Business Oregon, the state economic development agency, invests in Oregon businesses, communities, and people to promote a globally competitive, diverse, and inclusive economy.

OREGON'S EMERGING INDUSTRIES

2023 Consolidated Market Analyses

Compiled by
Business Oregon
in response to:
2022 House Bill 5202 - Section 296

business oregon

Table of Contents

Foreword By Business Oregon

Business Oregon is pleased to deliver this Legislatively commissioned report on select emerging industries in Oregon.

Business Oregon has provided several similar studies and economic roadmaps to help public leaders make informed, data-driven decisions that impact Oregon's economy and help industry leaders navigate the market, regulatory environment, and policy waters in Oregon.

This collection of market analyses requested by the Oregon legislature offers an opportunity to not only examine Oregon businesses that operate in a similar industry sphere, but to also examine the larger economic sectors into which those various industries can fit. This connection is particularly significant in geographical areas like the Oregon coast where many industries cluster around essential economic activities associated with the production, distribution, consumption, and management of ocean resources that is broadly referred to as the Blue Economy, one of the analyses in this report.

Performing these market analyses helps assess the growth trends and the potential of emerging industries in larger economic sectors, which may over time inform priorities and actions of economic development leaders in Oregon.

The comprehensive data reports provided by the consulting firms for each analysis will be uploaded to the Business Oregon website. Questions related to this emerging industry analyses project may be directed to our lead administrator on this project, Donna Greene-Salter, Strategic Initiatives Project Manager, Donna.Greene@biz.oregon.gov.

Sincerely,

Sophorn Cheang

Sophorn Cheang, Director
Business Oregon

Business Oregon's Project Background

Purpose

Business Oregon is the state of Oregon's economic development arm. It is the Department's mission to invest in Oregon businesses, communities, and people to promote a globally competitive, diverse, and inclusive economy.

The 2022 Oregon Legislature directed Business Oregon to conduct several comprehensive market analyses of emerging industry sectors within the state. Oregon Laws 2022, Chapter 110, Section 296 authorized a $600,000 General Fund appropriation for Business Oregon to complete market analyses for the following emerging sectors:

- Organic Agriculture and Organic Food Products;
- Cannabis;
- Commercial Music (including performance, manufacturing, distribution, and other sales);
- Ocean Resources and the Blue Economy;
- Live Performance (theater, arts, other live events);

Each market analysis is intended to include, but is not limited to:

- Identifying and discussing policies and actions that may be taken to increase the competitiveness and support the growth of the sector;
- Analysis of the competitive economic strengths and weaknesses of the sector in Oregon;
- Evaluation of revenues that the State of Oregon derives from the sector;
- Indirect and direct economic impacts;
- Demographic details such as race, wage, and geographic distribution and;
- Recommendations for actions to take in response to changes in federal regulations.

Recommendations stemming from each analysis are intended to help identify potential strategic investments for Oregon to build upon its economic competitiveness and specific actions that may be initiated by private and public stakeholders. Like a business plan, the recommendations resulting from the research will lay out baseline statistics and competitive comparisons, barriers to investment, and the efforts necessary to expand Oregon's economic competitiveness in areas where Oregon may excel. The recommendations reflect progress that can be made within the following pillars of the industry ecosystem when applicable:

- Research, Innovation and Demonstration – New product and innovation opportunities;
- Supplier Networks – Critical supply chain needs and opportunities in regions where industry assets are clustered or increasing;

- Workforce and Training – Talent retention, recruitment and skill development programs that consolidate statewide efforts without duplicating existing programs;

- Market and Trade Development – Branding, market, and product expansion (both domestic and foreign export trade);

- Community Infrastructure and/or Site Development – All infrastructure investments can achieve economic development outcomes such as job creation and economic growth, but when combined with long-term considerations of sustainability, inclusivity, and resilience, infrastructure can also achieve transformative outcomes;

- Operational Improvements and Capital Access – Programs and policy that may address barriers to investment and other business environment and competitiveness issues;

- Social and Economic Equity – Measures across the ecosystem to address commonly shared challenges of low wages, inequality, and disparities of benefit.

Request for Proposals & Consultant Selection

The Department conducted a Request for Proposals for each industry analysis with the desired objective to gain a comprehensive understanding of:

- The likely trajectory of growth for both the demand and supply sides of the market/industry at a macro-scale. A reasonable range of estimates could likely be developed primarily through examination of data on recent growth in and the current state of the market, supplemented by comparisons to adoption curves of analogous products in U.S. markets and/or patterns of growth in established markets.
- The scale of investment that would be required in the near, medium, and long term. What market segments are likely to exist within each investment time horizon and what different scales or approaches to growth are likely to find profitable niches?

- Identification of existing and emerging obstacles and insufficiencies in Oregon's supply chain and corresponding opportunities for private investment, public investment, or policy action. For example, barriers may take the form of anticipated shortfalls in human capital; manufacturing capacity and specialized product or support services, etc., that threaten continued growth of the industry.

- The areas of private investment opportunity that are most compatible with Oregon's specific comparative advantages. This includes identifying where in the supply chain ecosystem Oregon can best compete, including consideration of physical geography, costs for key inputs, regulatory environment, human capital supply, capital availability, etc. The outcome should include documentation of critical metrics for potential investors.

- The key barriers that may be addressed by the public sector (across national/ state/ local levels) to enable the realization of identified market opportunities and public policy objectives. For example, such a barrier may be illustrated by the question, “Is there a need to enable/encourage additional flows of capital into industry segments consistent with private sector norms, constraints, and goals?”

The consultant selection process included an industry-specific evaluation committee with representatives from Business Oregon, other government agencies, and Oregon businesses and trade organizations. Each evaluation committee member was required to complete a Conflict-of-Interest form (COI).

Stakeholder Engagement

Business Oregon recognizes that Oregon’s key industries and growing business sectors are different, and that there is not a one-size fits all basket of priorities to grow Oregon’s economy.

The Department approached this work in collaboration with industry advisory committees comprised of public and/or private stakeholders from within each industry ecosystem. This approach elevates the quality of each analysis by providing industry recommendations, key information, and materials to the Department’s third-party consultants.

In appreciation of their important role, the Department invited each advisory committee to write an Afterword for their industry-related section of this report for the purpose of highlighting their collaborative contributions, takeaways, and industry priorities resulting from the independent analysis.

MARKET ANALYSIS

CANNABIS

Thomas P. Miller & Associates, LLC

www.tpma-inc.com

THOMAS P. MILLER & ASSOCIATES

About the Consultant

Established in 1989, Thomas P. Miller & Associates, LLC (TPMA) has provided comprehensive consulting services throughout the United States, working with local and state governments, workforce development, economic development, educational institutions, non-profit organizations, and industry associations. Our firm empowers organizations and communities through strategic partnerships and data-informed solutions that create positive, sustainable change. We envision a world that thinks strategically, works collaboratively, and acts sustainably. Working toward that vision, we have provided clients with a range of services to design, develop, evaluate, and implement effective programs and initiatives.

TPMA is headquartered in downtown Indianapolis, Indiana with a staff of 45 professionals, across 12 states, who possess diverse professional experience and educational backgrounds but work collaboratively to provide our clients with holistic solutions. TPMA provides expertise in assessing markets, identifying business sector opportunities, building innovation and entrepreneurial eco-systems, and organizing social and economic resources to implement community and economic development strategies. This includes workforce and labor market analyses, supply/value chain mapping, program feasibility studies, and economic impact studies. We have worked with states across the country on research and planning projects to strengthen their economic and workforce development efforts. We blend our knowledge of economic development, workforce development, and research and evaluation to provide clients with solutions that are cultivated by varying perspectives and understanding.

TPMA staff function unilaterally rather than in silos to share best practices, leverage skill sets, and connect networks so that clients are provided with the best of who we are. TPMA values participatory approaches, engaging community members and those affected most by programs to ensure their voices are being heard and measuring the impact of provided services. With this, TPMA believes it is imperative to approach every project with a lens of diversity, equity, and inclusion, and engage diverse groups to understand and incorporate different perspectives into project activities and deliverables. This is especially important for project design and planning activities as it promotes buy-in, generates understanding, ensures inclusion, and leads to more comprehensive plans as all challenges, processes, and viewpoints can be addressed.

Points Consulting (Points) is headquartered in Moscow, Idaho with a portfolio of work across 29 U.S. states. Recently, they have been active on land-use related projects in Eastern and Central Oregon, in communities such as La Grande, The Dalles, and Morrow County. The firm is focused not only on how people impact communities and organizations, but how to align their potential to create more successful outcomes. Points partners with a variety of industries including state and local government agencies; higher education; not-for-profits; real estate developers; and private companies to understand and unleash the power of the workforce in our midst. Built on experience advising hundreds of high performing organizations, Points strives to answer complex economic questions and recommend workable solutions. In summary, at Points Consulting we believe in “Improving Economies. Optimizing Workforce.”

Overview

The full industry report and summary are available on Business Oregon's website

The Cannabis Agriculture and Products Sector (CAPS) industry in Oregon has, since its legalization at the state level in 2016, emerged as a robust sector of the state's economy. Boasting annual sales revenue of nearly $1.2 billion in 2021, the industry is — even at this early stage in its development — in the top 5% of all industries in Oregon, in terms of annual sales revenue[1]. With the explosive growth of the industry between 2016 and 2018, and more gradual, steady growth in the years since, the CAPS sector is poised to remain an a large part of the state's economic vitality for years to come.

Thomas P. Miller and Associates is pleased to contribute to the ongoing discussion about the industry's future by providing the following analysis of past industry trends, challenges, and opportunities. The analysis in the pages that follows proceeds in four parts:

- ***Industry Overview***: A brief overview of the industry structure in Oregon, including historical trends in production, sales, tax revenue, employment, wages, and consumer consumption
- ***Interstate Comparison:*** A review/comparison of the industry in Oregon with other states who have fully legalized the recreational use and sale of cannabis products (California, Washington, and Colorado)
- ***Industry Impact:*** A comparison of the CAPS industry to other, similar industry sectors in the state (in terms of GRP and employment) and a modeled analysis of the sector's broader financial impact on the state of Oregon
- ***The Future of the CAPS Industry:*** An assessment of the factors — both overarching/economy-wide and unique to the industry itself — that can drive (or inhibit) further expansion and growth through the year 2030, complete with updated projections of future industry trends

Given the relative newness of the legal Cannabis sector — and only recent adoption of industry classification measures[2] from federal agencies seeking to monitor and track its growth in a standardized manner — a data-driven approach to this analysis required the team to work closely with industry stakeholders to enhance/expand the pool of available data. In addition to pulling in research and publicly available data from the Oregon Liquor and Cannabis Commission, Oregon Employment Department, and the US Bureau of Labor Statistics, the team:

- Conducted a series of extensive interviews and focus groups with industry sector stakeholders
- Fielded a wide-ranging survey of industry employers and employees, delivered in concert with OLCC, Business Oregon, Cannabis Industry Alliance of Oregon (CIAO), and Oregon Retailers of Cannabis Association (ORCA)
- Enhanced publicly available data with proprietary models and data collected and disseminated by Equio™[3], as part of its New Frontier data series

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[1] BASED ON 992, 6-DIGIT NAICS INDUSTRY SECTORS IN THE STATE, THE CANNABIS INDUSTRY IS ONE OF ONLY 44 INDUSTRIES IN THE STATE TOPPING $1 BILLION IN SALES FOR 2021. DATA FROM THE OLCC (CANNABIS SALES) AND LIGHTCAST(TM) (ALL OTHER INDUSTRIES, GRP).

[2] FOR A FULLER DISCUSSION OF THE USE OF FEDERAL CLASSIFICATION SCHEMATA FOR INDUSTRIES, PLEASE REFER TO THE ***INDUSTRY OVERVIEW*** SECTION BELOW.

[3] HTTPS://NEWFRONTIERDATA.COM/EQUIO-FEATURES/

- Conducted thorough desktop research on the Cannabis industry, reviewing the academic literature, funded industry studies, and independent research on the history, challenges, and future of the industry.

By pulling together this wide array of data and information, the team from TPMA was able to produce a thorough accounting of the industry — past, present, and future — culminating with actionable insights and a full inventory of the challenges and opportunities it will face in the years ahead.

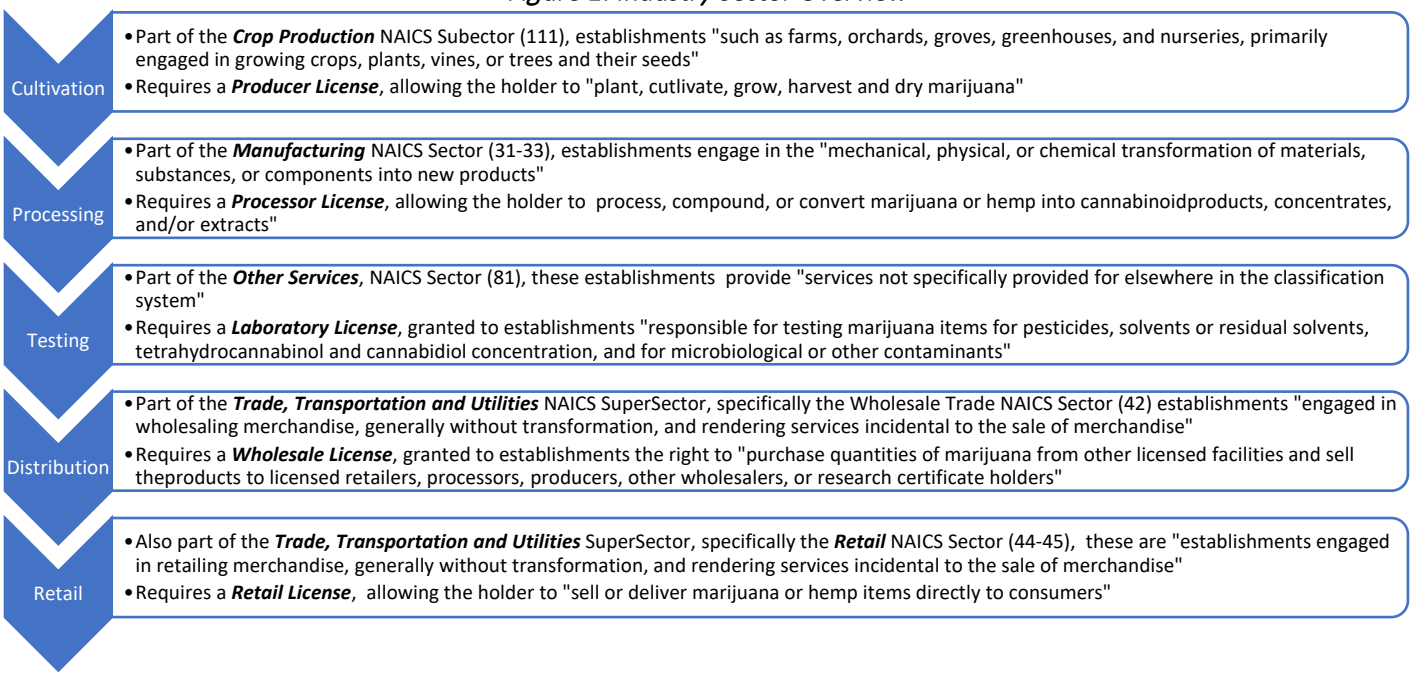
Industry Structure, Trends, and Comparisons

In the absence of federal guidance and standardization of industry and occupation classification for the industry, employment departments in states where cannabis production, sale, and consumption are legal at the state level have taken to adopting their own schemata. These state agencies, most notably the Oregon Employment Department, already collecting Unemployment Insurance taxes from employers operating in the Cannabis sector have attempted to aggregate and define the occupations and functions of industry components into a recognizable, logical representation of the sector. In a recent report[4] from the Oregon Employment Department (OED), the CAPS industry in Oregon, was distributed across five broad industry sectors: Agriculture (NAICS 11), Manufacturing (NAICS 31-33), Trade, Transportation, & Warehousing (NAICS 48-49), Professional and Business Services (NAICS 54) and Other Services (NAICS 81). While we dig into these categories in greater detail later, for now, it serves to underscore the absolute uniqueness of the Cannabis sector.

While these 5 broad categories do not line up perfectly with the business license types issued by the Oregon Liquor Control Commission (OLCC), taken together, they sketch out a rough outline of the industry and its unique functions. While discussed in greater detail later in this report, it is worthwhile to note the vertical integration of these seemingly unique industry functions within the Cannabis industry, especially with the largest enterprises. It is not uncommon for the big producers to have the appropriate licenses from OLCC to internally control and manage each step of the Cannabis production process.

[4] TAUER, GUY. 2022. "OREGON'S MARIJUANA INDUSTRY AND EMPLOYMENT TRENDS", STATE OF OREGON EMPLOYMENT DEPARTMENT HTTPS://WWW.QUALITYINFO.ORG/-/OREGON-S-MARIJUANA-INDUSTRY-AND-EMPLOYMENT-TRENDS.

Figure 1: Industry Sector Overview



While estimating the overall size of the Cannabis market — both legal and illicit — within the state is challenging, *Equio*[5], with their New Frontier™ data series, uses proprietary methods to model illicit sales within a state.[6] Illicit sales could also be referred to as the "informal economy." Although trade and production are legal in Oregon, some providers still choose to operate without a license. When combined with OLCC reported legal sales (OHA for medicinal sales), the highlights not only the explosive growth of sales by licensed distributors, but also the potential for additional market growth if a larger share of the illicit market can be captured.

The figures on the following page highlight market growth/change (legal and illicit), legal cannabis production, sales, and average monthly sales, by consumer and state tax revenue. All trends remain consistent, largely, across all the following graphs: market, production, sales, and average sales and tax revenue. All enjoyed steady upward growth, year over year, until 2022 when oversupply and a reduction in the disposable income of consumers — both of which were raised by focus groups and survey respondents as important factors — saw sales fall for the first time in 2022.

[5] INFORMATION ON EQUIO AND THEIR PRODUCT SUITE CAN BE FOUND AT: HTTPS://NEWFRONTIERDATA.COM/EQUIO-FEATURES/
[6] ILLICIT SALES ARE ESTIMATED BASED ON POPULATION, GENERAL DEMOGRAPHIC DATA, CANNABIS USAGE RATES, AND RETAIL SALES INFORMATION.

Figure 2: Oregon Cannabis Market, 2014 to 2022[7]

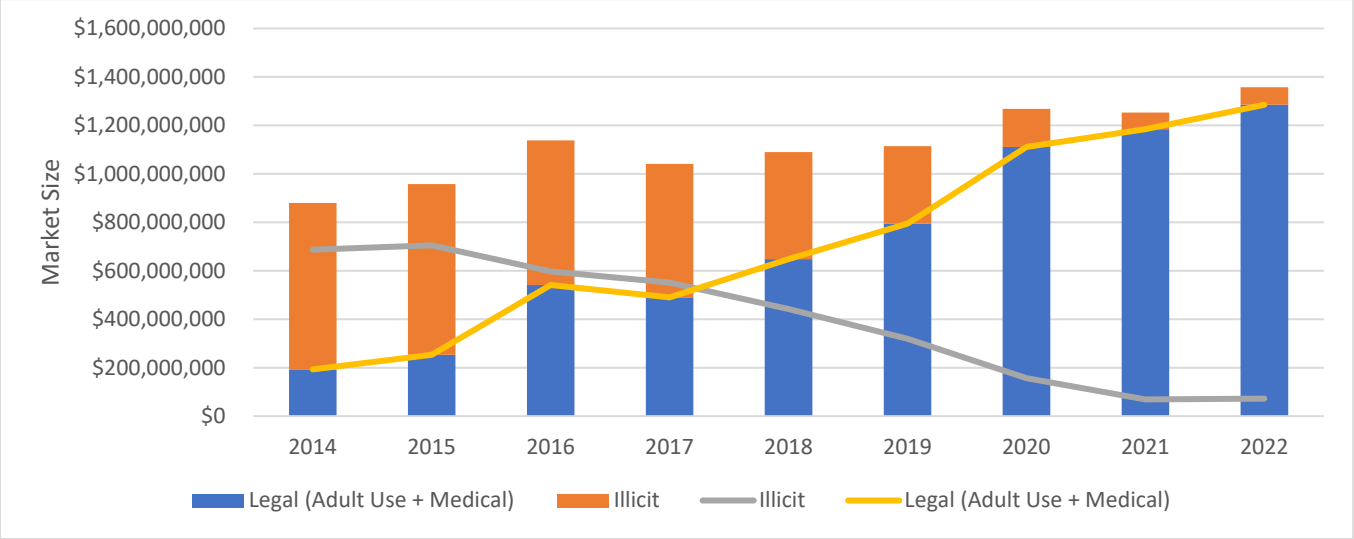


Figure3: Oregon Cannabis Harvest, 2016 to 2022[8]

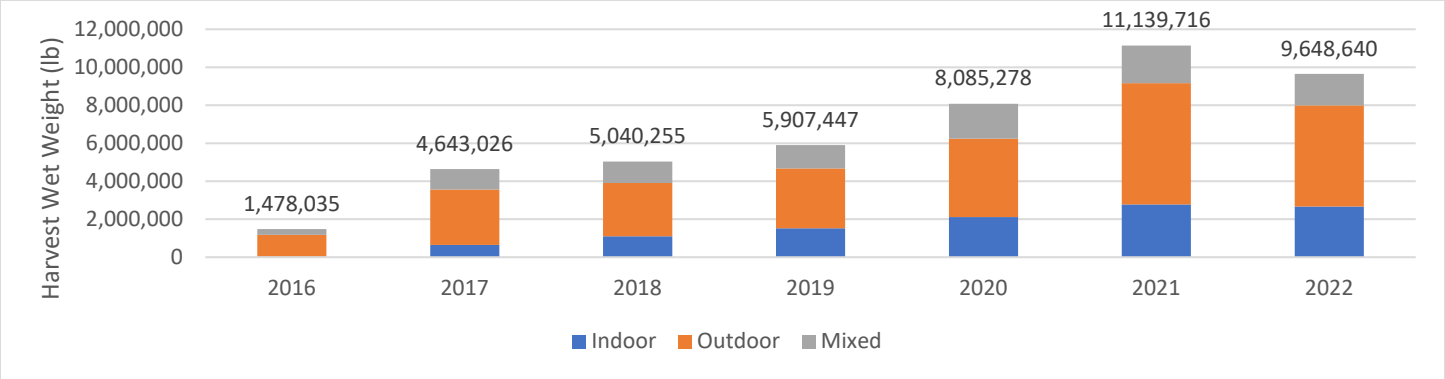


Figure 4: Annual Cannabis Sales Revenue, 2016 to 2022

[7] SOURCE: EQUIO MARKET PROJECTIONS BY STATE (2014-2030), AVAILABLE FOR PURCHASE AT: HTTPS://NEWFRONTIERDATA.COM/EQUIO-FEATURES/

[8] NOTE: 2016 DATA BEGINS IN JUNE. DATA PROVIDED TO TPMA BY THE OLCC.

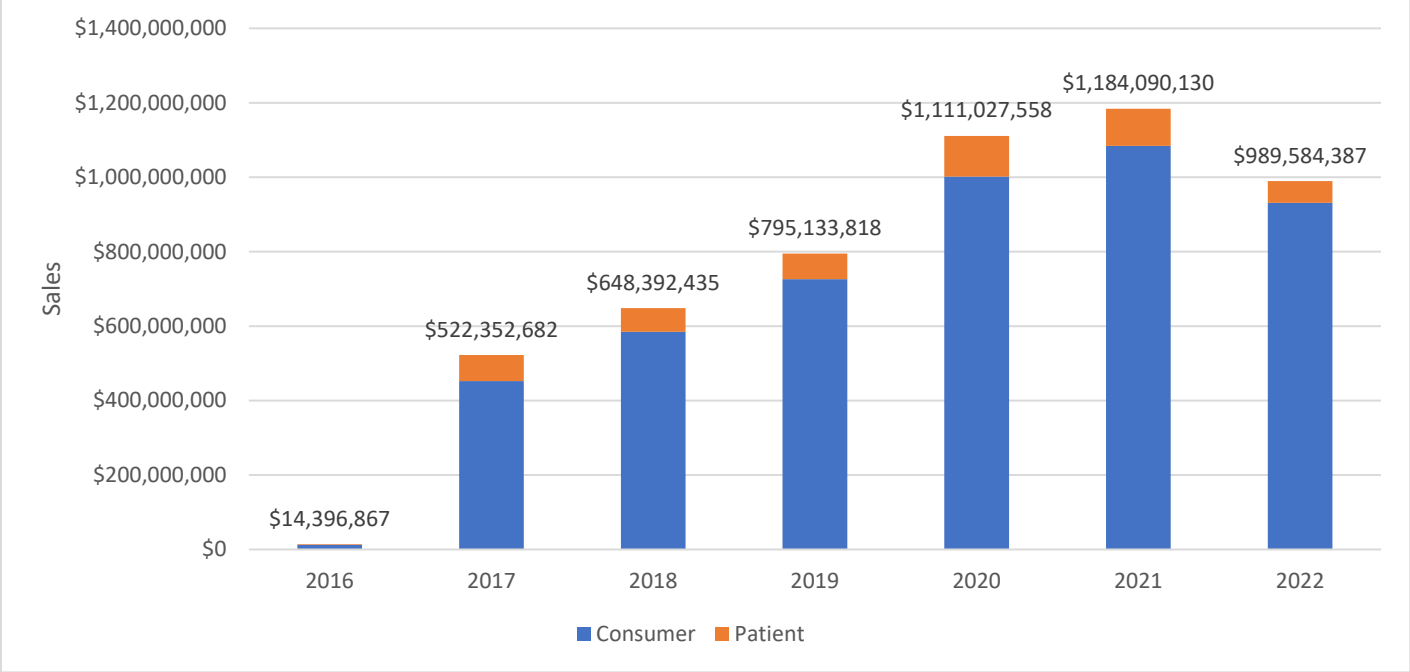


Figure 5: *Oregon Consumer Monthly Spending, annual averages, 2018 through 2022.*[9][10]

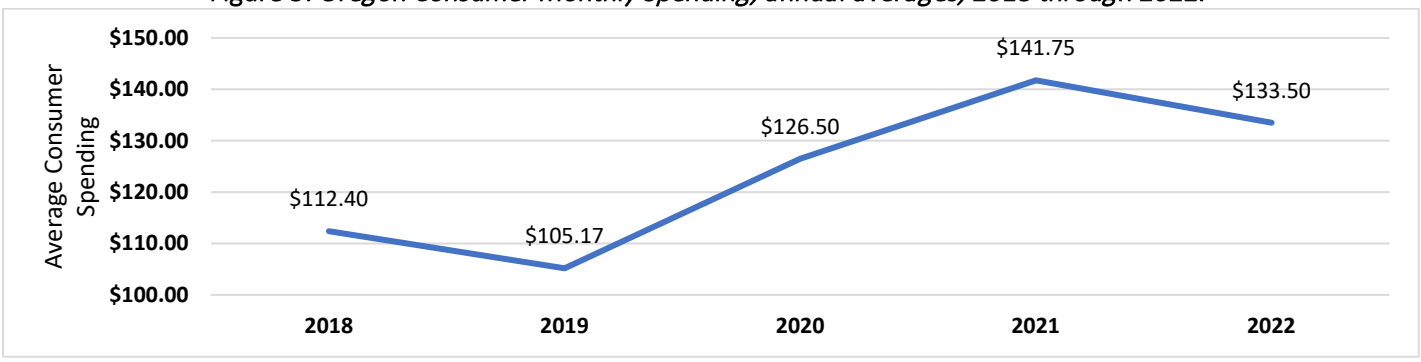
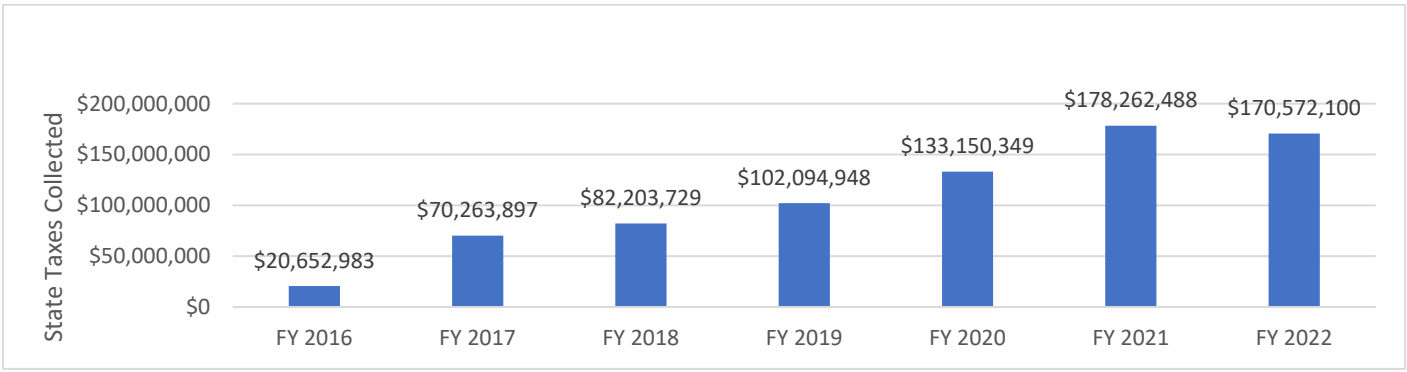


Figure 6: State Marijuana Tax Receipts, Fiscal Year 2016 to Fiscal Year 2022[11]

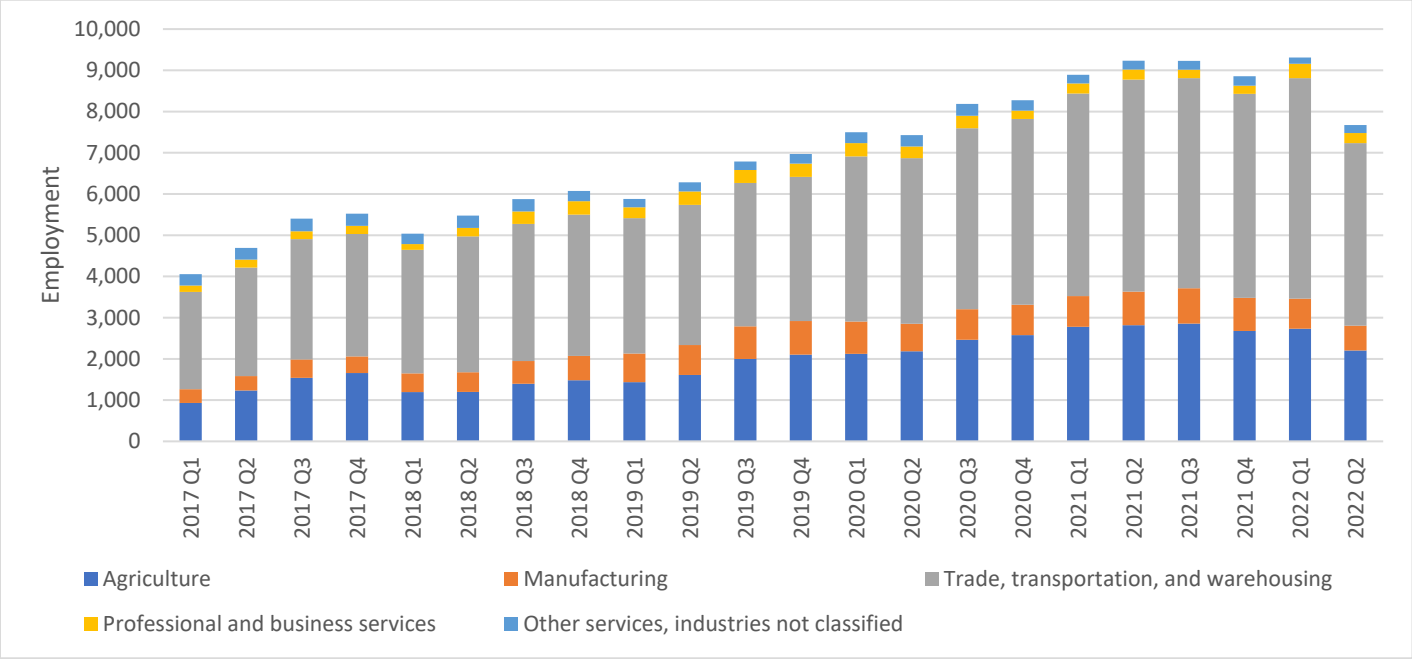


[9] "AVERAGE MONTHLY SPEND PER CONSUMER, OREGON." *NEW FRONTIER DATA.* DATA FROM 2018-2022. RETRIEVED 2023.
[10] THE 2018 CONSUMER DATA STARTS WITH MARCH 2018 AND THEREFORE ITS AVERAGE IS BASED ON MARCH THROUGH DECEMBER CONSUMER ACTIVITY. THE OTHER YEARS INCLUDE DATA FROM THE FULL CALENDAR YEAR, JANUARY TO DECEMBER.
[11] THE FISCAL YEAR RUNS FROM JULY TO JUNE. AMOUNTS ARE PAYMENTS MADE BY BUSINESSES DURING THE TIMEFRAME, RATHER THAN TAX LIABILITY. SOURCE: OREGON DEPARTMENT OF REVENUE RESEARCH SECTION. RETRIEVED 2022.

Turning next to Cannabis Industry Employment, it is important to note that as of this writing, and considering continued federal scheduling of Cannabis, there are no national standards for capturing Cannabis industry employment (through the standard occupation and industry codes produced by federal agencies). In the absence of national standardization, states have adopted their own schema, as appropriate, to gauge the industry.

In Oregon, the Oregon Employment Department (OED) reports covered employment numbers for CAPS.[12] OED organizes the employment to some existing, standard industry sector categories: Agriculture; Manufacturing; Trade, Transportation, and warehousing; Professional and Business Services; and Other Services. OED's data is available from the second quarter of 2017 until the second quarter of 2022. The following graph summarizes cannabis-related employment over this period. Again, driven by slowing sales in 2022, the industry saw its most substantial dip in employment from Q1 to Q2 in 2022.

Figure 1: Cannabis Covered Employment, 2017-2022



In terms of wages, Figure 8 following shows slow, but steady, growth in the earnings of industry employees, a pace that does not match the explosive growth in production and sales over the same period. Indeed, as highlighted in Figure 9, when compared to comparable workers in similar industries, the Cannabis workforce makes, on average as of 2022, 60 to 70 cents for each dollar earned by counterparts in similar industries. The sole exception to this ratio is in agriculture-based jobs in the Cannabis industry. Those workers, as of Quarter 2 2022, made $1.05 for each dollar earned by other agricultural sector employees. The rate of pay was mentioned often by employees who took our survey as well: many expressed discouragements with their rate of pay and indicated it as a leading challenge in attracting new employees and retaining current staff.

[12] THE OED USES THE UNEMPLOYMENT INSURANCE (UI) PROGRAM TO TRACK EMPLOYMENT AND WAGES. ONLY EMPLOYERS SUBJECT TO UI LAW WILL BE INCLUDED. THE OED HAS, "CREATED A DATABASE OF KNOWN-MARIJUANA-RELATED RECREATIONAL AND MEDICAL DISPENSARIES" USING INDUSTRY REGISTRIES, REVIEWING INFORMATION PROVIDED BY THE EMPLOYER, AND ONLINE RESEARCH TO ESTIMATE THE EMPLOYMENT AND WAGES FOR THE CANNABIS INDUSTRY.

Figure 8: Average Annual Cannabis Wages by Industry[13]

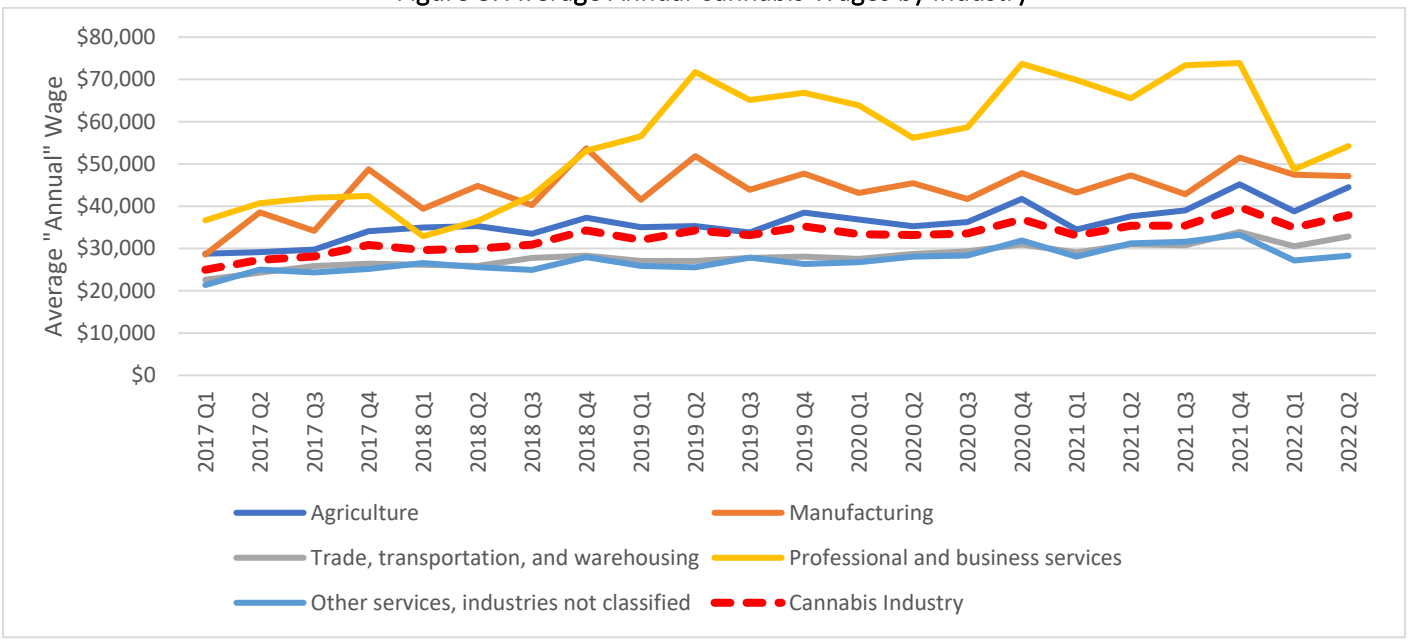
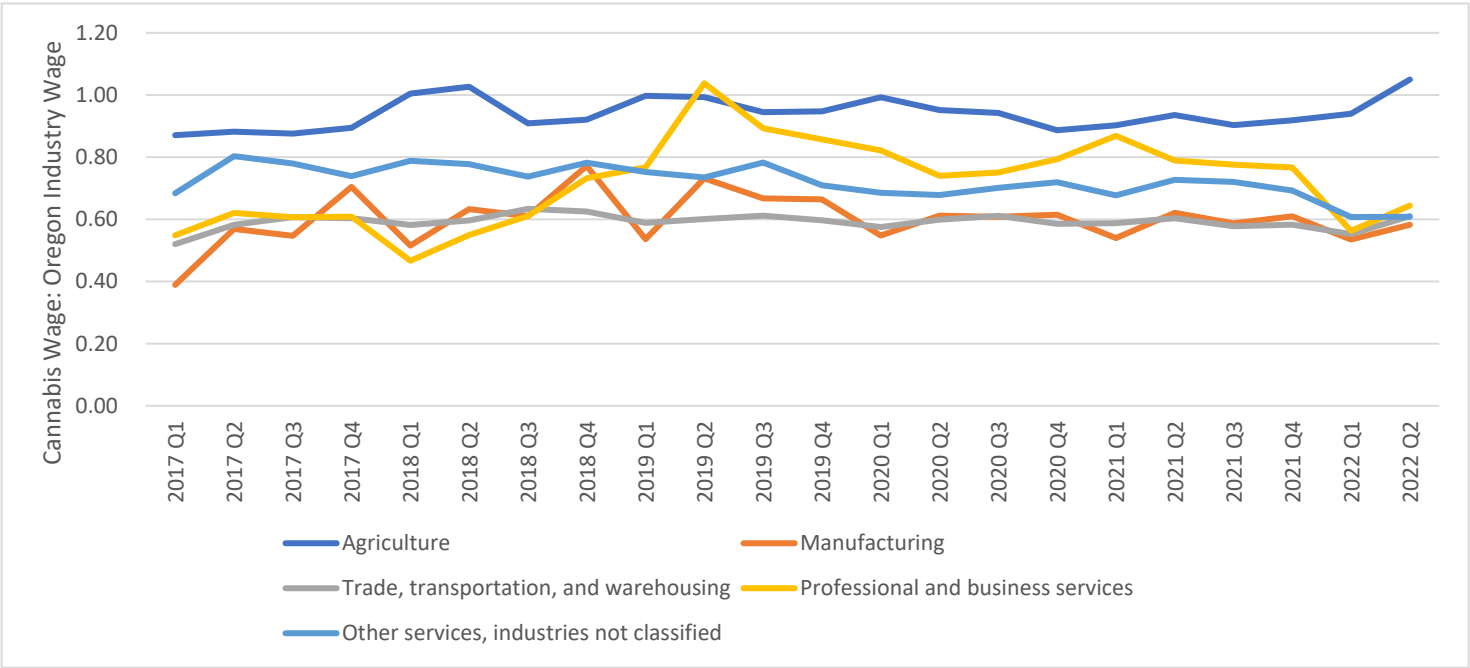


Figure 9: Ratio of Cannabis Average Wage to Oregon Average Wage, by Sector, Q1 2017 to Q2 2022



In terms of the workforce itself, data from OLCC on licensees and information collected through our survey of industry employees indicates that, demographically speaking, it reflects the broader population of the state of Oregon. Figures 10, 11, and 12 on the next page highlight the race/ethnicity, gender, and age of Cannabis industry employees. For additional information on the results of the survey, specifically, which reached over 2,000 industry employees and employers, please refer to the full version of our report, posted on the Business Oregon website.

[13] ANNUAL WAGES ARE CALCULATED BY MULTIPLYING THE AVERAGE QUARTERLY WAGE BY FOUR. SOURCE: OREGON EMPLOYMENT DEPARTMENT, 2022.

Figure 10: Race/Ethnicity of Oregon Cannabis Workers[14]

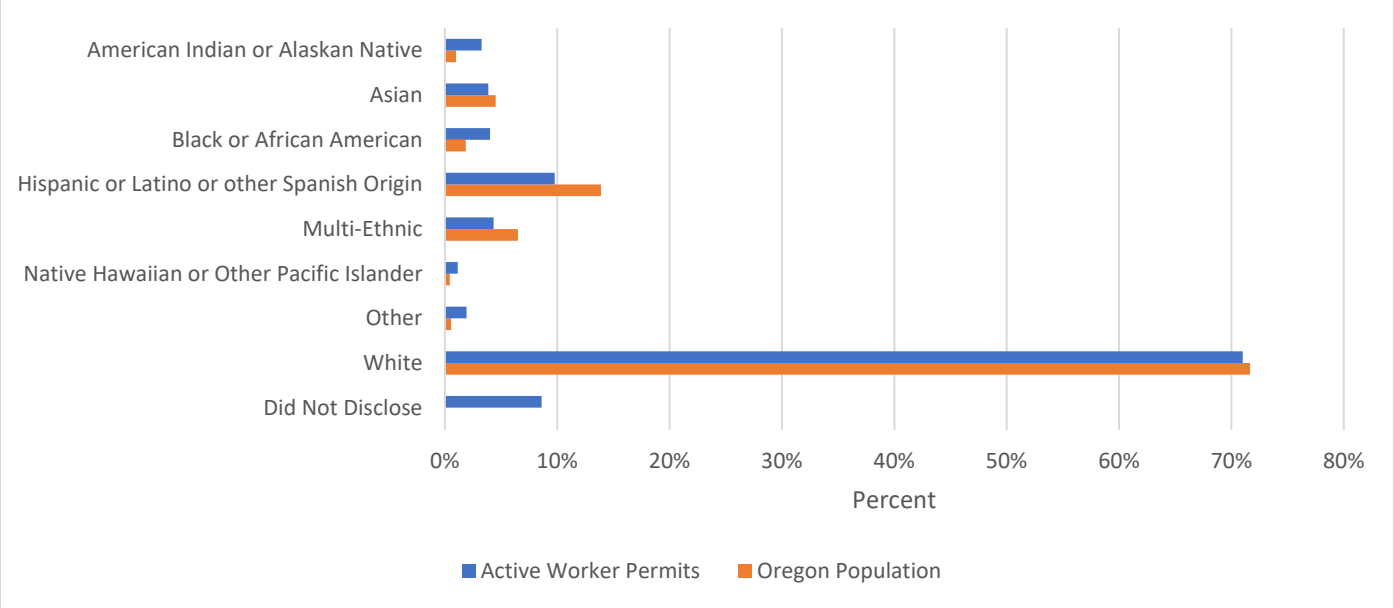


Figure 11: Gender of Cannabis Industry Employees

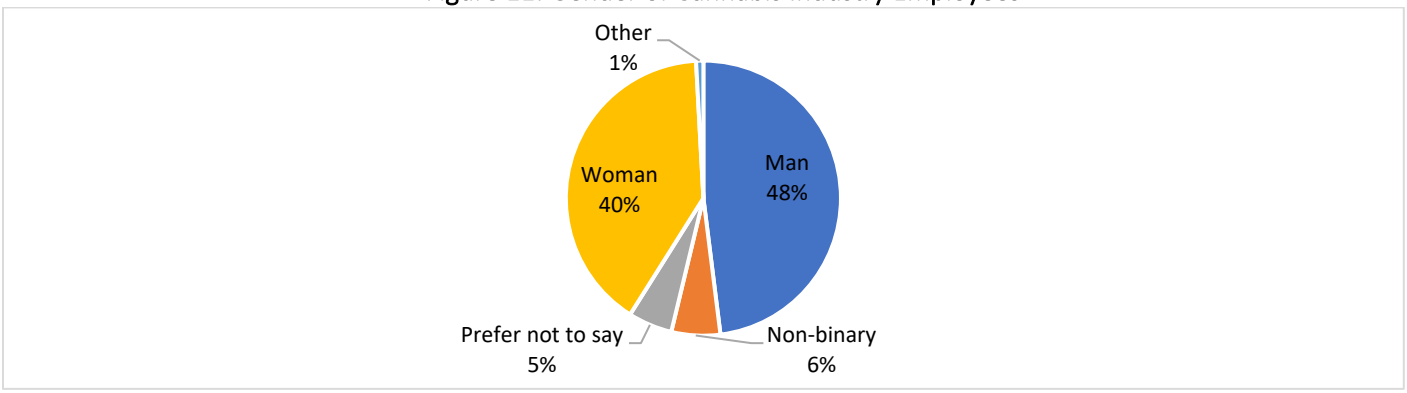
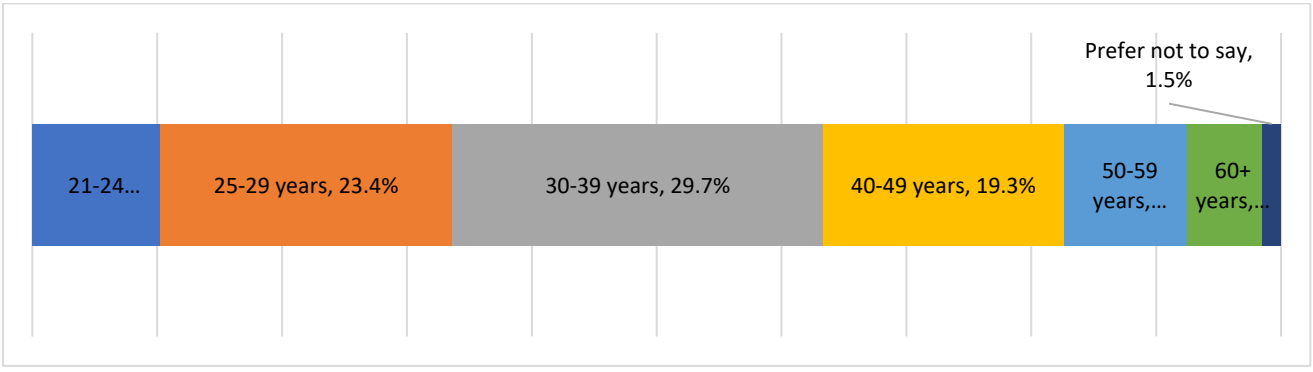


Figure 12: Age of Cannabis Industry Workers



From the Employer perspective, the survey also indicated the most in-demand skills sought in employees and a lack of external training/curriculum programs. As of now, and as indicated through the survey, most training is done in-house and there is a general lack of consensus/awareness of

[14] WORKER PERMIT DEMOGRAPHICS PROVIDED BY THE OLCC. OREGON POPULATION DEMOGRAPHICS FROM THE DECENNIAL CENSUS. INFORMATION ON THE NUMBER OF RESPONDENTS WHO CHOSE NOT TO DISCLOSE THEIR RACE WAS NOT AVAILABLE FROM THE US CENSUS BUREAU.

opportunities for credentials or certifications, unique to the Cannabis industry. Approximately 84% of all employers do not use Third-Party training providers while just over half of all employer respondents either felt there was a need for standard credential or would like to learn more about the prospect. Reliability, Honesty, and Customer Service Oriented were the top 3 characteristics employers identified as key when hiring new employees.

Oregon CAPS vs. Comparable States

In terms of comparable states with fully legal recreational cannabis under state law, the team considered California, Colorado, and Washington as peers to Oregon. While California dominates with the largest market size (see Figure 13), Oregon does out pace both of its contiguous neighbors in per capita sales, boding well for continued market growth (Figure 14). Only Colorado — the most mature of the state markets — sells more cannabis products per resident than Oregon. Identified as a strategy for further industry development in a subsequent section, this fact should be an important centerpiece of future growth strategies. While there may be room, of course, to continue to grow the resident consumer base, building toward Colorado consumption levels, with such a high per capita ratio already present, the most immediate, short-term opportunities for market expansion should focus on Canna-tourism, touting the state's high-quality product.

Figure 13: Estimated Legal Market Size, 2014 - 2030

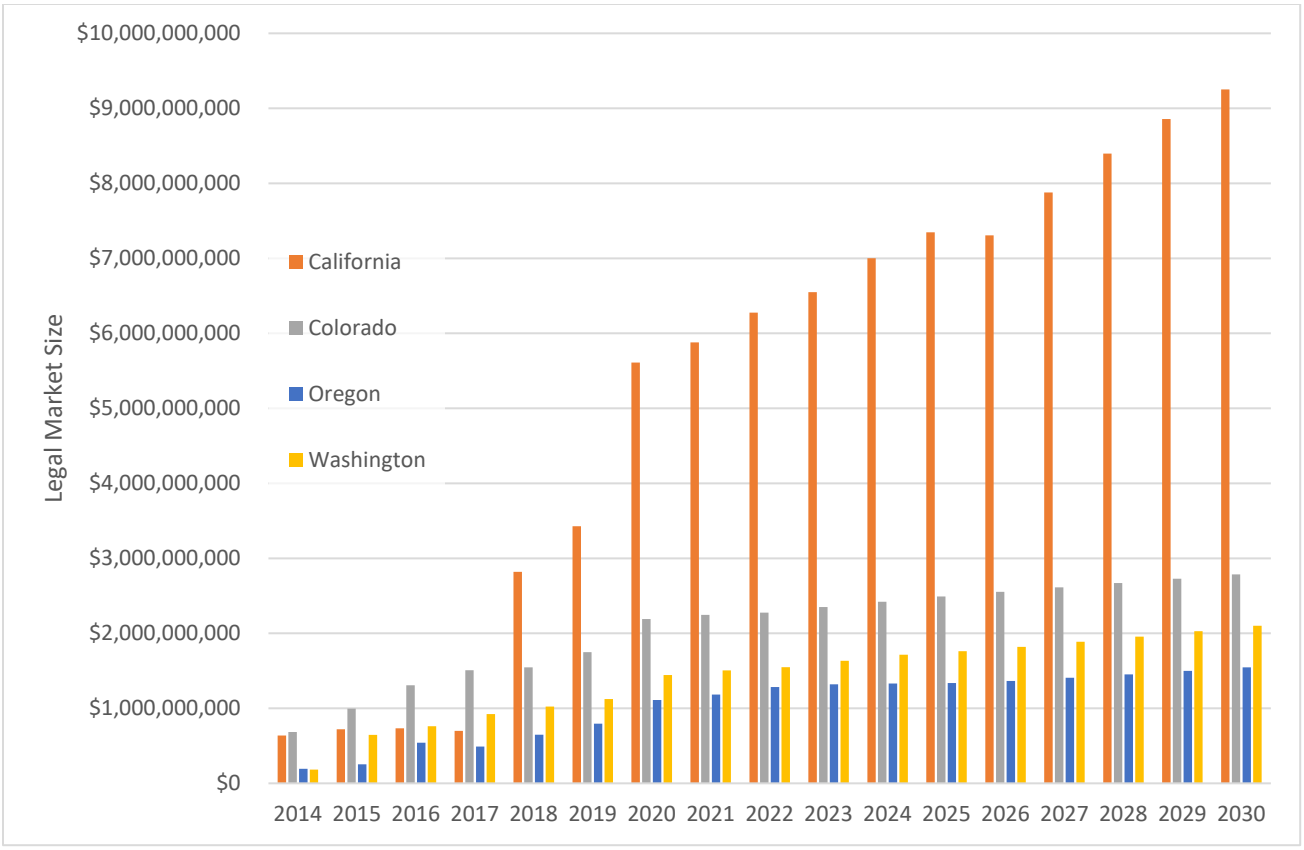
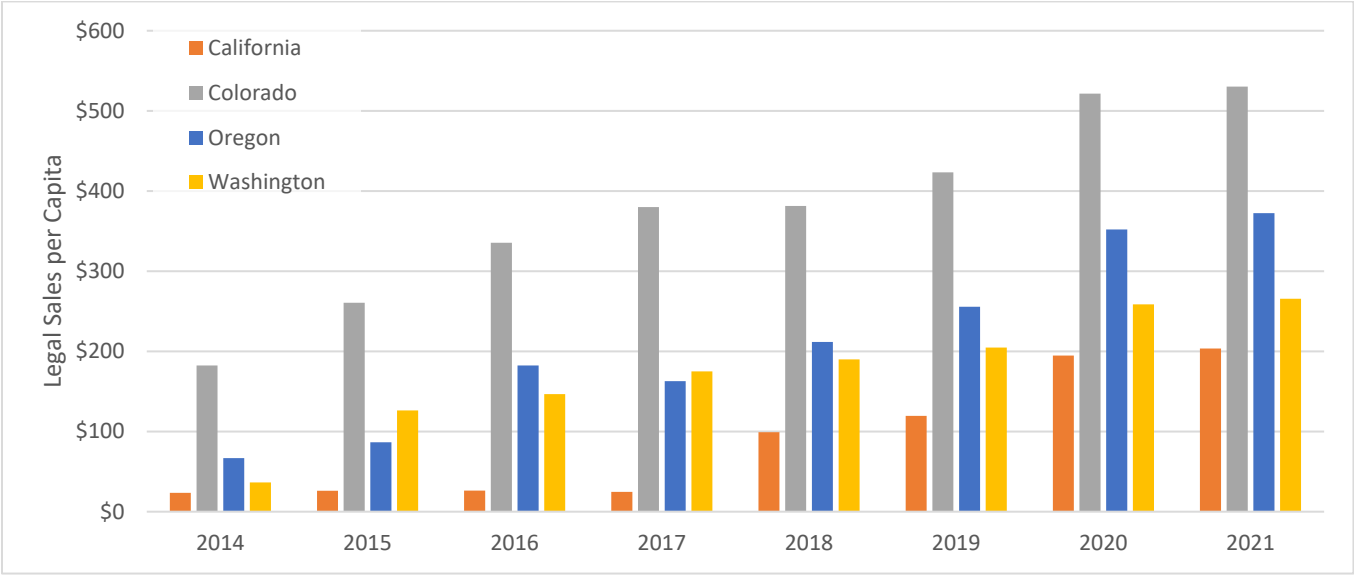


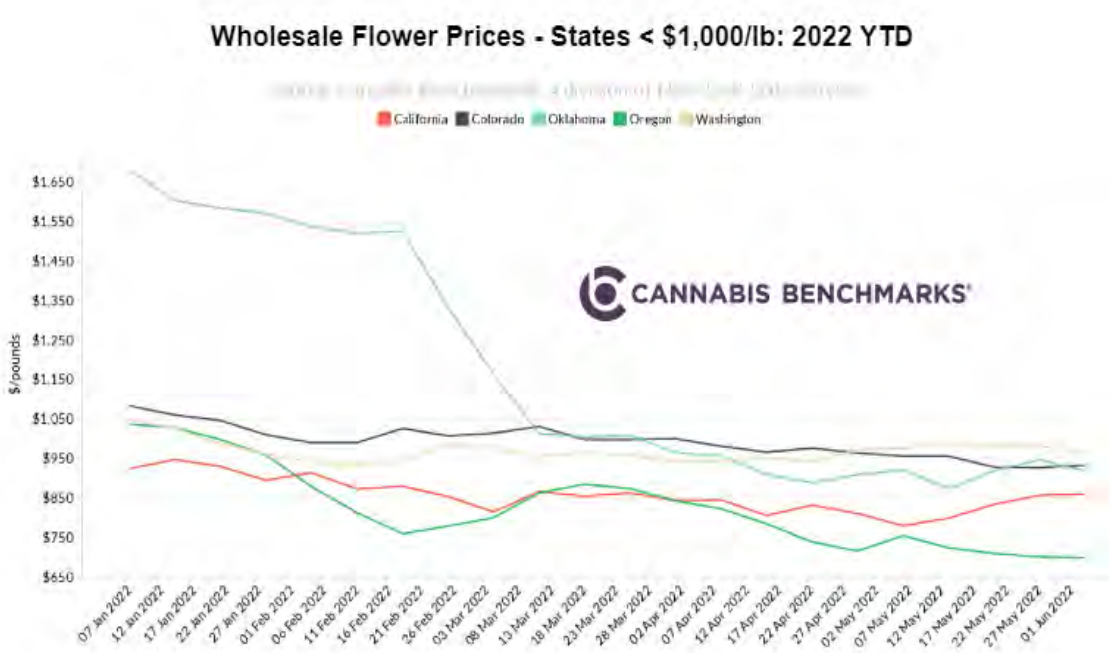
Figure 14: Estimated Sales per Capita, 2014 to 2021[15]



In terms of price, as referenced repeatedly throughout this analysis, 2022 was a tough year for Cannabis sales, driven largely by oversupply. As expected, prices fell, and Figure 15 following

[15] SOURCE: EQUIO MARKET PROJECTIONS BY STATE (2014 – 2030), RETRIEVED 2022, AND AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES, 2014-2021, RETRIEVED 2023.

highlights just how tough a year it was for producers. In 2022, Oregon started the year in the middle of the pack for wholesale flower prices, but by June 2022 the prices in Oregon were lower than comparable product in California, Colorado, Washington, and Oklahoma.



