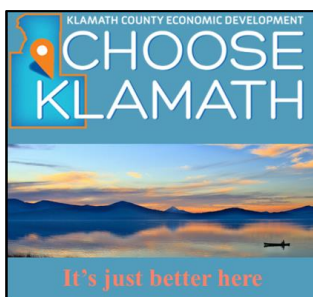




2019-2022 STRATEGIC PLAN

PUBLIC EDITION

PREPARED BY THE CHOOSE KLAMATH EXECUTIVE DIRECTOR & STAFF
JULY 2019



ECONOMIC DEVELOPMENT
FOR KLAMATH COUNTY

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Choose Klamath's Vision

Purposeful, sustainable and diverse economic growth for Klamath County

Choose Klamath's Mission

Lead economic development and diversification of Klamath County through targeted recruitment & attraction, business retention & expansion, small business development & Entrepreneurship.

Organization's "Make it Happen" for 2019-22

Choose Klamath must secure sustainable, consistent and effective operational funding required to achieve its mission and meet the expectations of the region's communities and residents.

The strategy to achieve our "Make it Happen" involves three components:

1. Comprehensive strategic plan development and execution
2. Membership development plan through clear & concise communication
3. Development of new sources of revenue.

Industry Sector Evaluation for 2019-22 *(see Appendix 4 for detailed descriptions of sectors)*

Sectors or subsectors with the most promise for Klamath County

Natural Resource Industry Cluster

- Agriculture
- Food processing
- Forestry and Wood Products
- Nursery Products – Geothermal
- Quality Workforce Housing

Advanced Manufacturing Industry Cluster

- Aviation
- Brewing and Distilling
- Nutraceuticals
- Maker Space & Entrepreneurship
- Manufacturing

Clean Technology Industry Cluster

- Biomass & Waste Recycling Energy Conversion
- Hydro Energy
- Solar Energy

High Technology Industry Cluster

- Biosciences
- Cyber Technology
- Data Center
- Professional Technology and Services
- Medical Devices Industry
- Pharmaceuticals
- Semiconductors & Electronic Components
- Software/Information Technology

Tourism, Hospitality and Outdoor Recreation

- Hotel Development
- Outdoor Recreation Equipment
- Tourism
- Resort Development

Sectors or subsectors with moderate to low growth opportunity

- Wind Energy *(subsector of Clean Technology Industry)*
- Wine Making *(subsector of Advanced Manufacturing)*

GOALS for 2019-22	
1	Support local traded-sector employers with a robust Business Retention & Expansion (BRE) Program that catalyzes \$25 million in new capital investment; 150 new, well-paying jobs; and at least 9 “done deals” by the end of 2022.
2	Recruit 9 new companies to the region that will create 250 new, well-paying jobs and invest \$100 million in new capital investment by the end of 2022. Target marketing and recruitment efforts geographically and by industry for greatest effectiveness.
3	Develop an ecosystem in Klamath County that supports and attracts entrepreneurs to establish the next generation of employers and jobs. Catalyze creation of 50 new jobs via 8 early stage companies that successfully raise \$15 million in growth capital by 2022.
4	Quarterback industry development initiatives and strategic projects that will pave the way for private sector employment growth.
5	Advocate and champion improvements to the region’s business climate and competitiveness.

Twenty-one objectives are outlined under the five goals that are perfunctory execution strategies of CHOOSE KLAMATH. While the most detailed and specific part of the Strategic Plan, for many objectives there is yet another level of detailed elements (60+) required to successfully achieve both the objective and goal.

Organization’s Core Values

CHOOSE KLAMATH’S CORE VALUES		
We’re a non-profit run like a BUSINESS	We pride ourselves on being RESPONSIVE	This is what drives us A UNIQUE TEAM
ACCOUNTABLE To our board, client companies, and communities FRUGAL We manage limited resources responsibly ENTREPRENEURIAL Maximize local ownership and success of businesses through a collaborative entrepreneur program	BIAS FOR ACTION Economists study the economy, economic developers thrive to improve it FACTUAL Trusted, objective resource INITIATIVE Self-motivated individuals with a sense of urgency ORGANIZATIONALLY FLAT Faster response time	TAKE THE HIGH ROAD Our work demands the highest ethics and professionalism ALL HANDS ON DECK Teamwork eclipses job descriptions ACCOMMODATING Absolutely. It’s all about our client companies and partners. FUN! Celebrate Success –Invest in people

Make it Happen

Choose Klamath must secure sustainable, consistent and effective operational funding required to achieve its mission and meet the expectations of the region's communities and residents.

Key "Make it Happen" for Choose Klamath:

To both effectively communicate and educate as well as generate new revenue through membership in one on one meetings with companies leaders/owners, city and county leaders.

The strategy to achieve our "Make it Happen" involves three components:

1. Comprehensive communications of strategic plan development and execution
2. Membership development plan through clear & concise communication
3. Develop new sources of revenue

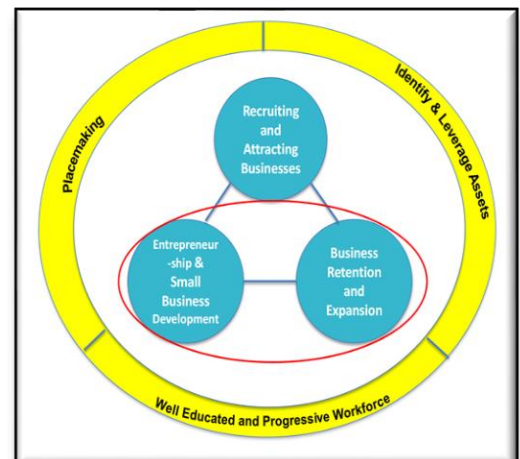
All efforts should lead to "pitch" meetings which have proven to have a high success rate



Tools for Key "Make it Happen"

- Strategic Plan Execution
- Pipeline Dashboard
- 4 – Blockers ~ Project Outlines
- Social media tools
- Concentrated Recruitment Efforts
- By-Law Updates
- Outline for membership levels
- Quarterly Updates to County & City

- Website updates
- Accurate directory
- More complete calendar
- New membership recognition
- Branding Initiatives
- Choose Klamath Logo Wear:
 - Staff & Board Members

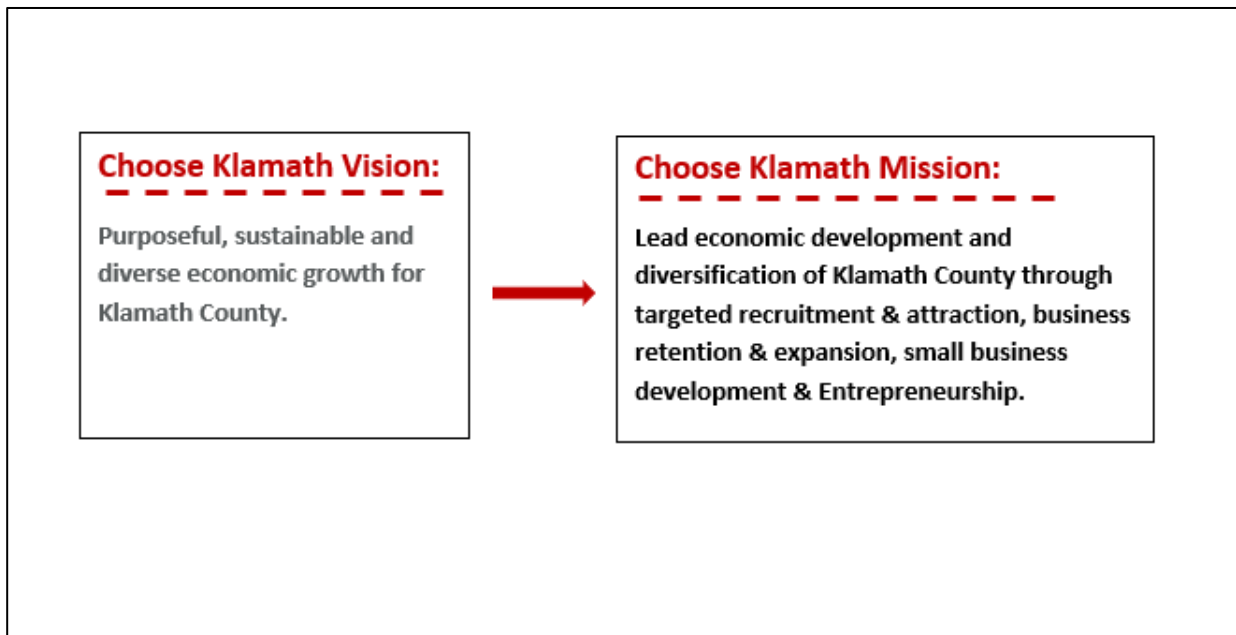


ECONOMIC DEVELOPMENT STRATEGIC PLAN 2013-15: VISION, MISSION & GOALS

Overview

Business development is at the heart of everything CHOOSE KLAMATH does. Fundamentally, we believe the solution to economic diversification and greater stability lies in the private sector and the ability of businesses to innovate and propel us to better times. The public and non-profit sectors have an important role to play as catalyst, partner and protector (regulatory) critical in free society & free enterprise. But our greatest leverage is not government reform or even incentive programs, but helping businesses navigate a path to greater success – and employment growth.

For roughly a one-third of our work, that means helping them find their way to locate in the Klamath County region. For another third of CHOOSE KLAMATH's efforts, it is helping them successfully launch a new venture. The balance of our time is spent looking for opportunities to add value for our existing traded-sector companies which are the backbone of the economy. Most new jobs will come from expansion of companies already here. Yet, we must also become a haven for new firms and industries as well as encourage entrepreneurs and young companies that could be the region's top employers in the future.



CHOOSE KLAMATH INTERNAL “MAKE IT HAPPEN” STRATEGY DISCUSSIONS

Background

Klamath County Economic Development (CHOOSE KLAMATH) is the lead economic development organization with a mission to drive economic development and diversification of Klamath County through aggressive marketing, targeted recruitment, business retention/expansion, and strategic initiatives. CHOOSE KLAMATH works continually to build a healthy Klamath, taking on the responsibility of planning, designing and implementing strategies that can improve our community, while also being funded and acting as a central partner to both private and public sector entities. We are a proactive force in creating a dynamic economic climate. “Make it Happen” – the one thing that must be done extraordinarily well to achieve your mission. (Team Klamath Leadership)

CHOOSE KLAMATH performance and focus, the national, state and regional economy all occurred, the focus, but on:

1. Overall financial support for ongoing quality work
2. The need for improved communications by CHOOSE KLAMATH to its members, the business community, public leaders, and the general population about the efforts and results of the organization.

Results of SWOT Exercise Klamath County Economy

The tables and narrative below is a distillation of discussions and prioritization of strategies identified by Webster Global Site Selector & Ady Advantage.



APPENDIX 1: ASSUMPTIONS UNDERLYING THE 2019 - 2022 STRATEGIC PLAN

Focus on traded-sector is key

Focusing on the traded-sector (companies that export a good or service to customers outside the region) is CHOOSE KLAMATH's greatest leverage of time and resources. There is a reason that most economic development organizations across the country concentrate on growing traded-sector employers: they form the foundation for all other jobs.

Most employment in a given community or region are in the non-traded sector – government, retail, commercial, health care, K-12 education – that serve needs within that community or region. Growing traded-sector employment both makes the economic pie larger as well as increasing average household incomes. More disposable income enables growth of the non-traded-sector through the purchase of homes, cars, entertainment, food and beverage, etc. However, growth of the non-traded-sector does not necessarily lead to more traded sector jobs. Focus on growing traded-sector employment is the most efficient and effective way to help the entire economy prosper.

Historically, traded-sector companies were manufacturers, but the lines have been blurred with changes in technology. Today, many services can also be traded sector, everything from engineering to accounting to administrative and call centers.

Choose Klamath facilitates job creation, but businesses create jobs

Job creation is one of, if not the most important, metrics for most economic development organizations across the country. This holds true for CHOOSE KLAMATH as well. We track new employment added by the companies (recruitment, retention/expansion or early stage) that we work with closely to help – whether with incentives, logistics, relocation, recruitment, site location, local entitlements, finding talent, capital financing, or a host of other issues.

As with other professional consultants a company may hire, CHOOSE KLAMATH assistance is typically on the margin, meaning that each company is principally responsible for their success and growth. However, our assistance must add real value or we don't include it in our metrics. In the case of recruitment projects, more often than not, a relocating business would not have known about or picked a Klamath County community without our effort and assistance. But while we track employment, capital investment and even payroll of our client companies, we acknowledge that businesses, not CHOOSE KLAMATH, actually generate new employment.

In order to “move the needle” for this big vision with a small staff and budget, it is imperative that Choose Klamath play the role of catalyzing projects, initiatives, programs, connecting the dots and other infrastructure that is critical for success.

