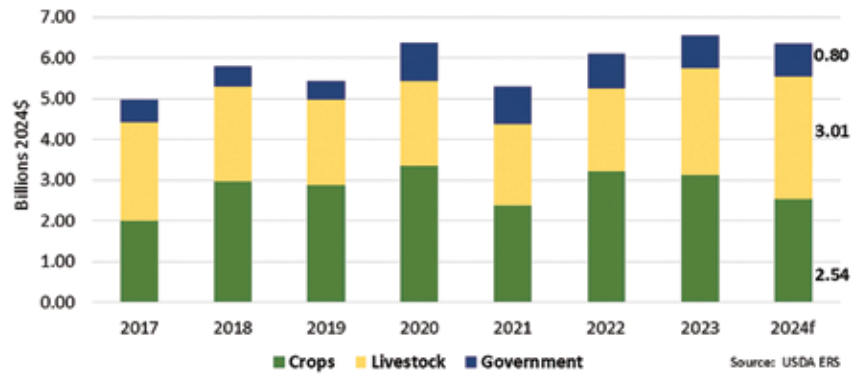
Data Source: USDA & LMIC, Compiled by LMIC  
Livestock Marketing Information Center

12



## Cash Receipts

Cash Receipts 2017 - 2024f



- 2024: 47% Livestock, 40% Crops and 13% Government Payments
- Average 2017-2023: 40% Livestock, 48% Crops, 12% Government Payments

13

## 2025 Policy Uncertainty

- When will Congress Pass a new Farm Bill?
  - 2018 Farm Bill Expired in the Fall of 2023
  - 1 year extension for 2024
  - 1 year extension for 2025
- Will the US have significant changes to Trade Policy?

14

# Montana's Forest Products Industry Update

Samuel Scott  
Forest Economist  
Bureau of Business and Economic Research



Montana's Forest Products Industry

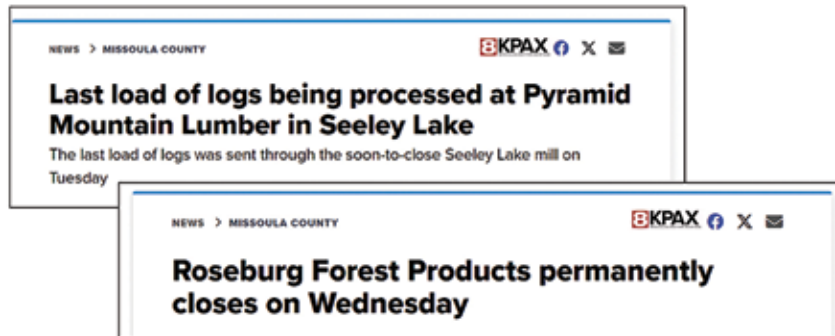
## Biggest Story of 2024

- Two mill closures
- Economic impacts
- Management impacts



Montana's Forest Products Industry

## Biggest Story of 2024



Montana's Forest Products Industry

## Economic Impacts

- Direct = employed by facility
- Indirect = business spending
- Induced = employee spending
- Total = Direct + Indirect + Induced



Montana's Forest Products Industry

## Economic Impacts

|         | Direct  | Indirect* | Induced* | Total   |
|---------|---------|-----------|----------|---------|
| Workers | 250     | 450       | 225      | 925     |
| Wages   | \$14.9M | \$20.9M   | \$7.4M   | \$43.2M |

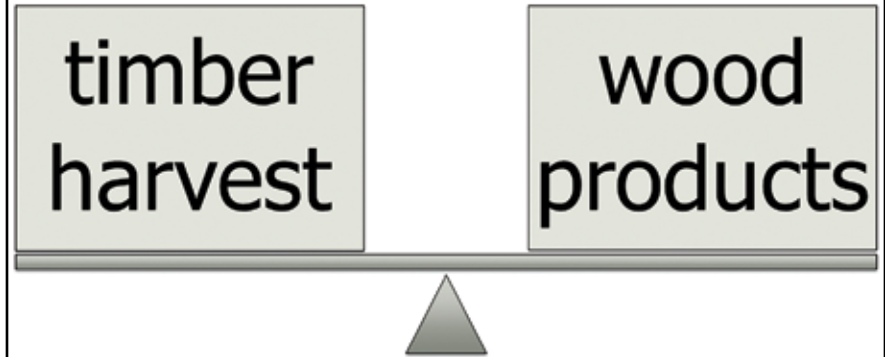
\*U.S. Bureau of Economic Analysis (RIMS II)



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Montana's Forest Products Industry

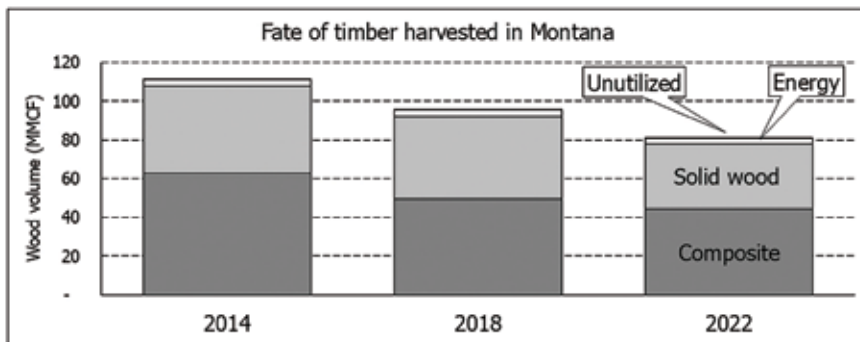
## Management Impacts



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Montana's Forest Products Industry

## Management Impacts



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Montana's Forest Products Industry

## Mill Closure Takeaways

- Total economic impact
  - 925 workers
  - \$43M annual wages
- Landscape impact
  - Mill capacity = management capacity
  - Lost capacity = 20 MMCF
  - MT timber harvest = 85 MMCF



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Montana's Forest Products Industry

## Other News

- Canadian lumber tariffs
  - Minimal impact on MT industry
- Continued industry shift to SE US
  - Available fiber, labor, infrastructure
- Positive national demand expected



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Montana's Forest Products Industry

## Thank You



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[www.bber.umt.edu/FIR](http://www.bber.umt.edu/FIR)



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UNIVERSITY OF MONTANA

Montana's Forest Products Industry



# The Economic Outlook for Cascade County

Patrick M. Barkey, Director  
Bureau of Business and Economic Research  
University of Montana



Cascade Outlook

## Continued Moderate Growth

- Swing in construction spending now completed
- Ag-related and manufacturing developments show promise
- Population dynamics swing positive