Comparable Industry Comparison and Economic Impact

To this point in our analysis, we have focused almost exclusively on the Cannabis sector, without regard to its place in the broader economy of Oregon. Although an intentional organization mechanism in the report, it is also telling of the industry itself: it stands virtually alone, without peers.

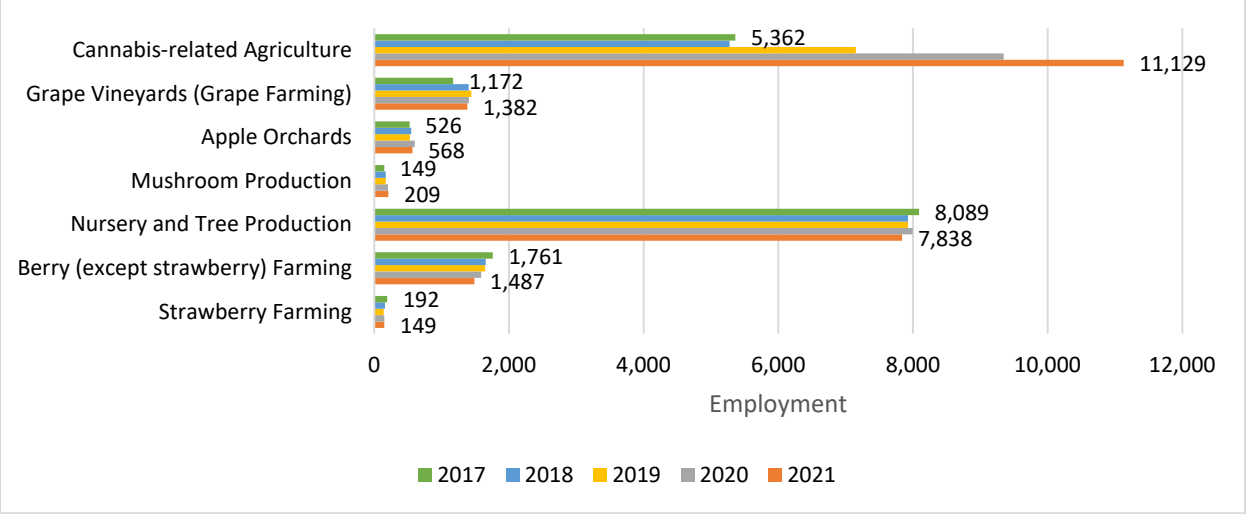
We have touched on the vertical integration of state-legal Cannabis production earlier, reliant on geographically confined supply chains, imposed by the legal realities surrounding the industry, licensees are forced to look inward for each stage of the production to consumer process.
But more than that, the sector is a young one, with explosive growth, and a series of unique features that make inter-industry comparisons challenging.

Rather than try to force the industry into artificially limiting, one-to-one comparisons with not-so-comparable sectors, in this section we take a two-pronged approach when considering sector comparability:

- Based on the insights and suggestions from industry leaders interviewed via focus groups and one-on-one discussions, we compare the industry to other sectors most frequently identified as peers: micro-breweries, distilleries, strawberry farms, mushroom farms, and wineries.
- Informed solely by data, we consider the industry's standing in terms of sales/GRP, tax revenue, and employment- highlighting ratios and relative standing vis-à-vis peers, as defined in these terms.

By casting a wider net of comparison, we hope to best capture some of the important nuances that makes this industry unique, capturing important insights for its future evolution.[16] Figures 16, 17, and 18 following compare cannabis sector employment (agriculture, manufacturing, and wholesale/retail trade, respectively) with similar industries in Oregon. Though not shown here, it is worth repeating that despite overtaking several prominent sectors in terms of number of employees, wages in the Cannabis sector do continue to lag most other established, comparable sectors.

Figure 2: Nursery and Agricultural Commodity Industry Employment compared to Cannabis-related Agricultural Employment, 2017-2021[17]



[16] FOR ADDITIONAL DESCRIPTIONS OF 6-DIGIT NAICS CODES (THE MORE SPECIFIC INDUSTRIES) IN THE "COMPARATIVE ANALYSIS OF OREGON KEY SECTORS" SECTION, PLEASE SEARCH VIA THE QUARTERLY CENSUS OF EMPLOYMENT AND WAGES INDUSTRY FINDER FUNCTION, WHICH CAN BE FOUND HERE: HTTPS://DATA.BLS.GOV/CEW/APPS/BLS_NAICS/V2/BLS_NAICS_APP.HTM#TAB=SEARCH&NAICS=2017&KEYWORD=&SEARCHTYPE=TITLES&FILTER=6_FILTER&SORT=TEXT_ASC&RESULTINDEX=0.

[17] THE CANNABIS-RELATED AGRICULTURE EMPLOYMENT IS BASED ON YEARLY TOTALS OF EMPLOYMENT. THE OTHER INDUSTRIES' EMPLOYMENT IS BASED ON ANNUAL TOTALS FROM THE BUREAU OF LABOR STATISTICS.

Figure 17: Beer and Wine Industry Employment, Oregon, 2017-2021[18]

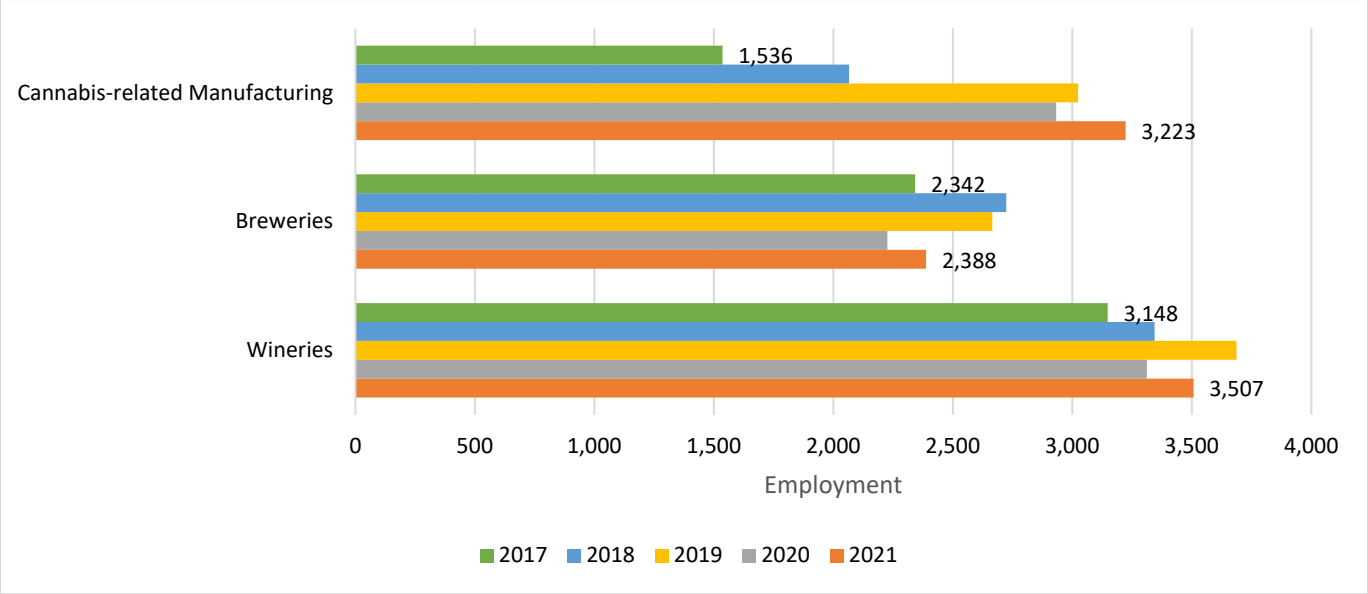
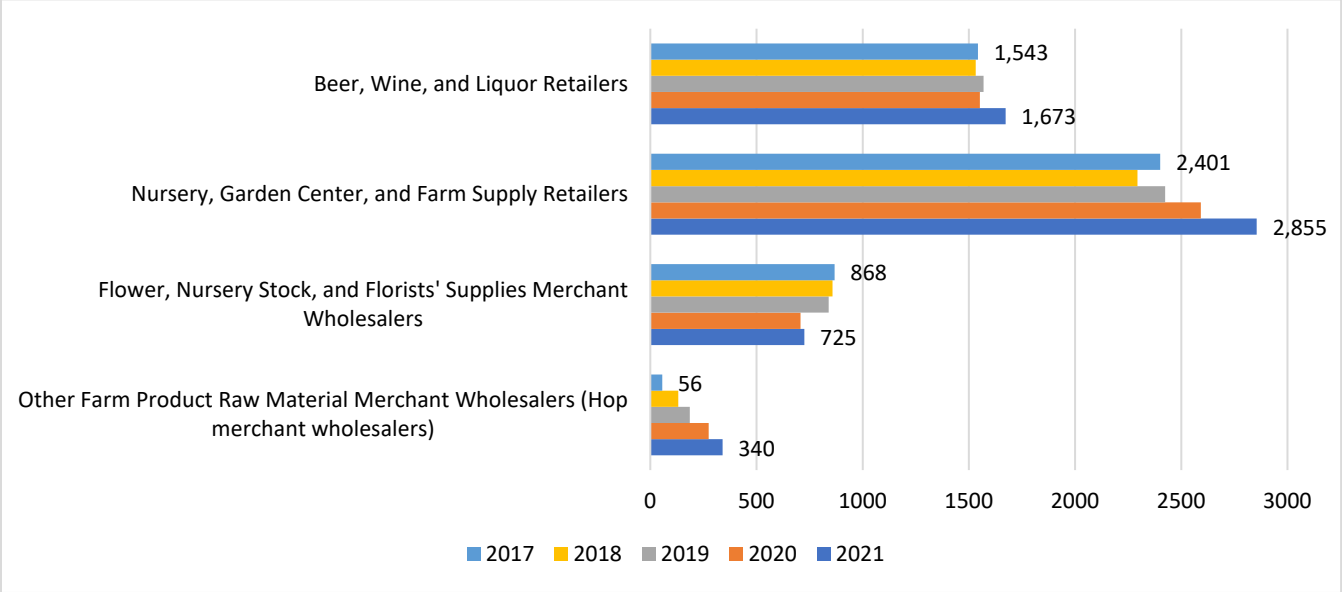


Figure 18: Comparable Wholesale and Retail Trade Industry Employment, Oregon, 2017-2021



As the figures above highlight, employment in the Cannabis industry has exploded since 2017. Cannabis related agricultural employment, by 2021, outpaced all other comparable ag sectors in the state, at 11,129. The next closest ag competitor- nursery and tree growers- had only 7,838 employees by 2021. Similar trends are apparent when looking at breweries and wineries, by 2021 the Cannabis industry employed more workers in its manufacturing operations (3,223) than breweries and nearly as many as wineries (3,507). The Cannabis industry, though technically still in its beginning stages, in terms of time in existence, has already surpassed more traditional sectors and the state and is primed for further growth.

[18] "ANNUAL EMPLOYMENT." QUARTERLY CENSUS OF EMPLOYMENT AND WAGES. *BUREAU OF LABOR STATISTICS.*

While we have highlighted in previous sections the direct economic impact of the Cannabis industry sector on the economy of Oregon — in terms of sales and income tax revenue — it is also vital to consider the *indirect* impact the industry has on the economy. While the term itself has been defined and operationalized in numerous ways, for our purposes, we will gauge the indirect impact of the industry in Oregon in two ways:

- ***Inter-Industry Purchases -*** That is, in dollars and cents, how do the day-to-day operations of the Cannabis sector impact the bottom line of other, non-Cannabis industries in the state?

- ***Other Industry Jobs, Wages, and Taxes*** - Induced by the CAPS sector's (and its employees') purchases- based on the money CAPS spends on goods and services from other sectors, and the money earned and, in turn, spent by CAPS employees, how many additional jobs are created, and sales taxes generated, based on these expenditures?

The primary difficulty in assessing these impacts is, as noted at the onset, the lack of clearly defined, standardized industry employment, sales, and earnings data, to be imported directly into 3rd party data and analysis tools, such as LightCast™ (previously EMSI/Burning Glass). For most industries, LightCast imports sales and tax revenue from the US Bureau of Economic Analysis, generating inter-industry sales models and tables, clearly tracing the ripple impact of an industry. As of this writing, standard NAICS coding has not been applied in LightCast™, and industry sales tables remain unavailable. Referring to the primary source- the US Bureau of Economic Analysis- provides no relief, the data collection and standardization does not yet exist. To tackle this problem, we model the estimated inter-industry impact of the Cannabis industry utilizing employment breakouts from the Oregon Employment Department, and broader sector sales data for the unique components of CAPS- Agriculture, Manufacturing, Retail/Transport/Trade, Supportive Services, and Other Professional Services. The breakout box following highlights the standard, North American Industry Classification System (NAICS) definition of each of these referenced industry Sectors.

As you may recall from our analysis of industry employment and general discussion of the CAPS industry sector above, part of what makes the industry unique is the vertical integration of functions and processes. This makes CAPS difficult to define and classify, in terms of standard industry characteristics, because it contains components so diverse that, in traditional terms, they could easily be classified as unique industries all on their own, fitting into entirely separate 2-Digit NAICS Families. The CAPS industry, it could be argued, is in fact these five different sectors operating in unison. Indeed, this is exactly how the Oregon Employment Department classifies industry employees when estimating wages and employment.

Building off OED's employment classification schemata, we can apply the known information readily available for these broader industry sectors on their inter-industry sales (that is, purchases of materials or services one industry makes from another, while doing business). Using known ratios of employees and sales in both the Cannabis sector and the affiliated, broader industries, we can estimate high and low bands of the impact the CAPS industry has on the other sectors in the state.

Figure 19: Inter-Industry Sales Table, with Cannabis Industry Contributions

	AGRICULTURE/CROP PRODUCTION (111)	MANUFACTURING (31-33)	TRADE, TRANSPORTATION, AND WAREHOUSING (48-49)	PROFESSIONAL AND BUSINESS SERVICES (54)	OTHER SERVICES, INDUSTRIES NOT CLASSIFIED (81)
CAPS EMPLOYMENT*	2,856	857	5,097	206	215
FULL SECTOR EMPLOYMENT**	34,090	188,671	69,086	103,913	63,298
CAPS TO FULL SECTOR RATIO	8.38%	0.45%	7.38%	0.20%	0.34%
TOTAL SECTOR IN-REGION PURCHASES***	$2,040,432,030	$16,373,989,473	$4,054,737,825	$5,188,796,406	$2,084,041,290
ESTIMATED CAPS SHARE OF PURCHASES	$170,943,792	$74,375,548	$299,148,868	$10,286,413	$7,078,721

Beyond the dollars-and-cents impact their purchases from other industries have on the respective bottom lines of both parties, the Cannabis industry also has wide-ranging, ancillary effects on the broader Oregon economy. We tease out some of these impacts following using an Input/Output model that estimates the impact the Cannabis industry has on the companion industries that make up its broader supply chain, in terms of additional jobs created and employee earnings. But more than that, the model also highlights the day-to-day spending power of CAPS sector employees, and the additional jobs their wages in Oregon help sustain.

Figure 20 following lists the CAPS industry jobs, separated by affiliated sector, that were entered as the input in the impact scenario model. The team, in what should be a familiar theme by now, had to use NAICS industry classification codes *closely affiliated* with the CAPS industry- again, due to absence of unique sector identifiers associated *specifically* with the Cannabis industry.

Figure 20: Model Outputs, Additional Impact of CAPS

	INITIAL (CAPS SECTOR)	***DIRECT***	***INDIRECT***	***INDUCED***
FULL MODEL				
JOBS	9,231	1,937	776	3,283
EMPLOYEE EARNINGS	$433,396,953	$119,192,885	$47,085,281	$180,260,170
CROP PRODUCTION				
JOBS	2,856	804	272	1090
EMPLOYEE EARNINGS	$132,102,051	$42,806,481	$16,229,364	$60,148,555
MANUFACTURING				
JOBS	857	332	147	356
EMPLOYEE EARNINGS	$60,164,689	$24,546,202	$9,574,964	$29,471,247
RETAIL STORES				
JOBS	5,097	759	343	1,430
EMPLOYEE EARNINGS	$201,026,470	$49,167,262	$20,391,627	$78,202,120
WHOLESALE TRADE				
JOBS	206	8	3	124
EMPLOYEE EARNINGS	$23,208,637	$486,699	$205,921	$6,788,105
OTHER SERVICES, TESTING				
JOBS	215	34	11	283
EMPLOYEE EARNINGS	$16,895,106	$2,186,241	$683,405	$5,650,143

All told, in addition to the approximately 9,200 employees and their collective $434 million in annual wages working directly in the Cannabis industry, the sector's ongoing operations result in an additional 5,996 jobs and nearly $350 million in annual wages for citizens of Oregon who support the industry and its employees. For a full explanation of the direct, indirect, and induced impacts of the Cannabis industry on Oregon, please refer to the "Lightcast™ Output Factors" breakout box above.

Challenges

The challenges facing the CAPS industry have been identified through focus groups, one-on-one interviews, conversations with the Steering Committee, the survey, and desktop research and are summarized below.

Lightcast™ Output Factors Defined
Initial Change: Highlights the earnings of primary industry employees, in this scenario, the earnings for 9,231 Cannabis industry employees. Direct Change: The impact these 9,231 CAPS jobs have on the supply-chain employers, in terms of additional earnings for employees and jobs created because of business partnerships with the CAPS sector. Indirect Change: Highlights a further ripple effect of the initial 9,231 CAPS jobs, stated more awkwardly, this shows the change in earnings and employment for the "supply chain's, supply chain". Induced Change: Shows the change brought about by the earnings of employees as they spend in them in the community, the investments they make, and the subsequent government created to manage the direct, indirect, and initial changes in earnings.

Challenges to the Supply Chain

Because of the rapid growth and competition in the CAPS industry, there are still high levels of required capital investment to meet ongoing expenses. Specialized equipment for cannabis businesses is often developed or built internally, but materials largely come from out of state, primarily from other states in the Pacific Northwest and Canada, not immune to the supply challenges that have gripped most industries since COVID-19. Industry stakeholders also identified another challenge to the supply chain rooted in significant barriers to renting and buying property across all levels in the supply chain, "from seed to sale." Attaining the property for retail or processing spaces or the land for farming necessary for businesses is a constant challenge and limits the ability of the industry to build more efficient supply chain networks. If the property is owned by someone with traditional financing, it is largely out of the question for CAPS businesses. As far as repurposing existing infrastructure for processing or retail businesses, the capital investment is often too high for most businesses to secure, and because CAPS businesses are more heavily regulated than other industries, they often must contend with additional costs like updating buildings that have not been up to code in decades. Business owners have found more success in repurposing agricultural land, such as former vineyards, though outcomes do rely on how accepting the surrounding community is of the change.

Oversupply and Illicit Competition

One of the supposed benefits of Cannabis legalization in Oregon was to eliminate black market sales. However, though reduced in size according to Equio/New Frontier data, the illicit market persists. Though the reasons are myriad, oversupply in the legal market, though driving down costs for consumers, was mentioned as a contributing factor, as lower costs can contribute to illicit, out of state sales by individuals purchasing product, legally, in Oregon. In 2019, the OLCC issued a moratorium on producer licenses (which has since been expanded most license types). Despite this moratorium- and reflective of efficiencies gained in production processes, legal cannabis harvests have continued to grow, year-over-year. 2022 did, however, mark the first year where there was a decrease in production. This oversupply, combined with taxes, license fees, and lack of traditional business supports can make it difficult for state-legal business owners to compete with the illicit market. And

some indications point to recent growth of this black market. In 2018, the Oregon-Idaho High Intensity Drug Trafficking Area (HIDTA) program seized 17,764 kilograms of cannabis. In 2021, they seized over 42 times that amount, or 751,733 kilograms. This seizure at the state border reinforces information shared in stakeholder conversations as well, notably that a vast majority of illicit sales are destined for out-of-state consumers.

Federal Marijuana Laws

Cannabis remains a Schedule I drug. As has been detailed in this report, due to its federal illegality, those in the industry are unable to access banking, deduct business expenses from their taxes, and expand the use of medical marijuana. Oregon businesses are unable to export to other markets (both the product and their expertise). Furthermore, without legalization, the cannabis industry is in a constant state of instability, as the potential for federal enforcement is always a risk. Though the Cole Memorandum blocks prosecution of industry participants in states where Cannabis sales are legal, conversations with industry stakeholders and government officials highlighted the fact that concerns remain about federal arrests and prosecution. Participants point to, imminent of course, changes in elected officials and administration priorities. These concerns were not limited to direct participants in the industry, state officials charged with the direct oversight of the Cannabis market, as well as those engaged in business support, growth, and retention activities highlighted lingering concerns about the status of Cannabis at the federal level.

Labor Shortages

Like many industries, the Cannabis industry is experiencing labor shortages and a tight labor market. Over one-third of employers surveyed said that they are unable to find enough qualified workers to meet their labor needs. Their labor shortages involve all levels of workers, from farm workers to budtenders and delivery drivers to executive management and compliance managers. Conversely, as mentioned earlier, workers surveyed expressed concern over industry wages and defined career pathways. Though discussed in greater detail below, formalizing Cannabis industry partnerships with the support of workforce organizations across the state would be an important step in the development of advanced industry training- including recognized credentials- and clearly defined career pathways for jobseekers and current employees.

Lack of Job Training

Compounding the effects of the labor shortage, stakeholders identified a need for job training in the industry. Most training for entry-level workers is done on-the-job. However, industry standards are far and few between, and employers sometimes find themselves retraining experienced hires. Further, stakeholders identified that those being promoted to management positions do not always have appropriate training for the increased responsibilities that accompany these roles. There is a strong need for consistent, cannabis-specific training for all aspects of the industry; again, echoing the need for direct collaboration between industry leaders and the state's workforce development infrastructure (including state and local Workforce Development Boards).

Trade Credit System

Cannabis retailers operate on a trade credit system, meaning that they purchase inventory (in this case, cannabis from producers and processors) on credit, and have terms to pay for the inventory in a fixed period. Under Oregon's current system, as reported by some focus group participants, there are large retailers who have failed to pay their suppliers, leaving farmers and processors with no product, no payment, and unpaid bills. As an industry that is unable to access traditional forms of capital, this is particularly problematic. According to industry stakeholders, this system not only will result in famers going out of business, but hampers innovation, since famers cannot reinvest while they wait for payments. If this persists, Oregon is at risk of losing their technological edge and their

culture of small, craft cannabis. Though there is some limited credit union support for the industry in Oregon, conversations with industry stakeholders highlighted that not all businesses can access and leverage opportunities for loans and capital support. Concerted effort by the state- in the absence of federal de-scheduling of Cannabis, to ensure a level playing field and prompt settlement of overdue accounts, as appropriate, would go a long way toward resolving this challenge.

State Regulation
In addition to persistent fears of changes in federal criminal enforcement highlighted above, stakeholders also indicated that current state regulations are both burdensome and time consuming. As a result of the frequent changes in policy, business owners must constantly adapt and change processes, reducing the efficiency of their operations.

Opportunity Assessment

Industry stakeholders feel that the cannabis industry is approaching maturity in Oregon, but the final push must come with state support to treat the industry as any other: with access to all the resources (investment capital support, subsidies, incentives, and workforce training system access, for example) that are available to more "traditional" sectors. The specific examples identified below, organized in near-, medium-, and long-term opportunities in the implementation matrix at the conclusion of the report, are informed by the focus groups, one-on-one interviews, conversations with the Steering Committee, the survey, and desktop research.

Legislate Credit Law for Net Terms and Cash on Delivery

Trade credit should be used for a business owner to schedule out their operating expenses, payroll, taxes, and accounts payable (debts). The plight of the farmer in the current consignment-based system means they are paid last, if at all. This type of legislation protects Oregon's small businesses and craft farmers.

METRC could add a data field when creating a manifest to transfer inventory to another licensee that cross checks with a state database. It essentially would track those with bad practices and allow for taxes to be collected. Violators would be subject to penalties and possible suspension or revocation of their licenses. An example of such legislation is the Illinois 30-Day Credit Law. Available here.

Purposely Support Efforts to Expand the Market

Although touched on throughout the report, even in the absence of federal rescheduling/decriminalization that would open interstate trade of cannabis produced in Oregon, there are key ways that the legal, recreational market in Oregon can continue to grow. The state should be an active partner with the industry in achieving this growth and could focus on any (or all) of the following:

Pass legislation to Allow Canna-tourism.

There is currently work on a bill in the legislature that would create the first step in agritourism by allowing tastings on cannabis farms. Presently, there is no legal place for tourists to buy and consume cannabis. The bill partially addresses this challenge by allowing cannabis tastings on farms with direct-to-consumer sales. According to testimony given to the legislature, "When the farmer can sell directly to the consumer after the tasting, it will increase our sale per pound almost x 10-fold.

Plus, the personal interaction between the farmer and the consumer will facilitate the creation of brand loyalty that will long extend past their visit to the farm. It will turn into additional visits to a dispensary and cash spent." This brand loyalty should full federal de-scheduling occur, and the door opened to lucrative inter-state trade, will be vital for Oregon producers looking to position their brands in what would become a crowded market.

Growing a vibrant Canna-tourist Sector is perhaps the most immediately viable opportunity for the industry. Working collaboratively the state, economic development, and private sector could intentionally grow a Canna-tourist sector within Oregon. There is a lot of opportunity for cross-industry collaboration within Oregon, with, for example, hotels, dining establishments, local chambers, and entertainment venues all working with the Cannabis industry to develop and promote travel packages.

Some areas within the state have taken it upon themselves to push for these types of initiatives, for example, The City of Portland's 2019 State Legislative Agenda included support for "creating a regulatory framework to allow for social consumption of cannabis, including temporary event licenses, consumption areas as part of a licensed cannabis business that sells cannabis, and regulating locations for adults to consume cannabis that do not have a license to sell cannabis." Other states, like California, offer several cannabis tourism opportunities as well. The Northern California area of Mendocino, known for its redwoods, beaches, and botanical gardens, is also home to cannabis farm tours where cannabis tasting is part of the experience. They also offer a Weed & Wine Bus Tour. (https://mendoexperience.com/) In 2019, the state reported that initiatives like this generated a $17B Cannabis tourism industry.

Reduce Illicit Sales

Even with falling prices (and a supply surplus) in 2022, there remains a healthy black market for Cannabis sales in the state. While there are myriad reasons for participation in the illegal market, one aspect that the state can address is the perception of an overly burdensome process for participation in the legal industry, especially for smaller growers without the deep network of support to navigate the legalities of launching their legal operations. As with any other small/start-up business, entrepreneurial support is needed and certainly the state's economic developers are well positioned to develop Cannabis-specific start-up support for budding entrepreneurs.

Attract New Resident Users

With the growth of diversity in Cannabis products, a broader appeal to the population has already been realized. Demographics in Oregon, as highlighted earlier, are amenable to an expanded user profile within the state, however, the population growth alone will contribute slow- if steady- to the bottom line, assuming consumption trends mirror those within the established market of cannabis consumers. Given the impact of societal changes and factors largely beyond the control of the industry, this is a lower-impact, slower burn approach to growing market share- but one the state can support, nonetheless. Continued funding and support of research, particularly medical research, and maintaining an environment amenable to recreational consumption will be vital in further understanding and acceptance of Cannabis use.

Prioritize Previous Commitment to Medical Marijuana

Oregon currently has a disjointed approach for supporting patients using medical marijuana. Both OMMP and OLCC are involved, but without oversight by OHA, the commercialization of the industry

is currently placing financial burdens on patients and providers making it difficult for those on fixed incomes, the elderly, and non-tech savvy individuals. One suggestion from an industry stakeholder was to assign the OHA to oversee OMMP and OLCC on all facets of the medical use of marijuana. This will provide patients, providers, and researchers the support necessary to advance cannabis for such use. A task force of patients (or parents/guardians of underage patients), providers, and researchers could provide valuable insight to ensure those most affected, when considering the medical lens of cannabis, influence effective change that will assist patients and find additional uses for cannabis in the medical field.

For guidance from states with the best proficiency of their medical cannabis programs visit the Leafly (https://www.leafly.com/news/politics/10-best-worst-states-medical-cannabis) website. The medical cannabis patient advocacy group called Americans for Safe Access (ASA) updated its report in 2020 assigning letter grades to states with medical marijuana programs. Illinois, Michigan, and California all had higher grades than Oregon. A careful review, and concrete steps to improve each of the following will improve Oregon's grade and, of course, protect and promote the needs of the medicinal consumer:

- Ensure Patient rights and civil protection from discrimination, which includes arrest and DUI protections.
- Expand Access to medicine, which includes availability of edibles and other forms of cannabis.
- Improve ease of navigation such as reasonable fees and qualifying conditions.
- Focus on Functionality, which includes fair purchase and possession limits.
- Protect Consumer safety and provider requirements, meaning staff at all levels, from the growers to the dispensary, are thoroughly trained.

For the medical consumer, strains and products are not interchangeable. The correct concentration in the correct combination is vital and patients have specific strains and products they are dependent upon to ensure their continued wellness. The state needs to protect and promote small batch, craft medical producers to guarantee the medicine these patients rely upon remains readily available.

Address Federal Tax Code (Amend 280E)

IRS Code 280E was used to close a loophole that allowed drug traffickers to take tax deductions for illicit income. Unfortunately, IRS code 280E is (mis)applied to Cannabis businesses throughout the US without regard to the legality of marijuana in any state. This IRS code not only taxes the cannabis industry at a much higher rate- shrinking profits and, in some cases, making profitability all but impossible, but also limits tax deductions for the legal industry. Rather than allowing CAPS businesses to take deductions on the Cost of Goods Sold (COGS), after expenses are deducted, like all other legal industries in the nation, code 280E requires Cannabis businesses to pay taxes on all GROSS income, leading to, in effect, tax rates of 70% or higher. Oregon should lead the charge against code 280E, through its federal legislative delegation.

Review and, if Necessary, Change Costly and Burdensome Regulations

Industry stakeholders consistently reported that they are overburdened with costly regulations that unnecessarily create hardship on the cannabis industry businesses. A full-scale review of the merits and challenges of each regulation is not only beyond the purview of this work but would be ill addressed by this team. Oregon should consider instituting an oversight board, like one constituted in Nevada, with appointed industry leaders, labor representatives, government officials, and medicinal advocates. Together, the board could be granted review prerogatives, advisory or with the binding decision making authority. Undertaking a feasibility analysis of such an organization and working together with the industry to define its role and

scope would go a long way towards bridging the sometimes wide gap between government officials and industry practitioners.

Create State Loan Program / Allow Access to Traditional Business Incentives

Access to capital was consistently identified as a business challenge through all the project team's engagement with industry stakeholders. Stakeholders reported being unable to access traditional grants and business incentives, such as those from Business Oregon. Business Oregon is unable to provide business incentives to cannabis companies due to the fact that marijuana is federally illegal, classified as a Schedule I controlled substance under the CSA. The CSA provides criminal penalties for activities involving controlled substances and there is potential liability ate the federal level for those that aid and abet illegal enterprises under federal criminal law.

Through a state loan program and access to incentives, employers would be able to invest in businesses (buy equipment, commercial space, etc.). Further, these funds would provide a safety net and could enable business owners to better weather economic downturns. These investments, be they low-cost loans or tax abatements/subsidies, are vital for the industry to continue to innovate and evolve.

Oregon should look to position itself as THE national leader in Cannabis production and innovation, a privileged place some would argue it already holds. With more and more states coming online with full adult recreational legalization, competition will only increase in the future. Oregon should invest in the industry now to ensure that it maintains its position as a market leader well into the future. One example the state could look to is the city of Portland's Cannabis Emergency Relief Fund (CERF) for cannabis businesses and workers. The Portland-based CERF partnered with the Cannabis Workers Coalition in January 2023 to explain the recovery aid available due to impacts of vandalism, crime, and COVID-19 related, as well as help navigate common challenges in the industry.

The state should also consider providing licensed growers with technical services and cash incentives for investing in equipment and practices that benefit the environment and/or utilize an in-state supply chain for mutual growth of businesses. Working with cannabis growers, Energy Trust of Oregon, for example, provides technical services and cash incentives to licensed growers for the installation of energy-efficient equipment.

Provide Safe Banking

Change regulations related to banking for the cannabis industry to ensure protection for financial institutions and incentivize their investment in the industry. Currently, there are three credit unions that work with the industry, and not all licensees have access to them. Most in the industry are still using cash only. Workers of the cannabis industry have reported difficulty cashing their paychecks, and some have experienced their bank accounts being frozen. The state can intervene, as appropriate, to ensure these situations no longer occur. Public opinion is clearly on the side of normalized banking as well. The Independent Community Bankers of America (ICBA) announced in Summer 2022 that a poll showed that 65% of voters support cannabis banking access in states where cannabis is legal. (https://www.icba.org/newsroom/news-and-articles/2022/09/02/icba-two-thirds-of-voters-support-cannabis-banking-access).

Additionally, the poll showed that 71% of the voters believe such access is important to reduce the potential of robbery and assault at cannabis businesses. Social equity advancement in reference to underserved communities was also a benefit mentioned of safe banking. The SAFE Banking Act has passed the House of Representatives at least seven times but the Senate has failed to consider the bill. Oregon and its federal legislative delegation should continue to push for sensible, federal cannabis banking laws.

Establish Cannabis Education Standards and Programs

Education for the cannabis industry is currently disjointed and largely absent from traditional schools, universities, and trade programs. Basic courses, career pathways, and industry-recognized credentials should be developed as the industry grows. The cannabis industry should collaborate with education providers and third-party credentialing organizations to establish education standards and programming that addresses skills for both new hires and incumbent workers. Career pathways should be established that include work-based learning models and opportunities for advancement. As a starting point, *The Cannigma* (https://cannigma.com/about-us/), highlights ten cannabis-related schools and colleges (online and offline) offering industry training. Reviewing curricula that exists and working together with workforce boards, education providers, and industry partnerships set up to support the industry- which also should be formalized and expanded- will be vital in developing the training the industry needs and ensuring a skilled workforce well into the future.

Support Changes in Federal Legislation

While re-writing federal laws is well beyond the purview of state officials, Oregon can, nonetheless, offer its unequivocal support for federal de-scheduling. State officials should work closely with federal representatives- both bureaucratic and elected- to tout the success of the industry in Oregon, the need for a commonsense approach to regulation, and ultimately, help define a path to full legalization. Supporting industry advocacy groups with the resources and assistance they need in their mission to see change at the federal level would further position Oregon as an industry leader, poised to capitalize when change (hopefully, inevitably) comes to the national level.

Support Diversification in the Industry

Opportunities also exist for the industry in the use of pulp and organic waste materials, currently incinerated or disposed in a controlled manner due to trace amounts of THC content. Should the state loosen restrictions on post-processing use of this left-over material, opportunities exist for additional revenue, in the form of textile products, bedding for animals, and fertilizer derivatives, for example. Additional investment from employers and rulemaking/monitoring from the government will likely be required, but in the long term, not only can revenue enjoy a modest bump, but also a more environmentally conscious posture bolstered as well. For example, Enso Solutions (https://ensosolutionsllc.com/) in the state of Oklahoma, takes waste from cannabis growers, processors, test labs, and dispensaries and makes compost. They offer site assessment, waste management plans, secure waste storage, waste manifest, and repurposing with the community and businesses as targeted end markets.

Further Strengthen the Workforce through Diversity

The state should lead and encourage partnerships between industry employers and the Oregon Department of Employment, community-based organizations, and nationally recognized programs that represent/advance underrepresented populations to provide training and work-based learning opportunities. The CERF fund in the City of Portland supports some of these types of initiatives. While the demographic distribution of the population in Oregon closely mirrors the industry workforce, opportunities to further elevate traditionally underrepresented individuals persist. Focusing on individuals with disabilities, with labor force participation rates often well below the state average, is but one opportunity to not only address labor shortages but boost the lives of work-willing residents that may require additional accommodation. Formalizing a relationship between the State's vocational rehabilitation program and industry employers could be an important step in addressing workforce challenges.

Afterword from the Cannabis Advisory Committee

The following is an afterword from the industry advisory committee that helped guide the consultant's work in preparing this report. The afterword does not necessarily reflect the views of Business Oregon or the contracted consultant that authored the industry analysis. Business Oregon would like to thank the committee members for the extensive time spent in contributing to the production of this report produced at the request of the state legislature.

Oregon's emerging legal cannabis industry is poised to be a financial powerhouse, generating billions in annual sales and hundreds of millions in taxes. This can only happen with a robust economic development strategy and dedicated support from the state. If acted upon, the results will stabilize businesses in the current market crisis, create the nation's leading regulatory environment (enabling Oregon to compete with other states), and build the core business foundations needed to thrive in the national marketplace as the cannabis breadbasket of America.

In less than 7 years Oregon's burgeoning legal cannabis industry has managed to generate over $5.41 billion in sales, $121 million in local sales tax, $841 million in States taxes, and thousands of jobs - many in rural areas. And yet, its massive economic promise and potential, while proven, is largely unfulfilled and at risk. This is due in no small part to cannabis's federal status. However, a lack of access to government services combined with costly, antiquated, and restrictive regulations play a significant role as well. These dynamics hinder innovation, business expansion, and recruitment/retention of talent while increasing operational costs, draining management time, and harming the financial stability of everyone in the market.

Oregon's cannabis industry is suffering through the worst fiscal crisis in its short history. Yet, Oregon always has and always will be the cannabis breadbasket of America. The question facing us today is, how can Oregon's government ensure that the financial benefits of Oregon's cannabis industry stay in Oregon and enrich its homegrown businesses, entrepreneurs, and communities? Through dedicated, collaborative, and strategic actions Oregon can create a business environment for this unique industry that will enable it to adapt, grow, and thrive now and in the future.

Since federal legalization is not a near time guarantee, the Steering Committee reviewed and identified a set of near-term, state-based, high-priority recommendations, which include the following investment avenues to:

1. **Market Growth & Cannatourism:** Cannatourism is one of the few avenues available to the industry for expanding its market size without federal action. Fortunately, Oregon is incredibly well situated to benefit from cannabis tourism. It is estimated that in 2021 18% of the $25 billion in legal cannabis sales across the country were connected to cannatourism and that the sector will be worth $17 billion dollars nationally. Additionally, it is a fantastic way for Oregon cannabis companies to build brand awareness and loyalty before interstate commerce is legal. Other states are rapidly creating venues and spaces for cannabis consumption to drive tourism. Oregon cannot afford to fall behind.

- Allow outdoor cannabis farms to provide tours, cannabis tastings, and educational experiences. Just as Oregon's wineries and breweries are a draw for tourists, cannabis farms can become tourist destinations if given the opportunity. Enabling outdoor cannabis farms to create curated and educational cannabis experiences for visitors will help Oregon standout in the cannatourism sector. Moreover, as many outdoor farms are rural this can create new revenue streams for areas that need it the most. Simply, this is an essential change that can benefit one of the most financially stressed sectors of the industry and their communities.
- Allow cannabis delivery to hotels and inns. This will enable Oregon's inventive hospitality industry to find new ways to attract customers and develop novel experiences for visitors if they wish.
- Enable safe and regulated spaces for cannabis consumers and tourists to taste and learn about cannabis such as cannabis lounges, cafes, and clubs.
- Allow for temporary events where cannabis sales can be made by licensed retailers, just like Beer Fest.

2. **Workforce Development and Retention:** A skilled and professional workforce is essential to the success of every industry. It is especially essential to establishing and maintaining a region as a national hub for an industry. Part of Oregon's cannabis industry success is directly related to the talent base that was developed during the years of legal medical cannabis. Sadly, Oregon's cannabis talent is now being recruited to other states and recruiting new skilled workers is becoming more and more difficult as the industry struggles.
   - Invest in workforce training and education programs: Providing support to existing cannabis industry workforce training and education programs will expand and improve their offerings while enabling the development of new programs throughout the state.
   - Workforce Scholarship Program for Trade Schools: The state should support workforce participants who apply for training through cannabis apprenticeships and trade programs with scholarships to cover childcare, transportation, materials, and tools. These benefits will attract individuals to the workforce and support Oregonians as they seek to advance their skills and expertise in this growing industry.
   - Cannabis research and curriculum at colleges and universities: Incentivize and support the development of cannabis curriculum and research programs at colleges and universities. Of the more than 100 colleges and universities that are now offering degrees, courses, and certificates relating to cannabis and the cannabis industry only one is in Oregon. This situation must be remedied imminently if Oregon is to maintain its position at the forefront of America's cannabis industry.
   - Tax Incentives: Provide tax incentives to employers that invest in their workforce. For example, offer tax credits to businesses that invest in training programs and apprenticeships.
   - Recruitment initiatives: The state can establish workforce development initiatives that are designed specifically for the cannabis industry. These initiatives can help to connect workers with job opportunities in the industry and provide them with the support they need to succeed.
   - Promotion of high-demand industries: The state can promote the cannabis industry and the benefits of working in the industry to job seekers. This will help eliminate the fear of "cannabis stigma" which prevents talented individuals from participating in the cannabis industry.

3. **Access to Capital through loans, grants, and other financial incentive programs:** An industry doesn't grow without capital investment, however accessing capital is extremely difficult for cannabis businesses. A state's economic department making capital investments in key

industries is a proven economic development tool. New York, Colorado, and California all have created government programs to make investments in cannabis businesses through their economic development offices. Oregon simply cannot become a cannabis powerhouse without increasing capital investment into its cannabis industry. The state must take priority action to make more capital available to cannabis businesses.

- Create low interest loan and grant programs for cannabis businesses to improve the industry's equitable access to capital. These programs not only will help the industry thrive they can provide additional revenue to the state through interest.
- Enable cannabis businesses to take advantage of state benefit programs, like enterprise zones, just like any other business.
- Consider broader financial changes like a state bank that could ensure cannabis businesses and workers have access to the same financial services as everyone else.
- Consider including Tax incentive programs specific to cannabis to include but not limited to; Commercial, Agricultural, and Renewable Energy Development Grants for Transportation Infrastructure processes. Allowing for growth and innovations within the cannabis industry would enable Oregon's cannabis business to be national leaders in this practice.

4. **Regulatory Reform and Industry Normalization:** Smart regulatory reform will reduce operating costs and compliance risks while enabling innovation and adaptability. This is one of the most direct and easiest ways the state can support the industry. Additionally, these changes will help normalize the industry and make it easier for entrepreneurs to run their businesses and attract workers.
    - Collaborate with the cannabis industry to identify and then reduce, reform, and/or remove burdensome regulations that do not increase public health and safety.
    - Work with the industry to remove regulations that hinder innovation, product development, and business efficiencies.
    - Ensure that regulations allow Oregon cannabis businesses to continuously innovate and safely develop a broad range of cannabis strains and cannabis derived products, like CBN gummies, to meet customer demands locally and nationally.
    - Ensure that every state entity treats cannabis businesses fairly and provides the same services and support they would to any other legal business in Oregon.
    - Ensure that cannabis entrepreneurs and workers are personally treated fairly and without bias by every state agency. They should not be personally subject to any more legal risk or financial burdens for working in the legal cannabis industry than workers in any other industry.

The Cannabis Advisory Committee

Jesse Bontecou
Executive Director

Amanda Metzler
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Jeannette Ward Horton
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Jonathan Ross
Corporate Social Responsibility Manager, Diversity Equity and Inclusion, Community Affairs

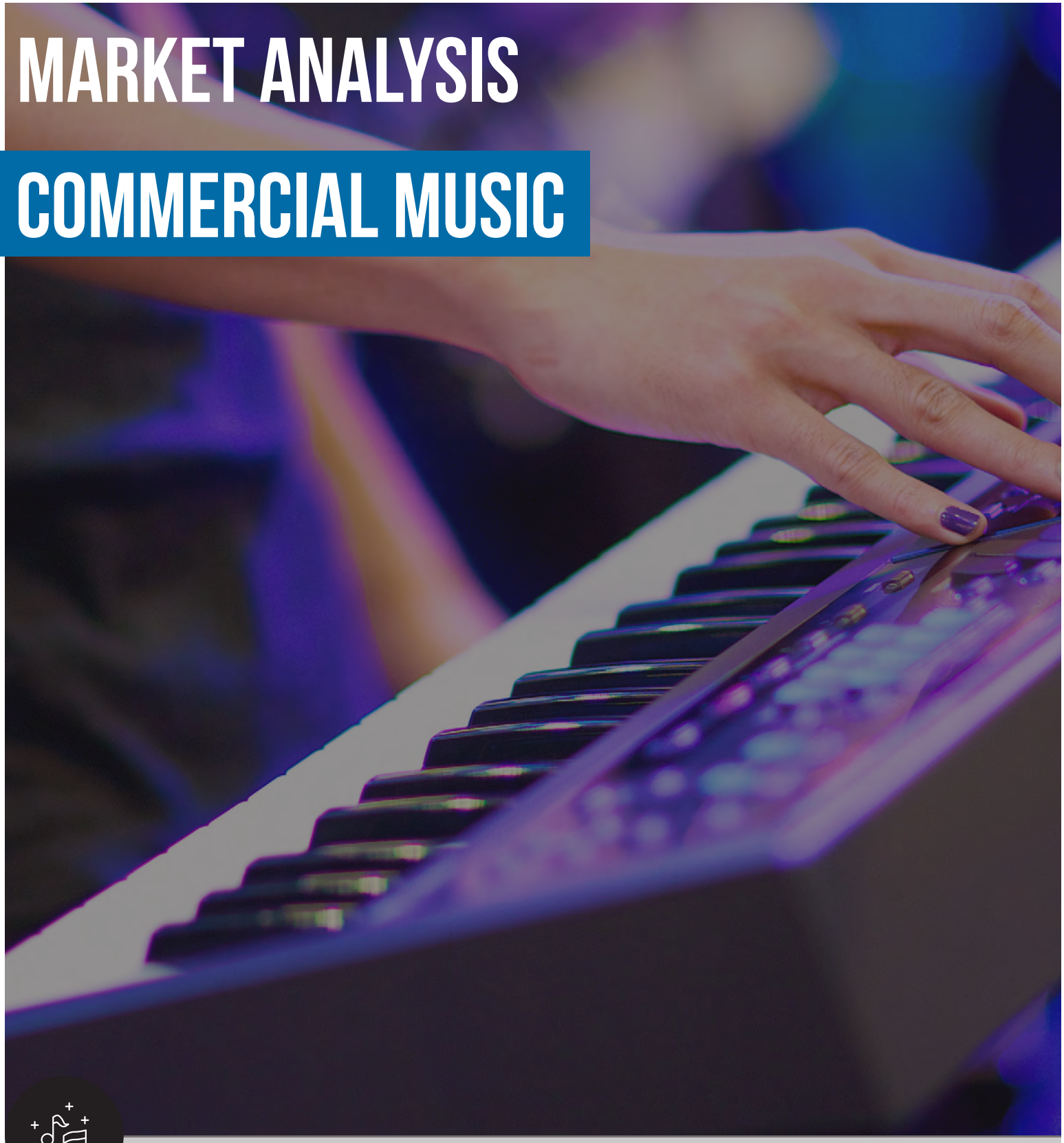
Joy Hudson,
Founder & CEO

Michael Getlin
Director Public Affairs

Laura Vega,
Executive Director

MARKET ANALYSIS

COMMERCIAL MUSIC



Northwest Economic Research Center,
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About the Consultant

The Northwest Economic Research Center (NERC) was jointly established by the College of Liberal Arts and Sciences and the College of Urban and Public Affairs at Portland State University (PSU) in 2011. The Center fills a need for applied economic research in an academic setting in Oregon and focuses on economic research activities to support public-policy and private-sector objectives. NERC specializes in models, data, and analytical methods applicable to issues of urban and regional economic development.

The mission of the NERC is to serve the public, nonprofit, and private sector community in the Pacific Northwest with high quality, unbiased and credible economic analysis. The objectives of NERC are:

- Contribute to policy analysis when policies have important economic implications.
- Advance the state of knowledge in applied economics research related to Oregon and the Portland Metropolitan Area.
- Facilitate dialogue among academic, business and government institutions on issues related to economics.

NERC provides analytically rigorous, unbiased studies, results and recommendations that are understandable to policymakers and stakeholders. The research team and staff at NERC come from a variety of backgrounds, have extensive experience conducting cross-disciplinary research, and specialize in data and policy analysis. Dr. Tom Potiowsky is the Senior Advisor of NERC, and the former Chair of the Department of Economics at Portland State University. Dr. Jenny H. Liu is NERC's Assistant Director and Associate Professor in the Toulan School of Urban Studies and Planning.

This report was researched and written by Dr. Jenny H. Liu, Dr. Steve Marotta, Emma Brophy, Rohan Khanvilkar and Hyeoncheol Kim.

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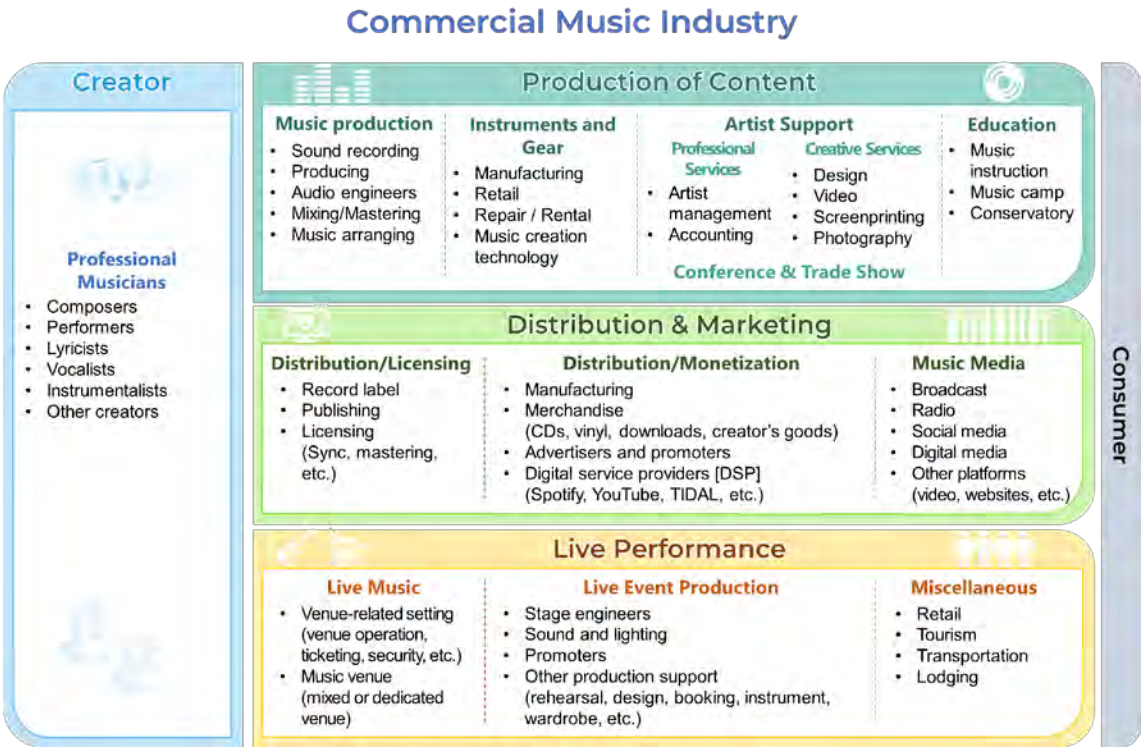
Overview

The full industry report and summary are available on Business Oregon's website.

Oregon has a vibrant creative presence, producing a diverse array of artists known on the national scale, in addition to independent artists mostly familiar on the local scene. The state is also home to many annual music festivals and live performance events that attract large numbers of attendees, while also playing host to music businesses big and small spanning sound recording studios, mastering engineers, composers, tuners, digital streaming services, graphic designers and music educators. All of these components of the Oregon commercial music industry economically impact their communities by providing entertainment and increasing profits for performance venues, distributing wages, and creating culture that attracts people from inside and outside the state. As such, Business Oregon and the Oregon Legislature recognized the commercial music industry as an important emerging industry sector.

This first-of-its-kind study in Oregon aims to provide a framework and baseline to understand the economic significance of the commercial music industry. To define Oregon's commercial music industry, the Portland State University NERC (Northwest Economic Research Center) research team synthesized past academic research, regional reports, cluster analysis and expert guidance from the Industry Advisory Group to develop a Commercial Music Conceptual Diagram that visualizes the industry sectors that connect the creators to the consumers - Production of Content, Distribution & Marketing and Live Performance.

Figure 3 - Commercial Music Industry Conceptual Diagram



To quantify the industry, the team mapped the conceptual industry diagram to NAICS codes through several processes, consolidating data from the 2022 Oregon Music Census, QCEW, OEWS, industry lists and IMPLAN to build inputs for the economic impact analysis. An economic profile that includes longer-term industry trends as well as detailed analysis of employment and payroll trends for each

industry sector, geographical distribution, occupational statistics, and growth subsectors. Economic impact analysis was conducted using IMPLAN, an input-output model that tracks economic activity through supply chain relationships within regional economies. To further provide context to our understanding of the commercial music industry ecosystem in Oregon, NERC conducted semi-structured interviews of commercial music industry professionals and analyzed responses from the Oregon Music Census in our qualitative research process. Finally, based on the comprehensive quantitative and qualitative analyses, the study identifies challenges and gaps within the industry, along with potential opportunities and strategies.

Based on NERC's quantitative and qualitative research and analysis, here are some key findings in this first exploration of Oregon's commercial music industry:

- Table 1 shows that in 2021 the commercial music industry contributed over 16,400 jobs directly in the state, for a total of 22,927 jobs (direct, indirect, and induced).
- These 22,927 commercial music industry jobs generated just below $1 billion in labor income and nearly $3.8 billion in economic output in the state, predominantly impacting *performing arts companies*, *independent artists and performers* and *other education services* (which includes music education) sectors.
- The commercial music industry's economic impacts in Oregon span all four sectors (Table 2), with more than 10,000 total jobs attributed to the Creator sector, 7,989 total jobs in the Production of Content sector, 1,557 total jobs in the Distribution and Marketing sector, and 3,035 total jobs in the Live Performance sector.
- The commercial music industry's economic activity, labor income, and hiring also has effects on public tax revenues, contributing more than $68 million towards Oregon's state and local governments (Table 10).
- Music industry workers and owner/operators highlighted Oregon's resourceful and creative communities and cross-genre and cross-sectoral networks as being major regional advantages, despite the challenges associated with stagnant wages and lingering effects of the pandemic-related closures and economic downturn.
- Additionally, we identified Audio Equipment Manufacturing (334310) as well as Promoters of Performing Arts with Facilities (711310 - music venues, festivals and concert halls) as potential growth subsectors. Some instrument and gear manufacturers reported difficulties in expanding their business due to strictures in affording the time involved in training apprentices from scratch. However, businesses, especially manufacturers, were able to rely on networks to help accelerate their businesses. The importance of networks, to this end, cannot be overstated.
- Rough estimates of additional off-site spending by attendees at live performance events suggest that it may contribute another 4,154 total jobs across the Oregon economy, and more than $186 million in total labor income and $503 million in total economic output, mostly distributed through the restaurant, hotel, transportation and retail industries.
- Many music venues experience challenges in providing sufficient wages/compensation to performers due to increases in various costs of operating in the form of licensing fees, rising costs of labor, having to paying for noise abatement improvements in response to residential developments changing community guidelines, and limitations in drawing enough customers due to the inability to host all-ages performances.

- The prevalence of informal contracting and “handshake agreements” may also hurt venues due to the implicit challenges of an inability to scale-up their operations in addition to being potentially ineligible for public assistance grants due to a lack of “formally employed” staff.
- The pandemic was a significant challenge, especially for venue and event operators, performers and businesses that support these activities. Mandated COVID-19 closures starting in March 2020 led to employment drops of up to 60% in these sectors, compared to an overall decrease of 13% in Oregon. However, a number of gear and instrument manufacturers saw upticks in their businesses as people began looking for new hobbies during pandemic-related closures.

The following are some recommendations that can improve the competitiveness and support the growth of the emerging Oregon commercial music industry:

- We recommend the establishment of an Oregon Music Office – much along the lines of the Texas Music Office, New York Office of Media and Entertainment, or Oregon Film – to help develop and grow the industry in an equitable manner. Such an office may also assist in interfacing with local and state-level policy makers, future researchers and data collectors, as well as within the industry itself.
- Grants or incentives may be necessary to allow small businesses and independent professionals to scale up their production in Oregon, and to bridge the gap during economic downturns, severe weather or wildfire events for creators and live performance related businesses.
- Many commercial music businesses are currently misclassified in economic databases. To more accurately capture the industry, additional outreach and educational efforts are essential to help firms input an appropriate NAICS code or to participate in databases.
- On-going research on both quantitative and qualitative fronts is critical to build on this baseline understanding about the full extent of commercial music industry’s economic contributions, to address gaps in the existing network, and to strategize around how to foster inclusive environments for the industry to grow.