Big mission + a small staff make it imperative for Choose Klamath to catalyze, leverage

CHOOSE KLAMATH is a small organization with a very large and important charge: measurably improving and diversifying the regional economy. In the face of recent challenges posed by the economy, economic development is a front-and-center policy issue for the public and private sector alike. Despite the renewed interest in jobs and diversification, funding has not been commensurate with its apparent priority. In order to be effective in “moving the needle”, for this big vision with a small staff and budget, it is imperative that CHOOSE KLAMATH play the role of catalyzing projects,

initiatives, programs, and other infrastructure that is critical for success. Consequently, CHOOSE KLAMATH must continually look for partners – individuals, companies and other organizations – that may be willing to carry forward initiatives or share the responsibility as a team.

We must hold onto lightly even those things in which originated in the organization, “owning” only those that have the highest return which no other entity or group of volunteers can or is willing to see to fruition. Successful examples of such partnerships include the region’s first business accelerator (Klamath Ideas & Catalyze Klamath) and Southern Oregon Collegiate Consortium.

Similarly, CHOOSE KLAMATH must look for opportunities with the greatest leverage of our limited time and resources to bring about good things for the economy. Our vision and mission aligns us to be primarily a business development organization, however maintaining and improving our business climate “sets the table” for successful business development. At the same time, CHOOSE KLAMATH does not have the resources or time to become even a part-time lobby organization. The same example applies for improving education. CHOOSE KLAMATH must be artful in its ability to add value without being consumed by a particular issue or facet of the economy or region.

Size does not matter to Choose Klamath

CHOOSE KLAMATH is often characterized as an organization that is only focused on larger, headline-grabbing companies. While we have worked to recruit, retain and grow private sector employers in the region, CHOOSE KLAMATH actively helps companies of all sizes (even one person businesses) at all stages of maturity. Some of the region’s potential fastest growing firms may be established here by a single founder or small group of co-founders. CHOOSE KLAMATH hones in not on the size of the company but the strength of the team, viability of the business model and ability to scale within a broader marketplace.

We make things in Oregon

A little-publicized fact is that Oregon is among the top states in the U.S. for manufacturing. In Oregon, durable-goods manufacturing accounted for 20 percent of the state's overall GDP growth in 2017. Employing 10.2 percent of the workforce. Total output from manufacturing was \$47.18 Billion in 2017. In addition, there were 191,900 manufacturing employees in Oregon in 2017, with an average annual compensation of \$77,573 in 2016. The industry itself grew 0.9 percent, almost twice the national average. Importantly, we don’t just make automobiles, but semiconductors, shoes, solar panels, specialty knives, wood products, recreational equipment, electronic hardware, processed food, and aircraft. That diversity gives us more resiliency in economic downturns to weather the storm. With a focus on quality in advanced manufacturing products, Klamath County has developed and maintained a skilled workforce ready for the modern manufacturing environment.

Still, it is surprising to many that the Klamath county region has nearly 60 traded sector companies – roughly 45 of which are manufacturers. While CHOOSE KLAMATH is certainly pursuing emerging industries within the traded-sector, we will always work to help our existing manufacturers and their suppliers while attracting new companies to the region that make durable goods.

WHO SAYS STARTUPS CAN'T HAVE A PROFOUND IMPACT ON THE ECONOMY?

Eight companies in diverse industries that were founded here in the past decade now together employ 164 Klamath County citizens.

50	Carriage Works
50	Holiday Market
30	Intelifab
15	American Garden Perlite
12	Cascade Potato
4	Natures Paint
3	Skyline Brewing Company

APPENDIX 2: ALIGNMENT WITH STATE, REGIONAL & LOCAL ECONOMIC DEVELOPMENT PLANS AND COMMUNITY PRIORITIES

State Plans

Business Oregon Development Dept. (BODD) & Oregon Economic Development Commission

The Business Oregon Development Dept. is the official economic development agency of the State of Oregon and policy direction is guided by a volunteer board called the Oregon Economic Development Commission. Business Oregon's plan focuses on efforts and programs to create jobs, access capital and global markets, innovate with emerging industries and growing businesses, cultivate key industries and develop business ready sites.

The State of Oregon officially recognizes five key industry clusters in which Oregon holds global competitive advantages:

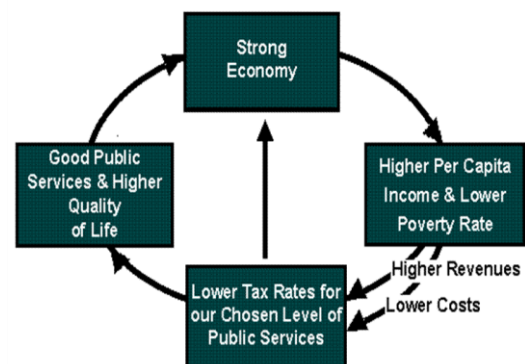
- Natural Resource Industry Clusters
- Advanced Manufacturing Industrial Clusters,
- High Technology Industry Clusters
- Footwear, Outdoor Gear and Apparel Industry Clusters
- Clean Technology Industry Clusters

Business Oregon employs a "Team Oregon" approach that relies on close coordination with local and regional economic development organizations, including Choose Klamath.

Oregon Business Council (OBC) & the Oregon Business Plan

The Oregon Business Plan and the Oregon Industry Cluster Network illustrate OBC's leadership in forming economic development policy in conjunction with partners in the business community, with elected officials, and with state agencies.

OBC has developed the Oregon Business Plan Framework that includes The "4P'S for PROSPERITY" initiatives that include: **People** – a talented workforce; **Productivity** – quality infrastructure, reasonable business costs and a competitive regulatory climate; **Place** – an attractive quality of life and quality public services that attract and retain talented people; **Pioneering Innovation** – an innovative, entrepreneurial spirit statewide. While the needs of individual industries may differ, the "4ps" provide a framework for thinking about how we improve the business climate. Finding the right mix of the 4ps that supports our key traded sector industries is the key task of community and policy leaders working to strengthen our economy. The Oregon Business Plan is also in alignment with Business Oregon's strategy to focus on the traded-sector industry clusters of natural resource, advanced manufacturing, high technology, footwear, outdoor gear and apparel, and clean technology. OBC's plan framework is based on the premise that a strong economy creates a circle of



prosperity, while an underperforming economy creates a circle of scarcity for governments, schools and universities and non-profit organizations.

Other Regional Plans

Comprehensive Economic Development Strategy (CEDS) – SCOEDD

The South Central Oregon Economic Development District formed in 1999, serves as the primary conduit for regional economic development resources for Klamath and Lake Counties Oregon. It provides the professional staff with support for economic development planning on a regional basis, and for the individual economic development efforts of Lake County and Klamath County. SCOEDD also manages and administers regional grant and loan programs. CEDS is developed periodically by the South Central Oregon Economic Development District with financial assistance from the U.S. Department of Commerce, Economic Development Administration (EDA). The EDA funds are matched by local contributions received from Klamath and Lake Counties and the City of Klamath Falls.

Local Plans throughout Klamath County

Challenges and opportunities within the Klamath County region are not uniform. The county area is geographically and culturally diverse - each community has a distinct personality, leadership style and unique assets. As a result, there are distinct economic development interests and priorities among the cities in the area.

As the lead organization in the Klamath County area, economic development planning under CHOOSE KLAMATH's structure is more closely coordinated in Southern Oregon than most areas of the western U.S. Often, but not exclusively, local economic development planning is led by local CHOOSE KLAMATH managers and advisory boards, which are purposefully comprised of a broad cross section of business and academic leaders in our community. There has been a shortage of economic development planning and strategy development at the local level in the region. CHOOSE KLAMATH must lead and participated in all of these efforts.

Leveraging Local Assets in our Targeted Approach of Recruitment

Identification of local assets within Klamath County

Klamath County' business and industry ranges from our historic agriculture and timber products to 21st Century manufacturing. This business and industry background, combined with our highly rated university and college, provides us a well-educated and progressive workforce. We are located strategically(see map) in the high desert of south central Oregon, surrounded by wilderness with nearly 320 days of sunshine annually, providing us with an unmatched year-round outdoor living lifestyle. Our workforce and technical talent pipeline, progressive business climate and forward-thinking leadership, unparalleled location and incentives are assets we will utilize to our advantage.



Our assets include great year around weather; tremendous outdoor living anchored by Crater Lake; top tier education facilities in Oregon Tech and Klamath Community College coupled with a low cost of living. Our military base at Kingsley field is another foundation of our local economy with active Air National Guard Base active since 1954, a 10,301' runway airport and great air space. Multimodal transportation hub centrally located in the Pacific Northwest is another strength with both rail access and highway 97. We have a strong agricultural presence, vast natural resources and low cost industrial property. Klamath County has a tremendous power supply in Electrical, Natural Gas, Geothermal and future projects in Swan Lake Hydro project and Jordan Cove Natural Gas Line. In our targeted approach

for traded sector business we need to focus on these assets, while keeping in mind our water limitation based on the current TMDL's impediments to economic development. *It's Just Better Here.*

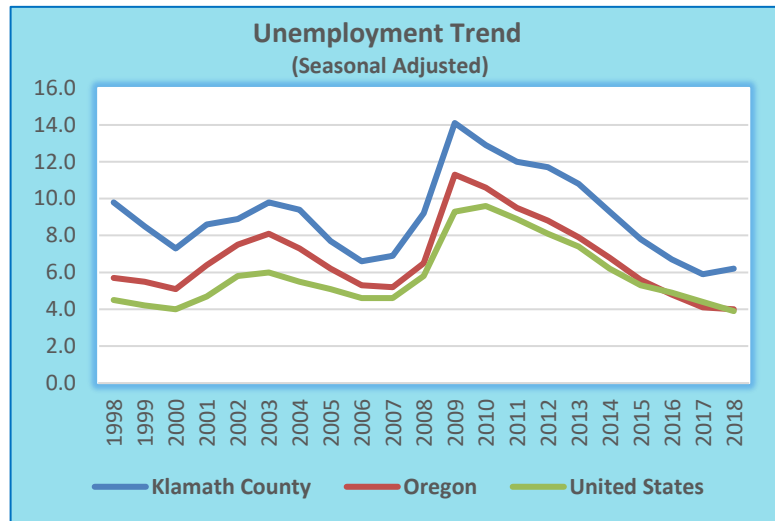
APPENDIX 3: HISTORICAL, CURRENT & MACROECONOMIC TRENDS

Recent History

The "Great Recession" of 2007-09 did, if nothing else, make clear that the Klamath County region is tied to the state and national economy.

For a number of reasons, U.S. recessions in the early 1990s and 2000s were weathered unusually well by the Klamath County region, which was buoyed by strong capital investments in manufacturing, agriculture, forestry, residential and commercial construction as well as retail trade, tourism, health,

educational and professional services. The Klamath County area (unlike Oregon) was largely untouched in the 2001 recession because of these factors and its lack of dependence on high technology (semiconductors, electronic hardware and software) as a base industry.

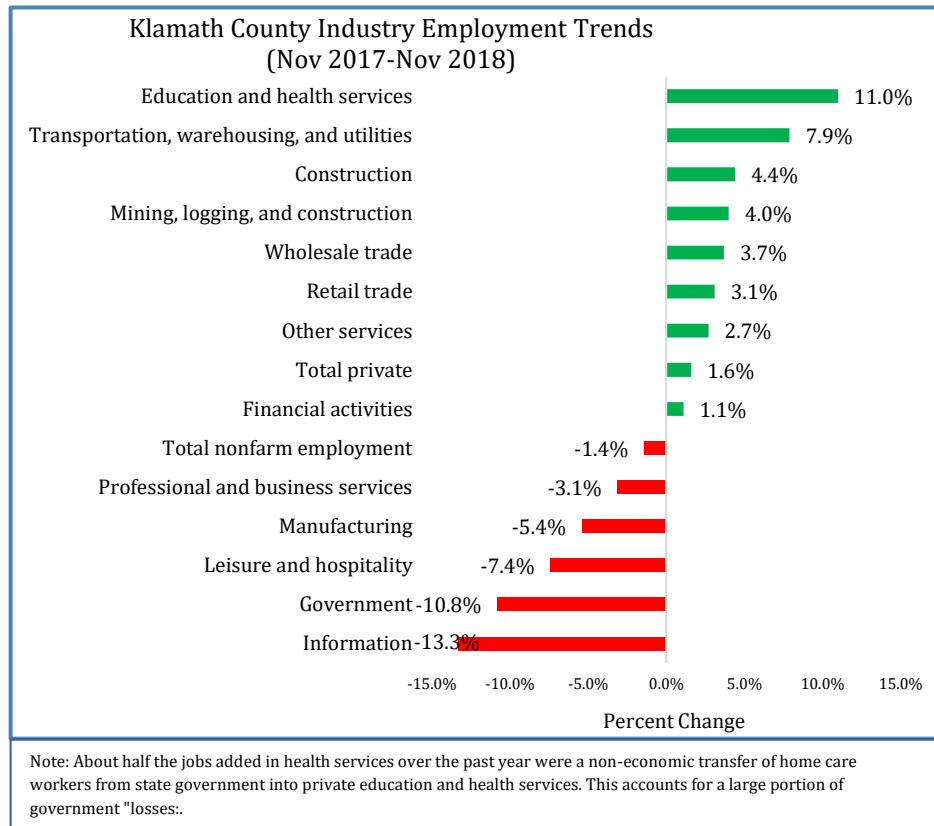


Despite significant employment losses during the Great Recession and its aftermath, the region's employment has not kept pace with the growth of the nation or state over the past decade. We continue to lag in our recovering of the latest downturn.