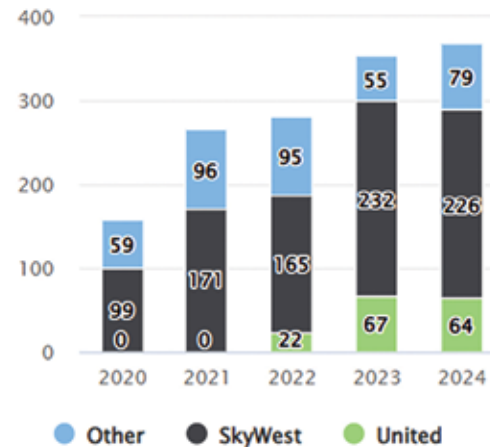
Cascade Outlook

## What Are the Most Prominent Industries in Cascade County?

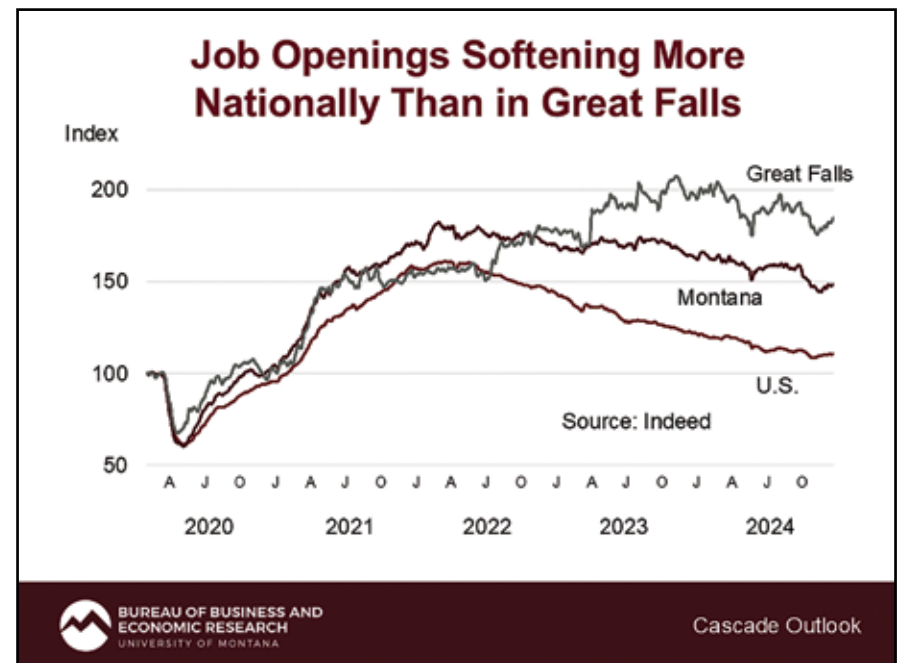
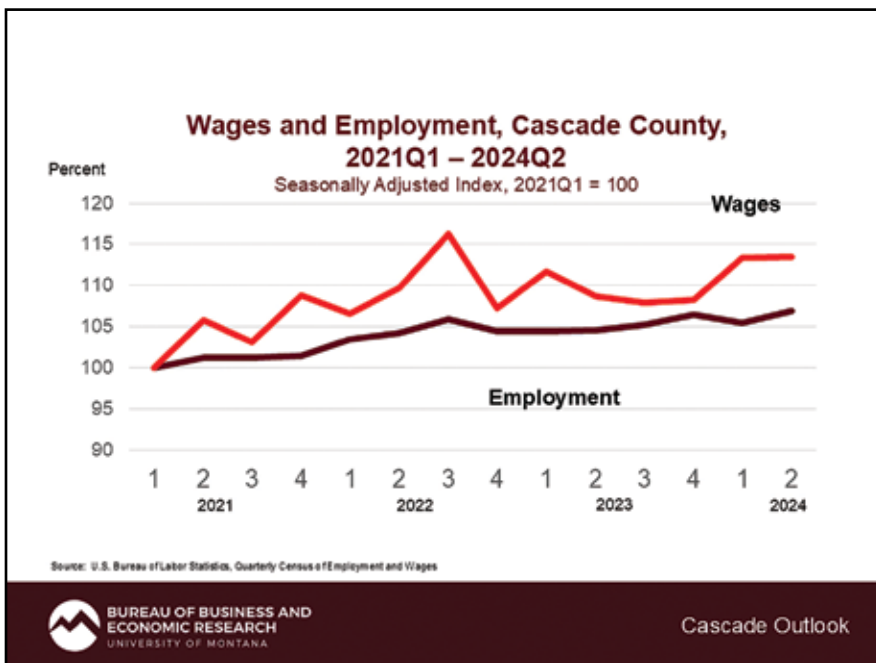
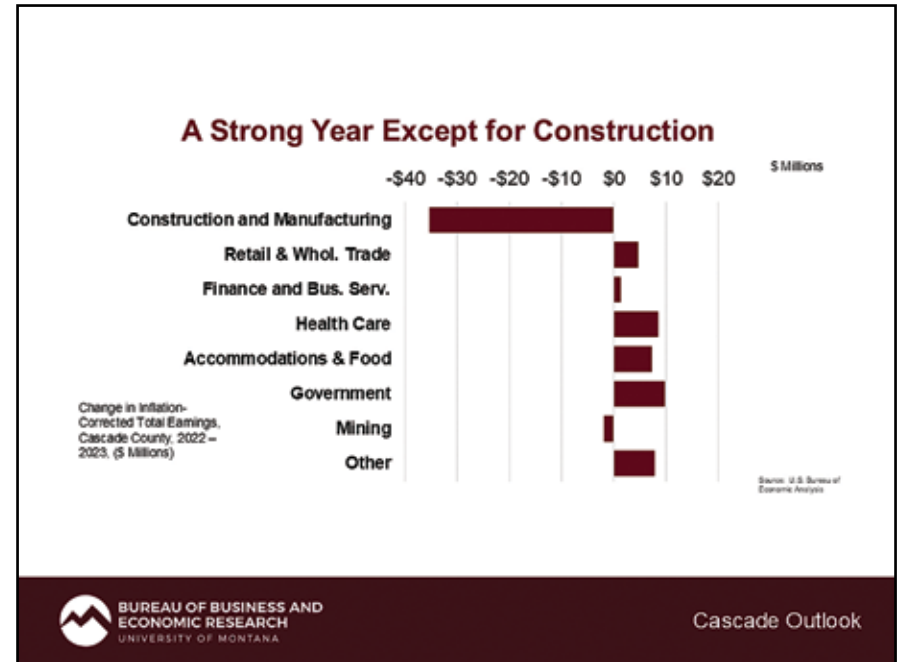
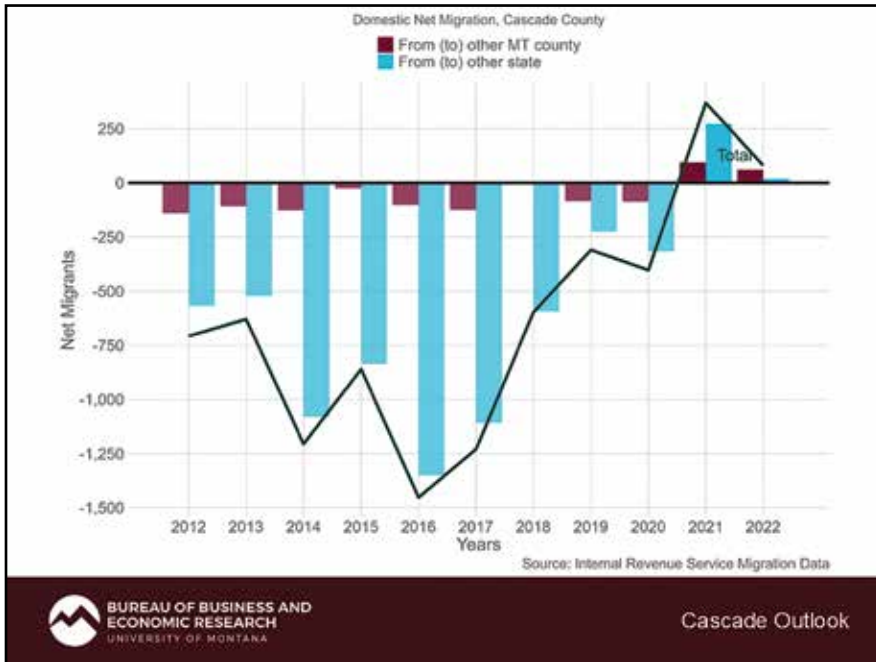


Cascade Outlook

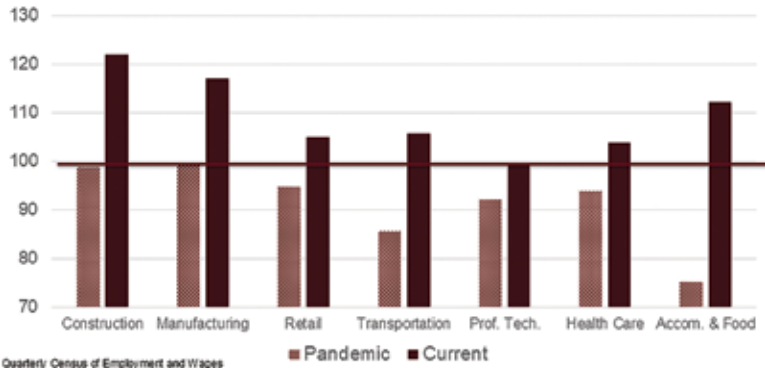
## Airport Growth Continued in 2024



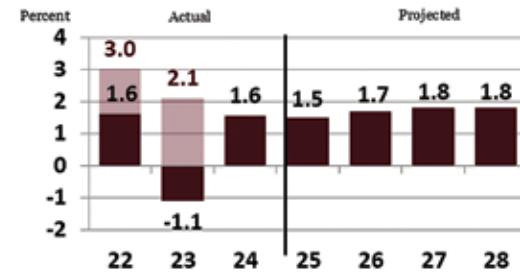
Cascade Outlook



## Cascade County Employment as Percent of pre-Pandemic Levels



## Growth in Nonfarm Earnings, Cascade County, 2022-2028



Source: BBER and U.S. Bureau of Economic Analysis

# The Economic Outlook for Flathead County

Patrick M. Barkey, Director  
Bureau of Business and Economic Research  
University of Montana



Flathead Outlook

## Strong Growth Continued in 2024

- Population in-migration remains the dominant economic story
- Tech-related growth and a bounce back in health care add additional spark to growth
- Higher interest rates and strong dollar are headwinds for growth



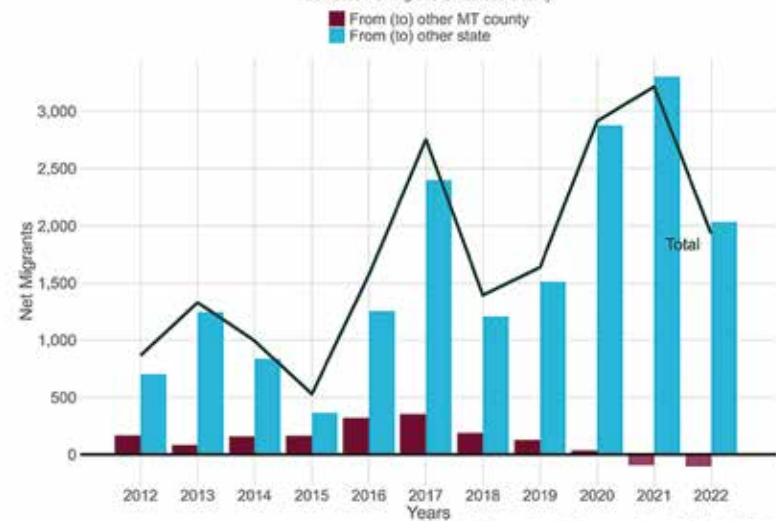
Flathead Outlook

## What Are the Most Prominent Industries in Flathead County?



Flathead Outlook

Domestic Net Migration, Flathead County

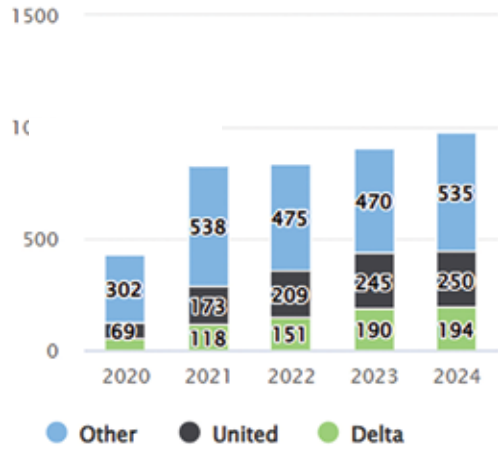


Source: Internal Revenue Service Migration Data

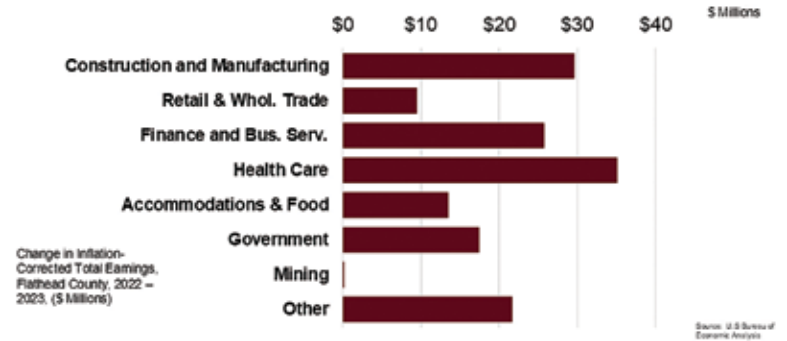


Flathead Outlook

## Airport Growth Continued in 2024

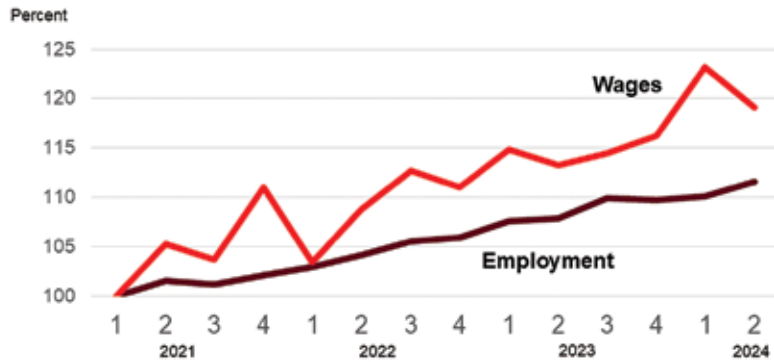


## Health Care Added to Growth in 2023



## Wages and Employment, Flathead County, 2021Q1 - 2024Q2

Seasonally Adjusted Index, 2021Q1 = 100



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

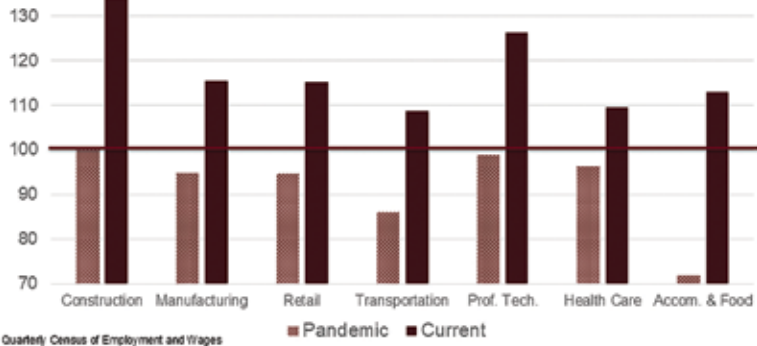
## Job Openings Softening More Nationally Than in Kalispell