Table 1 - Oregon Commercial Music Industry Economic Impact Summary (2021 Dollars)

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	16,439	$531,376,572	$1,345,156,922	$2,547,480,493
Indirect Effect	3,665	$268,840,827	$381,061,808	$686,339,739
Induced Effect	2,823	$177,126,746	$313,318,172	$524,120,737
Total Effect	22,927	$977,344,145	$ 2,039,536,902	$3,757,940,969

Table 2 - Oregon Commercial Music Industry Economic Impacts by Industry Sector (2021 Dollars)

	Type	Employment	Labor Income	Total Value Added	Output
Creator	Direct	8,702	$142,477,251	$670,367,722	$976,288,396
	Indirect	911	$53,111,096	$74,427,253	$139,770,876
	Induced	696	$43,601,191	$77,134,098	$129,041,084
	Total	10,308	$239,189,538	$821,929,073	$1,245,100,357
Production of Content	Direct	4,934	$273,705,593	$485,571,127	$1,048,910,271
	Indirect	1,585	$144,762,587	$207,545,025	$365,296,392
	Induced	1,470	$92,247,556	$163,165,810	$272,931,744
	Total	7,989	$510,715,736	$856,281,962	$1,687,138,406
Distribution & Marketing	Direct	417	$46,736,599	$75,439,955	$322,071,553
	Indirect	808	$47,299,174	$64,457,476	$115,554,743
	Induced	332	$20,851,900	$36,885,766	$61,704,036
	Total	1,557	$114,887,673	$176,783,197	$499,330,333
Live Performance	Direct	2,361	$67,319,023	$110,102,046	$194,439,711
	Indirect	355	$23,206,248	$33,934,007	$64,389,623
	Induced	320	$20,074,512	$35,510,646	$59,403,725
	Total	3,035	$110,599,783	$179,546,699	$318,233,059

The Power of Music: Economic Analysis

Oregon's commercial music industry has been identified as an important emerging industry, but analysis is difficult due to the lack of a cohesive classification schema. Music affects a variety of sectors that are not grouped in the NAICS framework, and does not follow a traditional supply chain, because it has attributes of both a good and a service. In order to situate and define commercial music activity, the report briefly summarizes the importance of this sector on a broad basis, as the justification for developing policies for support. Next, it describes conventional modeling techniques for assessing economic impact and the scope of the industry in Oregon, and provides sources from other geographies as a basis for the identification of useful methodologies and data sources and examples of policy initiatives that have been proposed and implemented elsewhere.

A thorough examination of the many sectors included for this analysis forms the basis for the body of results, which has two parts. First, a detailed conceptualization of the commercial music industry is constructed, which subsequently informs economic impact analysis that estimates the economic footprint of the commercial music industry as represented by music production and distribution entities in Oregon. Secondly, the quantitative results are supplemented by qualitative survey and interview data in order to create a more comprehensive summary of economic activity related to commercial music production in the state. Finally, we provide a discussion of the challenges and gaps identified through our research processes, and present potential opportunities and strategies to address them.

Defining Oregon's Commercial Music Industry

The commercial music industry can be described as the creation, production, distribution and consumption of music-related objects and activities for profit. This report attempts to capture as much relevant economic activity as possible by including every sector directly related to commercial music production as economic modeling inputs for strong quantitative results, supplemented with extensive qualitative survey and interview data.

Previous Research in Oregon

Oregon has a vibrant creative presence, producing a diverse array of artists known on the national scale– including Sleater-Kinney, the Dandy Warhols, Robert Cray, Everclear, Pink Martini, Mel Brown, and Portugal The Man. No less culturally important, artists mostly familiar on the local scene economically impact their communities by providing entertainment and increasing profits for performance venues, distributing wages, and creating culture that attracts both permanent residents and visitors from inside and outside the state.

In recent years, there is evidence that the state is a prominent emergent music destination. In December of 2022, the Oxford American magazine published an article highlighting Oregon's contribution to modern country attracting considerable attention as it undergoes an internal revolution – as represented by artists who performed at that year's Pickathon. This annual music festival takes place each year in Happy Valley, Oregon, and draws visitors from across the state and beyond.[19] Earlier this year, *Downbeat* magazine cited local jazz club The 1905 as a top global venue for jazz music in its February 2023 Venue Guide.[20] Project management software company Workamajig conducted an analysis of 331 metropolitan areas with populations over 100,000 on the basis of its creative innovation, based on a number of factors including the number of creative jobs, artists, and musicians, as well as number of film and music festivals per capita. Portland ranked as third: the West Coast capital of the blues (and home of the Waterfront Blues Festival), with a musical scene that also features some of the hottest metal and hip-hop scenes in the nation. Bend also showed distinction at number 85.[21] Every year, a diverse array of music festivals draw tourists and generate economic activity through commercial music, including the Oregon Bach Festival and Oregon Country Fair in Eugene, the eponymous Pendleton Whisky Music Festival, and Oregon Jamboree in Sweet Home. By supporting live performance outside of the Portland metropolitan area, policy makers can increase tourism to those areas, as well as expanding the benefits of production discussed above.

In addition to an increasingly vibrant live music scene, Oregon boasts many firms prominent in the commercial music industry. Portland-based CD Baby, an online distributor for independent musicians, provides a variety of services ranging from digital streaming to YouTube monetization and marketing– vital tools for any modern professional musician. Ear Trumpet Labs manufactures one-of-a-kind handmade microphones used by world-famous artists spanning the genres, from Brandi Carlisle to the Violent Femmes. Biamp, located in Beaverton, provides top-tier audio visual services, and has been the title sponsor of the PDX Jazz Festival multiple times.

Oregon's top venues both attract visitors and generate substantial economic activity. Five of Portland's best known performance spaces– in the 2016-17 fiscal year, Keller Auditorium, the Arlene Schnitzer Concert Hall (affectionately known as the Schnitz), and the Newmark, Dolores Winningstad, and Brunish Theaters, generated $104.4 million dollars in spending and supported 1,050 full-time equivalent jobs.[22] These venues frequently host nationally and globally famous artists, whose presence draws visitors and injects money into the local commercial music industry. Equally prominent are the Roseland Theater (which hosts crowds up to 1,400), McMenamins Crystal Ballroom, and the Moda Center, a massive space that doubles as the home of the Portland Trail Blazers. Smaller venues thrive as well– the Doug Fir Lounge serves as an indie showcase for both national and local artists, and Mississippi Studios (which additionally serves as a recording studio) is a frequent destination for both tourists and locals alike. Outside of Portland, Cuthbert Amphitheater in

[19] JUSTIN TAYLOR, "NOT COUNTRY, NOT WESTERN, JUST WEST," *OXFORD AMERICAN*, 2022.
[20] JASHAYLA PETTIGREW, "THIS PORTLAND OR JAZZ VENUE HAS BEEN NAMED ONE OF WORLD'S BEST," *KOIN*, 2023.
[21] "BEST CITIES AND SMALL TOWNS IN THE U.S. FOR CREATIVE |," WORKAMAJIG, 2023.
[22] Portland'5 Centers for the Arts, "Connecting Community and Culture Portland'5 Centers for the Arts FY 2016-17 Report," 2018.

Eugene and McMenamins Edgefield in Troutdale provide outdoor concerts that sell out every summer to crowds numbering in the thousands.

The sole economic analysis of the arts and music industry in Oregon is the relevant section from the 2017 fifth edition report produced by Americans for the Arts, *Arts and Economic Prosperity 5.*[23] This report focuses solely on nonprofit arts, but the results are nevertheless striking– by utilizing a standard economic cluster analysis approach, the authors find that nonprofit arts in Oregon gave rise to $687 million in total spending in 2015, $323 million of which came from event-related spending by audiences attending live performances. Additionally, nonprofit arts organizations supported labor hours equivalent to 13,939 full-time jobs, and generated $26.7 million in local and state tax revenues. The next update in this series, Arts and Economic Prosperity 6, is set to be underway in May of 2023.

Research in Other Geographies

Nearly all reports used to inform this one are economic impact analyses, meaning that they select industry sectors for inclusion in input-output modeling, with or without supplemental data presentation and interview or survey components. Table XX, below, summarizes the included reports. The prevalent method is impact analysis, informed by various forms of qualitative input to provide refinement and context for the results. The majority of studies focused on city or county level music industry activities, with only a few that examine state-level economic impacts in Georgia, Texas and Colorado. This section of the review summarizes previous reports in other areas, with an emphasis on the data sources used for analysis.

Memphis and Shelby County, Tennessee[24]

Economic impact of the music industry in Memphis and Shelby County (2004) considers three complications in its analysis: the music industry includes both non-profit and for-profit organizations; music can be consumed in a variety of ways; and participants are often part-time or self-employed, thereby making it difficult to capture detailed information about the industry. Commercial music studios, producers, bands, lawyers, musicians, retail establishments, and teachers are all included. The objective is to capture music-related tourism, music education, and even casinos.

Atlanta and the State of Georgia[25]

This report, titled *Economic Impact of the Commercial Music Industry in Atlanta and the State of Georgia: New Estimates*, was written in 2007 to provide a basic outline of the music industry at that point in time. Following a literature review in order to determine relevant sectors, the report presents a basic IMPLAN analysis. The authors argue that music industry displays increasing returns to scale, due to the concentration of activity in few areas and subsequent amplification of effects in the local economy.

Nashville, Tennessee[26]

Three reports have defined the scope and impact of the music industry in the city of Nashville in recent years. The first, written in 2007, cross-checks data from the 2002 U.S. Census County Business Patterns Database against three different sources: proprietary data from ReferenceUSA, a 2005 survey of 325 local music industry leaders, and a model for estimating the impact of touring artists in Nashville. This ensures a more complete accounting of the industry than a single source

[23] AMERICANS FOR THE ARTS, "ARTS & ECONOMIC PROSPERITY 5 - THE ECONOMIC IMPACT OF NONPROFIT ARTS & CULTURAL ORGANIZATIONS & THEIR AUDIENCES IN THE STATE OF OREGON," 2017.

[24] JOHN E. GNUSCHKE AND JEFF WALLACE, "ECONOMIC IMPACT OF THE MUSIC INDUSTRY IN MEMPHIS AND SHELBY COUNTY," *BUSINESS PERSPECTIVES* 16, NO. 3 (2004).

[25] NIKOLA TASIC AND SALLY WALLACE, "ECONOMIC IMPACT OF THE COMMERCIAL MUSIC INDUSTRY IN ATLANTA AND THE STATE OF GEORGIA: NEW ESTIMATES," 2005, 27.

[26] NASHVILLE AREA CHAMBER OF COMMERCE, "2020 MUSIC INDUSTRY REPORT," 2020.

would allow. Next, the authors used the Regional Economic Models, Inc. (REMI) input-output analysis program to translate this scope into economic and fiscal impacts in the Nashville metropolitan statistical area.

In 2013 and 2020, two more reports came out, both using IMPLAN software to describe the scope and impact of the local music industry. The first, published in 2013, identifies notable music industry sectors in Nashville that have a traded relationship with other sectors. Next, the study provides jobs supported, earnings, and location quotient for these sectors. Location quotient is a measure that indicates the relative concentration of a particular industry in a given area– in other words, that area's degree of specialization in a given industry (Harper et. al 2013). For this analysis, proprietary data from Economic Modeling Specialists International (EMSI), Equifax, and OneSource are used to inform and modify IMPLAN's input-output matrix, and expert interviews offer context for the report and insider knowledge of the industry.

In 2020, the city of Nashville produced the second report, with additional detail and qualitative research. In this report, the authors enhance the previous IMPLAN analysis approach by using EMSI data in combination with more granular data from applied economic consulting firm Chmura Economics. Additionally, the report includes summaries of the results of a 98-question survey of music industry professionals and a 50-question survey of music consumers. These surveys were conducted online from March to September of 2020 and received a total of 2,589 responses.

Chicago, Illinois[27]

Chicago Music City, written in 2007, assesses the vitality of the city's music industry by comparing spending, employment, payroll, and other data from the music industry with data from other cities. Subsectors are separated into core and peripheral industries. After assembling all relevant data, the authors compare Chicago with fifty other metropolitan areas in order to determine its comparative strength via location quotient, with the goal of setting a benchmark in order to enable tracking. Expert input from music industry and arts advocates informs the report.

Seattle and King County[28,29]

A 2005 report for the Mayor's Office of Film and Music, *The Economic Impact of Music in Seattle, and King County*, emphasizes the difficulty in determining what portions of a related NAICS sector should be included. The authors note that while the entirety of Musical Instrument Manufacturing is clearly part of the industry, Truck Transport of Household Goods, which might include pianos or other types of musical equipment, is also involved. From this perspective, it is clear how elusive the music industry can be, when examined using the only largely-available data classification system. In order to get around this problem as much as possible, the authors used lists of registered businesses in combination with publicly available data to construct informed employment estimates, which were subsequently used in an input-output model to estimate the full set of impacts for both Seattle and King County as a whole.

In 2015, The Musicians Association of Seattle produced a report titled *Seattle's Working Musicians* in collaboration with a local musicians' union and the American Federation of Musicians. The authors outline the general composition of the industry and provide an economic impact analysis performed using IMPLAN using publicly-available data. A survey of Seattle musicians conducted over the course

[27] "CHICAGO MUSIC CITY," 2007.
[28] WILLIAM B BEYERS, CHRISTOPHER FOWLER, AND DERIK ANDREOLI, "THE ECONOMIC IMPACT OF MUSIC IN SEATTLE AND KING COUNTY," NOVEMBER 2008, 54.
[29] MEGAN BROWN, "SEATTLE'S WORKING MUSICIANS," *FAIR TRADE MUSIC PROJECT OF THE MUSICIANS' ASSOCIATION OF SEATTLE*, 2015, 46.

of six months informs a thorough description of working conditions and the nature of the musical gig economy, as well as a selection of policies that could support the industry.

***New York City*[30]**

This report defines four categories of activity in the music industry: local artist communities (artists, small venues, rehearsal spaces, and educational institutions), mass music consumption (professional performing groups, radio broadcasting, streaming services, radio, and large venues), the global record business (record labels, music publishers, and talent managers and promoters), and infrastructure and support services (recording studios, digital services, royalty and accounting services, entertainment lawyers, and others). Rather than defining industries as core and peripheral, this report seeks to capture the most comprehensive impacts by using this expanded set of sectors in its impact analysis.

***Colorado*[31]**

This 2018 statewide report, *Colorado's Music Industry: A Current Analysis and Look Forward,* uses NAICS codes to define the music industry. After music-related industries are identified with NAICS codes, they are classified by what industries are involved in the production and consumption of music directly and indirectly. In cases of indirect connection, complementary data sources are used to estimate how much of the subsector in question is dedicated solely to music. Results are calculated using an EMSI impact analysis.

Commercial Music Industry Conceptual Diagram

Cluster analysis methodology was utilized as one of the first steps in constructing the commercial music industry conceptual framework.[32] The U.S. Cluster Mapping Project provides nationally consistent benchmark cluster definitions that can be used to assess the presence of clusters at any regional unit. The methodology groups 778 six-digit NAICS (North American Industry Classification System) industries into 51 traded cluster categories, and 310 NAICS industries into 16 local cluster categories (all mutually exclusive). The tables below list the sectors included for the music and sound recording and performing arts industries. These definitions inform, but do not constitute, the NAICS sectors used for this analysis, which both refines and expands upon these groupings.

Table 3 - Traded Cluster (2007 NAICS codes) – Music and Sound Recording

NAICS	NAICS Name	Subcluster Name
512210	Record Production	Music and Sound Recording
512220	Integrated Record Production/Distribution	Music and Sound Recording
512230	Music Publishers	Music and Sound Recording
512240	Sound Recording Studios	Music and Sound Recording
512290	Other Sound Recording Industries	Music and Sound Recording

[30] NEW YORK CITY MAYOR'S OFFICE OF MEDIA AND ENTERTAINMENT AND THE BOSTON CONSULTING GROUP, "ECONOMIC IMPACT, TRENDS, AND OPPORTUNITIES MUSIC IN NEW YORK CITY," 2017.

[31] MICHAEL SEMAN, "COLORADO'S MUSIC INDUSTRY: A CURRENT ANALYSIS AND LOOK FORWARD," 2018, 29.

[32] MERCEDES DELGADO, MICHAEL E. PORTER, AND SCOTT STERN, "DEFINING CLUSTERS OF RELATED INDUSTRIES," NBER, 2014.

Table 4 - Traded Cluster (2007 NAICS codes) – Performing Arts

NAICS	NAICS Name	Subcluster Name
711110	Theater Companies and Dinner Theaters	Performing Artists
711120	Dance Companies	Performing Artists
711130	Musical Groups and Artists	Performing Artists
711190	Other Performing Arts Companies	Performing Artists
711510	Independent Artists, Writers, and Performers	Performing Artists
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities	Promoters and Managers
711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities	Promoters and Managers
711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Figures	Promoters and Managers

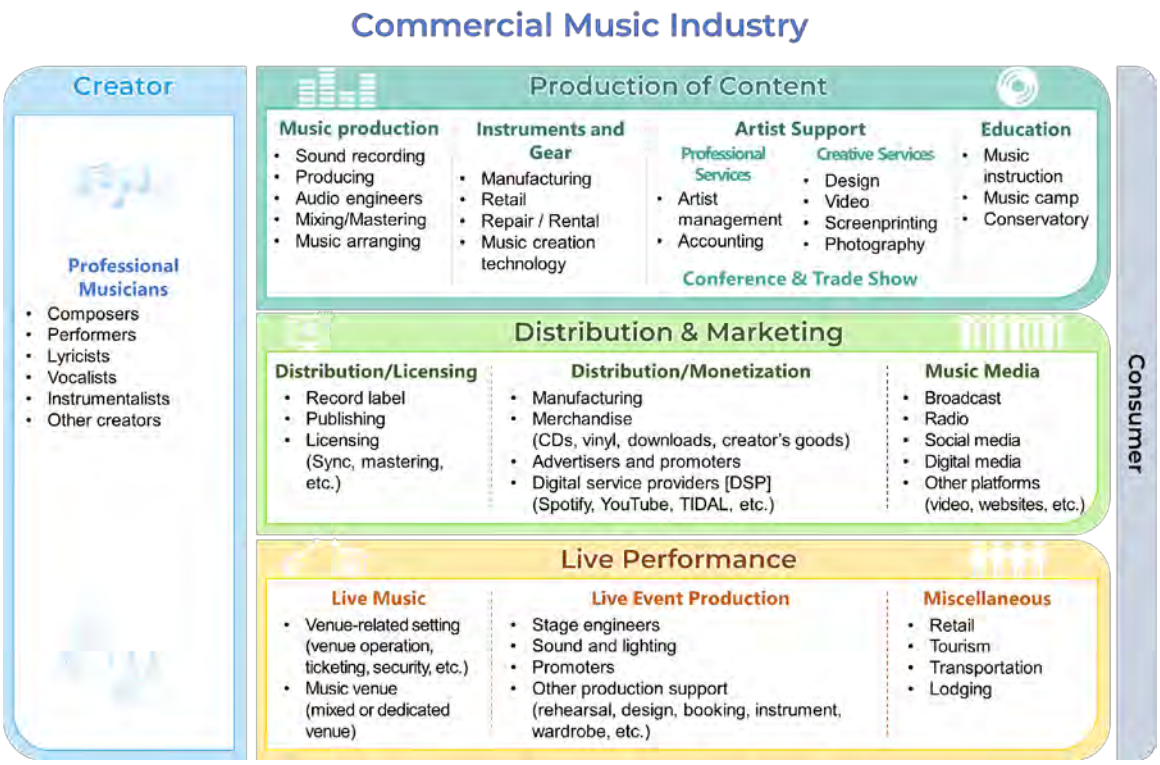
The commercial music industry involves the creation, production, distribution, and promotion of commercial music for the purpose of generating profit. However, defining the commercial music industry can be challenging: it does not conform to standard industry classification, definitions and measurements for key concepts such as sales, royalties, and market share, making it difficult to compare and analyze data across different sectors and markets; and various sectors within the industry often overlap and interact in complex ways (with combinations of horizontal and/or vertical integration within the commercial music ecosystem), further complicating the process to clearly delineate each sector or subsector.

For example, a record label may also engage in producing live performances, music publishing, and merchandising; or a performer may be an individual recording artist but also play an instrument within a larger ensemble, in addition to managing an artist booking business; or a session player may be engaged in live performances as well as in the manufacturing and sale of merchandise, and also spend some time supplementing their income with private music lessons; or someone who operates a music venue (and all of its related operations) might also be a professional musician themselves.

To understand the complexity of the commercial music industry, a commercial music industry conceptual diagram (see **Figure 4** below) was created based on the existing research literature, cluster analysis, guidance from industry experts in the Industry Advisory Group and interviews with industry participants to visualize three major industry sectors that exist between the creators and consumers, and descriptions of the sectors follow the diagram.[33]

[33] Note that this industry conceptual diagram is representative in nature. It does not comprehensively list all examples of those who may belong within the industry, nor does it depict any potential overlaps or integration between different sectors of the industry.

Figure 4 - Commercial Music Industry Conceptual Diagram



- **Creators**: Creators are responsible for writing, performing, recording, and producing music that will be marketed and sold to end users, who may be consumers and/or businesses. They may work with record labels, managers, and agents to advance their careers, generate additional value, and maximize their revenue potential. Creators earn revenue from a variety of sources, including sales of physical and digital music products, live performance revenue, royalties from public performance rights, and licensing fees for the use of music in film, television, and other media. They can be categorized in different ways, such as composers, performers, lyricists, vocalists, instrumentalists, and others who contribute to the creation of music content.
- **Production of Content**: As a crucial part of the commercial music industry, production of content encompasses the vast range of infrastructure necessary for creating various forms of music. Businesses and people in this sector, both directly and indirectly, assist creators in realizing their ideas in the form of music, providing them with support to create music content in a suitable environment, and preparing commercial music commodities and experiences.
    - **Music Production**: Music production helps produce and transform musical content that originate from the creativity and musical talents of creators through various processes, including recording, mixing and mastering, arranging, and so on. It is a complex and collaborative process that involves many individuals and companies working together to bring music to audiences.
    - **Instruments and Gear**: The instrument and gear subsector in music production provides musicians, producers, and other creative professionals with the tools and equipment they need to create and produce music. These tools and equipment include musical instruments, audio equipment, studio equipment, DJ equipment, and accessories, among others. By providing access to high-quality and versatile musical instruments and equipment through the processes of manufacturing, retail, repair and

rental, the instrument and gear subsector enables creators to bring their musical visions to life and to produce content of the highest quality.
    - **Artist Support**: This industry subsector provides support to artists and creators with professional and creative services, by enabling creators to focus on creating content or performing, and by creating engaging and visually appealing music content and promotional materials through design, photography, etc.; or, by providing legal or accounting/payroll services. Additionally, conferences and trade shows serve as an opportunity to network, connect with other industry professionals, and gain access to the latest industry information and trends.
    - **Education**: Music education can take many different forms, including formal training at music schools and universities, as well as informal training through private/group lessons, workshops, online courses, and mentorship programs. It can be an important component for musical content creators to develop their abilities and competence in the commercial music industry. At the same time, these creators may also be educators, sharing their knowledge and skills with future generations of musicians and producers, while benefiting from a reliable source of revenue.
- **Distribution & Marketing**: In the commercial music industry, distribution and marketing refers to the processes of making music available to audiences and promoting it to generate interest and sales. This involves making music available to audiences through various channels, including physical products (e.g. CDs, vinyl records), digital downloads and streaming services. In addition, it involves promoting music through advertising, music videos, tours, and other promotional activities.
    - **Distribution/Licensing**: The role of distribution and licensing is to facilitate the transfer of music from the creators to various users, such as film studios, advertisers, or video game developers. When it comes to music licensing, it refers to the process of obtaining legal permission to use a specific piece of music in a particular context. In exchange for the use of the music, the licensee pays a fee to the copyright holder, typically the artist, songwriter, or music publisher. Distribution companies work to secure licenses for the use of music in various contexts, negotiate the terms of the license agreements, and manage the payment of licensing fees.
    - **Distribution/Monetization**: Closely related to licensing in distribution of musical content, monetization is strongly tied to the process of generating revenue from music, enabling artists and producers to monetize their music and reach a wider audience. This revenue can be achieved through various means, such as selling CDs, downloads, and streaming services, licensing music for use in films, television shows, commercials, and video games, through live performances and merchandise sales.
    - **Music Media**: Music media refers to the various platforms and channels through which music is distributed and consumed. In terms of a communicative space, it provides artists and producers with a means to reach audiences, build fan bases, and generate revenue from their music. As online environments become increasingly important for enjoying music, music media is progressing toward the consolidation of diverse platforms from broadcasts, radio to social and digital media.
- **Live Performance**: As a face-to-face channel of musical content delivered to audiences, live performance refers to musical performances by artists in front of live audiences including concerts, festivals, and other live events. It is a key part of the music industry's ecosystem not only because it allows artists to connect with their listeners and generate income through ticket sales and merchandise, but also because it is a significant source of revenue for both artists and relevant industries like sound engineers, lighting designers, and ticketing agencies.
    - **Live Music**: Live music refers to musical performances that take place in front of a live attendee, offering artists and listeners a unique and dynamic musical experience. For

organizing live music, various elements are interplaying within the music venues, such as venue operation, ticketing, and security, to support live music events and provide a dynamic and enjoyable musical experience for artists and fans alike. Furthermore, live music varies according to music venues. Depending on the type of music being performed, they can be divided into two categories: mixed venues, which are multi-purpose spaces that host a variety of events, and dedicated venues, which are specifically designed for live music events with optimal acoustics, lighting, and stage setups.

- **Live Event Production**: Live event production involves a variety of industries working together in order to create a high-quality, safe, and memorable musical experience for the audience. More focused on building live music events, it includes technical production and other supportive industries to plan and coordinate successful performances. Technical production entails companies responsible for setting up and running all the technical aspects of the performance, such as sound, lighting, video, and special effects. Supportive industries include various actors who engage in the operation and organization of the live events through promoting, booking, and complementing with instruments and wardrobes.
- **Miscellaneous**: In terms of contributions of listeners participating in live performances, attendees can affect the music economy in various ways of generating additional revenue. Within a broad network related to the commercial music industry, attendees' contributions appear in several ways: retail (purchase merchandise such as t-shirts, CDs, and other merchandise related to the artist or event), tourism (attract tourists who are eager to attend live music performances outside of the venue), transportation (travel to and from the event), and lodging (need to book a hotel or other accommodation in order to attend a live event).

Quantifying the Commercial Music Industry

The constructed commercial music industry conceptual diagram provides us with a solid basis to understand the various components that contribute towards the industry, but it is still necessary to progress from this conceptual understanding to quantify the contribution of the industry to Oregon's economy. The following section starts with a description of the process to translate the conceptual industry diagram to NAICS codes, data sources, data summaries and the identification process that will produce the necessary inputs for the economic impact analysis. Then, we follow with an overview of the economic impact analysis (or more accurately, in this case, an economic contribution analysis), and the estimated economic impacts of the commercial music industry in Oregon.

Conceptual Diagram to NAICS Codes

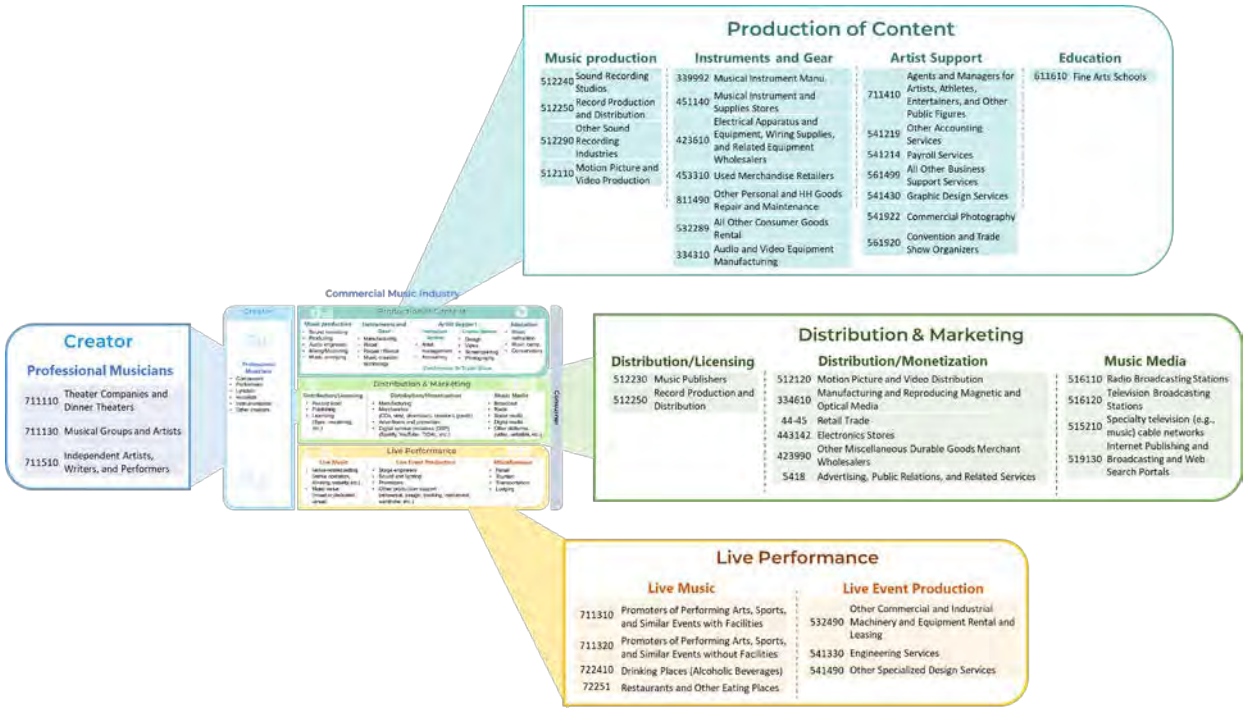
The commercial music industry generates revenue from a wide range of sources, including the sale of physical and digital music products (such as CDs, vinyl records, and digital downloads), streaming services (such as Spotify and Apple Music), live performances and tours, merchandise sales (such as t-shirts and posters), licensing of music for use in TV, film, and advertising, and publishing rights (such as royalties for the use of a song's lyrics). Additionally, the commercial music industry also generates revenue from the provision of goods and services that facilitate the creation, production, distribution and promotion of music, such as the those who manufacture and sell musical instruments, synthesizers, amplifiers, headphones, apps and software, vinyl records; or those who provide services ranging from editing, arranging, mastering to graph design and sound and lighting providers. In addition, there are other revenue streams such as sponsorships, endorsements, and brand partnerships, as well as revenue from social media and digital content creation.

Within the framework of the Commercial Music Industry Conceptual Diagram (**Figure 5**) and how revenue and income streams flow between the final consumers and the creators, producers, distributors and promoters of the commercial music industry, it is essential to translate these industry categories into NAICS (North American Industry Classification System) codes, a standardized way to classify business establishments "used by Federal statistical agencies (...) for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy"[34]. While certain NAICS industry sectors clearly map to various categories of the conceptual diagram such as 711130 for Musical Groups and Artists, 512250 Record Production and Distribution or 339992 Musical Instrument Manufacturing, many other parts of the industry do not fall under well-defined NAICS codes, such as 334310 Audio and Video Equipment Manufacturing (which might include car stereo manufacturers or aviation headset manufacturers) or 711310/711320 Promoters of Performing Arts, Sports and Similar Events (which might include basketball teams, marathon organizers or quilting festivals). Generally, industries that fall under the commercial music umbrella are those that are primarily engaged in the creation, production, and distribution of music recordings, and related products and services. The following are the primary inclusion criteria for NAICS codes to be mapped to the Commercial Music Industry Conceptual Diagram:

1. **Primary business activity**: Companies or people that have music creation, production, distribution or promotion as their primary business activity would be included in this industry. This includes record labels, music publishers, music distributors, and recording studios.
2. **Revenue source**: Companies or people that generate a significant portion of their revenue from the commercial use of music, such as licensing, royalties, or music streaming, may be considered part of the commercial music industry.
3. **Target market**: Companies or people that primarily target consumers who are interested in music-related products or services, such as concert promoters, music retailers, and ticketing companies, may be considered part of the commercial music industry.
4. **Music commodities (related products or services):** Companies or people that provide services or products that are directly related to the creation, production, or distribution of music, such as musical instrument manufacturers, music software developers, or sound equipment providers, may also be considered part of the commercial music industry.

[34] https://www.census.gov/naics/

Figure 5 - Commercial Music Industry Conceptual Diagram to NAICS Codes Conversion



Data Sources

To quantify the commercial music industry in Oregon, we obtained data from several sources, including the Quarterly Census of Employment and Wages (QCEW) and Occupational Employment and Wage Survey (OEWS) data from the Oregon Department of Employment, lists of music industry participants by industry category from MusicOregon, a list of venues and festivals from the Independent Venue Coalition (IVC), survey results from the 2022 Oregon Music Census, and IMPLAN (described in more detail in a later section).

2022 Oregon Music Census

A key component of the qualitative and quantitative analysis in this report is informed by the 2022 Oregon Music Census, which helped calibrate assumptions made about the size of Oregon's music industry in the QCEW and OEWS datasets, isolate relevant NAICS sector groupings, and informed the scope and focus of the qualitative interviews. Funded by Business Oregon, the Music Census was managed and conducted by the non-profit advocacy organization MusicPortland in a first attempt at establishing an industry-wide benchmark of commercial music in the state of Oregon. Consequently, MusicPortland defined and targeted the Census to capture economic and operational information across Oregon's music through the following sub-sectors: Instrument and Gear Manufacturing and repair; Labels, Distribution, and Licensing; Composing, Recording, and Performing Artists; and Production Professionals.

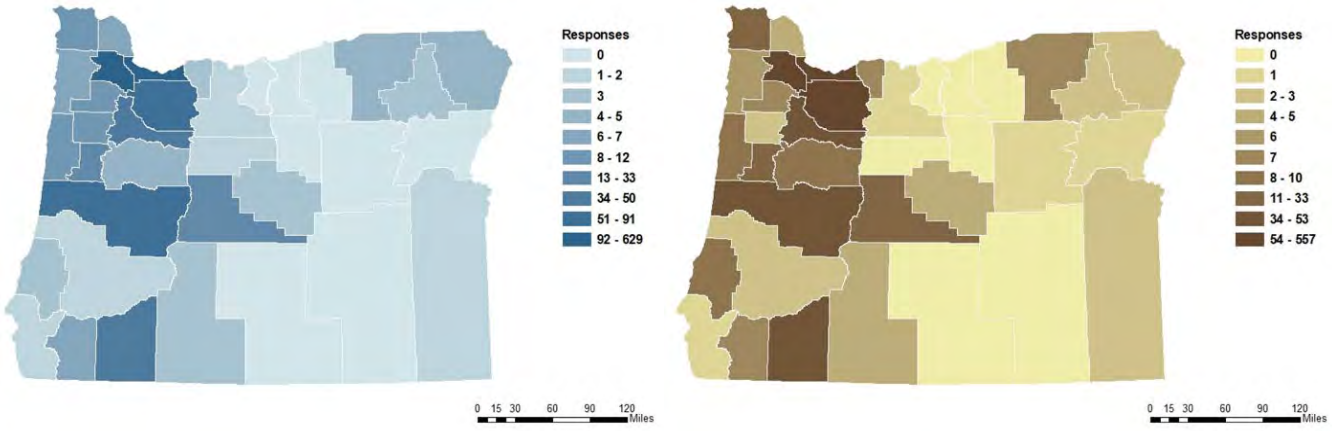
The Census was marketed to the music industry in Oregon through various channels of MusicPortland's self-hosted web properties, a direct email contacting list sourced from registered members of MusicPortland, soliciting participation from social media and in-person music networks and communities, targeted paid advertisements, editorial commitments from local news organizations and radio stations. The Census was active from December 2, 2022, through January 15, 2023, and collected 3,116 responses, nearly 2,431 of which were from respondents who met the survey's inclusion criteria; that is, identified themselves as being part of the music industry in Oregon in their capacity as a musician (40.5% of respondents), as manager of a commercial venture in the music

industry (22.4% of respondents), or as somebody who is both a musician and manages a commercial music venture (37.1% of respondents).

Demographically, of the 745 respondents who manage a commercial music venture that chose to report their race and gender, a majority identified as White/European Origin male. When examining demographics by sub-sector, the survey showed the sub-sectors of Distribution, Instrument and Gear, and Production to be most heavily dominated by respondents identifying as male; Mixed-Use Music Venues and Music Education sub-sectors were the highest in respondents identifying as female; and respondents identifying as non-binary or preferring to self-describe their gender identity were highest (relative to their presence in other sub-sectors) in the Music Event Promotion and Music Media sub-sectors.

To better understand the geographic distribution of respondents, the business zip codes of 1,134 musicians and 993 music business managers are mapped by county in **Figure 6** (note that these two subgroups have large overlaps as many musicians are also managers of businesses). Multnomah County garnered the largest number of responses in both groups, followed by Washington County and Clackamas County. This is likely due to both the larger populations in these counties, as well as the higher concentration of those on contact lists for the survey in these areas. Six counties recorded no responses in either category: Gilliam, Harney, Lake, Morrow, Sherman, and Wheeler Counties.

Figure 6 - Geographic distribution of 2022 Oregon Music Census responses by county



(a) Response as a musician (**b) Response as a music business manager**

The majority of respondents across all sub-sectors identified their commercial music ventures as sole proprietors or independent contractors, with the largest frequency occurring in Production, followed by self-defined sub-sectors and Music Education. Regarding labor expenditures, the survey had 202 respondents that volunteered W-2 expenditures and 201 respondents that volunteered 1099 expenditures. Of these, Live Music (Dedicated) venues were by far the largest in terms of both labor expenditures and gross revenues.

When considering the difference between average reported labor expenditures and gross revenues, the sub-sectors of Annual Music Festivals, Creative Services, Music Education, Music Media, and Production all reported labor expenditures greater than their gross revenues for 2019 and 2022 (anticipated) – however only Creative Services reported lower anticipated labor expenditures than their gross revenues for 2022. In fairness, we cannot be certain of the true gap between dedicated venues and the rest of the sectors because of the lack of distribution among respondents – nearly

22% of the respondents reporting expenditures were from live music (dedicated) venues. More importantly, a vast number of respondents across all sectors reported having no W-2 or 1099 expenditures whatsoever for both 2019 and 2022. Lastly, all the sub-sectors in the survey showed most respondents as having less than 20% of their revenues come from out-of-state for both 2019 and 2022, the only exception being the Instrument and Gear Manufacturing sector, who were distributed along the spectrum, the majority having less than 20% of their business come from out of Oregon.

The survey also accounted for respondents from creative services (photography, graphic design, merchandising), music media (radio, podcast, TV), and professional services (artist booking, accounting, public relations, legal). Businesses in these sub-sectors, although often discounted for their rather intangible presence, are very involved in the music industry. Most respondents from each of these sub-sectors stated that their business is between 75% to completely involved – either directly or indirectly – in Oregon's music industry.

Quarterly Census of Employment and Wages (QCEW)

The QCEW dataset is a comprehensive establishment-level data that includes employment levels and wages of all workers that are covered by state unemployment insurance. The non-aggregated establishment level data is typically confidential, but is available for state and local policy analysis or research purposes. NERC obtained QCEW data for the state of Oregon between 2017 and 2021 (the latest year of data available). It is typically straightforward to filter the QCEW data by NAICS codes when industries are well-defined, such as the food processing or wood product manufacturing industries, but quantifying the commercial music industry using these data sources presents a few significant challenges. First, there is the aforementioned lack of well-defined NAICS codes that represent the full scope of the industry's ecosystem; second, the commercial music industry is characterized by a large number of independent sole proprietors who are not covered by the QCEW dataset, such as independent professional musicians or graphic designers who might be sole proprietors or work on a gig basis; third, because NAICS codes are generally assigned to the primary business function of a firm, we may not be able to identify the businesses that work within multiple industries (for example, a combined record and bookstore may be classified as a bookstore); finally, the wide-ranging activities of commercial music businesses mean that they may be classified into NAICS codes that appear to have little relationship to music (for example, professional grade audio cable makers may be classified within 423610 Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers, or online music distributors may be classified as 454110 Electronic Shopping and Mail-Order Houses).

Our first round of identification attempted to filter the QCEW dataset based on the industry lists from MusicOregon and IVC, by names and addresses, as well as by manual matching of alternative names and addresses found online. These merging processes also helped the research team identify wrongly coded businesses and additional NAICS codes to be included as a part of the industry, but ultimately this did not yield a high percentage of match. That is, out of a total of 707 businesses, only 18% (127) were found to match the industry lists.

We then started with a short list of NAICS industries at the six-digit (most detailed) level that belong fully (or mostly) to the industry ecosystem (see **Table 5** below) based on the translation of the Commercial Music Industry Conceptual Diagram to NAICS codes. Then, for the other NAICS industries such as 334310 Audio and Video Equipment Manufacturing, 711310/711320 Promoters of Events, or 515112 Radio Broadcasting Stations, the research team sorted through the full or partial sample of QCEW businesses to estimate the percentage of those NAICS codes that comprise the commercial music industry. For the industry sectors that support the commercial music industry, we

utilized the 2022 Oregon Music Census with broad assumptions about the response rates[35] to estimate numbers of commercial music related jobs within industries such as 541214 Payroll Services or 541330 Engineering Services. Matched businesses from the industry lists that are not a part of the identified NAICS codes were added back in at this stage.

Table 5 - Majority and Partial Commercial Music NAICS Codes

Majority NAICS		Partial NAICS	
339992	Musical Instrument Manufacturing	334310	Audio and Video Equipment Manufacturing
451140	Musical Instrument and Supplies Stores	334614	Software and Other Prerecorded Compact Disc, Tape, and Record Reproducing and Reproducing Magnetic and Optical Media
512230	Music Publishers	423990	Other Miscellaneous Durable Goods Merchant Wholesalers
512240	Sound Recording Studios	443142	Electronics Stores
512250	Record Production and Distribution	453310	Used Merchandise Retailers
512290	Other Sound Recording Industries	5121	Motion Picture and Video Production and Distribution
611610	Fine Arts Schools	515210	Specialty television (e.g., music) cable networks
711130	Musical Groups and Artists	515112	Radio Broadcasting Stations
711510	Independent Artists, Writers, and Performers	515120	Television Broadcasting Stations
		519130	Internet Publishing and Broadcasting and Web Search Portals
		532289	All Other Consumer Goods Rental
		532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing
		541110	Office of Lawyers
		541214	Payroll Services
		541219	Other Accounting Services
		541330	Engineering Services
		541430	Graphic Design Services
		541490	Other Specialized Design Services
		541820	Public Relations Agencies
		541922	Commercial Photography
		561499	All Other Business Support Services
		561920	Convention and Trade Show Organizers
		711110	Theater Companies and Dinner Theaters
		711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities
		711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities
		711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures
		722410	Drinking Places (Alcoholic Beverages)
		722511	Full-Service Restaurants
		811490	Other Personal and Household Goods Repair and Maintenance
		813319	Other Social Advocacy Organizations
		813910	Trade Associations
		813930	Labor unions

Commercial Music Industry Economic Profile

Economic Profile Analysis by Sector

Next, we take a closer examination of the commercial music industry using more detailed QCEW data, to construct an economic profile of the industry and identify growth subsectors within the industry. For each commercial industry sector (Creator, Production of Content, Distribution and Marketing, and Live Performance), the general descriptive statistics and employment and wage trends are analyzed in

Figure 7. Note that these are annual employment and payroll numbers, and some of the more significant impacts of the pandemic-related closures in 2020 are not as visible—monthly employment numbers dropped by as much as 55% in the Creator sector, 26% in the Production of Content sector, 10% in the Distribution & Marketing Sector, and 59% in the Live Performance sector in April 2020 (compared to a monthly job loss of around 13% in Oregon).

[35] Because the 2022 Oregon Music Census was anonymous and did not collect identifying information, we are unable to calculate the response rate. Given some of the known numbers of Oregon musical acts and mixed-use venues, we assumed that the response rate for independent sole proprietors to be 20% and the response rate for businesses with employees to be 50%. We also assumed a 90% response rate for dedicated music venues.

- **Creator**: Jobs and wages both dropped significantly in this sector with the onset of the pandemic in 2020, and have not fully recovered in 2021.

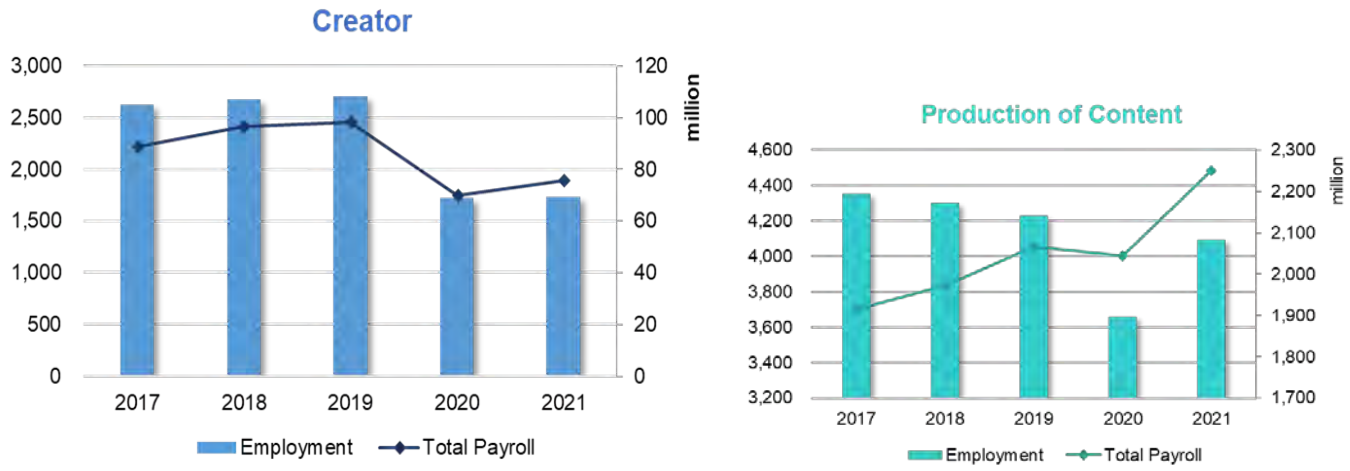
- **Production of Content:** The employment and payroll trends were drastically different for this sector, with a large reduction in employment between 2019 and 2020 followed by a partial recovery in its employment and substantial growth in total payroll in 2021.

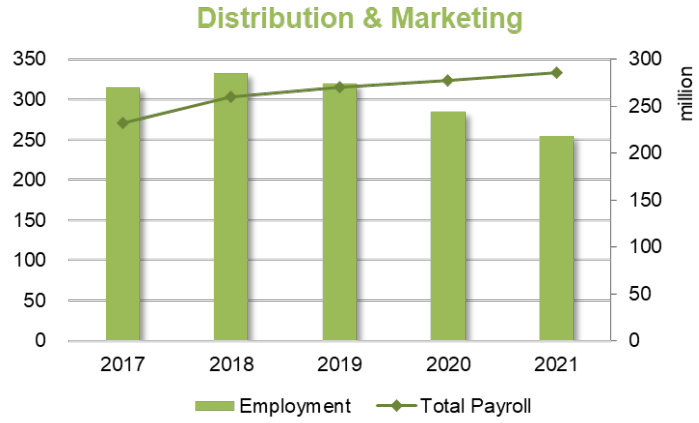
- **Distribution and Marketing:** After reaching a peak in 2018, the employment in this sector had been steadily decreasing from 2018 to 2021. However, the total payroll has been increasing steadily despite the drop in employment.

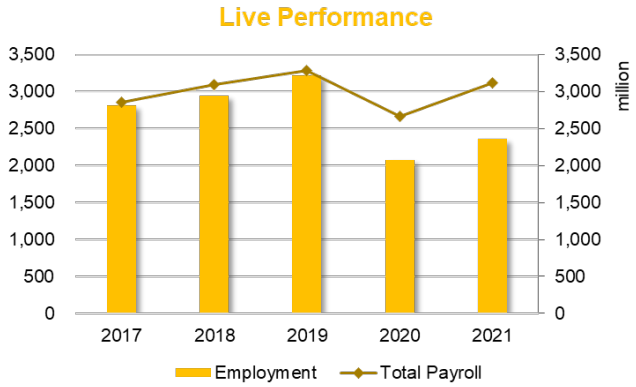
- **Live Performance**: This sector is highly correlated with the Creator sector, and showed significant drops in employment and wages after 2019, but subsequently wages had returned to their 2018 levels while employment remained in recovery.

When compared to overall trends in employment and wages in Oregon (Figure 8) and the larger industry sectors of Leisure and hospitality (NAICS 71-72) and Arts, entertainment and recreation (NAICS 71), the commercial music industry experienced more extensive losses in employment and wages, particularly in the Creator and Live Performance sectors, due to the pandemic-related shutdowns as well as continuing public health concerns that limited attendance at live performance events even after many restrictions were lifted.

Figure 7 - Trends of employment and wages by industry sector

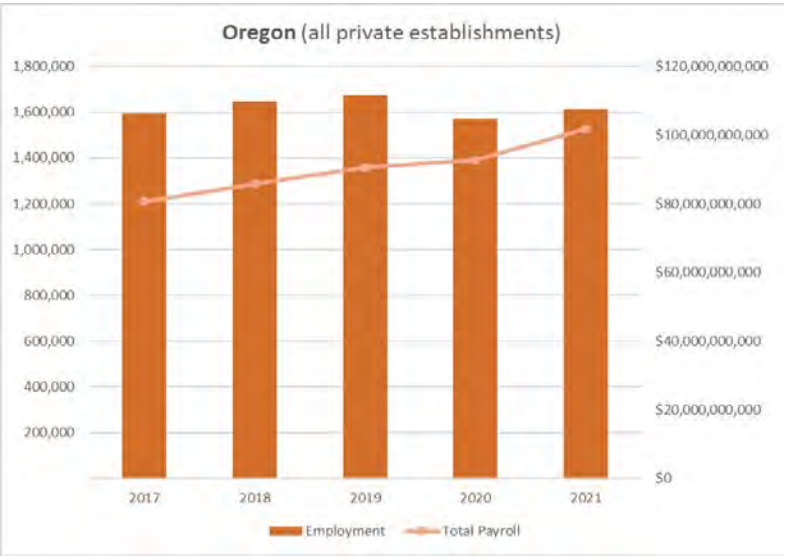


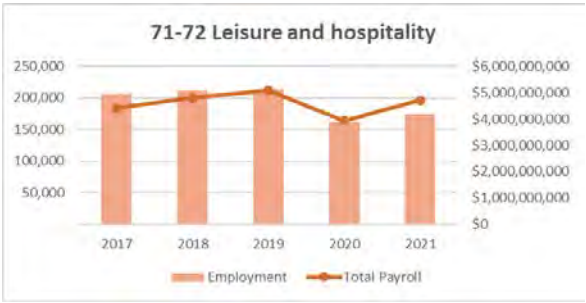


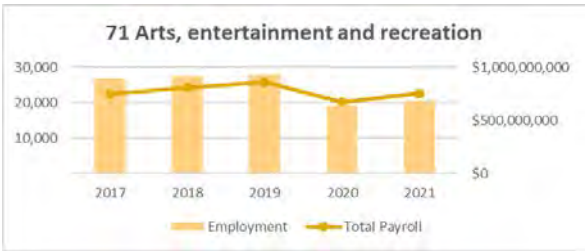


The geographic distribution of employment in each commercial industry sector is shown in Figure 9 below, using establishment-level QCEW data processed as described in the Data Sources section (as a result, these more refined industry sectors more accurately reflect those who are a part of the commercial music industry, and contain fewer firms and jobs).[36] To maintain confidentiality, the data is aggregated into larger geographic areas that match Business Oregon's twelve Regional Service Areas.[37] We found that the Metro area has the highest employment in all categories, while Greater Eastern South almost has the lowest employment, which is consistent with the corresponding population levels. This shows that most music and music-related employment is concentrated in Metro, South Valley, and Southern, whereas few music-related jobs show up in Greater Eastern South, Greater Eastern North, and Northeast.

Figure 8 – Oregon trends of employment and wages

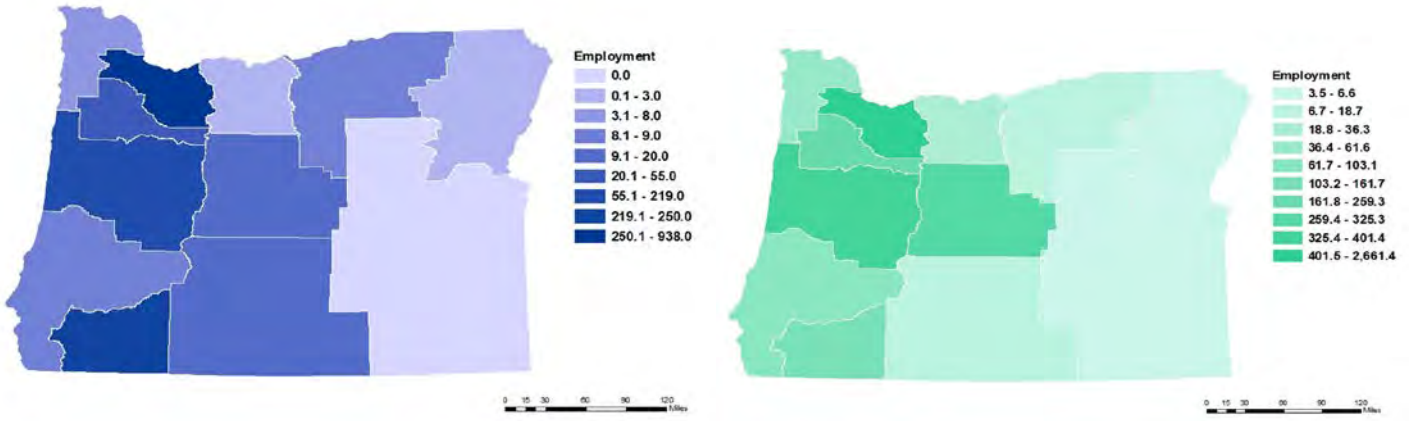




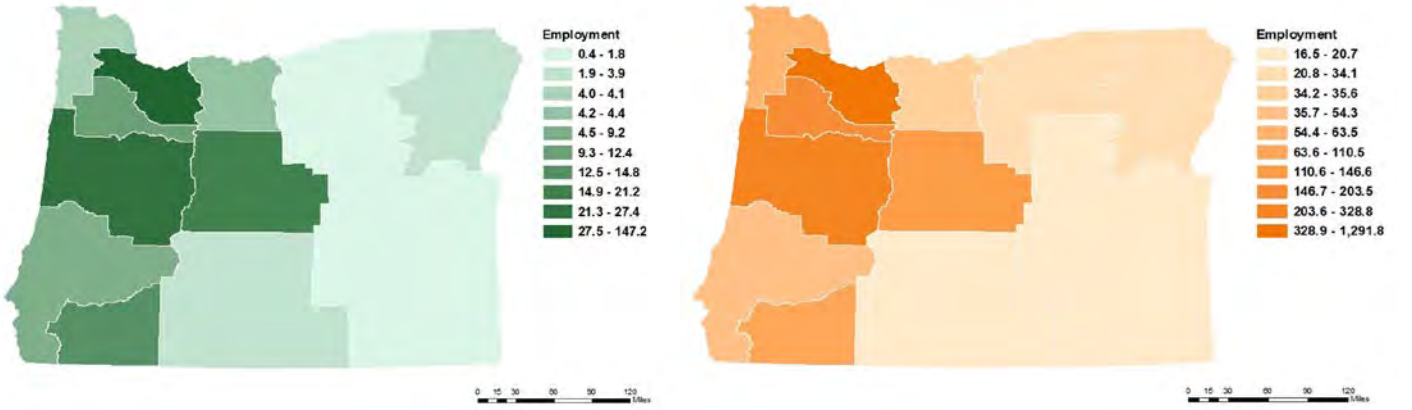


[36] For example, we used a scaling factor of 0.77 for the 334310 (Audio and Video Equipment Manufacturing) to reflect that an estimated 77% of establishments within this NAICS code are music-related.
[37] Regional Service Areas are comprised of 12 areas: Central, Greater Eastern North, Greater Eastern South, Metro, Mid-Valley, North Central, North Coast, Northeast, South Central, South Coast, South Valley and Southern.

Figure 9 - Geographic distribution of employment by regional service areas



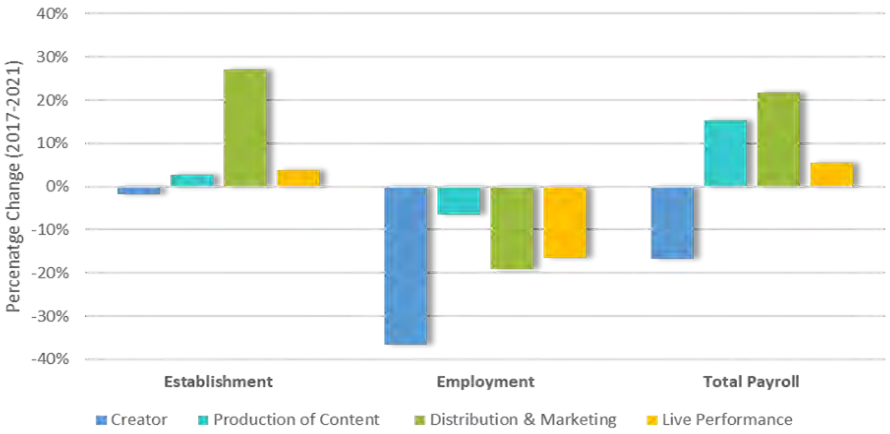
(a) Creator **(b) Production of Content**



(c) Distribution and Marketing **(d) Live Performance**

Within these scaled industry sectors, we analyzed the overall growth of three economic indicators – the number of establishments, employment, and total annual payroll between 2017 and 2021. The Creator sector appears to have experienced decreases in all measures, particularly employment (-36.7%), highlighting the severe effects of the pandemic closures and economic recession on this sector. While employment decreased in all other sectors (Distribution and Marketing, Production of Content and Live Performance) during this period, there are increases in both establishment count and total payroll. The substantial increases in the number of Distribution and Marketing establishments and its payroll (and to a certain degree, the Production of Content sector) potentially highlight the resiliency of these sectors to economic downturns, or at least are indicative of the ability of these sectors to procure assistance to maintain or even expand their operations during the past few years.