Employment Gains 2007 – 2017 (Total Average Annual Employment, not seasonally adjusted)				
Area	2007	2017	Gain/Loss	% Change
Crook County	7,130	5,790	-1,340	- 18.8%
Jefferson County	6,320	6,330	10	+0.2%
U.S.	146,047,000	153,337,000	7,290,000	+ 4.9%
Lake County	2,360	2,230	-130	- 5.5%
Medford MSA	84,290	86,660	2,370	+ 2.8%
Klamath County	24,400	22,940	-1,460	- 6.0%
Oregon	1,731,000	1,873,100	142,100	+ 8.2%
Salem MSA	152,500	164,400	11,900	+ 7.8%
Portland MSA	1,043,600	1,873,100	129,700	+ 12.4%
Bend MSA (Deschutes Co.)	71,640	81,620	9,980	+ 13.9%

Current Conditions

The Klamath County region has seen slow but steady improvement since the end of 2010, which is considered by most to be the economic low-ebb – which was nearly 18 months after the official end of the national recession. Similarly, official data also delays current trends by as much as a year so recent improvement is not showing up in employment and unemployment numbers. Improvement has not been uniform across industries (see Appendix 5). Overall, CHOOSE KLAMATH is seeing quiet diversification as employment is starting to rebound without a significant return of jobs in professional services, manufacturing, leisure & hospitality and information sectors.



Overall, CHOOSE KLAMATH's pending project activity remains as strong as ever which points to another successful 2019 in terms of companies, jobs and capital investment. As of the first quarter 2019, CHOOSE KLAMATH had 10 pending projects (in the final stages of making an investment or site selection) that if all come to fruition, would generate hundreds of jobs and nearly a billion in taxable capital investments.

Macroeconomic Trends

CHOOSE KLAMATH recognizes that as a small organization, it is provided with periodic windows of opportunity to capitalize on stages of the business cycle. This overall business cycle, which is the conglomeration of hundreds of specific industry business cycles, drives the economy through periods of expansion, stagnation, contraction and recovery. To the degree that CHOOSE KLAMATH is informed on what is really happening in specific industry cycles or the general business cycle, it will be able to make the most of ever-changing trends. Understanding these trends again enables the organization, its client companies and partners to better leverage limited time and resources for the best possible outcome.

As an organization, CHOOSE KLAMATH cannot become an economic research or forecasting entity, but it must keep abreast of current issues, policy changes, economic trends and the business cycle. It does so by consulting experts, credible economic forecasters, and leaders in specific industries that are closest to trends and changing market conditions. With this information in hand, pivoting or course correcting keeps CHOOSE KLAMATH from wasting time and resources on low-probability or low return investments.

"Overall, CHOOSE KLAMATH is seeing quiet diversification as employment is starting to rebound without a significant return of jobs in professional services, manufacturing, leisure & hospitality and information sectors."

Two National Trends in Manufacturing

On-Shoring/Near-Shoring

Many American companies have been lured by the prospect of low labor costs, lower standards for environmental laws and cheaper commodity prices to places including China, Vietnam, and India. And while these cost differentials have been hard to argue with from an economic standpoint, times are changing in these countries. For example, in China's large manufacturing centers in the south and northeast labor rates are increasing at a rate of 20% annually moving from \$1.62/hour in 2008 to \$4.34/hour in 2018. Many American companies and even firms overseas are reconsidering where they manufacture products as a result of the following factors, in addition to escalating labor costs:

- increasing shipping rates (a function of fuel costs),
- long lead times,
- intellectual property issues,
- required large volume orders,
- quality issues, and
- opportunity cost/complexity of doing business internationally.

"While costs have been steadily increasing in Asia, U.S. manufacturing has quietly re-established its global leadership in productivity...."

While costs have steadily been increasing in Asia, U.S. manufacturing has quietly re-established its global leadership in productivity, which in simple terms is the time required to produce a given good. For 2014, American manufacturing wages averaged \$21 an hour, some 5 times the average in China at \$4.34 an hour. But each US worker adds \$145,000 in value, far more than German, French or Japanese employees, and more than 10 times that of the Chinese worker who contributes \$13,700. What started as a small ripple several years ago has today developed into a noticeable wave of re-shoring activity that some experts predict could result in a renaissance for U.S. manufacturing in the decade ahead. In fact, the U.S. manufacturing sector has added 264,000 new manufacturing jobs, representing the highest number of new workers since 1988. As a percentage of total workforce, manufacturing rose for the first time since 1984.

Automation

As manufacturers in the U.S. integrate automation and new technology into their operations, the results have been promising. The bottom line is improving for companies with higher efficiency and greater employee productivity. And for employees, the mix of their work is changing to less repetitive and more judgement-intensive. Workforce changes are creating new and more exciting jobs, rather than merely eliminating positions. In fact, through July 2018, manufacturing jobs over the past year grew at the fastest pace since 1995.

In the manufacturing sector in particular, technology will continue to significantly impact workers in this Fourth Industrial Revolution. At the same time, research clearly shows that the impact is a far more complicated equation than merely saying new technology equals less jobs.

The good news is that very few traded-sector companies in the Klamath County area actually went out of business during the Great Recession because they moved toward greater automation, production efficiency and waste reduction. CHOOSE KLAMATH and its partners should be helping make companies in the Klamath County region more competitive on a global scale, which will increase the odds of the company, and its employment base, to remain in the region.

APPENDIX 4: SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Targeting Industries, Subsectors within Industries

There are many schools of thought when it comes to industry development and economic diversification. Some experts argue that the highest value efforts are concentrated at attracting individuals (i.e. professionals, the highly educated, entrepreneurs, lone eagles, retirees) rather than focusing on specific industries. Others maintain that the stage of business is more important (i.e. start up, growth stage, established). Yet another field of thought is that economic development and local government should simply concentrate on creating a place where individuals and companies want to locate (i.e. amenities, support organizations, universities and research institutions, quality of life factors, place making) as a driver for more employment and diversity.

There are probably merits to all these arguments; however each have inherent issues for a small organization like CHOOSE KLAMATH to either execute or marshal others to execute. Reinventing or dramatically improving local amenities, adding higher education capacity and other quality of life investments are a full-scale community effort – far beyond CHOOSE KLAMATH’s (or any other economic development organization on the West Coast) small budget and staff.

Targeting individuals is also very difficult and historically, expensive. With technology improvements (new Internet marketing resources, social media, etc.), that situation may be changing in that huge investment may no longer be required to impact a particular geographic market or demographic. Perhaps the very best example in the Klamath County region of targeting individuals is the tourism industry that uses traditional advertising (media, periodicals, online) to communicate their messages to individuals to visit and stay in the region. In order to “move the needle” in gaining awareness and sales, minimum investment in advertising is in the six figures and for some markets, the entry level is seven figures – more than CHOOSE KLAMATH’s entire budget.

CHOOSE KLAMATH strategy, like those employed by many other organizations across the country and in other parts of the world, seeks to build on natural assets, existing strengths, and the “critical mass” that may already exist within a community or region. Sometimes that critical mass represents itself as a particular skill base, sometimes a cluster of companies doing similar things that can feed off each other. This cluster theory (see [Michael Porter, Harvard Business School](#)) has been adopted by Oregon (and most economic development organizations in the state) and a number of other states and regions as a way to focus efforts and resources more effectively.

Capitalizing on Opportunities Outside of Industry Targets

This is not to say that CHOOSE KLAMATH does not help or pursue companies outside its top targets. Retention and expansion efforts, a key component to CHOOSE KLAMATH’s business development strategy, are all agnostic to industry targeting because these companies are already here and operating. Particularly for recruitment and entrepreneurship, we must be responsive and opportunistic in meeting the needs of companies outside industry targets. Any quality employer with well-paying jobs is welcomed, without bias because of the sector in which they operate.

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Natural Resource Industry Cluster: Oregon's traditional natural resource base is the platform for industry cluster in forestry and wood products, agriculture, nursery products, and food processing. Oregon's tourism and hospitality industry is also bolstered by our great scenic endowment, outdoor recreation, and brewing, wine and culinary landscape.

Agriculture (alfalfa, hay, grain, cattle, seed crops, food processing/consumer items)



Agriculture in Klamath County

Agriculture is among Oregon's strongest industries and greatest exporters. Top crops include hay, blueberries, hazelnuts, pears, potatoes, and onions. Surprising to some, the single largest agricultural commodity grown and exported is wheat – some of which is grown in the Klamath County area. Klamath potatoes are exported as far away as China and locally grown mint is exported to Europe for the tea market. When comparing gross sales in Oregon, in 2012 Klamath County ranked 9th in gross farm and ranch sales out of 36 counties in the state.

Klamath County's high desert climate (elevation 4100) is characterized by a short growing season and cool nights (even during that growing season) which limits the variety of crops that are commercially viable, but it also allows for growing organic crops with very limited control. There has been an increase in organic crops grown in the Klamath County region in recent years. The local climate is especially well suited for high quality grass and alfalfa hay production and many varieties of potatoes. As illustrated in the graph below, the agricultural products produced is dominated by feed (alfalfa, grain) and livestock (cattle). Historically, other crops grown include mint, horseradish, onions & garlic. As recent as 2012, the commodity sales of strawberry transplants and green house crops have surpassed potatoes. Our area has incorporated geothermal heat in a variety of crops & mites used for agriculture production. In terms of market value of products sold, Klamath leads all Oregon counties in barley and is ranked 3rd in aquaculture. ¹

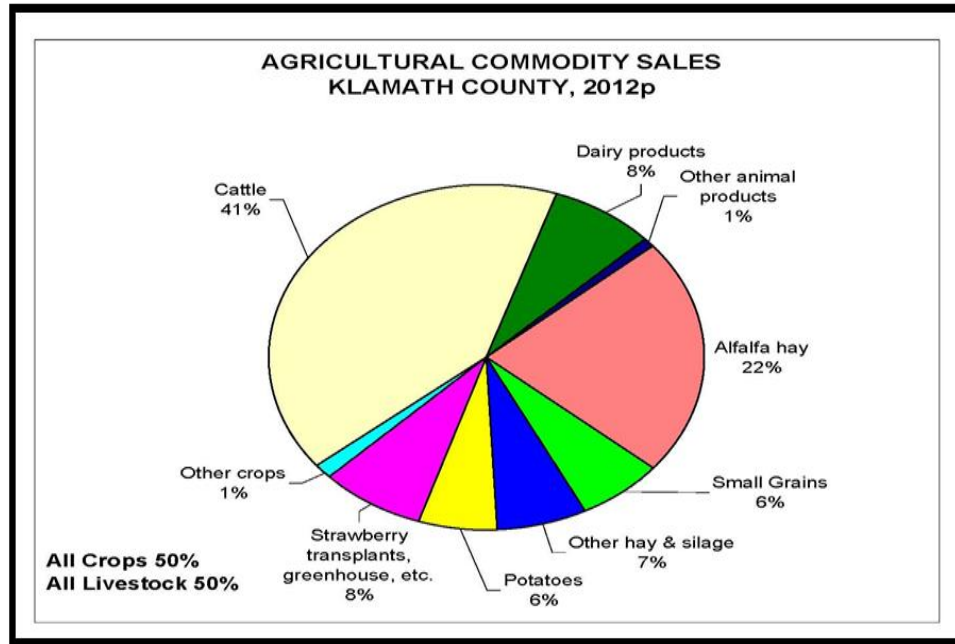
When looking at jobs, in 2016, total employment in the area was 17,435. That's nearly 1 out of 3 Klamath County jobs related to agriculture.

² Overall, the agricultural commodity sales are equally balanced between crops and all livestock in Klamath County. Looking forward there maybe opportunities in medical grade starch as a spin off business as well as, hemp production & various manufacturing of hemp products.

