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A Comprehensive Examination of Nevada's Advanced Manufacturing Industry Sector's Value Network and Supply Chain

Rese Alford, Priscillar Banda, Melissa Barajas, Ron Borenstein, Edson Canales, Dpaul Cruz, Clayton Greb, Lou-Anne Guerbert, Kristen Levin, Ryan Madura, Richard Merriner, Lydia Morehouse, Lesna O'Donnell, Riley Parker, Nicolas Posey, William Ryan, Mohammadreza Sadrian, Florence Tse, Adam Weynand, Fnu Zeenat, and Stacy Zuniga

Project Overview

Kristen Levin

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Project Overview

A Comprehensive Value Network and Supply Chain Map of Nevada's Advanced Manufacturing Industry Sector

Morning Session:

Comprehensive Value Network and Supply Chain Map of the Advanced Manufacturing Industry Sector in Nevada

- County & Regional Development Agencies

Comprehensive Workforce Development Overlay Related to the Gaps in the Value Network and Supply Chain for Nevada's Advanced Manufacturing Industry Sector

- Workforce Gaps
- Current Workforce and Pipeline
- Workforce Availability & Value Network & Supply Chain Linkages Across Nevada's Advanced Manufacturing Sector

Afternoon Session:

Putting it All Together; Identifying Value Network and Supply Chain Gaps and Developing Community and Economic Development Recommendations

- SWOT
- Workforce Import and Export Dynamics in Nevada's Advanced Manufacturing Sector
- Workforce Regional Linkages and Network Development
- Urban and Rural Areas and Their Workforce Differences
- Definitions of Balance, Strength, & Resiliency
- State of Nevada's Balance, Strength & Resiliency in the Advanced Manufacturing Industry
- Recommended Actions

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Introduction to Advanced Manufacturing

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Our Definition: Advanced Manufacturing

Use of innovative technologies and processes to improve manufacturing methods and products. These often include advanced materials, AI, automation, data analytics, integration, and software.

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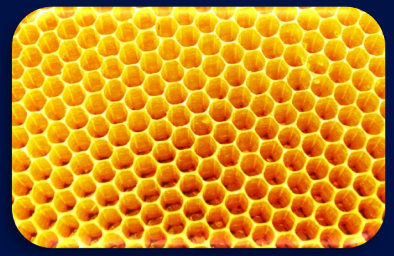
Our Definition: Segments of Advanced Manufacturing



Advance Materials:

Development/Use of new materials with better properties for improved performance and/or sustainability

Artificial Intelligence:

Use of Artificial Intelligence to aid in the design, manufacturing, and/or analytical processes

Automation:

Use of robotics and computer systems to limit direct human interaction

Data Analytics:

Use of data to identify patterns, trends, and insights to improve processes and products

Integration:

Use of sensors to aid in the manufacturing process and/or provide data for analytics

Software:

Use of CAD, ERP, and/or other systems to improve design, planning, and manufacturing processes as well as tools to analyze and utilize data

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IMPLAN Sectors

IMPLAN:

Economic Impact Modeling Analysis Software

IMPLAN Sectors:

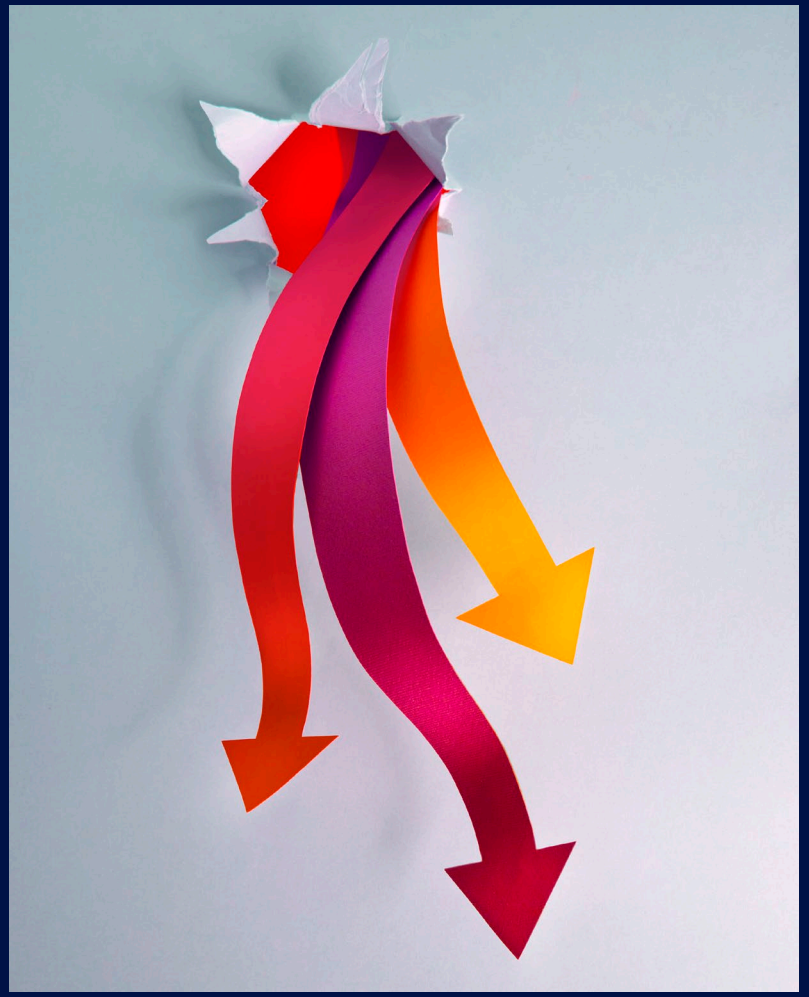
Manufacturing Sectors were codes 58 through 374

Applying our definition:

Advanced Manufacturing processes, technologies, and potential were in each sector

Decision:

Keep and analysis all IMPLAN manufacturing sectors



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Gathering the Data

State of Nevada:

- #36 - Battery manufacturing
- #46 - All other miscellaneous manufacturing

Region 1 - Economic Development Authority of Western Nevada:

- #23 - All other miscellaneous manufacturing
- #30 - Search, detection, and navigation instruments manufacturing

Region 2 - Churchill Fallon Development Authority:

- #1 - Dry, condensed, and evaporated dairy product manufacturing
- #12 - Search, detection, and navigation instruments manufacturing
- #14 - Secondary processing of other nonferrous metals
- #16 - Fabricated structural metal manufacturing
- #23 - Ground or treated mineral and earth manufacturing

Region 3 - Lincoln County Regional Development Authority:

- #34 - Ready-mix concrete manufacturing

Region 4 - Las Vegas Global Economic Alliance:

- #42 - Wiring device manufacturing
- #43 - All other miscellaneous manufacturing

Gathering the Data

Region 5 - Nevada 95-80 Regional Development Authority:

- #2 - Soybean and other oilseed processing
- #10 - Plastics pipe and pipe fitting manufacturing
- #16 - Other basic inorganic chemical manufacturing

Region 6 - Northern Nevada Regional Development Authority:

- #1 - Battery manufacturing
- #4 - Petroleum refineries
- #24 - Asphalt shingle and coating materials manufacturing

Region 7 - Northeastern Nevada Regional Development Authority:

- #48 - Ready-mix concrete manufacturing

Region 8 - Southwest Central Regional Economic Development Authority:

- #7 - Petroleum refineries
- #48 - Nonferrous metal (exc aluminum) smelting and refining

Regional Development Agencies

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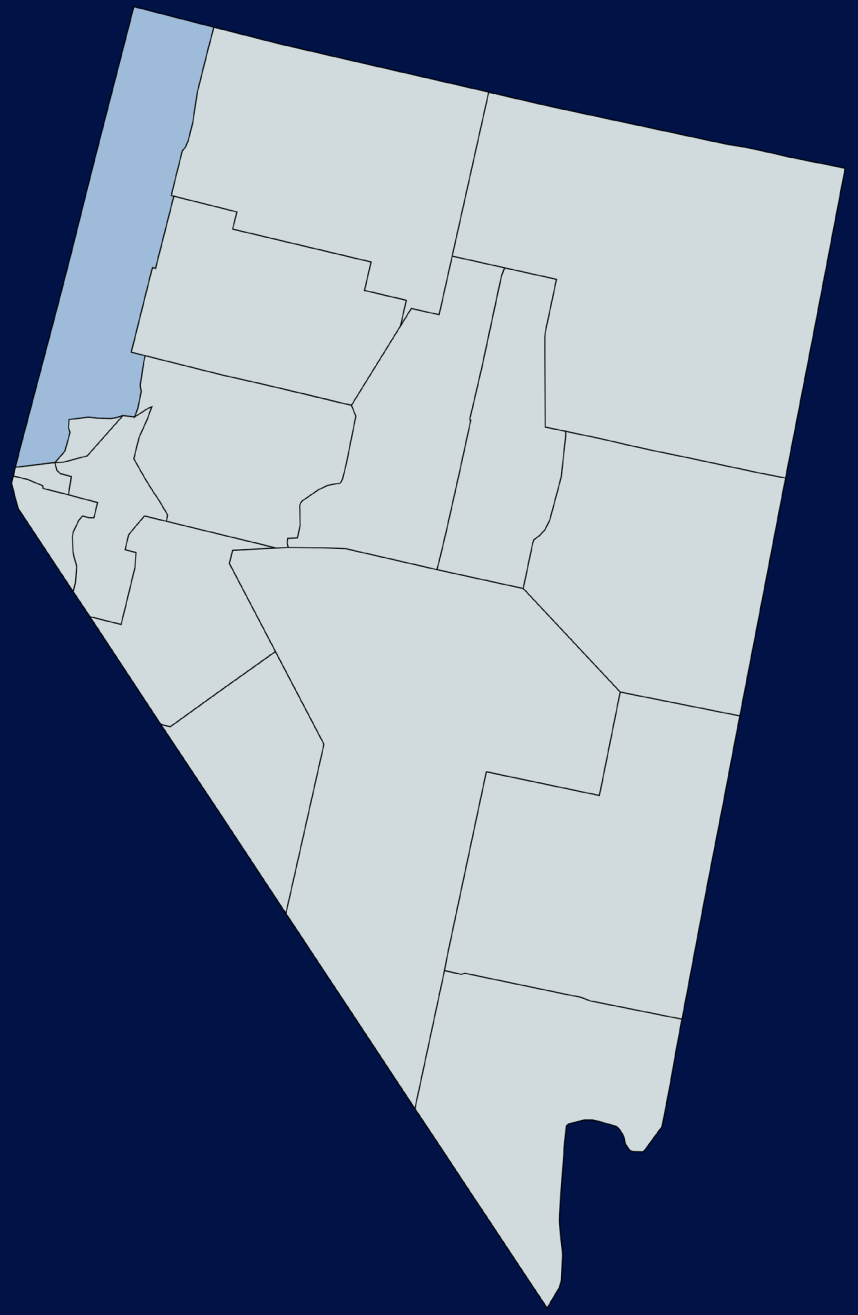
Economic Development Authority of Western Nevada

Richard Merriner



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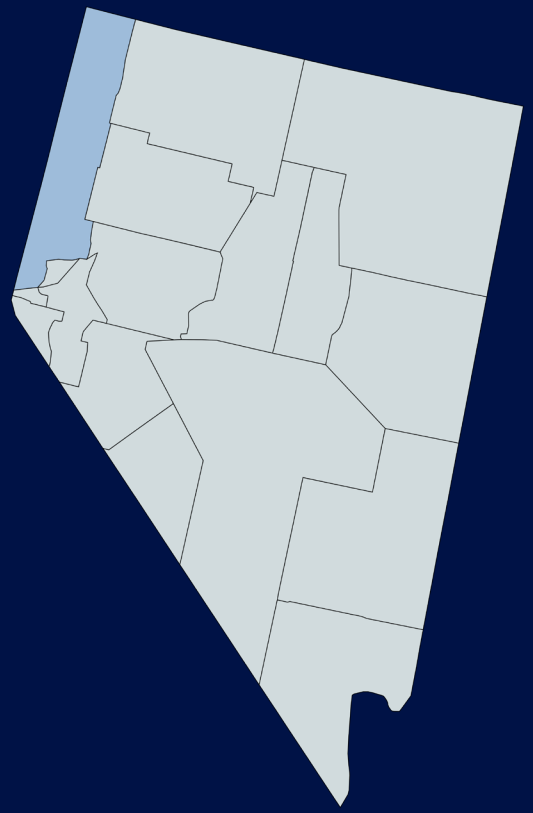
Economic Development Authority of Western Nevada



Current Demographics	
Total Pop.	498,022
Workforce Pop.	330,188
Reno/Sparks Pop.	308,390
Unemployment Rate	4.8%
GDP	$40.5B
Total Industries	355

Top Five Industry Sectors by Code & Economic Output

1. Code: 374 **All Other Miscellaneous Manufacturing**
   Total Output: $729,414,991
   Employment: 1,305
2. Code: 301 **Search, Detection, and Nav Instruments Manf.**
   Total Output: $653,659,875
   Employment: 1,338
3. Code: 77 **Cheese Manf.**
   Total Output: $326,329,390
   Employment: 316
4. Code: 144 **Printing**
   Total Output: $257,099,207.44
   Employment: 1,219
5. Code: 318 **Battery Manf.**
   Total Output: $224,434,933.19
   Employment: 539

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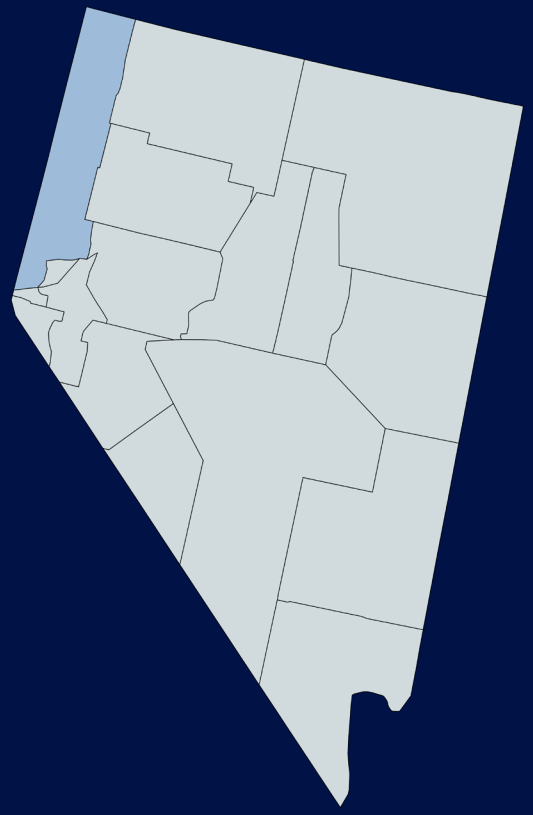
Economic Development Authority of Western Nevada



Top 5 advanced manufacturing industries by total output

- **All Other Miscellaneous Manufacturing**, which generates approximately $729.4 million and employs 1,305 people;
- **Search, Detection, and Navigation Instruments Manufacturing**, with $653.7 million in output and 1,338 employees
- **Cheese Manufacturing**, contributing $326.3 million and 316 jobs;
- **Printing**, with an output of $257.1 million and employing 1,219 people; a
- **Battery Manufacturing**, which produces $224.4 million in output and supports 539 jobs.

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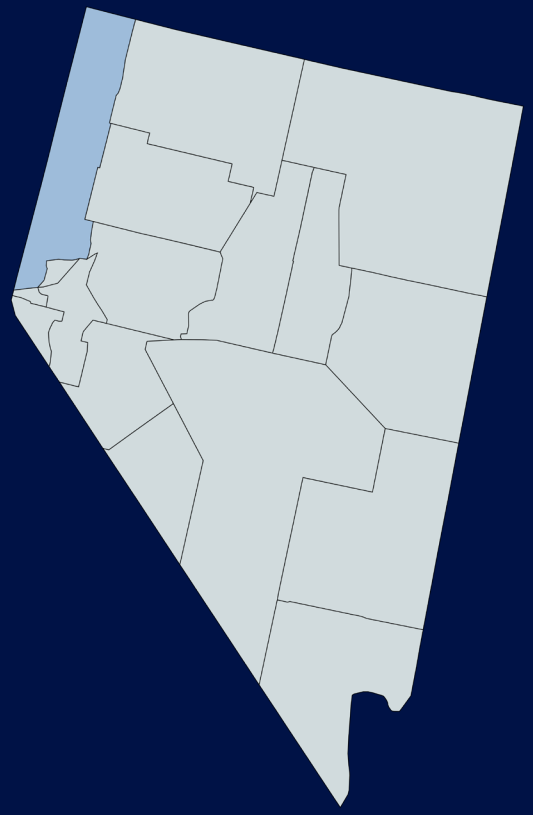

Major Economic Leakages

1. A substantial portion of the input value is concentrated in electronic components and related industries $80.8 Million
   - Semiconductors & Related Devs (Code 3296) $21,777,797
   - Printed Circuit Assemblies (Code 3234) $18,608,417
   - Electronic connectors" (Code 3298) $13,949,035
   - Broadcast Wireless Com Equip (Code 3291) $ 13,680,310
2. Electric & Testing Equipment (Code 3231) $12,749,990
3. Sheet metal work (except stampings)" (Code 3231) $8,076,592

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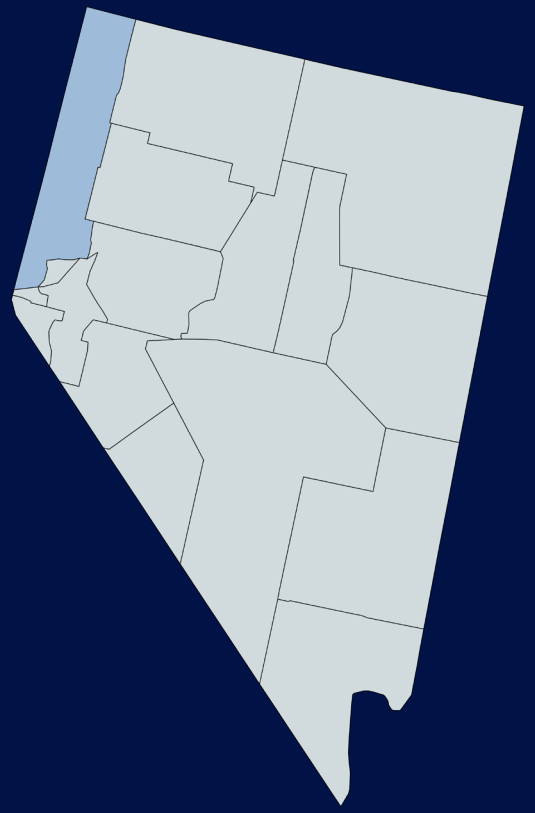