Figure 10 - Percentage changes in economic indicators by industry sector (2017-2021)



Using the Occupational Employment and Wage Survey (OEWS) data from the Oregon Department of Employment, we examined occupational statistics to understand the commercial music industry workforce. First, we categorized the associated Standard Occupational Classifications (SOCs) according to the NAICS codes that belong to each industry sector. Then, we analyzed OEWS hourly wages, employment levels and 10-year projected growth for each occupation. A total of 36 occupations were defined as music-related occupations: 4 occupations in Creator, 14 occupations in Production of Content, 9 occupations in Distribution and Marketing, and 9 occupations in Live Performance. Compared to an Oregon overall projected growth of 27% in employment over the next ten years, commercial music-related occupations that are projected to experience the highest growth are 27-3099 (Media and Communication Workers, All Other), 27-4021 (Photographers), and 27-1014 (Special Effects Artists and Animators), which are 385%, 321%, and 316% respectively. Musicians and Singers (27-2042) and Artists and Related Workers, All Other (27-1019) lead the Creator sector with 220% and 115% projected employment growth, respectively; and Audio and Video Technicians (27-4011) and Sound Engineering Technicians (27-4014) within the Production of Content sector also have 163% and 115% projected employment growth, respectively.

Granted, some portion of the projected growth can be attributed to the recovery process from pandemic-related losses, these levels of growth appear to be quite substantial. Some occupations are anticipated to experience lower growth or even a decrease in the number of employees, -23% for 27-4012 (Broadcast Technicians), 2% for 43-3031 (Bookkeeping, Accounting, and Auditing Clerks), and 7% for 27-4032 (Film and Video Editors), which may be reflecting the transition towards digital media and its related occupations. Across commercial music occupations, there are significant gaps between the highest hourly wages, such as $57.63 for 27-1011 (Art Directors), and the lowest hourly wages, such as $15.83 for 39-3031 (Ushers, Lobby Attendants, and Ticket Takers). When comparing average hourly earnings by industry sector, we found that the Distribution and Marketing sector had the highest average hourly wage of $36.43, while the Creator sector had the lowest average hourly wage of $26.60, which is also reflected in our qualitative analysis results. A wide range of occupations have average hourly wages below the statewide hourly wage of $29.55.

Table 6 - Occupation analysis by employment and wages

(Sources: Oregon Employment Department, Occupational Employment and Wage Survey [OEWS])

Category	SOC	Occupation Title	Employment (2021)	Projected Growth Rate (2021-2031)	Average Hourly Wage (2022)	Average Annual Wage (2022)
Statewide	00-0000	Total, All Occupations	1,825,369	27%	$ 29.55	$ 61,465.00
Creator	27-1019	Artists and Related Workers, All Other	146.74	115%	$ 25.25	$ 52,512.00
	27-2041	Music Directors and Composers	484.56	84%	$ 23.31	$ 48,494.00
	27-2042	Musicians and Singers	514.96	220%	$ 34.00	-s-
	27-2099	Entertainers and Performers, Sports and Related Workers, All Other	44.22	-s-	$ 23.82	-s-
Production of Content	27-2012	Producers and Directors	1,353.9	41%	$ 39.16	$ 81,443.00
	27-4011	Audio and Video Technicians	416.81	163%	$ 23.36	$ 48,592.00
	27-4014	Sound Engineering Technicians	147.11	115%	$ 26.01	$ 54,117.00
	39-3021	Motion Picture Projectionists	-s-	-s-	$ 17.74	$ 36,888.00
	49-2097	Audiovisual Equipment Installers and Repairers	-s-	-s-	$ 22.50	$ 46,802.00
	49-9063	Musical Instrument Repairers and Tuners	-s-	-s-	$ 20.98	$ 43,623.00
	13-1011	Agents and Business Managers of Artists, Performers, and Athletes	-s-	-s-	$ 42.23	$ 87,837.00
	13-2011	Accountants and Auditors	13,240.55	17%	$ 38.49	$ 80,069.00
	27-1021	Commercial and Industrial Designers	363.48	84%	$ 41.71	$ 86,761.00
	27-1024	Graphic Designers	3,002.29	41%	$ 28.30	$ 58,876.00
	27-4021	Photographers	431.22	321%	$ 26.57	$ 55,263.00
	13-1121	Meeting, Convention, and Event Planners	1,368.2	26%	$ 28.24	$ 58,742.00
	25-1121	Art, Drama, and Music Teachers, Postsecondary	903.6	17%	-s-	$ 90,108.00
	25-3099	Teachers and Instructors, All Other	2,255.68	-s-	-s-	$ 64,539.00
Distribution & Marketing	11-2032	Public Relations Managers	909.52	-s-	$ 51.62	$ 107,383.00
	27-1011	Art Directors	720.04	277%	$ 57.63	$ 119,868.00
	27-3031	Public Relations Specialists	3,322.72	7%	$ 33.08	$ 68,799.00
	11-2011	Advertising and Promotions Managers	322.44	7%	$ 50.57	$ 105,184.00
	27-4032	Film and Video Editors	301.18	78%	$ 28.48	$ 59,245.00
	27-3011	Broadcast Announcers and Radio Disc Jockeys	199.98	-s-	$ 26.36	$ 54,829.00
	27-3099	Media and Communication Workers, All Other	146.83	385%	$ 23.84	$ 49,579.00
	27-4012	Broadcast Technicians	181.31	-23%	$ 28.83	$ 59,977.00
	27-4099	Media and Communication Equipment Workers, All Other	198.69	-s-	$ 27.42	$ 57,050.00
Live Performance	11-9072	Entertainment and Recreation Managers, Except Gambling	239.54	-s-	$ 33.56	$ 69,801.00
	33-9032	Security Guards	8,914.62	28%	$ 17.87	$ 37,172.00
	39-1014	First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services	512.33	-s-	$ 25.92	$ 53,910.00
	39-3031	Ushers, Lobby Attendants, and Ticket Takers	391.46	81%	$ 15.83	$ 32,918.00
	39-3099	Entertainment Attendants and Related Workers, All Other	75.59	142%	$ 20.01	$ 41,612.00
	43-3031	Bookkeeping, Accounting, and Auditing Clerks	22,713.51	2%	$ 23.20	$ 48,268.00
	27-1014	Special Effects Artists and Animators	250.59	316%	$ 44.50	$ 92,547.00
	27-1027	Set and Exhibit Designers	65.81	-s-	$ 39.16	$ 81,451.00
	27-4015	Lighting Technicians	102.02	-s-	-s-	-s-

Note: -s- means suppressed for confidentiality or insufficient data.

Growth Subsectors

Next, we identified Growth Subsectors within the commercial music industry by NAICS codes. One key component of this analysis involves location quotients (LQs), which are ratios that describe the activity and impact of a particular industry cluster in a given area, relative to the larger geography (typically the nation), in terms of employment. For example, if Oregon has a location quotient greater than one in the record production and distribution sector, then it means that the area has a proportionally higher concentration of employees in this sector compared to the rest of the nation. Based on the cluster analysis methodology developed by Barkley & Henry and utilized by Bowen, the following are the criteria to determine the commercial music industry subsectors that may be demonstrating greater growth potential or competitiveness:[38]

- Employment greater than 500;
- Number of establishments greater than or equal to 5;
- Employment growth is positive over the last 5 years; and
- Location quotient (LQ) is growing over the last 5 years. [39]

Ten NAICS codes were identified as Growth Subsectors as shown in **Table 7**. The sectors with the highest employment growth rate were 541214 (Payroll Services) and 541219 (Other Accounting Services) at 6%, both of which are related to Artist Support-Professional services. 334310 (Audio and Video Equipment Manufacturing) had the highest LQ of 2.48, indicating that Oregon has more than two times the number of employees in this sector compared to the national level, coupled with a LQ growth rate of 19%. These numbers align with qualitative and anecdotal evidence that suggest Oregon is host to many firms and makers of high-quality audio equipment and gear. A high LQ growth rate of 20% was also observed in 711310 (Promoters of Performing Arts, Sports, and Similar Events with Facilities), which includes concert hall operators, music festivals with their own facilities, and both dedicated and mixed-use venues.

Table 7 - Identified Growth Subsectors

NAICS	NAICS Industry Name	Establishments (2021)	Employment (2021)	Employment Growth (2017-2021)	LQ (2021)	LQ Growth (2017-2021)
334310	Audio and Video Equipment Manufacturing	25	625	2%	2.48	19%
423990	Other Miscellaneous Durable Goods Merchant Wholesalers	132	726	5%	0.66	20%
532289	All Other Consumer Goods Rental	108	559	0%	0.80	10%
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	92	576	2%	0.70	18%
541110	Offices of Lawyers	2,477	10,969	0%	0.79	13%
541214	Payroll Services	151	1,021	6%	0.41	11%
541219	Other Accounting Services	1,151	4,855	6%	1.33	15%
541330	Engineering Services	1,330	13,405	4%	0.93	15%
541820	Public Relations Agencies	187	778	1%	0.96	12%
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities	86	1,068	3%	1.04	21%

[38] DAVID L BARKLEY AND MARK S. HENRY, "TARGETING INDUSTRY CLUSTERS FOR REGIONAL ECONOMIC DEVELOPMENT: AN OVERVIEW OF THE REDRL APPROACH," REGIONAL ECONOMIC DEVELOPMENT RESEARCH LABORATORY RESEARCH REPORT, 2005; ERIC BOWEN, "GREATER WHEELING REGIONAL PLAN - INDUSTRIAL CLUSTER ANALYSIS," 2021.

[39] Because LQ calculations require employment data from the regional and national levels for each NAICS code, we utilize the full employment within each analyzed 6-digit NAICS code (not scaled to more accurately capture those in the commercial music industry) for this analysis.

Economic Impact Analysis

Methodology

The standard technique for quantifying the economic impact of any industry in a particular area uses input-output modeling to capture not only the direct impacts of the industry, but also indirect impacts in other industries, and induced impacts caused by the spending associated with employment within the sector. This is attained by IMPLAN's proprietary industry matrix, which assigns values to employment and spending per sector, and the relationships between all of the sectors in a given area. The results therefore include three types of impacts (described below), and the sum total across all three types.

Direct Impacts

Any given industry supports a certain number of firms and jobs, and therefore generates both spending and federal, state, and local tax revenue. Direct impacts describe these additions to the economy. In the commercial music industry sectors, this includes North American Industry Classification System (NAICS) sectors engaged in the commercial music industry: specifically, record production and distribution, musical instrument and equipment manufacturers, live performance venues and staff, production and artist services, and many other associated firms.

Indirect Impacts

All firms purchase goods and services from other firms, in different industry sectors. Indirect impacts estimate the quantified value of these purchases, in terms of jobs, spending, and tax revenue. Examples of goods and services used by the commercial music industry sectors selected for this analysis include real estate, graphic design and advertising, printing, material purchases from manufacturers of recording mediums and advertising materials, music and recording supply stores, music equipment rental, cleaning services, catering, and event venue rental, among others.

ECONOMIC IMPACT MEASUREMENTS

The impact summary results are given in terms of employment, labor income, total value added, and output:

Employment represents the number of annual average full-time/part-time jobs as defined within the Bureau of Economic Analysis Regional Economic Accounts (BEA REA) and Bureau of Labor Statistics Census of Employment and Wages (BLS CEW) data. These job estimates are derived from industry wage averages.

Labor Income is made up of total employee compensation (wages and benefits) as well as proprietor income. Proprietor income is profits earned by self-employed individuals.

Total Value Added is comprised of labor income, property type income, and indirect business taxes collected on behalf of local government. This measure is comparable to familiar net measurements of output like gross domestic product.

Output is a gross measure of production. It includes the value of both intermediate and final goods. Because of this, some double counting will occur. Output is presented as a gross measure because IMPLAN is capable of analyzing custom economic zones. Producers may be creating goods that would be considered intermediate from the perspective of the greater national economy, but may leave the custom economic zone, making them a local final good.

Economic impact analysis includes all of these goods and services, as well as others, in its final total outputs for indirect spending, jobs,

and generated tax revenue. Within this study, the businesses and sectors that primarily do their business within the commercial music industry are inputted as direct impacts, while other supporting businesses are captured within the IMPLAN model as indirect impacts.

Induced Impacts
These impacts are due to the spending that employees of the selected industry sectors engage in with the wages and salaries that they earn. Therefore, induced impacts take place across all standard consumer purchase sectors, including real estate, grocery spending, spending at bars and restaurants, the purchase of utilities, retail, and many others.

The multiplier effect, which is the basis for input-output analysis such as the above, describes the way in which one dollar entering the economy at a certain point is distributed through related industries. For example, when a band writes and records an album, they purchase goods and services from many sources: musical equipment manufacturers, time in a sound recording studio, graphic design for the album cover, advertising and licensing on online platforms, and other associated individuals and firms within the cluster. The economic effect of the album's production alone would be considered a direct effect. Purchases from the associated enterprises described above constitute the indirect effect. Finally, the induced effect is felt when industry cluster individuals spend the wages earned in the process of production– on rent, food, consumer goods, utilities, and any other standard living or recreation expenses.

While this report does offer a more granular analysis through its use of more detailed NAICS industry classifications for the commercial music industry and a combination of 2022 Oregon Music Census data with confidential establishment-level QCEW data, the available data is still insufficient to capture all facets of such a complex industry. This report offers a conceptual framework that describes the overall nature and interconnections between the core components and peripheral elements. Additionally, the judgment of which economic elements interact to a sufficient degree with music production to warrant inclusion is a complex area requiring substantial expert input. In this report, substantial qualitative results from the 2022 Oregon Music Census and expert interviews are used to build out existing gaps in the quantifiable modeling data as described in the Data Sources section. For the quantitative component, input sectors have been chosen that directly reflect the core components (which are highly inclusive, as shown in the conceptual diagram), and IMPLAN software distributes the direct, indirect, and induced impacts throughout the state economy. Additionally, because IMPLAN relies on three datasets for its estimates of employment and wage– Bureau of Labor Statistics (BLS) Census of Employment and Wages (CEW), Census Bureau County Business Patterns (CBP) and Bureau of Economic Analysis (BEA) Regional Economic Accounts (REA) data– it accounts for workers who not be accounted for within the QCEW dataset. Whenever appropriate, we utilize or augment our estimated employment and wages with the IMPLAN data.

Results
Table 8 shows the total estimated economic effects of the Commercial Music Industry in Oregon. In 2021, the commercial music industry contributed over 16,400 jobs directly in the state, and 3,665 jobs at the indirect level. When additionally accounting for the spending of the direct and indirect business employees in the local economy (induced effect), the commercial music industry contributed a total of 22,927 jobs. These 22,927 commercial music industry jobs generated just below $1 billion in labor income and nearly $3.8 billion in output in the state. Furthermore, **Figure 11** breaks down the top

fifteen industries by employment that are impacted by the commercial music industry in Oregon. As expected, *performing arts companies*, *independent artists and performers* and *other education services* (which includes music education) are the largest contributors of jobs in the commercial music industry, as these are the sectors where the majority of commercial music jobs are directly located. *Other real estate*, *employment services,* or *management of companies and enterprises* are industry sectors that support and provide services to the commercial music industry, but may not be directly part of the industry.

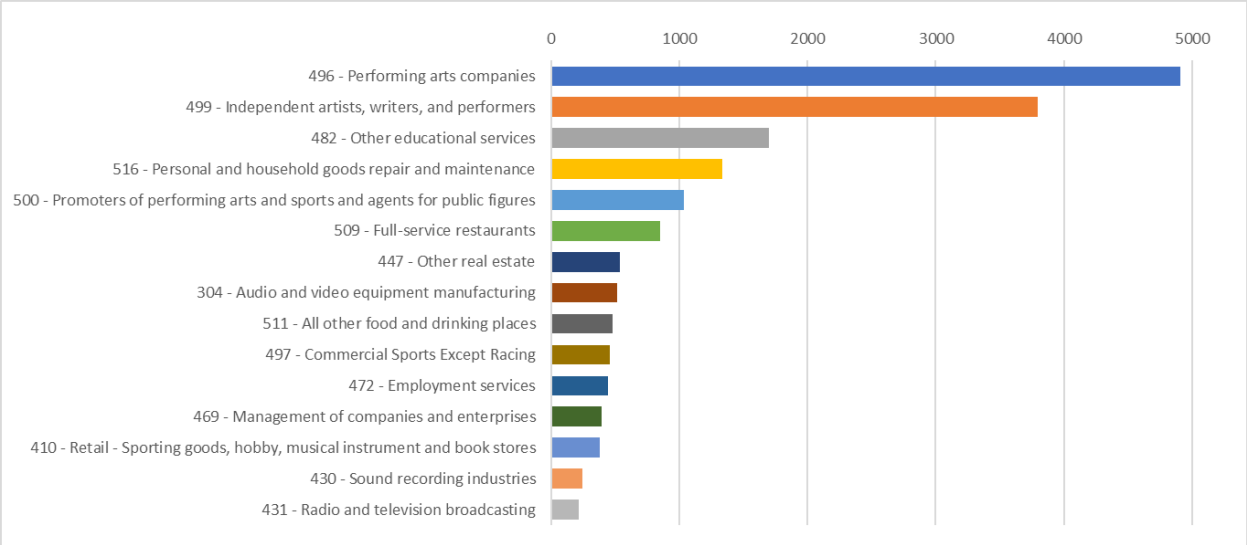
Table 8 - Oregon Commercial Music Industry Economic Impact Summary (2021 Dollars)

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	16,439	$531,376,572	$1,345,156,922	$2,547,480,493
Indirect Effect	3,665	$268,840,827	$381,061,808	$686,339,739
Induced Effect	2,823	$177,126,746	$313,318,172	$524,120,737
Total Effect	22,927	$977,344,145	$ 2,039,536,902	$3,757,940,969

Table 9 - Oregon Commercial Music Industry Economic Impacts by Industry Sector (2021 Dollars)

	Type	Employment	Labor Income	Total Value Added	Output
Creator	Direct	8,702	$142,477,251	$670,367,722	$976,288,396
	Indirect	911	$53,111,096	$74,427,253	$139,770,876
	Induced	696	$43,601,191	$77,134,098	$129,041,084
	Total	10,308	$239,189,538	$821,929,073	$1,245,100,357
Production of Content	Direct	4,934	$273,705,593	$485,571,127	$1,048,910,271
	Indirect	1,585	$144,762,587	$207,545,025	$365,296,392
	Induced	1,470	$92,247,556	$163,165,810	$272,931,744
	Total	7,989	$510,715,736	$856,281,962	$1,687,138,406
Distribution & Marketing	Direct	417	$46,736,599	$75,439,955	$322,071,553
	Indirect	808	$47,299,174	$64,457,476	$115,554,743
	Induced	332	$20,851,900	$36,885,766	$61,704,036
	Total	1,557	$114,887,673	$176,783,197	$499,330,333
Live Performance	Direct	2,361	$67,319,023	$110,102,046	$194,439,711
	Indirect	355	$23,206,248	$33,934,007	$64,389,623
	Induced	320	$20,074,512	$35,510,646	$59,403,725
	Total	3,035	$110,599,783	$179,546,699	$318,233,059
Organization	Direct	25	$1,138,106	$3,676,073	$5,770,561
	Indirect	7	$461,721	$698,047	$1,328,104
	Induced	6	$351,587	$621,851	$1,040,149
	Total	37	$1,951,414	$4,995,971	$8,138,814

Figure 11 - Top 15 Industries by Employment



The commercial music industry's economic activity, labor income, and hiring has effects on public tax revenues. **Table 10** details the increased tax revenue at all levels of government due to the industry's activities in 2021. Combining impacts at the local, state, and federal levels, the commercial music industry contributed to an estimated total of $294 million in tax revenues, with more than $68 million going towards Oregon's state and local governments.

Table 10 - Commercial Music Industry Tax Impacts (2021 Dollars)

Oregon	
State Personal and Corporate Income Taxes	$50,727,603
Other State Taxes, Fees, and Licenses	$13,101,238
Total State	$63,828,841
Local Governments	
Property Taxes	$2,938,255
Other Local Taxes, Fees, and Licenses	$1,849,412
Total Local	$4,787,666
Federal Government	
Federal Personal and Corporate Income Taxes	$118,995,903
Social Insurance and Excise Taxes	$106,714,594
Total Federal	$225,710,498
TOTAL	**$294,327,005**

Consumers and attendees are vital to the live performance sector within the commercial music industry, contributing both through on-site spending on tickets, merchandise and activity participation, as well as off-site spending on transportation, lodging, dining and other services associated with their attendance. In the most recent Arts and Economic Prosperity 5 (2017) study conducted by Americans for the Arts, which focused solely on nonprofit arts and culture events, nearly ten million people

attended arts and cultural events in Oregon annually. Of these attendees, 86.1% were Oregonians and 13.9% were nonresidents.[40] Nonresidents spent an average of $111.36 on food and drinks during and after the event, souvenirs, clothing, transportation, child care and lodging (excluding the cost of admission), while Oregon residents spent $31.52 on average. Dean Runyan Associates (2022) examined the impact of travel in Oregon in 2021, and found that travel spending totaled $10.9 billion across food and accommodations, arts, entertainment and recreation, ground transportation, retail and air transportation industries.[41] This spending directly contributed to an estimated 100,000 jobs in these industries. Oregon resident visitors accounted for $4.1 billion in visitor spending, while other U.S. visitors and international visitors accounted for $6.5 billion and $0.3 billion, respectively. These studies underscore the significant economic impact of the live performance industry in Oregon, boosting the economy by bringing in consumers and consumer dollars from outside of the state, and can potentially be considered a “traded sector”.

The 2022 Oregon Music Census collected data about additional on-site spending by consumers at musical performances in both dedicated and mixed-use venues, but this is not input separately as a part of the economic impact analysis because the additional consumption should already be accounted for by the employment levels and wages at these venues. Using the Oregon Music Census data, we estimate that each dedicated venue has an average audience capacity of 653 with a fill rate of approximately 70% in 2019 and 64% in 2022, 2.23 average weekly shows and an average ticket price of $28. Dedicated venues estimated that about 17% of attendees came from outside of Oregon in 2019, and 19% in 2022. Roughly extrapolating this to our estimate of 99 dedicated venues across the state, this translates to approximately 4.79 million attendees who spent $134,173,116 on tickets in 2022. Music festivals such as the Sisters Folk Festival, Northwest String Summit and Britt Music & Arts Festival also draw large audiences from both within and outside of Oregon, with survey respondents estimating that 33% of the attendees were out-of-state visitors in 2022, an increase from 29% in 2019. Again, on-site consumer spending at the music festivals should already be accounted for by the employment levels and wages in this sector and are not separately input into the economic impact model.

While the spending by consumers and attendees directly at the music venues and festivals is already included in the economic impact model, the additional spending that occurs off-site is not captured. Local attendees may enjoy an additional meal before or after a live music performance, take an Uber to and from the event, and purchase retail goods from neighboring businesses; attendees who are visitors may travel further to the participate in music festivals, pay for overnight accommodation, enjoy several meals during their visit, and purchase souvenirs and gifts. Utilizing the Oregon Music Census data and expenditure data from the Arts & Economic Prosperity 5 (2017) study with very rough assumptions and extrapolations, we estimate an annual attendance of 5.41 million Oregonians and 1.66 million visitors at live music events, spending a total of $355 million in the local economy outside of the events they attended. This additional spending within the local economy contributes to 2,940 direct jobs and 4,154 total jobs across the Oregon economy, and more than $276 million in direct economic output and $503 million in total economic output, mostly in the restaurant, hotel, transportation and retail industries as expected. These rough estimates provide a helpful starting point for understanding the economic contributions of live performance audiences. However, they cannot substitute for a more comprehensive research study that directly collects relevant data through intercept surveys and other sources.

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[40] AMERICANS FOR THE ARTS, “ARTS & ECONOMIC PROSPERITY 5 - THE ECONOMIC IMPACT OF NONPROFIT ARTS & CULTURAL ORGANIZATIONS & THEIR AUDIENCES IN THE STATE OF OREGON.”

[41] DEAN RUNYAN ASSOCIATES, “THE ECONOMIC IMPACT OF TRAVEL IN OREGON 2021,” 2022, HTTPS://INDUSTRY.TRAVELOREGON.COM/WP-CONTENT/UPLOADS/2022/05/OR_2021_FINAL.PDF.

Table 11 - Live Performance Attendee Additional Spending Economic Impact Summary

(2021 Dollars)

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	2,940	$106,565,028	$160,511,033	$276,229,170
Indirect Effect	551	$40,050,385	$60,025,050	$110,876,624
Induced Effect	663	$40,084,627	$69,232,696	$116,594,970
Total Effect	4,154	$186,700,039	$289,768,779	$503,700,764

Understanding the Commercial Music Industry

Methodology & Limitations

The design of the qualitative aspect of this research sought to add explanatory power as well as nuance and texture to the quantitative analyses and the Music Census results. Our first task was to apply and get approval for "exempt status" from Portland State University's Institutional Research Board (IRB). The IRB governs research ethics; IRB approval assures research participants that their rights and protections have been carefully considered by our research team, and exempt status means that our research design was not expected to be unnecessarily extractive or harmful to participants. The IRB determined our project to be exempt on December 19, 2022, and the qualitative side of our research got underway immediately thereafter.

The methods used consisted largely of interviews (*n*=15) and content analysis from an open-ended survey question (~500 responses). Interview protocols were designed to gather information from a broad array of music industry-involved subjects, ranging from performing musicians to venue operators and instrument manufacturers. The interview protocol was crafted to prompt participants to answer questions about their job titles/descriptions, their networks and communities, the challenges they faced, the resources they relied on, and the opportunities they identified in the Oregon music industry. Due to a variety of factors, interviews were conducted remotely (using Zoom). Each interview was recorded both on video and audio, and copies of the recording were kept secure on a shared drive monitored by the research team. Lastly, participants were compensated for their time with $40 gift cards.

Interviews were conducted between late December and early February, and typically lasted between 45 minutes and one hour. Once interviews were completed and transcribed, they were uploaded to a Qualitative Data Analysis software (Atlas T.I.) and coded for findings by the research team. Codes were collated and further analyzed.

As with any research, there are limitations that must be considered. Importantly, each of the below limitations are not disqualifications; we feel confident that the data and analysis presented here is critical to understanding the significance of and opportunities for Oregon's commercial music industry. Additionally, these limitations open the possibility of future research that can more comprehensively diagnose gaps, impediments, and possibilities for increased impact and more equitable economic development within and beyond Oregon's music communities.

First, with a relatively short time frame for obtaining ethical research approval, collecting data, and conducting analysis, the initial qualitative sample size target was set at 10-15 interview subjects. We eventually conducted 15 interviews across a relatively diverse set of music industry positions.

Second, and again primarily due to time constraints, we experienced significant challenges in constructing a database to recruit potential interview subjects, as a pre-existing database of commercial music industry participant contacts was not available. Additionally, the Oregon Music Census was anonymous by design in order to collect sensitive information, and yielded very few respondents who consented to a follow up interview. This being the case, we relied heavily on MusicPortland, MusicOregon and the Industry Advisory Group for this project for potential interview subjects. Without direct control over the interviewee recruitment process, we need to acknowledge the potential for selection bias as a significant limitation.

Lastly, one of our initial goals was for our sample to be as sectorally, geographically and socially diverse as possible. While we feel confident that our sample was sectorally diverse, the logistical and practical constraints of this project affected our ability to interview a more geographically and socially diverse cross-section of the commercial music industry. This particular limitation underscores the importance of a continuing commitment to research on and with Oregon's music industry. With proper support, future research could look deeper at the challenges and opportunities for lowering barriers to entry and empowering marginalized communities within the music industry.

Results

In this section, we will describe the findings of the qualitative research we conducted. Importantly, many of the themes below intersect with the live music industry report; we attempted to organize our findings into unique but deeply interconnected analyses for each report. For the commercial music industry report, we focused on pay/compensation; music industry networks; multiple jobs within the industry; and the effects of pandemic-related closures, among other themes. Each of these themes will be explored below, followed by some ideas and opportunities as identified by research participants.

Please note that all research participants have been guaranteed anonymity and are protected under our exemption status from Portland State University's Institutional Research Board. Therefore, any names, occupational details, or other identifiers have been withheld for their protection.

Wages and Compensation

We begin here with the issue of pay and stagnant wages because it was, by a large margin, the most impactful issue amongst participants in our research. We immediately identified a tension between venues and musicians, and while not universally described as exploitative or unfair, many of the responses from musicians/performers indicated dissatisfaction with the compensation they could expect for a performance. For example, a common response by musicians that have been performing for many years on the survey was the claim that expected pay for a live performance is nearly identical to what they could expect for a similar performance in the 1970s or 1980s. Of course, with inflation and cost of living rapidly rising, performers are feeling pinched:

"I've been playing live music since the 1980's. In the 80's you could buy a house for $100,000, and a new car for $5000, and the pay for a gig was $50-$100. Now a new car costs $30k, and a house costs $500k; prices have increased by five to six hundred percent, but the pay for a gig is still $50 - $100."

Another exemplar quote: "I've been playing live music in Oregon since 1964. I made $50 a night back then. I made $50 the last time I played at [venue] for a night in December 2022." Again, this type of response was quite common, and we were able to verify it in interviews with musicians. These claims seemed to be especially true in major markets such as Portland, but also appeared to be true statewide and across genres (although our evidence is not as strong for the latter).

Despite the recurrences of these kinds of claims about low and stubborn wages, we must note that some venue operators have asserted that performer pay had risen by up to 30% at the same time that audiences have declined by the same percentage. This creates a bind for venue operators, who have endured three difficult years of pandemic-related closures and rising costs. Although more research is necessary to fully comprehend the challenges that impact various market segments (as noted in our discussion about the limitations of this research above), one possibility for these competing narratives is that there may be unique sets of challenges that exist for musicians who perform at mixed-use venues as opposed to those who perform at dedicated or ticketed venues.

A number of consequences stem from this stagnation of wages. In the first place, bandleaders have to make difficult choices about how many members of a band they ask to perform alongside them, because the pay rate doesn't change as the band size goes up. Instead of playing with a nine-piece jazz ensemble, for example, a bandleader might opt for a five-piece so as to pay each member slightly better. A handful of respondents identified such decisions as a significant source of stress for themselves, or a source of tension within the dynamics of the band/ensemble. A second consequence has to do with touring: smaller bands touring the Northwest – a large geographical area with few major metropolitan areas – must absorb the costs of traveling. This includes lodging, food, and fuel for their vehicle, not to mention investments in equipment and instruments. If bands are forced to split small sums of money for each performance, they struggle to afford these additional costs to tour. One interviewee even told us that they came home from a tour with less money than they left with. We met some enterprising individuals that do booking work and advocate for bands to have these indirect costs covered in their performance contracts with venues, but we do not have direct evidence to suggest that venues have complied.

Third, and adjacent to the last point, musicians take on a variety of costs and uncompensated activities that are necessary to perform live music. These activities include practice sessions, songwriting, promoting/advertising (especially on social media), and recording demos. Each of these activities includes satellite costs: for example, practicing requires securing space, and usually that space needs to be soundproof and large enough for the band and their equipment set up. In cities like Portland, the cost of such spaces far exceeds what the average band can spend given the compensation they receive. Lastly, the importance for performers to be able to make a sustainable and living wage through performing is underscored by changes in the commercial side of their enterprises. Most significant are changes in technology, especially streaming platforms taking the place of physical media sales (CDs, vinyl records, etc.). Streaming services such as Spotify pay musicians under $0.01 per stream (do we have a citation for this?), so unless performers have a rather large following, making sustainable wages via streaming platforms is very difficult. As such, performing and selling merchandise is critically important for performers.

To complicate matters, performers reported their contracting with venues to be oftentimes informal; many performers desired better transparency and communication from venues. Most respondents acknowledged that bigger venues did have more professional communication and better contracting practices, which we were able to verify in at least one interview with a venue operator. In many cases, however, we found that professional contracts with clearly agreed-upon terms were highly unstandardized and sometimes non-existent (the "handshake" deal). Revenue splitting arrangements ranged from venues taking 10% of ticket sales to 50% of ticket sales (one occurrence of 80%). Sometimes bands were guaranteed money, but oftentimes performers indicated that in order to attain such guarantees artists had to do their own promotion and "bring their audience" with them. Communication also appeared to be an issue. A few respondents spoke to the problem of haggling with venues over the course of months about holding dates and agreeing on contracting. When such

negotiations unfold over many months, bands can lose the ability to book dates elsewhere. Other surprising evidence pointed to such practices as venues compensating bands with food and alcohol, venues taking portions of a band/performer's merchandise sales, and venues breaking contracts. These last few findings are anecdotal; more research would be needed to qualify the veracity of these claims.

Evidence suggests that the threshold for more formal contracting between performers and venues is the scale at which a venue can employ a dedicated booking agent. Dedicated booking agents can address many of the issues described above – they can standardize contracts, create predictability for performers, and communicate in a timely fashion. Additionally, the problem of counting these performers in terms of their economic impact can be addressed to some degree. As things appear to occur now, the informality of contracting at the "entry levels" means that individual performances can hardly be accounted for economically. For example, there don't appear to be 1099 forms issued as a part of the contract. From the venue's perspective (especially smaller venues), owners/operators are equally struggling (more on this in the Live Performance Industry report) and are less likely to have the resources or capacity to standardize and formalize contracting. One rectification would be to have public sector assistance – perhaps a liaison from a newly established Office of Film, Music, and Media – in standardizing and formalizing contracts.

Music Industry Networks

While wage stagnation was a clear problem for the Oregon music industry, an advantage was the resourcefulness and creativity of its communities and networks. Many, if not most, research participants acknowledged the communities they were embedded in as welcoming and creative. These communities were typically organized by genre but were crosscut by a number of embedded and professionally variegated networks that music industry workers used to access resources. The most obvious economic advantage to these music "scenes" – Portland's being an outsize example – is that a flourishing music community is a significant cultural amenity that can be a source of attraction for young professionals with disposable incomes that can patronize businesses adjacent to the music industry. By all accounts, this has been the case for Portland and likely in other parts of Oregon such as Ashland and Bend (although we don't have evidence for this, unless it's in the quant data). Healthy music industry communities host strong networks that connect people to critical resources, so it is vital to steward these communities.

These assertions were verified in interviews and survey data. It was common, for example, for us to hear that commercial music industry workers and operators used their networks to access a number of resources. Performers often told us that they leaned on their networks to find venues and book performances. Additionally, having strong networks helped musicians learn better ways to hone their craft, such as finding the best settings for stage monitors or equalization for live sound. Studio musicians used networks to learn about bands looking for instrumentalists; sound engineers used networks to access equipment while they were on the road; booking agents used networks to identify and invite regionally touring acts; and music students used networks to receive help from local music businesses.

One critical advantage of having a strong network is the acceleration effect they can have on small businesses. An exemplar case is a music equipment manufacturer, who was able to start a business and get their product on stage in use by nationally touring bands due to their network of musicians:

"A big part of building [my] business was [that] I was just friends with, and bandmates with, tons of people [...] that went on to bigger things [...] and the communities are kind of connected, so I kind of knew a lot of people who were already playing on big stages. That gave my business a big boost,

especially in the beginning. [...] I couldn't actually imagine having done this business without having all those connections going into it."

Equally important are cases in which an owner/operator, manufacturer, or performer needed better networks to help with resources. For example, one musician described the challenges of funding new song recordings, which require instrumentalists, graphic design, digital distribution, video production, social media advertising, and so on. They described the process of hiring a public relations representative to help with promotion, only to have this person scam them out of a sizable amount of money. It might be an assumption to claim that a stronger network might have yielded a more trustworthy contact, but it stands to reason that networks do go far in establishing trust; if music industry folks are to see themselves as businesspeople, the importance of networks is paramount.

Another important consideration for why music industry networks are so important is the different positions many music industry actors can occupy (i.e., having multiple "jobs"). As such, the different networks those positions yield create a number of intersections that workers/operators can use for finding resources. In the block quote above, an equipment manufacturer was able to use their network of performing musicians to jumpstart their business. In another example, an instrument manufacturer used the same strategy – but with a different geographic and genre-based network – to get their product in front of audiences and grow their enterprise significantly. In a third example, a booking agent was able to use their networks of other bands to get into recording albums and develop a positive regional reputation. "Everybody depends on everybody else," said one interviewee. "If artists aren't making money, they're not buying instrument gear. If they're not making money, they're not hiring producers and recording studios."

As that quote makes clear, many local businesses rely on networks they develop with other local businesses. In many cases, local supply chains take shape, notably for local manufacturers and instrument builders. For example, one music industry manufacturer told us that all of the outsourcing that their products require is done locally. To complete their manufacturing process, they needed to develop relationships with upholsterers, woodworkers, metalworkers, and electronics component distributors, all of which they were able to source from companies in Oregon. This manufacturer, then, has networks that span a number of industries, both within and beyond Oregon's music industry.

The downside of holding multiple positions in the music industry is that even working a number of different "jobs," these industry actors still have trouble making a living wage. Additionally, many of these occupational positions are informal, untracked (e.g., in terms of tax ID), and do not help actors access benefits such as health care and retirement. One survey respondent said, "it is virtually impossible to pay one's living expenses making music in Oregon unless you are an instructor or you work as an employee for an organization." Another said, "most folks who work in the creative arts really work [in] many fields in order to create an aggregate 'living'." A third is perhaps even more telling:

"I've been a booking agent. A manager of bands. A music teacher. A songwriter. A performer. I've toured and played locally [and] regionally around the USA and internationally. I've engineered and produced albums and have worked for venues and ran the music portion. I have dedicated my heart to the process and the songs I write and to Portland. I work 3-4 jobs to survive. I received zero pandemic relief."

These types of exasperated responses were commonplace on the survey; the larger message seemed to be that one "job" won't be enough, especially given the intensification of inflation and the

high costs of living throughout Oregon. Missing out on pandemic relief was another issue for those occupying multiple positions within the industry, because it was oftentimes challenging for these kinds of workers to demonstrate a consistent income or source.

Pandemic and Other Challenges

It would be unsurprising to say the pandemic and its related closures were challenging for Oregon's music industry, especially for venues and performers. And indeed, it was harrowing for many of them. However, one of the most surprising findings of our research was that these closures were a boon to some local music industry enterprises. A few interviewees seemed a bit sheepish about admitting this, but it was somewhat common for instrument or equipment manufacturers to say things like: "I knew COVID was actually, like, good for my business because a lot of people needed a new hobby that they could do at home." Another manufacturer said, "we saw a lot of increase in demand, especially 2020 through about midway 2021 [...] everyone's picking up the [instrument] because there's nothing else to do." And a performer told us that they got a lot of music recorded and released "because we couldn't do [expletive] else, we could be at home and record and get a lot of things done." Our data does show that the pandemic-related closure had the effect of boosting average wages, even while diminishing the overall number of jobs in the music industry. The explanation has to do with this unexpected benefit of the closures: higher wage jobs in instrument/equipment manufacturing did quite well, whereas lower wage jobs were eliminated en masse.

It was the latter that constituted the overwhelming majority of survey and interview respondents; that is, those who were affected negatively by the pandemic. Some business operators depended on traveling to conferences and trade shows to meet and court new retailers, and travel became difficult for a lengthy period of time and conventions were mostly canceled. Other manufacturers did experience slowdowns in their supply chains, especially for the electronic components they needed from China. Furthermore, the economic ripples from COVID-19 that contributed to massive increases in prices across the global economy hurt many operators.

But by far and away the biggest effects were felt by performers and venues. Amongst our interviewees, there was a general give-and-take regarding COVID-19 – many admitted to stress from lost opportunities, but some had unemployment or other assistance and were able to attend to priorities that they otherwise would not have been able to. The survey responses, however, were significantly more pointed. Many venue owners expressed frustration about being excluded from pandemic relief grants. Many performers expressed anger about mandated closures of venues, but also lamented the slow return of audiences that are either pandemic-cautious or feeling the pinch of inflation (and cannot afford "nights out" as they did prior to the pandemic). A number of responses from business owners described deeply impacted revenue streams: many are yet to recover, and many others have closed their businesses. A number of respondents expressed frustration with the way public assistance was distributed, admitting that they were forced to take loans in order to survive, and now the loan repayments have become a source of burden. Some have had to sell their houses and/or possessions to pay off these debts.

Discussion
The commercial music industry in Oregon is a set of communities, enterprises, and networks that industry workers, performers, and operators hold dear. Most participants spoke about their communities with pride and optimism. At the same time, everyone recognized the significance of the issues the industry faces and the fragility of the ecosystems in which these industries are situated. Without attention to the issues we've discovered above, the industry is at risk for further attrition, which of course curtails the music industry's direct impacts as well as the diffusion of beneficial indirect or induced impacts on adjacent industries throughout the state of Oregon.

From the analysis of the interview and survey data, we can hazard a handful of prescriptions, many of which were direct suggestions from research participants. A simple request that we heard many times in our research was the lack of a central source of information – a webspace, most likely – that was current and well organized. One way of addressing this would be the establishment of a "resource clearinghouse" of sorts to centralize information and industry knowledge as well as assist in the deployment of industry standards, efficiencies, and protections. This could take the form of the establishment of an Oregon Music office, potentially modeled after the Oregon Governor's Office of Film and Television. Such an office can leverage the relationships that already exist in Oregon's music ecosystem to draw new enterprises to the state, especially focusing on enterprises that would fill gaps in supply chains and strengthen the networks that we described above.

Additionally, such an office could help with funding and/or organizing events and other forms of engagement that deepen community connections, perhaps even by focusing on engagement that brings otherwise siloed music communities/networks together. As for direct business development, the office could organize information sessions and workshops, help organize travel to conferences, and develop forums for the discovery of new actors (musicians, venues, manufacturers, etc.). Lastly, the office could be a point of contact with local municipalities: this would go far in dealing with noise ordinance issues, parking regulations, grant programs, tax codes, land use issues, public safety, and other policy- or public sector-related issues.

Ongoing research is a critical need; our investigation barely scratched the surface. To begin with, a survey such as the Oregon Music Census should be annual; the qualitative data from that census has painted a picture that is at once surprising, challenging, and brimming with opportunity. The data speaks to the urgency with which attention is needed to stabilize, empower, and develop the commercial music industry. Additional qualitative research would be instrumental in discovering the gaps in networks, the interrelatedness of various segments of the music industry, and the hidden impacts and impediments that affect (or are affected by) industry actors. Additionally, more qualitative research would provide explanatory power to the quantitative data presented in this report; oftentimes we know something because we can see it in the numbers, but we do not know why until we go talk to people and ask them.

Opportunities, Challenges, Strategies and Gaps

One central problem dominated the survey and interview respondents: wages. Again and again, respondents decried the compensation they could expect from a live performance. A number of responses seemed to confirm that wages have not budged since at least the 1980s; needless to say, the cost of living has risen dramatically in that period. Along those lines, performers have to absorb a

variety of costs associated with performing. The indirect costs of traveling are a potent example: to tour, performers must pay for gas, lodging, transportation, equipment, and food. This is not to mention the upfront and opportunity costs performers put into recording music, practicing with bands/ensembles, or promoting their performances.

Despite the persistent issue of stagnant wages, music industry workers and owner/operators reported their networks as being a major upside. Networks tended to be cross-genre, cross-sectoral (e.g. musicians, instrument makers, booking agents, etc. oftentimes shared networks) and were used in a variety of ways. For example, networks were used effectively by new business owners to launch and accelerate their businesses – having performing artists in their networks, for an instrument manufacturer, meant getting their product in front of audiences quickly. Networks could also be used to pass along tricks of one's craft – events or meetings with other operators meant knowledge can be shared, for example. Our research showed that even amongst small business owners, the desire for community outweighed feelings of competition.

Whereas networks and the communities those networks were embedded in were reported to be an advantage, there were some respondents for whom networks could have been stronger. Weak networks and/or communities opened the door for dishonest or ill-intentioned actors to take advantage of music industry folks. Furthermore, given the aforementioned problem of wage stagnation, networks could experience a great deal of churn as folks drop out of the music industry or move to other states looking for better opportunities. These instabilities threaten the strength of networks; more needs to be done to stabilize and strengthen such networks. Finding a solution to the need for music industry workers to occupy multiple jobs in order to cobble together a living would be an earnest step in that direction.

Lastly, COVID-19 and the related closures were experienced largely as a challenge by the music industry in Oregon. By far the most affected groups were venue operators, venue employees, and live performers. A common response in our research was for venue-affiliated workers to express frustration about being excluded from grant relief – many of them did not understand why they were excluded and the cost of that exclusion was detrimental if not catastrophic to their operations. However, not all groups experienced the pandemic-related shutdowns as a negative: many instrument and equipment manufacturers benefitted from so many folks being at home, having additional unemployment benefits, and wanting to pick up a new hobby. Our research also showed that music-related manufacturing businesses did not experience significant disruptions to their supply chains (in terms of materials). To foreshadow a central conclusion from our study: more access to grants was a major need among businesses and music industry workers in recovering from pandemic-related damages.

Overall economic conditions and disruptions, such as the pandemic or wildfires, can also affect attendance at live performance events. Local residents and visitors from both within and outside of Oregon who attend music performances, music festivals and other live performance events contribute significantly to the Oregon economy, and this live industry can potentially grow into an important "traded sector." Comments from the Oregon Music Census and from our interviewees echoed the importance of audiences' and attendees' contributions to vibrant music-related communities. Additional empirical research that more comprehensively and regularly captures data about attendees through intercept surveys and/or travel diaries, similar to those used in the AEP5 (2017) and Dean

Runyan Associates (2022) studies, can provide better insight into the magnitude of their economic impact.[42,43]

Grants have proven to be an impactful intervention the public sector can make. Of the participants that did receive grants, many of them reported those grants as being helpful. Moreover, survey respondents commonly suggested more access to grants in order to cover unexpected costs, fund recording or traveling (e.g., to conferences or to showcase Oregon talent at events outside of the state), recover from disasters or misfortune such as the wildfire smoke that caused the cancellation of a number of festivals and outdoor performances. Our research shows that only 7% of all survey respondents actually received grants, which suggests one or more of the following: either there are not enough grants to make a meaningful impact, and/or musicians don't know how to find grants, and/or musicians don't know how to navigate the bureaucracy of grant infrastructure as it currently exists. The quantitative data also indicates that economic shocks can lead to attrition from the industry, leaving only those who are the most established and potentially exacerbating existing diversity and equity issues in the industry. In an interview, one musician described the challenges of discovering available grants as follows:

"I found out about [a grant] last minute from a friend who knew about it. Like literally I had the day to put the proposal together and [...] I've written grants before and so I had a little bit of a template to go off, so I was able to scramble and get it together. And miraculously get it. But yeah, so I was like, how come I didn't know about this?"

Looking at strategies implemented in other regions to address some of these challenges, we found that the most common initiatives are grants via cultural trusts, which derive their funding from both public and private sources (please see the full report for more details). In Oregon, the Cultural Tax Credit created by House Bill 2923 (which offers a state tax refund for combined contributions to local nonprofits and the Oregon Cultural Trust) funds a wide variety of grant programs for local artists, with an emphasis on serving disadvantaged communities. All current organizational grants in Oregon are dedicated solely to nonprofits, and only one of the individual artist grants, the Career Opportunity Program, is available to commercial musical artists. Values awarded range from $500 to $2000. Local grassroots trade association and advocacy group MusicPortland offers grants to commercial artists as well, through its Echo Fund.

Trusts and mechanisms to collect and distribute grant funding exist in many metropolitan areas, states, and on a national basis. *It is common for these programs to be restricted to nonprofit endeavors.* Grant programs for artist fellowships and special music districts exist in Portland, Austin, Philadelphia, Cincinnati, Columbus, Sydney (AUS) within the scope of the literature reviewed for this report, and many other cities and states not mentioned. Artist fellowships provide funding, with or without use restrictions, over a specified time period. Another type of program is to create special districts based on existing or developing localized industry clusters eligible for enhanced public funding. Such districts can simply seek to boost overall growth in some cases, while others can be aimed at supporting areas and populations that have been historically underserved.

While grants through trusts are the most common policy mechanism, there are some other proposed strategies that may additionally lower barriers for the commercial music industry. In Toronto, Ontario, consultants recommend exploring the use of city regulations in order to fund initiatives to support the

[42] AMERICANS FOR THE ARTS, "ARTS & ECONOMIC PROSPERITY 5 - THE ECONOMIC IMPACT OF NONPROFIT ARTS & CULTURAL ORGANIZATIONS & THEIR AUDIENCES IN THE STATE OF OREGON."
[43] DEAN RUNYAN ASSOCIATES, "THE ECONOMIC IMPACT OF TRAVEL IN OREGON 2021."

"night economy," including increased support for private-sector organizations and increased information capacity for entrants.[44] A 2015 Seattle report recommends reforming a current admissions tax to include small venues, limiting blackout dates and non-compete clauses for musicians, and promoting standard written agreements between artists and venues.[45] In Chicago, observed music clustering within African American communities spurs the potential creation of "blues districts" eligible for increased public funding.[46] Nashville, a prominent music destination, seeks to support increased export by using market intelligence and improved music property rights protection, and notes that tax relief should be targeted to specific clusters and revenue gains.[47] Additionally, the cited report encourages the increased support of creative industries that consume music industry products, which would subsequently increase revenues for that sector.

Whether or not enough grant opportunities exist, our research makes clear the frustration performers and venue operators feel about not being able to secure grant funding. With consideration to the challenges of navigating a grant landscape as a single owner/operator, which, as our data shows, most live performers are, we can say that all of these possibilities point to the same conclusion. An Oregon State Music Office – much along the lines of Texas Music Office and New York Office of Media and Entertainment (who also streamlined the process of studying their music industries) – could centralize, facilitate, and simplify the grant infrastructure, and help develop and grow the industry in an equitable manner.

Keeping in mind that grants are an important source – sometimes the only source – of resilience for small businesses during economic shocks like the one presented by COVID-19 and its associated closures, it seems imperative that grant infrastructure be streamlined and strengthened. Beyond providing an important source of resilience, small businesses and sole proprietors often experience difficulty scaling; grants could be used as an accelerant for small businesses that are positioned to grow but lack the resources to do so. Specific to loud music, grants may also help venues with sound abatement, or cover the gaps in their revenue to allow more all ages performances. Lastly, on a granular scale, having a more streamlined and accessible grant structure may also get the performers themselves – rather than conventional applicants who are overwhelmingly businesses and nonprofits – to apply for grants which may then serve as a buffer for the rising costs of living and/or operating, provide financial support to access music equipment or technical training, and temporarily compensate for stagnant wages.

The complexities of defining, quantifying and understanding the commercial music industry detailed within this report underscore the importance of ongoing research and analysis. As one of the first research studies on the emerging commercial music industry in Oregon, this study presented quantitative impacts of the industry in the state, contextualized by qualitative survey results and interviews with industry professionals. Future research can be refined (and made less complex) through facilitation and education by organizations such as Business Oregon or MusicOregon for industry participants to use the most appropriate NAICS codes and to actively participate in survey data collection efforts and other centralized databases. By continuing to invest in research and collaboration, Oregonians can develop a better understanding of the commercial music industry's economic footprint in the state, how it contributes to vibrant, connected communities, and explore and craft programs and policies to support its growth and development.

[44] NORDICITY (TORONTO), "TORONTO MUSIC INDUSTRY STRATEGY: 2022-2026" (TORONTO MUSIC ADVISORY COMMITTEE MEETING, TORONTO CITY COUNCIL, MARCH 2022).
[45] BROWN, "SEATTLE'S WORKING MUSICIANS."
[46] "CHICAGO MUSIC CITY."
[47] NASHVILLE AREA CHAMBER OF COMMERCE, "2020 MUSIC INDUSTRY REPORT."

Conclusion

Oregon has a vibrant creative presence, producing a diverse array of artists known on the national scale, in addition to independent artists mostly familiar on the local scene. The state is also home to many annual music festivals and live venues that attract large numbers of attendees, while also playing host to music businesses big and small spanning sound recording studios, mastering engineers, composers, tuners, digital streaming services, graphic designers and music educators. All of these components of the industry economically impact their communities by providing entertainment and increasing profits for performance venues, distributing wages, and creating culture that attracts both permanent residents and visitors from inside and outside the state. As such, Business Oregon and the Oregon Legislature recognized the commercial music industry as an important emerging industry sector. This study, the first of its kind in Oregon, aims to provide a framework and baseline to understand the economic significance of the commercial music industry. To define Oregon's commercial music industry, the NERC research team synthesized past academic research, regional reports, cluster analysis and expert guidance from the Industry Advisory Group to develop a Commercial Music Conceptual Diagram that visualizes the industry sectors that connect the creators to the consumers - Production of Content, Distribution & Marketing and Live Performance.

To quantify the industry, the team mapped the conceptual industry diagram to NAICS codes through several processes, consolidating data from the 2022 Oregon Music Census, QCEW, OEWS, industry lists and IMPLAN to build inputs for the economic impact analysis. An economic profile that includes longer-term industry trends as well as detailed analysis of employment and payroll trends for each industry sector, geographical distribution, occupational statistics, and growth subsectors. Economic impact analysis was conducted using IMPLAN, an input-output model that tracks economic activity through supply chain relationships within regional economies. To further provide context to our understanding of the commercial music industry ecosystem in Oregon, NERC conducted semi-structured interviews of commercial music industry professionals in our qualitative research process. Finally, based on the comprehensive quantitative and qualitative analyses, the study identifies challenges and gaps within the industry, along with potential opportunities and strategies.

Based on NERC's quantitative and qualitative research and analysis, here are some key findings in this first exploration of Oregon's commercial music industry:

- Table 8 shows that in 2021 the commercial music industry contributed over 16,400 jobs directly in the state, for a total of 22,927 jobs (direct, indirect, and induced).
- These 22,927 commercial music industry jobs generated just below $1 billion in labor income and nearly $3.8 billion in economic output in the state, predominantly impacting *performing arts companies*, *independent artists and performers* and *other education services* (which includes music education) sectors.
- The commercial music industry's economic impacts in Oregon span all four sectors (Table 9), with more than 10,000 total jobs attributed to the Creator sector, 7,989 total jobs in the Production of Content sector, 1,557 total jobs in the Distribution and Marketing sector, and 3,035 total jobs in the Live Performance sector.
- The commercial music industry's economic activity, labor income, and hiring also has effects on public tax revenues, contributing more than $68 million towards Oregon's state and local governments (Table 10).
- Music industry workers and owner/operators highlighted Oregon's resourceful and creative communities and cross-genre and cross-sectoral networks as being major regional advantages, despite the challenges associated with stagnant wages and lingering effects of the pandemic-related closures and economic downturn.

- Additionally, we identified Audio Equipment Manufacturing (334310) as well as Promoters of Performing Arts with Facilities (711310 - music venues, festivals and concert halls) as potential growth subsectors. Some instrument and gear manufacturers reported difficulties in expanding their business due to strictures in affording the time involved in training apprentices from scratch. However, businesses, especially manufacturers, were able to rely on networks to help accelerate their businesses. The importance of networks, to this end, cannot be overstated.
- Rough estimates of additional off-site spending by attendees at live performance events suggest that it may contribute another 4,154 total jobs across the Oregon economy, and more than $186 million in total labor income and $503 million in total economic output, mostly distributed through the restaurant, hotel, transportation and retail industries.
- Many music venues experience challenges in providing sufficient wages/compensation to performers due to increases in various costs of operating in the form of licensing fees, rising costs of labor, having to paying for noise abatement improvements in response to residential developments changing community guidelines, and limitations in drawing enough customers due to the inability to host all-ages performances.
- The prevalence of informal contracting and “handshake agreements” may also hurt venues due to the implicit challenges of an inability to scale-up their operations in addition to being potentially ineligible for public assistance grants due to a lack of “formally employed” staff.
- The pandemic was a significant challenge, especially for venue and event operators, performers and businesses that support these activities. Mandated COVID-19 closures starting in March 2020 led to employment drops of up to 60% in these sectors, compared to an overall decrease of 13% in Oregon. However, a number of gear and instrument manufacturers saw upticks in their businesses as people began looking for new hobbies during pandemic-related closures.

The following are some recommendations that can improve the competitiveness and support the growth of the emerging Oregon commercial music industry:

- We recommend the establishment of an Oregon Music Office – much along the lines of the Texas Music Office, New York Office of Media and Entertainment, or Oregon Film – to help develop and grow the industry in an equitable manner. Such an office may also assist in interfacing with local and state-level policy makers, future researchers and data collectors, as well as within the industry itself.
- Grants or incentives may be necessary to allow small businesses and independent professionals to scale up their production in Oregon, and to bridge the gap during economic downturns, severe weather or wildfire events for creators and live performance related businesses.
- Many commercial music businesses are currently misclassified in economic databases. To more accurately capture the industry, additional outreach and educational efforts are essential to help firms input an appropriate NAICS code or to participate in databases.

The complexities of defining, quantifying and understanding the commercial music industry detailed within this report highlight the importance of ongoing research and analysis. Our analysis suggests that by continuing to invest in research and collaboration, Oregon can develop a better understanding of the commercial music industry’s economic impacts in the state. Furthermore, such investments can help the state explore and craft programs and policies to foster its growth and development, and contribute to sustaining vibrant, connected and livable communities.