Hemp is poised to become the state's top agricultural commodity with more than \$1 billion in revenues in 2019, up from roughly \$500 million last year, said Jay Noller, head of Oregon State University's Crop and Soil Science Department. ³

¹ 2012 Census of Agriculture County Profile, ² stopwaterwars.org., ³ Capital Press 2-21-19

Rank	County	Total Sales
1	MARION	\$592,856,000
2	MORROW	\$568,111,000
3	UMATILLA	\$423,334,000
4	MALHEUR	\$359,309,000
5	CLACKAMAS	\$325,190,000
6	YAMHILL	\$280,852,000
7	LINN	\$241,236,000
8	WASHINGTON	\$237,972,000
9	KLAMATH	\$181,485,000
10	POLK	\$149,846,000
11	LANE	\$142,508,000
12	TILLAMOOK	\$117,141,000
13	BENTON	\$103,305,000
14	BAKER	\$93,256,000
15	WASCO	\$89,783,000
16	HARNEY	\$88,946,000
17	LAKE	\$85,646,000
18	HOOD RIVER	\$77,117,000
19	MULTNOMAH	\$68,936,000
20	UNION	\$68,370,000
21	JEFFERSON	\$65,032,000
22	DOUGLAS	\$64,803,000
23	JACKSON	\$64,127,000
24	SHERMAN	\$54,482,000
25	COOS	\$50,370,000
26	WALLOWA	\$46,620,000
27	GILLIAM	\$44,054,000
28	CROOK	\$42,298,000
29	COLUMBIA	\$39,362,000
30	GRANT	\$25,360,000
31	CURRY	\$21,357,000
32	DESCHUTES	\$20,570,000
33	JOSEPHINE	\$18,807,000
34	WHEELER	\$14,158,000
35	CLATSOP	\$11,544,000
36	LINCOLN	\$5,536,000



2012p Sales by Commodity

	\$ 000
Alfalfa Hay	64,351
Small Grains	18,451
Other Hay	19,807
Potatoes	16,374
Strawberry(Transplant,Greenhouse)	22,932
Other crops	3,759
ALL CROPS and LIVESTOCK	290,309

Agricultural Sales by Year

	\$ 000		
Year	Crops	Livestock	Total
2010r	88,709	139,281	227,990
2011r	141,795	141,938	283,733
2012p	145,674	144,635	290,309

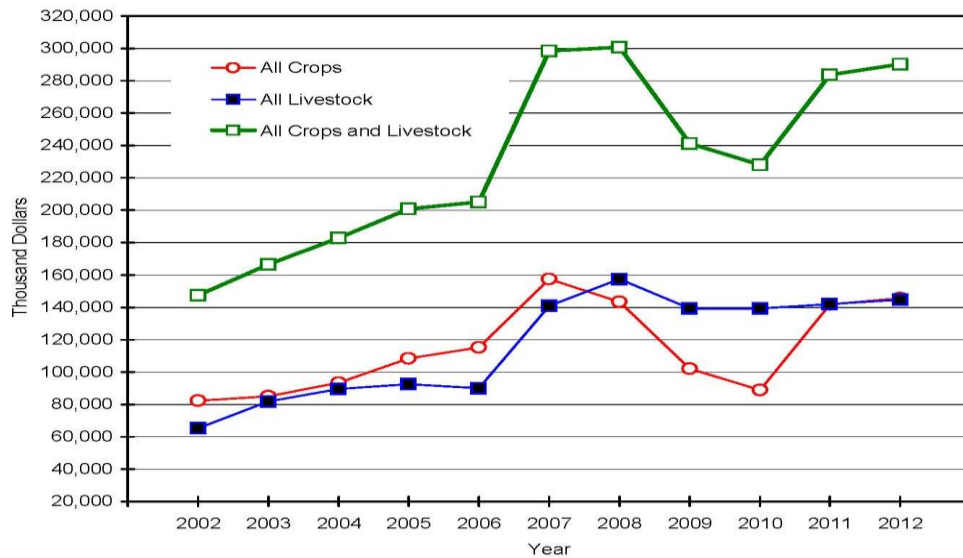
r=REVISED p= PRELIMINARY

Source: Graph OSU Extension Econ. Office 2013



APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Klamath County 2002-2012
Total Gross Farm Sales



Source: Extension Economic Information Office, Oregon State University



Food Processing in Klamath County

For more than 100 years, cargo ships have traveled from Oregon to ports across the world, carrying a bounty of agricultural exports, grown or processed here in the Northwest. Oregon is home to many innovative food processing firms that transform fresh, high-quality Oregon commodities into value-added products and export them across the globe.¹

Klamath County is home to seven food manufacturing companies. These range from baked goods to meat processing. When looking at employment, in 2018 these 7 establishments accounted for 160 jobs and over \$5.2M in total payroll.

¹Business Oregon

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE**Building Products (windows, doors, moulding, asphalt, concrete & related products)**

Oregon is the largest lumber producer in the U.S. With 30.5 million acres of forestlands, about 50% of the total landmass of the state is covered in forest. An internationally-recognized leader in wood product manufacturing, Oregon combines accessible raw materials with cutting-edge innovation to produce a diverse range of high quality, value-added wood products that are exported to every corner of the globe.

Oregon's Building Products Industry
(2016 data):

# of Firms:	2,029
Direct Jobs:	44,989
Average Wage:	\$51,424
Export Value:	\$748 Million

Innovation is imperative for Forestry and Wood Products to maintain its competitive position in the marketplace. Modern mills use nearly every fiber of wood. Laser scanning ensures the most productive use of the wood, while the rest is recovered and used in the production of engineered wood products, biomass power, or other secondary wood products. Technological advances allow for the use of smaller logs to create products that would have required larger logs decades ago.

Forestry and Wood Products employment is more concentrated in rural Oregon than any other of our Target Industry Groups. It is an important source of high-paying jobs for many rural communities, and the support and development of this industry group is vital to the economic prosperity of many rural Oregonians. Klamath County alone is well represented in the Building Products industry with JELD-WEN, The Collins Company, Columbia Forest Products, and Inter-For being among the largest employers in Klamath County. Other companies like Rocky Mountain Construction, Knife River, Fremont Millwork, Borror Cabinets and Lobo Truss continue to thrive in the Basin and do business on a regional basis. Choose Klamath will continue to recruit businesses in the Building Products sector and work with the established companies on retention and expansion, as building products and wood products will always be part of the economic landscape of Klamath County.

Forestry

Logging and support activities for forestry form the base of Oregon's forestry industry. Forestry has the largest location quotient of any industry in Business Oregon's Targeted Industry Groups, meaning it is very concentrated here and is, perhaps, the industry most unique to Oregon. It also is an industry that is significant to rural communities in Oregon, as forests tend to be located in rural parts of the state.

Oregon's Forestry Industry

(2016 data):

# of Firms:	976
Direct Jobs:	9,942
Average Wage:	\$47,684
Export Value:	\$80.5 Million

Oregon is known worldwide for its high quality softwoods, predominantly, Douglas fir, and Oregon's official state tree. Most Oregon logs are purchased by wood product manufacturers in Oregon. As a result, demand for logs is tied to demand for wood products. Oregon's timber harvest today comes primarily from private timberlands. In 2014, 79% of Oregon's timber harvest came from private lands. Some logs from private lands are exported, but that market represents a very small share of total logs harvested in Oregon.

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Wood Products



From dimensional lumber to plywood to ready-to-install windows and doors, Oregon's value-added wood products are world-renowned. Demand for Oregon wood products worldwide is on the rise, with exports increasing 44% between 2005 and 2015. Exports present a growth

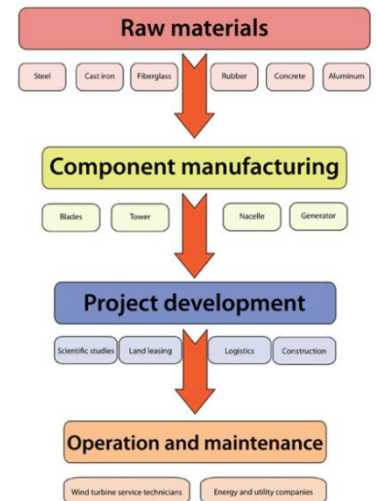
opportunity for this industry that has historically not exported a large percentage of its products. Oregon is home to many leading wood and paper product manufacturers, including Weyerhaeuser, Georgia-Pacific, Roseburg Forest Products, and The Collins Companies. These companies and others are continually innovating and creating more efficient processes and better products to meet modern needs. CLT is an engineered wood product made of several layers of lumber, stacked crosswise, and glued and pressed together. CLT is strong enough that it can be used as an alternative to concrete, masonry, and steel in many commercial construction applications.

Enduring highs and lows of the construction industry, company leaders in this sector have been very skilled in growing or contracting their operations to changing market conditions. As a result, very few building products companies in the area have permanently closed their doors. The wood products industry continues to play an important role in the Klamath County, despite the fact that the region was once home to dozens of lumber mills (including the largest in the world, in its day) where now only a few remain. Secondary wood products companies producing mouldings, millworks, doors, windows, cabinets, furniture components and even composite products have taken up some the employment losses however every year these companies are producing more with fewer people. With the vast majority of Klamath County forested land in public ownership, wood products industry leaders cite national forest policy as ongoing headwind to growth and sustainability for the industry.

Oregon's Wood Products Industry

(2016 data):

# of Firms:	1,053
Direct Jobs:	35,047
Average Wage:	\$52,484
Export Value:	\$667.8 Million



Other Building Products



The region is home to several innovative companies outside secondary wood products that are successfully competing on a regional basis. Diversity in this sector includes companies producing asphalt, concrete, trusses, cabinetry, signage displays pre-fab building, metal building and trans-modal transportation/warehousing. If nothing else for the breadth of its reach, this broad sub-sector should perhaps be the best place to focus research and recruitment efforts for the building products industry.

Quality Workforce Housing



CHOOSE KLAMATH recently began strategic planning with local stakeholders in the public and private sector to assess the region's housing market, where ultimately these leaders began to identify actionable approaches for overcoming housing issues that could potentially jeopardize Klamath's ability to fulfill its development goals. Findings about the current state of the market, as well its development potential, showed positive signs such as pro-development government leadership and the cost and availability of usable land.

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

However, a large majority of the overall findings were deemed problematic, including issues like: lack of construction trades, construction cost versus price point, lack of multifamily units, and mixed community perception (internally and externally). Entering this strategic plan cycle, CHOOSE KLAMATH will be putting significant time into cultivating quality workforce housing for the area.

Nursery – Geothermal Utilization



Greenhouse heating is one of the popular applications of low-to-moderated temperature geothermal resources. Using geothermal energy is both an economical and efficient way to heat greenhouses, where heating systems using geothermal can be designed to utilize low-temperature (>50oC or 122oF) resources, making the source an attractive application for greenhouses. These resources are widespread throughout the western states providing a significant potential for expansion of the geothermal greenhouse industry. In the early 2000's Klamath was taking advantage of the rekindled momentum geothermal nurseries were on track to have; for years Canada had dominated the market for tree seedlings and IFA Nurseries, Inc. (based out of Canby, OR), saw opportunity in utilizing that very same technology when building Klamath's first nursery operation in 2002. IFA has consistently found success since establishing the Klamath location, however the niche space has not achieved development activity from other firms within the sub-sector that the area had originally sought at that time. Considering that geothermal resources are an asset that makes Klamath unique compared to other competing regions within the nation, it will be important to further investigate the industry's potential for providing the region development value.

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Advanced Manufacturing Industry Cluster –

Despite concerns about the decline of manufacturing nationally, Oregon remains a place that makes things. Oregon's clusters in metals, machinery and transportation equipment includes firms making primary metals such as steel and titanium, producers of fabricated metal products ranging from knives to steel structures, and makers of a wide range of industrial machinery, barges, trucks, recreational vehicles, aviation components, and kits.

This broad industry group has long been at the heart of Oregon's economy, with more than 10% of all private-sector jobs statewide found in this key source of GDP creation. The Klamath County region is home to more than 45 companies that CHOOSE KLAMATH categorizes in our Traded Sector Directory as specialty manufacturing – the single largest number of companies for any single industry. In some aspects, Advanced Manufacturing is an economic diversification multi-tool – its companies are often very different from each other.

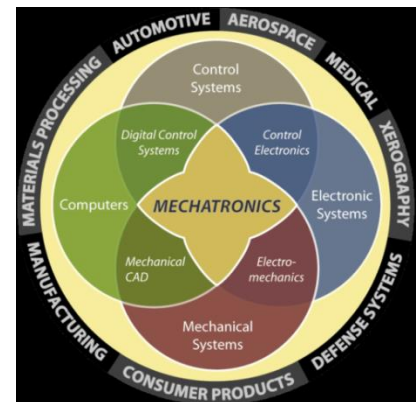
Oregon was just recognized as one of the best state in the nation for manufacturing by the American Institute for Economic Research. With a focus on quality and adding value in advanced manufacturing products, Klamath County has developed and maintained a skilled workforce ready for the modern manufacturing environment in partnership with KCC and OIT.

We spend a healthy portion of our time and resources helping manufacturers of all sizes and in all industries as well as investing our labors into attracting more advanced manufacturers to the region. Advanced Manufacturing will continue to be a primary focus for CHOOSE KLAMATH in all of its business development efforts.

Oregon's Advanced Mfg. Industry

(2016 data):

# of Firms:	1,260
Direct Jobs:	31,288
Average Wage:	\$68,686
Export Value:	\$2.4 Billion



Brewing, Distilling and Wine Making



Alcoholic beverages have become an important component of what is made in and exported out of the Klamath County region. As noted in the industry overview on agriculture, the region's climate and elevation have not made the Klamath County area a mecca for other value-added food products, but key ingredients are available locally or regionally for this sector – namely wheat, barley, corn, hops, apples, pure water, and the human talent to bring these elements together for high-quality products. Oregon encourages fermentation businesses because it is relatively easy to obtain a license to manufacture, via-a-vis other states. . Portland at one time had the most brewery type operations than anywhere else in the country and even though they have experienced a recent pause in growth they still remain in the top 5 in the United States for number of these businesses.