Current Pipeline Enrollment		
Secondary	WCSD	20,196
Post-Secondary	UNR	22,331
	TMCC	11,190
Non-Traditional	SNJC	Not Disclosed

Washoe County School District

- 82% Graduation Rate
- Career & Technical Education

Truckee Meadows Community College

- Advanced Manufacturing Fast Track

Sierra Nevada Job Corps

- Free Career Training
- 16–24-year-olds
- Low income

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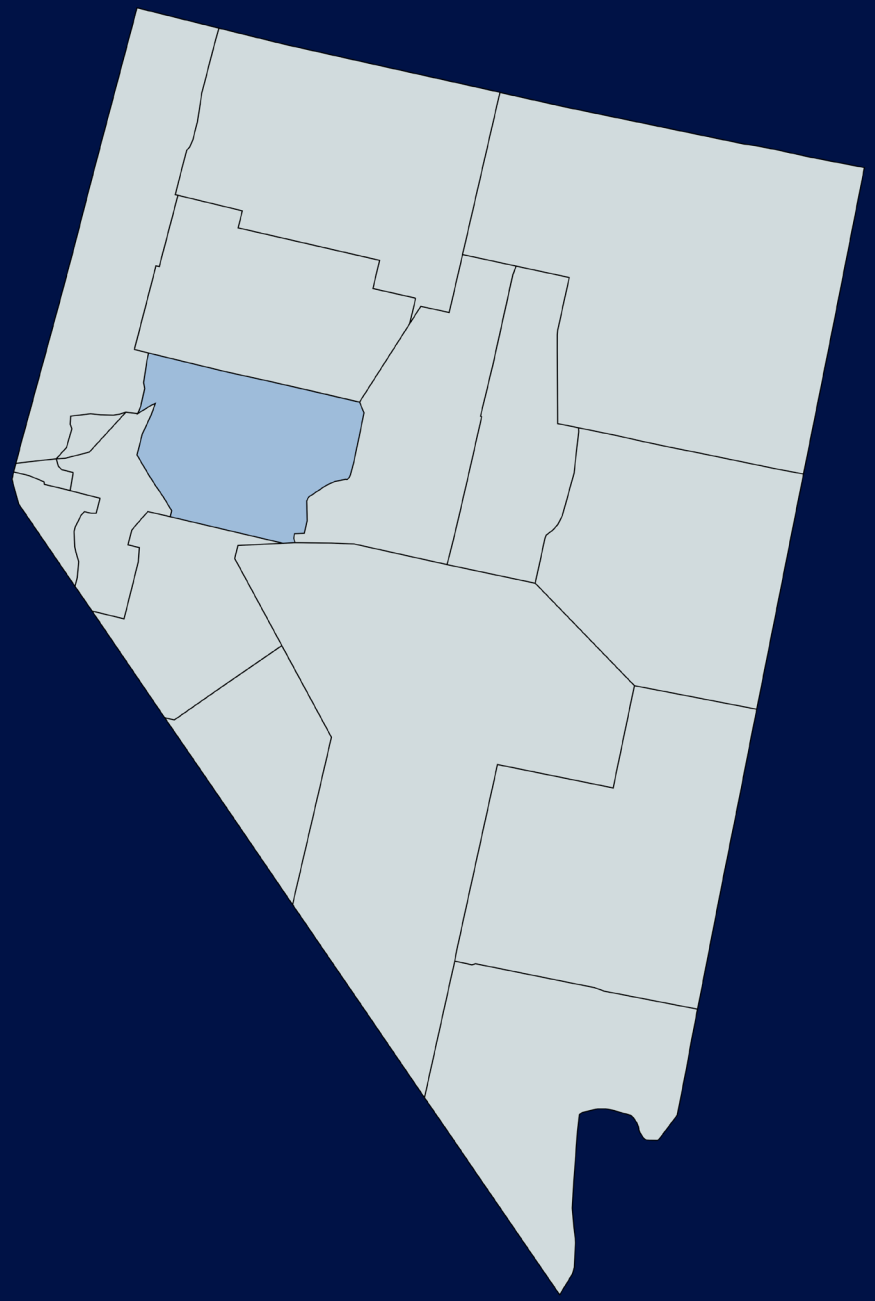
Churchill Fallon Regional Development Authority



Riley Parker

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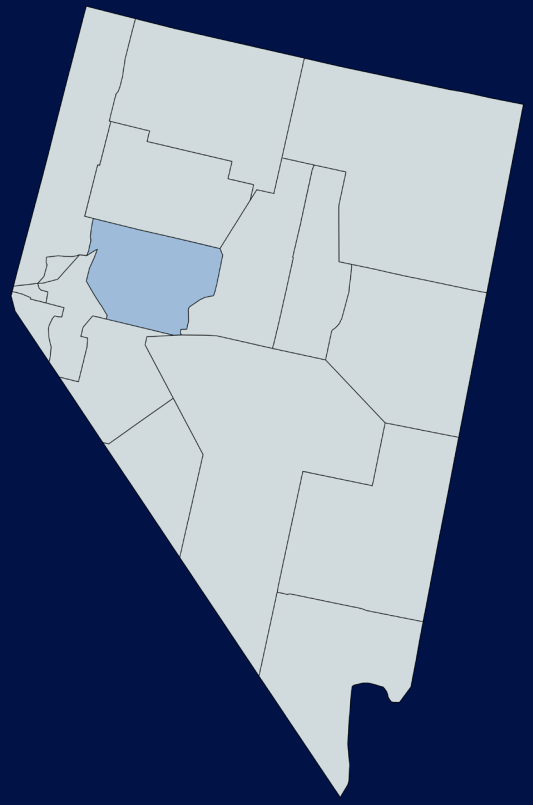

Population: 25,803 | Land Area: 4,929.30

Top 3 Industry Sectors by Economic Output:

1. Dairy Product Manufacturing
2. Federal Government, Military
3. Scenic & Sightseeing Transportation

Advanced Manufacturing Industries Within Top 20 Industries By Output		
	Total Output	**Total Employment**
Dry, condensed, and evaporated dairy product manufacturing	$174,297,307.32	148.47
Search, detection, and navigation instruments manufacturing (SDN)	$53,821,633.57	101.10
Secondary processing of other nonferrous metals	$52,131,359.32	55.13
Fabricated structural metal manufacturing	$50,251,569.20	90.25

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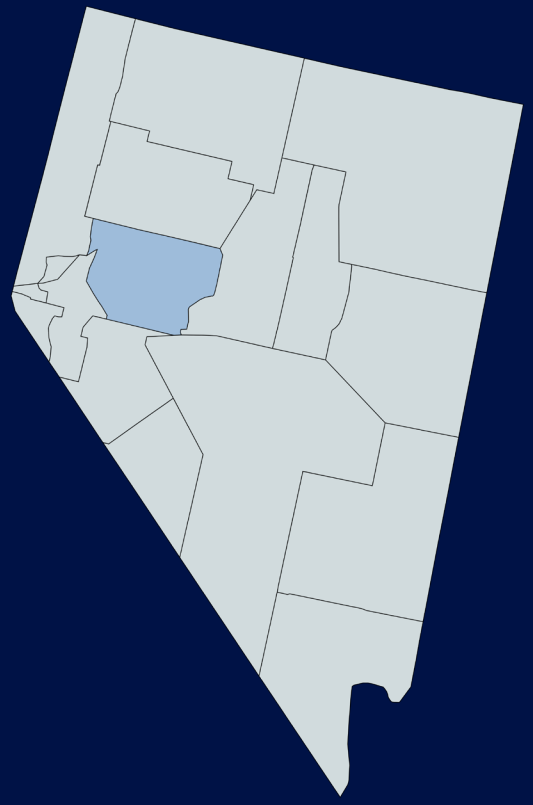

Major Economic Leakages

1. **Dairy Product Manufacturing: $103,893,665**
   - Dry, Condensed, Evaporated Dairy Products
   - Dairy Cattle and Milk Products
   - Wholesale Services – Grocery
2. **SDN Instrument Manufacturing: $31,428,967**
   - Wholesale Services – Household Appliances & Electric Goods
3. **Secondary Processing of Other Non-Ferrous Metals: $36,460,405**
   - Nonferrous Metal Shaping, except Copper & Aluminum
4. **Fabricated Structural Metal Manufacturing: $26,593,587**
   - Iron & Steel Ferroalloy Products

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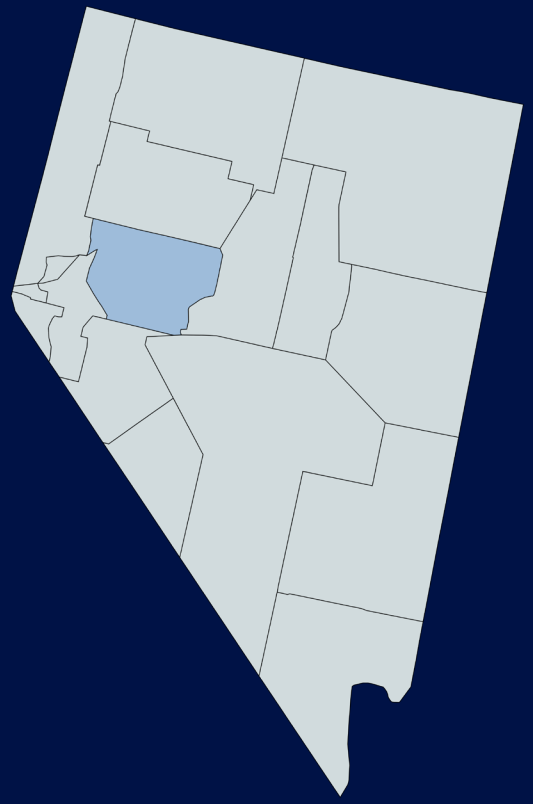

- **Workforce Population: 13,766**
- **Unemployment Rate: 6.5%**
  - Male Unemployment Rate: 5.4%
  - Female Unemployment Rate with Children Under 6 Years: 26.7%

- **Educational Attainment:**
  - Ages 18-24
    - High School Graduate: 42.6%
    - Bachelor's Degree or Higher: 4.9%
  - Ages 25+
    - High School Graduate: 33.2%
    - Associates, Bachelor's, Graduate Degree: 31.44%

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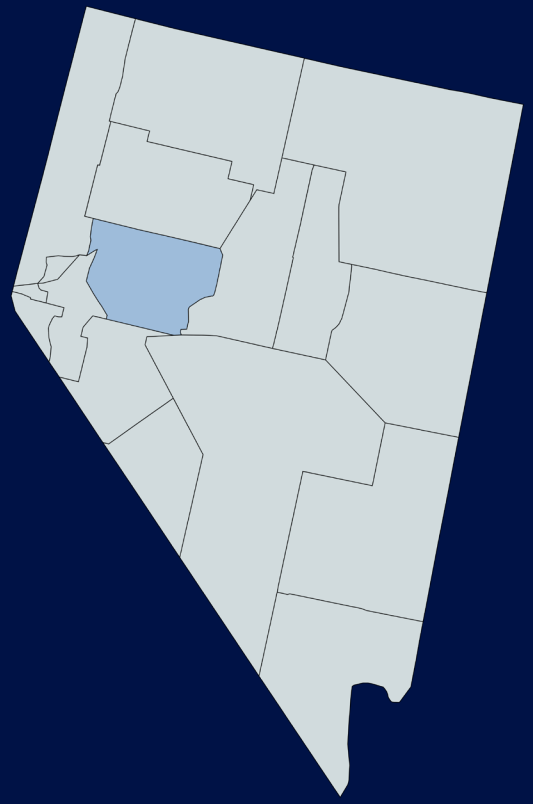

Educational Opportunities:

- **Churchill County High School**
  - **Total Graduates:** 171
  - **CTE Offerings:** Automotive, Agricultural Mechanics, Diesel, Welding Technology

- **Western Nevada College – Fallon**
  - **Total Advanced Manufacturing Awards:** 250
  - **Program Offerings:** Automation, Industrial, Automotive, Machining, Welding Technologies

- **University of Nevada, Reno – Churchill Extension**
  - **Program Offerings:** Largely related to Agriculture sector

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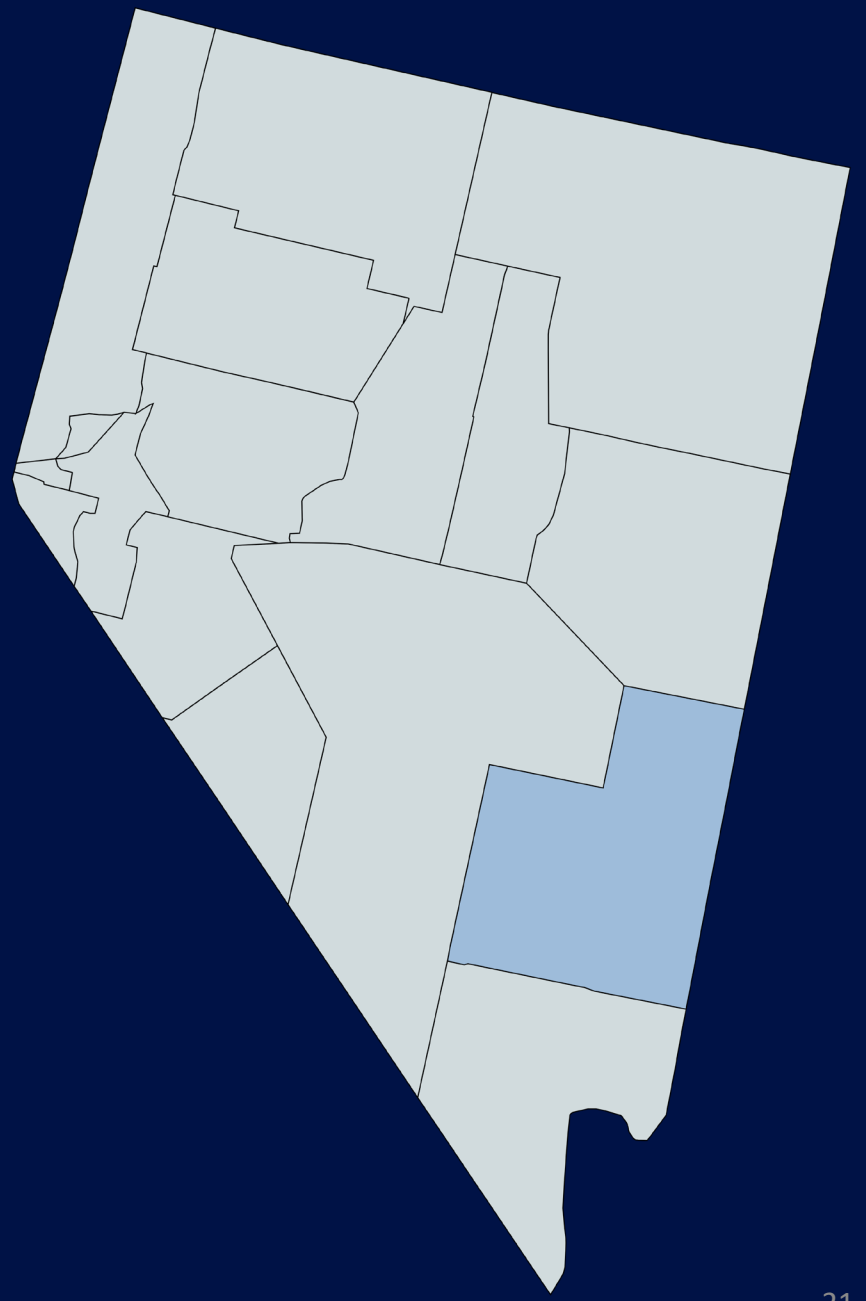
Lincoln County Regional Development Authority



Lesna O'Donnell

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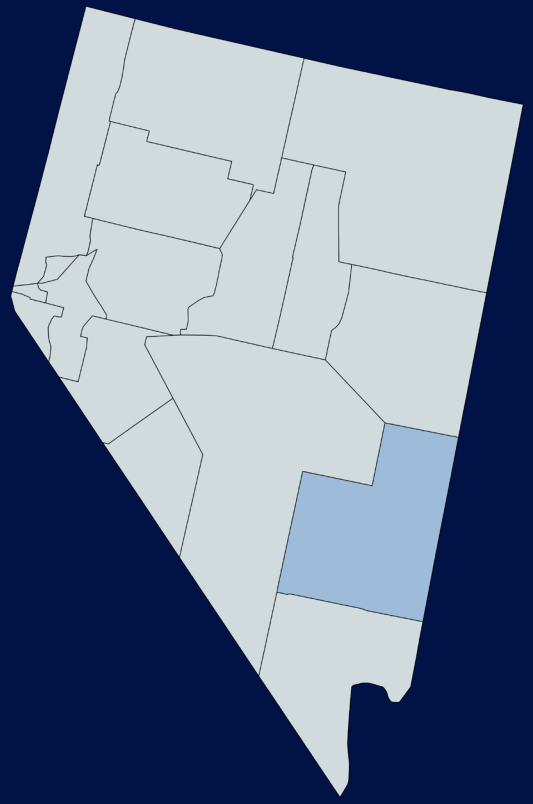

Population: 4,452 | Labor Force Participation: 49.7%

Top 3 Industry Sectors by Economic Output:

1. Rail Transportation
2. Local government electric utilities
3. Ranching and Farming

Top 4 Advanced Manufacturing Sectors		
	Total Output	**Total Employment**
Ready-mix concrete manufacturing	$2,445,366.53	5.23
Dental Laboratories	$961,02.34	3.94
Break and Bakery product	$454,173.46	3.2
Pharma prep manufacturing	$308,532.24	0.36