Afterword from the Commercial Music Advisory Committee

The following is an afterword from the industry advisory committee that helped guide the consultant's work in preparing this report. The afterword does not necessarily reflect the views of Business Oregon or the contracted consultant that authored the industry analysis. Business Oregon would like to thank the committee members for the extensive time spent in contributing to the production of this report produced at the request of the state legislature.

Presented 3/7/2023 by the Commercial Music Economic Study Industry Advisory Council, and the nonprofit organizations, MusicPortland and MusicOregon

Oregon's music scene has earned an international reputation, with a wealth of musical talent and enterprises. Oregon's Commercial Music sector comprises a range of businesses and individual entrepreneurs engaged in creating live and recorded music. This industry includes firms involved in recording, licensing, and distributing music, as well as firms that design and manufacture the spaces, instruments, and technologies that are the backbone of modern music and how consumers listen and create today. The term "commercial music" identifies the vast majority of firms and individuals in the music-culture ecosystem that do not operate as charitable nonprofits, and so exist outside of the philanthropic- and state-funding models that define the "arts and culture" sector as it is commonly understood. This community had no nonprofit organizational representation until MusicPortland and MusicOregon were established in 2018 and 2022, respectively. An "Arts and Culture" designation has historically been made on the basis of tax status, rather than on cultural significance. It is also, to some degree, made on the basis of genre and tradition, reflecting the origins of the nonprofit arts tax structure in a 19th-century distinction between "high" and "low" art.

Oregon is home to iconic international instrument and music technology brands, a remarkable density of recording studios and music publishing power, and an improbable number of GRAMMY-award-winning artists for a state of our size. Commercial music drives significant economic activity, attracts a talented and creative non-music workforce, and contributes materially to the identity and brand of the state.

Despite this importance, the vitality of Oregon's Commercial Music sector is currently at risk. Changes in Oregon's housing market have put impossible financial pressures on the individual creators who are the cornerstone of the industry and created affordability and regulatory issues for studios, manufacturers, and rehearsal halls. A historically poorly identified industry that is rooted in cultural and intangible benefits can no longer thrive on a basis of cheap housing and underused light industrial space. Absent a change in state support structures for enterprises and creatives alike, Oregon could easily lose the vibrance of its Commercial Music community, and in so doing lose the soul of our state.

The study of Oregon's music economy has led us to a number of specific policy, budgetary, and programmatic recommendations that build upon existing state infrastructure and funding, as well as best-practice examples from across the country. With relatively modest investments, thoughtful support, and a dedicated seat at the table, the music industry in Oregon has the potential to become an economic powerhouse, driving tourism, business investment, and thousands of well-paying jobs.

The Advisory Committee's recommendations center around protecting and growing our independent music industry, avoiding the homogenization and corporatization of popular music that has befallen many other states. We believe that our lawmakers can help catalyze a process that brings policies, as well as public and private investment that will protect our independent creators, venues, and music industry professionals.

Recommendations

1) **Establish a state-level Office of Commercial Music.**

Following the model of the Oregon Governor's Office of Film and TV, a dedicated, semi-independent government agency focused on the commercial music industry would be tasked with the development and implementation of a 10-year Commercial Music Strategy. Having a dedicated agency would keep a focus on coordinating government commitment to Oregon's commercial music industry.

Such an agency would help serve as an advocate for musicians to build a professional career where they are compensated for their work at professional industry standards and best practices. This will include work through the broader industry regarding noise regulations and could partner with local Noise Review Boards, local government regulators, and law enforcement to update and modernize outdated noise control and acoustic zoning policies that will be necessary to sustain music activities, including live performances. This office would advocate for and spearhead innovative initiatives promoting economic growth for music enterprises, venues, and music tourism, such as music concierge services, supporting festivals, and creating an "Oregon Music History Trail."

Other Music office activities may include overseeing major music events, assisting with music business acquisitions and retainment, supporting music tech innovation, conducting research, reviewing and developing music-supporting policies, and leveraging export opportunities for Oregon artists, industry, and music businesses.

As with the Film Office, the Music Office would be a nonprofit, government-recognized agency with clear stature to participate in government discussions of issues impacting its sector. An industry advisory council will guide the Office with representatives from live, recorded, and screen music sectors, including venues, production, artists, manufacturing, and audience representatives, with geographic and demographic diversity a priority.

Direct funding to individual creators regardless of fiscal sponsorship and tradition.

Getting public dollars into the hands of popular music creators directly should be a priority if we are to equitably grow our creative economy. However, effective granting for those individuals will fundamentally look different. Using industry best practices, a different approach to this process could include but is not limited to:

2) **Establish a dedicated fund for Oregon artists to write, record, release, and tour new and original contemporary, popular music.**

Most arts grant programs disadvantage or exclude "commercial" tax-status artists because they have been designed to support traditional nonprofit arts and culture. But ultimately there is very little difference between a music performance and a dance or theater performance. We need leaders to recognize this and adjust accordingly. Dedicated culture funding should acknowledge the distinct needs and programs required to support popular, contemporary music creators. This funding program must be directed by the commercial music industry rather than added (without commercial industry direction and management) to the existing Arts and Culture funding portfolios. If funded and managed by the new Oregon Music Office it could expand existing programs like the

nonprofit MusicOregon Echo Fund, or establish a new, dedicated, and industry-directed program within existing cultural support organizations.

The good news is that, unlike many traditional arts that require philanthropic support, popular music has a direct positive impact on the larger business and tourism sectors that justify private sector contributions to such a dedicated fund. Popular music culture funding should be linked directly to its positive impact on tourism, conventions, and hotel revenues**.**

3) **Provide proportionately adequate funding for the arts.**

Oregon does not provide the arts with adequate proportionate funding. Oregon currently ranks 36th in the nation on arts spending, at about 45 cents per person per year, compared with spending over $6 per person by the State of Minnesota. Legislation proposed in the 2023 State Legislative Assembly by the newly established Oregon Arts Caucus would provide funding at approximately $1.70 per person, placing us 12th in the nation. As demonstrated in countless other jurisdictions, this type of investment will have significant returns to the broader economy in Oregon.

4) **Create and invest in community hubs for professional music development.**

Physical audio production spaces like recording studios, Mixing and Mastering facilities, sound-treated rooms and equipment, and clusters of music rehearsal spaces can transform a group of co-located artists into an artistic community. They are particularly impactful in smaller communities, engaging youth and professionals in new possibilities. Like “food deserts,” large areas of Oregon state have no access to sound recording or hubs of musical collaboration to bring their voices to the world.

Oregon could prioritize funding to support the development of physical music spaces for collaboration, production, and creative exchange. This is vital to the contemporary music community. Affordable professional recording studios and production professionals help artists imagine and realize new possibilities. This is particularly important in smaller communities and on tribal lands that lack opportunities as it is also increasingly difficult to build these types of facilities in larger, denser urban cities in Oregon. There is an opportunity for thoughtful investment that meets multiple needs.

As part of that investment, the state should consider easing permitting requirements for production construction. Greater understanding and education are needed at the permitting level about what recording, production, and acoustic design are, so these businesses can construct the custom spaces they need more easily.

5) **Funding for music businesses and organizations regardless of tax status**

Commercial, music-specific businesses are often ineligible to specific economic stimulus, economic impact analysis, grants, and regulatory relief that would benefit organizations that more neatly fall into either “the arts” or “business”. The state should review these incentives and other financial or regulatory programs to reduce the exclusive focus on tax status. Nonprofit and private enterprises have a significant cultural and economic impact and serve similar community purposes. The Federal Government and many major arts organizations have already made this change for their funding programs. It is incumbent upon the State of Oregon to include the popular commercial music industry in all future economic considerations.

6) **Prioritize Music Manufacturing as a Key Economic Sector and Provide Strategic Policy and Budgetary Support.**

   i. **Designate Music Manufacturing and Production as high-impact "Target Industries" for priority support in all state economic development programs.** No other state has self-identified as a music manufacturing leader. Music Manufacturing is the perfect intersection of culture and craft and will positively reflect on all other manufacturing stories for the state as a standard bearer. Instrument and gear manufacturing can happen in any community across the state to provide jobs and entrepreneurial satisfaction.

   ii. **Establish statewide incentives to support the music manufacturing industry.** Replicate incentives offered for film production in Oregon *https://oregonfilm.org/incentives* to music production. There are successful models of communities who have done this from across the United States. Include music manufacturing and production in the existing Business Oregon : High Impact Opportunity Projects (HIOP) program.

   iii. **Expand existing apprenticeship programs for workforce development to explicitly include the music industry.** Small instrument and gear manufacturers, most notably luthiers, create thousands of jobs and serve as training grounds for individuals who often go on to start their own music businesses.

   iv. **Provide State support and funding for an Oregon-built music gear expo.** Like other conventions supported with public dollars, the State of Oregon could offer certain financial incentives for international commercial buyers to attend. Additionally, there is a need for investment incentives and low-interest financing for small and startup musical gear and instrument companies that are often unable to access many traditional capital markets.

Oregon is a special place, and Oregon's music industry is a gem that shines disproportionately bright. Lawmakers and industry leaders have an opportunity to invest in the resources that have made Oregon an attractive place to live, work, and play. Until now, the music industry has grown on its own, organic and independent, rooted deep in our community. But it's no longer feasible for the music industry to survive on its own without thoughtful, strategic, and on-going support from both government and business leaders. By investing in the things Oregon already has, and by following proven best practices from across the nation, Oregon can lead the post-COVID-19 pandemic economic recovery by leading with our best assets, creating a sense of place, community, and culture that attracts new businesses and new neighbors, and grows our local talent and creative spirit into an economic driver that leads Oregon into the new era of prosperity for all.

MusicPortland's role in the Oregon Music Census:

MusicPortland and MusicOregon are the united voices of the professional, popular music economy in the state of Oregon. MusicPortland, as a 501(c)(6), focuses on economic viability and infrastructure for music professionals in the greater Portland metropolitan area, and throughout the state of Oregon.

MusicOregon, the charitable 501(c)(3) supports cultural, education, and community development needs for the professional, popular music economy in the state of Oregon. Meara McLaughlin, Executive Director of both MusicPortland and MusicOregon, successfully advocated for recognition by the State Legislature of Commercial music and Live Performance as Emerging Economic Sectors in 2022. With funding for study, Business Oregon hired MusicPortland to complete the Oregon Commercial Music Census to gather the first information from statewide businesses, venues and artists. This data became a cornerstone for the economists at Portland State University to complete their full Economic Impact Study. MusicPortland engaged a project manager to manage full scope of responsibilities for Oregon Music Census, including all communications and media outreach, to encourage music industry professionals to participate during the six weeks the census survey was open (December 2, 2022-January 15, 2023) that garnered 3,115 census survey responses from all across Oregon. The advisory committee has continued to contribute context and perspectives on the industry as the final reports have been written, including this afterword with our strategic action recommendations.

The data from the Oregon Music Census quantified much of the narrative we have heard directly from our music industry community for years. We will continue to provide actionable data from the Census in more detailed recommendation documents on each of the actions that we propose. All of our recommendations and continuing advocacy work to support, fund, and catalyze growth in the Commercial Music and Live Performance sectors throughout Oregon.

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MARKET ANALYSIS

LIVE PERFORMANCE

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About the Consultant

The Northwest Economic Research Center (NERC) was jointly established by the College of Liberal Arts and Sciences and the College of Urban and Public Affairs at Portland State University (PSU) in 2011. The Center fills a need for applied economic research in an academic setting in Oregon, and focuses on economic research activities to support public-policy and private-sector objectives. NERC specializes in models, data, and analytical methods applicable to issues of urban and regional economic development.

The mission of the NERC is to serve the public, nonprofit, and private sector community in Oregon and Southwest Washington with high quality, unbiased and credible economic analysis.

The objectives of NERC are:

- Contribute to policy analysis when policies have important economic implications.
- Advance the state of knowledge in applied economics research related to Oregon and the Portland Metropolitan Area.
- Facilitate dialogue among academic, business and government institutions on issues related to economics.

NERC provides analytically rigorous, unbiased studies, results and recommendations that are understandable to policymakers and stakeholders. The research team and staff at NERC come from a variety of backgrounds, have extensive experience conducting cross-disciplinary research, and specialize in data and policy analysis. Dr. Tom Potiowsky is the Senior Advisor of NERC, and the former Chair of the Department of Economics at Portland State University. Dr. Jenny H. Liu is NERC's Assistant Director and Associate Professor in the Toulan School of Urban Studies and Planning.

This report was researched and written by Dr. Jenny H. Liu, Dr. Steve Marotta, Emma Brophy, Rohan Khanvilkar and Hyeoncheol Kim.

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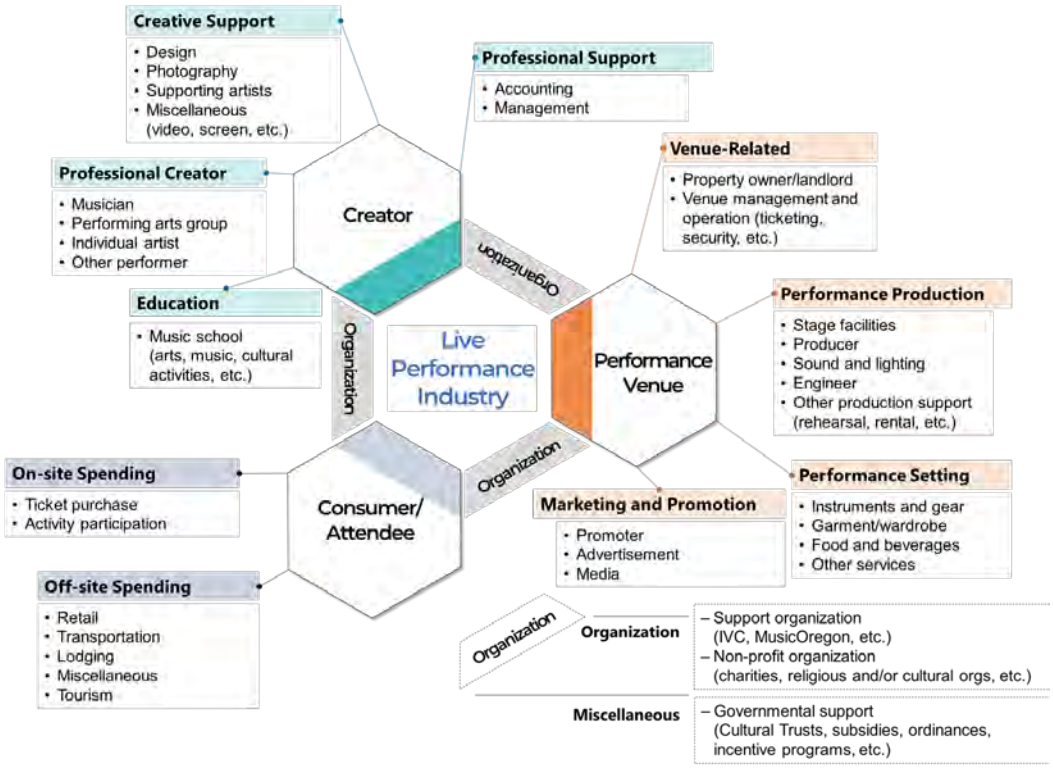
Overview

The full industry report and summary are available on [Business Oregon's website]

Oregon has a vibrant creative presence, producing a diverse array of artists known on the national scale, in addition to independent artists mostly familiar on the local scene. The state is also home to many commercial and non-profit concerts, music festivals, and other live performance events that attract large numbers of attendees, while also playing host to related businesses big and small spanning musical and theater groups, instrument and gear makers, lighting and sound engineers, graphic designers, and numerous venues. All of these components of the Oregon live performance industry economically impact their communities by providing entertainment and increasing profits for performance venues, distributing wages, and creating culture that attracts both permanent residents and visitors from inside and outside the state. As such, Business Oregon and the Oregon Legislature recognized the live performance industry as an important emerging industry sector.

This first-of-its-kind study in Oregon aims to provide a framework and baseline to understand the economic significance of the live performance industry. While past research generally focused on the non-profit arts and culture live performance sector, this research delves deeper into understanding the commercial live performance sector. To define Oregon's live performance industry, the Portland State University NERC (Northwest Economic Research Center) research team synthesized past academic research, regional reports, cluster analysis and expert guidance from the Industry Advisory Group to develop a Live Performance Conceptual Diagram that visualizes the relationships between creators, attendees, and performance venues, along with the supporting organizations and governmental programs.

Figure 12 - Live Performance Industry Conceptual Diagram



To quantify the industry, the team mapped the conceptual industry diagram to NAICS codes through several processes, consolidating data from the 2022 Oregon Music Census, QCEW, OEWS, industry lists and IMPLAN to build inputs for the economic impact analysis. An economic profile that includes

longer-term industry trends as well as detailed analysis of employment and payroll trends for each industry sector, geographical distribution, occupational statistics, and growth subsectors. Economic impact analysis was conducted using IMPLAN, an input-output model that tracks economic activity through supply chain relationships within regional economies. To further provide context to our understanding of the live performance industry ecosystem in Oregon, NERC conducted semi-structured interviews of industry professionals and analyzed responses from the Oregon Music Census in our qualitative research process. Finally, based on the comprehensive quantitative and qualitative analyses, the study identifies challenges and gaps within the industry, along with potential opportunities and strategies.

Based on NERC's quantitative and qualitative research and analysis, here are some key findings in this first exploration of Oregon's live performance industry:

- Table 12 shows that in 2021 the commercial live performance industry contributed over 15,700 jobs directly in the state, for a total of 21,143 jobs (direct, indirect, and induced).
- These 21,143 live performance industry jobs generated more than $850 million in labor income and $3.1 billion in economic output in the state, predominantly impacting *performing arts companies*, *independent artists and performers* and *other education services* (which includes music education) sectors. The Non-Profit Arts & Culture sector adds another 2,211 total jobs, nearly $150 million in total labor income and $539 million in total economic output.
- The live performance industry's economic impacts in Oregon span several sectors (Table 13), with more than 13,400 total jobs attributed to the Creator sector, 7,690 total jobs in the Performance Venue sector, 38 total jobs in the Organization sector, and 2,211 total jobs in the Non-profit Arts & Culture sector.
- The live performance industry's economic activity, labor income, and hiring contributed nearly $57 million towards Oregon's state and local governments in 2021 (Table 19).
- Additionally, we identified Audio Equipment Manufacturing (334310) as well as Promoters of Performing Arts with Facilities (711310 - music venues, festivals and concert halls) as potential growth subsectors.
- Rough estimates of additional off-site spending by attendees at both commercial and non-profit live performance events suggest that it may contribute another 9,135 total jobs across the Oregon economy, and more than $410 million in total labor income and $1 billion in total economic output, mainly within hospitality and retail industries.
- Music industry workers and owner/operators highlighted Oregon's resourceful and creative communities and cross-genre and cross-sectoral networks as being major regional advantages, despite the challenges associated with stagnant wages and lingering effects of the pandemic-related closures and economic downturn.
- While many creators have developed large audiences and gained commercial success, low and stagnant wages appear to be a persistent challenge for some parts of the industry, showing up in our occupational analysis as well as in survey and interview responses where a number of performers indicated no upward growth in wages since the 1980s. Moreover, due to the larger distances between cities and venue locations in the Pacific Northwest, touring artists may be subject to higher travel costs.
- Venues and event organizers face a number of challenges as well. Mandated COVID-19 closures reduced employment significantly (up to 60% in performance venues in 2020), compared to an overall decrease of 13% in Oregon during the same period. While many costs are increasing, attendance levels have not yet fully recovered. Some additional comments addressed difficulties in hosting all-ages performances, steep licensing fees, and obstacles associated with permitting and ordinances.

The following are some recommendations that can improve the competitiveness and support the growth of the emerging Oregon live performance industry:

- We recommend the establishment of an Oregon Music Office – much along the lines of the Texas Music Office, New York Office of Media and Entertainment, or Oregon Film – to help develop and grow the industry in an equitable manner. Such an office may also assist in interfacing with local and state-level policy makers, future researchers and data collectors, as well as within the industry itself.
- Grants or incentives may be necessary to allow small businesses and independent professionals to scale up their production in Oregon, and to bridge the gap during economic downturns, severe weather or wildfire events. An Oregon Music Office may act as a facilitator to assist creators, venue operators, event organizers and others in this industry in navigating grant/permit applications, ordinance compliance and contracting.
- Many businesses are currently misclassified in economic databases. To more accurately capture the industry, additional outreach and educational efforts are essential to help firms input an appropriate NAICS code or to participate in databases.
- On-going research on both quantitative and qualitative fronts is critical to build on this baseline understanding about the full extent of live performance industry's economic contributions, to address gaps in the existing network, and to strategize around how to foster inclusive environments for the industry to grow.

Table 12 - Oregon Live Performance Industry Economic Impact Summary (2021 Dollars) [Excluding the non-profit arts & culture sector]

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	15,791	$473,410,035	$1,203,929,546	$2,091,313,494
Indirect Effect	2,869	$223,195,632	$319,967,399	$591,763,795
Induced Effect	2,483	$156,012,574	$275,700,492	$464,267,091
Total Effect	21,143	$852,618,241	$1,799,597,436	$3,147,344,380

Table 13 - Oregon Live Performance Industry Economic Impacts by Industry Sector (2021 Dollars)

	Type	Employment	Labor Income	Total Value Added	Output
Creator	Direct	10,867	$246,511,719	$796,481,689	$1,206,460,291
	Indirect	1,363	$84,903,388	$124,098,015	$241,637,070
	Induced	1,185	$74,446,877	$131,566,098	$221,558,912
	Total	13,415	$405,861,985	$1,052,145,802	$1,669,656,273
Performance Venue	Direct	4,898	$225,760,209	$403,771,783	$879,082,642
	Indirect	1,499	$137,813,273	$195,145,173	$348,717,699
	Induced	1,292	$81,206,065	$143,498,932	$241,638,174
	Total	7,690	$444,779,546	$742,415,888	$1,469,438,515
Organization	Direct	25	$1,138,106	$3,676,073	$5,770,561
	Indirect	7	$478,972	$724,210	$1,409,026
	Induced	6	$359,632	$635,463	$1,070,005
	Total	38	$1,976,710	$5,035,746	$8,249,592
Non-profit Arts & Culture	Direct	1,299	$89,174,210	$257,632,655	$370,181,584
	Indirect	478	$33,507,597	$46,105,121	$88,367,803
	Induced	434	$27,275,306	$48,194,720	$81,150,882
	Total	2,211	$149,957,113	$351,932,496	$539,700,269

Live from Oregon: Economic Analysis

Oregon's live performance industry has been identified as an important emerging industry, but analysis is difficult due to the lack of a cohesive classification schema. While past research generally focused on the non-profit arts and culture live performance sector, this research delves deeper into understanding the commercial live performance sector. In order to situate and define live performance activities, the report briefly establishes a framework for defining and understanding this sector on a broad basis, and explores the existing research in Oregon and other geographies as a basis for the identification of useful methodologies and data sources.

A thorough examination of the many sectors included for this analysis forms the basis for the body of results, which has two parts. First, a detailed conceptualization of the live performance industry is constructed, which subsequently informs economic impact analysis that estimates the economic footprint of the live performance industry as represented by creators and performance venues in Oregon. Secondly, the quantitative results that assess the economic impact and the scope of the industry in Oregon are supplemented by qualitative survey and interview data in order to create a more comprehensive summary of economic activity related to live performances. Based on these findings, opportunities and strategies are discussed to address current challenges and gaps in further developing the live performance industry.

Defining Oregon's Live Performance Industry

In this study, the live performance industry is defined as the production, presentation and promotion of live shows, performances, and concerts for public consumption, and the various sectors that provide support for these activities to occur. Globally, live performance constitutes 38.9% of the $50 billion music industry. A 2021 report from Oxford Economics found that live performance considered in combination with sectors linked to the industry on a national basis generated $132.6 billion in total economic impact and $17.5 billion in tax revenues in 2019. That same year, the industry generated an estimated 913,000 jobs.[48] This report attempts to capture as much relevant economic activity as possible by including every sector directly related to live performances as economic modeling inputs for strong quantitative results, supplemented with extensive qualitative survey and interview data. Although the live performance industry includes both commercial and non-profit sectors, most of our efforts are focused on defining, quantifying, and analyzing the commercial aspect of the industry in greater detail, while supplementing our analysis for the non-profit aspect with existing studies.

Previous Research in Oregon

Oregon has a vibrant creative presence, producing a diverse array of artists known on the national scale– including Sleater-Kinney, the Dandy Warhols, Robert Cray, Everclear, Pink Martini, Mel Brown, and Portugal The Man. No less culturally important, artists mostly familiar on the local scene economically impact their communities by providing entertainment and increasing profits for performance venues, distributing wages, and creating culture that attracts both permanent residents and visitors from inside and outside the state.

[48] OXFORD ECONOMICS, "THE CONCERTS AND LIVE ENTERTAINMENT INDUSTRY - A SIGNIFICANT ECONOMIC ENGINE," 2021.

In recent years, there is evidence that the state is a prominent emergent music destination. In December of 2022, the Oxford American magazine published an article highlighting Oregon's contribution to modern country attracting considerable attention as it undergoes an internal revolution – as represented by artists who performed at that year's Pickathon. This annual music festival takes place each year in Happy Valley, Oregon, and draws visitors from across the state and beyond.[49] Earlier this year, *Downbeat* magazine cited local jazz club The 1905 as a top global venue for jazz music in its February 2023 Venue Guide.[50] Project management software company Workamajig conducted an analysis of 331 metropolitan areas with populations over 100,000 on the basis of its creative innovation, based on a number of factors including the number of creative jobs, artists, and musicians, as well as number of film and music festivals per capita. Portland ranked as third: the West Coast capital of the blues (and home of the Waterfront Blues Festival), with a musical scene that also features some of the hottest metal and hip-hop scenes in the nation. Bend also showed distinction at number 85.[51] Every year, a diverse array of music festivals draws tourists and generate economic activity through live performances, including the Oregon Bach Festival and Oregon Country Fair in Eugene, the eponymous Pendleton Whisky Music Festival, and Oregon Jamboree in Sweet Home. By supporting live performance outside of the Portland metropolitan area, policy makers can increase tourism to those areas, as well as expanding the benefits of production discussed above.

Oregon's top venues both attract visitors and generate substantial economic activity. Five of Portland's best known performance spaces– Keller Auditorium, the Arlene Schnitzer Concert Hall (affectionately known as the Schnitz), and the Newmark, Dolores Winningstad, and Brunish Theaters, generated $63.6 million dollars in spending and supported 680 full-time equivalent jobs. These venues frequently host nationally and globally famous artists, whose presence draws visitors and injects money into the local live performance industry. Equally prominent are the Roseland Theater (which hosts crowds up to 1,400), McMenamins Crystal Ballroom, and the Moda Center, a massive space that doubles as the home of the Portland Trail Blazers. Smaller venues thrive as well– the Doug Fir Lounge serves as an indie showcase for both national and local artists, and Mississippi Studios (which additionally serves as a recording studio) is a frequent destination for both tourists and locals alike. Outside of Portland, Cuthbert Amphitheater in Eugene and McMenamins Edgefield in Troutdale provide outdoor concerts that sell out every summer to crowds numbering in the thousands.

The sole economic analysis of the arts and music industry in Oregon is the relevant section from the 2017 fifth edition report produced by Americans for the Arts, *Arts and Economic Prosperity 5.*[52] This report focuses solely on nonprofit arts, but the results are nevertheless striking– by utilizing a standard economic cluster analysis approach, the authors find that nonprofit arts in Oregon gave rise to $687 million in total spending in 2015, $364 million of which came from arts and cultural organizations, with the remaining spending impact due to live performances. Additionally, nonprofit arts organizations supported labor hours equivalent to 13,939 full-time jobs, and generated $26.7 million in local and state tax revenues. The next update in this series, Arts and Economic Prosperity 6, is set to be underway in May of 2023.

Many previous analyses have been conducted to determine the footprint of the creative industries on a variety of scales. These analyses often use input-output multiplier models (described below), including IMPLAN and RIMS II. Alternatively, they rely upon case studies and interviews, in combination with demographic data, to describe the industry. In all cases, it is important to explicitly

[49] JUSTIN TAYLOR, "NOT COUNTRY, NOT WESTERN, JUST WEST," *OXFORD AMERICAN*, 2022.
[50] JASHAYLA PETTIGREW, "THIS PORTLAND OR JAZZ VENUE HAS BEEN NAMED ONE OF WORLD'S BEST," *KOIN*, 2023.
[51] "BEST CITIES AND SMALL TOWNS IN THE U.S. FOR CREATIVE |," WORKAMAJIG, 2023.
[52] AMERICANS FOR THE ARTS, "ARTS & ECONOMIC PROSPERITY 5 - THE ECONOMIC IMPACT OF NONPROFIT ARTS & CULTURAL ORGANIZATIONS & THEIR AUDIENCES IN THE STATE OF OREGON," 2017.

identify the industry sectors under analysis, and most reports utilize the North American Industry Classification System (NAICS) for this purpose.

Research in Other Geographies

There is a paucity of research on the economic impacts of live performance industry, as most analyses are either directed to specific venues, or to larger industries, typically music or arts, which have a wider presence and generate greater revenues than live performance alone. Nearly all reports used to inform this report are economic impact analyses, meaning that they select industry sectors for inclusion in input-output modeling, with or without supplemental data presentation and interview or survey components. The prevalent method is impact analysis, informed by various forms of qualitative input to provide refinement and context for the results. The majority of studies focused on city or county level music industry activities, with only a few that examine state-level economic impacts in Georgia, Texas and Colorado. This section of the review summarizes previous reports in other areas, with an emphasis on the data sources used for analysis.

Memphis and Shelby County, Tennessee[53]
Economic impact of the music industry in Memphis and Shelby County (2004) considers three complications in its analysis: the music industry includes both non-profit and for-profit organizations; music can be consumed in a variety of ways; and participants are often part-time or self-employed, thereby making it difficult to capture detailed information about the industry. Commercial music studios, producers, bands, lawyers, musicians, retail establishments, and teachers are all included. The objective is to capture music-related tourism, music education, and even casinos. This report highlights the importance of live performance, which draws tourism vital to the Memphis economy. The authors estimate that tourism related to musical live performance supplies an estimated $1.38 million in tourism spending and provides $960 million in payrolls and $99 million in state and local tax revenue.

Nashville, Tennessee[54]
Nashville Music Industry: Impact, Contribution, and Cluster Analysis, published in 2013, provides jobs supported, earnings, and location quotient for for-profit music arts sectors. Expert interviews offer context for the report and insider knowledge of the industry. The interviews collected for this report highlight the importance of live performance: as the nature of the industry changes, it is no longer record sales but live performances that provide artists with their largest source of revenue– which includes outsized merchandise sales in comparison to those made via other mediums.

In 2020, the city of Nashville produced the second report, with additional detail and qualitative research. In this report, the authors enhance the previous IMPLAN analysis approach by using EMSI data in combination with more granular data from applied economic consulting firm Chmura Economics. Additionally, the report includes summaries of the results of a 98-question survey of music industry professionals and a 50-question survey of music consumers. These surveys were conducted online from March to September of 2020, and received a total of 2,589 responses. When asked about the importance of live performance in the music industry, 93% stated that on a one-to-ten scale, live performance ranked over seven.

[53] JOHN E. GNUSCHKE AND JEFF WALLACE, "ECONOMIC IMPACT OF THE MUSIC INDUSTRY IN MEMPHIS AND SHELBY COUNTY," *BUSINESS PERSPECTIVES* 16, NO. 3 (2004).
[54] NASHVILLE AREA CHAMBER OF COMMERCE, "2020 MUSIC INDUSTRY REPORT," 2020.

Chicago, Illinois[55]

Chicago Music City, written in 2007, assesses the vitality of the city's music industry by comparing spending, employment, payroll, and other data from the music industry with data from other cities. Subsectors are separated into core and peripheral industries. After assembling all relevant data, the authors compare Chicago with fifty other metropolitan areas in order to determine its comparative strength via location quotient, with the goal of setting a benchmark in order to enable tracking. Expert input from music industry and arts advocates informs the report. Live performance is tracked by the number of ticket sales per capita, as well as ticket receipts from live performances. Additional perspective from national press and Billboard and Village Voice rankings is used to provide context for the "music scene," the live performance and surrounding industry component cited as not only drawing tourist spending to the area, but also additional artists and the corresponding industry growth that results from geographic clustering.

Colorado[56]

This 2018 statewide report, *Colorado's Music Industry: A Current Analysis and Look Forward,* uses NAICS codes to define the music industry. After music-related industries are identified with NAICS codes, they are classified by what industries are involved in the production and consumption of music directly and indirectly. In cases of indirect connection, complementary data sources are used to estimate how much of the subsector in question is dedicated solely to music. Results are calculated using an EMSI impact analysis.

This report highlights the importance of live events in the state through data collection from both public and private sources. In terms of employment by sector, live events constitute 29.5%, and grew by 39% from 2010 to 2016. From 2010 to 2016, ticket sales at the Red Rock Amphitheater (the largest in the state) annual ticket sales rose by 213%, from approximately 350,000 to 1.1 million. Thirty-five percent of music industry revenues in the state come from live performances.

Live Performance Industry Conceptual Diagram

Cluster analysis methodology was utilized as one of the first steps in constructing the live performance industry conceptual framework. It consists of algorithmic estimation and analysis of related industry groups by their degree of interaction and dependency, depending on set parameters. Region-specific clusters are delineated by observed linkages within a given area, typically accomplished by identifying "core" or "driver" industries, and then using measures of inter-industry activity to further refine the connection. Alternatively, or simultaneously, cluster analysis can use location quotient as a basis for cluster mapping by identifying areas of relative concentration in particular industries within a given geography. This method is based on qualitative data in the form of regional case studies (including expert input), in combination with existing industry cluster classifications and local data sources such as industry directories.[57]

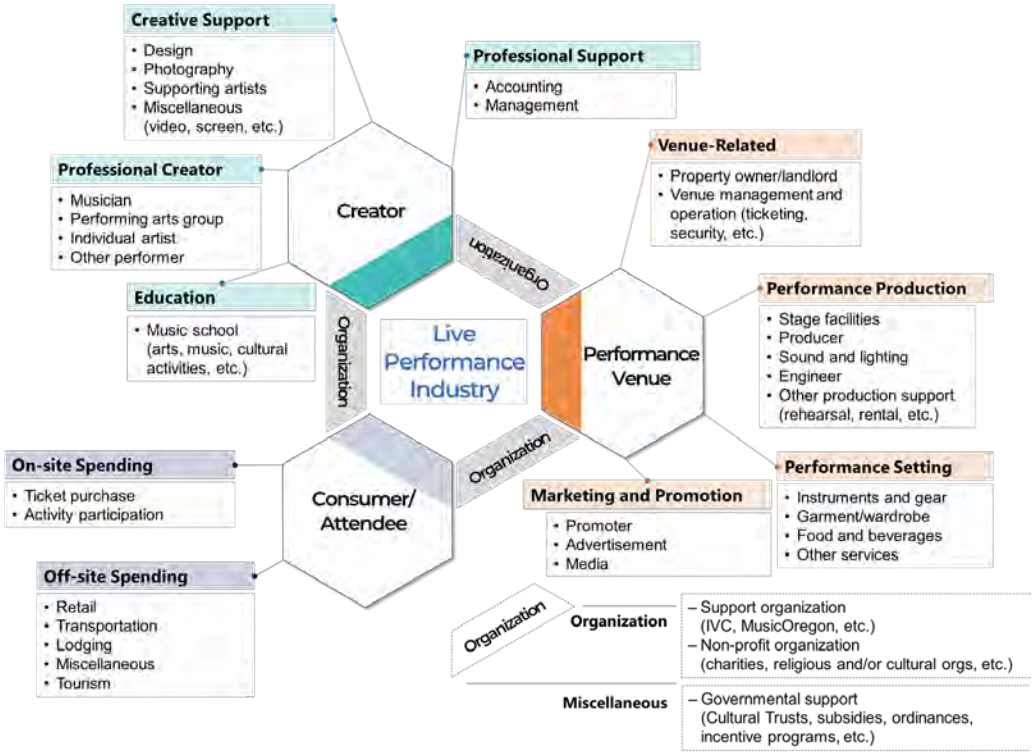
The U.S. Cluster Mapping Project provides nationally consistent benchmark cluster definitions that can be used to assess the presence of clusters at any regional unit. The methodology groups 778 six-digit NAICS (North American Industry Classification System) industries into 51 traded cluster categories, and 310 NAICS industries into 16 local cluster categories (all mutually exclusive). **Table 14** below lists the sectors included for the performing arts industry. These definitions inform, but do not constitute, the NAICS sectors used for this analysis, which both refines and expands upon these groupings.

[55] "CHICAGO MUSIC CITY," 2007.
[56] MICHAEL SEMAN, "COLORADO'S MUSIC INDUSTRY: A CURRENT ANALYSIS AND LOOK FORWARD," 2018, 29.
[57] MERCEDES DELGADO, MICHAEL E. PORTER, AND SCOTT STERN, "DEFINING CLUSTERS OF RELATED INDUSTRIES," NBER, 2014.

Table 14 - Traded Cluster (2007 NAICS codes) – Performing Arts

NAICS	NAICS Name	Subcluster Name
711110	Theater Companies and Dinner Theaters	Performing Artists
711120	Dance Companies	Performing Artists
711130	Musical Groups and Artists	Performing Artists
711190	Other Performing Arts Companies	Performing Artists
711510	Independent Artists, Writers, and Performers	Performing Artists
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities	Promoters and Managers
711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities	Promoters and Managers
711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Figures	Promoters and Managers

Figure 13 - Live Performance Industry Conceptual Diagram



The profile of the live performance industry is comprised of interactions between creators, attendees, and performance venues. Additionally, a number of organizations facilitate and support the live performance industry through their roles as intermediaries, labor unions, industry or trade organizations, and non-profit or governmental organizations that support the industry. Similar to the commercial music industry, the live performance industry does not conform to standard industry classification, definitions and measurements for key concepts such as ticket sales, concessions, merchandise sales, and sponsorships. Various components within the industry often overlap or are integrated horizontally or vertically within the industry ecosystem, further presenting challenges to clearly delineate each sector or subsector. For example, a mixed-use venue that produces live performances and sells alcohol to consumers may also provide lighting and sound engineering and could even be musicians themselves; a performer may be an individual recording artist and also play an instrument within a larger ensemble, in addition to managing an artist booking business; a session player may be engaged in live performances as well as in the manufacturing and sale of merchandise, and also spend some time supplementing their income with private music lessons. To understand the complexity of the live performance industry, a live performance industry conceptual diagram (see **Figure 13** above) was created based on the existing research literature, guidance from industry experts in the Industry Advisory Group and interviews with industry participants to visualize

the relationships between creators, attendees, and performance venues, along with the supporting organizations and governmental programs.[58]

- **Creator**: Creators in the live performance industry are individuals or groups responsible for producing and presenting live shows, performances, and concerts. These may include musicians, actors, dancers, comedians, directors, producers, writers, and other creative professionals. They bring the talent, skills, and vision necessary to create and deliver live events that engage and entertain audiences. They may work independently or as part of a larger organization, and they may be involved in all aspects of the production process, from conceiving the initial concept to rehearsing and performing the final show. Professional creators are just one part of the diverse group of subsectors described below that coalesce into the broad concept of the creator.
    - **Creative Support**: Creative support in the live performance industry contributes to enhancing the overall experience for the audience and can help set the tone, mood, and atmosphere of a live event. For creators, it provides the resources and infrastructure necessary to bring their works to life at events with additional creative services. These services can encompass a wide range of options, including design, photography, video, and other visual components.
    - **Professional Support:** Professional support refers to the services and resources that help creators navigate the industry and advance their careers. These services and resources help them stay informed, connected, and focused on their professional development through various ways: legal support (to help creators navigate contract negotiations, intellectual property laws, and other legal matters related to the production), business management (to help creators manage their finances, develop business plans, and navigate the complexities of running a creative business), and professional representation (to help creators secure bookings and negotiate contracts through agents and managers).
    - **Education**: Music education can take many different forms, including formal training at music schools and universities, as well as informal training through private/group lessons, workshops, online courses, and mentorship programs. It can be an important component for musical content creators to develop their abilities and competence in the live performance industry. At the same time, these creators may also be educators, sharing their knowledge and skills with future generations of musicians and performers, while benefiting from a reliable source of revenue.
- **Performance Venue**: Performance venues are physical spaces specifically designed and equipped to host live performances. As a central component of the live performance industry, this sector is closely tied to several related industries that support and sustain live events. These industries work together to create the live performance experiences that audiences enjoy, and that creators depend on for their livelihoods. Performance venues encompass various aspects of the industry, from venue operation to booking, hosting and producing performances.
    - **Venue-Related**: The venue-related subsector is focused on the physical spaces where live events take place. These are venues that are designed and built to meet the specific needs of live events, including considerations such as acoustics, lighting, stage design, and capacity. Property owners or landlords are key actors in this subsector, as they provide the spaces where live performances take place. Venues are typically

[58] Note that this industry conceptual diagram is representative in nature. It does not comprehensively list all examples of those who may belong within the industry, nor does it depict any potential overlaps or integration between different sectors of the industry.

managed and operated by professionals who are responsible for overseeing the day-to-day operations of these spaces, including ticketing, security, and event production. Mixed-use venues not specifically designed or built for live performances also exist within this subsector.
    - **Performance Production**: Performance production is a key component of live performances, referring to the process of designing, planning, and executing a live performance event. A complex and multi-disciplinary process, it involves a range of skills, including project management, technical expertise, and creative vision. It mainly includes specific businesses and activities such as sound and lighting, stage engineering, and producing.
    - **Performance Setting**: Performance setting is about shaping the overall experience of the audience and performers. It requires not only arranging the environment of the venue but also engaging various sectors of the hospitality industry. For example, the seating arrangements may be optimized to provide a good view for the audience, and the acoustics may be adjusted to ensure that the sound is of the highest quality. In addition, services and amenities are provided to the performers, guests, and audience members before, during, and after a performance event.
    - **Marketing and Promotion**: Marketing and promotion refer to the efforts to raise awareness about and generate interest in a live performance event. In the live performance industry, this sector is critical to the success of an event, as it helps to attract audiences and generate revenue. Throughout the performance, the goal is to create excitement and interest in the event, and to encourage ticket sales and attendance through various advertising media, promotional partnerships, and public relations.
- **Consumer and/or Attendee**: In the live performance industry, consumers and/or attendees, while not technically a part of the “industry,” are an integral part of the live performance industry through their attendance and consumption at live performance events. Attendees' economic contributions come from both on-site and off-site spending on tickets, transportation, lodging, food and beverage, and other related expenses. For instance, when someone attends a concert, they are likely to purchase a ticket, park their car, dine at a nearby restaurant, and possibly stay overnight in a hotel. All of these expenditures boost the local and regional economies, providing jobs and income for businesses in the area.
- **Organization**: Organizations in the live performance industry play important roles in supporting and sustaining the live performance industry by providing various forms of support, including intermediary services, non-profit performance hosting, and governmental support. Each of these organizations has unique characteristics and plays a different role in supporting the industry. Intermediary organizations provide essential services for connecting performers with performance venues and managing contracts. Non-profit organizations provide performance venues and support for artists, often with a focus on promoting and supporting the arts. Governmental organizations provide funding, resources, and support for the arts, including the live performance industry, and may also regulate and support cultural events and activities.

Quantifying the Live Performance Industry

The constructed live performance industry conceptual diagram provides us with a solid basis to understand the various components that contribute towards the industry, but it is still necessary to progress from this conceptual understanding to quantify the contribution of the industry to Oregon’s economy. The following section starts with a description of the process to translate the conceptual industry diagram to NAICS codes, data sources, data summaries and the identification process that

will produce the necessary inputs for the economic impact analysis. Then, we follow with an overview of the economic impact analysis (or more accurately, in this case, an economic contribution analysis), and the estimated economic impacts of the live performance industry in Oregon.

Conceptual Diagram to NAICS Codes

The revenue flow in the live performance industry can come from various sources, including ticket sales, merchandise sales, sponsorships, and licensing agreements. The primary revenue stream in this industry is usually from ticket sales, with attendees paying for the experience of seeing a live performance. Merchandise sales, such as T-shirts and other memorabilia, can also provide an additional revenue source. Sponsorships, where a company pays to have their brand associated with a particular performance or event, can provide significant revenue, especially for larger events. Finally, licensing agreements, where the right to use a particular performance or performer's image or music is sold to a third party, can also be a significant revenue source.

The classification of NAICS codes into the live performance industry can be somewhat subjective, as it can depend on the specific activities and services being offered. For example, a theater that primarily produces and performs plays may fall under the performing arts category, while a theater that primarily shows films may fall under a different category. Additionally, some establishments may offer a combination of live performances and other activities, such as food and beverage service, which can make it difficult to assign a single NAICS code.

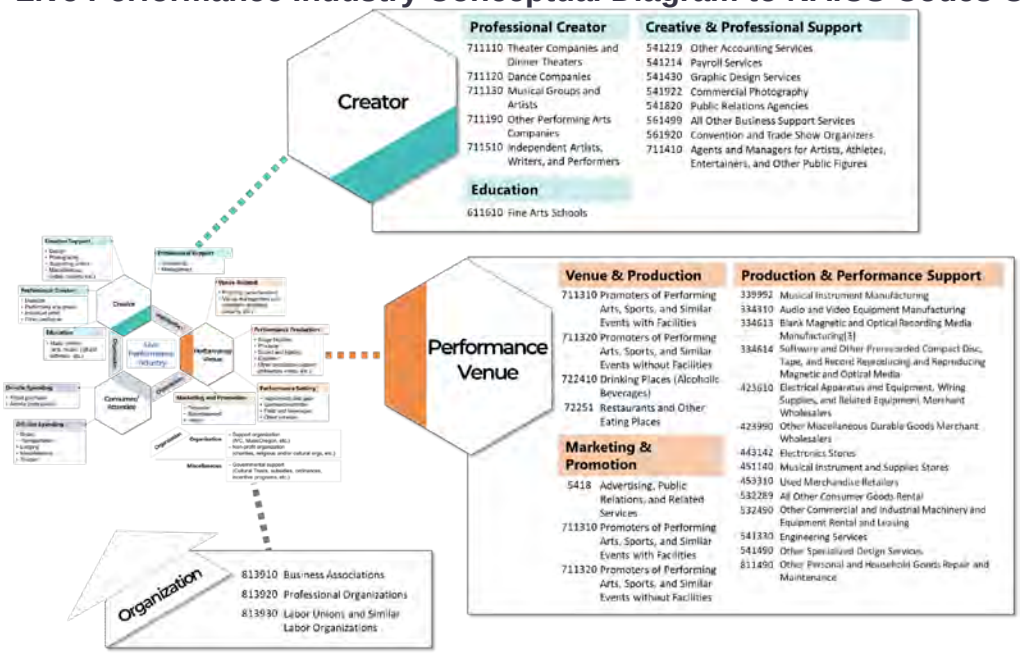
Within the framework of the Live Performance Industry Conceptual Diagram (**Figure 14**) which describes the nature of revenue and income streams between the consumers/attendees, creators, and performance venues of the live performance industry, it is essential to translate these industry categories into NAICS (North American Industry Classification System) codes, a standardized way to classify business establishments “used by Federal statistical agencies (...) for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy”[59]. While certain NAICS industry sectors clearly map to various categories of the conceptual diagram such as 711130 for Musical Groups and Artists or 339992 Musical Instrument Manufacturing, many other parts of the industry do not fall under well-defined NAICS codes, such as 334310 Audio and Video Equipment Manufacturing (which might include car stereo manufacturers or aviation headset manufacturers) or 711310/711320 Promoters of Performing Arts, Sports and Similar Events (which might include basketball teams, marathon organizers or quilting festivals). Generally, industries that fall under the live performance umbrella are those that are primarily engaged in the production, promotion, and presentation of live performances to a live audience. The following are the primary inclusion criteria for NAICS codes to be mapped to the Live Performance Industry Conceptual Diagram:

- **Nature of the performance**: The performance should be presented to a live audience, and can include a variety of forms such as concerts, theater, dance, comedy, and other live shows.
- **Production and promotion**: The NAICS codes involved are related to the production and promotion of live performances, which can include tasks such as booking talent, marketing, ticket sales, venue management, and technical production. Companies or people that provide services or products that are directly related to the production, promotion, and presentation of live performances, such as musical instrument manufacturers, audio equipment providers, graphic designers of performance posters, are also considered part of the live performance industry.

[59] https://www.census.gov/naics/

- **Audience**: The live performance industry typically involves performances with an audience in attendance, whether in small or large venues.
- **Revenue streams**: The industry may generate revenue from various sources such as ticket sales, merchandise sales, sponsorships, and broadcasting rights.

Figure 14 - Live Performance Industry Conceptual Diagram to NAICS Codes Conversion



Data Sources

To quantify the live performance industry in Oregon, we obtained data from several sources, including the Quarterly Census of Employment and Wages (QCEW) and Occupational Employment and Wage Survey (OEWS) data from the Oregon Department of Employment, lists of industry participants by industry category from MusicOregon, a list of venues and festivals from the Independent Venue Coalition (IVC), survey results from the 2022 Oregon Music Census, and IMPLAN. For the non-profit aspect of the live performance industry, we utilize the Arts and Economic Prosperity 5 (2017) organizational expenditure and jobs with growth rate assumptions. These combined efforts help build out a more complete picture of the economic impacts of the live performance industry in Oregon.

2022 Oregon Music Census

Key components of the qualitative and quantitative analyses in this report are informed by the 2022 Oregon Music Census, which helped calibrate assumptions made about the size of Oregon's music industry in the QCEW and OEWS datasets, isolate relevant NAICS sector groupings, and informed the scope and focus of the qualitative interviews. Funded by Business Oregon, the Music Census was managed and conducted by the non-profit advocacy organization MusicPortland in a first attempt at establishing an industry-wide benchmark of commercial music in the state of Oregon. Consequently, MusicPortland defined and targeted the Census to capture economic and operational information across Oregon's music through the following sub-sectors: Instrument and Gear Manufacturing and repair; Labels, Distribution, and Licensing; Composing, Recording, and Performing Artists; and Production Professionals.

The Census was marketed to the music industry in Oregon through various channels of MusicPortland's self-hosted web properties, a direct email contacting list sourced from registered members of MusicPortland, soliciting participation from social media and in-person music networks

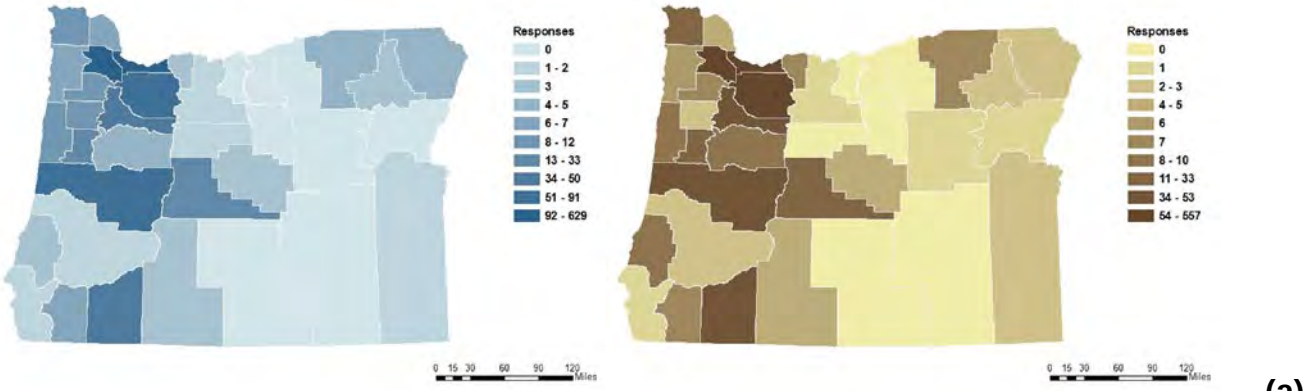
and communities, targeted paid advertisements, editorial commitments from local news organizations and radio stations. The Census was active from December 2, 2022, through January 15, 2023, and collected 3,116 responses, nearly 2,431 of which were from respondents who met the survey's inclusion criteria; that is, identified themselves as being part of the music industry in Oregon in their capacity as a musician (40.5% of respondents), as manager of a commercial venture in the music industry (22.4%), or as somebody who is both a musician and manages a commercial music venture (37.1%).

Figure 15 - Distribution of Gross Personal Income by Gender Identity (for 2022)

Demographically, of the 639 respondents that identified as solely musicians and chose to report their race and gender, nearly 80% identified as being of White or European Origin and 68.5% identified as male. When considering income levels by respondents who reported gender identity (1885 respondents), we can note the disparity in income gross personal income distribution for sole musicians as seen in **Figure 15** above. Concerning age, the survey showed sole musicians distributed fairly evenly while those musicians who also managed commercial ventures skewed older, peaking around 50 to 60 years of age.

To better understand the geographic distribution of respondents, the business zip codes of 1,134 musicians and 993 music business managers are mapped by county in Figure 16 (note that these two subgroups have large overlaps as many musicians are also managers of businesses). Multnomah County garnered the largest number of responses in both groups, followed by Washington County and Clackamas County. This is likely due to both the larger populations in these counties, as well as the higher concentration of those on contact lists for the survey in these areas. Six counties recorded no responses in either category: Gilliam, Harney, Lake, Morrow, Sherman, and Wheeler Counties.

Figure 16 - Geographic distribution of responses by county



(a) Response as a musician **(b) Response as a music business manager**

When asked about their gross income for the year 2019 and their anticipated income for 2022, both sole musicians and musicians with commercial ventures were largely comparable in their relative distribution across responses. Around 8% of musicians and 6% of musicians with commercial ventures reported generating no revenue since 2019. A majority of respondents reported their gross income as less than $4,999 (if they were solo musicians) and less than $9,999 (if they reported for their entire band), indicating a high likelihood that these musicians also held other (or multiple) jobs. Interestingly, respondents who reported incomes for themselves tended to report lower anticipated income in 2022 than in 2019 whereas respondents reporting incomes for their bands tended to report higher anticipated income in 2022 than in 2019; however, when comparing across those who solely perform against those who also manage commercial music ventures, the distribution stays roughly the same between musicians and bands, both categories anticipating lower income in 2022 than their reported income in 2019. Although a majority of musicians reported none of their revenue coming from out-of-state (greater than 32% across 652 responses), of respondents who identified as musicians with music-related businesses, most tended to get between 1-25% of their total revenues from out-of state (35% across 564 responses).

On matters regarding public assistance and grant programs, both sole musicians and musicians with commercial ventures went overwhelmingly without receiving grants or financial support (not including COVID-19 relief programs). Of the 709 musicians who responded to this question, only 7% or 51 respondents received non-COVID-19 grants; of 597 musicians who also managed commercial music ventures, only 12% or 71 respondents received non-COVID-19 public assistance. Of the respondents that did receive public assistance, a majority reported that the assistance they received was less than 10% of their total income, and only 1 musician who also managed a commercial music venture stated 100% of their total music income came in the form of non-COVID-19 grants. It should be noted that of the respondents who also manage commercial ventures, only 8% reported themselves as managing live music (dedicated) venues.

Concerning live performance of music in mixed-use venues, respondents in the survey had a scattered relationship between the total number of weekly operating hours and the number of weekly operating hours that featured live music; however, when asked how live music performance affects their hourly sales, 18 of 31 respondents stated that they have between 1.5 to 2 times more sales when hosting live music performances than when not. More than half of respondents managing a mixed-use venue reported hosting shows at least twice a week. To contextualize this, more mixed-use venues who reported hosting live music at least twice a week reported their sales being improved

by a factor of 1.5x or 2.0x while those who reported hosting live music more infrequently – less than twice a week or on a monthly basis – reported no change in sales. While most dedicated and mixed-use venues reported less than 20% of out-of-state revenues, an increasing number of annual music festivals reported between 20-60% in 2022 compared to 2019.

Quarterly Census of Employment and Wages (QCEW)

The QCEW dataset is a comprehensive establishment-level dataset that includes employment levels and wages of all workers that are covered by state unemployment insurance. The non-aggregated establishment level data is typically confidential, but is available for state and local policy analysis or research purposes. NERC obtained QCEW data for the state of Oregon between 2017 and 2021 (the latest year of data available). It is typically straightforward to filter the QCEW data by NAICS codes when industries are well-defined, such as the food processing or wood product manufacturing industries, but quantifying the live performance industry using these data sources presents a few significant challenges. First, there is the aforementioned lack of well-defined NAICS codes that represent the full scope of the industry's ecosystem. Second, the live performance industry is characterized by a large number of independent sole proprietors who are not covered by the QCEW dataset, such as independent professional musicians or graphic designers who might be sole proprietors or work on a gig basis. Third, because NAICS codes are generally assigned to the primary business function of a firm, we may not be able to identify the businesses that work within multiple industries (for example, a mixed-use venue that hosts live performances may be classified as a drinking place); finally, the wide-ranging activities of live performance businesses mean that they may be classified into NAICS codes that appear to have little relationship to music (for example, professional grade audio cable makers may be classified within 423610 Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers, or online music distributors may be classified as 454110 Electronic Shopping and Mail-Order Houses).

Our first round of identification attempted to filter the QCEW dataset based on the industry lists from MusicOregon and IVC, by names and addresses, as well as by manual matching of alternative names and addresses found online. These merging processes also helped the research team identify wrongly coded businesses and additional NAICS codes to be included as a part of the industry, but ultimately this did not yield a high percentage match.

We then started with a short list of NAICS industries at the six-digit (most detailed) level that belong fully (or mostly) to the industry ecosystem based on the translation of the Live Performance Industry Conceptual Diagram to NAICS codes. Then, for the other NAICS industries such as 334310 Audio and Video Equipment Manufacturing, 711310/711320 Promoters of Events, the research team sorted through the full or partial sample of QCEW businesses to estimate the percentage of those NAICS codes that comprise the live performance industry. For the industry sectors that support the live performance industry, we utilized the 2022 Oregon Music Census with broad assumptions about the response rates[60] to estimate numbers of live performance related jobs within industries such as 541214 Payroll Services or 541330 Engineering Services. Matched businesses from the industry lists that are not a part of the identified NAICS codes were added back in at this stage.