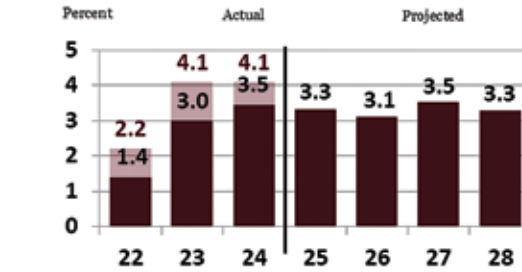
Source: Indeed



## Flathead County Employment as Percent of Pre-Pandemic Levels



## Growth in Nonfarm Earnings, Flathead County, 2022-2028



# The Economic Outlook for Gallatin County

Patrick M. Barkey, Director  
Bureau of Business and Economic Research  
University of Montana



Gallatin Outlook

## Growing Pains for Montana's Growth Leader

- Big visitor year and continued tech growth added a spark to growth last year
- Expansion of trade center, health care capacity challenged by labor force availability
- Affordability challenges evident from population migration shifts



Gallatin Outlook

## What Are the Most Prominent Industries in Gallatin County?

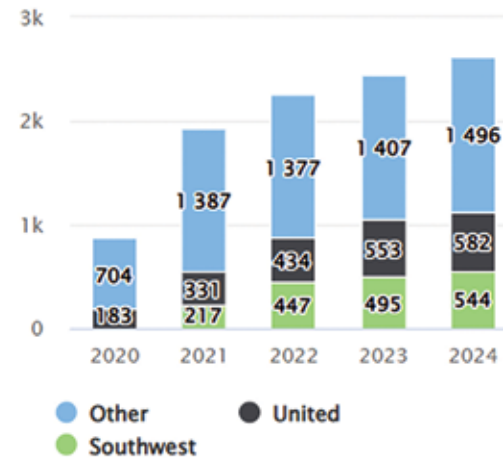


Source: U.S. Bureau of Economic Analysis

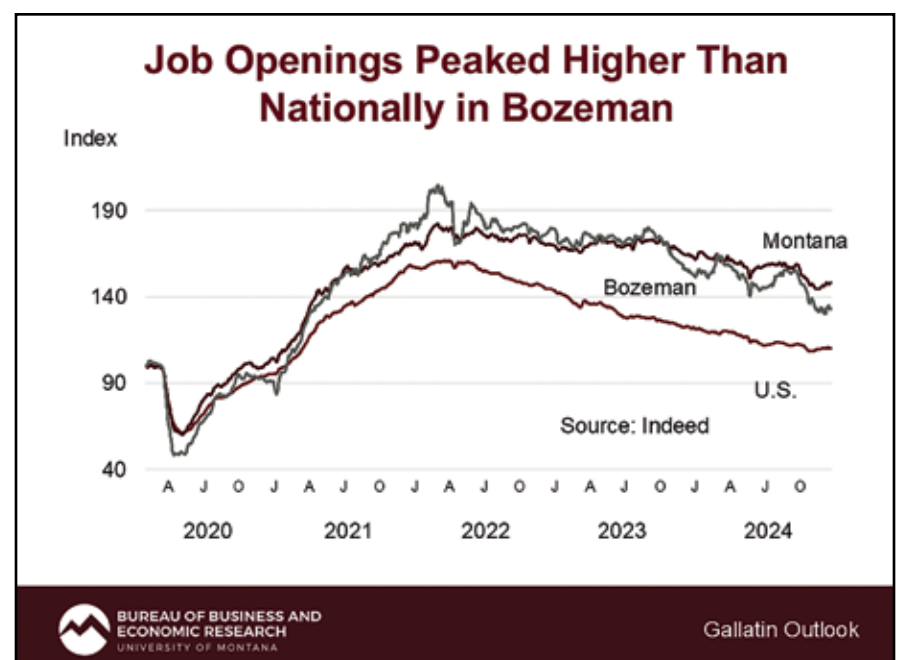
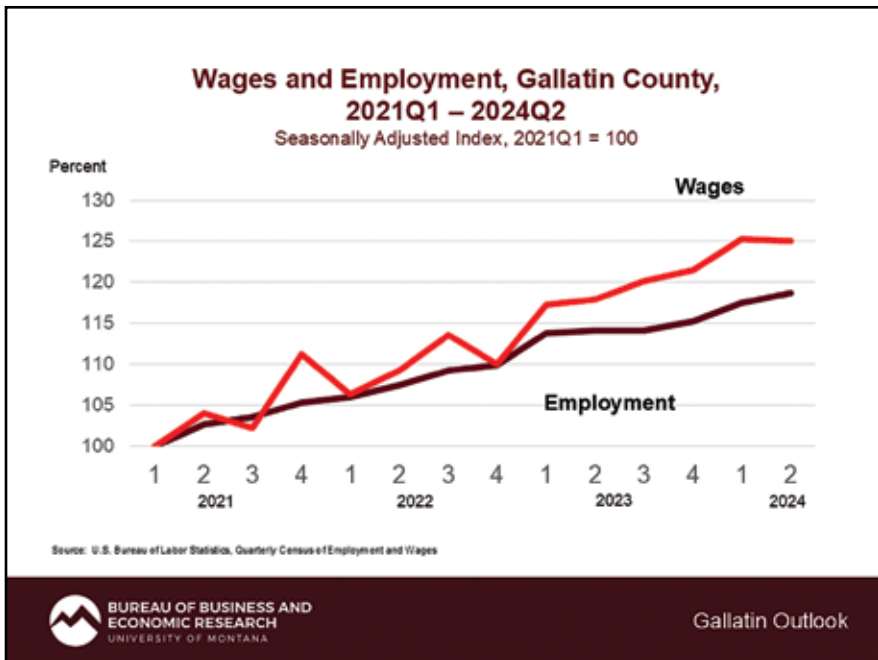
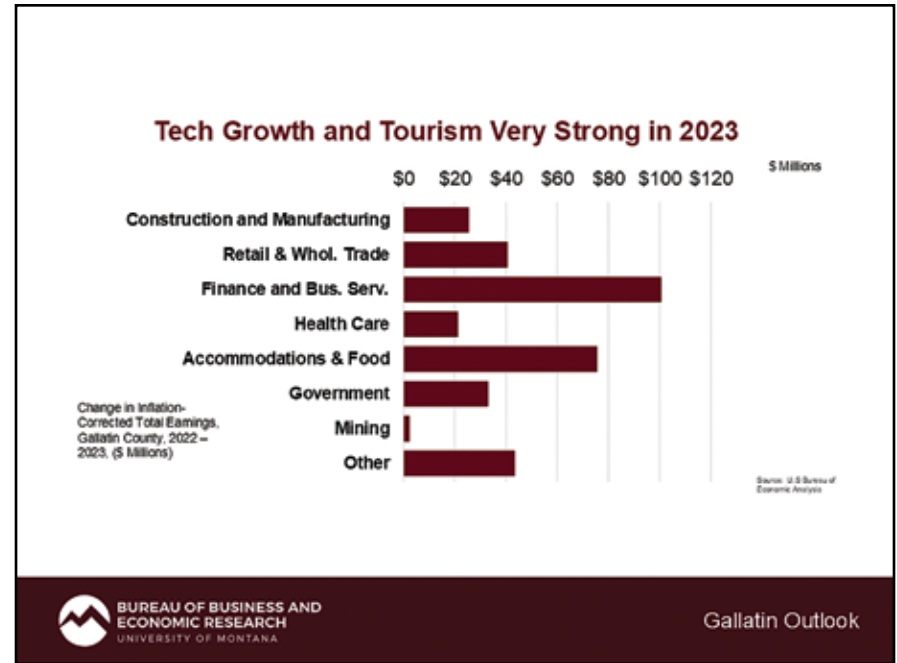
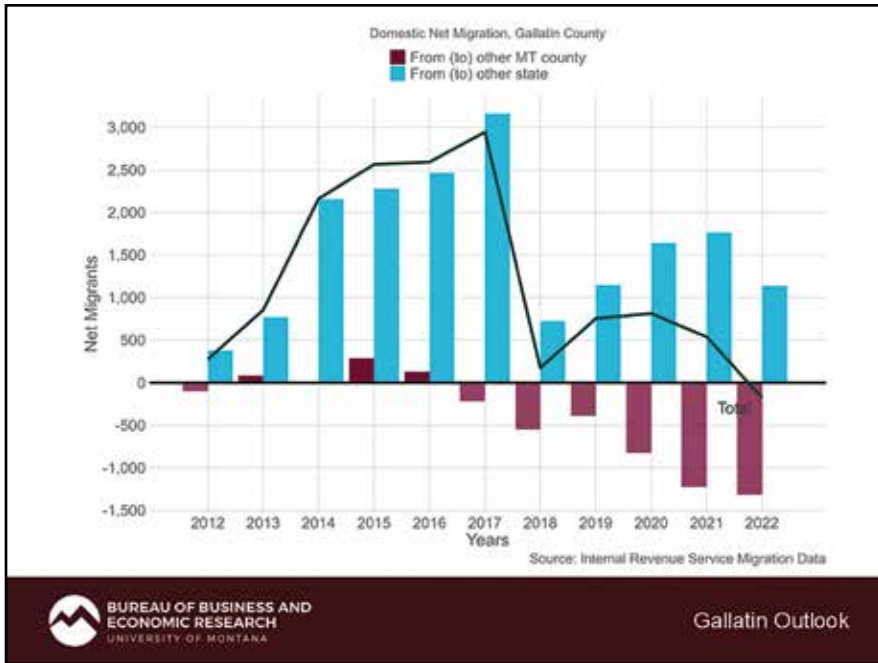