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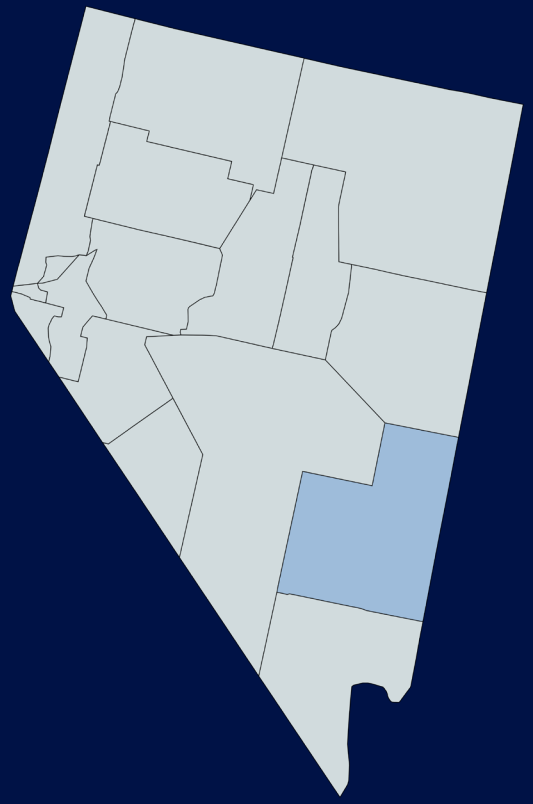

Major Economic

Gaps and Leakages

Top Advanced Manufacturing Sector by output: Ready-mix Concrete Manufacturing	
Average RPC	3.68%
Average RSC	0.62%

Ready-mix Concrete Manufacturing – Commodity Demand		
Commodity	RPC	Gap
Cement	1.94%	$374,988.96
Sand and gravel	0.26%	$262,699.30
Wholesale services - Other durable goods merchant wholesalers	2.9%	$150,606.65
Truck transportation services	42.36%	$81,057.72

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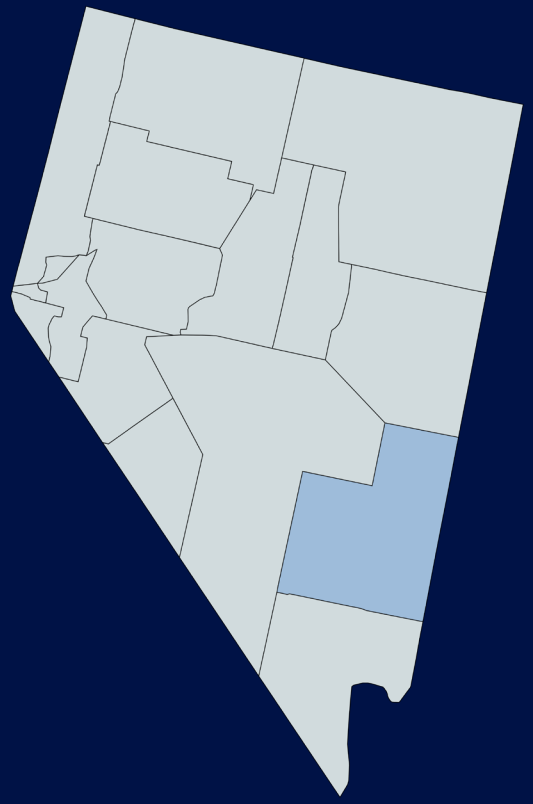

Unemployment Rate = 1.7%

- **Manufacturing Employment**
  - 2.8% (50 workers, all male)
- **CTE Programs**
  - 2 Students (Manufacturing Technologies)
  - 19 Students (Welding Technology)
- **Skill Alignment**
  - About 40% Coverage of industry-required competencies (CNC, Welding, and Blueprint Reading)

Educational Attainment Ages 18-24	
Less Than High School Graduate	20.71%
High School Diploma	45.8%
Some College or Associates Degree	33.5%
Bachelor's Degree or Higher	0%

Educational Attainment Ages 25+	
Less Than Ninth Grade	1.47%
9th – 12th Grades (No Diploma)	4.44%
High School Diploma (or equivalent)	46.04%
Some College - No Degree	22.32%
Associate's Degree	6.73%
Bachelor's Degree	11.61%
Graduate Degree	7.39%

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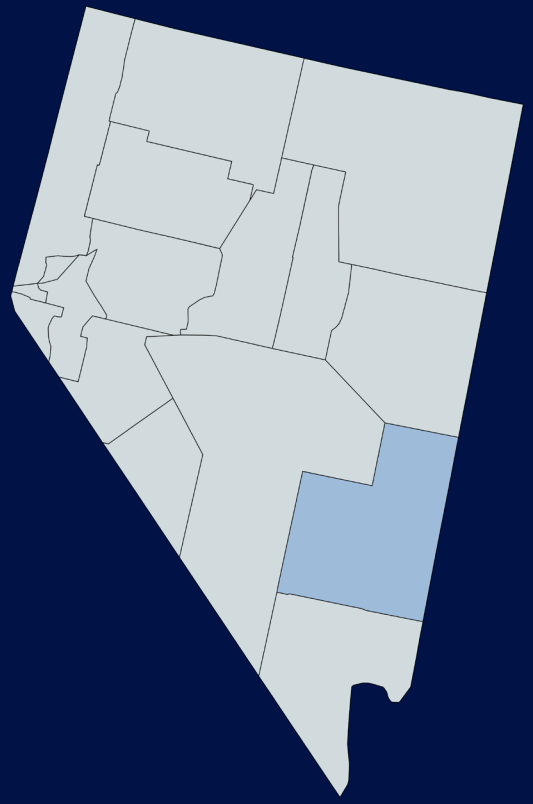

- **Local Supply Chain**:
  - Lacks a robust ecosystem of upstream and downstream manufacturing partners.
- **Industrial Infrastructure**:
  - Limited broadband, water, and utility redundancy in many areas inhibits advanced operations.
- **Workforce Depth**:
  - A small, aging labor force and limited technical education restrict employer access to skilled talent.
- **Digital Skills Gap**:
  - Low post-secondary attainment limits entry into knowledge-based or tech-enabled roles.

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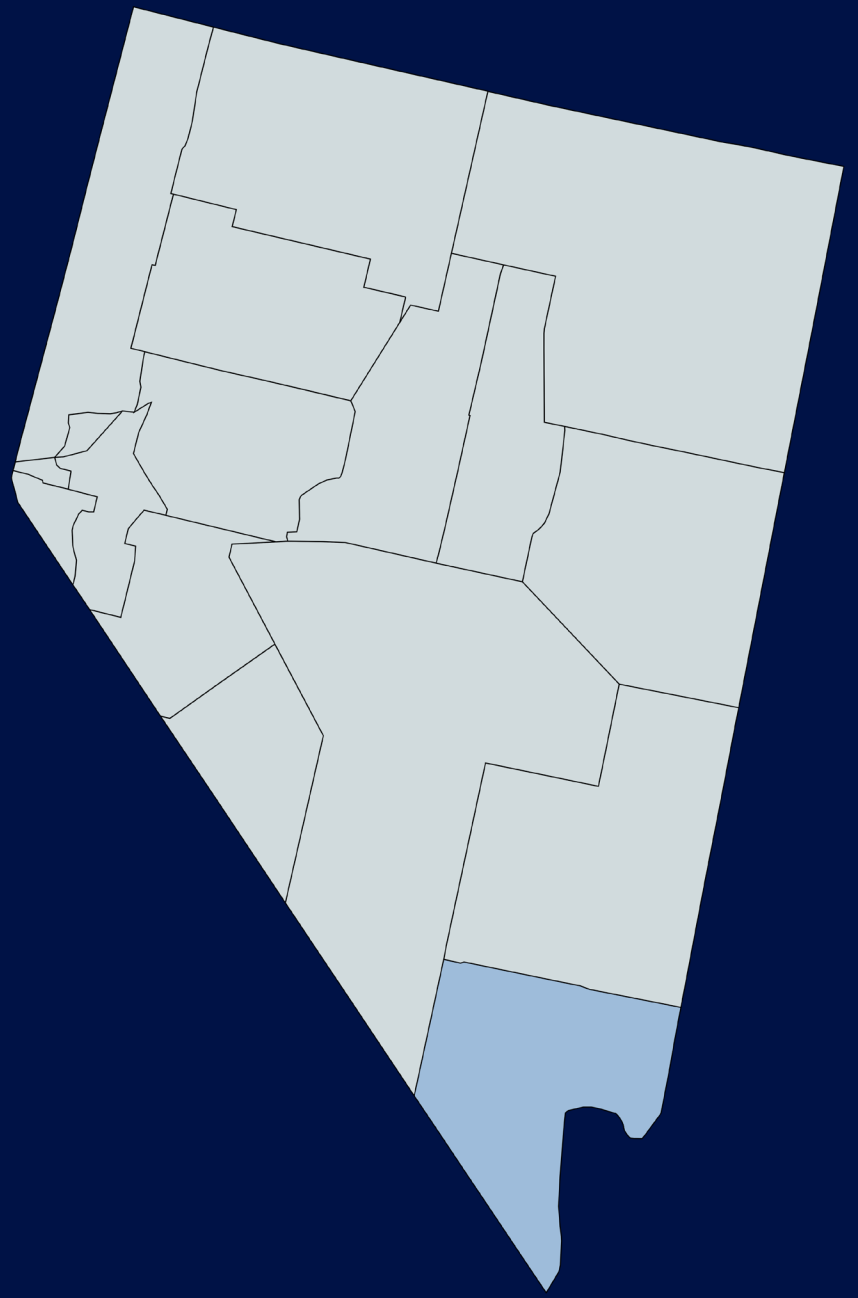
Las Vegas Global Economic Alliance

Edson Canales



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Las Vegas– Economic Overview

- Dominated by mining:
  - Gold & Silver Ore Mining ($4.34B output, 6,897 jobs)
- High average compensation (~$149K) in mining
- Metal mining services also strong ($445M output, 1,476 jobs)
- Limited advanced manufacturing presence

Total Output, Wage and Salary Employment and Proprietor Employment (and Total Employment), Proprietor Income					
Description	**Total Output**	**Wage and Salary Employment**	**Proprietor Employment**	**Employment**	**Proprietor Income**
Gold ore and silver ore mining	$4,335,085,083.45	5,878	1,019	6,897	$(6,331,827.13)
Metal mining services	$445,449,498.47	1,428	49	1,476	$6,650,758.16
Electric power transmission and distribution	$429,758,627.00	257	5	263	$4,517,530.20
Wholesale - Petroleum and petroleum products	$419,794,164.16	178	13	191	$218,710.01
Copper, nickel, lead, and zinc mining	$419,203,468.43	447	27	474	$(4,486,444.79)

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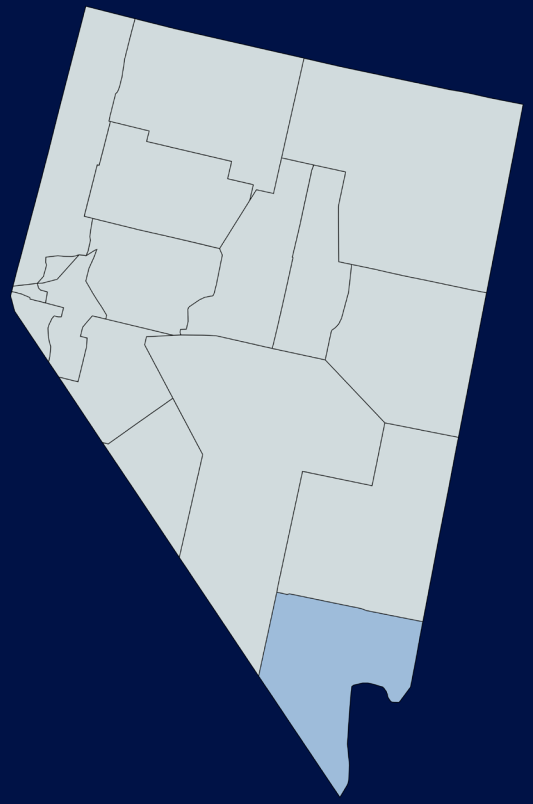

Current Demographics	
Total Population	2,336,573
Workforce Population	1,566,508
Manufacturing Workforce	39,023
Unemployment Rate	7.4%

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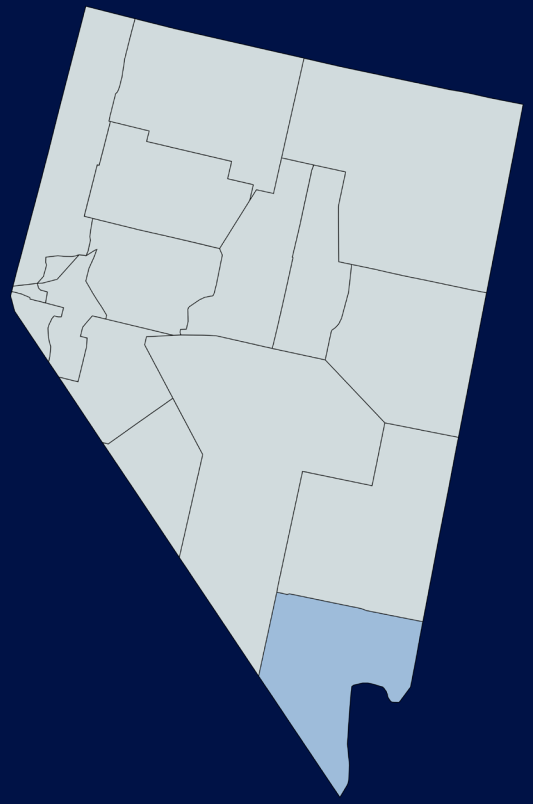

- Manufacturing Employment
  - 39,023 employees in manufacturing industry
  - About 2.5% of total workforce
- Higher Education
  - At least 19,379 Clark County residents enrolled in NSHE institution
  - Of those students, 1,884 are enrolled in courses that could relate to Advanced Manufacturing
- CTE Programs
  - 402 Clark County students enrolled in manufacturing related CTE Programs
  - 97 enrolled in Manufacturing Technology/Technician courses
  - 24 enrolled in Mechatronics, Robotics, and Automation Engineering courses
  - 268 Completers
  - 83 CTE Certificate Earners

Educational Attainment Ages 18-24	
Less Than High School Graduate	15.5%
High School Diploma	44.3%
Some College or Associate's Degree	31.6%
Bachelor's Degree or Higher	8.7%

Educational Attainment Ages 25+	
Less Than Ninth Grade	6.1%
9th – 12th Grades - No High School Diploma	7.0%
High School Graduate - Includes Equivalency	27.1%
Some College - No Degree	22.5%
Associate's Degree	8.6%
Bachelor's Degree	18.8%
Graduate Degree	9.9%

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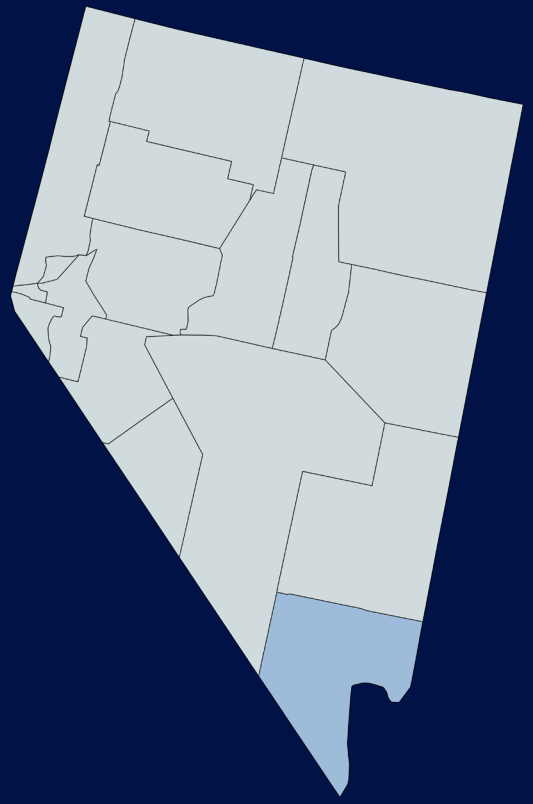
Las Vegas Global Economic Alliance



Other Advanced Manufacturing Training Programs:

- Debra March Advanced Manufacturing Center of Excellence
- College of Southern Nevada – Certificate of Achievement in Advanced Manufacturing
- Central Technical Training Academy – Advanced Manufacturing Collaborative
- South Career and Technical Academy and Southeast Career and Technical Academy, magnet high schools where Advanced Manufacturing is offered as a major

Debra March Center of Excellence

CSN COLLEGE OF SOUTHERN NEVADA

CENTRAL TECHNICAL TRAINING ACADEMY

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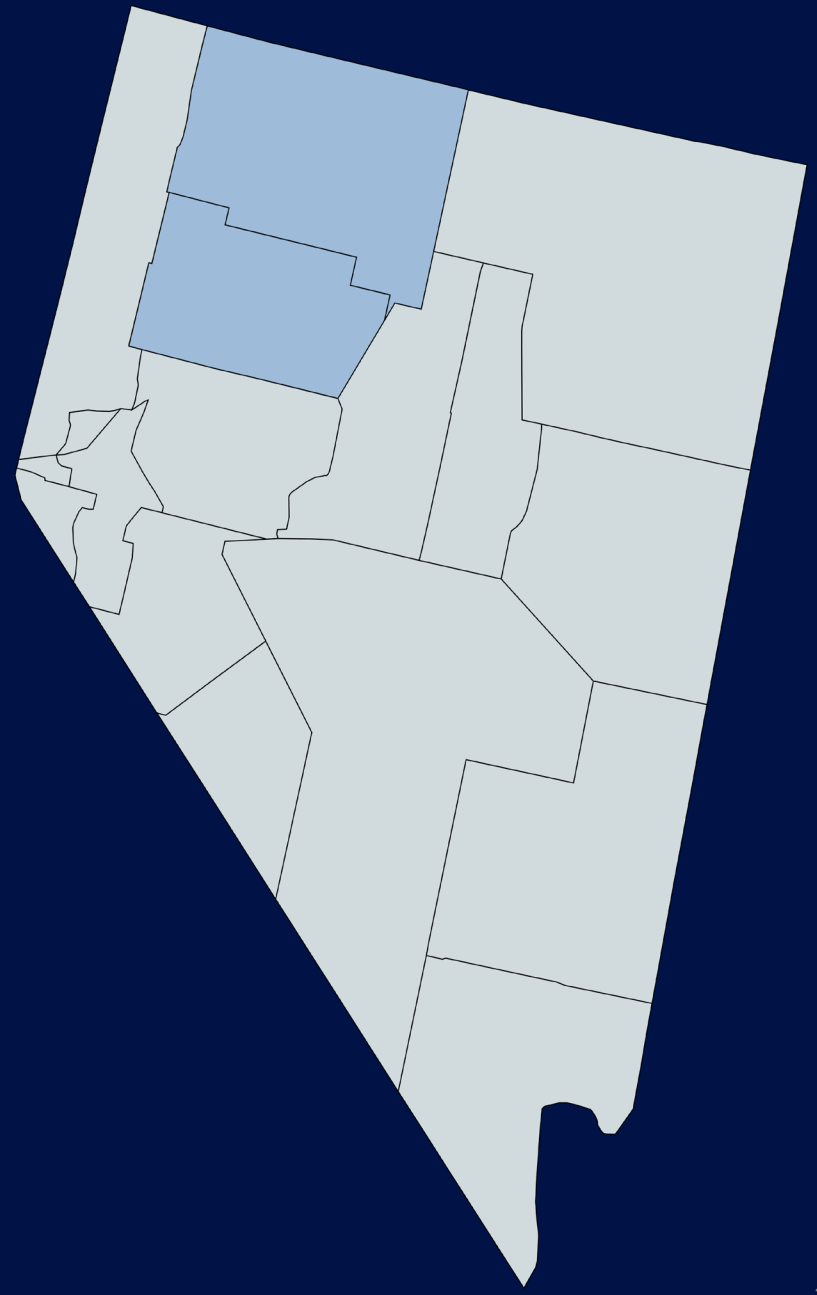
95-80 Regional Development Authority