[60] Because the 2022 Oregon Music Census was anonymous and did not collect identifying information, we are unable to calculate the response rate. Given some of the known numbers of Oregon musical acts and mixed-use venues, we assumed that the response rate for independent sole proprietors to be 20% and the response rate for businesses with employees to be 50%. We also assumed a 90% response rate for dedicated music venues.

Live Performance Industry Profile

First, we begin with an examination of the longer-term trends in employment and wages in the performance and musical groups sectors. Then, we analyze the economic profile of the live performance industry using detailed industry codes within the QCEW data and identify growth sectors within the industry.

Longer-Term Trends in Employment and Wages

Figure 17 and **Figure 18** show employment and wage trends in Performance Arts, Spectator Sports, and Related Industries (NAICS 711), and Musical Groups and Artists (NAICS 71113).
Over the last twenty years, Performance Arts, Spectator Sports, and Related Industries (NAICS 711) has enjoyed steady growth punctuated by the Great Recession, and falls dramatically with COVID-19's impacts, as venues shut down and economic activity contracted. However, as indicated in the next graph, the average wage rose– indicating that most jobs were lost in the lower-paid segments of the industry. The employment trend for Musical Groups and Artists (NAICS 71113) shown **Figure 17** indicates the susceptibility of this sector to economic expansion and recession, as artists shift in and out of the industry. As in the larger sector, COVID-19's impact is profound. Again, wages rise, as lower-paid members of the sector find themselves disproportionately out of work.

Figure 17 - Average Annual Employment in NAICS 711 Performance Arts, Spectator Sports, and Related Industries (left) and NAICS 711130 Musical Groups and Artists (right) (Source: QCEW 2001-2021)

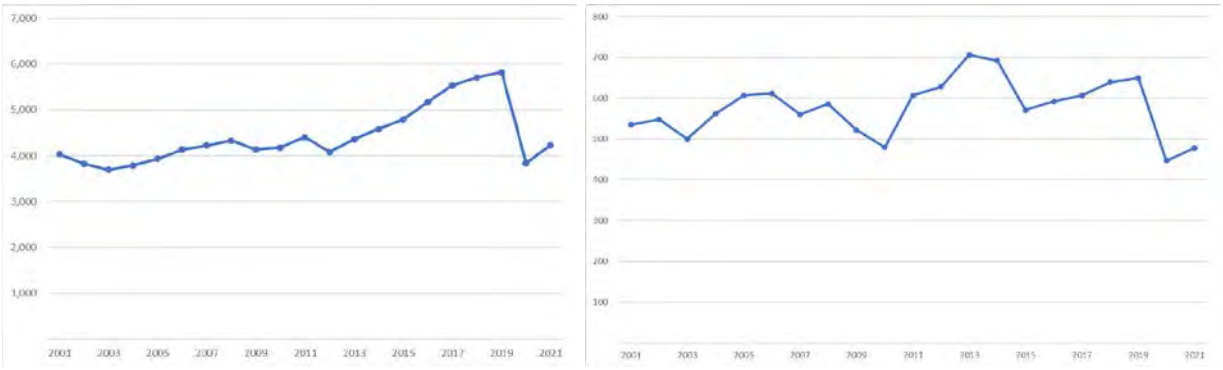
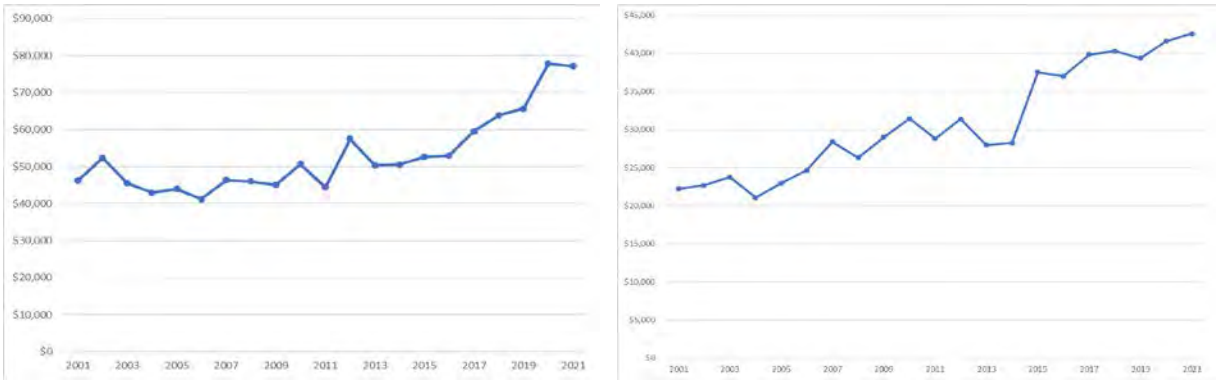


Figure 18 - Average Annual Wage in NAICS 711 Performance Arts, Spectator Sports, and Related Industries (left) and NAICS 711130 Musical Groups and Artists (right) (Source: QCEW 2001-2021)



Economic Profile Analysis by Sector

Next, we take a closer look at the live performance industry by using more detailed QCEW data, to construct an economic profile of the industry and identify growth subsectors within the industry. Again, we focus on the commercial live performance sector for this analysis. For each live performance sector (Creator and Performance Venue), the general descriptive statistics and employment and wage trends are analyzed (see When compared to overall trends in employment and wages in Oregon (Figure 8) and the larger industry sectors of Leisure and hospitality (NAICS 71-72) and Arts, entertainment and recreation (NAICS 71), the live performance industry experienced more extensive losses in employment and wages, due to the pandemic-related shutdowns as well as continuing public health concerns that limited attendance at in-person events even after many restrictions were lifted.

Figure 19). Note that these are annual employment and payroll numbers, and some of the more significant impacts of the pandemic-related closures in 2020 are not as visible.

- **Creator**: Jobs and wages both dropped significantly in this sector with the onset of the pandemic in 2020, but, while the sector has not completely recovered to its pre-pandemic levels of activity, both employment and wages have seen rapid recovery.

- **Performance Venue:** The trends in the Performance Venue sector were analogous to the Creator sector, but the degree of reduction in employment was more slight and wages have largely returned to their pre-pandemic levels while employment has not.

When compared to overall trends in employment and wages in Oregon (Figure 8) and the larger industry sectors of Leisure and hospitality (NAICS 71-72) and Arts, entertainment and recreation (NAICS 71), the live performance industry experienced more extensive losses in employment and wages, due to the pandemic-related shutdowns as well as continuing public health concerns that limited attendance at in-person events even after many restrictions were lifted.

Figure 19 - Trends of employment and wages by categories

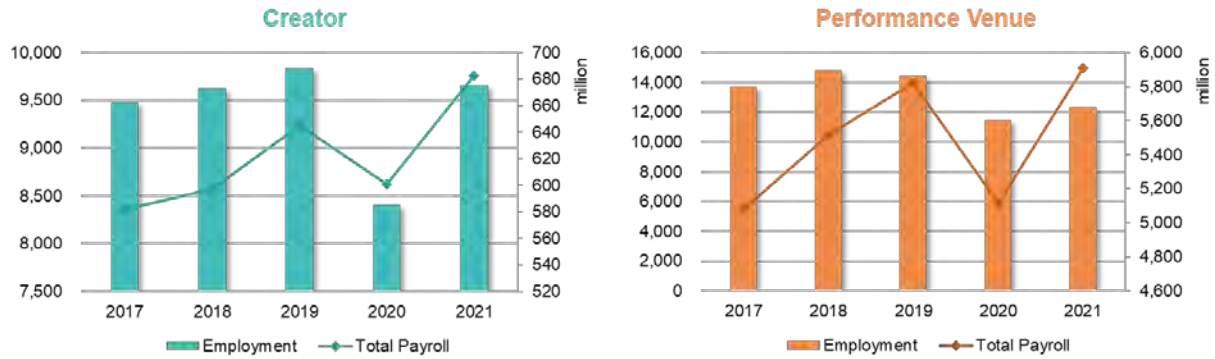


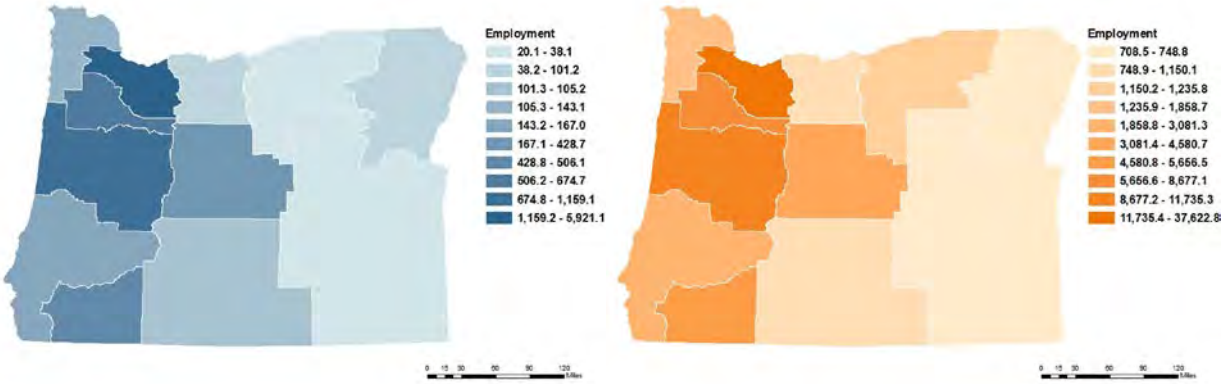
Figure 20 – Oregon trends of employment and wages

The geographic distribution of employment in each live performance sector is shown in **Figure 21** below, using establishment-level QCEW data processed as described in the Data Sources section (as a result, these more refined industry sectors more accurately reflect those who are a part of the live performance industry, and contain fewer firms and jobs).[61] To maintain confidentiality, the data is aggregated into larger geographic areas that match Business Oregon's twelve Regional Service Areas.[62] We found that the Metro area has the highest employment in both categories, while Greater Eastern South has some of the lowest employment, which is consistent with the corresponding population levels. This shows that most live performance related employment is concentrated in

[61] For example, we used a scaling factor of 0.77 for the 334310 (Audio and Video Equipment Manufacturing) to reflect that an estimated 77% of establishments within this NAICS code are live performance-related.
[62] Regional Service Areas are comprised of 12 areas: Central, Greater Eastern North, Greater Eastern South, Metro, Mid-Valley, North Central, North Coast, Northeast, South Central, South Coast, South Valley and Southern.

Metro, South Valley, and Southern, whereas few live performance jobs show up in Greater Eastern South, Greater Eastern North, and Northeast.

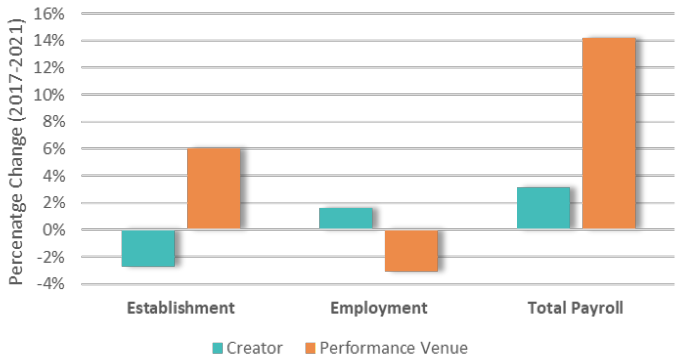
Figure 21 - Geographic distribution of employment by regional service areas



(a) Creator **(b) Performance Venue**

Within these scaled industry sectors, we analyzed the overall growth of three economic indicators – the number of establishments, employment, and total annual payroll between 2017 and 2021 (see **Figure 22**). Although the growth in the number of establishments was negative in the Creator sector, both employment and wages increased during this period. On the other hand, employment decreased in the Performance Venue sector, but the number of establishments and wages increased by 6% and 14.2%, respectively.

Figure 22 - Percentage change in economic indicators by industry sector (2017-2021)



Using the Occupational Employment and Wage Survey (OEWS) data from the Oregon Department of Employment, we examined occupational statistics to understand the live performance industry workforce. First, we categorized the associated Standard Occupational Classifications (SOCs) according to the NAICS codes that belong to each industry sector. Then, we analyzed OEWS hourly wages, employment levels and 10-year projected growth for each occupation. A total of 43 occupations were defined as live performance-related occupations (see **Table 15**): 16 occupations in Creator and 27 occupations in Performance Venue. Compared to Oregon's overall projected growth of 27% in employment over the next ten years, live performance-related occupations that are projected to experience the highest growth rates are 27-3099 (Media and Communication Workers, All Other), 27-4021 (Photographers), and 27-1014 (Special Effects Artists and Animators), 385%, 321%, and 316%, respectively. Some occupations are anticipated to experience lower growth in the

number of employees, 2% in 43-3031 (Bookkeeping, Accounting, and Auditing Clerks), and 7% in both 27-3031 (Public Relations Specialists) and 11-2011 (Advertising and Promotions Managers).

Across live performance occupations, there are significant gaps between the highest hourly wages, such as $57.63 for 27-1011 (Art Directors), and the lowest hourly wages, such as $15.29 for 43-4081 (Hotel, Motel, and Resort Desk Clerks). When comparing average hourly earnings by industry sector, we found that there was no significant gap between the average wages of occupations within Creator and Performance Venue sectors, at $28.71 and $28.29, respectively. Additionally, a wide range of occupations have average hourly wages below the statewide hourly wage of $29.55, including many Creator occupations such as Actors (27-2011) at $18.36, Dancers (27-2031) at $16.43 and Choreographers (27-2032) at $22.49.

Table 15 - Occupation analysis by employment and wages

Category	SOC	Occupation Title	Employment (2021)	Projected Growth Rate (2021-2031)	Average Hourly Wage (2022)	Average Annual Wage (2022)
Statewide	00-0000	Total, All Occupations	1,825,369	27%	$ 29.55	$ 61,465.00
Creator	27-1019	Artists and Related Workers, All Other	146.74	115%	$ 25.25	$ 52,512.00
	27-2011	Actors	208.38	97%	$ 18.36	-s-
	27-2031	Dancers	79.18	28%	$ 16.43	-s-
	27-2032	Choreographers	32.6	-s-	$ 22.49	$ 46,774.00
	27-2041	Music Directors and Composers	484.56	84%	$ 23.31	$ 48,494.00
	27-2042	Musicians and Singers	514.96	220%	$ 34.00	-s-
	27-2099	Entertainers and Performers, Sports and Related Workers, All Other	44.22	-s-	$ 23.82	-s-
	13-1011	Agents and Business Managers of Artists, Performers, and Athletes	-s-	-s-	$ 42.23	$ 87,837.00
	13-2011	Accountants and Auditors	13,240.55	17%	$ 38.49	$ 80,069.00
	27-1021	Commercial and Industrial Designers	363.48	84%	$ 41.71	$ 86,761.00
	27-1024	Graphic Designers	3,002.29	41%	$ 28.30	$ 58,876.00
	27-1029	Designers, All Other	213.62	22%	$ 32.30	$ 67,195.00
	27-4021	Photographers	431.22	321%	$ 26.57	$ 55,263.00
	25-1121	Art, Drama, and Music Teachers, Postsecondary	903.6	17%	-s-	$ 90,108.00
	25-1193	Recreation and Fitness Studies Teachers, Postsecondary	292.04	-s-	-s-	$ 99,377.00
	25-3099	Teachers and Instructors, All Other	2,255.68	-s-	-s-	$ 64,539.00
Performance Venue	11-9072	Entertainment and Recreation Managers, Except Gambling	239.54	-s-	$ 33.56	$ 69,801.00
	33-9032	Security Guards	8,914.62	28%	$ 17.87	$ 37,172.00
	39-1014	First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services	512.33	-s-	$ 25.92	$ 53,910.00
	39-3099	Entertainment Attendants and Related Workers, All Other	75.59	142%	$ 20.01	$ 41,612.00
	39-9032	Recreation Workers	2,871.4	48%	$ 18.36	$ 38,188.00
	43-3031	Bookkeeping, Accounting, and Auditing Clerks	22,713.51	2%	$ 23.20	$ 48,268.00
	27-1011	Art Directors	720.04	277%	$ 57.63	$ 119,868.00
	27-1014	Special Effects Artists and Animators	250.59	316%	$ 44.50	$ 92,547.00
	27-1027	Set and Exhibit Designers	65.81	-s-	$ 39.16	$ 81,451.00
	27-2012	Producers and Directors	1,353.9	41%	$ 39.16	$ 81,443.00
	27-4011	Audio and Video Technicians	416.81	163%	$ 23.36	$ 48,592.00
	27-4014	Sound Engineering Technicians	147.11	115%	$ 26.01	$ 54,117.00
	39-3021	Motion Picture Projectionists	-s-	-s-	$ 17.74	$ 36,888.00
	39-3031	Ushers, Lobby Attendants, and Ticket Takers	391.46	81%	$ 15.83	$ 32,918.00
	13-1121	Meeting, Convention, and Event Planners	1,368.2	26%	$ 28.24	$ 58,742.00
	27-4015	Lighting Technicians	102.02	-s-	-s-	-s-
	39-3092	Costume Attendants	22.82	58%	$ 17.29	$ 35,966.00
	49-2097	Audiovisual Equipment Installers and Repairers	-s-	-s-	$ 22.50	$ 46,802.00
	49-9063	Musical Instrument Repairers and Tuners	-s-	-s-	$ 20.98	$ 43,623.00
	11-2011	Advertising and Promotions Managers	322.44	7%	$ 50.57	$ 105,184.00
	11-2032	Public Relations Managers	909.52	-s-	$ 51.62	$ 107,383.00
	27-3031	Public Relations Specialists	3,322.72	7%	$ 33.08	$ 68,799.00
	27-3099	Media and Communication Workers, All Other	146.83	385%	$ 23.84	$ 49,579.00
	27-4099	Media and Communication Equipment Workers, All Other	198.69	-s-	$ 27.42	$ 57,050.00
	41-3041	Travel Agents	536.99	34%	$ 20.86	$ 43,392.00
	43-4081	Hotel, Motel, and Resort Desk Clerks	3,597.71	18%	$ 15.29	$ 31,812.00
	43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	647.4	81%	$ 21.63	$ 44,996.00

Growth Subsectors

Next, we identified Growth Subsectors within the live performance industry by NAICS codes. One key component of this analysis involves location quotients (LQs), which are ratios that describe the activity and impact of a particular industry cluster in a given area, relative to the larger geography (typically the nation), in terms of employment.

For example, if Oregon has a location quotient greater than one in the record production and distribution sector, then it means that the area has a proportionally higher concentration of employees

in this sector compared to the rest of the nation. Based on the cluster analysis methodology developed by Barkley and Henry (2005) and utilized by Bowen (2021), the following are the criteria to determine the industry subsectors that may be demonstrating greater growth potential or competitiveness[63]:

- Employment greater than 500;
- Number of establishments greater than or equal to 5;
- Employment growth is positive over the last 5 years; and
- Location quotient (LQ) is growing over the last 5 years.[64,65]

Twelve NAICS codes were identified as Growth Subsectors as shown in **Table 16**. The sectors with the highest employment growth rate were 541890 (Other Services Related to Advertising) at 9%, and 541214 (Payroll Services) and 541219 (Other Accounting Services) both at 6%, which are related to Professional Support and Marketing and Promotion. 334310 (Audio and Video Equipment Manufacturing) had the highest LQ of 2.48, indicating that Oregon has over twice the number of employees in this sector compared to the national level, coupled with a LQ growth rate of 19%.

These numbers align with qualitative and anecdotal evidence that suggest Oregon is host to many firms and makers of high-quality audio equipment and gear. A high LQ growth rate of around 20% was also observed in 711310 (Promoters of Performing Arts, Sports, and Similar Events with Facilities), which includes concert hall operators, music festivals with their own facilities, and both dedicated and mixed-use venues; and 423990 (Other Miscellaneous Durable Goods Merchant Wholesalers), which includes merchant wholesale distribution of prerecorded audio compact discs or records.

[63] Because LQ calculations require employment data from the regional and national levels for each NAICS code, we utilize the full employment within each analyzed 6-digit NAICS code (not scaled to more accurately capture those in the live performance industry) for this analysis.
[64] DAVID L BARKLEY AND MARK S. HENRY, "TARGETING INDUSTRY CLUSTERS FOR REGIONAL ECONOMIC DEVELOPMENT: AN OVERVIEW OF THE REDRL APPROACH," REGIONAL ECONOMIC DEVELOPMENT RESEARCH LABORATORY RESEARCH REPORT, 2005.
[65] ERIC BOWEN, "GREATER WHEELING REGIONAL PLAN - INDUSTRIAL CLUSTER ANALYSIS," 2021.

Table 16 - Identified Growth Subsectors

NAICS	NAICS Industry Name	Establishments (2021)	Employment (2021)	Employment Growth (2017-2021)	LQ (2021)	LQ Growth (2017-2021)
334310	Audio and Video Equipment Manufacturing	25	625	2%	2.48	19%
423990	Other Miscellaneous Durable Goods Merchant Wholesalers	132	726	5%	0.66	20%
532289	All Other Consumer Goods Rental	108	559	0%	0.80	10%
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	92	576	2%	0.70	18%
541214	Payroll Services	151	1,021	6%	0.41	11%
541219	Other Accounting Services	1,151	4,855	6%	1.33	15%
541330	Engineering Services	1,330	13,405	4%	0.93	15%
541810	Advertising Agencies	514	3,427	4%	1.29	17%
541820	Public Relations Agencies	187	778	1%	0.96	12%
541890	Other Services Related to Advertising	75	741	9%	0.74	21%
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities	86	1,068	3%	1.04	21%
722515	Snack and Nonalcoholic Beverage Bars	1,628	16,044	3%	1.48	9%

Economic Impact Analysis

Economic impact analysis inputs for the commercial aspect of the live performance industry are estimated, as described above in the Data Sources section, using a combination of the QCEW and OEWS data from the Oregon Department of Employment and lists from MusicOregon and IVC. On the other hand, a combination of the AEP5 (2017) non-profit organization expenditures and employment, and the U.S. Bureau of Economic Analysis' (BEA) Arts and Cultural Production Satellite Account (ACPSA) are utilized for estimates of the non-profit aspect of the live performance industry. We assume that the total non-profit arts and cultural organizational expenditure of $364,065,287 in 2016 increased by 1.68%, the estimated growth rate between 2016 and 2021 for all BEA ACPSA employment in Oregon (the low growth rate is largely attributable to the COVID-19 pandemic that negatively impacted live performances overall)[66], resulting in $370,181,584 in direct outputs by the non-profit sector in 2021. Because some organizations captured in the non-profit arts and culture sector do not fit within our definition of the live performance industry, and we lack the appropriate data to isolate those that fit, the results of the non-profit sector are reported separately.

Methodology

The standard technique for quantifying the economic impact of any industry in a particular area uses input-output modeling to capture not only the direct impacts of the industry, but also indirect impacts in other industries, and induced impacts caused by the spending associated with employment within the sector. This is attained by IMPLAN's proprietary industry matrix, which assigns values to employment and spending per sector, and the relationships between all of the sectors in a given area. The results therefore include three types of impacts (described below), and the sum total across all three types.

Direct Impacts

Any given industry supports a certain number of firms and jobs, and therefore generates both spending and federal, state, and local tax revenue. Direct impacts describe these additions to the economy. In the live performance industry sectors, this includes North American Industry Classification System (NAICS) sectors engaged in all

ECONOMIC IMPACT MEASUREMENTS

The impact summary results are given in terms of employment, labor income, total value added, and output:

Employment represents the number of annual average full-time/part-time jobs as defined within the Bureau of Economic Analysis Regional Economic Accounts (BEA REA) and Bureau of Labor Statistics Census of Employment and Wages (BLS CEW) data. These job estimates are derived from industry wage averages.

Labor Income is made up of total employee compensation (wages and benefits) as well as proprietor income. Proprietor income is profits earned by self-employed individuals.

Total Value Added consists of labor income, property type income, and indirect business taxes collected on behalf of local government. This measure is comparable to familiar net measurements of output like gross domestic product.

Output is a gross measure of production. It includes the value of both intermediate and final goods. Because of this, some double counting will occur. Output is presented as a gross measure because IMPLAN can analyze custom economic zones. Producers may be creating goods that would be considered intermediate from the perspective of the greater national economy, but may leave the custom economic zone, making them a local final good.

[66] 2020 is the most recent year of BEA ACPSA data, so we assumed a 70% recovery from 2020 pandemic-related losses in jobs in 2021.

aspects of the industry: performance arts companies, all large and small venues, a wide variety of artist and production support services, manufacturers of musical instruments and equipment, and the performers themselves.

Indirect Impacts
All firms purchase goods and services from other firms, in different industry sectors. Indirect impacts estimate the quantified value of these purchases, in terms of jobs, spending, and tax revenue. Examples of goods and services used by the live performance industry sectors selected for this analysis include real estate, graphic design and advertising, printing, material purchases from manufacturers of recording mediums and advertising materials, music and recording supply stores, music equipment rental, cleaning services, catering, and event venue rental, among others. Economic impact analysis includes all of these goods and services, as well as others, in its final total outputs for indirect spending, jobs, and generated tax revenue. Within this study, the businesses and sectors that primarily do their business within the live performance industry are inputted as direct impacts, while other supporting businesses are captured within the IMPLAN model as indirect impacts.

Induced Impacts
These impacts are due to the spending that employees of the selected industry sectors engage in with the wages and salaries that they earn. Therefore, induced impacts take place across all standard consumer purchase sectors, including real estate, grocery spending, spending at bars and restaurants, the purchase of utilities, retail, and many others.

The multiplier effect, which is the basis for input-output analysis such as the above, describes the way in which one dollar entering the economy at a certain point is distributed through related industries. For example, when a band performs a gig at a concert venue, they purchase goods and services from many sources: musical equipment manufacturers, time in a rehearsal studio, graphic design for the album cover, advertising and licensing on online platforms, and other associated individuals and firms within the cluster. The economic effect of the band's live performance production would be considered a direct effect, while purchases from the associated enterprises described above constitute both direct and indirect effects. Finally, the induced effect is felt when industry cluster individuals spend the wages earned in the process of production– on rent, food, consumer goods, utilities, and any other and any other standard living or recreation expenses.

While this report does offer a more granular analysis through its use of more detailed NAICS industry classifications for the live performance industry and a combination of 2022 Oregon Music Census data with confidential establishment-level QCEW data, the available data is still insufficient to capture all facets of such a complex industry. This report offers a conceptual framework that describes the overall nature and interconnections between the core components and peripheral elements. Additionally, the judgment of which economic elements interact to a sufficient degree with live performances to warrant inclusion is a complex area requiring substantial expert input. In this report, substantial qualitative results from the 2022 Oregon Music Census and expert interviews are used to build-out existing gaps in the quantifiable modeling data as described in the Data Sources section. For the quantitative component, input sectors have been chosen that directly reflect the core components (which are highly inclusive, as shown in the conceptual diagram), and IMPLAN software distributes the direct, indirect, and induced impacts throughout the state economy. Additionally, because IMPLAN relies on three datasets for its estimates of employment and wage– Bureau of Labor Statistics (BLS) Census of Employment and Wages (CEW), Census Bureau County Business Patterns (CBP) and Bureau of Economic Analysis (BEA) Regional Economic Accounts (REA) data– it

accounts for workers who not be accounted for within the QCEW dataset. Whenever appropriate, we utilize or augment our estimated employment and wages with the IMPLAN data.

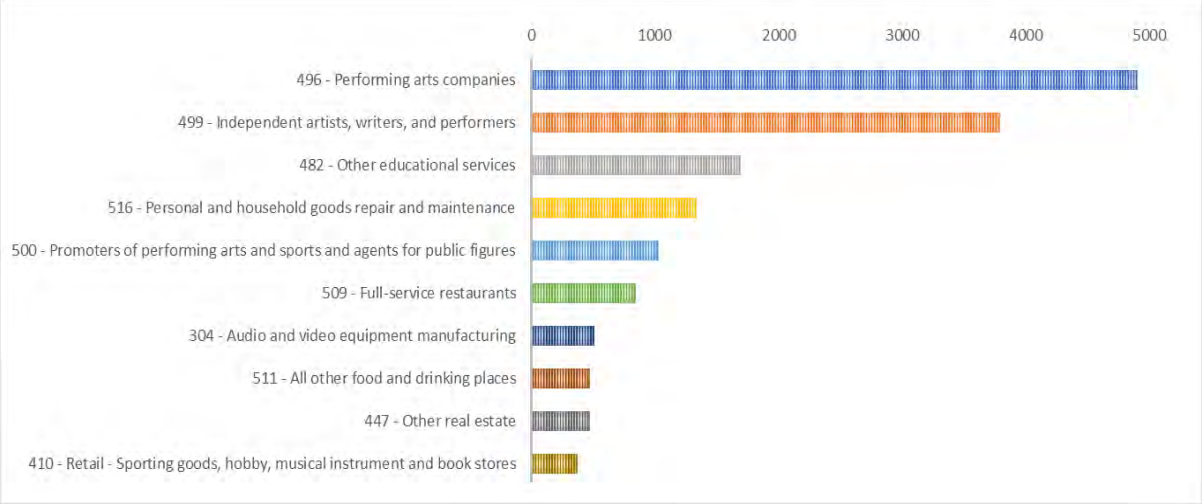
Results

Table 17 shows the total estimated economic effects of the Live Performance Industry in Oregon, excluding the non-profit arts and culture sector. In 2021, the live performance industry contributed over 15,791 jobs directly in the state and 2,869 jobs at the indirect level. When additionally accounting for the spending of the direct and indirect business employees in the local economy (induced effect), the live performance industry contributed a total of 21,143 jobs. These 21,143 live performance industry jobs generated more than $852 million in labor income and about $3.1 billion in output in the state. Furthermore, **Figure 23** breaks down the top ten industries by employment that are impacted by the industry in Oregon. As expected, *performing arts companies*, *independent artists and performers, other education services* (which includes music education) and *promoters of performing arts and sports and agents for public figures* (which includes festivals and other performance venues) are the largest contributors of jobs in the industry, as these are the sectors where the majority of live performance industry jobs are directly located. *Other real estate* and *retail of sporting goods, hobby, musical instrument and bookstores* are industry sectors that support and provide services to the live performance industry, but may or may not be directly part of the industry. Additionally, using previous AEP5 data, we estimate that the non-profit arts and culture sector (**Table 18**) contributes an additional 2,211 total jobs (direct, indirect, and induced) and $539 million in total economic output to the live performance industry.[67]

Table 17 - Oregon Live Performance Industry Economic Impact Summary [Excluding non-profit arts and culture sector] (2021 Dollars)

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	15,791	$473,410,035	$1,203,929,546	$2,091,313,494
Indirect Effect	2,869	$223,195,632	$319,967,399	$591,763,795
Induced Effect	2,483	$156,012,574	$275,700,492	$464,267,091
Total Effect	21,143	$852,618,241	$1,799,597,436	$3,147,344,380

Figure 23 - Top 10 Industries by Employment



[67] AMERICANS FOR THE ARTS, "ARTS & ECONOMIC PROSPERITY 5 - THE ECONOMIC IMPACT OF NONPROFIT ARTS & CULTURAL ORGANIZATIONS & THEIR AUDIENCES IN THE STATE OF OREGON." 2017.

Table 18 - Oregon Live Performance Industry Economic Impacts by Industry Sector (2021 Dollars)

	Type	Employment	Labor Income	Total Value Added	Output
Creator	Direct	10,867	$246,511,719	$796,481,689	$1,206,460,291
	Indirect	1,363	$84,903,388	$124,098,015	$241,637,070
	Induced	1,185	$74,446,877	$131,566,098	$221,558,912
	Total	13,415	$405,861,985	$1,052,145,802	$1,669,656,273
Performance Venue	Direct	4,898	$225,760,209	$403,771,783	$879,082,642
	Indirect	1,499	$137,813,273	$195,145,173	$348,717,699
	Induced	1,292	$81,206,065	$143,498,932	$241,638,174
	Total	7,690	$444,779,546	$742,415,888	$1,469,438,515
Organization	Direct	25	$1,138,106	$3,676,073	$5,770,561
	Indirect	7	$478,972	$724,210	$1,409,026
	Induced	6	$359,632	$635,463	$1,070,005
	Total	38	$1,976,710	$5,035,746	$8,249,592
Non-profit Arts & Culture	Direct	1,299	$89,174,210	$257,632,655	$370,181,584
	Indirect	478	$33,507,597	$46,105,121	$88,367,803
	Induced	434	$27,275,306	$48,194,720	$81,150,882
	Total	2,211	$149,957,113	$351,932,496	$539,700,269

The live performance industry's economic activity, labor income, and hiring has effects on public tax revenues. **Table 19** details the increased tax revenue at all levels of government due to the industry's activities in 2021. Combining impacts at the local, state, and federal levels, the live performance industry contributed to an estimated total of $256 million in tax revenues, with nearly $57 million going towards Oregon's state and local governments.

Consumers and attendees are vital to the live performance industry, contributing both through on-site spending on tickets, merchandise and activity participation, as well as off-site spending on transportation, lodging, dining and other services associated with their attendance. In the most recent Arts and Economic Prosperity 5 (2017) study conducted by Americans for the Arts, which focused solely on nonprofit arts and culture events, nearly ten million people attended arts and cultural events in Oregon annually. Of these attendees, 86.1% were Oregonians and 13.9% were nonresidents. Nonresidents spent an average of $111.36 on food and drinks during and after the event, souvenirs, clothing, transportation, child care and lodging (excluding the cost of admission), while Oregon residents spent $31.52 on average. Dean Runyan Associates (2022) examined the impact of travel in Oregon in 2021, and found that travel spending totaled $10.9 billion across food and accommodations, arts, entertainment and recreation, ground transportation, retail and air transportation industries. This spending directly contributed to an estimated 100,000 jobs in these industries. Oregon resident visitors accounted for $4.1 billion in visitor spending, while other U.S. visitors and international visitors accounted for $6.5 billion and $0.3 billion, respectively. These studies underscore the significant economic impact of the live performance industry in Oregon, boosting the economy by bringing in consumers and consumer dollars from outside of the state, and can potentially be considered a "traded sector".

Table 19 - Live Performance Industry Tax Impacts [Excluding non-profit arts and culture sector] (2021 Dollars)

Oregon	
State Personal and Corporate Income Taxes	$44,598,513
Other State Taxes, Fees, and Licenses	$9,148,055
Total State	**$53,746,568**
Local Governments	
Property Taxes	$1,748,324
Other Local Taxes, Fees, and Licenses	$1,481,303
Total Local	**$3,229,627**
Federal Government	
Federal Personal and Corporate Income Taxes	$104,709,685
Social Insurance and Excise Taxes	$94,898,295
Total Federal	**$199,607,981**
TOTAL	**$256,584,176**

The 2022 Oregon Music Census collected data about additional on-site spending by consumers at both dedicated and mixed-use venues when there are musical performances, but this is not input separately as a part of the economic impact analysis because the additional consumption should already be accounted for by the employment levels and wages at these venues. Using the Oregon Music Census data, we estimate that each dedicated venue has an average audience capacity of 653 with a fill rate of approximately 70% in 2019 and 64% in 2022, 2.23 average weekly shows and an average ticket price of $28. Dedicated venues estimated that about 17% of attendees came from outside of Oregon in 2019, and 19% in 2022. Roughly extrapolating this to our estimate of 99 dedicated venues across the state, this translates to approximately 4.79 million attendees who spent $134,173,116 in tickets in 2022. Music festivals such as the Sisters Folk Festival, Northwest String Summit and Britt Music & Arts Festival also draw large audiences from both within and outside of Oregon, with survey respondents estimating that 33% of the attendees were out-of-state visitors in 2022, increasing from 29% in 2019. Again, on-site consumer spending at the music festivals should already be accounted for by the employment levels and wages in this sector, and are not separately input into the economic impact model.

While the spending by consumers and attendees directly at the music venues and festivals is already included in the economic impact model, the additional spending that occurs off-site is not captured. Local attendees may enjoy an additional meal before or after a live music performance, take an Uber to and from the event, and purchase retail goods from neighboring businesses; attendees who are visitors may travel further to the participate in music festivals, pay for overnight accommodation, enjoy several meals during their visit, and purchase souvenirs and gifts.

Utilizing the Oregon Music Census data and expenditure data from the 2017 AEP5 study with very rough assumptions and extrapolations, we estimate an annual attendance of 5.41 million Oregonians and 1.66 million visitors at commercial live music events in 2021, spending a total of $355 million in the local economy outside of the events they attended.[68] This additional spending within the local economy contributes to 2,940 direct jobs and 4,154 total jobs across the Oregon economy, and more than $276 million in direct economic output and $503 million in total economic output, mostly in the

[68] AMERICANS FOR THE ARTS.

restaurant, hotel, transportation and retail industries as expected. Non-profit arts and culture event annual attendance, assumed to have increased by 1.68% since 2016 according to the BEA ACPSA data, is estimated to be equal to approximately 8.68 million resident and 1.4 million visiting attendees in 2021 who spend a total of $381 million in the local economy outside of the non-profit events[69]. This additional spending from non-profit event attendees contributes to 3,532 direct jobs and 4,981 total jobs across the Oregon economy, and more than $329 million in direct economic output and $601 million in total economic output. Combined, the audience of live performance events roughly contribute to a total of more than $1 billion in economic output throughout local economies in addition to their direct spending at live performance venues. These rough estimates provide a helpful starting point for understanding the economic contributions of live performance audiences. However, they cannot substitute for a more comprehensive research study that directly collects relevant data through intercept surveys and other sources.

Table 20 - Live Performance Attendee Additional Spending Economic Impact Summary (2021 Dollars)

	Impact Type	Employment	Labor Income	Total Value Added	Output
Commercial Live Performance	Direct	2,940	$106,565,028	$160,511,033	$276,229,170
	Indirect	551	$40,050,385	$60,025,050	$110,876,624
	Induced	663	$40,084,627	$69,232,696	$116,594,970
	Total	4,154	$186,700,039	$289,768,779	$503,700,764
Non-profit Arts and Culture	Direct	3,532	$128,233,457	$191,410,003	$329,227,014
	Indirect	654	$47,714,795	$71,581,038	$132,287,638
	Induced	796	$48,112,786	$83,098,794	$139,947,099
	Total	4,981	$224,061,038	$346,089,834	$601,461,750

Understanding the Live Performance Industry

Methodology & Limitations

The design of the qualitative aspect of this research sought to add explanatory power as well as nuance and texture to the quantitative analyses and the Music Census results. Our first task was to apply and get approval for “exempt status” from Portland State University’s Institutional Research Board (IRB). The IRB governs research ethics; IRB approval assures research participants that their rights and protections have been carefully considered by our research team, and exempt status means that our research design was not expected to be unnecessarily extractive or harmful to participants. The IRB determined our project to be exempt on December 19, 2022, and the qualitative side of our research got underway immediately thereafter.

The methods used consisted largely of interviews and content analysis from an open-ended survey question from the 2022 Oregon Music Census (~500 responses). Interview protocols were designed to gather information from a broad array of music industry-involved subjects, ranging from performing musicians to venue operators to instrument manufacturers. The interview protocol was crafted to prompt participants to answer questions about their job titles/descriptions, their networks and

[69] Again, note that the non-profit arts and culture events may include events that do not qualify as live performances, and may require additional data collection and research to separate these effects.

communities, the challenges they faced, the resources they relied on, and the opportunities they identified in the Oregon music industry. Due to a variety of factors, interviews were conducted remotely (using Zoom). Each interview was recorded both on video and audio, and copies of the recording were kept secure on a shared drive monitored by the research team. Lastly, participants were compensated for their time with $40 gift cards.

Interviews were conducted between late December and early February, and each interview typically lasted between 45 minutes and one hour. Once interviews were completed and transcribed, they were uploaded to a Qualitative Data Analysis software (Atlas T.I.) and coded for findings by the research team. Codes were collated and further analyzed before findings could be aggregated for this report.

As with any research, there are limitations that must be considered. Importantly, each of the below limitations are not disqualifications; we feel confident that the data and analysis presented here are critical to understanding the significance of and opportunities for Oregon's live performance industry. Additionally, these limitations open the possibility of future research that can more comprehensively diagnose gaps, impediments, and possibilities for increased impact and more equitable economic development within and beyond Oregon's music communities.

First, with a relatively short time frame for obtaining ethical research approval, collecting data and conducting analysis, the initial qualitative sample size target was set at 10-15 interview subjects, and eventually interviewed 15 subjects across a relatively diverse set of music industry positions. Second, and again primarily due to time constraints, we experienced significant challenges in constructing a database to recruit potential interview subjects without a pre-existing database of live performance industry participants. Additionally, the Oregon Music Census was anonymous by design in order to collect sensitive information, and yielded very few respondents who consented to a follow up interview. This being the case, we relied heavily on MusicPortland, MusicOregon and the Industry Advisory Group for this project for potential interview subjects. Without direct control over the interviewee recruitment process, we need to acknowledge the potential for selection bias as a significant limitation.

Lastly, one of our initial goals was for our sample to be as sectorally, geographically and socially diverse as possible. While we feel confident that our sample was sectorally diverse, the logistical and practical constraints of this project affected our ability to interview a more geographically and socially diverse cross-section of the live performance industry. This particular limitation underscores the importance of a continuing commitment to research on and with Oregon's commercial music and live performance industries. With proper support, future research could look deeper at the challenges and opportunities for lowering barriers to entry and empowering marginalized communities within these industries.

Results

In this section, we will describe the findings of the qualitative research we conducted. Importantly, many of the themes below intersect with the commercial music industry report; we attempted to organize our findings into unique but deeply interconnected analyses for each report. For the live music industry report, we primarily focused on the relationship between venues and performing artists; this was, by a wide margin, the most discussed topic in our interviews and in the Music Census responses. Specific issues under this umbrella include compensation for artists; contracting/booking; opportunities to perform; all ages venues; obstacles for venues; and licensing (e.g., ASCAP/BMI). Each of these themes will be explored below, followed by some ideas and opportunities as identified by research participants.

Please note that all research participants have been guaranteed anonymity and are protected under our exemption status from Portland State University's Institutional Research Board. Therefore, any names, occupational details, or other identifiers have been withheld for their protection.

Wages and Compensation

It would be hard to overstate the degree to which wages and compensation was represented in our conversations with and survey responses by live music performers. Tension between venues and performers was immediately apparent, and while not universally described as exploitative or unfair, many respondents were manifestly unhappy with the compensation they could expect for a music performance. A common response on the survey, for example, was made by musicians that have been performing live music for many years and could earnestly claim that expected pay for a live performance is nearly identical to what they could expect in the 1970s or 1980s. Of course, with inflation and cost of living rapidly rising, performers are feeling pinched:

"I've been playing live music since the 1980's. In the 80's you could buy a house for $100,000, and a new car for $5000, and the pay for a gig was $50-$100. Now a new car costs $30k, and a house costs $500k; prices have increased by five to six hundred percent, but the pay for a gig is still $50 - $100."

Another exemplar quote: "I've been playing live music in Oregon since 1964. I made $50 a night back then. I made $50 the last time I played at [venue] for a night in December 2022." Again, this type of response was quite common in the survey, and we were able to verify it in interviews with live performers. These claims seemed to be especially true of major markets such as Portland, but also appeared to be true statewide and across genres (although our evidence is not as strong for the latter).

Despite the recurrences of these kinds of claims about low and stubborn wages, we must note that some venue operators have asserted that performer pay had risen by up to 30% at the same time that audiences have declined by the same percentage. This creates a bind for venue operators, who have endured three difficult years of pandemic-related closures and rising costs. Although more research is necessary to fully comprehend the challenges that impact various market segments (as noted in our discussion about the limitations of this research above), one possibility for these competing narratives is that there may be unique sets of challenges that exist for musicians who perform at mixed-use venues as opposed to those who perform at dedicated or ticketed venues.

A number of consequences stem from this stagnation of wages. In the first place, bandleaders have to make difficult choices about how many members of a band they ask to perform alongside them, because the pay rate doesn't scale up as the band size increases. Instead of playing with a nine-piece jazz ensemble, for example, a bandleader might opt for a five-piece so as to pay each member slightly better. A handful of respondents identified making such decisions as a significant source of stress or a source of tension within the dynamics of the band/ensemble. Another consequence has to do with touring: smaller bands touring the Pacific Northwest – a geographically large area with few major metropolitan areas – must absorb the costs of traveling. This includes lodging, food, and fuel for their vehicle, not to mention investments in equipment and instruments. If bands are being forced to split small sums of money for each performance, they struggle to afford these additional costs to tour. One interviewee even told us that they came home from a tour with less money than they left with. We met some enterprising booking agents that advocate for bands to have these indirect costs covered in their performance contracts with venues, but we do not have any evidence to suggest that venues have complied.

Third, and adjacent to the last point, musicians take on a variety of costs and uncompensated activities that are necessary to perform live music. These activities include practice sessions, songwriting, promoting/advertising (especially on social media), and recording demos. Each of these activities includes satellite costs: for example, practicing requires securing space, and usually that space needs to be soundproof and large enough for a band to set their equipment up. In cities like Portland, the cost of such spaces far exceeds what the average band can spend given their compensation. Lastly, the importance for performers to be able to make a sustainable and living wage through performing is underscored by changes in the commercial side of their enterprises. Most significant are changes in technology, especially streaming platforms taking the place of the sales of physical media (CDs, vinyl records, etc.). Streaming services such as Spotify pay musicians under $0.01 per stream, so unless performers have a rather large following, making sustainable wages via streaming platforms is very difficult. As such, performing and selling merchandise is critically important for performers.

To complicate matters, performers reported their contracting with venues to be oftentimes informal; many performers desired better transparency and communication from venues. Most respondents acknowledged that bigger venues did have more professional communication and better contracting practices, which we were able to verify in at least one interview with a venue operator. In many cases, however, we found that professional contracts with clearly agreed-upon terms were highly unstandardized and sometimes non-existent (the “handshake” deal). Revenue splitting arrangements ranged from venues taking 10% of ticket sales to 50% of ticket sales (and one occurrence of 80%). Sometimes bands were guaranteed money, but oftentimes performers indicated that in order to attain such guarantees artists had to do their own promotion and “bring their audience” with them. Communication also appeared to be an issue. A few respondents spoke to the problem of haggling with venues over the course of months about holding dates and agreeing on contracting. When such negotiations unfold over many months, bands can lose the ability to book dates elsewhere. Other surprising evidence pointed to such practices as venues compensating bands with food and alcohol, venues taking portions of a band/performer’s merchandise sales, and venues breaking contracts. These last few findings are anecdotal; more research would be needed to qualify the veracity of these claims.

Evidence suggests that the threshold for more formal contracting between performers and venues is the scale at which a venue can employ a dedicated booking agent. Dedicated booking agents can address many of the issues described above – they can standardize contracts, create predictability for performers, and communicate in a timely fashion. Additionally, the problem of counting these performers in terms of their economic impact can be addressed to some degree. As things appear to occur now, the informality of contracting at the “entry levels” means that individual performances can hardly be accounted for economically. For example, there don’t appear to be 1099 forms issued as a part of the contract. From the venue’s perspective (especially smaller venues), owners/operators are equally struggling (more on this below) and are less likely to have the resources or capacity to standardize and formalize contracting. A clear rectification is to have public sector assistance – perhaps a liaison from an Office of Music and Media – in standardizing and formalizing contracts.

Opportunities to Perform and Attend Performances

According to some respondents, there is not enough money circulating in the music industry ecosystem for venues to showcase new artists, because venues are reliant on shows “selling out” to be profitable. Artist showcases (i.e., for emerging talent) are a risk, which means that venues have strong incentives to feature more well known performers that can draw larger audiences. Moreover, a venue operator told us that larger and national touring acts have been less agreeable about allowing local bands/acts to open for them, further tying the hands of booking agents and venue operators.

The same operator, however, told us that a potentially more pressing issue is stagnation in the quality of emerging local talent (this was in reference to the Portland area): “There’s just not as many shows that can sell the tickets. There aren’t.”

A segment of respondents on the survey claimed there were not enough venues to perform at and/or competition was too high between performers (i.e., too many performers, not enough stages). A situation in which there appears to be more performers than opportunities to perform leads to further suppression of wages for two important reasons. First, venues have far more leverage over the average performer when it comes to negotiating terms. Second, performers that are struggling to gain exposure are put in the position of performing for very low compensation, or sometimes just accepting exposure *as* compensation. The effects, again, are twofold: on the one hand, accepting low wages suppresses wages across the board. On the other hand, performers with the best access to resources and privilege end up in far better positions than those who do not.

According to our research, another important source of revenue for venues is alcohol sales: “The music scene is super alcohol dependent,” said one respondent (note: studying OLCC regulations was not a part of our analysis, so the following is based on the accounts of our participants). While this is likely a function of venues attempting to find ways to be compliant with OLCC regulations while also maintaining profitability, the effect is experienced by performers (and likely audiences) as a general dearth of all-ages venues. This can be quite frustrating for musicians and performers that know they have potential audiences that are under 21 years old:

> “I don’t play venues that are all ages like I wish I could. [...] So much of the music industry is subsidized by liquor sales, and then how OLCC handles things, that I just haven't been able to play for all ages audiences, even though I know I have all ages fans, so it’s like holding back people from attending my shows and building a fan base that is some of the most loyal [and] will buy your merch[andise]. [...] So it feels like that has stunted my career.”

This performer continued to discuss an all-ages show that they did play recently, and when doors opened “people flooded in” and were excited because “young people don’t get to see music and they love music.” To help add weight to these anecdotal claims, a sizable number of survey responses and a handful of other interviewees also highlighted the gap in all-ages venues, citing it as a serious problem in the ability of performers to develop loyal audiences.

Shifting to the perspective of venues, we heard that all ages shows introduce new costs such as adding additional security. However, we also heard from at least one respondent that not all venues *want* to accommodate all ages audiences. At least part of the reasoning is ethical: without the OLCC regulations, it would be extremely difficult to ensure the safety of minors around potentially intoxicated audience members. Ensuring protection is another cost, and venues are experiencing significant increases in costs across the board:

> “During the pandemic, costs of staff went up: a box office person used to make $15 an hour now they make $22 an hour. Security guards were making $17 or $18 an hour, now they’re making $25. Sound guys were making $20, now they’re making $25. Tickets haven’t gone up in the same way.”

Beyond increasing wages, costs for liquor, food, and rent have increased significantly as well. When the pandemic forced public health-related closures, venues (and by association, performers) were deeply impacted by lost revenues, but our research suggests that grants were made available to only certain venues. A number of responses on the survey indicated their exclusion from such grant

assistance eligibility for reasons they didn't understand. In general, respondents affiliated with venue operations do not feel supported by public programs or municipalities. Notable here is Portland, a municipality that one venue operator claimed has done "nothing" to support venues and "all they do is make it worse." The last part of the sentence has to do with noise ordinances, which have been a particularly thorny issue in Portland for the past few decades. One account had an operator scrambling to soundproof a venue to avoid violations issued by the city, a very expensive undertaking that became necessary when the tenants of a new apartment building began complaining about the noise from live performances. We also heard anecdotes in which venue owners were forced to buy adjacent properties to venues to avoid noise violations.

A final consideration for venues that arose a number of times in our research was licensing, specifically licenses to perform "cover" music as required by the American Society of Composers, Authors, and Publishers (ASCAP) and Broadcast Music, Inc. (BMI). Some respondents discussed the challenges they faced as performers due to licensing fees, as venues that had previously supported small performers that played cover music (sometimes as "atmosphere" for a bar or cafe) were forced to choose between paying an expensive licensing fee or facing lawsuits in which venues would be at a disadvantage. Many venues appear to have simply stopped allowing cover music, which according to some interviewees and a number of survey respondents has hurt their prospects and negatively affected local music communities.

With all these challenges in mind, during interviews venue operators were quick to remind us of how impactful their presence is in neighborhoods across Oregon:

> "At a show at [venue], [adjacent restaurant] is sold out, you can't get in. [Adjacent bar] is sold out, you can't get in. Every parking garage within ten blocks is sold out, you can't get in. People are going to all the restaurants in the neighborhood, they're going to [music shop] across the street before the show, they're paying for an Uber, they're paying for a babysitter at home. Our show is affecting the economy across the state. They are paying for hotel rooms if it is a show that they are coming in to see."

Discussion

These indirect effects of live music are one of the most prominent economic impacts of the live music industry writ large. Without attention to the issues we've discovered above, the industry is at risk for further attrition, which of course curtails the diffusion of beneficial indirect or induced impacts on adjacent industries throughout the state of Oregon.

From the analysis of the interview and survey data, we can hazard a handful of prescriptions, many of which were direct suggestions from research participants. Most pressing, we surmise, is the establishment of a "resource clearinghouse" of sorts to centralize information and assist in the deployment of industry standards, efficiencies, and protections. This would likely be in the form of an Oregon Music office, which might be modeled after the Oregon Film office. Such an office could centralize grant opportunities, clarify requirements for eligibility, and establish templates for performers and/or venues to submit applications. Additionally, this office could serve as a liaison for live music industry folks that need resources such as legal counsel, help challenging parking violations assessed when unloading equipment for a show, or help resolving disputes between performers and venues.

A critical need is direct attention to the inability of performers to earn a sustainable income. Some of the suggestions above will work in that direction, and others – such as establishing loading zones and secure parking areas for live performers – would help alleviate additional burdens of paying fines or

replacing stolen equipment. Other suggestions might be a bit more politically thorny, such as loan forgiveness or the expansion of eligibility for the Oregon Health Plan. Research participants also suggested: campaigns to increase public awareness about performers' obstacles; policies that enforce transparency and standardization in contracting; funding for workshops or access to mentors to help performers to learn business skills; public coordination with national performer support organizations such as MusicCares; and improved support for foundations such as the Jeremy Wilson Foundation.

As for direct public assistance, many performers benefitted from public programs such as unemployment, tax credits, and grants during pandemic-related closures. However, a number of respondents desired BIPOC- or disability-specific grants that are more immediate and more liquid than tax credits. A need for venues from the public sector appears to be a "grandfather clause" for venues for when new residential buildings are constructed adjacent to already-existing venues. This might be in addition to or complemented by grants to help venues afford the costs of sound abatement. Lastly, venues need access to protection – legislative, legal, or otherwise – against ASCAP lawsuits that have the effect of exporting money out of Oregon rather than contributing to the development of Oregon's live music industry.

More research is clearly needed; we have barely scratched the surface. More qualitative data is needed to understand ways that venues and performers can be supported concurrently, which is ultimately what is needed to ebb the tension between the two and tame the sense of competition that many performers are feeling. Touring corridors can be studied to help improve geographical movement between metropolitan and rural venues and attempt a solution to the problem of bands needing to absorb a variety of additional costs while traveling. The relationship between OLCC regulations and all ages venues could be studied much deeper to determine what is preventing venues from hosting all ages performances. Lastly, qualitative investigations can help deepen our understanding of the depths to which indirect and induced impacts of the live music industry travel through the Oregon economy.

Opportunities, Challenges, Strategies, and Gaps

One central challenge reverberated throughout our quantitative and qualitative research results: wages. Again and again, respondents decried the compensation they could expect from a live performance. A number of responses seemed to confirm that wages have not budged since at least the 1980s; needless to say, the cost of living has risen dramatically in that period. Along those lines, performers have to absorb a variety of costs associated with performing. The indirect costs of traveling are a potent example: to tour, performers must pay for gas, lodging, transportation, equipment, and food. This is not to mention the upfront and opportunity costs performers put into recording music, practicing with bands/ensembles, or promoting their performances.

A second issue for performers is the fragmented and oftentimes informal landscape of contracting with venues. Whereas more established venues do have standardized contracts and dedicated booking agents, we found that smaller venues either do not have the capacity or the know-how to formalize contracts – this was also reflected in the 2022 Oregon Music Census where a substantial proportion of respondents who managed music businesses reported not having 1099s (typically issued to independent contractors or gig performers), or W-2s (typically issued to employees) altogether. As such, many contracts are done through email exchanges or are of the "handshake" variety. Tracking economic impact is certainly much harder without more standard contracting, potentially contributing to the reluctance of live performance industry participants to report their

earnings and revenue, but perhaps more important is the protection and predictability performers and venues would get with standardization.

Across the state, there is a significant deficit of all-ages venues. This has a number of consequences, including: limiting the emergence/growth of local talent; creating the perception of a lack opportunity in the live performance industry (which could cause outflow of talent to more “serious” music cities/states); and preventing groups from performing in front of younger audiences that are oftentimes avid music fans and merchandise consumers. Our evidence suggests that performers feel the lack of all ages venues is stunting their ability to grow their audiences, which again could cause performers to leave the state.

Venues face significant challenges as well. In the first place, many either closed or are barely recovering from COVID-19-related closures. Many claimed to have been excluded from grant opportunities during those closures, and some had to take loans in order to survive. With inflation being as high as it is, and with audiences still reluctant to return to in-person events, paying those loans back while dealing with increased wage demands and more expensive materials is squeezing venues. The calculus for venues revolves around how many tickets a band can sell; showcasing local talent is now a risk. Moreover, violations from municipalities – especially noise ordinance violations in changing neighborhoods – is forcing venue operators to undertake expensive sound abatement rehabilitations. Lastly, venues are dealing with (anecdotally) increasing pressure from licensing agencies such as ASCAP and BMI, limiting the types of performances they can host without paying steep fees or facing lawsuits.