Gallatin Outlook

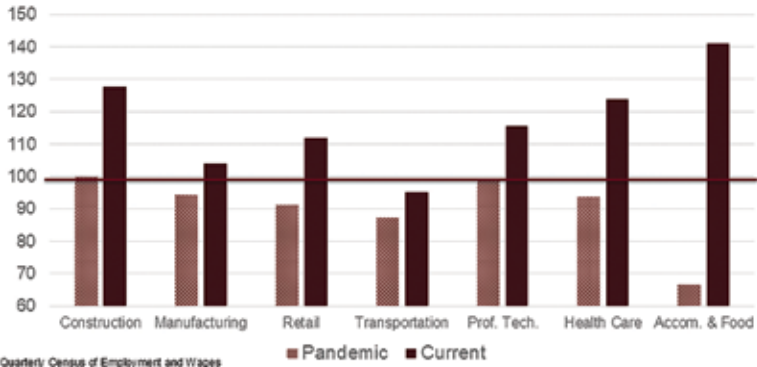
## Airport Growth Continued in 2024



Gallatin Outlook



## Gallatin County Employment as Percent of Pre-Pandemic Levels



Source: Quarterly Census of Employment and Wages

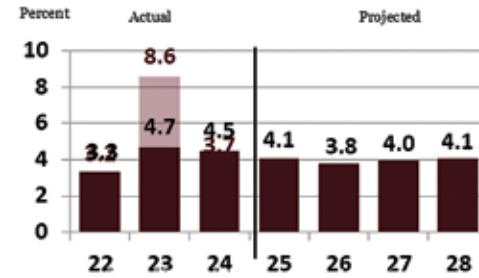
■ Pandemic ■ Current



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Gallatin Outlook

## Growth in Nonfarm Earnings, Gallatin County, 2022-2028



Source: BBER and U.S. Bureau of Economic Analysis



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Gallatin Outlook

# The Economic Outlook for Lewis and Clark County

Patrick M. Barkey, Director  
Bureau of Business and Economic Research  
University of Montana



Lewis and Clark Outlook

## Helena Area Finds a Higher Growth Gear

- Strong commercial construction winding down
- Strong population in-migration has continued
- State government has been unexpectedly volatile



Lewis and Clark Outlook

## What Are the Most Prominent Industries in Lewis and Clark County?

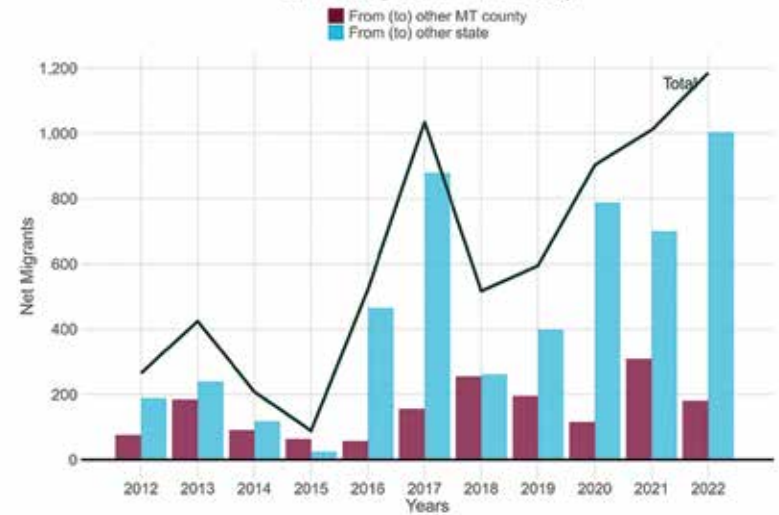


Source: U.S. Bureau of Economic Analysis



Lewis and Clark Outlook

Domestic Net Migration, Lewis and Clark County



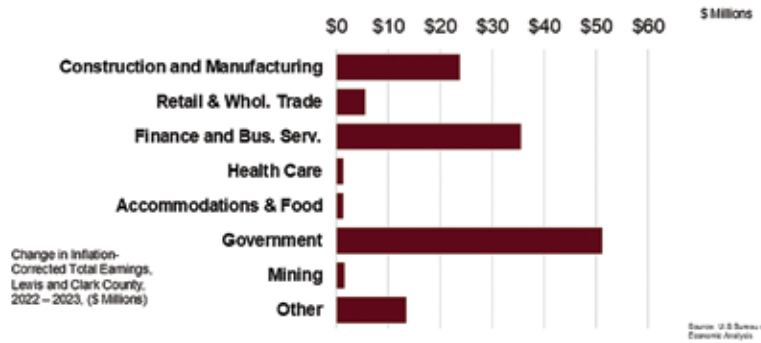
Source: Internal Revenue Service Migration Data



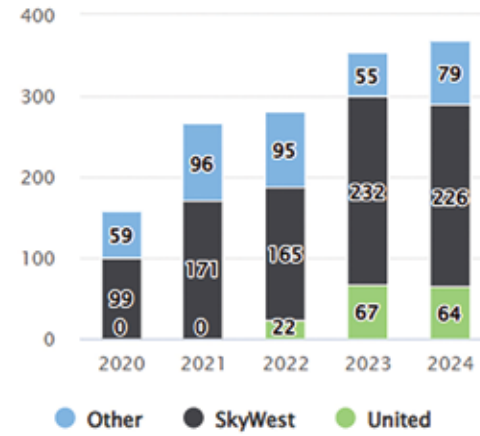
Lewis and Clark Outlook



### Government Earnings Bounce up Strongly

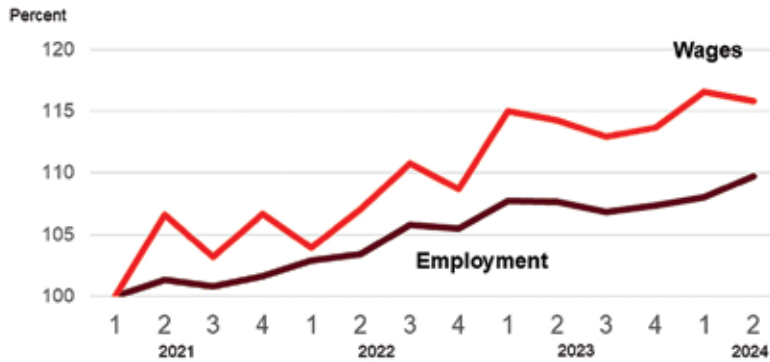


### Airport Growth Continued in 2024



### Wages and Employment, Lewis and Clark County, 2021Q1 – 2024Q2

Seasonally Adjusted Index, 2021Q1 = 100



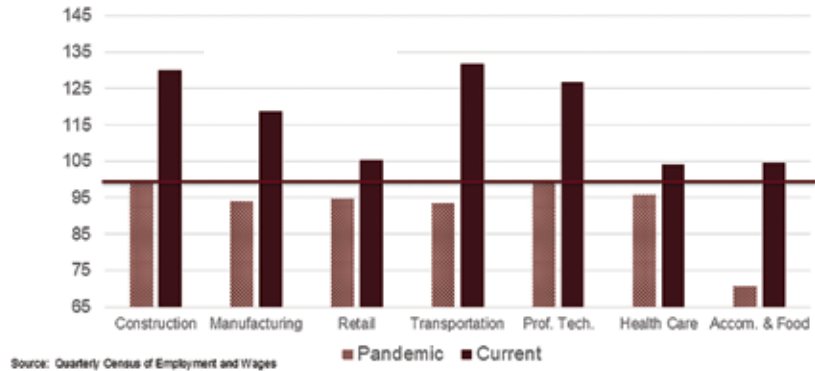
Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

### Job Openings Peaked Higher Than Nationally in Helena

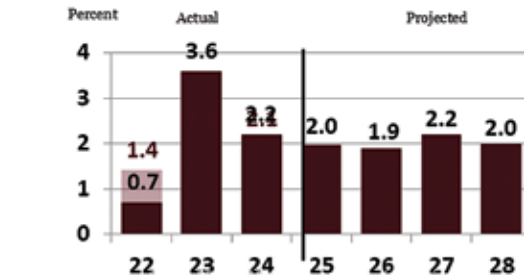


Source: Indeed

## Lewis and Clark County Employment as Percent of Pre-Pandemic Levels



## Growth in Nonfarm Earnings, Lewis and Clark County, 2022-2028



Source: BBER and U.S. Bureau of Economic Analysis

# The Economic Outlook for Missoula and Ravalli Counties

Patrick M. Barkey, Director  
Bureau of Business and Economic Research  
University of Montana



Missoula Outlook

# Missoula's Economy Took Punches in 2024

- Wood products closures not yet registered in the most comprehensive data
- Multi-unit residential construction surge is over
- Manufacturing, tech growth remain a positive
- Affordability challenges evident