Adam Weynand



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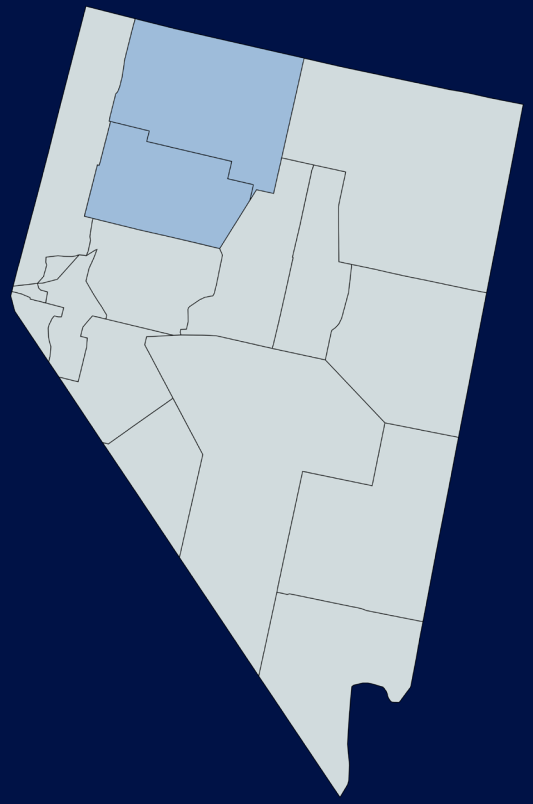
Nevada 95-80 Regional Development Authority



Population: 23,500 | Land Area: 15,657.4

Top 3 Industry Sectors by Economic Output:

1. Gold Ore and Silver Ore Mining
2. Soybean and Other Oilseed Processing
3. Metal Mining Services

Advanced Manufacturing Within Top 20 Industry Sectors by Economic Output		
Sector	Total Output	Total Employment
Soybean and Other Oilseed Processing	$392,499,466	65
Plastics Pipe and Pipe Fitting Manufacturing	$58,730,248	76
Other Basic Inorganic Chemical Manufacturing	$42,104,026	46

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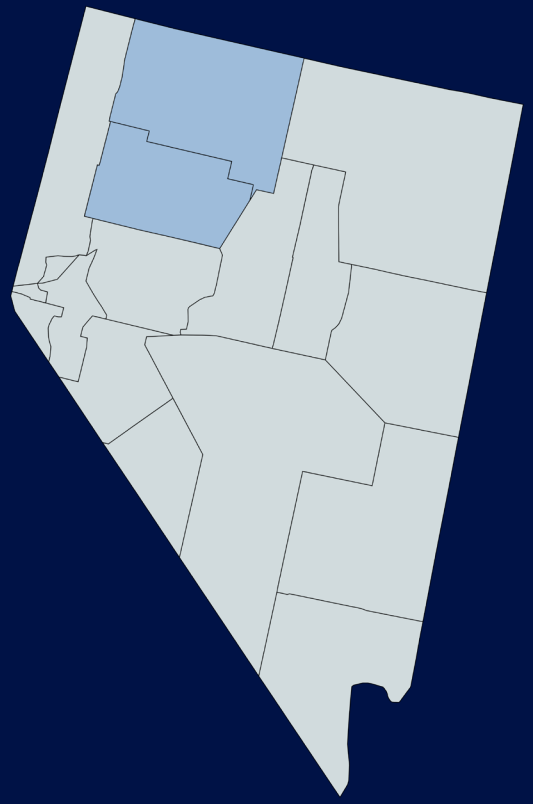
Nevada 95-80 Regional Development Authority



Major Economic Leakages

1. **Soybean and Other Oilseed Processing - $333,068,545**
   - Oilseeds
   - Wholesale Services – Nondurable Goods Merchant Wholesalers
   - Soybean and Other Oilseed Processing
   - Truck Transportation Services
2. **Plastics Pipe and Pipe Fitting Manufacturing - $36,048,961**
   - Plastics Materials and Resins
3. **Other Basic Inorganic Chemical Manufacturing - $20,503,551**
   - Other Basic Inorganic Chemicals

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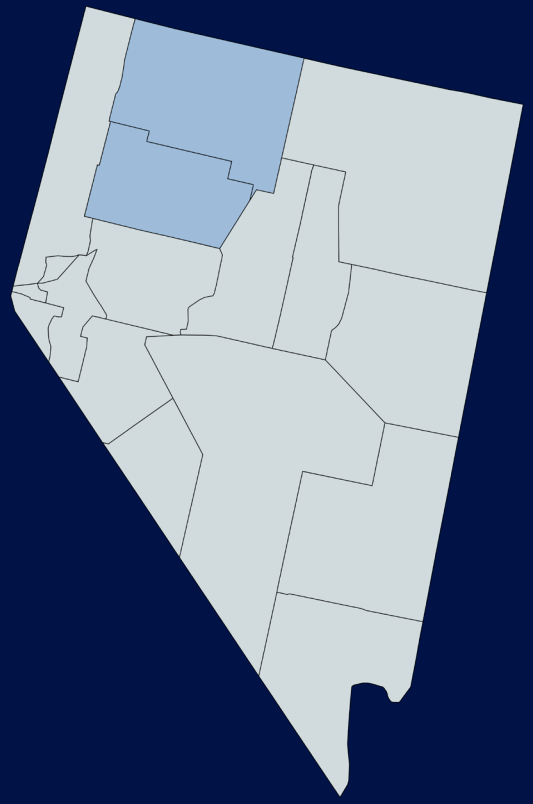
Nevada 95-80 Regional Development Authority



Workforce Population:

- **Unemployment Rate:**
  - Male Unemployment Rate: 4.5%
  - Female Unemployment Rate with Children Under 6 & Between the Ages of 6 and 17: 26.8%
- **Educational Attainment:**
  - Ages 18-24
    - High School Graduate: 39.43%
    - Bachelor's Degree or Higher: 10.68%
  - Ages 25+
    - High School Graduate: 38.07%
    - Associates, Bachelor's, Graduate Degree: 25.56%

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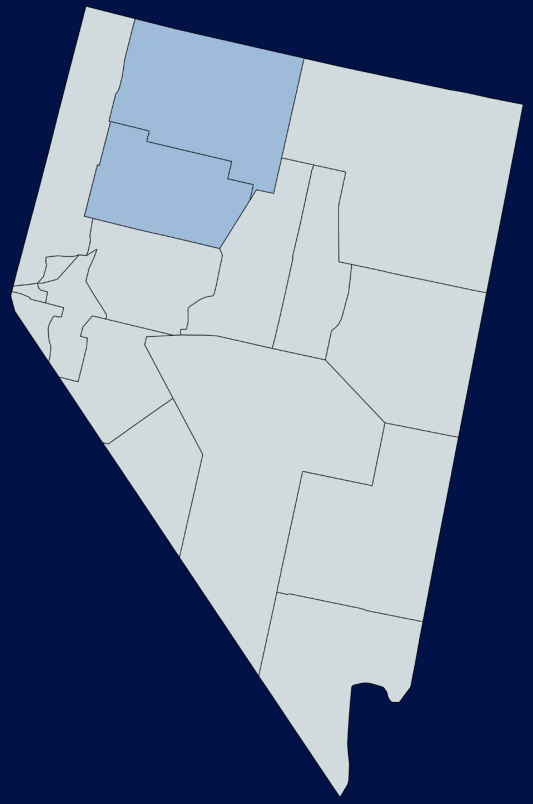
Nevada 95-80 Regional Development Authority



- **Humboldt County**
  - Albert M. Lowry HS
    - 989 Total Enrollment
    - 155 CTE Certifications
- **Pershing County**
  - Pershing County HS
    - 175 Total Enrollment
    - 39 CTE Certifications

Educational Attainment Ages 18-24	
Less Than High School Graduate	20.57%
High School Diploma	39.43%
Some College or Associates Degree	29.32%
Bachelor's Degree or Higher	10.68%

Educational Attainment Ages 25+	
Less Than Ninth Grade	4.33%
9th – 12th Grades (No Diploma)	8.92%
High School Diploma (or equivalent)	38.07%
Some College - No Degree	23.13%
Associate's Degree	8.88%
Bachelor's Degree	11.33%
Graduate Degree	5.35%

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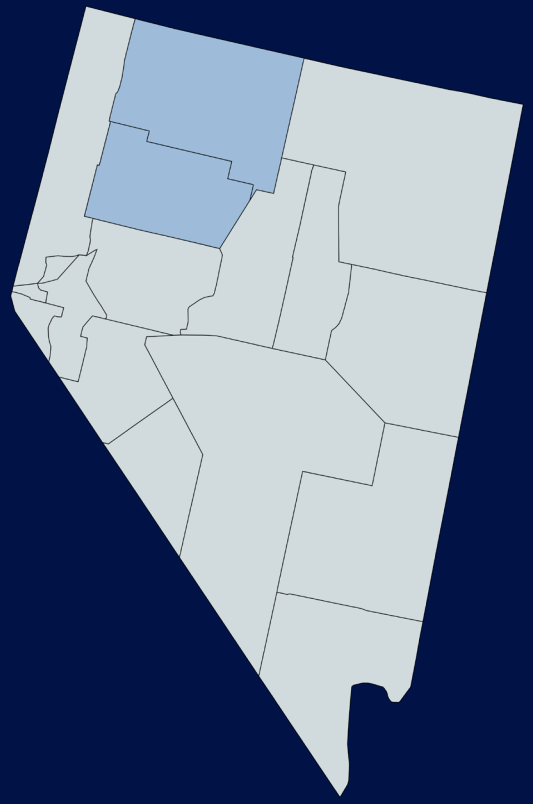

- **Great Basin College – Winnemucca Center**
  - **Notable Programs:** Diesel, Electrical Systems, Manufacturing Machining, Welding, Instrumentation Technologies

2023-2024 Awards Conferred	
Total Awards Conferred	847
Total Advanced Manufacturing Related	238

- **University of Nevada, Reno Extension**
  - Humboldt County
  - Limited relation to advanced manufacturing

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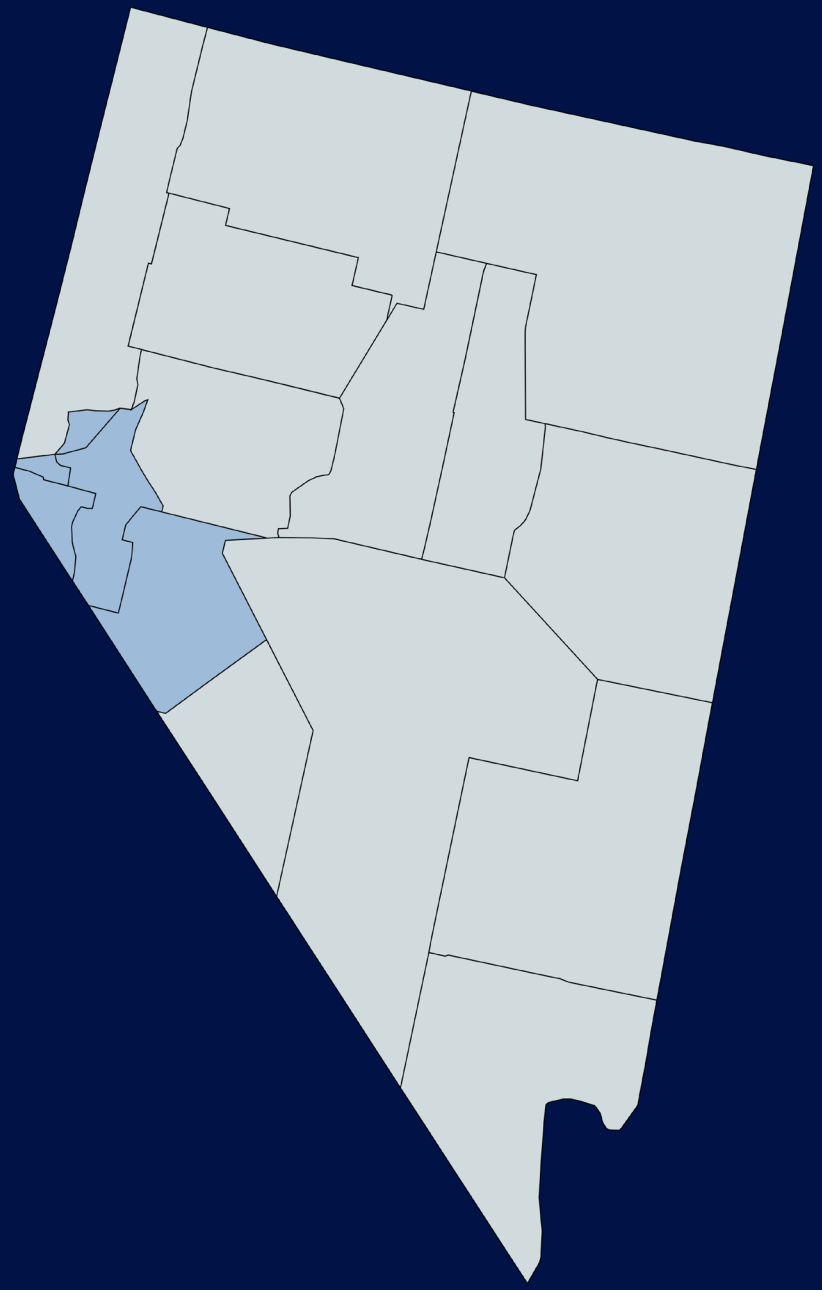
Melissa Barajas



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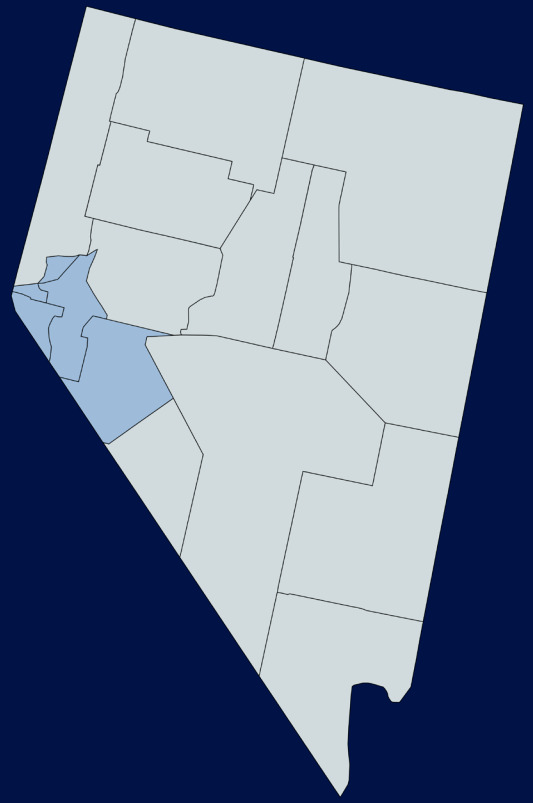

Current Demographics	
Total Population	179,869
Total Employment	110,318

Top 3 Advanced Manufacturing Sectors:

1. Battery Manufacturing
2. Petroleum Refineries
3. Asphalt shingle and coating materials manf.

Top 3 Advanced Manufacturing Sectors					
Industry Code	**Industry**	**Total Output**	**Total Employment**	**Employee Compensation**	**Proprietor Income**
318	Battery manufacturing	$2,475,816,236.20	5,965	$635,302,617.12	$481,458.06
146	Petroleum refineries	$786,871,768.58	89	$21,764,061.67	$54,101,859.32
148	Asphalt shingle and coating materials manufacturing	$226,719,449.12	168	$21,307,268.45	$47,653,649.09

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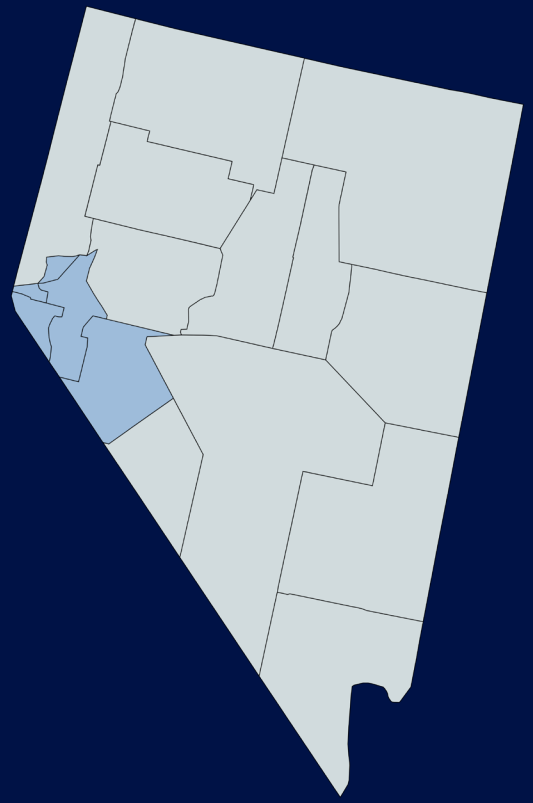

Major Economic Leakages:

- Nonferrous Metal smelting and refining -$402M
- Natural Gas and crude Petroleum - $442M