Grants have proven to be an impactful intervention the public sector can make. Of the participants that did receive grants, many of them reported those grants as being helpful. Moreover, survey respondents commonly suggested more access to grants in order to cover unexpected costs, fund recording or traveling (e.g., to conferences or to showcase Oregon talent at events outside of the state), and recover from disasters or misfortune such as the wildfire smoke that caused the cancellation of a number of festivals and outdoor performances. Our research shows that only 7% of all survey respondents actually received grants, which suggests one or more of the following: either there are not enough grants to make a meaningful impact, and/or musicians don’t know how to find grants, and/or musicians don’t know how to navigate the bureaucracy of grant infrastructure as it currently exists. The quantitative data also indicates that economic shocks can lead to attrition from the industry, leaving only those who are the most established and potentially exacerbating existing diversity and equity issues in the industry. In an interview, one musician described the challenges of discovering available grants as follows:

> “I found out about [a grant] last minute from a friend who knew about it. Like literally I had the day to put the proposal together and [...] I've written grants before and so I had a little bit of a template to go off, so I was able to scramble and get it together. And miraculously get it. But yeah, so I was like, how come I didn't know about this?”

A variety of strategies to support the live performance industry have been implemented in states across the nation. The most common initiatives are grants via cultural trusts, which derive their funding from both public and private sources. In Oregon, the Cultural Tax Credit created by House Bill 2923 (which offers a state tax refund for combined contributions to local nonprofits and the Oregon Cultural Trust) funds a wide variety of grant programs for local artists, with an emphasis on serving disadvantaged communities. However, only one of the individual artist grants, the Career Opportunity Program, is available to commercial musical artists. Values awarded range from $500 to $2000. All

organizational grants are dedicated solely to nonprofits. Local grassroots trade association and advocacy group MusicPortland offers grants to commercial artists as well, through its Echo Fund.

Grants are perhaps the simplest intervention to implement, and featured prominently in the surveys and interviews gathered for this report. Trusts and mechanisms to collect and distribute grant funding exist in many metropolitan areas, likely due to this simplicity, appearing in Oregon, Austin, Philadelphia, Cincinnati, Columbus, Sydney (AUS), and many other cities and states not mentioned. While training programs and tax incentives are also common, they are rarely directed at live performance exclusively (with some exceptions for public performances, which are a small segment of the larger live performance industry), and typically appear alongside existing grant programs. For live musicians, many of whom are professionals, it is not the level of knowledge but the absence of funding that creates barriers. It is common for grant programs to be restricted to nonprofit endeavors. Artist fellowships provide funding, with or without use restrictions, over a specified time period. Special districts based on existing or developing localized industry clusters eligible for enhanced public funding are recommended to boost growth while, in some cases, supporting areas and populations that have been historically underserved. Both of these interventions are publicly funded, privately funded, or a combination of the two.

Whether or not enough grant opportunities exist, our research makes clear the frustration performers and venue operators feel about not being able to secure grant funding. With consideration to the challenges of navigating a grant landscape as a single owner/operator, which, as our data shows, most live performers are, we can say that all of these possibilities point to the same conclusion. An Oregon State Music Office – much along the lines of Texas Music Office and New York Office of Media and Entertainment (who also streamlined the process of studying their music industries) – could centralize, facilitate, and simplify the grant infrastructure, and help develop and grow the live performance industry in an equitable manner.

Keeping in mind that grants are an important source – sometimes the only source – of resilience for small businesses during economic shocks like the one presented by COVID-19 and its associated closures, it seems imperative that grant infrastructure be streamlined and strengthened. Beyond providing an important source of resilience, small businesses and sole proprietors often experience difficulty scaling; grants could be used as an accelerant for small businesses that are positioned to grow but lack the resources to do so. Specific to loud music, grants may also help venues with sound abatement, or cover the gaps in their revenue to allow more all ages performances. Lastly, on a granular scale, having a more streamlined and accessible grant structure may also get the performers themselves – rather than conventional applicants who are overwhelmingly businesses and nonprofits – to apply for grants which may then serve as a personal buffer for the rising costs of living and/or operating, provide financial support to access music equipment or technical training, and temporarily compensate for stagnant wages.

Overall economic conditions and disruptions, such as the pandemic or wildfires, can also affect attendance at live performance events. Local residents and visitors from both within and outside of Oregon who attend music performances, music festivals and other live performance events contribute significantly to the Oregon economy, and can potentially grow into an important “traded sector”. Comments from the Oregon Music Census and from our interviewees echoed the importance of audiences’ and attendees’ contributions to vibrant music-related communities. Additional empirical research that more comprehensively and regularly captures data about attendees through intercept surveys and/or travel diaries, similar to those used in the Arts and Economic Prosperity 5 (2017)

andDean Runyan Associates (2022) studies or previous studies that examine individual festivals and events, can provide better insight into the magnitude of their economic impact.[70,71]

The complexities of defining, quantifying, and understanding the live performance industry detailed within this report underscore the importance of ongoing research and analysis. As one of the first research studies on the emerging live performance industry in Oregon, this study presented quantitative impacts of the industry in the state, contextualized by qualitative survey results and interviews with industry professionals. Future research can be refined (and made less complex) through facilitation and education by organizations such as Business Oregon or MusicOregon for industry participants to use the most appropriate NAICS codes and to actively participate in survey data collection efforts and other centralized databases. By continuing to invest in research and collaboration, Oregonians can develop a better understanding of the live performance industry's economic footprint in the state, and explore and craft programs and policies to support its growth and development.

Conclusion

Oregon has a vibrant creative presence, producing a diverse array of artists known on the national scale, in addition to independent artists mostly familiar on the local scene. The state is also home to many commercial and non-profit concerts, music festivals, and other live performance events that attract large numbers of attendees, while also playing host to related businesses big and small spanning musical and theater groups, instrument and gear makers, lighting and sound engineers, graphic designers, and numerous venues. All of these components of the Oregon live performance industry economically impact their communities by providing entertainment and increasing profits for performance venues, distributing wages, and creating culture that attracts both permanent residents and visitors from inside and outside the state. As such, Business Oregon and the Oregon Legislature recognized the live performance industry as an important emerging industry sector.

This study, the first of its kind in Oregon, aims to provide a framework and baseline to understand the economic significance of the live performance industry. To define Oregon's live performance industry, the NERC research team synthesized past academic research, regional reports, cluster analysis and expert guidance from the Industry Advisory Group to develop a Live Performance Conceptual Diagram that visualizes the relationships between creators, attendees, and performance venues, along with the supporting organizations.

To quantify the industry, the team mapped the conceptual industry diagram to NAICS codes through several processes, consolidating data from the 2022 Oregon Music Census, QCEW, OEWS, industry lists and IMPLAN to build inputs for the economic impact analysis. Specifically, this report provides an economic profile that includes longer-term industry trends as well as detailed analysis of employment and payroll trends for each industry sector, geographical distribution, occupational statistics, and growth subsectors. Economic impact analysis was conducted using IMPLAN, an input-output model that tracks economic activity through supply chain relationships within regional economies. To further provide context to our understanding of the live performance industry ecosystem in Oregon, NERC conducted semi-structured interviews of music industry professionals in our qualitative research process. Finally, based on the comprehensive quantitative and qualitative analyses, the study identifies challenges and gaps within the industry, along with potential opportunities and strategies.

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[70] AMERICANS FOR THE ARTS, "ARTS & ECONOMIC PROSPERITY 5 - THE ECONOMIC IMPACT OF NONPROFIT ARTS & CULTURAL ORGANIZATIONS & THEIR AUDIENCES IN THE STATE OF OREGON."

[71] DEAN RUNYAN ASSOCIATES, "THE ECONOMIC IMPACT OF TRAVEL IN OREGON 2021," 2022.

Based on NERC's quantitative and qualitative research and analysis, here are some key findings in this first exploration of Oregon's live performance industry:

- Table 17 shows that in 2021 the live performance industry contributed over 15,700 jobs directly in the state, for a total of 21,143 jobs (direct, indirect, and induced).
- These 21,143 live performance industry jobs generated more than $850 million in labor income and $3.1 billion in economic output in the state, predominantly impacting *performing arts companies*, *independent artists and performers* and *other education services* (which includes music education) sectors. The Non-Profit Arts & Culture sector adds another 2,211 total jobs, nearly $150 million in total labor income and $539 million in total economic output.
- The live performance industry's economic impacts in Oregon span several sectors (Table 18), with more than 13,400 total jobs attributed to the Creator sector, 7,690 total jobs in the Performance Venue sector, 38 total jobs in the Organization sector, and 2,211 total jobs in the Non-profit Arts & Culture sector.
- The live performance industry's economic activity, labor income, and hiring contributed nearly $57 million towards Oregon's state and local governments in 2021 (Table 19).
- Additionally, we identified Audio Equipment Manufacturing (334310) as well as Promoters of Performing Arts with Facilities (711310 - music venues, festivals and concert halls) as potential growth subsectors.
- Rough estimates of additional off-site spending by attendees at both commercial and non-profit live performance events suggest that it may contribute another 9,135 total jobs across the Oregon economy, and more than $410 million in total labor income and $1 billion in total economic output, mainly within hospitality and retail industries.
- Music industry workers and owner/operators highlighted Oregon's resourceful and creative communities and cross-genre and cross-sectoral networks as being major regional advantages, despite the challenges associated with stagnant wages and lingering effects of the pandemic-related closures and economic downturn.
- While many creators have developed large audiences and gained commercial success, low and stagnant wages appear to be a persistent challenge for some parts of the industry, showing up in our occupational analysis as well as in survey and interview responses where a number of performers indicated no upward growth in wages since the 1980s. Moreover, due to the larger distances between cities and venue locations in the Pacific Northwest, touring artists may be subject to higher travel costs.
- Venues and event organizers face a number of challenges as well. Mandated COVID-19 closures reduced employment significantly (up to 60% in performance venues in 2020), compared to an overall decrease of 13% in Oregon during the same period. While many costs are increasing, attendance levels have not yet fully recovered. Some additional comments addressed difficulties in hosting all-ages performances, steep licensing fees, and obstacles associated with permitting and ordinances.

The following are some recommendations that can improve the competitiveness and support the growth of the emerging Oregon live performance industry:

- We recommend the establishment of an Oregon Music Office – much along the lines of the Texas Music Office, New York Office of Media and Entertainment, or Oregon Film – to help develop and grow the industry in an equitable manner. Such an office may also assist in interfacing with local and state-level policy makers, future researchers and data collectors, as well as within the industry itself.
- Grants or incentives may be necessary to allow small businesses and independent professionals to scale up their production in Oregon, and to bridge the gap during economic downturns, severe weather or wildfire events. An Oregon Music Office may act as a facilitator

to assist creators, venue operators, event organizers and others in this industry in navigating grant/permit applications, ordinance compliance and contracting.

- Many live performance businesses are currently misclassified in economic databases. To more accurately capture the industry, additional outreach and educational efforts are essential to help firms input an appropriate NAICS code or to participate in databases.
- On-going research on both quantitative and qualitative fronts is critical to build on this baseline understanding about the full extent of the live performance industry's economic contributions, to address gaps in the existing network, and to strategize around how to foster inclusive environments for the industry to grow.

The complexities of defining, quantifying and understanding the live performance industry detailed within this report highlight the importance of ongoing research and analysis. Our analysis suggests that by continuing to invest in research and collaboration, Oregon can develop a better understanding of the live performance industry's economic impacts in the state. Furthermore, such investments can help the state explore and craft programs and policies to foster its growth and development, and contribute to sustaining vibrant, connected, and livable communities.

Afterword from the Live Performance Advisory Committee

The following is an afterword from the industry advisory committee that helped guide the consultant's work in preparing this report. The afterword does not necessarily reflect the views of Business Oregon or the contracted consultant that authored the industry analysis. Business Oregon would like to thank the committee members for the extensive time spent in contributing to the production of this report produced at the request of the state legislature.

Presented by the Live Performance Economic Study Industry Advisory Council, and the nonprofit organizations, MusicPortland and MusicOregon

Oregon's music scene has earned an international reputation, with a wealth of musical talent and enterprises. Oregon's Live Music sector comprises a range of businesses and individual entrepreneurs engaged in creating and showcasing live and recorded original popular music. This industry is intrinsically connected to businesses and craftspeople involved in recording, licensing, and distributing music, as well as firms that design and manufacture the spaces, instruments, and technologies that are the backbone of modern music and how consumers listen and create today.

Independent venues and live performance drive much of Oregon's nighttime and tourism economy, increase property values and tax bases, and help keep Oregon's population centers vibrant in terms of culture and community. After eighteen months of mandated closure due to COVID, live performance has taken an unprecedented hit and the sector has suffered financial and professional losses beyond those in nearly any other industry. We are at a pivotal point in a long recovery where we must convince individuals to gather in public again.

The live music industry's success is inherently tied to Oregon's regulatory system through the OLCC liquor licensing program, a system that was not designed with live music as a consideration. Because of this attempt to fit a square peg into a round hole, Oregon's live music businesses exist without many of the regulatory assurances or considerations other professional industries would expect.

Oregon once was and should be a place where the musicians on stage and the professionals off stage are paid enough to afford to live. For the vast majority now, it is not. Without intentional action by policymakers and community leaders, we risk losing our unique music culture that has organically developed over the decades.

This study of Oregon's music economy has led us to a number of specific policy, budgetary, and programmatic recommendations that build upon existing state infrastructure and funding, as well as best-practice examples from across the country. With relatively modest investments, thoughtful support, and a dedicated seat at the table, the music industry in Oregon has the potential to become an economic powerhouse, driving tourism, business investment, and thousands of well-paying jobs. Our recommendations center around protecting and growing our independent music industry, avoiding the homogenization and corporatization of popular music that has befallen so many other states. We believe that our lawmakers can help catalyze a process that brings policies, as well as public and private investment that will protect our independent creators, venues, and live performance spaces.

Advisory Committee Recommendations

1. Establish a Governor's Office of Commercial Music.

Live music is a pivotal component of commercial music, and an area of public policy that has not traditionally received specific attention from policy makers and leaders. Without a dedicated office focused on the unique needs of the commercial music sector, Oregon risks inadvertently driving out the infrastructure necessary for music to exist. Following the model of the Oregon Governor's Office of Film and TV, a dedicated, semi-independent government agency focused on the commercial music industry would be tasked with the development and implementation of a 10-year Commercial Music Strategy. This office would be a dedicated seat at the table at important conversations regarding zoning, density, public infrastructure, liquor licensing, or other important government regulatory systems that would directly impact live music performance.

Such an agency would help serve as an advocate for musicians to build a professional career where they are compensated for their work at professional industry standards and best practices. This will include work through the broader industry regarding noise regulations and could partner with local Noise Review Boards, local government regulators, and law enforcement to update and modernize outdated noise control and acoustic zoning policies that will be necessary to sustain music activities, including live performances. This office would advocate for and spearhead innovative initiatives promoting economic growth for music enterprises, venues, and music tourism, such as music concierge services, supporting festivals, and creating an "Oregon Music History Trail."

Other Music office activities may include overseeing major music events, assisting with music business acquisitions and retainment, supporting music tech innovation, conducting research, reviewing and developing music-supporting policies, and leveraging export opportunities for Oregon artists, industry, and music businesses.

As with the Film Office, the Music Office would be a nonprofit, government-recognized agency with clear stature to participate in government discussions of issues impacting its sector. An industry advisory council will guide the Office with representatives from live, recorded, and screen music sectors, including venues, production, artists, manufacturing, and audience representatives, with geographic and demographic diversity a priority.

2. Reform state liquor laws to proactively reflect the music industry.

As OLCC is reconsidering its internal workings and leadership, music needs a dedicated seat at the table. While the regulatory system was not designed with music in mind, no other economic sector is as directly but inadvertently impacted by it. The State of Oregon should give music a dedicated seat at the table for any redefinition of OLCC's role.

a. Reduce barriers to all ages access.

   In Oregon, it is prohibitively difficult and expensive to produce all-ages shows, shows that explicitly allow Oregonians under the age of 21 to attend. This is in large part due to Oregon's liquor licensing laws through the OLCC and resultant City regulation. Current OLCC regulations were not written with input from music-focused businesses. The current system relies entirely upon outdated and ineffective segregation standards that

have not led to a reduction in youth alcohol consumption, but have led to a near-total loss of dedicated all-ages music venues. There are countless best practices employed in other states that encourage minors to access music without accessing alcohol.

b. Create prescriptive paths for alcohol-serving businesses that present live music.

In addition to ticket sales and direct support, the live music industry is reliant on food and beverage sales, yet specific permitting requirements have proven difficult for those businesses to meet. The OLCC should designate a new category of liquor licenses specific to those businesses that present live music. This will contribute to a system that more adequately fits the needs of these businesses, makes the process clearer for new businesses applying for a permit, and for one-time community or private events that feature both alcohol and live music.

c. Provide a liquor-tax abatement for performance venues that meet community performance standards regarding wages and use type.

Oregon should establish and fund a music incubator alcohol-tax rebate program. This program would provide rebates of certain alcoholic beverage taxes collected from eligible music venues and music festival promoters that meet specific standards. This would incentivize these businesses to bring live musical performances to local communities across Oregon. The proposed Oregon Music Office could manage this program to ensure eligibility requirements, including prevailing wage minimum pay for performers. There are programs like this being piloted in other states including Texas that Oregon could easily implement.

3. Provide tax-status blind and proportionate cultural funding for music venues

Oregon does not provide the arts with adequate proportionate funding. Oregon currently ranks 39th in the nation on arts and culture spending, at about 45 cents per person per year, compared with spending over $6 per person by the State of Minnesota. Legislation proposed in the 2023 State Legislative Assembly by the newly established Oregon Arts Caucus would provide funding at approximately $1.70 per person, placing us 12th in the nation. As demonstrated in countless other jurisdictions, this type of investment will have significant returns to the broader economy in Oregon. This expanded funding must also include proportionate tax-status blind support for the commercial independent music venues of Oregon.

4. **Incentives to boost jobs, economy and culture in mixed-use venues/forums.**

Dedicated performance venues are often limited only to large population centers. In smaller communities, performances happen less frequently in places that are not specifically dedicated to those performances. This is still a vital part of the vast live music infrastructure that is necessary for Oregon's success. However, dedicated venues are often treated differently as businesses than pop-up or occasional performance venues. The State of Oregon should explore tax incentives or grant programs that will help support these small occasional venues in smaller communities, such as grange halls, coffee shops, restaurants, and bars. These

incentives for smaller venues should come with community requirements for the businesses, such as consistent, fair wages for performers.

5. **Attracting Audiences, Rebuilding Trust in Public Spaces**

   It will take intentional effort by both the public and private sector to rebuild audience confidence and engagement in live music. The State of Oregon should fund music discovery events introducing residents and visitors to locally-owned independent music venues and Oregon talent. An Office of Commercial Music should engage with and contribute funding to the Cascadia Music Corridor Initiative to strategically build regional touring and music development programs. This would create opportunities for local talent to work and improve access to live music in small and large markets. And through permitting entities, the State should provide turnkey music toolkits and training to help restaurants, bars, and other businesses successfully add live music programming that delivers artist-sustaining entertainment

6. **Establish Music Venue Trusts**

   The designation of privately-owned, independent Oregon music venues as recognized cultural assets would protect existing venues from predatory, out-of-state corporate takeovers and developers. Trust designation could be tied to certain public service activities, defined by the venue community, such as the proposed inclusive venue accreditation program, hosting nonprofit events, or youth programming.

Oregon is a special place, and Oregon's music industry is a gem that shines disproportionately bright. Lawmakers and industry leaders have an opportunity to invest in the resources that have made Oregon an attractive place to live, work, and play. Until now, the music industry has grown on its own, independent, rooted deep in our community. But it's no longer feasible for the music industry to survive on its own without thoughtful, strategic, and on-going support from both government and business leaders. By investing in the things Oregon already has, and by following proven best practices from across the nation, Oregon can lead the post-COVID-19 pandemic economic recovery by leading with our best assets, creating a sense of place, community, and culture that attracts new businesses and new neighbors, and grows our local talent and creative spirit into an economic driver that leads Oregon into the new era of prosperity for all.

MusicPortland's Role in the Oregon Music Census

MusicPortland and MusicOregon are the united voices of the professional, popular music economy in the state of Oregon. MusicPortland, as a 501(c)(6), focuses on economic viability and infrastructure for music professionals in the greater Portland metropolitan area, and throughout the state of Oregon. MusicOregon, the charitable 501(c)(3) supports cultural, education, and community development needs for the professional, popular music economy in the state of Oregon. Meara McLaughlin, Executive Director of both MusicPortland and MusicOregon, successfully advocated for recognition by the State Legislature of Commercial music and Live Performance as Emerging Economic Sectors in 2022. With funding for study, Business Oregon hired MusicPortland to complete the Oregon Commercial Music Census to gather the first information from statewide businesses, venues and artists. This data became a cornerstone for the economists at Portland State University to complete their full Economic Impact Study. MusicPortland engaged a project manager to manage full scope of responsibilities for Oregon Music Census, including all communications and media outreach, to encourage music industry professionals to participate during the six weeks the census survey was open (December 2, 2022-January 15, 2023) that garnered 3,115 census survey responses from all

across Oregon. The advisory committee has continued to contribute context and perspectives on the industry as the final reports have been written, including this afterword with our strategic action recommendations.

The data from the Oregon Music Census quantified much of the narrative we have heard directly from our music industry community for years. We will continue to provide actionable data from the Census in more detailed recommendation documents on each of the actions that we propose. All of our recommendations and continuing advocacy work to support, fund, and catalyze growth in the Commercial Music and Live Performance sectors throughout Oregon.

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MARKET ANALYSIS

OCEAN RESOURCES & BLUE ECONOMY

Eastern Research Group, Inc.

www.erg.com

About the Consulting Firm

Established in 1984, Eastern Research Group, Inc. (ERG) is an interdisciplinary consulting firm with more than 450 staff members. With a mission to support social good, we focus on helping clients protect water quality, air quality, and human health while building a strong and environmentally sustainable economy.

ERG provides a wide range of services, including support related to climate and resilience solutions, economic and policy analysis, environmental and climate justice solutions, water quality and resource management, organizational effectiveness, and grant program support. ERG has conducted more than 120 strategic planning projects and 50 economic impact and feasibility projects—including those focused on the resilience of coastal and blue economies—for government agencies, nonprofits, and foundations in the United States and worldwide over the past 15 years.
We have been at the forefront of coastal and marine economic analysis and data set development, having led the development of the Bureau of Economic Analysis Marine Economy Satellite Account and authoring nine National Shoreline Management Studies for the U.S. Army Corp of Engineers that characterize the shoreline economy of each region and describe the socioeconomic impacts of shoreline change on the coastal and ocean economy. We are currently leading the development of the National Oceanic and Atmospheric Administration Economics: National Ocean Watch data set for U.S. territories and commonwealths.

- *National leader on the ocean economy, including five years developing the National Oceanic and Atmospheric Administration (NOAA) and Bureau of Economic Analysis Marine Economy Satellite Account.*
- *Implemented over 50 economic impact and feasibility projects over the past 10 years focused on the blue economy and resilience of coastal and blue economies for NOAA, the U.S. Army Corps of Engineers, and state and local governments.*
- *Developed recommendations for creating a strategy to drive ocean-related workforce opportunities by strengthening training and education on aquaculture and fisheries.*

We have also supported U.S. and international blue economy–focused organizations in developing strategic plans for market growth and investment. For example, we assisted the Builders Initiative in reviewing the landscape of fisheries and aquaculture workforce development opportunities in North America, with a focus on the U.S. West Coast. In addition, we helped develop a strategic plan for the Blue Challenge Initiative, a multisectoral, multi-country initiative that encourages capital flow to sustainable fishing and tourism. The plan outlined impact investment opportunities and provided an overview of economic development opportunities to strengthen a sustainable blue economy sector.

ERG's work blends quantitative, economic analyses with rich qualitative data from interviews and focus groups and emphasizes ongoing collaboration and co-creation of products with our partners. ERG takes a cooperative, multidisciplinary approach, resulting in robust and actionable products that inform decision-making and programs.

Overview

The full industry report and summary are available on Business Oregon's website

Spotlight: Oregon's Blue Economy

- **Landscape context:** 363+ miles of coastline and linked estuarine and riverine areas, and home to 1M+ people across nine counties.
- **Blue economy sector size:** Estimated 2019 GDP of $3.1 billion.
- **Main subsectors:** Living resources, marine construction, ship and boat building, marine transportation, offshore mineral extraction, tourism and recreation, emerging blue technology (including marine energy), coastal restoration, coastal community resilience, manufacturing, and marine research and education.
- **Unique characteristics of Oregon's ocean and coast**: Close-knit and small communities, world-class academic and research institutions, diverse natural resources and geographic characteristics, and strong network of existing industries and businesses.
- **Weaknesses and challenges of Oregon's blue economy:** Aging and lack of infrastructure; limited financial resources; limited skills, workforce, and training; lack of coordination and competing goals among different efforts and initiatives; and reactive mindset.

The Oregon coastline spans over 363 miles. The coast, as well as connected estuarine and riverine areas that are integral to the blue economy, is home to more than one million people across nine counties (Figure 24).[72] The state also boasts incredibly rich and biodiverse marine and coastal ecosystems, which provide the natural and cultural resources that many businesses and industries within the blue economy rely upon. Oregon's blue economy generated an estimated gross domestic product (GDP) of $3.1 billion in 2019 and plays a key role in the ecological and socioeconomic sustainability of ocean industries and the coastal and rural communities that depend on them (National Oceanic and Atmospheric Administration [NOAA] 2022). The blue economy is important not only locally, but also nationally; NOAA released a Blue Economy Strategic Plan for 2021–2025 that provides a foundation for innovative ways to advance blue economies across the nation and globally (NOAA 2021). While Oregon has a growing blue economy sector, it is not as developed as other states, such as Washington and Alaska, when it comes to aspects such as jobs, relative contribution to the overall market, and established industries. Opportunities exist to strengthen investments in Oregon's blue economy and catalyze innovations in areas such as marine transportation, ocean exploration, seafood competitiveness, and coastal resilience (Business Oregon's Industry Advisory Committee 2022).

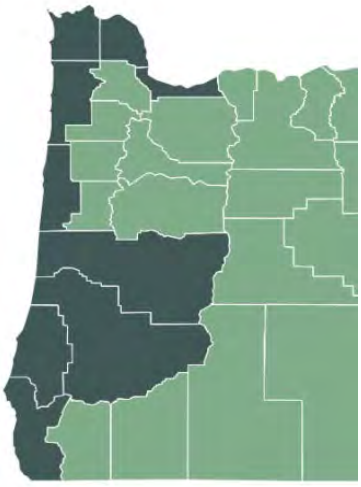

Figure 24. Oregon coastal counties.

Purpose and Overview of This Report

The 2022 Oregon Legislature directed Business Oregon to conduct a market analysis of Oregon's ocean resources and blue economy sector. Business Oregon commissioned Eastern Research Group, Inc. (ERG), to develop this comprehensive analysis on growth trends, emerging industry sectors, and opportunities. The goal of this report is to inform a coordinated vision, priorities, and actions that can shape the state's blue economy approach and increase overall investments on the Oregon coast.

[72] FOR THE PURPOSES OF THIS PROJECT, THE MARKET ANALYSIS CONSIDERED 363 MILES OF COASTLINE, IN ADDITION TO CONNECTED ESTUARINE AND RIVERINE MILES THAT ARE INTEGRAL TO THE BLUE ECONOMY FOR CLATSOP, COLUMBIA, AND MULTNOMAH COUNTIES. THE FULL REPORT ALSO DETAILS ALL DATA ANALYZED IN RELATION TO POPULATIONS—ENCOMPASSING THE SEVEN COASTAL COUNTIES (INCLUDING LANE AND DOUGLAS COUNTY POPULATIONS FOR THE COASTAL ZIP CODES THAT WEST OF THE COASTAL MOUNTAIN RANGE), AS WELL AS COLUMBIA AND MULTNOMAH COUNTIES.

To guide report development, ERG engaged representatives with knowledge in the blue economy through four main avenues: an Advisory Committee, a project Steering Committee, key informant interviews, and a blue economy industry representative survey. ERG analyzed all data and used inductive and deductive coding to identify key themes and trends across respondents. Interview and survey findings informed this final report. For more details on the engagement methods, as well as the list of references, please see the full report.

Key Takeaways from the Analysis

Oregon's rich ecological and cultural ocean and coastal resources—as well as its existing business and industries and its strong network of academic and research institutions—make the state well-positioned for blue economy development. ERG's market analysis identified priority opportunities and actions (summarized below and described in more detail in the later sections and the full report) that the state and its partners can consider investing in and taking to grow the blue economy. In contemplating all opportunities for blue economy growth, it will be critical for Oregon to consider how to continue protecting its rich ecological diversity and identify blue economy solutions that promote ecological, community, and economic resilience. The state and its partners will also need to look for opportunities for projects with potential co-benefits for the blue economy, local communities, and the environment—such as restoration projects that could mitigate coastal hazards and climate impacts, improve living resources, and create additional recreation opportunities.

Priority Opportunities

- **Workforce and training:** Expand and scale marine welding training; develop fisheries and aquaculture training programs.
- **Research, innovation, and demonstration:** Develop a blue economy business accelerator or incubator; expand coastal aquaculture and mariculture facilities.
- **Market and trade development:** Create and expand value-added and new seafood and aquaculture products; develop an Oregon seafood marketplace initiative.
- **Community infrastructure and/or site development:** Develop a pipeline of public ports infrastructure projects and funding needs and implementation of identified projects; identify, develop, and implement coastal restoration and resilience projects; enhance infrastructure for year-round seafood processing.
- **Operational improvements and capital access:** Create in-state innovation grants program for blue economy businesses; investigate and restructure Oregon workforce job codes categorization.
- **Social and economic equity:** Implement a community-driven process to identify coastal community needs and blue economy priorities; support all Oregon-based individuals and firms, including, local, and women- or minority-owned businesses in grant-making.
- **Supplier networks:** Strengthen local fish processing, packaging, and distribution; support development of the Pacific Coast Intermodal Port in Coos Bay.

Beyond the opportunities listed above, overarching actions the state and its partners can take in growing the blue economy include:

- Conduct additional analyses to better understand blue economy opportunities.
- Consider and support conditions needed to sustain subsectors within the blue economy.
- Consider opportunities to advance diversity, equity, and inclusion in the blue economy.
- Continue to raise awareness of the blue economy and its value, while also considering community needs.
- Identify opportunities for partnerships internally and externally.
- Identify strategies to protect natural and cultural resources while working to balance blue economy growth.
- Leverage existing resources and industries.

Defining Oregon's Blue Economy

Oregon's blue economy comprises the many sustainable economic activities, innovations, and emerging markets that depend on the ocean, shoreline, and estuaries directly along the Oregon coast. The blue economy also includes activities that are geographically and economically linked to

ocean, coastal, and estuarine businesses and industries, such as transport of goods, entrepreneurship, and advanced manufacturing occurring in interconnected riverine systems and ports. Industries within Oregon's blue economy—such as aquaculture, energy, fishing, food production and processing, research and development, marine transportation, and tourism—emphasize ocean stewardship and diverse economic benefits to coastal communities.

Oregon's Existing Blue Economy

Oregon's Coastal Counties

Table 21 shows an overview of the ocean economy in Oregon split by county using data related to the ocean economy from NOAA's Economics: National Ocean Watch (ENOW) data set and general employment data from the U.S. Census Bureau's County Business Patterns data set.[73] The ENOW data set contains economic data at the state and county levels describing six sectors dependent on the ocean that are defined using North American Industry Classification System (NAICS) codes[74] and geographical proximity to the ocean. The six sectors are living resources, marine construction, marine transportation, offshore mineral resources, ship and boat building, and tourism and recreation. Please see the full report for additional information about the ENOW data set.[75] According to publicly available data, Multnomah County has the largest ocean economy in the state by a significant margin, accounting for 53 percent of ocean-dependent GDP across Oregon counties. Multnomah County is the most populous county in the state of Oregon, and home to the Port of Portland, Oregon's largest port and the site of much of the state's marine transportation and construction activities. More than 17 million tons of marine cargo move through the Portland metro region each year, 13 million tons of which are routed through the Port of Portland's facilities (Port of Portland Marine Operations and Facilities 2022).

Despite Multnomah County leading Oregon in the size of its ocean economy, other counties are leaders within specific sectors of the ocean economy. Lincoln County has the highest employment in commercial fishing in Oregon, followed by Clatsop County (Knoder 2022). Lincoln and Clatsop counties are generally leaders in Oregon's ocean economy along with Multnomah County, having high numbers of ocean-dependent establishments, employment, wages, and GDP relative to most other counties in the state. Douglas and Lane counties are state leaders in the offshore mineral extraction sector.

Most NOAA ENOW data related to ship and boat building are suppressed at the county level in Oregon. Ocean waters adjacent to Coos Bay, located in Coos County, and Brookings, located in Curry County, have been identified as areas for potential offshore wind energy leasing activities by the U.S. Bureau of Ocean Energy Management (BOEM), BOEM is currently undergoing efforts to gather public information and assess commercial interest related to offshore wind energy in these areas (BOEM 2022).

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[73] THE DATA PRESENTED IN TABLE 21 ARE INCOMPLETE DUE TO ISSUES WITH DATA SUPPRESSION AT THE COUNTY LEVEL. ALL OREGON COUNTIES SUPPRESS DATA FOR AT LEAST ONE ENOW SECTOR SO AS NOT TO VIOLATE THE CONFIDENTIALITY OF ONE OR MORE BUSINESSES. THEREFORE, THE NUMBERS PRESENTED IN TABLE 21 SHOULD NOT BE REGARDED AS A COMPLETE DESCRIPTION OF THE OCEAN ECONOMY FOR ANY OREGON COUNTY.

[74] OCEAN AND GREAT LAKES ECONOMY SECTORS AND INDUSTRIES BY NAICS CODES (CROSSWALK TABLE): HTTPS://COAST.NOAA.GOV/DATA/DIGITALCOAST/PDF/ENOW-CROSSWALK-TABLE.PDF

[75] THE ENOW DATA SET HAS SIGNIFICANT LIMITATIONS. MANY ECONOMIC ACTIVITIES THAT ARE PART OF THE BLUE ECONOMY OR HAVE STRONG TIES TO THE BLUE ECONOMY ARE NOT REFLECTED IN THE DATA. IF ENOW DATA ARE NOT AVAILABLE OR APPROPRIATE TO CHARACTERIZE A SECTOR, LOCAL DATA ALONE ARE USED TO DESCRIBE ECONOMIC ACTIVITIES.

Table 21: Ocean economy by county (2019).

County	Ocean Establishments	Ocean Employment	Ocean Wages ($ MM)[a]	Ocean GDP ($ MM)	Total County Employment	% Ocean Employment[76]
Clatsop	337	5,490	155.2	331.8	17,762	30.9%
Columbia	93	1,370	32.2	64.1	22,601	6.1%
Coos	230	3,491	105.9	222.2	25,028	13.9%
Curry	147	1,301	28.1	56.7	7,617	17.1%
Coastal Douglas[b]	48	658	25.3	49.7	2,158	30.5%
Coastal Lane[b]	113	1,366	41.9	88	5,372	25.4%
Lincoln	385	5,117	137.1	300	19,011	26.9%
Multnomah	871	20,778	798.6	1341.7	452,939	4.6%
Tillamook	128	1,385	37.3	79.6	10,307	13.4%

[a] MM = millions. Sources: NOAA 2022 and U.S. Census Bureau. Values are in 2019 dollars.
[b] Employment in Coastal Douglas and Lane geographic areas are approximated using 2019 U.S. Census Bureau County Business Patterns data for zip code tabulation areas 97439, 97493, 97453, 97480, and 97430 for coastal Lane County and 97467, 97441, and 97473 for Douglas County.

Data on Oregon's Blue Economy

Many of the blue economy sector profiles in this report rely heavily on data collected as a part of NOAA's ENOW data set. Local data are used to supplement ENOW data where possible. Various data gaps and data limitations exist that limit our understanding of the state's blue economy. Please see the full report for additional information about data gaps and limitations. Table 22 shows a broad overview of Oregon's ocean economy using NOAA ENOW data. Figure 25 and Figure 26 show the percentage of employment and wages by NOAA ENOW ocean economy sector for 2019. Tourism and recreation made up the largest share (65 percent) of employment in Oregon's marine economy but composed a smaller share (43 percent) of the marine economy GDP.

Table 22. Ocean economy by ocean sector (2019).

Ocean Sector	Establishments	Employment	Wages ($ MM)[a]	GDP ($ MM)
Marine construction	45	561	43.3	71.3
Living resources	278	2,468	115.5	241.7
Offshore mineral extraction[77]	24	513	36.4	80.5
Ship and boat building	47	1,813	142.9	241.4
Tourism and recreation	1,903	28,132	676.3	1,441.9
Marine transportation	172	9,685	555.3	1,027.0
All ocean sectors	2,469	43,172	1,569.7	3,103.9

[a] MM = millions. Source: NOAA 2022. Values are in 2019 dollars.

[76] ERG CALCULATED THE PERCENTAGE OF OCEAN-DEPENDENT EMPLOYMENT IN EACH COASTAL COUNTY BY DIVIDING OCEAN EMPLOYMENT BY TOTAL EMPLOYMENT IN EACH COUNTY.
[77] THE OFFSHORE MINERAL EXTRACTION SECTOR INCLUDES SUPPORT ACTIVITIES SUCH AS GEOPHYSICAL EXPLORATION AND MAPPING SERVICES AND SUPPORT ACTIVITIES FOR OIL AND GAS OPERATIONS. IT MAY ALSO CAPTURE ESTABLISHMENTS THAT ARE PHYSICALLY LOCATED IN ONE STATE DESPITE MOST OF THEIR ACTIVITIES TAKING PLACE IN ANOTHER.

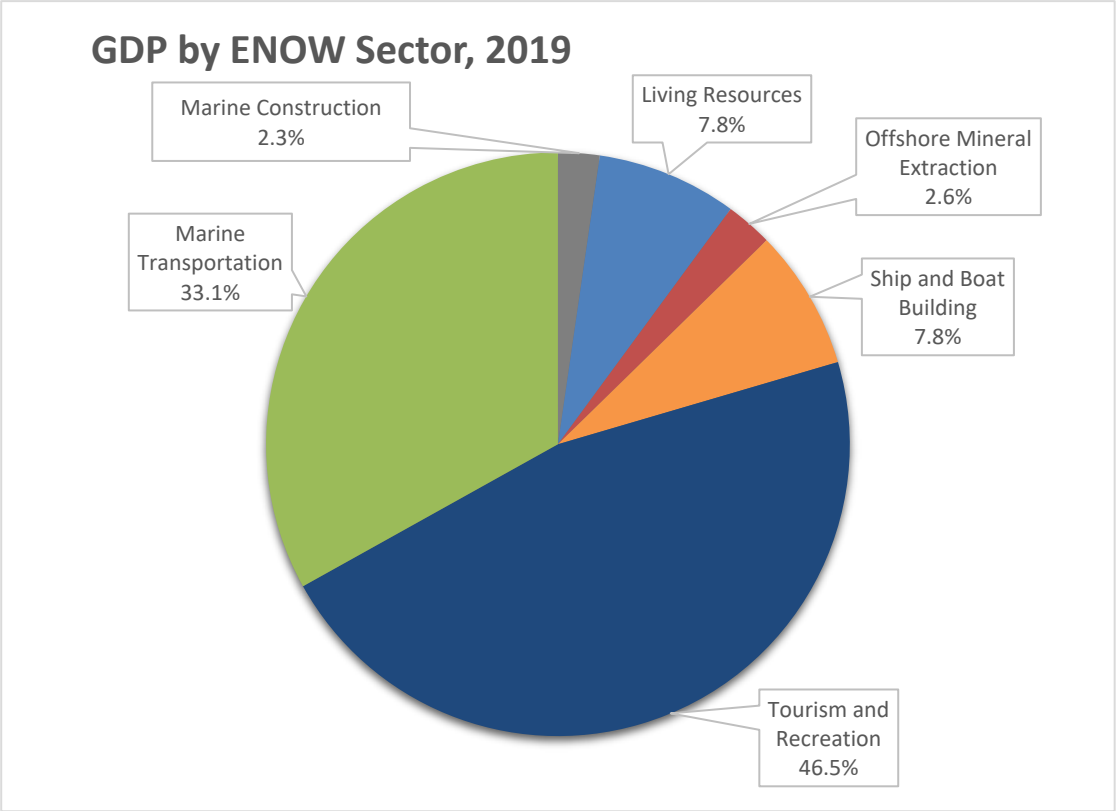


Figure 25. Oregon ocean economy employment by ENOW sector, 2019. Source: NOAA 2022.

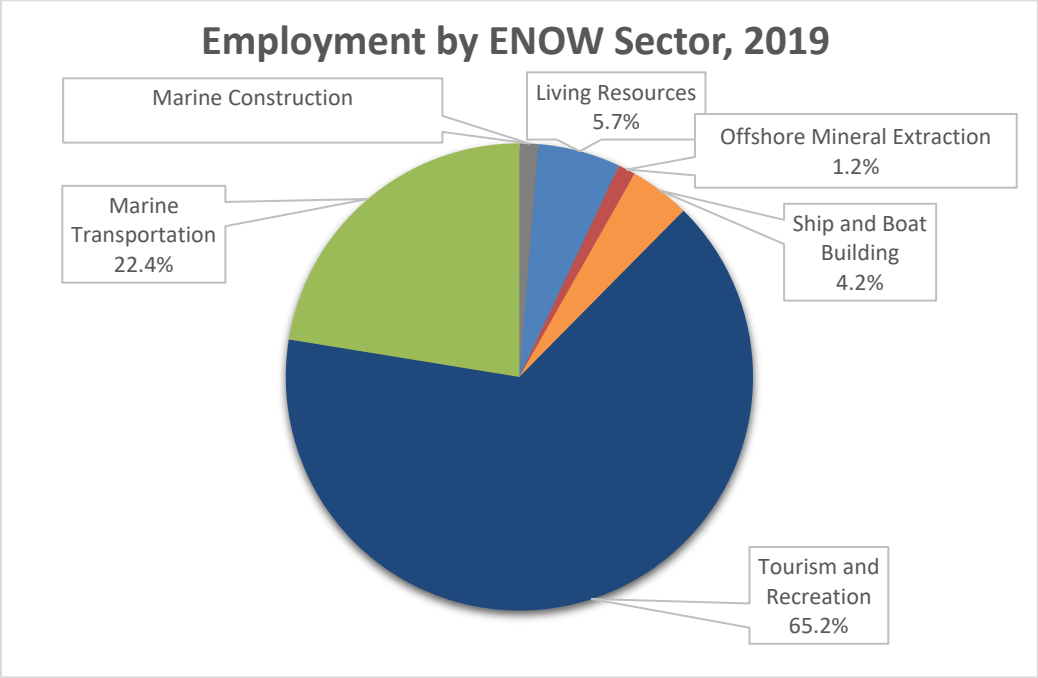


Figure 26. Oregon ocean economy GDP by ENOW sector, 2019. Source: NOAA 2022.

Oregon's blue economy generated an estimated GDP of $3.1 billion in 2019, making up just over 1 percent of Oregon's total GDP. Though the ocean-dependent GDP constitutes a relatively small

portion of the state's overall GDP, much of the Oregon coast is rural and lacking economic development compared to Oregon's more urban areas. Ocean-dependent GDP generation is likely to make up a significantly higher percentage of Oregon's coastal economy than Oregon's statewide GDP. Tourism and recreation accounted for the bulk of GDP generated by ocean-dependent sectors, accounting for about 46 percent of ocean-dependent GDP. Out of the 30 coastal states in the United States, Oregon's ocean economy ranks 22nd in terms of the value of its ocean-dependent GDP. Oregon's marine economy employed 43,174 individuals across 2,469 establishments in 2019; $1.5 billion in wages were paid out to these employees (an average of $36,400 per employee). GDP, employment, establishments, and wages have all increased since 2005 in sectors dependent on the ocean. From 2005 to 2019, Oregon's ocean-dependent GDP, employment, establishments, and wages have increased by 100.4 percent, 41.4 percent, 13.8 percent, and 112.4 percent, respectively. The marine transportation and tourism and recreation sectors have both experienced significant increases in sector employment between 2005 and 2019. The marine transportation, tourism and recreation, ship and boat building, and living resources sectors have all experienced increases in wages paid between 2005 and 2019.

Oregon's Ocean-Dependent Sectors

The subsections below provide additional detail on Oregon's main ocean-dependent sectors.

Living Resources

- Covers aquaculture, commercial fishing, seafood processing, and wholesale and retail seafood markets.
- No major sectoral growth or decline since 2016. In 2020, mandatory restrictions on business operations (including closures, social distancing, masking, etc.) greatly reduced the demand for seafood and significantly impacted the sector.
- Largely seasonal. When one fishery goes out of season, fishers, seafood processors, restaurants, and more depend on the productivity of other in-season fisheries to generate revenue.

Marine Construction

- Covers ocean-dependent heavy construction activities such as beach renourishment and navigation channel dredging.
- The marine construction sector is responsible for only 2.3 percent of ocean-dependent GDP in Oregon (NOAA 2022). The sector experienced a major decline in 2011, possibly as a delayed response to the 2008 recession. It has not experienced major sectoral growth or decline since.

Ship and Boat Building

- Accounts for construction, repair, and maintenance of ships, commercial fishing vessels, recreational boats, ferries, and other types of marine vessels.
- Since a major sectoral decline during the 2008 recession, employment has yet to reach pre-recession levels, and the number of ship and boat building establishments has further declined.

Marine Transportation

- Comprised of businesses that report being engaged in deep-sea freight, marine passenger services, warehousing, marine transportation services, and the manufacturing of navigation equipment.
- Generates almost one-third of Oregon's ocean-dependent GDP (NOAA 2022).
- Though the number of establishments has remained relatively steady, the sector has experienced major growth in GDP generation, employment, and wages paid since 2017.

Offshore Mineral Extraction

- Includes gas and oil production and exploration, as well as gravel, limestone, and sand mining. The offshore mineral extraction sector also includes support activities such as geophysical exploration and mapping services, as well as support activities for oil and gas operations. The sector may also capture establishments that are physically located in one state despite most of their activities taking place in another.
- Generates 2.6 percent of Oregon's ocean-dependent GDP.
- Most establishments reporting under this sector are involved in geophysical exploration and mapping services.

Tourism and Recreation

- Includes a wide variety of businesses that support or attract ocean-based tourism and recreation.
- Generates the greatest share of ocean-dependent GDP at 46 percent (NOAA 2022).
- Experienced steady growth from 2005 to 2019. In 2020, mandatory closures due to the COVID-19 pandemic greatly impacted the sector.

Emerging Blue Technology

- Includes technologies, systems, or platforms designed for marine use or application.
- Emerging energy opportunities exist in hydrogen fuels as well as offshore wind, tidal, and wave energy. Beyond energy, new opportunities exist in aquaculture, underwater fiber-optic cables, and development of marine-derived products.

Coastal Restoration

- Coastal restoration projects are undertaken by nonprofits, government agencies, and public–private partnerships to improve local environmental quality, protect culturally and economically significant species, and strengthen coastal resilience.
- Spending on restoration projects can provide significant boosts to local economies. Furthermore, it allows restoration dollars to stay local; it is estimated that $0.80 of every $1.00 spent on restoration projects stays in the county where the project was located and $0.90 stays in state (Nielsen-Pincus and Moseley 2010).

Coastal Community Resilience

- Oregon's coastal communities face chronic natural hazards such as coastal change, sea level rise, flooding, storms, landslides and climate change, as well as acute natural hazards such as earthquakes and tsunamis. Infrastructure failures, such as power outages and road closures, resulting from natural hazards can endanger the well-being of coastal populations and cause significant economic losses.
- Investing in improvements to coastal infrastructure resiliency can mitigate the negative physical and economic impacts of both acute and chronic natural coastal hazards.

Manufacturing

- Manufacturing firms have an important role in the blue economy by assembling critical products for marine use and producing their components.
- Manufacturing needs within the blue economy are becoming more high-tech and requiring a higher volume of skilled workers as new blue technologies emerge.
- Manufacturers that produce specific supplies needed for industries (e.g., cables and floating platforms for offshore wind energy development, fish processing equipment, ship parts) will be critical for helping scale industry growth.

Supporting Industries

- Industries within the blue economy require support from a variety of non-ocean- dependent industries to supply critical inputs. These non-ocean-dependent suppliers include industries such as construction, professional and business services, and coastal utilities.
- Spending by ocean-dependent industries helps generate greater income for non-ocean-dependent industries in coastal communities and across the state. As a result, residents of

coastal communities and local businesses can purchase additional goods and services, generating subsequent rounds of greater income and spending that increase total economic outputs.

Marine Research and Education

- Oregon's academic and research institutions help workers across the state develop new skills and attain better employment opportunities within the blue economy.
- These institutions provide and secure funding for marine research initiatives. Spending from marine research initiatives helps generate higher incomes and additional employment opportunities in coastal communities. Additionally, research and education institutions support the development of emerging blue technologies and improve the sustainability and resilience of coastal communities and existing blue technologies.

Government Spending

- Includes spending on ocean-dependent activities by state and federal agencies.
- Spending on ocean-dependent activities supports numerous jobs in Oregon and injects millions of dollars into coastal communities in Oregon.

Comparative Market Analysis

Oregon's blue economy is relatively underdeveloped in terms of economic value when compared to other states on the West Coast. Washington and California generate an estimated $14 and $45 billion, respectively, in blue economy GDP annually. Oregon is estimated to generate only $2.5 billion in blue economy GDP (Oregon Ocean Innovation Hub, n.d.). Oregon also has the lowest percentage (relative to total state employment and population) of ocean economy employment. Table 23 describes employment in the ocean and coastal economies in each West Coast state.[78] Figure 27 shows employment by ENOW sector across West Coast states.[79] The text box below the table and figure also provides additional detail on how other West Coast states—in addition to some geographies beyond the U.S. West Coast—are beginning to recognize the potential value in the blue economy by investing in and working to scale their blue economies.

Table 23. Comparison of employment across the ocean, coastal, and state total economies, by state, 2019.[80]

State	Ocean Economy Employment	Coastal Economy Employment	Total State Employment	% Ocean Employment	% Coastal Employment
Alaska	46,197	277,549	323,695	14.3%	85.7%
California	598,327	13,567,165	17,631,489	3.4%	76.9%
Oregon	43,175	806,558	1,953,467	2.2%	41.3%
Washington	143,029	2,497,822	3,439,158	4.2%	72.6%

Source: NOAA ENOW 2021, National Ocean Economics Program 2021, Bureau of Labor Statistics Quarterly Census of Employment and Wages 2021. Sources use 2019 values.

[78] FOR THE CROSS-STATE *COMPARATIVE MARKET ANALYSIS* SECTION, ERG USED TWO DIFFERENT TERMS, OCEAN ECONOMY AND COASTAL ECONOMY, BECAUSE THESE TERMS HAVE DEFINITIONS BASED ON EXISTING DATA SOURCES THAT ALLOWED FOR SOME LEVEL OF SIMILAR COMPARISON ASPECTS BETWEEN STATES. COASTAL ECONOMY MEANS ALL ACTIVITIES AND INDUSTRIES REPORTED BY THE BUREAU OF LABOR STATISTICS FOR COASTAL COUNTIES. OCEAN ECONOMY REFERS EXCLUSIVELY TO INDUSTRIES AND ACTIVITIES CONSIDERED COMPLETELY OCEAN DEPENDENT, AS DEFINED BY NOAA'S ENOW.

[79] NOTE THAT CALIFORNIA IS SHOWN USING A SEPARATE SCALE SO AS NOT TO OBSCURE THE DATA VISUALIZATIONS FOR OTHER STATES.

[80] TOTAL STATE EMPLOYMENT IS DIVIDED BY OCEAN ECONOMY EMPLOYMENT AND COASTAL ECONOMY EMPLOYMENT TO CALCULATE THE PERCENTAGE OF EMPLOYEES IN OREGON THAT WORK IN OCEAN AND COASTAL SECTORS, RESPECTIVELY.

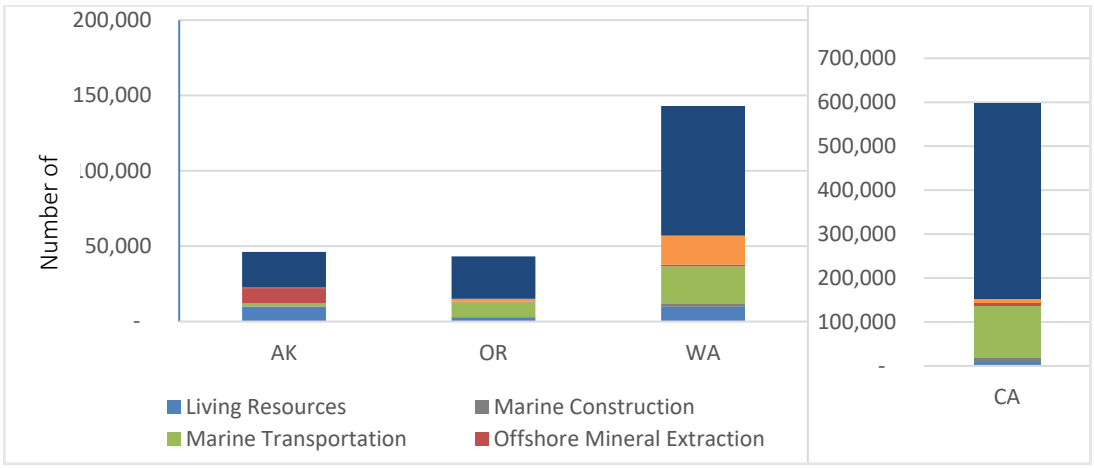


Figure 27. 2019 employment by ENOW sector. Source: NOAA ENOW 2021.

Blue Economy Initiatives in the United States and Beyond

- **Port of San Diego's** Blue Economy Incubator focuses on the "creation, early development, and initial scaling of sustainable aquaculture and blue technology ventures" (Port of San Diego 2022).
- **Massachusetts's** Seaport Economic Council coordinates coastal community planning and investment to grow the Commonwealth's maritime economy. In 2022, the council awarded $10.8 million across 19 grants related to the blue economy (Commonwealth of Massachusetts 2023).
- **Canada's** Ocean Super Cluster unites multisector maritime partners nationwide to work on collaborative and innovative projects that will help develop solutions to maritime problems. Canada is also in the process of developing a nationwide blue economy strategy.
- **Iceland's** Ocean Cluster is one of the leading examples of a blue economy innovation cluster. The cluster encompasses over 70 business, is financially self-sustaining, and offers a range of incubation, research, and other support services for maritime businesses (Conathan 2021).
- **Washington's** Maritime Blue initiative brings together representatives from industry and business, academia and research, government, and more. The cluster encourages collaboration and incubates and implements innovative, sustainable blue projects.

Opportunities for Expanding Oregon's Blue Economy

ERG identified opportunities for growth in Oregon's blue economy by drawing on themes that emerged through interviews, the industry representative survey, and document review. In collaboration with the Advisory Committee, ERG developed a series of criteria and a scoring system to rank each identified opportunity. The criteria related to four overarching categories: enabling conditions, environmental impacts, market feasibility, and workforce. For more details regarding the specific criteria and associated scoring, see the full report.
ERG grouped opportunities into seven categories that correspond to seven pillars of the blue economy industry ecosystem:

1. Workforce and training
2. Research, innovation, and demonstration
3. Market and trade development
4. Community infrastructure and/or site development
5. Operational improvements and capital access
6. Social and economic equity
7. Supplier networks

After assessing and scoring each opportunity against the criteria, ERG identified the top two opportunities (or three, in instances where there was a tie score) for each industry pillar. Many of the

top-ranked opportunities represent areas where there are existing efforts and investments that Oregon and its partners could build upon. Table 24 summarizes the top-ranked opportunities, including the time frame needed to fully implement each opportunity and to begin realizing industry growth benefits. (Note that all opportunities could benefit from immediate investments; however, the time frame needed for implementation and benefits varies.) The sections below discuss the most highly ranked opportunities in more detail for each industry ecosystem pillar, and Appendix E in the full report provides details regarding each opportunity and its ranking.

Overall, these criteria and the associated prioritization process represent a framework that the state and its partners can use in assessing future blue economy opportunities. Although the opportunities below represent those that are more highly ranked at this time, ERG recommends continually revisiting the full list of opportunities if any become more viable over time due to changing conditions (e.g., new investment opportunities, advancing technology). At the end of this section, ERG highlights a few specific emerging opportunities that represent areas of future growth, but where investments in the short term could help pilot useful technologies and approaches to catalyze initial industry development.

Table 24. Summary of top-ranked opportunities.

Opportunity	Summary	Average Ranking	Time Frame
Workforce and Training			
Expand and scale marine welding training	Expand and scale Oregon Coast Community College's existing marine welding certificate (offered through the Maritime Welding Training Center), a program that is in collaboration with the Port of Toledo, Oregon. Expansion of the program could provide a larger trained workforce for marine welding needs on ships and in ports and build on momentum of this highly successful initiative.	**Enabling conditions:** High **Environmental impacts:** Low **Market feasibility:** High **Workforce:** High	Short-term
Develop fisheries and aquaculture training programs	Develop and implement training programs that provide basic skills needed for fisheries and aquaculture jobs. Expanded training programs could help attract new entrants (particularly for wild capture fisheries due to graying of the workforce) and expose participants to the large array of skills and expertise needed for fisheries and aquaculture jobs.	**Enabling conditions:** High **Environmental impacts:** Low **Market feasibility:** High **Workforce:** High	Short-term
Research, Innovation, and Demonstration			
Develop a blue economy business accelerator or incubator	Building on the work of the existing Oregon State University (OSU) Advantage Accelerator, the Centers of Innovation Excellence, the Hatfield Marine Science Center Innovation Lab, and the Ocean Innovation Hub, develop a new coastwide, blue economy-focused public–private cluster[81] initiative. The cluster could help entrepreneurs build and test blue economy businesses, receive mentorship, connect to potential investment capital, and more.	**Enabling conditions:** High **Environmental impacts:** Low **Market feasibility:** Medium/High **Workforce:** High	Medium-term

[81] CLUSTER INITIATIVES OR ORGANIZATIONS ARE GROUPS OF INTERRELATED BUSINESSES AND OTHER PUBLIC AND PRIVATE PARTNERS THAT WORK TOGETHER TO DRIVE INNOVATION AND STRENGTHEN THEIR COMPETITIVE ADVANTAGE.