Missoula Outlook

## What Are the Most Prominent Industries in Missoula County?



Source: U.S. Bureau of Economic Analysis



Missoula Outlook

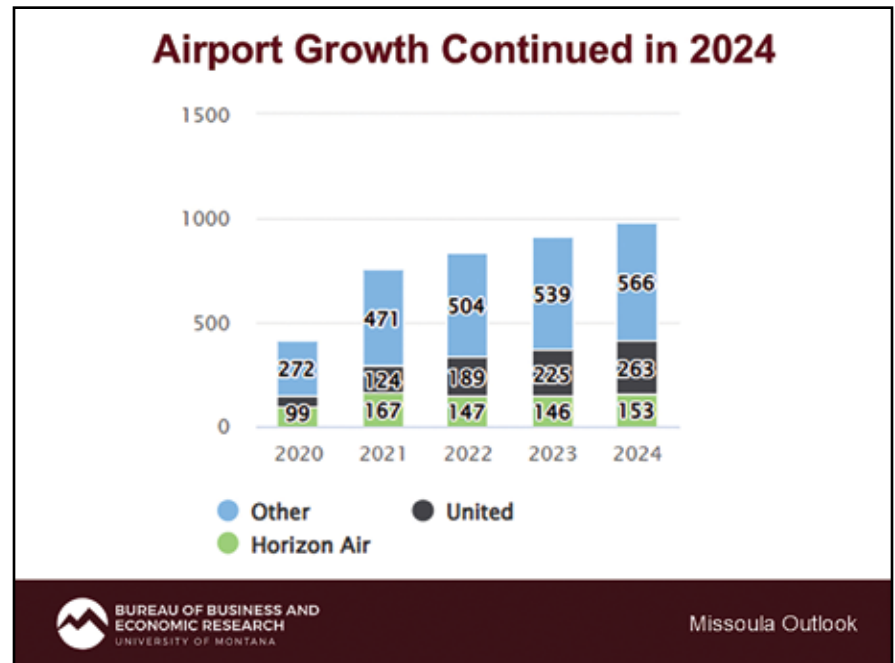
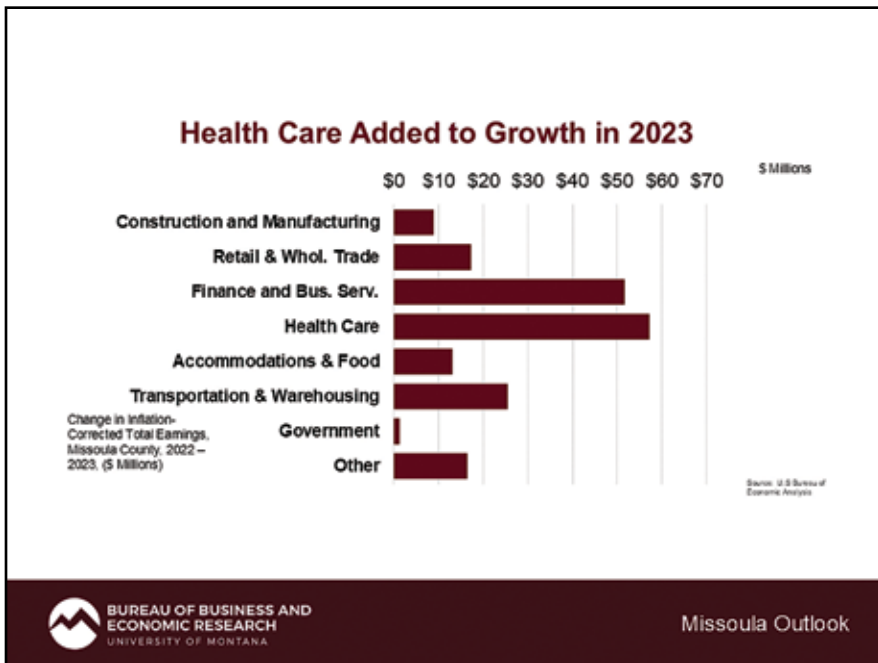
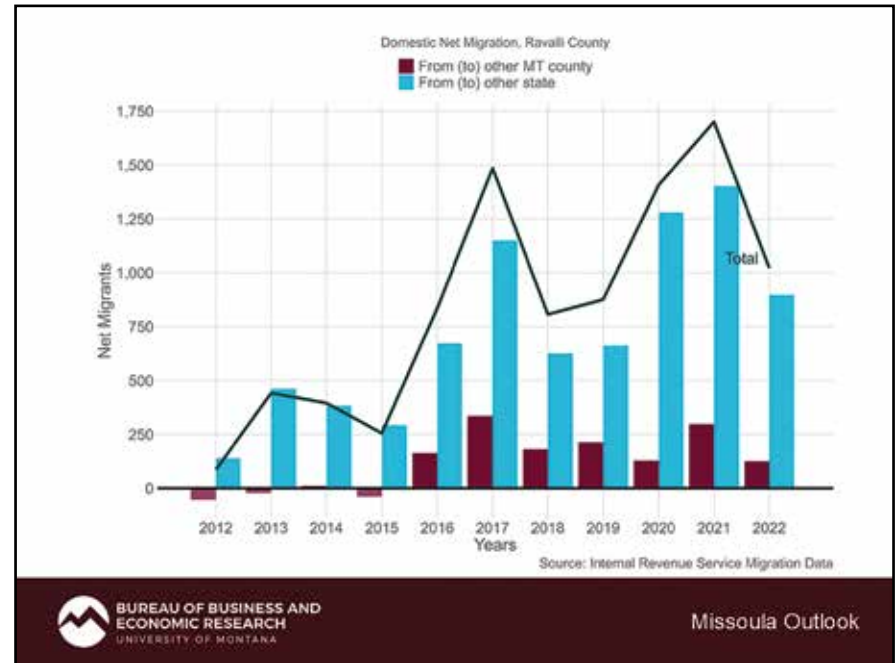
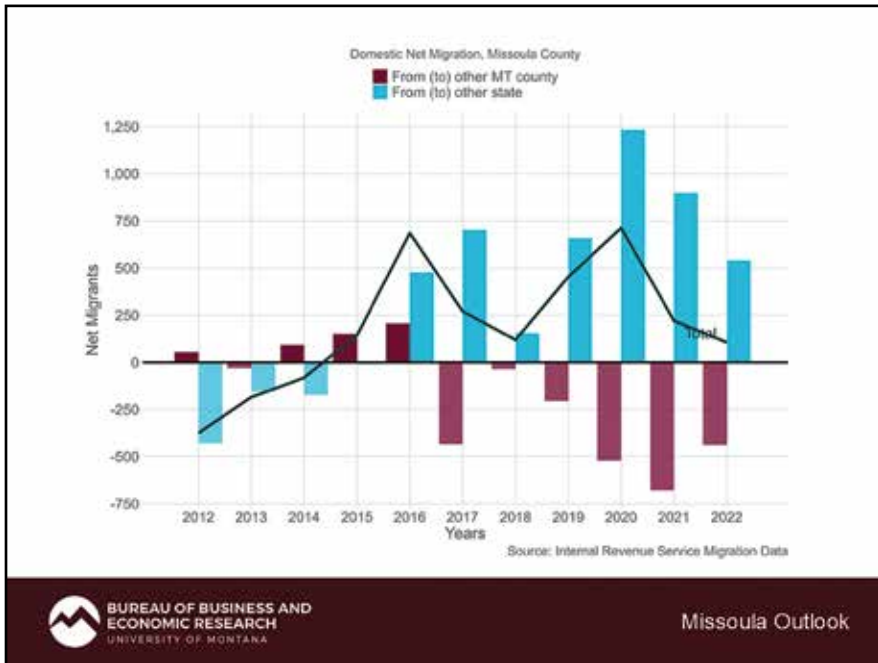
## What Are the Most Prominent Industries in Ravalli County?



Source: U.S. Bureau of Economic Analysis



Missoula Outlook



### Wages and Employment, Missoula County, 2021Q1 – 2024Q2

Seasonally Adjusted Index, 2021Q1 = 100

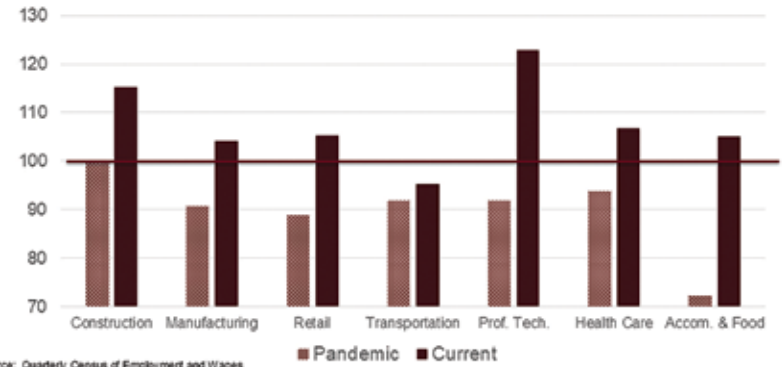


Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages



Missoula Outlook

### Missoula County Employment as Percent of Pre-Pandemic Levels



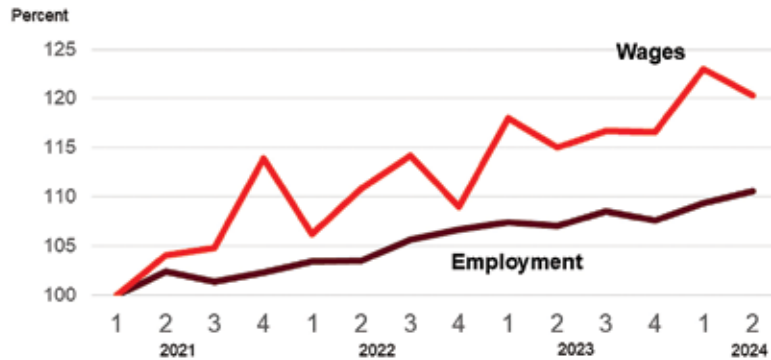
Source: Quarterly Census of Employment and Wages



Missoula Outlook

### Wages and Employment, Ravalli County, 2021Q1 – 2024Q2

Seasonally Adjusted Index, 2021Q1 = 100



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages



Missoula Outlook

### Job Openings Converging to US Trends in Missoula



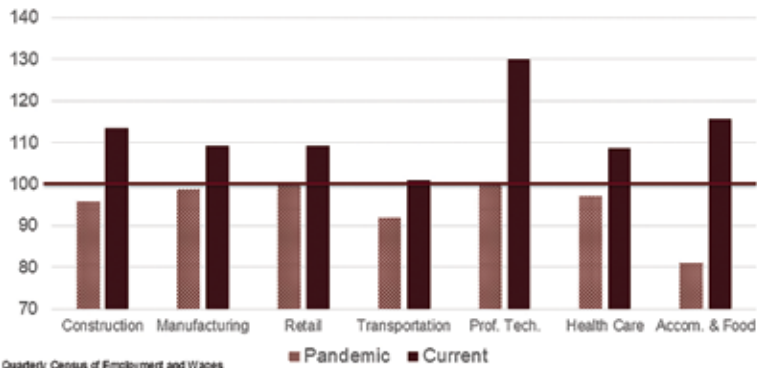
Source: Indeed



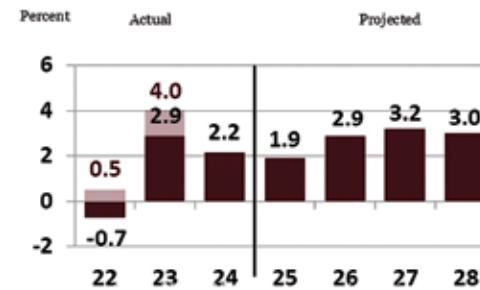
Missoula Outlook



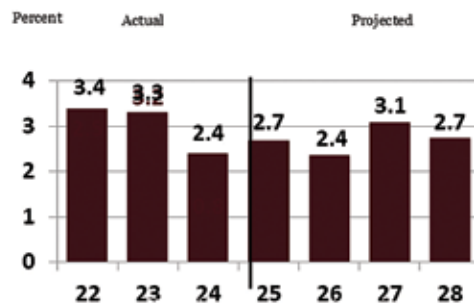
## Ravalli County Employment as Percent of Pre-Pandemic Levels



## Growth in Nonfarm Earnings, Missoula County, 2022-2028



## Growth in Nonfarm Earnings, Ravalli County, 2022-2028



# The Economic Outlook for Silver Bow County

Patrick M. Barkey, Director  
Bureau of Business and Economic Research  
University of Montana