Battery Manufacturing Commodity Demands							
Code	Description	RPC	Gross Absorption	Gross Inputs	Regional Absorption	Regional Inputs	Gap (GI-RI)
3215	Nonferrous metal (exc aluminum) smelting and refining	0.18%	16.28%	$403,018,928.69	0.03%	$725,154.07	$402,293,774.62
3207	Iron and steel and ferroalloy products	0.03%	6.24%	$154,440,947.07	0.00%	$46,820.02	$154,394,127.05

Petroleum Refineries Commodity Demands							
Code	Description	RPC	Gross Absorption	Gross Inputs	Regional Absorption	Regional Inputs	Gap (GI-RI)
3020	Natural gas and crude petroleum	7.45%	60.83%	$478,615,556.68	4.53%	$35,666,430.49	$442,949,126.19
3151	Petrochemicals	4.82%	5.08%	$39,941,264.78	0.25%	$1,926,475.18	$38,014,789.60

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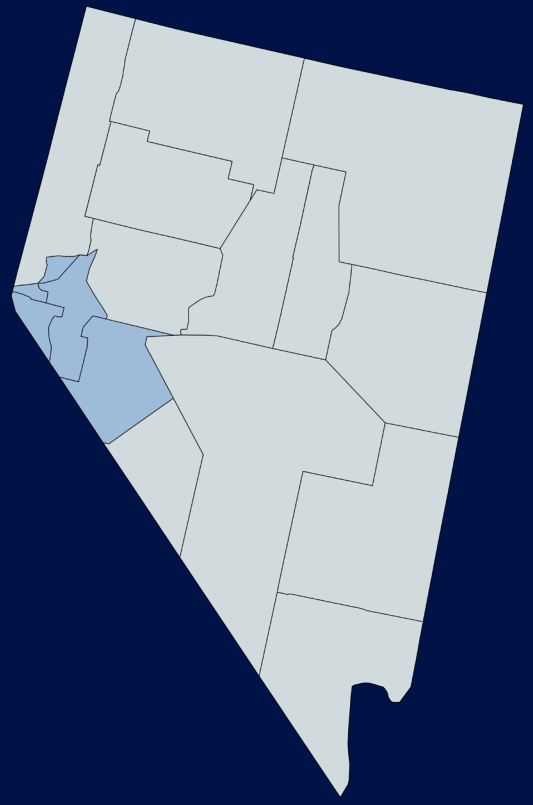

Current Workforce and Pipeline:

Unemployment Rates:

- Carson City - 4.5%
- Douglas County - 4.6%
- Lyon County - 5.2%
- Mineral County - 9.6%
- Storey County - 5.6%

Educational Attainment Ages 18-24	
Less Than High School Graduate	16.69%
High School Diploma	40.07%
Some College or Associates Degree	37.69%
Bachelors Degree or Higher	5.54%

Educational Attainment Ages 25+	
Less Than Ninth Grade	3.12%
Ninth through 12th Grades - No High School Diploma	6.85%
High School Graduate - Includes Equivalency	28.21%
Some College - No Degree	27.18%
Associates Degree	10.53%
Bachelors Degree	15.88%
Graduate Degree	8.23%

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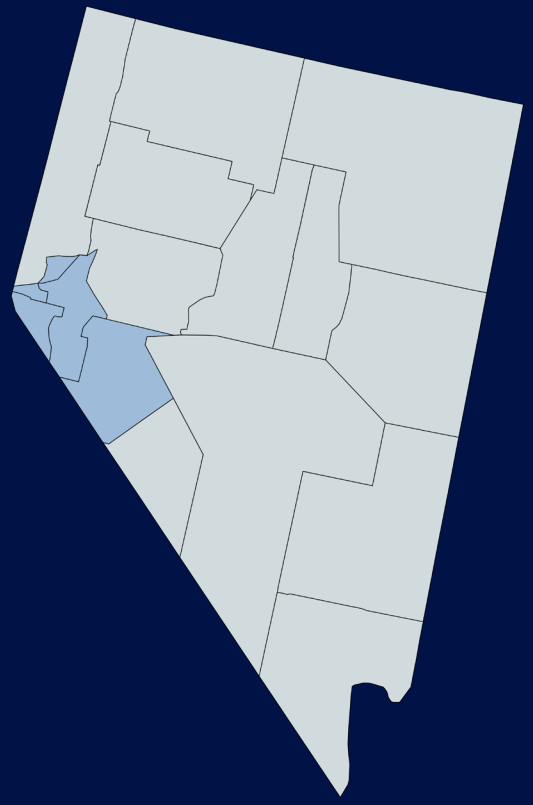

- **High School Enrollment & CTE programs**
- **Post Secondary Education**
  - Western Nevada College (WNC) and (WNCC): Certificates and associate degrees in Advanced Manufacturing, Welding, Automation, and Industrial Technology and more
  - Over 300+ students are currently in manufacturing-related fields (NSHE 25). Limited data
  - University of Nevada, Reno Extension (Mineral County): Need-based, noncredit education programs.
- **Workforce Development Initiatives**
  - WNC received $740,000 through the Workforce Innovations for the New Nevada (WINN) program to develop training pathways in battery recycling, aiming to reach 108 students over two years.
  - Partnership between WNC and Redwood Materials
  - GOED/WINN Training & Grants - More CTE certifications

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WESTERN NEVADA COLLEGE

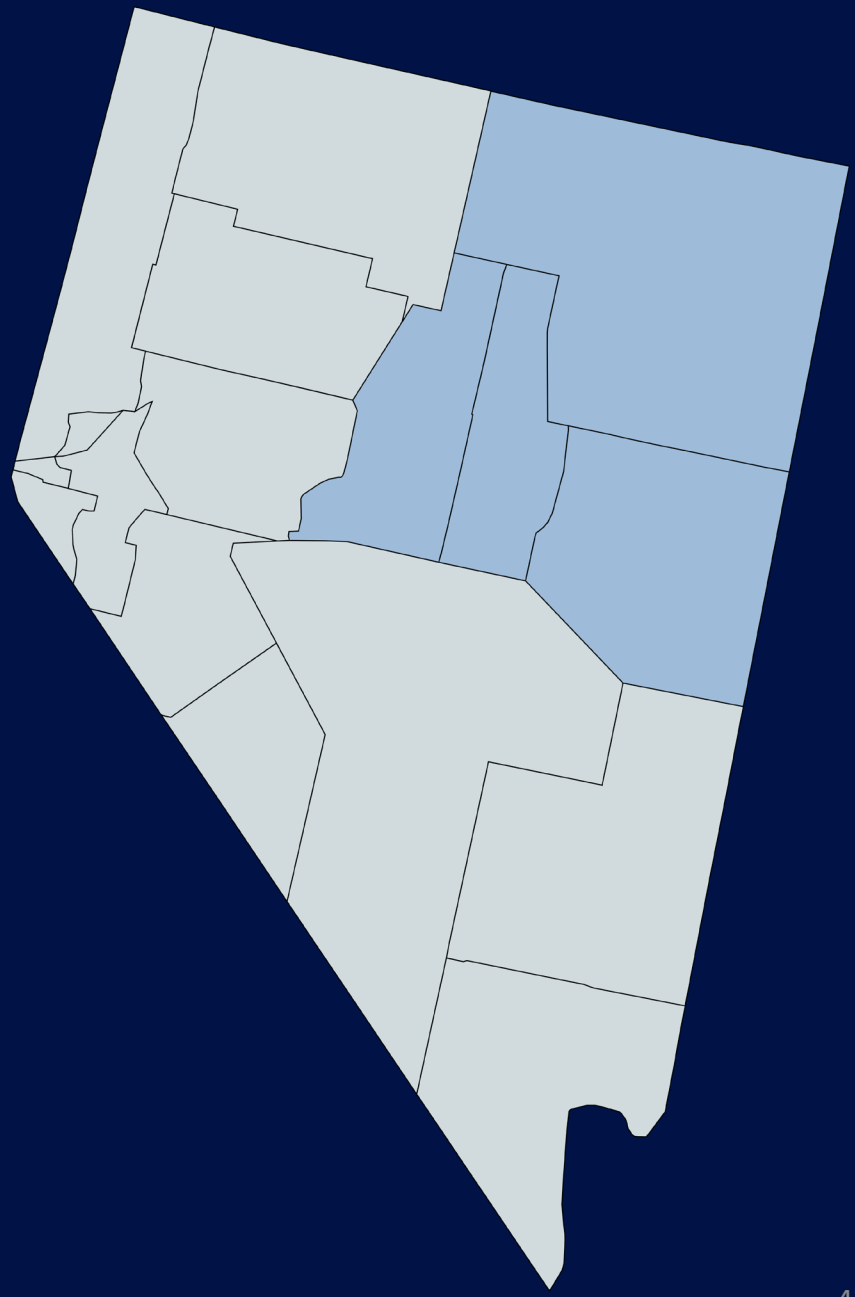
CARSON CITY SCHOOL DISTRICT

DOUGLAS COUNTY SCHOOL DISTRICT

LYON COUNTY School District

Northeastern Nevada Regional Development Authority

Florence Tse



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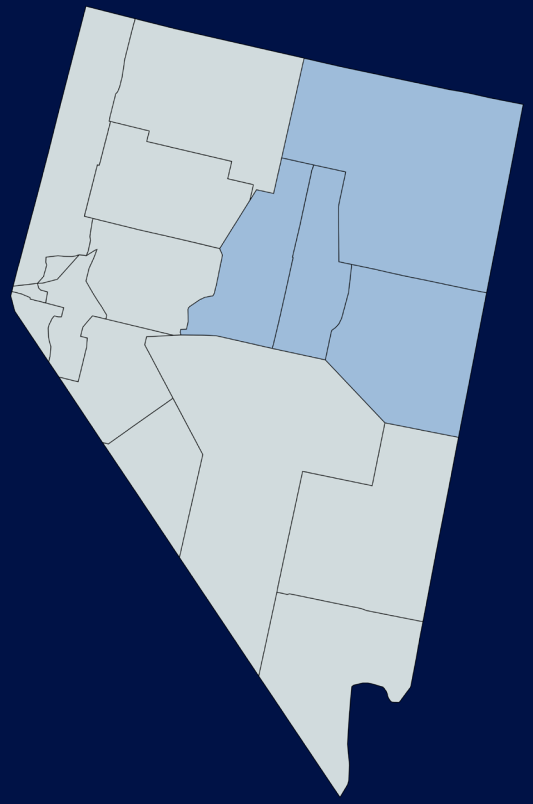

Current Demographics	
Total Population	70,501
Workforce Population	44,586.38

Top 3 Overall Industry Sectors by Total Economic Output:

1. Gold & Silver Ore Mining
2. Metal Mining Services
3. Electric power transmission and distribution

Top 4 Advanced Manufacturing Sectors by Total Economic Output		
Industry Sectors	Total Output	Total Employment
Ready-mix concrete manufacturing	$47,520,082.02	97
Petroleum refineries	$24,522,672.71	3
Prefabricated wood building manufacturing	$18,901,629.41	56
Overhead cranes, hoists, and monorail systems manufacturing	$16,423,289.42	25

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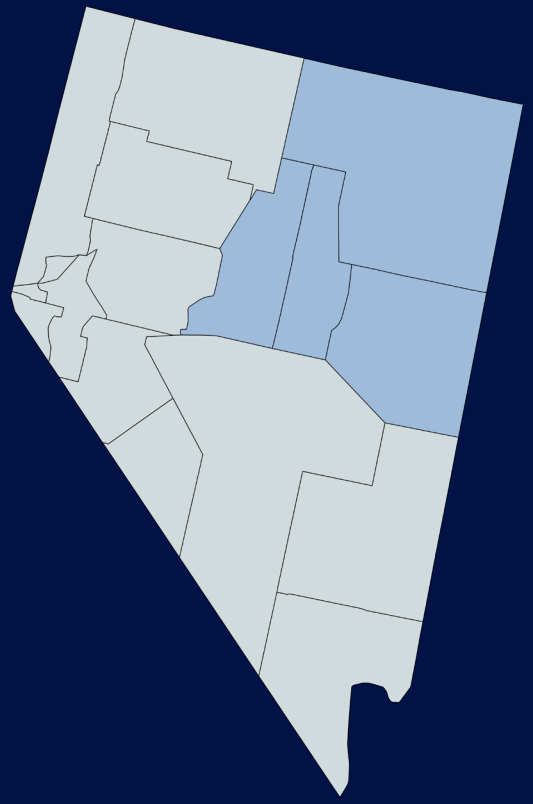

Major Gaps and Leakages:

Top Advanced Manufacturing Sector by output: Ready-mix Concrete Manufacturing	
Average RPC	20.47%
Average RSC	5.58%

Ready-mix Concrete Manufacturing – Commodity Demand		
Commodity	RPC	Gap
Cement	1.73%	$6,939,852.70
Sand and gravel	46.57%	$2,599,181.80
Wholesale services - Other durable goods merchant wholesalers	36.39%	$1,822,137.24
Truck transportation services	38.21%	$1,604,655.64

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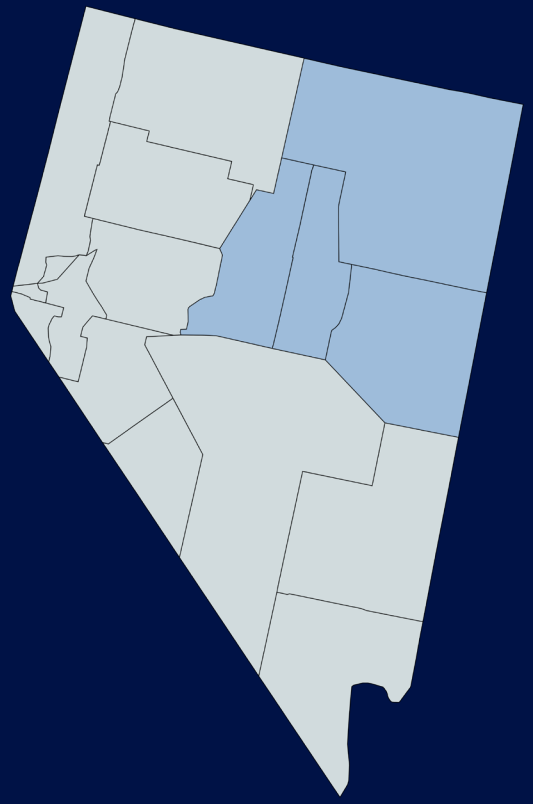

Current workforce and pipeline:

County Unemployment Rate	
Elko	4.3%
White Pine	4.4%
Lander	5.7%
Eureka	7%

NSHE NPWR – 746 Students

Lander & White Pine County School District - CTE programs

Great Basin College

- Elko Campus and Ely Center
- Offers certificates and associate degrees (e.g. industrial maintenance technology and manufacturing machining technology)
- Overall graduation rate from 35.7% (2018) to 43.3% (2022)
- Total Fall Headcounts from 3451 (2018) to 3197 (2022)

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GREAT BASIN COLLEGE

Northeastern Nevada Regional Development Authority

Top Demand for Advanced Manufacturing Occupations					
Occupation	2023 Jobs	2023 Hires	Avg. Annual Openings	Median Hourly Earnings	Typical Entry Level Education
Maintenance and Repair Workers, General	546	268	50	$22.46	High school diploma or equivalent
Production Workers, All Other	91	75	10	$23.58	High school diploma or equivalent
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	71	44	8	$30.06	Postsecondary nondegree award

Top 3 Projected Fasted Growing Occupations 2024-2029:

1. Heating, Air Conditioning, and Refrigeration Mechanics and Installers
2. Power Plant Operators
3. Buyers and purchasing agents

Sector Strategy Committee – entice more instructors to the area, add more to students' education diplomas/certificates and support more projects to attract exposure

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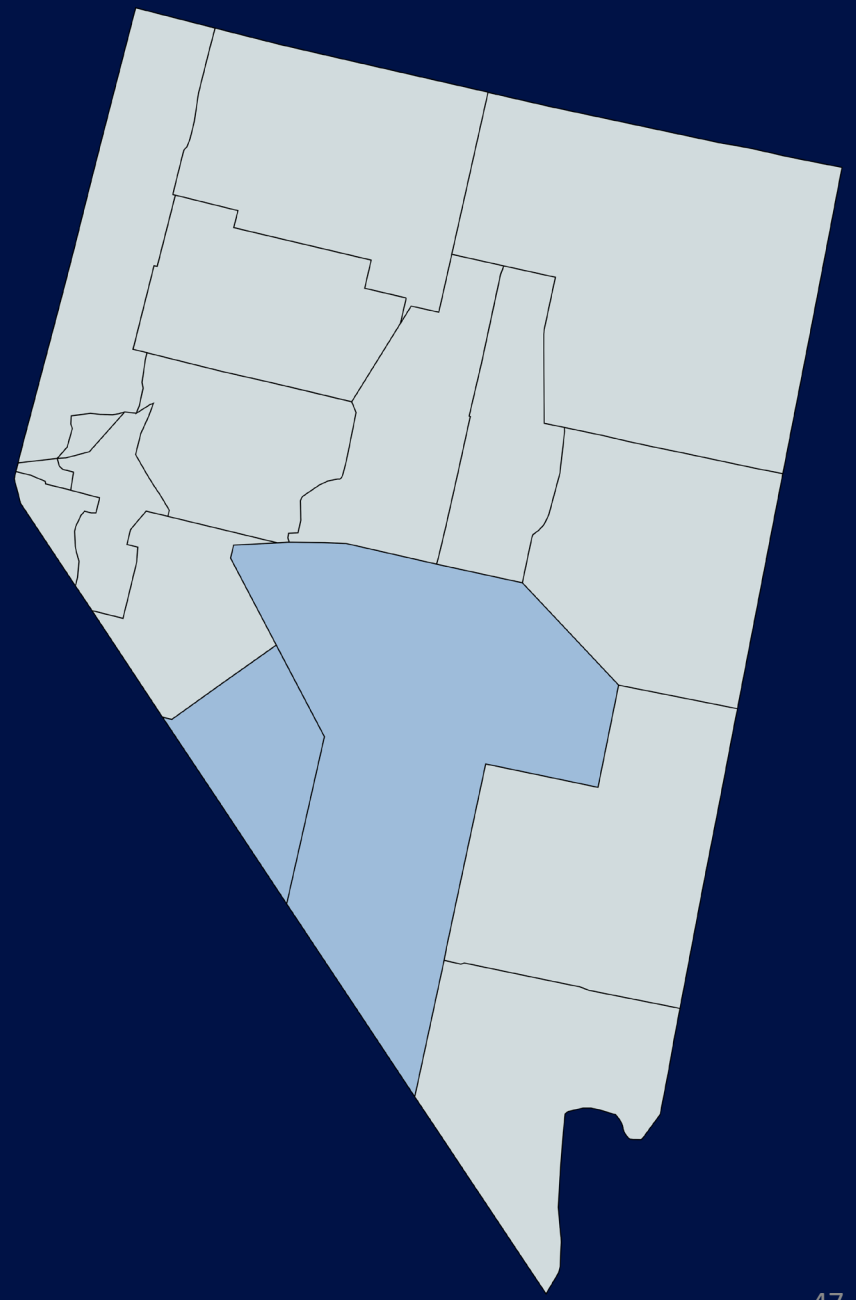
Ages 25+ High school graduate and equivalent: 34.2119%
Ages 18-24 High school diploma: 41.1505%