Oregon's Beverages (2016 data):

# of Firms:	466
Direct Jobs:	6,095
Average Wage:	\$36,539
Export Value:	\$36.3 Million

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Craft Brewing

There are currently 230 brewing companies in Oregon that operate 261 brewing facilities in 73 cities in the state and employ more than 9,400 full and part-time employees. Total economic impact from the beer industry in the state now exceeds \$2.4 billion, and Oregon ranks as the second largest producer of craft beer in the U.S. Interestingly, Oregon is also the no. 2 hop growing state in the country. In the past 118 years, craft beer sales in America have gone from 1% of the total market to 23% of the \$111.4 Billion total beer market (\$25.6 billion). The Craft Brew sector in Oregon also accounts for a large number of economic activities as approximately 369,000 people visit a tap room or brewery per week which accounts roughly 19 million visits per year (2016). Simply put, Oregonians and its visitors spend their money in the Craft Beer sector.

There are currently 3 breweries in Klamath Falls with discussions continuing with at least 2 more groups with interest of entering the segment with somewhat different models. With other areas of the state slowing down in this segment and even some long-standing establishments closing their doors in those areas, there could very well be room for growth in the Basin if it is managed prudently. Klamath has many natural resources from power to water to crops that make this an advantageous area for growth.

**Distilling**

The Craft Distilling sector is growing in the United States at a rapid rate, accounting for \$2.4 Billion in 2015 which represented an annual growth rate of 27.4% to a total market share of 2.2% up from 0.8% in 2010. Oregon has one of the nation's highest concentrations of distilleries – a total of 69 are based in the state which produce 336 different products. These distilleries generated \$53.3 million in sales in 2011 according to OLCC, which accounted for almost 12% of alcohol sales for state-controlled liquor stores. Although Klamath County does not currently have any licensed distilleries, there is a segment of crops that are well received for the distilling business by users in Northern California who get their organic crops exclusively from the Basin in the form of wheat, rye and barley. This producer has opportunities for scalable growth within the industry, and represent a model that could be marketed for similar types of growth to take place within Klamath County.

Wine & Cider Making

The wine and vineyard industry has grown dramatically in Oregon over the past decade, where as of 2017, the number of vineyards had grown to 1,344 and wineries totaled 769. In 2017, grape growers produced over \$192M in sales while wineries had revenues of \$515M. While wine making in the Willamette Valley is now in its fifth decade and somewhat more recently to Southern Oregon, Klamath County is becoming a new entrant to the industry.

The climate just 60 miles away to the West has proven to be ideal for wine grape growth, helping the area boom to 90 vineyards and wineries, but unfortunately in Klamath County, the growing season is too short for this crop. As a result, it does not appear practical to grow grapes in Klamath, nor to a lesser extent, process them in the winery setting. Currently the area has one niche winery that buys its grapes from the valley and processes them here, but this winery's model is more hobbyist in nature.

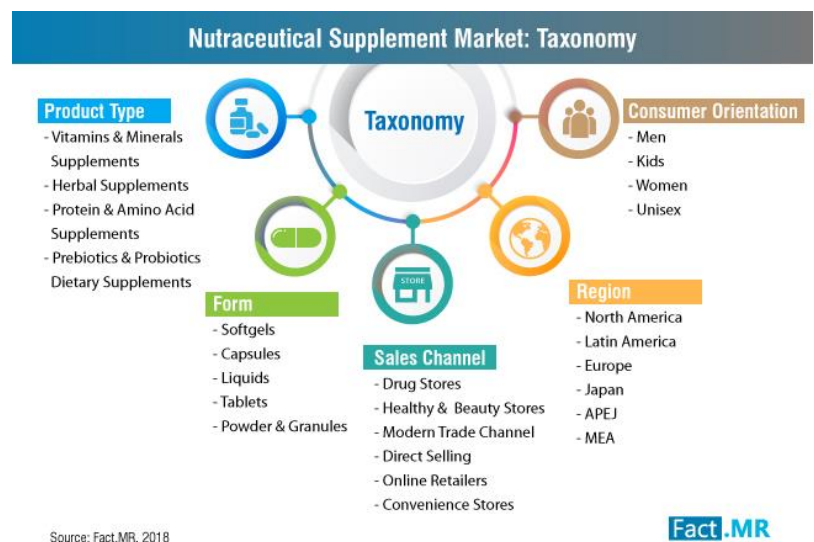
APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Additionally in the basin, there is an entrepreneur who is growing an ice grape from the Minnesota area. This grape has proven more capable of thriving in our climate but produces a different varietal and wine that lacks a true market as of yet. However, this species can also help with the acidity levels of some of the varietals grown in the Napa Valley, presenting a potential pathways of development in the long-term. Until that time, the industry presently will only be able to make Klamath competitive through smaller niche markets compared to that of other Oregon areas. The cider industry is not a lot different in as far as what can be grown here, so it is therefore processed for consumers in the beverage industry. The apples grown in Klamath are of the less sweet varieties, giving them less utility for usage in the cider industry.

Nutraceuticals



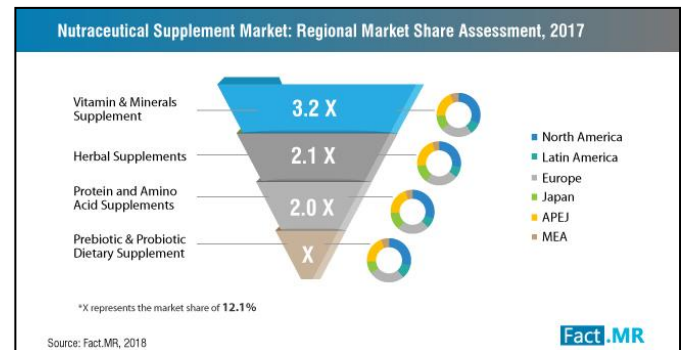
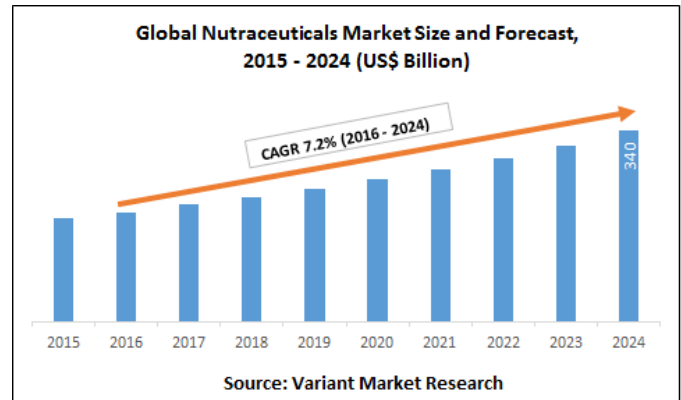
Alongside the expansion and exploration of modern technology is the simultaneous rise of nutraceuticals. This industry and its products continue to make major advances within recent years, serving as viable health supplements for things like preventing chronic diseases, increasing life expectancy, or supporting specific functions of the body. The range of products within nutraceuticals has become more expansive, where its primary usages can be categorized by: dietary supplements (botanicals, vitamins, minerals, amino acids, and enzymes), functional food (carotenoids, dietary fibers, fatty acids, minerals, prebiotics, probiotics, and vitamins), functional beverage (energy drinks, sports drinks functional juices).



The nutraceutical market is on track to experience exponential growth over the next decade, where according to Grand View Research, Inc. the global market is projected to reach USD of \$578B by 2025; in addition to the United States, there is segment growth being created internationally through rising product demand from Brazil, China, India, South Korea, Poland, and Mexico. This projected rise is attributed to three core factors within the market: 1) Increasing adoption of nutraceutical supplements as pharmaceutical alternatives play a big factor, as rising health concerns and growing awareness for healthy foods are likely to drive the product demand over the next six years; 2) Increasing healthcare costs and rising consumer preference for simple and over-the-counter medicines; and 3) Significant R&D investments in identifying the role of nutraceutical supplements in important health conditions such as obesity, cancer, cardiovascular diseases, diabetes and neurodegenerative diseases. In relationship to Klamath County, there are significant opportunities

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

across all three-pillars (recruitment, retention/expansion, and entrepreneurship) for development to take place, and CHOOSE KLAMATH already has efforts underway to leverage such opportunities so that the region may capitalize on the maximum potential of the industry. Existing nutraceutical operations based locally are heavily made up of algae harvesters utilizing Klamath Lake. Due to the diverse nutritional components algae can produce and concentrate, along with its simple and rapid growth characteristics, algae is seen as a prime source for the creation of nutraceutical supplements. These local firms possess partnerships with companies spread throughout a variety of sectors, where with continued growth in the basin, there are opportunities to generate subsequent investment from the parties connected to these firms. The technology utilized by these firms also segways into natural pathways for vertical integration to take place, allowing functions that may be outsourced to be relocated locally.



General/Commercial Aviation & Components



An issue that many are passionate about in the region is re-acquiring air service back to the region. Pen Air's departure may not have been entirely indicative of Klamath's capability to support commercial flights, but simultaneously the company's exit shed light on the flawed structure of local air service historically, as well put the community in a position to examine larger industry factors in aviation that are preventing Klamath (and several rural areas across the nation) from having air service.

Oregon's Aviation/Aerospace Industry (2016 data):

# of Firms:	400+
Direct Jobs:	4,251
Average Wage:	\$88,885

Local issues that hurt Klamath's chances for commercial air service include 1) flight options - one can drive to Medford in a little over an hour and have access to many more destinations, whereas Klamath has only been able to create flights between San Francisco and Portland; 2) consistent ridership - Pen Air's failure was almost instantaneous upon adding Klamath flights, with operational issues in abundance that quickly turned local people back to Medford for more reliable service. However, the type of airplane that was used for these flights was a 30-seat aircraft. This model has become obsolete within the market, and the minimum for modern variations of the model is 50-seats. Regardless of delays or mechanical issues, reports indicate that Klamath was unable to consistently maintain the ridership necessary for the 30-seat model when Pen-Air was here, posing a problem for Klamath when it comes to trying to attract a bigger name airline to service flights. The increase in ridership needs further highlights the importance of generating economic development activity that warrants increased air travel. The conundrum with that is will lack of air service prohibit economic development to the extent needed to support having air service. Growing exposure to Klamath from outside companies and further growth indicates a level of demand that community air service "can pencil"

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

some point, but ultimately issues pressing the aviation industry may interfere with achieving the momentum our area desires.

Delving into these issues, CHOOSE KLAMATH recognizes how it places barriers on obtaining air service locally. As globalization has solidified a grip on modern commerce, international air travel is in higher demand and only expected to go up. Reports show that within the next two decades, the US will have 700M more passengers, and Asia will increase its passenger numbers by 2.6B. Boeing has made estimates that it will require 16,930 more planes and 261,000 active pilots to meet such demand. The complex element of this is that there is a major shortage of pilots within the aviation and aerospace industry at this present time. Making commercial air service potentially less viable until the industry can address the aforementioned looming factors. However, these issues could also be development pathways for our region to take advantage of where the economy could become the source for where need exists within the larger industry - both in terms of providing good people and comprehensive access to products and services that support larger aviation operations.

The current state of our aviation industry possesses assets that are highly suitable for further development within subsets of the larger sector. Klamath's uncrowded airspace, the USDA Forest Service Air tanker Base, the 173rd Fighter Wing, helicopter and fixed wing flight schools, cargo operations, competitive lease rates, low operating costs, and prime industrial land, speak to assets that can be shaped to take on these sector issues. Agglomeration is the economic concept that gathering companies within complementary services and products creates an "ecosystem" that perpetuates greater industrial growth for all connected to the ecosystem. To capture commercial air service, CHOOSE KLAMATH believes one option is to create a foundation for those companies to tap into. Such a foundation is maintenance hangers, charter flights, pilot training programs, emergency services, components/parts suppliers and/or manufacturers, and more.

Defense-Related Aerospace (Kingsley Field)



Evaluating defense-related aerospace specifically, it doesn't take long to learn the United States military is by far the largest market for defense equipment, systems, and services in the world. The companies included in this sector not only serve America's needs, but often are also suppliers for many US allies. Aside from political reasons for using U.S. suppliers,

American manufacturers, serving the huge domestic defense market, tend to be leaders in the technical aspects of weapons systems. Klamath's connection to this industry is entirely tied to its strong partnership with Kingsley Field. That partnership extends quite far beyond any one sector, where the 173rd Fighter Wing is an asset that is deeply tied to development opportunities that span multiple sectors, regardless of how aerospace spending is directed to Oregon. The base has been mentioned repeatedly throughout this strategic plan, noted frequently in sections like "High Tech". We discuss how airbase's presence introduces upcoming prospects in cyber security, manufacturing (in many forms), legislation development, and more. Kingsley generates over \$111M in annual revenue for the state of Oregon, and is an integral part of our local economy's vitality.