Silver Bow Outlook

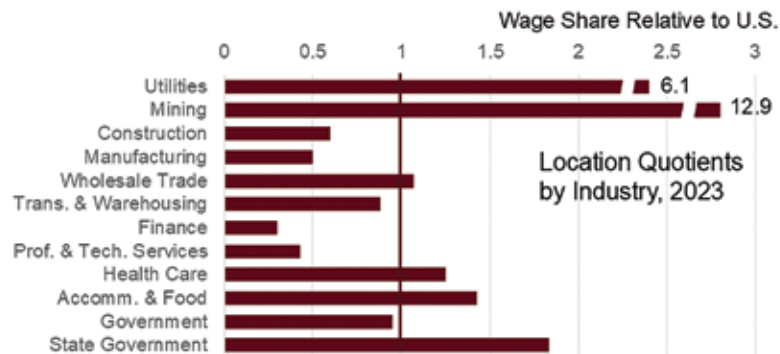
## Butte-Silver Bow Growth Has Changed Course

- Population growth since the pandemic is a new economic driver
- Visitor industries growing in prominence
- Global commodity markets softening



Silver Bow Outlook

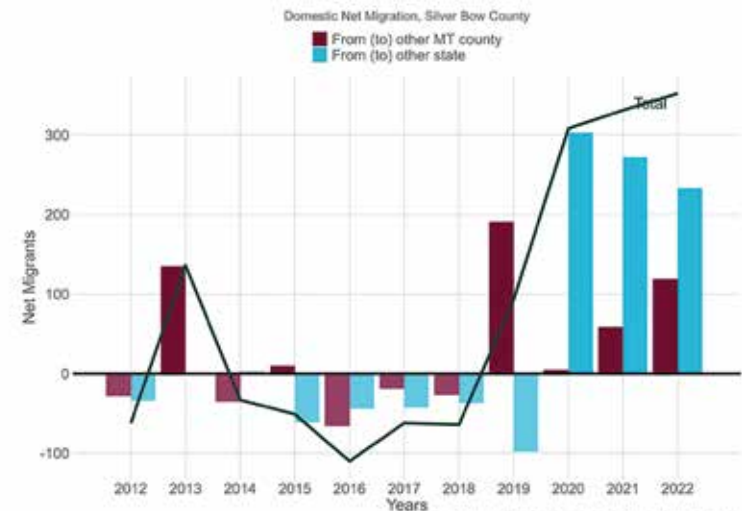
## What Are the Most Prominent Industries in Silver Bow County?



Source: U.S. Bureau of Economic Analysis



Silver Bow Outlook

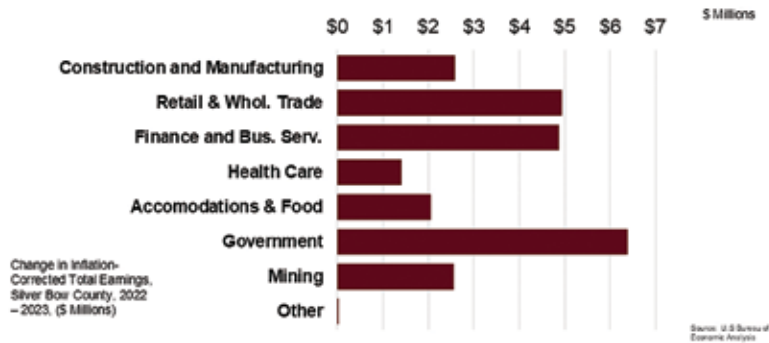


Source: Internal Revenue Service Migration Data

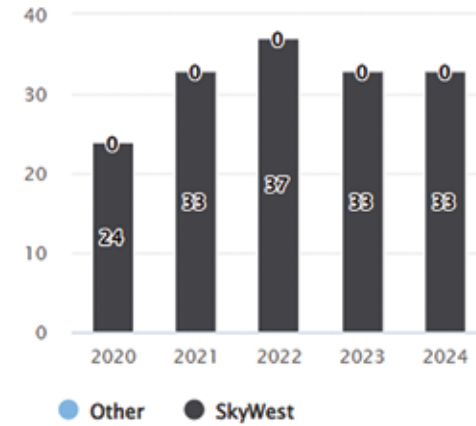


Silver Bow Outlook

### Growth Was Balanced in 2023



### Butte Airport Enplanements Stagnate

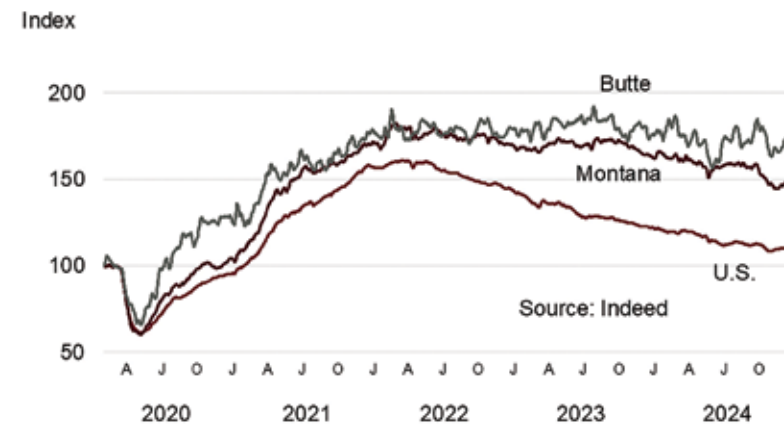


### Wages and Employment, Silver Bow County, 2021Q1 - 2024Q2

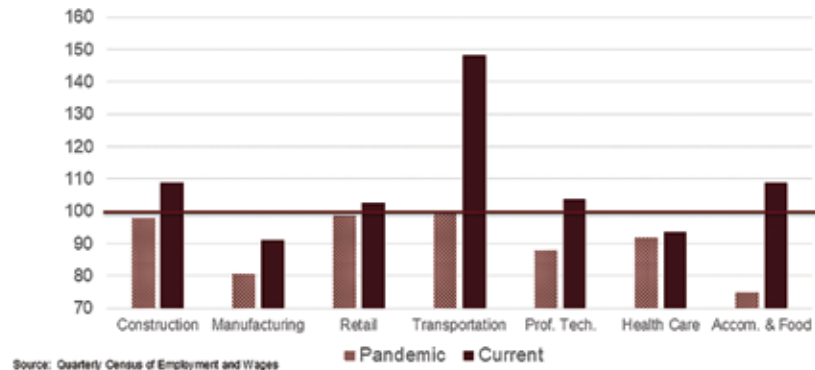
Seasonally Adjusted Index, 2021Q1 = 100



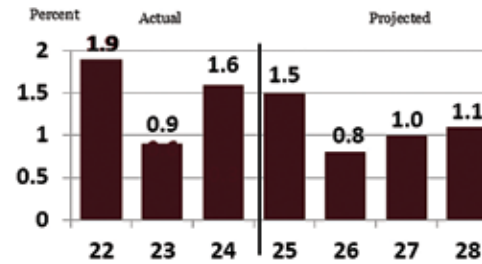
### Job Openings Remain High in Butte



## Silver Bow County Employment as Percent of Pre-Pandemic Levels



## Growth in Nonfarm Earnings, Silver Bow County, 2022-2028



# The Economic Outlook for Yellowstone County

Patrick M. Barkey, Director  
Bureau of Business and Economic Research  
University of Montana



Yellowstone Outlook

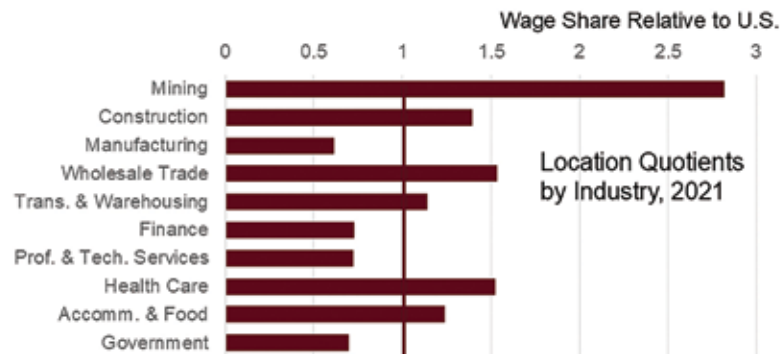
## Continued Growth in Montana's Most Diversified Economy

- Labor market, job growth have cooled
- Population in-migration adds fuel for growth
- Health care faces financial pressures, but also growing demand
- Will the new political climate for energy development turn things around?



Yellowstone Outlook

## What Are the Most Prominent Industries in Yellowstone County?

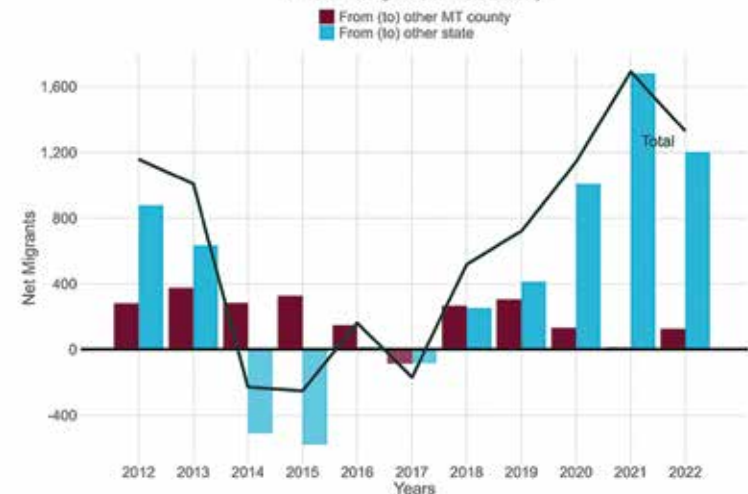


Source: U.S. Bureau of Economic Analysis



Yellowstone Outlook

Domestic Net Migration, Yellowstone County



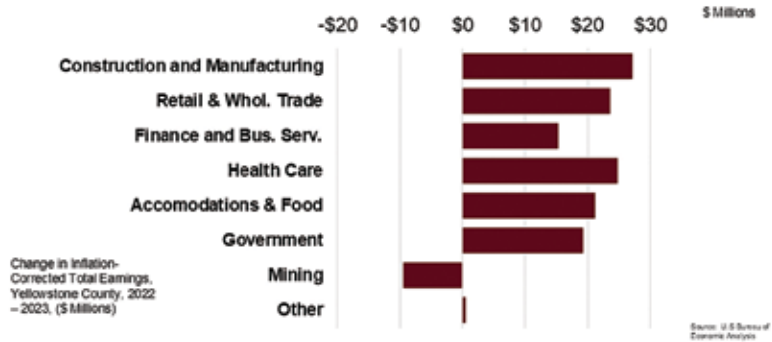
Source: Internal Revenue Service Migration Data