Southwest Central Regional Economic Development Authority



Ryan Madura

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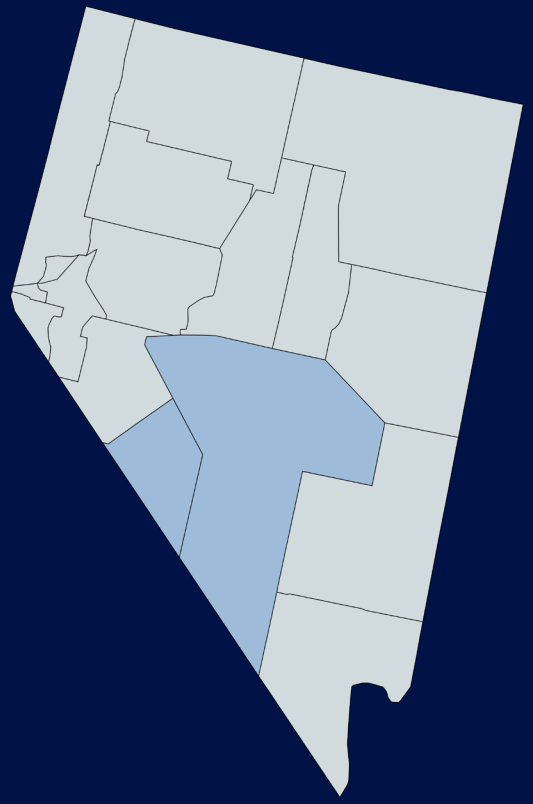
Southwest Central Regional Economic Development Authority



Current Demographics	
Total Pop.	56,456
Workforce Pop.	46,269
Pahrump Pop.	45,811
Tonopah Pop.	1,938
Unemployment Rate Nye County	9.5%
Unemployment Rate Esmeralda County	2.8%

Labor Force Participation Rate	
Nye County	40.8%
Esmeralda County	43.8%

GREAT BASIN COLLEGE

Great Basin College: Pahrump Campus

- **Manufacturing Machining Technology**
- **Certificate of Achievement**
- **2023 Enrollment**:
  - 55 Students
  - 39 Graduates

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Southwest Central Regional Economic Development Authority

Top Industries by Output:

- Gold ore and silver ore mining
- Scientific research and development services
- Owner-occupied housing
- Electric power transmission and distribution

Profile:

- Total Output: $4.67 billion
- Total Employment: 19,929
- Mining of gold, silver, copper, nickel, lead, and zinc account for 15.92% of total output and 6.27% of total employment
- Minerals like gold and silver are used in the production of solar panels to increase the photovoltaic efficiency (converting sunlight into electricity) of the panels
- Home to Eagle Springs Refinery

Total Output, Wage and Salary Employment and Proprietor Employment (and Total Employment), Proprietor Income

Industry Sector	Total Output	Wage and Salary Employment	Proprietor Employment	Total Employment	Proprietor Income
Gold ore and silver ore mining	$665,119,187.14	910	168	1,078	$(92,533.95)
Scientific research and development services	$632,226,158.45	1,625	567	2,192	$8,938,712.82
Owner-occupied housing	$356,065,742.67	0	0	0	$0.00
Electric power transmission and distribution	$220,923,322.34	137	6	143	$1,089,559.75
Other real estate	$166,666,396.61	144	824	968	$16,643,684.03
Total (All Industry Sectors)	**$4,666,565,803.06**	**14,406**	**5,523**	**19,929**	**$153,051,765.51**

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Petroleum Refineries

- Refined petroleum products well integrated → RPC: 29% | RSC: 68% : produced and consumed locally.
- Pipelines → RSC: 83.9% | RPC: 11.9% : very few local actors using it.
- Conclusion: Align supply with demand and use existing infrastructure.

Nonferrous Metal (except Aluminum) Smelting and Refining

- Limited local integration for the Nonferrous metal activity → RSC: 0.57% | RPC: 1.59% : almost absent locally.
- Semiconductors → RSC: 88.25% | RPC: 0.02% : strong local production but not really consumed
- Conclusion: Develop local processing, strengthen industrial and logistics networks.

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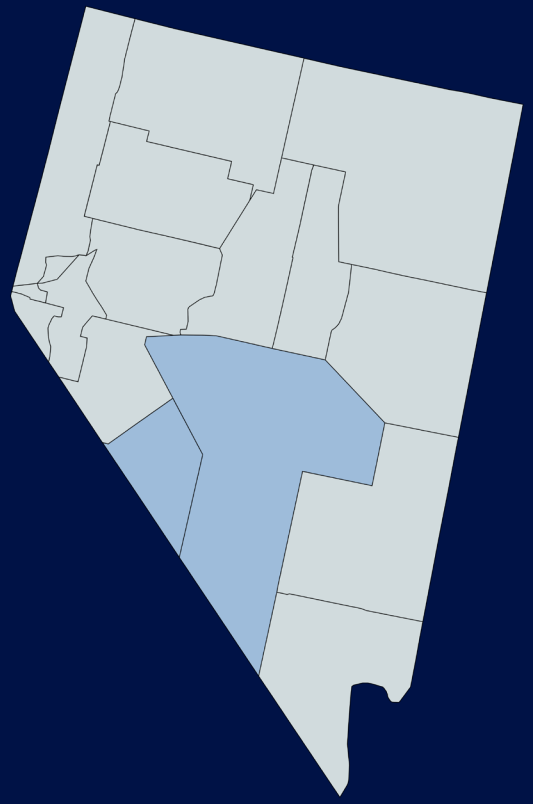
Petroleum Refineries Commodity Demands						
Description	**RPC**	**Gross Absorption**	**Gross Inputs**	**Regional Absorption**	**Regional Inputs**	**Gap (GI-RI)**
Natural gas and crude petroleum	29.87%	65.61%	$76,871,552.70	19.60%	$22,964,360.44	$53,907,192.26
Petro-chemicals	0.34%	5.48%	$6,415,059.01	0.02%	$21,765.88	$6,393,293.13
Pipeline transportation services	1.19%	5.16%	$6,040,696.18	0.06%	$72,004.68	$5,968,691.50
Other basic organic chemicals	0.00%	1.97%	$2,304,178.45	0.00%	$37.17	$2,304,141.28

Nonferrous Metals Smelting and Refining Commodity Demands						
Description	**RPC**	**Gross Absorption**	**Gross Inputs**	**Regional Absorption**	**Regional Inputs**	**Gap (GI-RI)**
Nonferrous metal (exc aluminum) smelting and refining	1.59%	33.38%	$6,866,367.86	0.53%	$109,343.44	$6,757,024.42
Semiconductors and related devices	0.02%	3.09%	$635,448.71	0.00%	$101.99	$635,346.72
Truck transportation services	42.41%	4.30%	$883,557.71	1.82%	$374,697.27	$508,860.44

Southwest Central Regional Economic Development Authority



Barriers to workforce Development

- Petroleum Refinement
  - Petroleum refineries, which is the top manufacturing sector in terms of total output, only generates 14 jobs and about $591 thousand in employee compensation.

- Semiconductor Manufacturing
  - No strong electronics manufacturing, computer assembly, or semiconductor-consuming industries locally
  - Most semiconductors are simply exported out of the region without being turned into higher-value products (like chips, devices, solar panels, computers)

- Constrained by limited educational infrastructure

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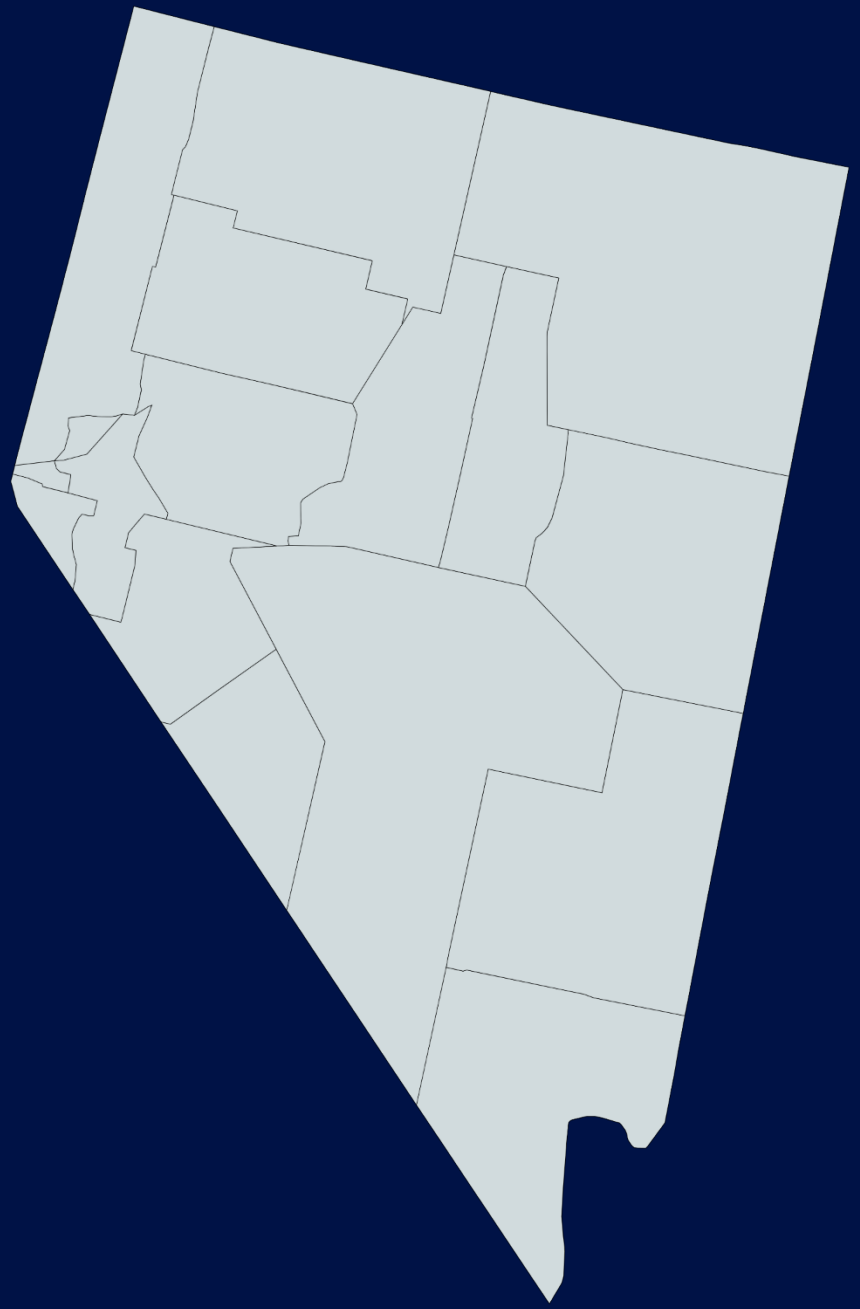
State of Nevada



Stacy Zuniga

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State of Nevada

Estimated Population: 3.2 Million

Top 3 Industry Sectors:

- **Logistics and Distribution**: Dominated by industrial hubs like the Tahoe-Reno Industrial Center and major distribution networks in Clark County
- **Battery Manufacturing:** Spearheaded by Tesla's Gigafactory and Redwood Materials, contributing significantly to Nevada's industrial output.
- **Aerospace and Defense:** Anchored by Nellis Air Force Base and a growing number of defense contractors in Southern Nevada.

Top 5 Advanced Manufacturers:

- Tesla Gigafactory: Battery Production and electric vehicle components
- Panasonic Energy: Battery Cells and renewable energy systems
- Redwood Materials: Recycling and materials processing.
- Click Bond: Precision Aerospace components
- Fulcrum BioEnergy: Renewable Fuels and waste processing

Total Employment and Output:

- Approximately 40,000 workers statewide
- Total output is estimate at $18.6 billion, with continued growth expected in the semiconductor and aerospace sectors.

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State of Nevada

Gaps Identified:

- Nevada exhibits strong backward linkages in mining and raw materials processing but demonstrates significant gaps in semiconductor assembly, robotics components, and precision machining.
- The state remains heavily reliant on imported semiconductors, RSC of 0.8825 for semiconductor production but an RPC of only 0.002, indicating that most products are exported without value-added processing
- Similarly, the manufacturing sector is highly dependent on external inputs for electronics assembly and advanced robotics components, with RSC values as low as 0.0173 in cabling devices and 0.0605 in iron and steel alloys.

Average RSC and RPC

- The average RSC for manufacturing inputs is 0.67, indicating that 67% of key inputs are sourced locally
- The average RPC is 0.59, reflecting a notable dependence on external suppliers for advanced manufacturing components.

State of Nevada

Current Workforce Numbers:

- As of 2025 the advanced manufacturing sector employs approximately 40,000 workers statewide, with an unemployment rate of 5.4%, slightly above the national average.

Current Pipeline:

- TMCC developed in partnership with Panasonic Energy, graduated 39 students in 2023, contributing directly to the regional workforce pipeline
- Community colleges and technical schools across the state report increasing enrollment in CTE programs related to electronics, machining, and automation, aligning with the needs of major employers like Tesla and Panasonic

Educational Institutions	Programs
Western Nevada College (WNC)	Advanced manufacturing and renewable energy systems
College of Southern Nevada (CSN)	Automation and robotics training programs.
UNR & UNLV	Semiconductor technology, applied engineering, and data analytics programs.

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Nevada: Strategic Supply Chain Advantage

Clayton Greb

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Strategic Supply Chain Advantage: Rail and Port Access

- **Major Rail Lines Cross Nevada:** Union Pacific and BNSF provide robust east-west freight movement through the state, linking Nevada manufacturers to national and international markets.
- **One-Day Access to West Coast Ports:**
  - *Northern Nevada* is within a one-day drive to the Port of Oakland, offering direct and efficient access to trans-Pacific shipping lanes.
  - *Southern Nevada (Clark County)* is in close proximity to the Port of Long Beach, one of the busiest container ports in North America.
- **Reliable and Predictable Freight Flow:** Nevada's low congestion and optimized freight corridors help minimize delays and reduce transportation costs.
- **Positioned for Regional and Global Reach:** This connectivity enhances Nevada's role as a key logistics and manufacturing hub in the Western U.S.

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Strategic Supply Chain Advantage: Highway System

- **Extensive Interstate Network:** Nevada is anchored by key interstate highways, including I-80, I-15, and I-580, connecting east-west and north-south freight corridors across the Western U.S.
- **One-Day Drive to Major West Coast Ports:**
  - **Port of Oakland** (via I-80 from Northern Nevada)
  - **Port of Long Beach** (via I-15 from Southern Nevada)
- **Reach Over 60 Million Consumers Within a Day's Drive:** Nevada's central location allows manufacturers and distributors to efficiently serve major population centers including: Los Angeles, San Francisco Bay Area, Phoenix, Salt Lake City, San Diego, and Las Vegas and Reno metro areas
- **Low Congestion, High Throughput:** Nevada highways experience significantly less freight congestion compared to neighboring states, improving delivery reliability and transit times.
- **Ideal for Regional Distribution Hubs:** Major companies leverage Nevada's highway system for same-day and next-day fulfillment across the West.

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The Role of Industrial Supply Companies in Supporting Nevada's Advanced Manufacturing Sector

Clayton Greb

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Linking Local Factories with Global Networks

- **National Supply Chains, Local Fulfillment:** Companies like Fastenal, Grainger, and MSC Industrial supply advanced manufacturers through well-established national networks and locally staffed branches.
- **On-Demand Access to Factory Consumables:** These vendors ensure rapid delivery of essential items: MRO supplies, cutting tools, fasteners, PPE.
- **Local Warehousing and Inventory:** Nevada-based distribution centers and branch locations help maintain stock levels close to the point of use, supporting lean operations.
- **Integrated Procurement Solutions:** Many offer digital procurement platforms, vending solutions, and onsite inventory management to streamline supply workflows.
- **Scalable Support for Growth:** As production scales, these vendors adapt quickly, leveraging their national logistics infrastructure while maintaining personal, local service.

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Questions?

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A Comprehensive Examination of Nevada's Advanced Manufacturing Industry Sector's Value Network and Supply Chain

Identifying Value Network and Supply Chain Gaps and Developing Community and Economic Development Recommendations

Rese Alford, Priscillar Banda, Melissa Barajas, Ron Borenstein, Edson Canales, Dpaul Cruz, Clayton Greb, Lou-Anne Guerbert, Kristen Levin, Ryan Madura, Richard Merriner, Lydia Morehouse, Lesna O'Donnell, Riley Parker, Nicolas Posey, William Ryan, Mohammadreza Sadrian, Florence Tse, Adam Weynand, Fnu Zeenat, and Stacy Zuniga

SWOT Analysis

Mohammadreza Sadrian
&
William Ryan

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SWOT: Strengths

91,000 people moved to Nevada from other U.S. states between 2021 and 2022.

Due to lower taxes, a lower cost of living, and a more business-friendly environment

- 38.7% of domestic in-migrants to Nevada aged 21 to 64 held a bachelor's degree or higher-a 9.1 percentage-point increase compared to 2019 (LFPR, 2024).

- Nevada had a positive total net migration of 16,905 in 2022 around 10,441 of which had Some College/Associate, Bachelor's, Graduate/Professional Degree)

Questions: If Nevada successfully increases its total net migration, would that automatically expand the skilled workforce available for its advanced manufacturing sector?