Oregon's Aerospace & Defense Industry

(2016 data):

# of Firms:	56
Direct Jobs:	4,251
Average Wage:	\$88,885

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Clean Technology Industry Cluster – Oregon’s commitment to alternative energy development and sustainability policies have made the state a leader in a range of emerging clean technology industries. According to a report by Pew Charitable Trusts, Oregon now has a larger percentage of its workforce employed in clean energy technology than any other state in the nation.

Clean Energy

Oregon’s Renewable Portfolio Standard sets a requirement for how much of the electricity we use must come from renewable resources. "Renewable" means the source of power can be used repeatedly because it is replaced naturally, like wind or the sun. The original RPS was adopted in 2007, when just 2 percent of Oregon’s electricity needs were met with renewables. In March 2016, the passage of [Oregon Senate Bill 1547](#) increased Oregon’s Renewable Portfolio Standard requirement to 50 percent renewables by 2040.

Oregon’s Clean Energy Industry (2018 data):

# of Firms:	460
Direct Jobs:	9,191
Average Wage:	\$75,488

This legislation has become a huge variable in how community’s economic activity is across the state, and will remain one for the foreseeable future. Entities involved in the energy space are eyeing the state in mass, where these energy goals necessitate communities (as much as they do electric-utility providers) to redesign themselves so that they may obtain the most value out of the economic rewards inherent with a sector shift of this size. Looking at core emerging sectors across the globe, we unavoidably must be considerate of what role clean energy is going to play in the development of Klamath’s economy, especially considering the goals Oregon has established for 2040. CHOOSE KLAMATH sees this sector is directly related to Klamath’s ability to be a diversified economy that is capably positioned to support emerging sectors like clean energy, but also many others that are philosophically and/or operationally connected to the path of sustainable practices; focus around development of this industry will simultaneously play an important role in maintaining the stability of our existing economy. However, there are segments of clean energy that have less of a fit within the design of Klamath’s economy. Within this strategic plan cycle, we look at industry factors present in major clean energy sources to assess source’s development likelihood within Klamath.

Solar



Whether it be manufacturing, installations or other segments of the sector, trends in the solar industry seen over the past few years present opportunities (and challenges) for enhancing the energy source’s use in Klamath County. One major

advantage is Oregon’s weather climate during the summer and fall make the state an ongoing option for these investments from a technical standpoint; Klamath averages over 300 days of sunshine a year, giving the area heightened appeal. There



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have also been improvements made within the state to increase its attractiveness via incentives. The Energy Trust of Oregon has identified that by combining cash incentives and state and federal tax credits, residents and commercial businesses can offset major portions of their initial investment. Regardless of the eligibility criteria connected to these types of incentives, their birth is a product of Oregon's legislative endeavors via Senate Bill 1547. Of the industry and regional factors that could hinder solar's grow, this legislation places Klamath County and other Oregon communities in an interesting position as to how they will handle prospective solar investments.

When strictly focusing on Klamath, it is clear that there are certainly avenues of which the industry can be further integrated. The community is ultimately cognizant of the benefits solar energy projects can provide to the region and has various assets that exist which can be scaled for expansion, as well as assets that are optimally suited for adding entirely new solar operations. CHOOSE KLAMATH recognizes the importance of solar as a renewable source within clean energy, seeing value in its ability to introduce diversification and modernization to the economy. But, what is especially important to our present economic goals is job creation. Outside of manufacturing, most solar projects do not create a lot of jobs and have the danger of utilizing property assets that the area can be taking better advantage of through directing focus on larger employment ventures that have a more natural fit with the economy; high value agricultural land are the types of assets many stakeholders want to be careful with. The region can build out infrastructure that could support further development of the communities within the County but outside of Klamath Falls. Solar projects are one great example of how Klamath can bridge geographic separation between cities across the entire county.

Geothermal



In 2010, an ABC news report gave national attention to Klamath, where energy experts stated, "Geothermal wells in Klamath Falls mark one of the nation's most ambitious uses of a green energy source with a tiny carbon footprint, and could serve as a model for a still-fledgling industry that is gaining steam with \$338M in stimulus funds and more than 100 projects nationwide."

Geothermal is an energy source that distinguishes Klamath from other places across the nation and presents opportunities for CHOOSE KLAMATH to catalyze development across recruitment, retention/expansion, and even entrepreneurship. It is an abundant resource within the area that drives heating of several buildings throughout Klamath, including the Oregon Tech college campus, which was lauded by the Department of Energy for its ambitious use of clean energy to generate all of its electrical power, becoming the first university in North America to do so. Primarily geothermal's role in recruitment is the energy source's marketability as a clean, cost containment feature to area assets.



The most actionable pathway for geothermal utilization and promotion is business retention/expansion. Further production and utilization of geothermal is being looked at closely by a many groups locally, however further due diligence on its logistical viability is required before such investments would move forward.

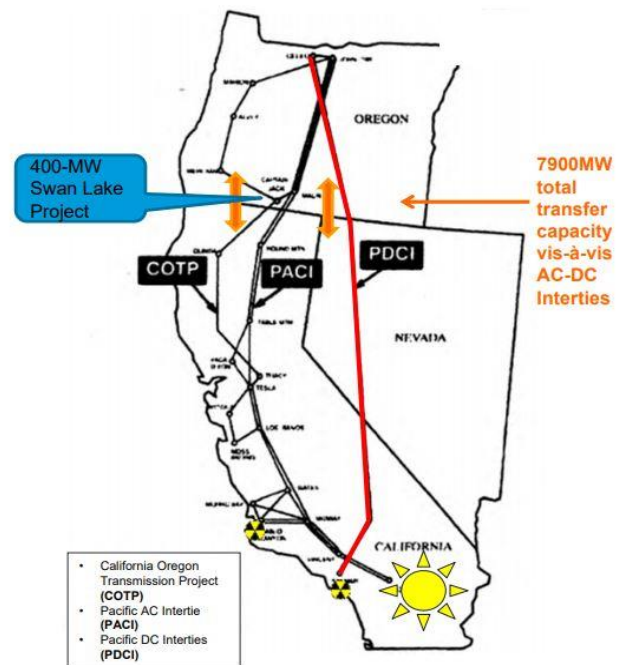
APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Hydro



It seems that within the next decade Klamath County is on pace to dramatically enhance clean energy production through hydro-based sources. There are two primary reasons for this: 1) the *Swan Lake Pumped Storage Project*, and 2) the Klamath River dam removal. Each project is massive in scope, both representing significant economic impacts to Klamath County. Swan Lake recently received the Federal Energy Regulatory Commission (FERC) license necessary to move forward on the project. The Klamath River Renewal Corporation (KRRRC) is further away from commencing dam removal but remains relatively on track to take place. Klamath County is blessed with the geography, geology, infrastructure, and the ready workforce to support the construction and operation of these facilities. Looking at the projects independently, it is evident that CHOOSE KLAMATH's services will play an important part in achieving effective returns on the direct benefits and indirect opportunities generated in different ways.

The Swan Lake Pumped Storage Project is a 400 MW energy storage facility, being backed and managed by a partnership between National Grid and Rye Development; both of these firms have extensive experience in the hydro storage projects across the US and UK, where active facilities serve over 3.4 million electricity customers. The development uses pump hydro storage that consists of a lower reservoir and an upper reservoir, where water is pumped from the lower to upper reservoir, preferably during times of renewable energy oversupply on the grid. The water is then released back to the lower reservoir, through a power house to generate electricity during times of peak demand. The Project will be located approximately 12 miles northeast of Klamath Falls off of Swan Lake Road. The project is also highly resource efficient in that it recirculates the same water over and over, requiring small annual top offs of the reservoir due to evaporation, and it has been determined by the Oregon Water Resource Department that it will have no connectivity to the Klamath River system and will have no adverse impacts on other groundwater irrigators in the vicinity of the project; additionally, the Oregon Department of Environmental Quality has determined that no 401 Water Quality Permit will be required as the project will not discharge any water to any waters of the state. From an economic development standpoint, the project is aimed to produce over 3,000 construction related jobs to Klamath County over a 4-5 year construction period, where it will then create 30-50 permanent jobs operating the project over the 50-year license granted through FERC; adding \$2.1M in annual revenues to the Klamath County tax rolls. This does not even account for how industries such as hotels and lodging can be bolstered through exposure to Klamath during the construction timeframe. CHOOSE KLAMATH recognizes that energy storage is an important part of achieving a clean energy future - this particular project serves forward momentum for our county in a west coast energy market that has electrical utility companies ensuring larger portions of their energy portfolio are 100% clean energy.



APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Transitioning focus to the other hydro project, Dam Removal through KRRC, which includes, KRRC's job taking ownership of four PacifiCorp dams — JC Boyle (in Klamath County, Oregon), Copco, No. 1 & 2, and Iron Gate (in Siskiyou County, California). They then aim to remove the dams and restore formerly inundated lands; as well implementing required mitigation measures. By doing so KRRC will be carrying out the largest dam removal and environmental restoration effort in US history, where potentially \$450M in capital investment will be deployed on behalf of the project's needs. The project requires demonstrable prep work to start construction in 2021. Together, the Swan Lake Pumped Storage Project and Klamath dam removal are massive construction endeavors that offer a large network of opportunities for stimulating local businesses and enticing new development.

Wind



Unlike the aforementioned forms of renewable energy, wind is a source that is relatively untapped in Klamath County. The benefits of wind energy gradually have gained national recognition by businesses, as well by families for residential purposes. The source has proven in many cases to dramatically reduce or eliminate users' electric costs. Wind turbines are an investment that can introduce a long turnaround, however provide reasonable returns on the original investment. Financing and installation of wind power technology continually becomes more affordable, where current Oregon wind energy incentives include generous rebates for wind turbine and wind generator installation.

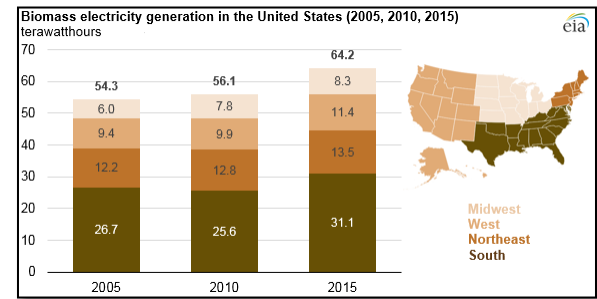
When it comes to Klamath County, it is not a suggestion of wind energy's overall value but the source's compatibility with the area that limits the area's options to, if any, smaller applications. Such prohibitive factors mainly relate to 1) wind fluctuations, 2) impacts to wildlife, 3) aesthetic/noise pollution, and 4) more profitable uses of land.

1) As it relates to wind fluctuations, wind energy has a drawback in that it is not a constant energy source. Although wind energy is sustainable and will never run out, the wind isn't always blowing. This can cause serious problems for wind turbine developers. For a wind turbine to be efficient, the location where it is built needs to have an adequate supply of wind energy. On average, feasible sites should have fairly regular wind currents of around 12mph. In Klamath County, the winds speeds average at around 6.7 mph, making such an investment highly unlikely. 2) Impacts to wildlife could present significant impacts on our outdoor recreation culture, as many tourists, along with a substantial portion of Klamath residents, are bird enthusiasts. 3) Wind turbines generate noise and can be perceived as visual pollution, where in locations they are presently operational, they can be heard from hundreds of meters away. 4) Lastly, but certainly not least important is selective use of land assets. A major element that competitively distinguishes Klamath from other options along the west coast is an abundance of land assets, making it important to be mindful of the potential opportunity costs that occur with such developments.

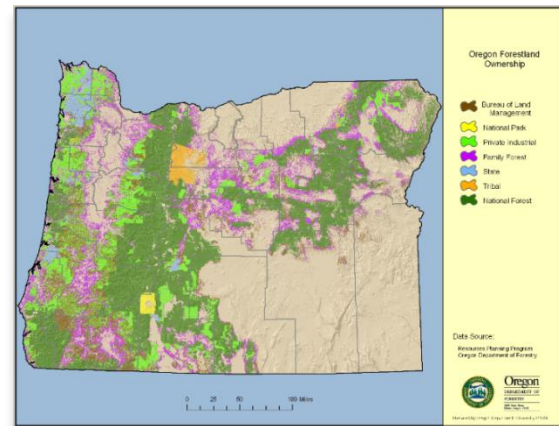
APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Biomass & Waste Energy Conversion

Biomass fuels provided about 5% of total primary energy use in the United States in 2017. Of that 5%, about 47% was from biofuels (mainly ethanol), 44% was from wood and wood-derived biomass, and 10% was from the biomass in municipal waste (sum of percentages is greater than 100% because of independent rounding). For Oregon, in particular, areas like Klamath County, there continues to be a great deal of interest from endeavors focused around utilizing wood-derived biomass both active from local and outside stakeholders. This is mainly attributed to an understanding of what potential benefits biomass utilization can create or address, being: 1) reduced incidence of forest fires; 2) renewable energy; and 3) economic development.