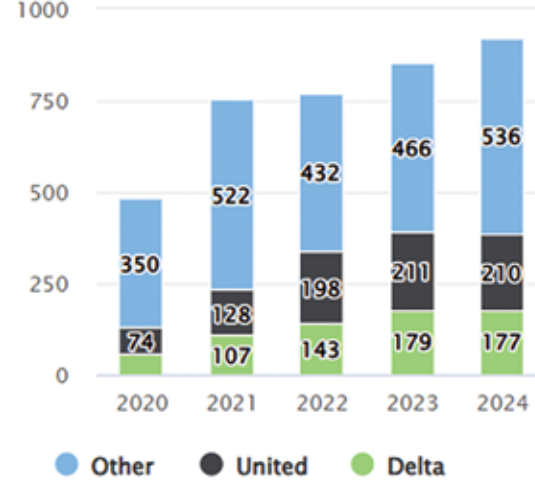
Yellowstone Outlook



### Mining Was the Growth Exception in 2023



### Airport Growth Continued in 2024

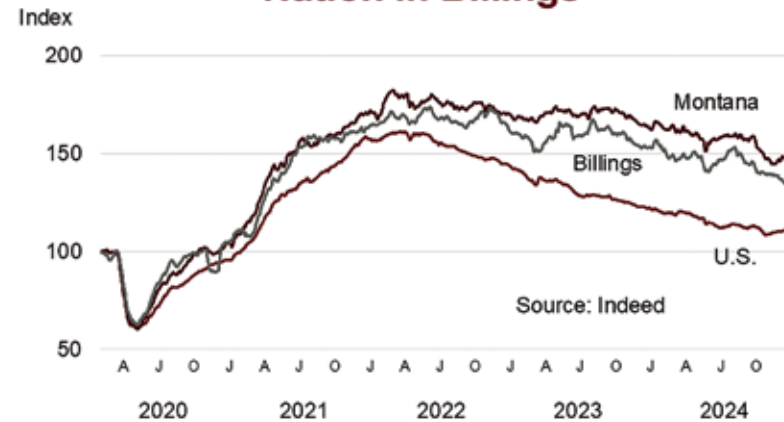


### Wages and Employment, Yellowstone County, 2021Q1 – 2024Q2

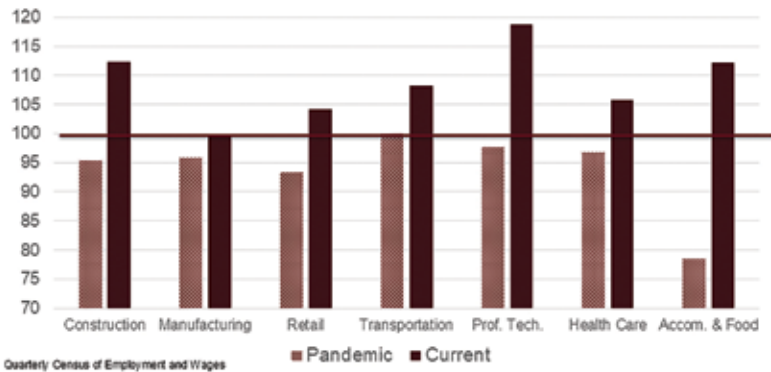
Seasonally Adjusted Index, 2021Q1 = 100



### Job Openings Remain Higher Than Nation in Billings



## Yellowstone County Employment as Percent of Pre-Pandemic Levels

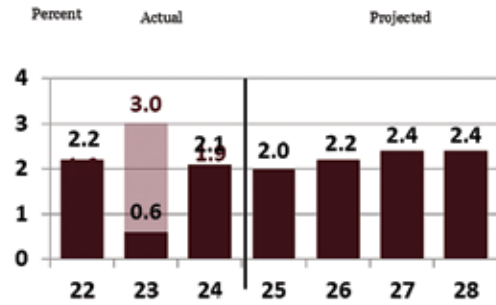


Source: Quarterly Census of Employment and Wages



Yellowstone Outlook

## Growth in Nonfarm Earnings, Yellowstone County, 2022-2028



Source: BBER and U.S. Bureau of Economic Analysis



Yellowstone Outlook



Today's Topics

- Electrification Demand Expansion
- Investment Needs Going Forward

# Electrification Demand Expansion

### Musk and Gates on Future of Electricity Need

**"...It's going to be 2x current loads, probably by 2045."**

EEI 2023

*"The need for electricity is going to be extremely high—higher than we can imagine—and while this is good news for the electric companies that produce it, the effort required to address demand will be tremendous."*

Elon Musk

**"A fully green grid will have a load of nearly 2.5 times of today's capacity."**

EEI 2023

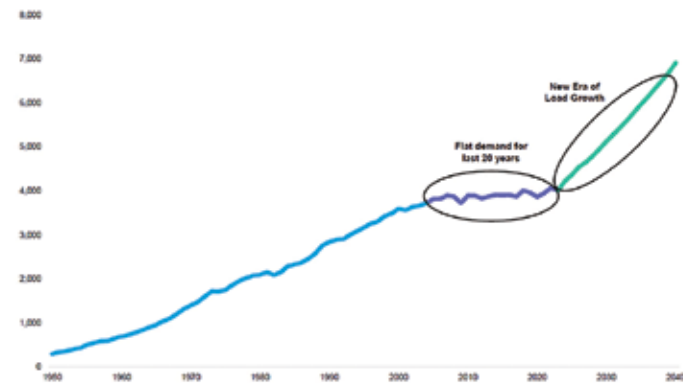
*"Massive electrification is daunting, but you can see that there is a path ... Electrification is what it's all about. It's a huge opportunity."*

Bill Gates

Source: <https://www.watoday.com/story/news/energy/2023/01/25/elon-musk-bill-gates-eei-2023-01/11771177001>

## Electricity Growth Projection in the U.S.

U.S. Power Demand (TWh)



After years of low or stagnant growth in electricity demand in the United States, we are expecting a significant growth increase over the next 15 or so years.

Source: Morgan Stanley – Global Power & Utility Group Seminar 2024 presentation materials – December 5, 2024

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## North America's Energy Crisis

### Reliability Officials Warn of Possible Energy Shortfalls Over the Next Decade

The electric industry in North America is facing "critical reliability challenges" over the next 10 years due to

- 1) Increasing load (largely due to increased crypto and AI data centers and Electric Vehicle (EV) expansion)
- 2) Generator retirements (115 GW announced retirements – largely coal over next 10 years), and
- 3) Barriers to development of new generation and transmission resources (supply chain issues, permitting, construction demand)



More than half of North America is at elevated or high risk of energy shortfalls in the next five to 10 years, the North American Electric Reliability Corporation (NERC)'s 2024 Long-Term Reliability Assessment.

- Summer peak demand forecasted to rise 15% for the next 10 years to 132 GW (up from 80 GW in '23 projections)
- Transmission lines (needed to move the energy around the U.S.) have 1,160 projects planned or in construction and many are facing siting and permitting issues

Sources: 'Reliability Officials Warn of Possible Energy Shortfalls Over the Next Decade' from newsdata.com, December 17, 2024

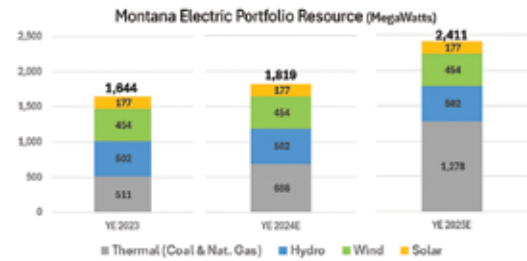
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## NWE MT Electric Portfolio to Serve Montana

At the end of 2023 we had 1,644 megawatts of generation (both owned and long-term contracted) to serve our Montana customers.

We added the Yellowstone County Generating Station in 2024 (175MW) and will also add Avista and Puget Sound's share of Colstrip, totaling 592 MW, on December 31, 2025.

At the start of 2026, we will have over 2,400 MW of electric generation to serve our Montana customers and supply electricity to the data centers we recently announced to serve.

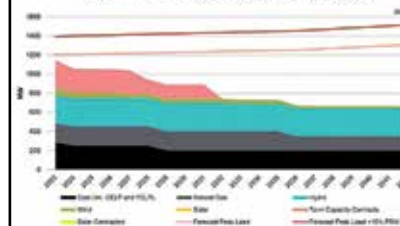


We are still nervous about this winter season but the addition of YCGS and Colstrip will provide much needed relief.

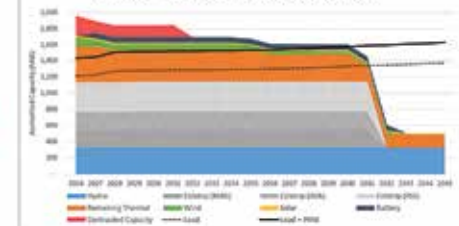
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## Montana's Capacity Crisis Averted?

NWE's Winter Capacity WITHOUT YCGS and Colstrip Acquisition  
Historical Effective Load-Carrying Capability (ELCCs)



NWE's Winter Capacity WITH YCGS and Colstrip Acquisitions  
Historical Effective Load-Carrying Capability (ELCCs)



(LEFT) Without current and future Colstrip generation and the addition of the Yellowstone County Generating Station (YCGS), NorthWestern customers face an immediate and potentially life-threatening capacity deficit.

(RIGHT) With the additional Colstrip and YCGS, both able to help with our capacity need, we can anticipate enough electricity generated in our portfolio to support our customer needs.

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## Importance of YCGS Plant

### Why YCGS is Critical to NorthWestern Energy Capacity Needs

- 175MW is essential to meet growing energy demands in our region
- Addresses critical shortfalls in peak usage periods

### Reliability & Resilience

- Ensures grid stability during extreme weather conditions
- Reduces dependence on volatile market prices

### Economic Value

- Cost-effective solution compared to alternatives
- Supports local economic growth and job creation

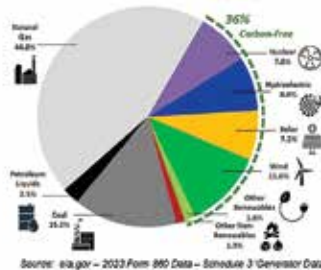
### Sustainability Focus

- Designed to integrate with renewable energy sources
- Reduces overall carbon footprint while ensuring reliability

### Customer Benefits

- Protects against power outages and price spikes
- Maintains affordable energy for our customers

US Electric Power Sector - Electric Generation 2025 Portfolio by Nameplate Capacity



Source: eia.gov - 2022 Form 860 Data - Schedule 3 - Generator Data

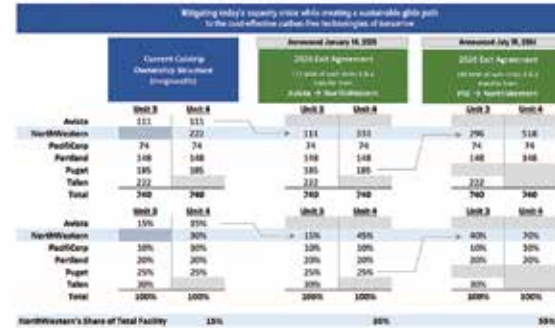
At the end of 2023, there were 573.9 GW of natural gas plants in the U.S. - making up 44.8% of the total U.S. electric power sector.