Ranking	Former State of Residence	Estimated Migrants
1st	California	48,836
2nd	Texas	6,946
3rd	Arizona	6,888
4th	Washington	6,212
5th	Colorado	4,522
6th	Utah	4,113
7th	Illinois	3,845
8th	New York	3,795
9th	Hawaii	3,380
10th	Oregon	2,942

Top 10 states with highest estimated number of migrant to Nevada, 2022.
(State-To-State Migration in Nevada, 2024)

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SWOT: Strengths

Northern Nevada's current total load is about **2,000 megawatts (MW) and It took 125 years to reach this capacity, and the region aims to double that in about eight years.**

If the data-storage industry continues to grow east of the Reno-Sparks metro area, Northern Nevada's energy grid could quadruple in size in the "foreseeable future".

There are companies that are investing in both data centers and the power infrastructure needed to run them:

- **There are companies developing master plans and builds infrastructure for Storey County data centers such as Tract (investing $100 billion) and Vantage ($245 million).**

- **Greenlink Nevada eventually transmit as much as 4,000 megawatts of clean energy. Greenlink West (in service by December 2026) and Greenlink North (in service by December 2028).**
  cost $2.9 billion, is expected to include the construction of 585 miles of transmission lines.

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SWOT: Strengths

- Tax abatement. Examples: Findlay Machine & Tool, LLC dba Kreate, and Orbinox America Inc. (creating more than 90 jobs and nearly $9 million in new taxes over the next 10 years in Las Vegas and Douglas County)
- There were 18 active Request for Information (RFI) projects for GOED in 2022. (72% involved manufacturing)
- These projects could bring 4,263 new jobs and an estimated $17.4 billion investment.
- Since 2021, advanced manufacturing, has contributed $9.45 billion annually and employs more than 65,000 Nevadans.
- Advanced manufacturing comprises 4.9% of total employment and with projected to rise by 8.12% by 2030.

SWOT: Strengths

The Impact of Diversifying into Advanced Manufacturing industry in Nevada

Utilizing the state's advantageous location and business-friendly regulations, Nevada's advanced manufacturing industry is seeing new growth prospects in the areas of clean technologies and aerospace production.

This diversification into high-tech industries in recent decades:

- Competitiveness in domestic and international markets
- Generate high-paying jobs
- Draw in foreign investment
- Lessen its dependency on conventional economic sectors (e.g., mining and tourism)

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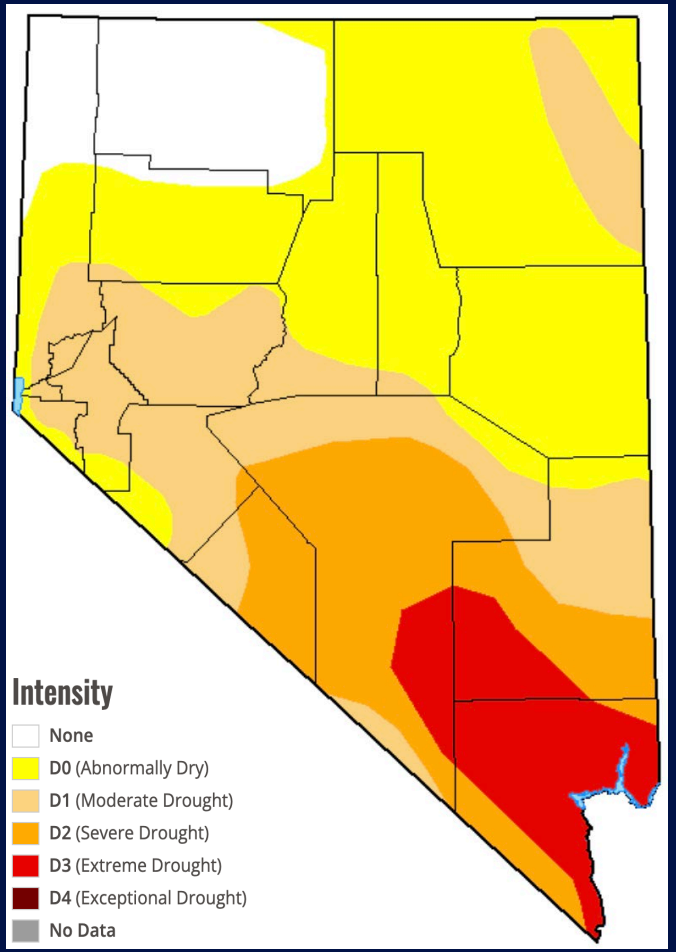
SWOT: Weaknesses

Is Nevada's climate suitable for advanced manufacturing? *WEAKNESSES*

- Water shortages can jeopardize the growth. Nevada is driest in the U.S. (with average annual precipitation rate of only 9.5 inches) and water consumption is expected to rise by 85% by 2065.
- Southern Nevada is facing a water shortage due to Lake Mead's low water levels, resulting in a 7% reduction in the state's Colorado River water allocation.
- In Nevada, advanced manufacturing, particularly battery and semiconductor production, can use a significant amount of water. Tesla's Gigafactory, for example, is estimated to use millions of gallons of water annually.



SWOT: Weaknesses

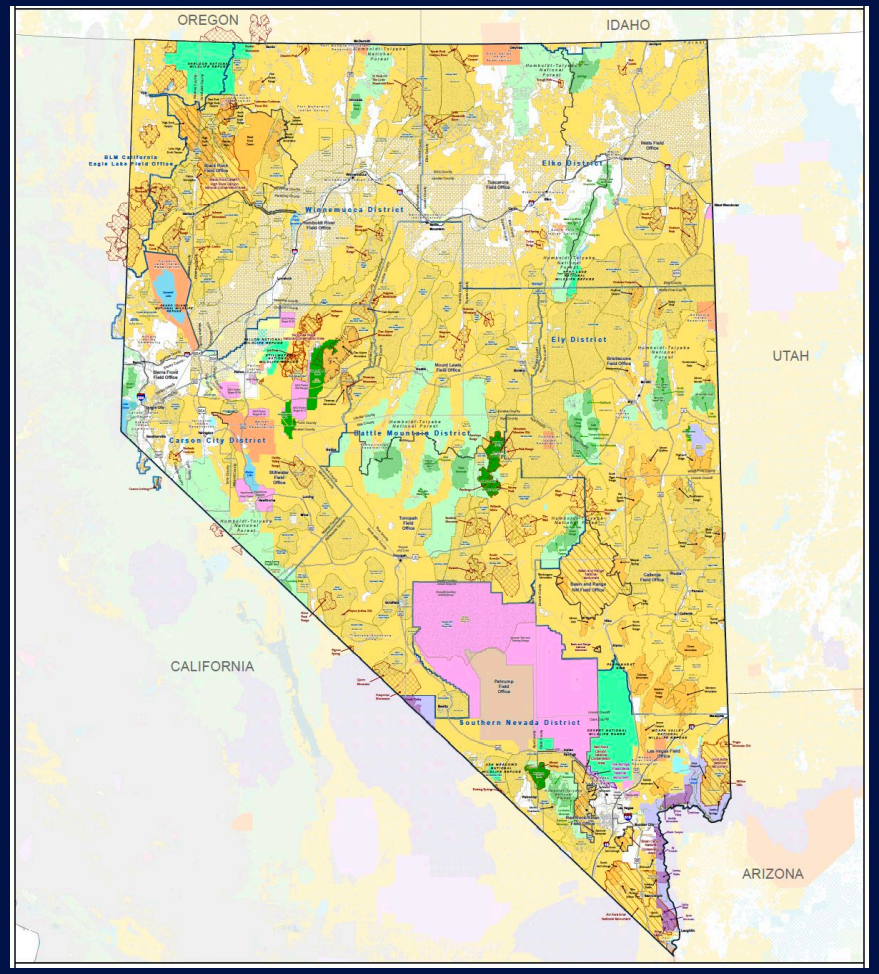
Do we have enough land in enough for advanced manufacturing?

- Nevada contains forty-eight million acres of public land, amounting to 63% of the state, managed by BLM. This means land scarcity.

Does Nevada generate enough electricity to support advanced manufacturing?

- Based on GOED, Nevada's electricity consumption often exceeds in-state generation (except for 2020), underscoring the need for investment in the grid.

Do we have enough Nevadans to support advanced manufacturing?



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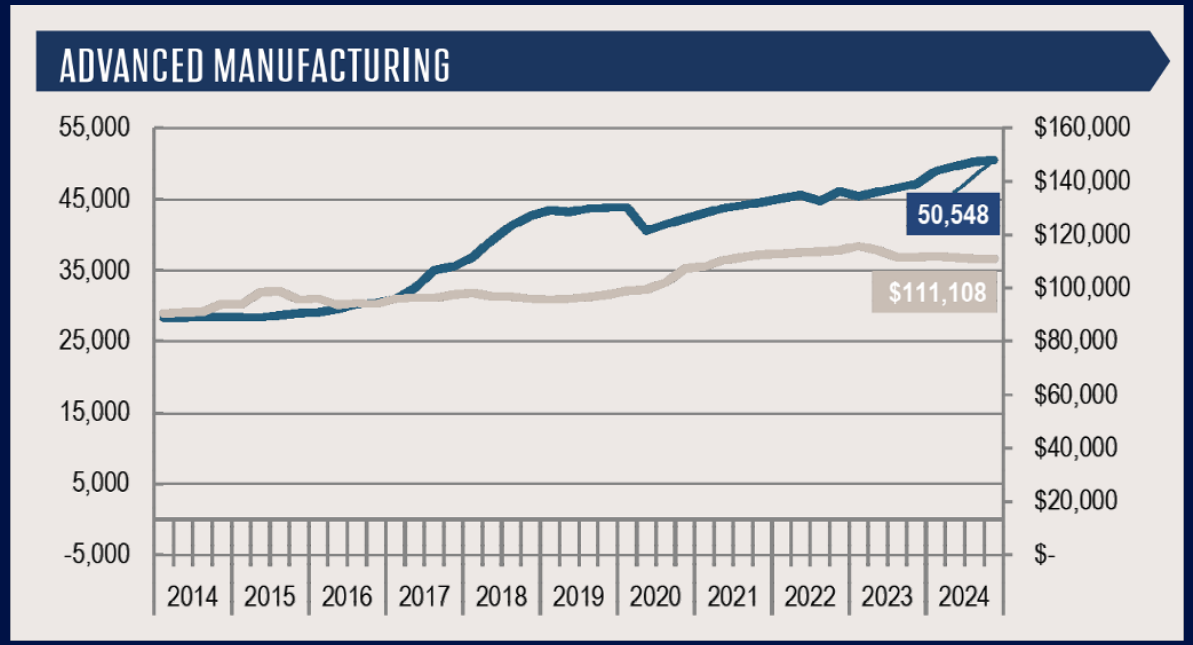
SWOT: Weaknesses

- 55% of STEM and engineering students remain in Nevada after graduation, implying that 45% relocate to other states for employment.
- GOED has acknowledged that science and engineering graduates experience a lower retention rate within a year after graduation compared to graduates in other fields.
- These challenges have contributed to Nevada having the third-lowest workforce participation rate in STEM-related occupations among all U.S. states.
- Additionally, only 25% of Nevadans over the age of 25 hold a bachelor's degree (GOED, 2023).



Job growth in Nevada's advanced manufacturing sector-40,000 in 2020 to 50,548 by 2024, with a significant growth of 3,351 jobs between 2023 and 2024

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SWOT: Weaknesses

Housing Shortages:

- The median home value increased from $317,800 in 2019 to $373,000 in 2021, a 17.4% increase, while the median household income rose from $63,276 to $66,274, an increase of only 4.7% over the same period (GOED, 2023).
- Median housing costs in Clark County consume ~37% of a production worker's salary.
- Reno has a 0% vacancy rate for rentals under $1,000.
- 34% of Apex Industrial Park manufacturers recruit from over 50 miles away.

Childcare Accessibility:

- Childcare costs take up 17% of household income which is well above the 7% federal benchmark.
- Loss of pandemic-era childcare subsidies impacted 5,500 children.
- Female participation (47% of manufacturing workforce) is especially affected.

Healthcare Gaps:

- All 17 counties are health professional shortage areas.
- Mental health provider ratios are double the national average in counties like Churchill. (one provider per 1,200 residents in Nevada)
- Rural workers travel up to 2.7 hours for specialized care.
- Healthcare gaps drive absenteeism (+22%) and up to 15% productivity loss in urban centers.

Labor Retention Issues:

- Skilled manufacturing turnover averages 18% annually. Clark County's labor force participation is stagnant (~64%) despite job growth. Workforce instability is linked to lack of affordable childcare and healthcare.

SWOT: Opportunities

New Entrants

- Companies with foreign operations looking to reshore
  - GM, Intel, and Micron pledging combined investments of nearly $20 billion in domestic operations
- Domestic companies looking to migrate
  - In the previous two years, the Bay Area alone has cut over 60,000 tech jobs

Investment in Automation

- The workforce availability in Nevada makes it uniquely positioned to benefit from investments in automation
- 2024 report by McKinsey & Company estimates 400-800 million jobs lost to automation by 2030; up to 50% of work activities are automatable
- Investing in automation reduces headcount needs and shifts work needs to highly skilled and technical, potentially improving the retention rate of STEM graduates

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SWOT: Threats

Other states are also aggressively targeting advanced manufacturing companies:

- Arizona: Tax credits for solar, wind, inverter, battery, and critical mineral components
- Texas: Texas Jobs, Energy, Technology & Innovation (JETI) Act; Texas Semiconductor Innovation Fund (legislature appropriated nearly $700 million)
- Colorado: Tax credits and exemptions for state income, sales and use tax

Economic Volatility

- Import dependent industries (batteries, EV materials) subject to potential regulatory and global trade pressure

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Defining Balance, Strength, Resiliency

Nicolas Posey

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Defining Balance, Strength, Resiliency

Supply Chain Index Methodology

Balance:

$$B = \frac{1}{n-1}\left(\frac{REV_n - REV_1}{REV_1} + \frac{ROIC_n - ROIC_1}{ROIC_1}\right)$$

Strength:

$$S = \frac{1}{n-1}\left(\frac{OM_n - OM_1}{OM_1} + \frac{IT_n - IT_1}{IT_1}\right)$$

Resiliency:

$$R = \frac{1}{m}\sum_i \sum_{j>i} d_{ij}$$

Index:

$$\text{Index} = 0.3B + 0.3S + 0.3R$$

Example Index									
Company	**REV**	**Balance**	**Bal. Rank**	**Strength**	**Str. Rank**	**Resiliency**	**Res. Rank**	**Index**	**Rank**
Company X	16.1	0.23	2	0.16	1	0.98	2	2.4	1
Company Y	39.1	-0.06	3	0.08	2	0.47	1	3.0	2
Company Z	17.4	0.28	1	0.08	2	1.72	3	3.3	3

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Key

n = number of periods
REV = revenue growth
ROIC = return on invested capital
OM = operating margin
IT = inventory turns
m = # of pairs
d_{ij} = Euclidean dist. between I,j
I,j = points

Defining Balance, Strength, Resiliency

Our Definitions:

Balance:

- Balance is the deliberate and dynamic coordination of multiple operational priorities, often competing, to achieve optimal performance across a given industry or organization.

Strength:

- Strength is the foundational robustness of an industry or organization to maintain its capability, infrastructure, and processes under pressure due to unforeseen external or internal forces.

Resilience:

- Resilience is the capacity of an industry or organization to withstand, adapt to, and rapidly recover from disruptions due to unforeseen external or internal forces while maintaining operational continuity.

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Defining Balance, Strength, Resiliency

To Simplify:

Balance:

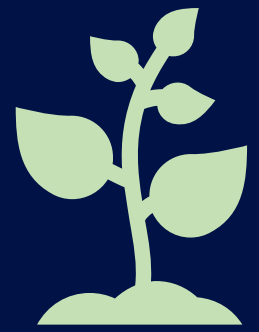
- The ability to get out of the way of the punch

Strength:

- The ability to take a punch

Resilience:

- The ability to get back up after getting knocked down



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Balance, Strength, Resiliency

Lydia Morehouse

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State of Nevada: Balance

- Diversification
  - Aerospace, Batteries, Renewable Energy, Defense
- Reshoring Initiatives
  - Unimacts
- Strategic Investments
  - Redwood Materials
- Sector Partnerships
  - Workforce Innovation for the New Nevada (WINN)

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State of Nevada: Strength

- Geographical Advantages
  - Proximity to Major Markets
  - Infrastructure Improvements
- Workforce Development
  - Training Programs
- Economic Incentives
  - Supportive Policies

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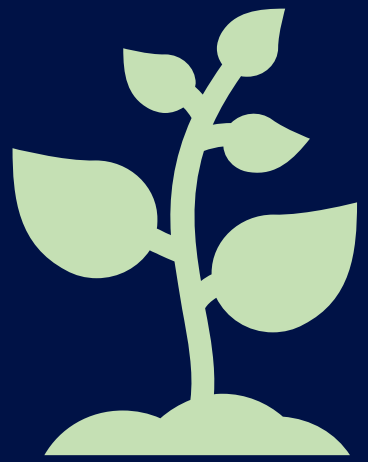
State of Nevada: Resiliency

- Diversification of Suppliers
- Focus on Sustainability
- Improved Inventory Management
- Flexible Production Practices
- Health and Safety Protocols