Although many scenarios are hopeful biomass will contribute to a large fraction of the world's primary energy in coming decades, the future for biomass remains fairly uncertain even with the sector's advances up to today. For over the last decade biomass electricity generation does continue to demonstrate growth, however there are factors that hinder it primarily centered on the process's costs and associated environmental concerns. If biomass is to make a major dent in the use of fossil fuels, energy crops must be grown in large quantities, requiring large tracts of land; one of Klamath County's greatest assets, necessitating extra-sensitivity to the viability of operations wish to develop on such locations. In addition, biomass energy must be economically competitive with other sources of energy and with biological sequestration of carbon. Carbon is a critical factor considering the environmental regulations that exists in Oregon, and the possibility of them to be further heightened around carbon specifically in upcoming legislation.



As a pro-development area with resources ideal to suit biomass operations (beyond just wood derived options), CHOOSE KLAMATH sees it is important that we remain alert to these operations. As the technology within the sector continues to enhance, "the coming of age" period for biomass may be on the horizon where feasible operations are projects we want to capitalize on for Klamath County.

Energy Efficiency/Conservation & Smart Grid

Perhaps the most difficult sub-sector to classify is the proliferation of new technologies and companies that are helping businesses and consumer reduce their energy usage. Entire industries could be included in this category—green building materials and supplies, home energy management, and commercial & residential lighting, to name a few. Klamath County has a few companies in each of those categories from which to build more critical mass.

Energy efficiency could be a very exciting and fruitful sub-sector on which to concentrate prospecting efforts for alternative/renewable energy sub-sector. Most jobs would not come from larger, headline-grabbing companies, but smaller, entrepreneurial ventures solving efficiency and conservation issues in niche markets. Oregon Tech has curriculum for Renewable Energy Resources focused on Smart Grids, state of the art technologies and conservation education.

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

High Technology Industry Cluster – Oregon is an important center of high technology businesses, whose products include computers, semiconductors, electronic instruments and software. The industry is anchored by Intel’s operations in Washington County. The metropolitan area is home to hundreds of other high tech firms, many started as spin-offs from Intel, Tektronix, and Electro Scientific Industries. The state also includes a robust bioscience and medical devices industry

High Technology

Despite the country having experienced consistent decline in entrepreneurship up until recently, it still remains that 99.7% of America’s private sector is categorized as small business, and these businesses account for 65% of new jobs created. This reinforces that business retention/expansion and stimulating entrepreneurship are vital to Klamath’s economic success. Fortunately, the global marketplace has seen a considerable resurgence in financing, particularly venture capital investment as in 2018, an all-time high of \$148B had been spent on start-ups. A significant factor to rising investment in start-ups is the High Tech sector. A major driver of this activity is the heavy amount of intellectual property (IP) these new companies generate, in a national climate where IP accounts for 38.2% of the nation’s GDP. 43% of High Tech employment in the US is small business, where start-ups within the sector continue to show annual growth as successful entities average 11-14% net profit margin within their first couple years.

Oregon’s High Technology Industry (2016 data):

# of Firms:	4,757
Direct Jobs:	73,227
Average Wage:	\$117,621
Export Value:	\$11.8 Billion

In connection to CHOOSE KLAMATH’s vision for the region, we look at where Klamath’s High Tech sector is today. Employers representing this industry sector are very limited within the region, presenting an opportunity for CHOOSE KLAMATH to focus a portion of its strategic planning efforts on catalyzing growth with such companies. Economic development is frequently defined as job creation, and High Tech employment is estimated to increase by nearly 650,000 employees over the next 5-7 years. In an industry that suffers as much growth as it does turnover, having strong higher education institution in the area can feed these companies ever-changing talent needs.

Software/Information Technology



Beyond the importance of job creation and Klamath’s ability to offer a highly capable workforce, strong and sustainable economic development is also defined by diversification. The High Tech industry offers solutions for combatting any industry dependence as the emerging sector has focuses that span across all industry, being well aligned with what standard business practices will become as the global marketplace evolves with information technology. An example of this is made evident through spending growth on technologies for back-office operations. These technologies are being utilized across many sectors, where this B2B segment of the High Tech sector is forecasted alone to hold nearly 1/3rd of global tech spending by 2020. Recruiting such firms or facilitating start-ups dually serves retention/expansion of existing businesses, where CHOOSE KLAMATH can help introduce resources into the economy that can help local companies be better positioned to address the accelerated conditions of today’s business environment.

In 2016, over 1,800 companies exited California due mainly to the state implementing increasingly prohibitive regulations; quality of life factors are notably prevalent in these relocation decisions. The exodus of these businesses is an on-going trend which stems predominantly from Silicon Valley. What

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has long been recognized as the heartland of tech enterprise has gradually become an environment that financially discourages early stage start-ups versus liberates them. The west coast is still the “tech coast” however, areas like Seattle and Portland have proven to be reliable hubs for tech-based firms, where northern Oregon’s ‘Silicon Forest’ has enhanced dramatically. Klamath’s geographic placement puts our area in advantageous position to recruit companies during this trend.

Although there are notable companies that employ thousands within the industry, Software and Information Technology companies typically average 1-5 employees as start-ups, and as they affirm market success, level out at an average of 10-20 employees. These employee sizes are conducive with Klamath’s current market capacity across all three pillars of CHOOSE KLAMATH’s economic development focus, mainly due to the assets available in our region’s commercial property inventory. There are a large assortment of well-located properties throughout Downtown Klamath Falls that are very suitable for these businesses, among other areas in the basin that are equally ideal homes for such operations.

Aerial Systems and Cyber Security



Kingsley Field is the only Air National Guard base in the state, serving as one of only 3 active military bases in Oregon. In early 2018, the 173rd Fighter Wing stationed there agreed to a 50-year lease, marking the longest lease in the US Air Force.



The base currently utilizes the F-15, however manufacturers have gradually shifted towards different fighter designs. The base is could possibly transition to the F-35 within the next decade (among other considerations), presenting Klamath with recruiting opportunities for major defense contractors. Beyond manufacturing, an interesting factor could serve Klamath well with these defense contractors is the F-35’s need for elite cyber security systems. Findings from a government security audit that examined the F-35 between 2012-2017 noted that the aircraft had “mission critical cyber vulnerabilities”. As a result, the Pentagon has placed an emphasis on enhancing these systems, coordinating with main suppliers such as Lockheed Martin and Boeing. As content and data utilization continue their rapid integration in electronic networks, cyber vulnerability evolves in a parallel path, creating an enduring demand for advances in cyber security. Achieving such advances necessitates diagnostics, research, maintenance, and development to take place directly, forming a logistical desire for fighter jet manufacturers maintain operations in close proximity to bases actively using the F-35. From a recruitment perspective, CHOOSE KLAMATH will work jointly with local stakeholders to see how growth can be achieved locally through this industry space.

Klamath’s higher education institutions will play a significant role from a workforce and innovation standpoint when it comes to securing cyber security firms to the area. In 2017, Oregon Tech opened its Cyber Defense Center (CDC) at its Wilsonville campus. This center, as well the Oregon Manufacturing Innovation Center (OMIC), both represent important pieces to an ultimately larger Oregon Tech endeavor to solidify 1,000 strong industry partnerships; currently OMIC is a direct bridge for collaboration between Oregon Tech and Boeing. There are many companies or projects for application based training or R&D to be performed locally. Having these partnerships and direct innovation

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platforms represent endless ways of driving economic development throughout each of CHOOSE KLAMATH's three pillars.

Oregon Tech and KCC have collaboratively engaged in several programmatic and curriculum discussions which are effectively bridging the schools structurally to serve students from the community college who are in concentrations that require further education or offer additional benefit for students professional aspirations; cybersecurity has recently become more integrated into KCC, giving profound depth to this relationship. KCC's objective to become an "all access" school will create a supply chain for Klamath's workforce through the bridge between these schools, therefore allowing for our area's economic needs to be better served through customizing curriculum that is influenced by prospective companies and existing companies.

Data Centers and Broadband

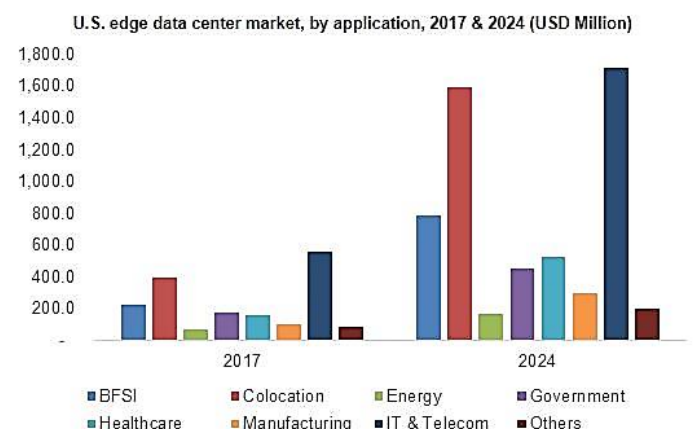


There is currently one industry in the Klamath County area which is solidly on the national and international radar screens as a must-consider location. That industry is data center development.



Our region has the mix of assets that the industry needs; namely large-capacity electric power and telecom, municipal sewer and water resources, meaningful incentives and a climate that is ideal for efficient and cost effective cooling of computer servers. Supplying power to data centers is also making a transition towards utilizing various renewable energy sources, as trends indicate that solar, hydro, wind, and geothermal have growing use for these facilities. The emerging trend towards renewable energy powering data centers aligns with Klamath County's strengths, where the Swan Lake Pumped Storage Project, Klamath Energy cogeneration plant, geothermal abundance, and the region's growing solar sector are all compatible examples that position the area well for attracting data center projects. The industry has picked up steam in the past 10-15 years with the increasing demand for computing power. The proliferation of mobile devices, which have limited computing and memory capacity, and explosion of web-based services (banking, accounting, retail sales, cloud-based computing) has further accelerated growth of the data center industry.

Global IP traffic is estimated to increase nearly threefold over the next five years, activity that is indicative of the exponential growth set to occur in the data center market. Organizations are heavily investing around addressing this demand, as in the first half of 2018 alone, there was over \$7B deployed by companies for data centers. Industry forecasts indicate that over the next three years that new construction of data centers will experience 5 times its present growth rate, and that the average number of data centers



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being managed by organizations will be 10-11 each.

Because the industry is still relatively new, misunderstandings exist about its real impact to the economy, with concerns about job creation potential and infrastructure capacity. Despite these perceptions, data centers projects do have the ability to produce substantial economic benefit. Ultimately data centers are large capital investment projects that have the ability to produce many construction jobs for building out such facilities, and upon completing construction, these operations are responsible for creating several direct and indirect jobs. The franchise fees associated with these investments generates significant revenue on an annual basis for taxing districts, providing entities such as the City of Klamath Falls additional resources that can be put towards enhancing local infrastructure and public services. With what the region has to offer, securing data centers also presents the opportunity for the region to be exposed to other companies, forming avenues bring with them the additional economic impacts. The connection to Silicon Valley technology companies also represents significant “pull through” business recruitment opportunities as decision-makers from these firms get exposed to the region, its lower cost structure and outstanding quality of life.

For communities like Klamath Falls, the data center industry represents the development of economic diversification with new industry and significant job creation. Like other industries, there is also segmentation in the data center sector, with a range of sizes, reliabilities and geographic requirements that could be a good fit for nearly every community in the Klamath County area. Consequently, it is a sector that CHOOSE KLAMATH will work diligently to locate companies in the region.

From an infrastructure standpoint, what is closely connected to data centers is broadband. Although often mischaracterized simply looking at what speed broadband can provide electronically based systems, broadband is also important for capacity, helping internet users meet evolving social, cultural and economic demands. Ultimately broadband is essential infrastructure for Klamath County, its businesses, government, schools, libraries, utilities, healthcare providers, first responders and families, therefore requiring a similar priority of focus to the likes of data center acquisition.

Broadband projects can be addressed through CHOOSE KLAMATH’s three pillars, particularly from a recruitment and business retention/expansion standpoint. Currently there are local private providers of which are eager to help advance the broadband capabilities of the region, particularly for businesses in downtown Klamath Falls, where CHOOSE KLAMATH will be working closely with these entities to coordinate with municipalities about how such projects can be implemented. The state’s Oregon Broadband Advisory Council (OBAC) has recently released a comprehensive report on the challenges and opportunities that face the state regarding broadband strength. Within the report is information on the state’s efforts to develop grant and loan programs for broadband providers to utilize, local planning strategies for cross sector execution of broadband expansion, as well agriculture applications that can help advance farming sector operations. These tools and more will be facilitated by CHOOSE KLAMATH within the region to help ensure the region is on track with its internet needs.

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Medical Technology

Modern advancements in the medical field continue to occur at a rapid pace, particularly as it relates to medical technology that is aimed to help enhance the ways in which medical experts diagnose, monitor and treat patients. Within the next 5 years, medical technology is expected to double the size of its revenues compared to what the sector reported in 2011, where by 2024, it is estimated to be a nearly \$600B industry. 4 years ago, research and development spending within medical technology achieved significant growth, where in recent years, companies worldwide have shown a consistent emphasis towards dedicating 6% of their expenses towards R&D, marking a growing emphasis for these businesses. Klamath is in ideal position to take advantage of this industry's growth. The region is especially compatible when considering the research capabilities and customized programs our area's high caliber colleges can offer. Even more so, Sky Lakes continues to creatively expand its services, and is ready to be add more treatment options not currently available in the area. Medical technology companies are showing growing interest in Klamath County, and avenues for sector collaboration and growth (direct and indirect) with the hospital will be in greater abundance once the Sky Lakes Collaborative Health Center opens.