The YCGS plant in Montana is 175 MegaWatts (MW) or 0.2 GigaWatts (GW) or 0.03% of natural gas plants in the U.S.

There are currently 53.8 GW of natural gas plants under construction with more being developed for AI demand.

Natural Gas plants are here to stay as a bridge for renewables until renewable energy solutions are developed to provide both reliable and affordable energy.

## Colstrip Facility Ownership



**55%**

In January 2025, we will own 55% of Colstrip Units 3 & 4.

This allows us to guide investments in operation and maintenance in providing on-demand, 24/7 cost-effective generation for our Montana customers until a viable equivalent, carbon-free energy resource is available.

## Data Centers and Other Large Load Entities Looking for Power

Expect to see a lot of natural gas plants built over the next 10 years.

Why natural gas plants and not wind, solar, battery or nuclear?

- Gas turbine plants are dispatchable – can ramp up or down to adjust to need
- Wind and Solar are both intermittent and not dependable at all times
- Batteries can help spell the intermittency of wind/solar but very expensive and are short duration
- Nuclear (small modular reactors) are not expected to become a reality until roughly 2032

Generation, likely natural gas plants, expected to grow. One manufacturer, GE Vernova, plans to sign 20 GW each year, more than half of which built in the U.S.

How much is 20 GigaWatt of energy?

The state of Montana has ~6.9 GW of electric generation in its entire portfolio

Sources: "GE Vernova signs 9 GW of gas turbine reservations in past month" from Power Engineering (power-eng.com), December 17, 2024 and EIA.gov

## New Data Centers Provide Substantial Benefits to Montanan's

**Rate Moderation:** Adding large customers with high energy usage spreads fixed costs over more kilowatt-hours, lowering and stabilizing the cost per unit for everyone

**Increased Property Tax Revenue:** Large load customers, like data centers, contribute significantly to local property tax bases through their substantial infrastructure investments, providing funds for schools, public services, and community development.

**Economic Development:** Large load customers bring jobs and infrastructure investments, benefiting the local economy.

**Grid Efficiency:** High-consumption customers can help utilities optimize their grid usage, improving overall system efficiency and reliability.

**Revenue Stability:** Large load customers provide a steady and predictable revenue stream, helping stabilize rates for all customers.

**Renewable Energy Integration:** Data centers and similar customers often invest in renewable energy or partner with utilities for green power, advancing sustainability goals.

**Strengthened Utility Financials:** Increased revenues from large customers can support broader infrastructure upgrades and innovation, benefiting all customer classes.

**Local Community Benefits:** These projects often come with corporate social responsibility initiatives that enhance local communities, such as educational programs or environmental projects.





## Investments Needs Going Forward

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## Wildfire and Distribution Investment

| Plan Category            | Summary  | Utility Reliability | Resilient & Environmental Performance | Advanced Metering Infrastructure | Health & Environmental | % Customer Investment vs. Historical | 1 Year Estimated Funded Capex | 5 Year Estimated Investment Capex |
|--------------------------|--|---------------------|---------------------------------------|----------------------------------|------------------------|--------------------------------------|-------------------------------|-----------------------------------|
| Strategic Investments    | Building inventory of high-risk areas to allow operational practices   | ✓                   | ✓                                     |                                  | ✓                      | 21%                                  | -                             | \$9.3B                            |
| Operational Practices    | Review of operational plans and wildfire mitigation aligned to the system needs in high-risk areas                 | ✓                   | ✓                                     |                                  | ✓                      | 52%                                  | -                             | \$1.3B                            |
| System Preparedness      | Investing in 100 systems through advanced metering and smart equipment, data technology to improve operating rates | ✓                   | ✓                                     | ✓                                |                        | 41%                                  | \$1.5B                        | \$27.6B                           |
| Vegetation Management    | Enhanced practices together with improved industry vegetation management   | ✓                   |                                       | ✓                                |                        | 66%                                  | \$89.7B                       | \$47.7B                           |
| Communication & Outreach | Provide additional customer education and information on wildfire preparedness                                     |                     |                                       |                                  | ✓                      | 100%                                 | -                             | \$2.1B                            |

We plan to spend over \$500 million on our Wildfire Mitigation Plan through 2028.

For our Distribution operations we plan to continue the following:

- Advanced Metering Infrastructure / Smart Grid Technology
- Pole Replacements
- Substation Refurbishments
- Rural Reliability
- Overhead Tree Trimming
- Grid Modernization / Cyber Security



We plan to spend over \$600 million electric distribution capex through 2028.

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## Electric Generation Investment

NWE's approach on generation investment will include the following:

- 1) Load Growth in the State
  - The investment in the future will be an All-of-the-Above strategy to balance affordability, reliability and sustainability
- 2) Plan for the Ultimate Closure of the Colstrip Plant
  - The intent is to replace Colstrip with carbon-free, 24/7, dispatchable energy that again will balance affordability, reliability and sustainability
  - The 2026 Montana Integrated Resource Plan (IRP), which is an analysis the energy needs of our customers today and throughout the next 20 years and how to provide essential energy services to our customers.



Affordability, Reliability and Sustainability must be balanced in our generation investment decisions.

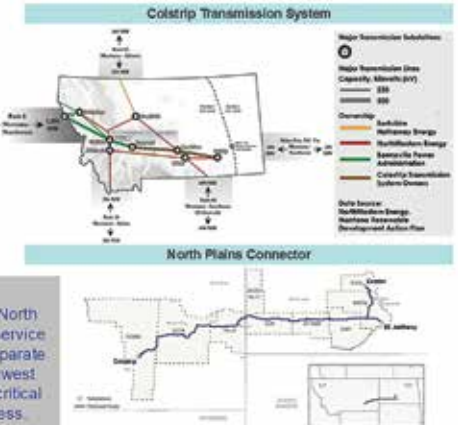
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## Regional Transmission Opportunities

- **North Plains Connector (NPC) Consortium Project**
- \$3.6 billion, 415-mile, high-voltage direct-current transmission line connecting Montana's Colstrip substation bridging the eastern and western U.S. energy grids
- Project awarded \$700M Grid Resilience and Innovation Partnership grant by U.S. Department of Energy
- \$70.0 million of the award is earmarked for upgrades to the **Colstrip Transmission System** (of which we are ~30% owner)

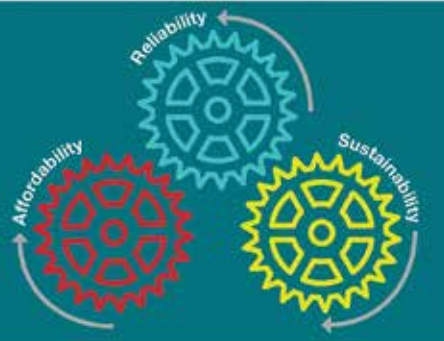
The projects aim to enhance grid reliability, support renewable energy integration, and provide additional capacity across the region.

On December 12, NorthWestern announced a memorandum of understanding to own 10% of the North Plains Connector. The project, targeting a 2032 in service date, strengthens grid reliability and efficiency. A separate partnership will explore expanding Montana's southwest transmission corridor to bolster reliability, allow for critical import capability and enhance Western market access.



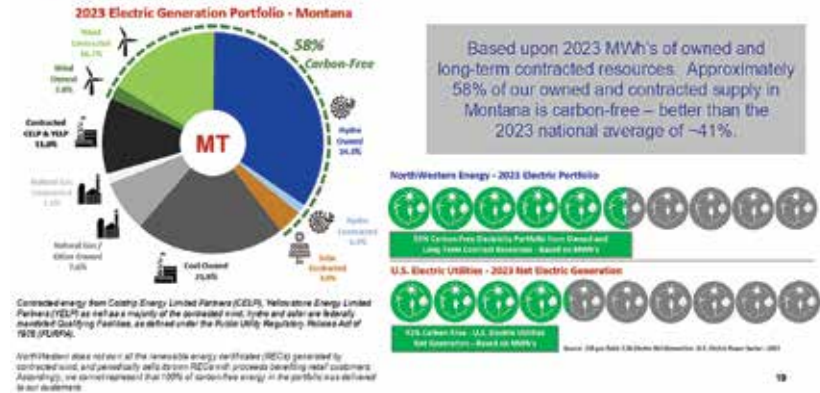
## What Does a Reasonable Transition to Green Energy Look Like?

- ✓ Meeting obligations for safe, reliable service
- ✓ Making cost-effective investments to protect customers and keep rates affordable
- ✓ Responding to climate change through clean energy investments
- ✓ Doing the right thing for our employees and communities
- ✓ Supporting economic growth in the state



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## Carbon-Free Supply Portfolio Better than National Average



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## Transition to a Green Energy Portfolio

Can and will be done but will take years of planning and implementation

- New technologies (SMR's), hydrogen, or long-duration batteries, are not proven technologies or cost effective today.

First 60% of Carbon-Free Portfolio was achieved a lot easier than the final 40%

Need to balance Affordability with Reliability and Sustainability



You cannot tear down the old bridge until you build a new one

Bridging the gap to a cleaner, carbon-free future is necessary to assure we can deliver safe, reliable and affordable electricity 24 hours / 7 days a week.

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## Electricity & Natural Gas – Still a Great Value

|  |  |  |  |
|--|--|--|--|
| <p>Coffee / Latte</p> <p>\$4 - \$5 per day</p> | <p>Cell Phone Bill Family of 4</p> <p>\$5 - \$11 per day</p> | <p>McDonald's Big Mac meal</p> <p>\$10 - \$12 per meal</p> | <p>Heat, Cool, Power &amp; Protect Your Entire Home</p> <p>\$5 - \$7 per day<br/>(Electricity \$3-\$4/day &amp; Natural Gas \$2-\$3/day)</p> |
|--|--|--|--|

**Electricity and Natural Gas is still a great value**

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Electricity – Still an Amazing Value over the Century!

**A Dozen  
Chicken Eggs**  
1922..... \$0.35  
Today..... \$2.07

up  
**591%**

**An Electric Range on  
which to Cook**  
1922..... \$168  
Today...\$1,000

up  
**495%**

**A KWh of Electricity to  
Power the Electric Range**  
1922..... \$0.10  
Today..... \$0.14

up  
**40%**



Thank you  
Questions & Answers

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