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NNDA Recommendations

Ron Borenstein

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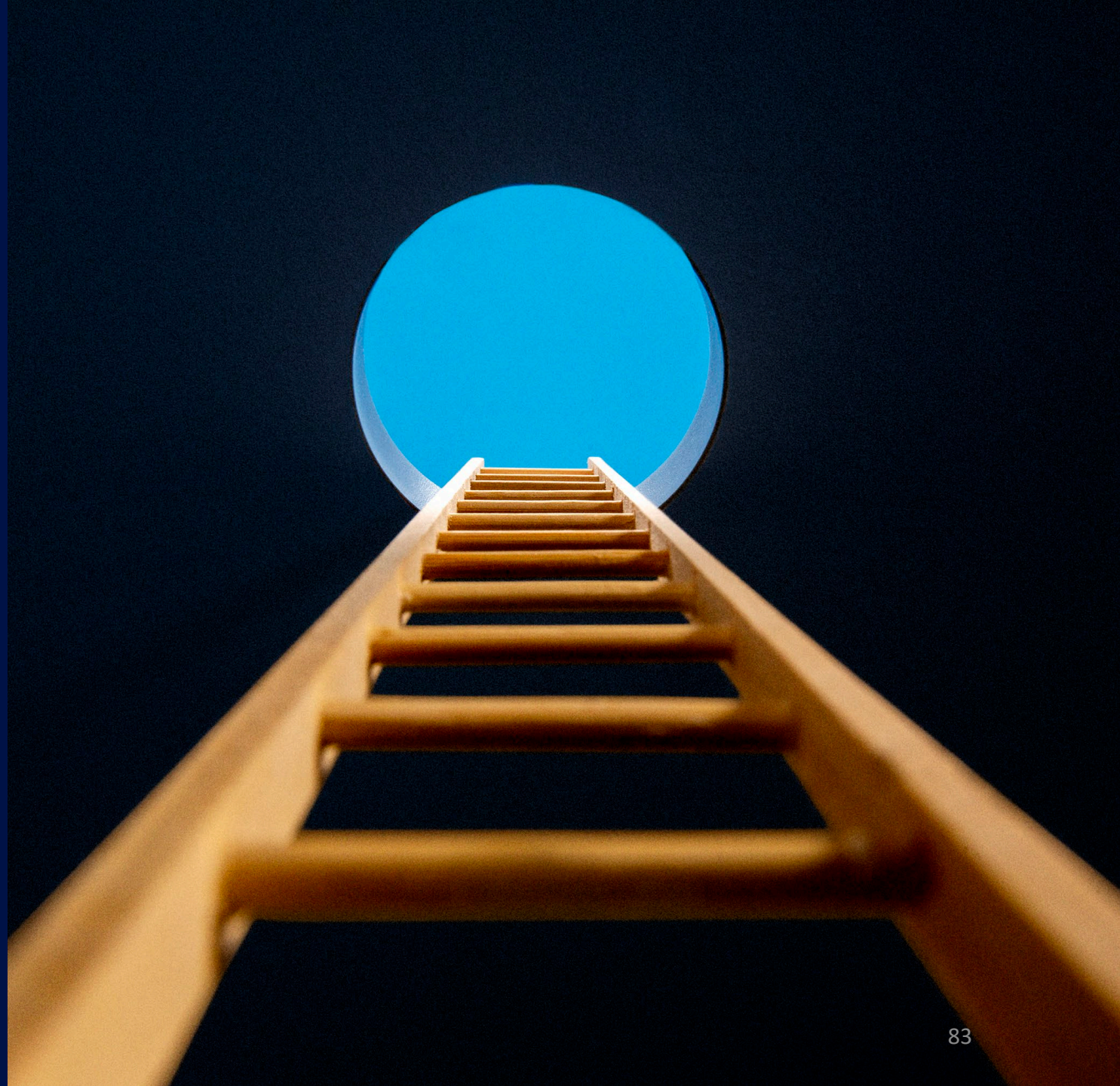

Northern Nevada Development Authority

Workforce Development and Training

- **Expand Training Pipelines:** Grow advanced manufacturing training capacity at local colleges (e.g. TMCC's new Panasonic Advanced Manufacturing Center launched 2024) to create a steady pipeline of skilled workers
- **Industry–Education Alignment:** Forge strong partnerships between employers and educators to align curriculum with industry needs (e.g. Redwood Materials partnering with Western Nevada College on a battery technician training program
- **Early STEM Engagement:** Engage K–12 students in STEM and robotics programs to spark interest in advanced manufacturing careers. (Tesla's K–12 initiative in Nevada reached 130,000 students and trained 1,300+ teachers in robotics and STEM, strengthening the future workforce)
- **Boost Apprenticeships:** Promote "earn while you learn" apprenticeships and internships to build a talent pipeline. (South Carolina's Apprenticeship Carolina program, for example, has trained 48,000+ apprentices in manufacturing fields since 2008, a model Nevada can emulate)

Northern Nevada Development Authority

Infrastructure Investment

- **Transportation Upgrades:** Invest in critical transportation corridors to support industry growth e.*g.* the USA Parkway extension connected TRIC in Storey County to U.S. 50 in Lyon County, opening up new industrial land and cutting commute/shipping times.
- **Utilities and Broadband:** Expanding high-speed internet and resilient energy grids in industrial areas ensures even rural sites can host cutting-edge facilities.
- **Incentivize Investment:** Utilize Opportunity Zones and similar incentives to attract private capital into industrial infrastructure e.g. Fernley's Victory District.

Rendering of Victory Logistics District in Fernley, Nevada. *Courtesy of Cayetano Martos, NAIOP*

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Northern Nevada Development Authority

Technology Adoption

- **Embrace Industry 4.0:** Encourage widespread adoption of automation, robotics, artificial intelligence (AI), and IoT on factory floors. Consider launching an Industry 4.0 acceleration initiative (Michigan pioneered a statewide Industry 4.0 Accelerator to help manufacturers modernize).
- **Support Small Manufacturers:** Provide technical assistance and grants to help small and mid-sized manufacturers upgrade their technology and processes.
- **Leverage innovation programs (Tech Hub, NSF Engine)** to boost R&D and tech transfer into local industry, keeping the region on the cutting edge
- **R&D and Partnerships:** Partner with universities, research institutes, and national initiatives to bring cutting-edge tech to the region. For example, collaboration with industry research hubs (like automation labs at UNR or national Manufacturing USA institutes) can pilot advanced processes (additive manufacturing, advanced materials, etc.) locally.

Northern Nevada Development Authority

Business and Investment Attraction

- **Cluster Development:** Emphasize the growing **industry clusters** and supply-chain opportunities.
- **Strategic Location:** Highlight Northern Nevada's **strategic location** in all pitches. The region offers one-day truck access to major West Coast markets and convenient reach to deep-water ports.
- **Unified Recruitment Effort:** Collaborate closely with state and regional partners to present a **unified** incentive and support package to prospects. The NNDA works hand-in-hand with the Governor's Office of Economic Development and neighboring development authorities (EDAWN, LVGEA) so that whether a company is evaluating Carson City or Las Vegas, they encounter a coordinated Nevada team.
- **Promote Our Success:** Aggressively market the region's pro-business environment and proven results. Since 2010, over **100 companies** have relocated or expanded in the Sierra Region, generating **$2 billion+** in economic impact.

Northern Nevada Development Authority

Strategic Partnerships

- **Public–Private Alliances:** Deepen collaboration between industry, educators, and government to address workforce and innovation needs together. Successful examples in Nevada include Tesla partnering with local schools on robotics and STEM education and Redwood Materials teaming with Western Nevada College on battery-recycling technician training.
- **Regional & National Collaboration:** Form coalitions to pursue big opportunities that no single entity can win alone. A model is Western New York, where public, private, and educational partners united to secure a **$25 million** federal grant to boost their advanced manufacturing cluster.
- **Tap National Networks:** Connect the Sierra Region's strategy with broader networks and best practices. Engage with the Manufacturing USA institutes, national labs, and the MEP National Network to bring in expertise and technology. For example, Michigan's Automation Alley consortium accelerated tech adoption statewide.

Churchill-Fallon Recommendations

Riley Parker

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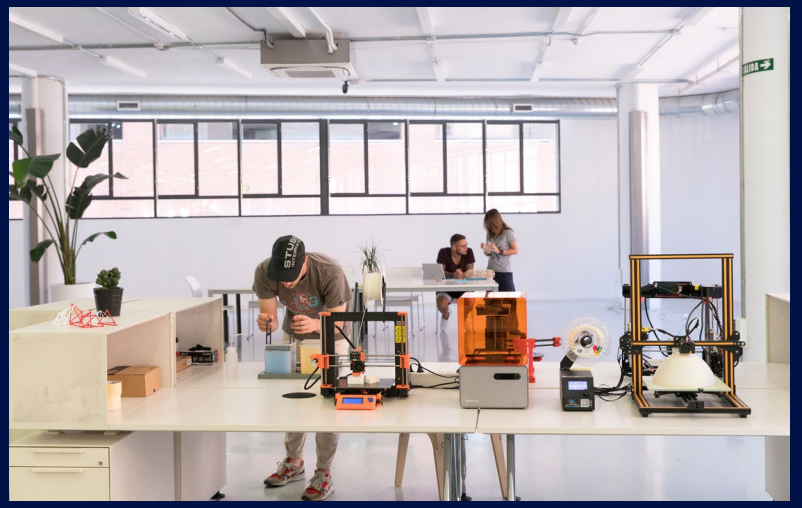
Churchill-Fallon RDA Recommendation

Recommendation: Build a sustainable, community-driven **innovation lab** with a focus on advanced manufacturing for agriculture and defense sectors

- Houses 3D printers, CNC machines, laser cutter, and CAD workstations in a trailer or refurbished warehouse
- Consider partnership with Western Nevada College at Fallon, the University of Nevada, Reno Churchill Extension, and the CTE program at Churchill County High School



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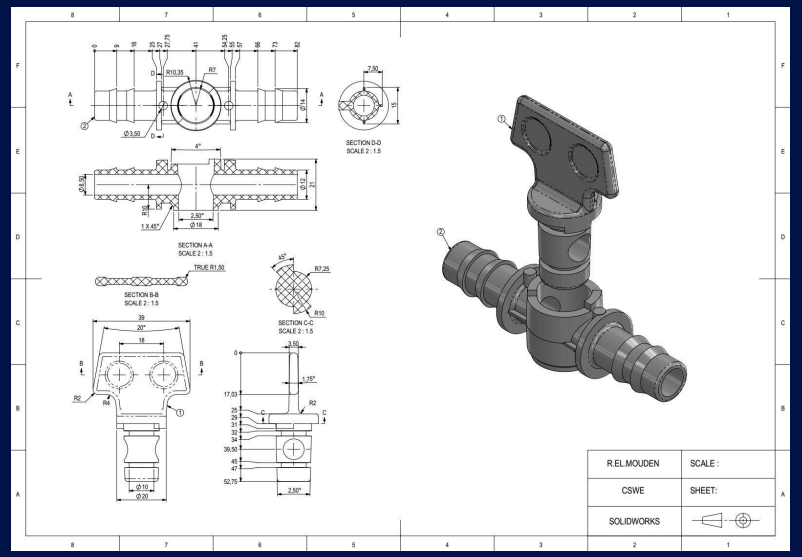
Churchill-Fallon RDA Recommendation

I. Agriculture Sector Focus:

- Main industry sector within the region
- Support local farmers by providing specialized tools for prototyping and repairing essential equipment
- Utilizing 3D printing for efficient prototyping and fabrication of agricultural technology
  - Custom irrigation parts
  - Precision in farming tools
  - 3D printed sensors for IoT and data analytics integration
- CNC machines can be used for fence repair and tool adaption
- Localized ability to produce specialized tools or equipment can help lower costs and equipment downtime



3D Model Drip Irrigation Valve

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Churchill-Fallon RDA Recommendation

II. Defense Sector Focus:

- Challenge: Supply chain vulnerabilities within the defense sector as tariffs begin to take affect
- Lack of domestic castings and forgings suppliers within defense technology manufacturing
  - 2016 – sole domestic supplier of thin wall castings filed for bankruptcy
- Form partnerships with Fallon Naval Air Station in supplying different precision engineered, domestic components
  - Example: Produce forgings for fighter jet airframes or using vanadium from Eureka County to create a heat-resistant coating for aircraft

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Churchill-Fallon RDA Recommendation

III. Workforce Development Focus:

- Can offer short-term certification programs in CNC machining, 3D printing, and CAD design to provide advanced manufacturing skills to local youth, farmers, workers, and more
- University of Nevada, Reno Extension – 4H club program in Churchill County for kids 9-19 years old
  - Implement a small collaboration program to teach how to operate the advanced manufacturing machinery after a certain age
- Provides business attraction and retention
  - Supports small businesses and entrepreneurs by providing access to affordable, low-volume production equipment, and problem-solving tools
  - Entices other businesses to develop in the area

Southwest Central Recommendations

Zeenat

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Southwest Central Recommendation

Build a Clean Energy Manufacturing Cluster:

- Anchor around Chevron-Baseload JV in Esmeralda County
- Focus on geothermal hardware, solar panel frames, batteries
- Expand Great Basin College programs: energy tech, automation, environmental engineering

Establish Southwest Equipment & Logistics Hub:

- Located near Tonopah or Pahrump
- Include repair bays, diagnostics labs, warehouse space, digital maintenance tools

Launch Mineral-to-Module Initiative:

- Use local copper & semiconductors for battery enclosures, PCBs, aerospace parts
- Create pilot sites & research partnerships in advanced manufacturing

Southwest Central Recommendation

Rural Workforce Activation Plan:
- Target veterans, older adults, caregivers
- Provide stipends, online courses, interview pipelines

Women in Manufacturing Strategy:
- Offer flexible schedules, mental health support, childcare access

Expand Childcare Access:
- Mobile care units (like “Kids on the Go”) at industrial sites
- Rural care co-ops (CareShare model)

Energy-Industrial Continuity Plan:
- Solar microgrids, water reclamation, modular infrastructure upgrades

Housing & Monitoring:
- Modular workforce housing on public land
- Track progress with a Regional Resilience Index (labor, housing, training, childcare)

Washoe County Recommendations

Richard Merriner

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Washoe County

Washoe Manufacturing: Opportunities & Challenges

- Washoe Manufacturing: Unlock Growth
- Strong advanced manufacturing base (7.3% output, 15,845 jobs) with high-tech/clean energy potential, but faces key hurdles for sustained growth.
- Leverage strategic location and business-friendly environment.
- Address workforce gaps, infrastructure limits, and supply chain vulnerabilities.

Challenges:

- **Workforce Mismatch**
  - Skills gap, low educational attainment, aging workforce
- **Infrastructure/Resources**
  - Housing costs, water scarcity, land limits, supply chain risks
- **Limited Local Supply Chain**
  - High reliance on external suppliers

Washoe County

Key Strengths to Leverage:

- **Advantageous Location & Tax Environment**
  - Continue to attract investment, especially in high-tech and clean energy
- **Emerging High-Tech & Clean Energy Clusters**
  - Provide targeted support to foster innovation and job creation
- **Proactive Business Attraction (GOED RFIs)**
  - Maintain and expand efforts focusing on high-value sectors

Solutions:

- **Invest in Workforce**
  - Expand training, upskilling, CTE pathways, talent attraction
- **Address Infrastructure**
  - Affordable housing, water management, strategic land use
- **Boost Local Supply**
  - Incentivize local sourcing, foster supplier & trade networks

Strategic investments and collaboration are vital for Washoe County to become a leading, resilient advanced manufacturing hub, creating quality jobs and diversifying the economy.

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State of Nevada Recommendations

Priscillar Banda

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What do we do now?

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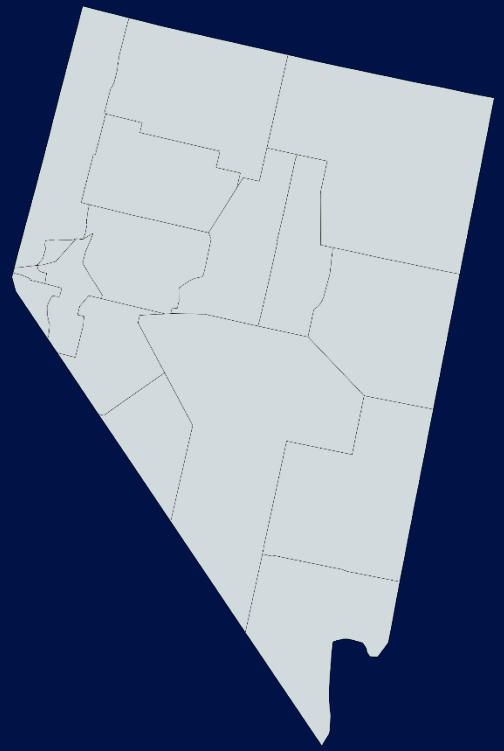
Our Assets



Advanced Manufacturing Facilities

- Tesla Gigafactory and Redwood Materials are key contributors in Nevada's advanced manufacturing sector, boosting its leadership in the industry.

Rich Mineral Reserves

- Nevada holds the nation's richest lithium reserves and is home to critical minerals like vanadium, copper, and silver, vital for various industries.

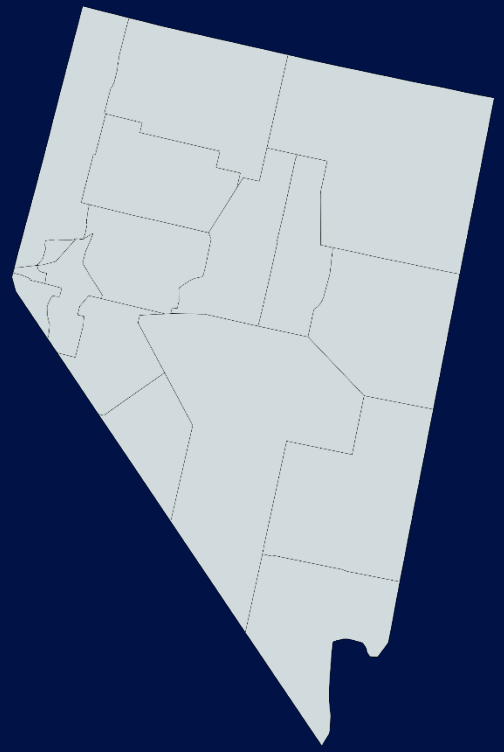
Strategic Logistics Corridors

- Strategic logistics corridors like I-80 and U.S. 95 connect Nevada to major markets, enhancing its accessibility and trade capabilities.

Innovation and Growth Drivers

- Cutting-edge institutions like UNR's nanotech lab, innovation hubs, clean tech firms, and workforce partners are driving growth across all regions in Nevada.

Recommendations



Modular Workforce Housing
- Investing in modular workforce housing to support worker participation and contribute to a balanced manufacturing ecosystem.

Mobile Childcare Units
- Deploying mobile childcare units to provide convenient childcare services and support workers in the manufacturing sector.

Regional Health Access
- Improving regional health access to ensure the well-being of manufacturing workers and support their participation.

Stackable CTE Programs
- Expanding stackable CTE programs linked to local employers to ensure relevant and ongoing training opportunities.

Mineral-to-Product Hubs
- Establishing mineral-to-product hubs and regional supplier bootcamps to streamline manufacturing processes.

Real-time Workforce Dashboards
- Deploying real-time workforce dashboards to monitor and manage workforce participation and productivity effectively.

Retention Incentives
- Aligning training with retention incentives to reduce talent leakage and strengthen Nevada's inclusive manufacturing ecosystem.

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Questions?