The center is a \$50-million project that aims to improve health care in south-central Oregon by encouraging collaboration and innovation between local health care professionals and OHSU students and resident physicians who want to better serve rural Oregonians. It is expected to be completed in late 2019 and open for business in 2020. The center's construction is the product of a partnership between [OHSU](#), Oregon's only academic health center, and [Sky Lakes Medical Center](#). Although for a rural hospital, Sky Lakes offers many services that many communities of such size do not, they wish to expand the ways in which they can provide patient care. This new facility introduces the opportunity to invite new services to the hospital, as well attract direct and indirect partnerships to Klamath's medical sector. The ground floor will be home to OHSU's [Campus for Rural Health](#), which brings interprofessional teams of students to rural Oregon so they can learn and practice community-focused health care. The program has brought about 190 medical, nursing, dentistry, pharmacy and physician assistant students to Klamath Falls since 2015.

Biosciences are playing an increasingly important role in Oregon's economy. The scope of the bioscience industry includes research and development, and the manufacturing and sales of medical instruments and devices; medical diagnostics; human and animal therapeutics; pharmaceutical intermediates and processes; food and agricultural products; reagents and services based on biotechnology; and computer systems and software for managing health care technology and services.



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Bioscience Industry

The largest industry subgroups include medical devices, sponsored life science research, diagnostics, research services and equipment, biotechnology and biological product manufacturing. Oregon's bioscience industry directly contributes \$3.8 billion annually to the state economy, employs (directly) over 17,874 employees (an additional 28,598 indirectly via suppliers) at an average wage of \$74,188/yr. Well over six hundred (600) private companies and research institutions operate within the state's borders.

Oregon's Bioscience Industry
(2014 data):

# of Firms:	600+
Direct Jobs:	17,874
Average Wage:	\$74,188
Export Value:	\$3.8 Billion

This industry is targeted due to the state's statistics of being among the fastest growing industries in Oregon. Klamath County area currently represents a relatively modest number of total jobs, but which pay far above average wages in other industries. Even so, there is a large multiplier effect from jobs in this sector that spin off other employment in plastics, precision machining, packaging, etc.

Medical Devices

The medical device industry has been a CHOOSE KLAMATH target for at least the past 15 years. This sector has consistently outpaced nearly every other throughout the business cycle over the past two decades. Forecasts predict more of the same torrid growth as America spends an ever-higher portion of its GDP on health care. Attributes that make this industry particularly attractive is the fact that companies serving the sector have been historically less dependent on being located in a major metropolitan city. Transportation and logistics are lower on the priority list because often the products produced in this industry are relatively small and high value, making UPS and FedEx mainstays for shipping. Another advantage for Klamath County to recruit and grow medical device companies is that a healthy portion of the sector are small firms, which typically have greater mobility when considering relocation. For these reasons, often quality of life can rank high among search criteria. Most medical device companies also require robust local manufacturing infrastructure – sub-contractors (or even full-service contract manufacturing) that can do a variety of parts and components from steel, aluminum, plastic and rubber. Over the years, Klamath County has added considerable capacity and expertise in several of these areas, but most specifically in precision and advanced machining. More capacity is needed within the region for rubber and plastic part production as well as industrial coatings and packaging. CHOOSE KLAMATH expects to continue pursuing the medical device industry for growth and development in the region.

The Klamath County region is blessed with both outstanding quality and quantity of health care options. The regional hospital has been named among the top 100 community hospitals in the U.S. several times over the past decade. While not a prototypical traded-sector industry, the region's health care community provides opportunity for new, innovative medical devices to be brought to the market, where acquiring new talent to the region is an example of new money being injected into the economy. There could be great untapped potential for commercializing the ideas and expertise of the local health care community as well.

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Pharmaceuticals



The pharmaceuticals industry presents unique potential for Klamath County. Opportunities are possibly available via partnership between with our local university and our agricultural community, for many of rejected potatoes could be utilized for pharmaceutical grade starch.

In some cases, more R & D work is required to set up operations to process and manufacturer pharmaceutical grade products from our local assets. In other cases, R&D has been completed requiring investments in manufacturing of the products.

Administrative Centers (headquarters, claims processing, call centers, financial)



Often these primarily operations could be located anywhere in the country, but the owners or managers choose Klamath County because of the same lifestyle factors that attract individual relocations and the ability to tap into a strong labor force.

Oregon's Professional Services Industry (2016 data):

# of Firms:	1,582
Direct Jobs:	46,123
Average Wage:	\$74,062

For the past decade, the macro trend for Administrative Centers has been a shifting to lower cost areas overseas where English is spoken (India, Pakistan). This trend is changing however, due to labor cost increases, unionization, quality and general customer dissatisfaction such that a number of American companies are returning their telemarketing, customer service and administrative centers to the U.S. Another macro trend in the industry has been migration away from central operations in a large office setting to more homeworkers working independently.

Placemaking enhances economic Development efforts in each of the 3 Pillars. Quality of life is the top reason why company executives chose to locate in a place where they themselves want to live. A vibrant downtown is a major component to Recruiting & Attracting Businesses, Business Retention & Expansion, and Entrepreneurship & Small Business Development.

Professional Services



Increasingly, professional services are blurring the lines of what is traditionally thought of as a traded-sector employer. For example, a handful of local engineering, architecture, financial planning & investment and accounting firms generate most of their revenue from

customers outside the Klamath County area. Robust telecommunications infrastructure and good broadband service connections allow these professional companies to provide service to their clients. CHOOSE KLAMATH will continue to pursue the professional services sector for recruitment outreach; and have supported organizations with relocation and growing existing companies.

Oregon's Professional Services Industry (2016 data):

# of Firms:	7,121
Direct Jobs:	40,177
Average Wage:	\$74,169

The first avenue CHOOSE KLAMATH aims its focus on regarding modern services is expanded on in the High Tech section involving IT and software programming. However, in addition to the detailed recruitment information in that section, CHOOSE KLAMATH sees there is a segment of local firms that are late adapters to modern system substitutes. An insistence to remain separated from having an internet presence is a large issue for small business across the United States, and is starting to show

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negative trends for those that have avoided transitions to online for certain aspects of their business. This is made evident when you look at small businesses without a google listing or website - not exclusive to Klamath, but prevalent to many area businesses. A survey showed in 2016 that businesses with a Google presence versus those without earn over 20% more in sales, where businesses without a Google presence have actually began to show declining sales in the 5-10% range. An emphasis towards website developers and online managers is becoming something that must be understood for generational businesses to advance smoothly. In its local project work with business development, CHOOSE KLAMATH ensure to refer resources and practices available for businesses to remain relevant in a digital world; we hope to direct them to professional service resources that create operational and/or cost efficiencies.

The second avenue is aligning services that can help start a business or recruit a business. In entrepreneurship, CHOOSE KLAMATH's believes there is opportunity in this sector for equipping Klamath's higher education institutions, with programs and partnerships that allow for innovations to have a clear and substantive ladder for new enterprise to form.

Outdoor Equipment & Apparel, Tourism

Recognized as a top place to visit for a wide variety of outdoor activities, Oregon overall has a long history of companies in this industry grouping. In addition to having the headquarter operations of some of the largest and most successful outdoor apparel companies in the world like Nike, Columbia Sportswear, Adidas America. Growing mid-size companies like Keen, Dakine, Ruff Wear and LaCrosse/Danner have benefited from the extensive design and logistics expertise found in the region. Oregon's proximity to the Pacific Rim lets these companies interact with counterparts in Asia and Europe, as well as exchange materials and finished goods.

Oregon's Outdoor Gear & Active Apparel Industry (2016 data except where noted):

# of Firms:	508
Direct Jobs:	232,281
Average Wage:	\$123,447
Export Value:	\$538.8 Million

Active Wear



The Pacific Northwest is a goldmine for the active outdoor lifestyle, with diverse landscapes and limitless opportunities for adventure. Oregon's storied history with Apparel and Footwear began with the birth of Nike, now a global icon with its headquarters in Oregon and well over 8,000 employed in the state. Pair that with the presence of Adidas' North

American headquarters, along with 272 additional establishments, and this sector has a unique competitive advantage to the state, creating development opportunity in that the industry is identified to be a core part of Oregon's lifestyle and image.

Oregon's Activewear Industry

(2016 data except where noted):

# of Firms:	286
Direct Jobs:	17,739
Average Wage:	\$143,949
Export Value:	\$285.9 Million

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Outdoor Gear



Outdoor gear companies have sprouted up across Oregon, largely because this is where many of their customers come to play. Oregon-based manufacturers and designers of products for the full gamut of outdoor activities, such as bicycling, windsurfing, mountaineering, skiing, rock climbing, backpacking, mountain biking, boating, hunting, fishing and camping. The outdoor-oriented culture in Oregon draws young creative entrepreneurs who come to the state to not only enjoy the bounty of its geography, but to make a living by creating a better multi-tool to have at the ready, or a better bike to descend the mountain. Oregon has proven to be the ideal location for gear manufacturers like Leatherman Tools, Benchmade Knives, Dakine, and Yakima.

A particular specialty Oregon has developed over the years in outdoor gear is knife-making. Anchored by Leatherman's for the past three decades, the state is also home to a surprising number of the top U.S. manufacturers of knives including Gerber, Kershaw, Benchmade, and Columbia River Knife and Tool (CRKT).

Over the next decade Klamath County will likely elevate its national and even international status in the cycling industry –mountain, road and cyclocross. Several national and international competitions could be held here that attract professional and amateur riders from across the globe. Many of the communities in Klamath County have assertively pursued construction of extensive trail paved and unpaved trail systems as part of their tourism promotion strategies.

CHOOSE KLAMATH believes there could be untapped potential to capitalize on the increasingly large number of riders and gear companies that have been exposed to the Klamath County region and grow the outdoor gear segment by focusing on bicycle manufacturing, parts and accessories.

Oregon's Outdoor Gear Industry (2016 data except where noted):

# of Firms:	222
Direct Jobs:	5,542
Average Wage:	\$57,823
Export Value:	\$252.9 Million



Tourism



According to the US Travel Association, Oregon's tourism budget ranked 14th in the nation in 2016. Oregon destinations hosted 28.4 million overnight visitors. The travel industry is one of the top three export-oriented industries in rural Oregon counties. Choose Klamath will partner with

Discover Klamath on development efforts impacting tourism within Klamath County. With the unparalleled outdoor living including Crater Lake snowshoeing and hiking, Spence Mtn Mountain Biking, Willamette Pass Ski Resort, Lava Beds National Monument Hiking, Fly Fishing on the Williamson River, Birding on the Wildlife Preserves, Arnold Palmer Running Y Golf Course, Crater Lake Zip Line, Snowmobiling at the Lake of the Woods, Kayaking at Rocky Pond Canoe trail, Yoga at Moore Park or Lake Ewauna.

Oregon's Tourism Industry

(2016 data except where noted):

# of Firms:	N/A
Direct Jobs:	109,500
Average Wage:	\$28,311
Visitor Spend:	\$11.3 Billion
State/Local Taxes:	\$507 Million

Highway 97

Southern Oregon communities from Klamath Falls to Biggs Junction recognize the need for a safe, reliable, and resilient Highway 97 that is adequate to move freight and support recovery efforts in the wake of a Cascadia Subduction Zone event.

Rural airports

APPENDIX 4 (CONT.): SPECIFIC INDUSTRY TRENDS & BUSINESS INTELLIGENCE

Rural airport enhancements are vital to Klamath County economics. Our airport is critical to respond to forest fires, support the base, and serve the needs of area employers that have frequent travel needs. Additionally, investment in Crater Lake Airport is an essential part of Oregon's seismic preparedness effort.

Bicycle and pedestrian facilities


From the Historic Columbia River Highway State Trail in the Columbia Gorge to the OC&E Woods Line State Trail in Klamath Falls, Southern Oregon community members recognize the value that bicycle and hiking tourism brings to the region. Investments should aim to improve safety and reduce roadway conflicts through better separation. They should also support walkable urban centers.

Rural transit

Southern Oregon has a low population density but a significant need for transit across a large service area. As the region grows, workers, students, seniors, and people with disabilities increasingly rely on intercity transit service that connects bedroom communities to cities, medical facilities, colleges, and major employment centers.

Rural Internet Conductivity

Klamath County infrastructure for broadband access is required to promote Tele-medicine and cell phone communication across our county. This will also support tourism with data and cell phone access throughout our county also providing services connects bedroom communities to cities, medical facilities, colleges, and major employment centers.



The travel and tourism industry continues to be a bright spot for Oregon's economy. Not only are travel-related spending, employment and earnings vital components to the state's healthy economy, but also, traveling and connecting with the outdoors are good for Oregonians' health and well-being."

Governor Kate Brown