Opportunity	Summary	Average Ranking	Time Frame
Expand coastal aquaculture and mariculture facilities	In collaboration with Oregon ports, develop expanded shoreside aquaculture and mariculture facilities (e.g., for new products such as dulse seaweed, native kelp, and urchins). These efforts could build on some existing initiatives underway for coastal aquaculture and mariculture; provide water quality, nutrient mitigation, and carbon sequestration benefits; and allow for the processing and marketing of new seafood products (e.g., urchins for sushi, high-quality kelp and seaweed).	**Enabling conditions:** Medium/High **Environmental impacts:** Medium **Market feasibility:** High **Workforce:** Medium/High	Medium-term
Market and Trade Development			
Create and expand value-added and new seafood and aquaculture products	Build on, expand, and fund many existing efforts in Oregon that are underway to create additional or value-added products from seafood and aquaculture (e.g., the Oregon Cluster Initiative, Positively Groundfish, the Pacific Aquaculture Marketing and Innovation Center). Pursuing this opportunity could help make better use of existing seafood products caught and brought to port in the state and avoid the high level of economic leakage (~30% loss of the $840 million that tourists spend on food each year) that occurs in visitor food sales due to the amount of imported food sold to tourists.	**Enabling conditions:** High **Environmental impacts:** Low **Market feasibility:** High **Workforce:** Medium/High	Medium-term
Develop an Oregon seafood marketplace initiative	Raise awareness and desirability of Oregon seafood products through a targeted marketing campaign that educates consumers on the benefits and sustainability of local seafood products.	**Enabling conditions:** High **Environmental impacts:** Low **Market feasibility:** Medium/High **Workforce:** Medium/High	Short-term
Community Infrastructure and/or Site Development			
Develop a pipeline of public ports infrastructure projects, identify funding needs, and implement identified projects	Building off recommendations of the "Ports 2010: A New Strategic Business Plan for Oregon's Statewide Port System" and the development of the Capital Facilities Plan for ports, continue to plan for, inventory, and develop a pipeline of potential projects to strengthen port infrastructure. Projects could also focus on reducing risks to potential climate hazards and identifying and implementing strategies to mitigate risks and strengthen resilience.	**Enabling conditions:** Medium/High **Environmental impacts:** Medium **Market feasibility:** High **Workforce:** Medium/High	Medium-term
Identify, develop, and implement coastal restoration and resilience projects	Develop and coordinate a collaborative and community-based effort to plan for and identify key restoration needs for coastal communities, particularly for projects that could strengthen coastal resilience and help build a pipeline of "shovel-ready" restoration projects. This opportunity could build off the Oregon Department of Land Conservation and Development's Estuarine Resilience Action Plans, as well as the OSU and Oregon Sea Grant Oregon Coastal Futures Project.	**Enabling conditions:** High **Environmental impacts:** Medium **Market feasibility:** High **Workforce:** High	Medium-term

Opportunity	Summary	Average Ranking	Time Frame
Enhance infrastructure for year-round seafood processing	Invest in enhanced cold storage facilities that help retain more wild capture fisheries products locally, in addition to offering year-round seafood processing opportunities. This opportunity could also require investing in the infrastructure—such as training, housing support, and more—needed for a year-round (as opposed to seasonal) fish processing workforce.	**Enabling conditions:** Medium/High **Environmental impacts:** Low **Market feasibility:** Medium/High **Workforce:** High	Medium-term
Operational Improvements and Capital Access			
Create an in-state innovation grants program for blue economy businesses	Develop a grants program (e.g., similar to existing farm grants initiatives) for blue economy businesses, such as fishers, fish processors, blue technology startups, and more. The grant program could provide access to capital for innovations, technology upgrades, sustainability solutions, new product development, and other business improvements.	**Enabling conditions:** High **Environmental impacts:** Low **Market feasibility:** High **Workforce:** Medium/High	Short-term
Investigate and restructure Oregon workforce job codes categorization	Review statewide job categorization system and identify ways to restructure the system to better acknowledge the blue economy and capture data that more accurately reflect the various jobs that relate to the sector. Implement changes to the system and consider establishing a new “blue economy” job sector.	**Enabling conditions:** Medium **Environmental impacts:** Low **Market feasibility:** High **Workforce:** Medium/High	Medium-term
Social and Economic Equity			
Implement a community-driven process to identify coastal community needs and blue economy priorities	Work with coastal communities to identify their needs and desires for expanding the blue economy. Develop small-scale pilot projects that provide opportunities for ongoing engagement with community organizations and members to test and implement new ideas.	**Enabling conditions:** High **Environmental impacts:** Low **Market feasibility:** High **Workforce:** Medium/High	Medium-term
Support all Oregon-based individuals and firms, including local, women-owned, or minority-owned businesses in grant-making	Develop clear criteria and a process to help all groups—including minority-owned, women-owned, and small local businesses—have an equal opportunity to compete for state blue economy grants.	**Enabling conditions:** High **Environmental impacts:** Low **Market feasibility:** High **Workforce:** Medium/High	Short-term
Supplier Networks			
Support development of the Pacific Coast Intermodal Port in Coos Bay	Support efforts to fund and develop the Pacific Coast Intermodal Port in Coos Bay. This project would entail construction of the intermodal terminal, upgrades to the existing rail line, and expansion of the navigation channel. The new Pacific Coast Intermodal Port would be a world-class, energy-efficient facility that could vastly expand the West Coast supply chain and alleviate many current supplier network issues. Supporting this development would create additional capacity for imports and exports in Oregon	**Enabling conditions:** High **Environmental impacts:** Medium **Market feasibility:** Medium/High **Workforce:** Medium/High	Long-term

Opportunity	Summary	Average Ranking	Time Frame
	and on the West Coast and could generate thousands of jobs.		
Strengthen local fish processing, packaging, and distribution	By strengthening the local infrastructure for fish storage, processing, packaging, and distribution, coastal communities and the state could keep more of their valuable seafood local, as opposed to exporting high proportions of landed seafood and importing seafood for local businesses.	**Enabling conditions:** Medium/High **Environmental impacts:** Low **Market feasibility:** Medium/High **Workforce:** High	Medium-term

Emerging Opportunities

Most of the opportunities highlighted above represent areas where Oregon could consider investment in the short term, and which would likely yield benefits in a short- or medium-term time frame. There are also many emerging opportunities that did not score as highly against the criteria due to the current state of the market, workforce, enabling conditions, and time required to realize economic benefits. These opportunities represent growth areas that are likely to take at least five to 10 years to yield scalable economic benefits; however, current investments in these areas could help pilot technology and approaches—in addition to strengthening enabling conditions—that could support future industry growth and expansion. These emerging opportunities include:

- **Invest in preparing for development of the offshore wind energy industry.** The offshore wind industry is currently in its nascent stages. Due to wind quality and coastal geography and topology, southern Oregon is uniquely situated to be one of the most economically viable offshore wind locations on the West Coast and could provide power that could be sold to customers across Western states once infrastructure is established. There are many complexities of offshore wind development in Oregon that will need to be investigated, such as the potential environmental impacts of platform installation and existing industries that are active in the same areas (e.g., fishing). There will also need to be a significant increase in supply chain capacity to support offshore wind development. Investing in research to better understand and coordinate industry stakeholders on the environmental risks, tradeoffs, long-term benefits, and supply chain needs—as well as assessing potential synergies and conflicts with existing industries—could help the state and its partners prepare for the potential large economic opportunity stemming from offshore wind. The state and its partners will also need to work toward developing the manufacturing and supply chain capabilities that can help provide the enabling conditions for starting and expanding a viable offshore wind industry.
- **Support piloting and growth of renewable marine hydrogen options.** There is a large potential to use hydrogen as an alternative fuel source in maritime vessels. Additionally, with the potential for offshore wind platforms, there are existing examples internationally of integrating hydrogen production, storage, and offloading into the same platforms used for offshore wind. New offshore marine hydrogen platform siting could also take place well outside of fishing grounds, thus maximizing synergies with the fishing industry. There are some short-term renewable hydrogen projects that the state and its partners could invest in, though the scale of investment will depend upon the desired application of hydrogen as a fuel source (e.g., ship engines, car charging off grid, or supplemental emergency power). Hydrogen could also present additional benefits in providing an alternative fuel source for the coast in the event of electric grid failure and power outages.
- **Explore and support options for vessel and port electrification.** Given the growing desire for electric transport and clean fuel alternatives, there is a large potential for expanding a workforce skilled in the support services needed for electric vessels and associated port

infrastructure (e.g., cranes, nonroad vehicles, trucks). Regarding vessel electrification, some companies, such as Photon Marine, have already begun to develop innovative solutions like electric motors. Additionally, in Washington State, Maritime Blue is collaborating with industry partners to develop an electric passenger ferry. Investing in electric vessel technology and port electrification could help pave the way toward decarbonized options for maritime vessels and port services in the future.

Diversity, Equity, and Inclusion in Oregon's Blue Economy

There is a lack of overall data and standards in demographic information available for the industries within the blue economy sector as a whole. Thus, most of the following themes highlighted below in relation to diversity, equity, and inclusion (DEI) are drawn from qualitative data and perceptions from the interviews and surveys:

- Oregon's overall blue economy sector, especially the fishing subsector, is heavily skewed toward a white, male, and aging population. Oregon's maritime subsector has a graying workforce, with 27 percent of jobs held by workers aged 55 and older (Oregon Innovation Hub, n.d.).
- The seafood processing industry is less white and has more people of color, many of whom are employed as seasonal workers. There are more women in seafood processing than in wild capture fishing.
- There are more women in the nonprofit, education, and outreach subsectors compared to some of the more trade-based parts of the blue economy, though the population is still mostly white. Over the past decade and according to interview responses, there has been an increase in women in higher-level roles and positions in various subsectors of the blue economy (e.g., managing ports, chief financial officer, executive directors).
- Traditionally, the tourism and hospitality sector tends to be more diverse with regards to gender, race, and ethnicity than other areas of the blue economy.

Recommended Strategies for DEI in Oregon's Blue Economy

Based on responses from interviews and surveys, some recommended strategies for outreach to and increased engagement and representation of underserved communities and populations in Oregon's blue economy, as well as promoting equal opportunities for all groups, include:

- **Start collecting consistent data related to DEI.** Collect data related to DEI in a consistent manner across different projects and initiatives, especially baseline data on demographics, wages, and salaries, in order to track progress of DEI efforts. See the State of Oregon's DEI Action Plan (2021) for more information on disaggregating data as a lever for change.

- **Work with communities and community-based organizations to identify strategies and build partnerships.** Ensure strategies are developed by and for local communities. Work closely with community-based organizations and other nonprofits (see box to right) skilled in community engagement and equity. Ensure coordination and collaboration with tribes and local/overburdened communities. Partner with community colleges that are helping diversify the workforce.
- **Target outreach.** In collaboration with community-based organizations and local communities, develop outreach strategies to target marketing related to blue economy opportunities (e.g., blue technology, electrification, marine transportation) to diverse audiences, especially those in high schools and community colleges. Create messaging around promoting the blue economy sector and the cultural value of subsectors as a viable career and job option for young adult populations. Work with tribes to develop better strategies to engage tribal communities.
- **Develop trainings and programs.** Develop workforce training or apprentice programs for local/overburdened communities focused on the blue economy, including through community colleges. Prioritize science, technology, engineering, and math (STEM) programs in rural and tribal communities and partner with organizations and programs like Oregon Pathways to Industrial Research Careers, Oregon Coast STEM Hub, Oregon Mesa, and Oregon Sea Grant. Ensure programs are led by diverse members of the community. Aim for a more equal gender split to help generate a more diverse workforce.
- **Develop incentives.** Offer incentives such as childcare, transportation, and affordable housing to help build a diverse workforce. Develop technical assistance programs to remove barriers and help people enter the workforce (e.g., by filling out forms, permits, or applications). For example, the Alaska Fishermen's Network has a list of resources related to COVID-19 impacts, financing, and job search processes.
- **Expand hiring practices.** Ensure transparent and inclusive hiring practices. Develop pathways for advancing within industries. See the State of Oregon's DEI Action Plan (2021) for more information on diversifying the workforce and creating an inclusive workplace.

Example Organizations to Help Strengthen DEI in Oregon's Blue Economy Sector

- Adelante Mujeres
- Centro de Ayuda
- Columbia River Chapter of the Society of Women Engineers
- Consejo Hispano
- Hunters of Color
- Intersectional Environmentalism
- Maritime Blue
- Newport Fishermen's Wives
- Northwest Maritime Center
- NW Works
- Oregon Albacore Commission
- Oregon Dungeness Crab Commission
- Oregon Native American Chamber
- Oregon Salmon Commission
- Oregon Tradeswomen
- Oregon Trawl Commission
- OSU Extension Service
- Rogue Climate
- Sea Potential
- West Coast Seafood Processors Association

Importance of Considering Tribal Perspectives

As blue economy efforts move forward in Oregon, it will be necessary to engage tribes in a meaningful manner and consider tribal perspectives in all efforts. The state should consider establishing a more formalized consultation and engagement process (e.g., government-to-government consultation, tribal-to-local government consultation, inclusive engagement) with federally recognized and non-federally recognized tribes and tribal entities to coordinate with tribal communities on blue economy opportunities. Issues related to the blue economy can impact both cultural and natural resources that tribes depend on and value. It will be critical for the state and its partners to understand these perspectives when assessing future potential opportunities and efforts and work with tribes to jointly create solutions and implement actions.

Recommendations and Actions

Oregon's ocean, coast, and estuaries are ecologically rich, and the continued health and vitality of these ecosystems is critical to a viable blue economy. The Oregon coast also boasts a wealth of world-class research and educational institutions and existing blue economy businesses, and coastal communities pride themselves on their culture of resource stewardship. Nationally and internationally, federal and state governments have begun to place an increased focus on promoting and supporting opportunities that foster sustainable use of ocean resources and provide economic opportunities that promote ecosystem protection. Oregon is poised to capitalize on these opportunities and expand and strengthen its blue economy. In doing so, it will be critical for Oregon to consider how to balance its rich ecological diversity and value with economic development, identify blue economy solutions that align with community needs, and promote ecological, community, and economic resilience. The state and its partners will also need to look for project opportunities with potential co-benefits for the blue economy, local communities, and the environment—such as restoration projects that could mitigate coastal hazards and climate impacts, improve living resources, and create additional recreation opportunities. The existing and emerging opportunities highlighted in this report represent specific areas where the state and its partners could consider investments in the short, mid, and long term. In addition to these opportunities, overarching actions Oregon could take to strengthen its blue economy include:

- **Conduct additional analyses to better understand blue economy opportunities.** Currently, the true economic value of Oregon's blue economy is unknown due to inconsistent reporting on ocean-related industries and the various industries they depend on. There are many analyses the state and its partners could conduct to better understand and illustrate the value of the blue economy. Examples include conducting economic valuations of industries not reported on in ENOW (e.g., emerging blue technology, coastal restoration), conducting an economic opportunities assessment to understand the potential future value of the state's blue economy, and compiling demographic and enrollment data for marine-focused training and education programs in Oregon. See Appendix G of the full report for more details regarding additional types of analyses and data compilation that could help advance understanding of Oregon's blue economy.
- **Consider and support conditions needed to sustain subsectors within the blue economy.** Both existing and emerging industries that constitute Oregon's blue economy require more than financial investment to be viable. As the state and its partners consider which opportunities it will pursue and invest in, they should also consider factors that are necessary to sustain these industries, such as capacity and infrastructure (see box to right).
- **Consider opportunities for advancing DEI in the blue economy.** While the diversity of some industries within the blue economy has improved in recent years, diversity and equity still need to be strengthened within the sector. Oregon and its partners should consider how to implement and build upon

Conditions to Sustain Oregon's Blue Economy Industries

There are internal and external conditions, identified through the survey and interviews, needed for sectors within Oregon's blue economy to sustain itself, including:

- **Fiscal capacity** (e.g., financial resources available).
- **Human capacity** (e.g., skilled workers, technical capacity).
- **Infrastructure** (e.g., access and upgrades to necessary infrastructure).
- **Regulations** (e.g., improved policies that are conducive to business, streamlined permitting, existing regulations that will need to be considered in project development).
- **Real estate** (e.g., access to land, facility locations, site readiness).
- **Coordination and partnerships** (e.g., community involvement in restoration efforts and strategic planning, collaboration with other states).

the strategies highlighted above in the section on DEI in Oregon's Blue Economy to create a more inclusive, diverse, and equitable blue economy sector.

- **Continue to raise awareness of the blue economy and its value.** The blue economy landscape within Oregon, nationally, and internationally is evolving. Successfully growing Oregon's blue economy will require government, industry, local communities, and others to understand the full range of possibilities of the blue economy. Raising awareness of the value of the blue economy among decision-makers and within the governor's office, for instance, could help Oregon focus its investments and better position itself to target federal funding opportunities. Helping local consumers and tourists recognize the benefits of Oregon's blue economy businesses—while also working to understand and identify community needs—could increase demand for some blue economy products (e.g., sustainable Oregon seafood) and increase revenue.
- **Identify opportunities for partnerships internally and externally.** Within Oregon, given the existing landscape of businesses, academic institutions, government agencies, and tribal governments working toward a variety of blue economy efforts, there are many opportunities to encourage partnerships and leverage efforts of individual entities. The state and its partners could consider identifying mechanisms within Oregon to promote internal collaboration, knowledge sharing, and collaborative enterprise development (e.g., through investing in an inter-agency taskforce). Additionally, beyond Oregon, there are many opportunities to partner with other West Coast neighbors. Alaska, Washington, and California have all formed blue economy efforts within their states—whether at the more local level (e.g., the Port of San Diego's Blue Economy Incubator) or statewide (such as Washington's Maritime Blue and the Alaska Ocean Cluster). Partnering with other states on specific blue economy industries or the entire sector could help build upon Oregon's unique strengths, attract additional investment, and promote distribution of blue economy products within and beyond Oregon.

  > *"If there were more of a focus [on the blue economy], it would allow [Oregon] to have more of a pipeline of money… [Oregon needs to] create a pathway to legitimize some of the things that are already happening and focus more resources on them." – Interview respondent*

- **Identify strategies to protect cultural and natural resources.** Oregon's cultural and natural resources are essential to the viability of its blue economy. The condition of these resources will impact blue economy businesses, and business development has the potential for negative environmental impacts that could harm natural and cultural resources. As Oregon moves forward with blue economy development, it should assess how to balance economic growth with environmental protection and consider strategies to support community, economic, and ecological resilience. The state and its partners will also need to consider how growth of the blue economy relates to state priorities on ecological protection, such as marine reserves, fisheries management actions, endangered and threatened species protection, and more.

- **Leverage existing resources and industries.** There are many opportunities over the coming decade for blue economy-related industries that are likely to grow and become more viable, such as offshore wind production, renewable marine hydrogen, and electric vessels. These new blue economy technologies may be ripe for investment in the future (and may have considerable public and private investment). However, it will also be critical for Oregon to continue leveraging and strengthening existing resources and industries that have formed the mainstay of the state's blue economy for many decades, such as fishing, tourism, maritime construction, and more. As highlighted within the opportunities presented above, there are many ways to strengthen and expand the profitability of these industries. Oregon and its partners should continue to work with existing industries to identify mechanisms to strengthen and support their growth and expansion.

> *"[Oregon needs to] assess coastal resilience. Resilience takes on a number of forms, but [we need] strategies that focus on long term resilience of a community—what industries can we support, what's been here, what will be here in 100 years, how can we make this community thrive through the future with all of the changes that will be coming?" – Interview respondent*

Industry Pillar Recommendations

In addition to these overarching actions, Oregon and its partners could also consider the recommendations outlined below for each of the seven industry pillars.

Workforce and Training

Oregon has a strong network of research institutions and community colleges that are working extensively on research, education, and training programs related to marine and ocean resources and the blue economy. Most opportunities highlighted in this report showcase existing programs and recommend expanding on their successes. Beyond Oregon, there are also trainings and curriculum from programs in other states on key topics such as mariculture, aquaculture, fisheries technology, and more. The state and its partners should consider how to best make use of existing programs within and beyond Oregon, as well as the key needs throughout various blue economy industries in relation to workforce and training. Evaluating existing workforce and training strengths, needs, and gaps will help Oregon direct future investments as strategically and effectively as possible and avoid duplicating existing programs.

Research, Innovation, and Demonstration

There are many areas of growth within the blue economy, particularly in developing and piloting new products and technologies that could offer sustainable replacements for existing products (e.g., renewable marine hydrogen as an alternative fuel). The state and its partners should continue investigating potential new products and technologies as well as the expansion of facilities for existing but growing industries, such as aquaculture. Additionally, to support incubation of new blue technology businesses and entrepreneurs, the state and its partners could consider formalizing, leveraging, and expanding existing blue economy cluster and incubator organizations like the Oregon Innovation Hub. A cluster organization could provide a clear pathway for helping incubate research, development, and scaling of new blue economy businesses.

Market and Trade Development

There are many opportunities to strengthen the existing industries that currently constitute the majority of Oregon's blue economy (e.g., fishing, tourism) through targeted marketing, branding, and new product development (e.g., new value-added seafood products).

Focusing on marketing and expanding existing industries could help target state, domestic, and international markets for Oregon products. Additionally, the state and its partners could continue to track and identify opportunities to invest in (when ready) emerging industries that Oregon is uniquely situated to contribute to, such as offshore wind energy.

Community Infrastructure and/or Site Development

Strong and resilient infrastructure is a critical enabling condition to support blue economy businesses and industries. Infrastructure investments are critical in helping spur job creation and growth, and there are opportunities for the state to consider infrastructure investments that are sustainable, inclusive, and resilient. Given the age of some infrastructure related to Oregon's blue economy (e.g., ports)—as well as notable gaps in infrastructure, such as the lack of shoreside cold storage facilities—the state and its partners should assess the needs of existing and new infrastructure. Understanding and prioritizing infrastructure investment opportunities across various blue economy industries can help the state guide its blue economy infrastructure spending in the short, mid, and long term.

Operational Improvements and Capital Access

For businesses and industries within the state's blue economy, Oregon has a critical role to play in helping attract capital to support business scaling and expansion, thus increasing the profitability of the blue economy sector. The state and its partners should consider how they can attract increased public and private investment in the state's blue economy, as well as how they can help distribute funds to potential businesses and entrepreneurs. Additionally, Oregon should consider the steps it can take (as outlined throughout this report) to strengthen collection of baseline and ongoing data for the blue economy sector and better demonstrate the true economic value of the sector within and beyond the state. The state and its partners could also consider investigating potential barriers to investment (e.g., policies and regulations, lack of infrastructure) and determining policy and programmatic solutions to help remove these barriers.

Social and Economic Equity

Although an increasing number of women have been entering blue economy businesses across various industries, Oregon's blue economy workforce currently is still largely male. Additionally, the blue economy workforce is overwhelmingly white. As the state seeks to increase diversity, equity, and inclusion within the blue economy sector, it will need to carefully consider potential strategies to address challenges such as low wages, disparate employee benefits, and inequitable treatment within the workforce. The state and its partners could consider the following actions: 1) collecting consistent data related to DEI, especially baseline data, to track progress of DEI efforts; 2) establishing and supporting workforce development programs (both state and federal) that provide job exposure and training to a diversity of participants; and 3) providing equal opportunities for funding small-scale, local, and minority- and women-owned businesses. Additionally, Oregon could work to engage coastal communities in identifying and prioritizing what they need in order to strengthen local opportunities within the blue economy.

Supplier Networks

Both existing and emerging industries within Oregon's blue economy are growing. Manufacturers that produce specific supplies needed for industries (e.g., cables and floating platforms for offshore wind energy projects, fish processing equipment, ship parts) will be critical for helping scale industry growth. Oregon and its partners will need to consider mechanisms for recruiting suppliers and related services, particularly if they want to maximize the number of blue economy–related benefits that can be brought to and stay within Oregon. The state will need to identify critical supply chain needs and opportunities, with a focus on the parts of the

coast with current or increasing clusters of industry assets. In thinking about supplier networks, Oregon and its partners could consider strategies for ensuring supply and distribution of critical blue economy products (e.g., local seafood) within Oregon to help capture more of the value and benefits of the blue economy locally.

Afterword from the Blue Economy Steering Committee

The following is an afterword from the industry advisory committee that helped guide the consultant's work in preparing this report. The afterword does not necessarily reflect the views of Business Oregon or the contracted consultant that authored the industry analysis. Business Oregon would like to thank the committee members for the extensive time spent in contributing to the production of this report produced at the request of the state legislature.

The Oregon Emerging Industries Market Analysis - Ocean Resources and Blue Economy Consolidated Report represents a key first step in informing Oregon's State Legislature and the Governor's Office about the current state of Oregon's Blue Economy and potential (though not an exhaustive list of) growth opportunities for the sector in the near future.

The undersigned have served as the Steering Committee (a subset of the larger Advisory Committee) to help guide and focus the work undertaken by the Eastern Research Group, Inc. though a contract with Business Oregon, funded as part of a five-sector Emerging Industries Market Analysis directed by the Legislature.

The need for this study became clear as coastal partners came together during the pandemic to draft a Phase One application to the U.S. Economic Development Administration's (EDA) Build Back Better Regional Challenge funding program. During this work, several key points relating to Oregon's Blue Economy Sector became evident:

- Oregon's work in this sector is decades behind ongoing work to develop the blue economy in Washington and California.
- Due to the rural nature of Oregon's coast, many coastal partners are not connected with each other. Coast-wide awareness of Blue Economy work already underway is surprisingly limited.
- Oregon's Legislature, the Governor's Office and state economists have limited awareness of this sector's contribution to Oregon's GDP and its importance to the coastal rural communities.
- There is not a statewide consensus as to what the term "Blue Economy" means in Oregon.
- Existing industry and job classifications do not adequately capture the unique nature of "Blue Sector" work currently being done, and thereby obfuscate the impact of this multifaceted economic sector.
- Foundational work needs to be done now, across multiple organizations and partnerships, to better prepare this sector for current and future growth opportunities.

Oregon's Blue Economy is more than the Maritime sector. Our Blue Economy encompasses all economic activities, innovations and emerging markets that depend on the ocean, shoreline, and estuaries directly along the Oregon coast. The Blue Economy also includes activities that are geographically and economically linked to ocean, coastal, and estuarine businesses, and industries — such as transport of goods, entrepreneurship and advanced manufacturing occurring in interconnected riverine systems and ports. Looking at industries directly operating within the Blue Economy, or clusters that support those efforts, we absolutely see a statewide impact that that ripples out from coastal economic activity.

Industries within Oregon's Blue Economy — such as aquaculture, energy, fishing, food production and processing, research and development, marine transportation, and tourism - all emphasize ocean stewardship and diverse economic benefits to coastal communities.

The State of Oregon has not formally adopted the Blue Economy as an economic sector. This has led to underinvestment, and as a result, Oregon lags behind neighbors California and Washington, generating just $2.5 billion in annual GDP versus Washington's $14 billion and California's $45 billion — despite significant coastal assets.

Federal Funding for R&D per capita in Oregon is behind WA and CA and ranks 22/50 overall.

- Only 3% of the State's accelerators and incubators are located on the coast.
- Of the Small Business Innovation Research and Small Business Tech Transfer grants made in Oregon in 2016/2017, only 1/142 grants were made to the coast, totaling just $650k/$61M invested.
- Between 2014-2017, the Coastal region received .003% of total equity investments in Oregon.

Oregon's coastal workforce is struggling and is currently unprepared to take advantage of current and projected higher-paying Blue Economy jobs.

- Private industry struggles to find qualified, local workers from basic deckhands to high-tech sectors.
- Oregon's maritime sector (a sub-sector of the Blue Economy) has a graying workforce, with 27% of jobs held by workers over the age of 55.
- The maritime sector workforce is expected to expand 5% (approximately 400 jobs) by 2027, per Oregon Employment Department projections. Additionally, it is projected that 16 replacement openings will need to be filled for every 1 new job in the maritime sector workforce (nearly 6,600 replacements) through 2027.
- There are limited training programs currently available to develop our much-needed Blue Economy workforce.
- The Oregon Coast has a lower average income ($24,221) per capita than the state average ($32,812).
- The percentage of coastal families struggling financially ranges from 46-49% (poverty level combined with United Way's ALICE - Asset Limited, Income Constrained, Employed data).

All of this points towards an underutilized and under-supported sector of our statewide economy - one rich in existing assets and opportunity. Intentional support, capitalization and development are vitally needed to grow and sustain the impact of Oregon's Blue Economy as a foundational pillar of our statewide economy.

This Market Analysis is a critical step forward, and we applaud Business Oregon's efforts to see this work to an initial deliverable. It is, however, just a first step. Further analysis is needed to fully capture the current and potential economic impact of the Blue Economy sector in Oregon. This analysis should include detailed current and future workforce needs (to develop needed Blue Career pathways for our future workforce), an analysis of our current innovation support pathways and their efficacy in shepherding Blue Economy innovations and high-growth startups, the scale and scope of current and future markets, the infrastructure needed to support future growth and the investment levels and instruments needed to provide the capital for sector-wide growth.

We hope this Blue Economy Market Analysis does three things: create a baseline understanding and vocabulary of this important economic sector for our elected officials, enhance the awareness of the important contributions of this sector to Oregon's economy and open the door to future funding and technical assistance to grow this vital coastal and water-based sector. We have significant assets and opportunities that are uniquely Oregonian in nature - let's work together to grow Oregon's Blue Economy.

Respectfully,

Paul Schuytema, Executive Director
Economic Development Alliance of Lincoln County

Courtney Flathers, Ports Program Policy Coordinator
Business Oregon

Mark Farley, Strategic Initiatives Manager
Hatfield Marine Science Center

Marcus Hinz, Executive Director
Oregon Coast Visitors Association

Paula Miranda, General Manager
Port of Newport

Yelena Nowak, Executive Director
Oregon Trawl Commission

Melissa Murphy, Industrial Lands Specialist
Business Oregon

Shannon Souza, President
Oregon Coast Energy Alliance Network

MARKET ANALYSIS

ORGANIC AGRICULTURE & PRODUCTS

Highland Economics

www.highlandeconomics.com

About the Consultant

Highland Economics is a woman-owned small business founded in 2013. We specialize in the economics of natural resources and the environment, business planning and feasibility assessment, and the socioeconomic impact of industries, policies, and management actions. We work with non-profits, agricultural interests, tribes, water districts, private companies, and local, state, and federal agencies on a wide range of land, air, water, recreation, agriculture, and habitat issues.

Highland Economics' team of professional economists are based in Portland, Oregon and Missoula, Montana. This study was led by principal and senior economist Travis Greenwalt, who has nearly 20 years of experience analyzing the economics of agricultural production, value-added food processing, and food markets.

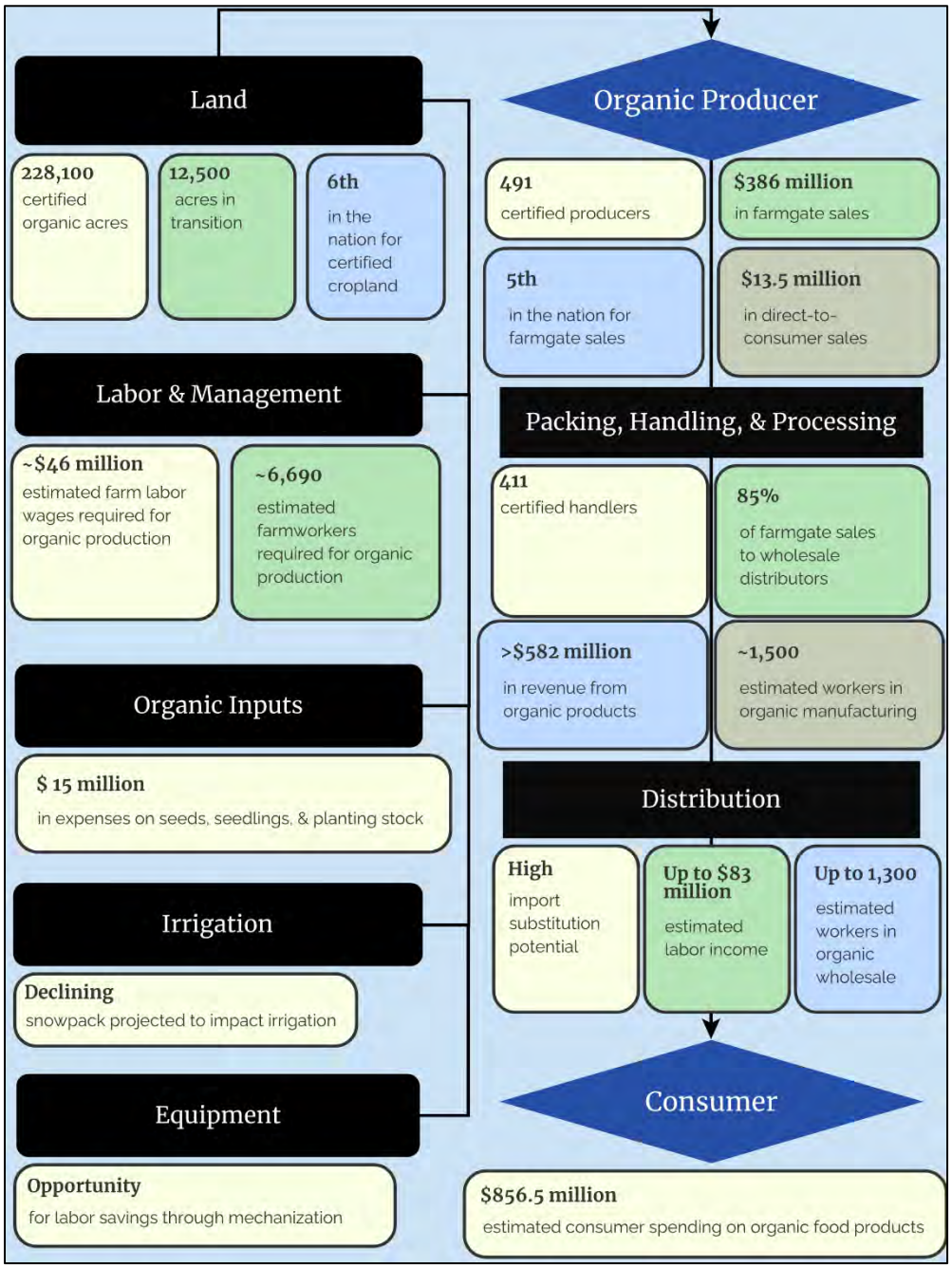
We aim to provide rigorous, even-handed analysis that uses economic insights to transform complex data into clear and actionable information. We often serve as expert witnesses on economic issues, including numerous cases on agricultural economics and demographic analysis for the U.S. Department of Justice.

Overview

The full industry report and summary are available on [Business Oregon's website]

This market assessment documents economic activity in Oregon in the organic agriculture and organic food product sectors, including, all packing, handling, processing, and distribution activities necessary for organic food to reach final consumers. The analysis also estimates economic activity supported by the organic economic sectors. Figure 1.1 below summarizes estimated economic activity through the Oregon organic food value chain.

Figure 1.1 Economic Activity, Organic Ag & Food Value Chains, Oregon



Throughout the report we identify research and innovation needed to alleviate the challenges that present a barrier to entry for organic producers. This report also presents information on opportunities for economic growth in Oregon organic sectors. These opportunities were identified by interviewing key representatives across a broad swath of Oregon's agriculture production, distribution, and processing sectors, as well as industry experts involved in research, regulation, certification, and advocacy of organic agricultural production and products. The key opportunities identified and evaluated in our analysis include:

- **Organic as a Strategy for Rural Economic Development & Prosperity**
  - Regions with high numbers of organic operations had lower poverty rates and higher median household incomes relative to other agricultural production areas.
- **Import Substitution for Organic Production**
  - Data from an organic food distributor indicate that only 10 to 16% of organic food products delivered to Oregon customers are from Oregon farms, suggesting room for growth in several organic food categories across Oregon.
- **Organic Food Manufacturing Opportunity**
  - Organic food manufacturing is growing at a faster rate than general food manufacturing. The state's existing infrastructure for food production and distribution combined with the availability of organic Oregon farm production (i.e., raw agricultural inputs necessary for food manufacturing) create near-term opportunities for growth in this sector.
- **Organic as a Tool in Climate Risk Mitigation**
  - Organic practices create farms and communities that are more resilient to increasingly volatile climate conditions, such as drought.
  - Conversion of agricultural land to certified organic has the potential to reduce GHG emissions, help meet the state's goal of 80% below 1990 levels of GHG emissions by 2050, and to become a carbon sink.
- **Environmental and Social Health Benefits**
  - Public and environmental health costs from agriculture are greatly reduced by organic practices.
  - The production of organic food reduces environmental contamination and the threat to human health from pesticides.
  - Organic food products contain fewer pesticide residues and are often safer to consume than conventional products.
- Our recommendations for expanding the organic industry for the state of Oregon include:Data collection initiatives specific to organic value chains
- Consumer education and branding around organic
- Inclusion of organic in state plans to mitigate risks of climate change
- Protect brassica seed production in the Willamette Valley
- Promote organic as an economic development and social justice initiative

This consolidated report summarizes the full report, "Organic Agriculture & Organic Products Market Analysis" available on Business Oregon's website.

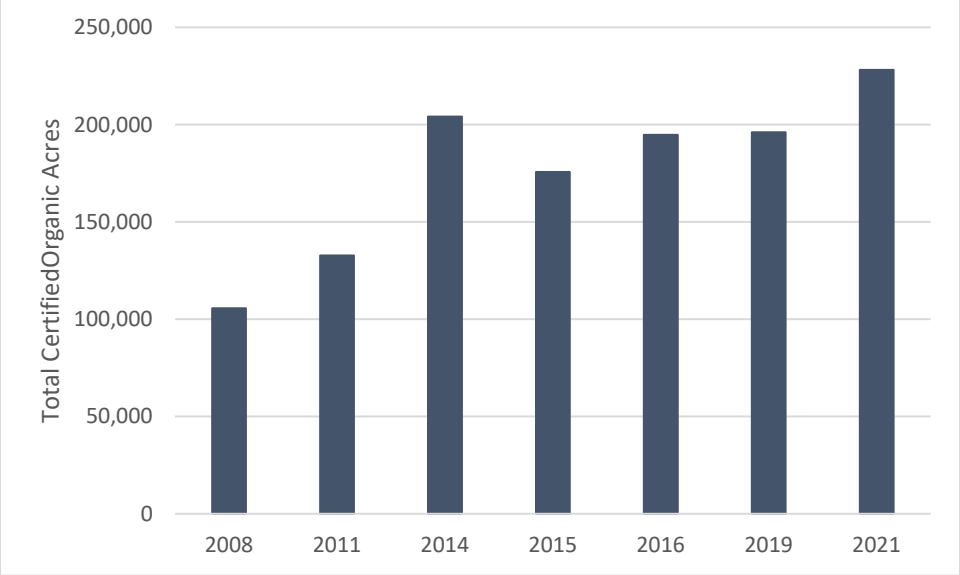
Organic Agriculture Production in Oregon

Organic agriculture produces food grown and processed with little to no synthetic fertilizers or pesticides (Environmental Protection Agency, 2023), meant to utilize holistic agronomic management practices to enhance natural resources, build soil health, and conserve biodiversity. Oregon was the first state to pass legislation regulating organic food in 1973 and has since been a leader in the organic movement.

Following the growth in state organic regulations pioneered by Oregon, the Organic Food Production Act of 1990 (OFPA) led to the establishment of Title 7 Code of Federal Regulations Part 205, the USDA Organic Regulations, by the National Organic Program (NOP). These regulations provide the framework for what agricultural products can be sold and labeled as organic in the United States and consist of practice standards that are inherently beneficial to agro-ecosystems. In certified organic operations, the use of sewage sludge, irradiation, genetic engineering, and the majority of synthetic inputs (fertilizers, pesticides, herbicides, etc.) are prohibited.

Figure 1-1 below shows the number of certified organic acres in Oregon have more than doubled over the last 15 years; from 105,600 acres in 2008 to over 228,000 acres in 2021. Organic cropland comprises about 61 percent of the total (140,300 acres), while the remaining 29 percent is pastureland and rangeland (National Agricultural Statistics Service, 2022).

Figure 1-1: Total Certified Organic Acres in Oregon by Year



Source: (National Agricultural Statistics Service, 2022)

For land to be certified organic, there is a three-year transition period during which no prohibited substances can be applied to the land. The amount of land in transition provides a useful indicator of the short-term growth of organic production. This metric shows continued growth: in 2021, Oregon had 12,503 acres in transition, which equates to 5 percent of the total organic acreage in that year (National Agricultural Statistics Service, 2022).

Oregon is a national leader in organic agriculture. For at least the last 15 years, Oregon has been in the top five states for total farmgate[82] value of organic agricultural products, as illustrated in Table 1-1

[82] THE TERM 'FARMGATE' REFERS TO SALES AT THE FARM LEVEL.

below. Oregon's total sales of organic agricultural products totaled $386 million in 2021, and peaked at $454 million in 2019.

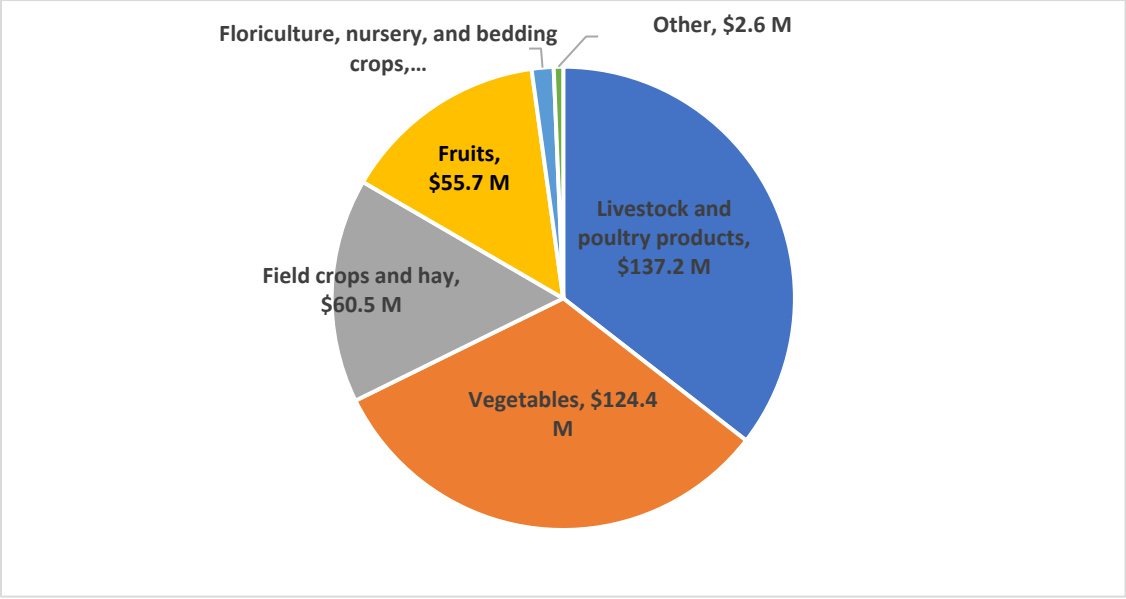
Table 1-1: Top 5 States for Total Organic Agricultural Product Sales, Farmgate

Place	2008	2011	2015	2016	2019	2021
1st	California ($1.14 B)	California ($1.38 B)	California ($2.43 B)	California ($2.88 B)	California ($3.59 B)	California ($3.55 B)
2nd	Washington ($281.97 M)	Washington ($297.1 M)	Washington ($626.45 M)	Pennsylvania ($659.63 M)	Washington ($885.97 M)	Washington ($1.13 B)
3rd	Pennsylvania ($212.74 M)	**Oregon ($233.45 M)**	Pennsylvania ($331.5 M)	Washington ($636.25 M)	Pennsylvania ($741.76 M)	Pennsylvania ($1094.36 M)
4th	**Oregon ($155.61 M)**	Texas ($165.5 M)	**Oregon ($269.46 M)**	**Oregon ($350.9 M)**	**Oregon ($454.41 M)**	Texas ($572.21 M)
5th	Texas ($149.33 M)	Wisconsin ($132.46 M)	Wisconsin ($222.43 M)	Texas ($297.48 M)	Texas ($424.3 M)	**Oregon ($386.25 M)**

Source: (National Agricultural Statistics Service, 2022)

Figure 1-2 below shows the value of Oregon organic agricultural farm sales by crop category in 2021. Livestock and poultry products are the largest category (36 percent of total sales), while organic vegetables[83] follow close behind with roughly one-third of total farm sales. Field crops and hay comprise about 16 percent of total organic sales, with fruit valued just slightly less at 14 percent of total organic farm sales (National Agricultural Statistics Service, 2022).

Figure 1-2: Value of Organic Agricultural Products in Oregon by Category, 2021

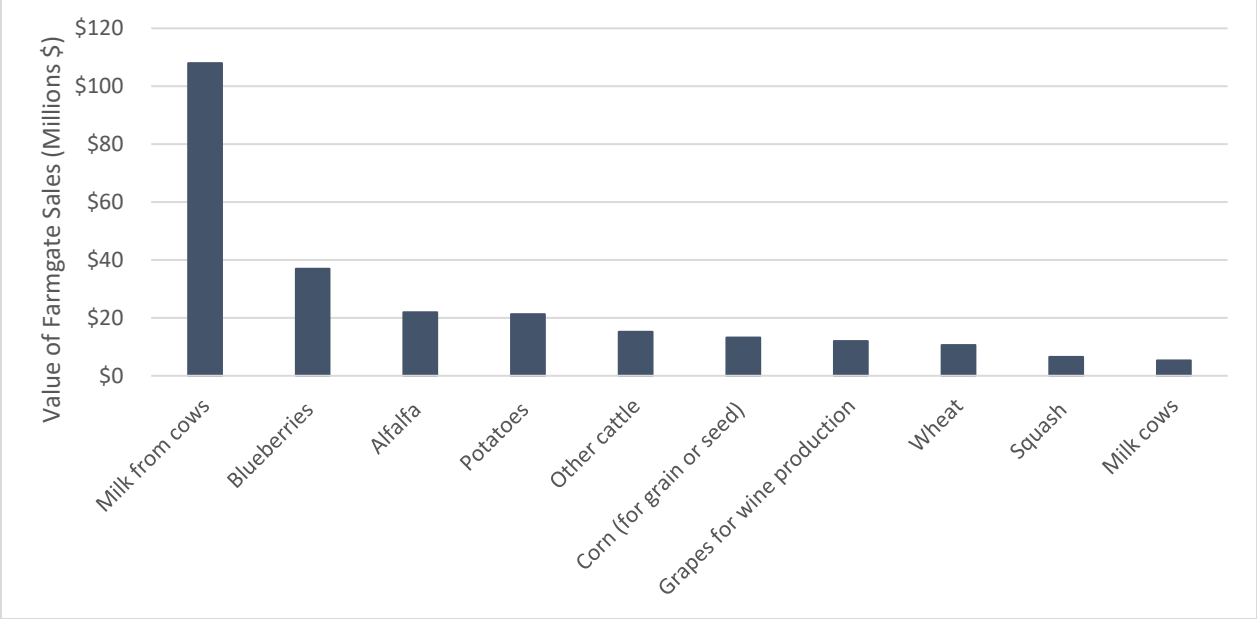


Source: (National Agricultural Statistics Service, 2022)

In terms of individual organic farm products, milk sales are the highest valued in Oregon, totaling about $108 million in 2021. The next highest valued organic farm product is blueberries, valued at $37 million in 2021. Organic alfalfa and potatoes each accounted for around $21 million in farm sales. Figure 1-3 shows the top 10 organic products in Oregon by value of sales at the farmgate in 2021.

Figure 1-3: Top 10 Organic Agricultural Products in Oregon by Farmgate Sales Value, 2021, Millions $

[83] Vegetables include those grown in the open and under protection, and also includes mushrooms.



SOURCE: (National Agricultural Statistics Service, 2022)

The following sub-sections profile key organic agricultural crop categories in Oregon. More in-depth crop profiles are available in the full report, "Organic Agriculture & Organic Products Market Analysis."

Dairy

Current organic dairy market conditions are not favorable for producers. Organic dairy producers are experiencing high costs of production (increasing costs of grain and global inflation), while receiving low prices (an outgrowth of a supply surplus that has shaped the market since 2017). Pasture and feed are critical inputs to organic dairies. Cost of organic dairy feed is typically 40% higher than conventional feed. When you factor in the costs to transition to organic (a three-year period during which dairy producers are paid conventional milk prices but incurring organic feed costs), there is little economic incentive for dairies to transition to organic production at this time. Consequently, some dairy experts are advocating for a subsidy to cover the increased cost of production while dairy farms are transitioning (Askew, 2022).

Field Crops and Hay

Oregon is 3rd in the nation (behind California and Idaho) for organic alfalfa acreage, production, and sales value. This crop has seen strong growth in acreage and sales over the past decade (2011 to 2021). Because organic alfalfa is largely used to feed organic cattle, the growth in organic alfalfa production is driven by the growth in organic cattle inventories (including beef, dairy, and other cattle and calves), which increased by 41 percent in Oregon from 2011 to 2021 (National Agricultural Statistics Service, 2022).

Interviews with representatives from the organic dairy industry suggest there are sizable organic hay exports out of Oregon to international markets, while there is concurrently a significant amount of organic alfalfa imported into the state from Idaho and Montana (Witucki, 2023). This suggests further growth opportunities for alfalfa acreage in Oregon.

Another notable crop in this category is barley. Oregon is the 2nd largest producer of organic barley in the country by quantity and sales value (behind Idaho). Oregon State University is developing varieties of naked barley (barley that lacks a hull) that can be used in a variety of applications including malt (for beer), food, and feed. The US Department of Agriculture's National Institute of

Food and Agriculture, through its Organic Agriculture Research and Extension Initiative (OREI), awarded OSU nearly $2 million (in 2018) to lead this project with other partners (Oregon State University, 2023). Currently, naked barley is available through Hummingbird Wholesalers, and is also used by Great Western Malt (the largest buyer and processor of malting barley in the Pacific Northwest, located in Vancouver, WA) in malting a certified organic malt. As new varieties are released, there will be opportunities (likely with private investment) to market a variety of products made with naked barley. Despite Oregon's status as a leader in organic barley, harvested acreage in the state has declined in recent years (2016 to 2021) from 15,400 to 9,250 acres (National Agricultural Statistics Service, 2022).

Oregon has an opportunity to expand its production of key organic food grains beyond barley, including oats, spring wheat, and corn (Wichers, 2022). Oregon is ranked high in production of oats and spring wheat. Food-grade organic oats are currently experiencing record high market prices, partially due to expanded interest in oat milk as a dairy alternative (Wichers, 2022). Spring and winter wheat are also experiencing high market prices due to weather challenges resulting in poor yields across the nation, partially due to supply chain disruption from the COVID 19 pandemic and the war in Ukraine (Futrell, 2022).

Vegetables

Oregon is a leading producer of organic vegetables. Nationally, Oregon is the 4th largest producer of organic vegetables both in harvested acreage and sales value (behind California, Washington, and Arizona). This sector of organic agriculture is concentrated in relatively few farms. In 2021, Oregon generated about 5 percent of the nation's organic vegetable sales from only 46 farms. Oregon's recent growth in this industry has been mixed; over the period from 2011 to 2021, total *acreage* of organic vegetables grew 17 percent , but the total value fell 8 percent over the same period, with growth particularly declining (by 15 percent) in the last couple of years (National Agricultural Statistics Service, 2022).[84]

One especially strong segment of organic vegetable production in Oregon is "other vegetables and herbs under protection" (such as a greenhouse). In this segment, Oregon is only 2nd to California in terms of both square footage under production and sales value. This has also been an area of strong growth in recent years: From 2016 to 2021, the farms in this segment more than doubled, harvested acreage grew by more than 500 percent, and sales value grew by 900 percent (National Agricultural Statistics Service, 2022). Compared to the Nation as a whole, Oregon has 3.3 to 4.8 times the number of establishments, employees, and wages in this economic sector (Bureau of Labor Statistics, 2021), highlighting Oregon's existing strength in this sector.

Another strong component of organic vegetable production is potatoes. In terms of acreage and quantity produced, Oregon is 3rd in the nation behind California and Washington, and in value is 2nd only to California. There has been steady growth in organic potato production over the last decade (2011 to 2021): acreage increased by 41 percent, quantity by 25 percent, and value by 29 percent (National Agricultural Statistics Service, 2022).

Berries, Tree Fruit and Nut

Oregon is an especially strong producer of organic (non-citrus) fruit. In terms of farms, acreage, and sales value, Oregon is 3rd in the nation (behind California and Washington). This has also been an

[84] THIS DOES NOT TRACK WITH NATIONAL TRENDS, WHERE ACREAGE HAS DOUBLED AND VALUE INCREASED OVER 78% IN THAT TIME PERIOD.

area of strong growth for Oregon. From 2016 to 2021, organic fruit acreage grew 90 percent and sales value grew 74 percent (National Agricultural Statistics Service, 2022). Blueberry production leads Oregon's organic fruit sector, comprising 88 percent of the total sales value. Oregon has the 2nd highest number of organic blueberry acres (behind California) and is 3rd highest for number of blueberry farms, quantity produced, and sales value (behind California and Washington). This crop has seen explosive growth over the last decade (2011 to 2021). Harvested acres grew by more than 600 percent, quantity produced by 1,300 percent, and sales value by more than 500 percent (National Agricultural Statistics Service, 2022).

Supply chains of fresh market blueberries (and other soft fruit berries) is becoming increasingly global to supply the consumer with fresh, organic, berries year-round. In the case of blueberries, the US is a net importer of both fresh and frozen berries, with imports from Peru and Mexico increasing significantly over the past few years. Growers in the Pacific Northwest and Michigan used to benefit from late season premium prices as the US production season drew to a close. However, in recent years imports from Peru have been coming in as early as August and eroding some of the late season pricing. This has led to the creation of the American Blueberry Growers Alliance (formed in 2020) to reduce the economic effects of imports on blueberry producers, through ongoing International Trade Commission (ITC) investigations (Kiel, 2021).

Oregon is the nation's leader in organic hazelnut production, hosting 80 percent of country's total harvested acreage and producing 86 percent of the country's total farm sales value in 2021 (National Agricultural Statistics Service, 2022). However, organic hazelnut acres represent only 0.4 percent of Oregon's total hazelnut acreage in 2021 (61,000 acres). A variety of challenges contribute to low acreage in organic hazelnuts: agronomic challenges in growing organic hazelnuts (hazelnut producers typically rely on a variety of herbicides and fungicides), lack of processing and handling capacity, and price competitiveness internationally (specifically from producers in Turkey). However, the infrastructure is being developed in recent years, as large buyers (such as Cascade Foods and Hazelnut Growers of Oregon) are increasing their purchases of organic hazelnuts and offering high prices to growers (Wiman, 2023; Birkemeier Stehman, Kaser, & White, 2023). As such, transitioning hazelnuts from conventional to organic is a potential growth opportunity for the organic sector in the state. This is evidenced by the fact that buyers both in Oregon and Washington are offering high prices for organic hazelnuts (Birkemeier Stehman, Kaser, & White, 2023; Wiman, 2023). Given the low price of conventional nuts ($0.40 per pound), the much higher price of organic nuts ($1.65 per pound) is likely to attract more organic producers (Wiman, 2023; Birkemeier Stehman, Kaser, & White, 2023).

Key challenges for expanding organic nut, fruit and vegetable production include:

- Additional investment required for scaling up individual operations in order to participate in wholesale markets (which receive a lower per unit price compared to direct-to-consumer markets).
- Lower per unit costs of producers from other regions (indicating the potential importance of product differentiation and branding within this sector).
- Sufficient organic premium (the difference between conventional and organic price points) for acreage to transition to organic.

Grapes for Wine Production

In 2021, Oregon producers sold $12 million in organic grapes for wine production. In 2021 there were 1,480 acres of organic grapes harvested in Oregon, which is down from 2,217 acres reported in 2016 (National Agricultural Statistics Service, 2022).

The Willamette Valley is the significant wine producing region in the state. It has similar climate characteristics to Burgundy, France and specializes in Pinot Noir and Chardonnay. In general, the wine industry patterns itself closely to the Burgundy area. As with the Burgundy area, there are informal connections between producers and information sharing among land managers. A few years ago, several vineyard managers from the Willamette Valley began meeting to discuss how organic production practices could be employed. This small group now goes by the name Oregon Organic Viticulture Technical Group and has over 30 members, including some of the largest vineyards in the region. The group acts as a forum for producers to share information on organic production practices as well as coordinate with Oregon State Extension experts on key questions and areas of concern to focus research.

Unlike other crops, price premiums associated with organic wine do not seem to be a major driving force in the growth of organic production practices. Rather, vineyards are looking to implement these practices for marketing and ecological reasons. From a marketing perspective, wineries recognize that many consumers respond to the narrative of ecological protection, and organic production practices (even if the producer is not necessarily certified) fit well with that narrative. Some vineyard managers are reluctant to get certified, even if they might employ all organic production practices, simply due to the additional paperwork involved in the certification process and lack of any clear financial incentive (Shulz, 2023). This is one area where the implementation of organic practices may be higher than the statistics show, and also demonstrates an opportunity for easing the reporting burden associated with organic certification.[85]

Common Challenges for All Organic Production

This section identifies and evaluates commonalities across production supply chains for diverse organic crops, including land, labor, and key inputs.

Land

Difficulty in acquiring or leasing suitable land is a common constraint to agriculture in general. Uncertainty around land tenure is a unique challenge to organic producers because of the three-year transition to organic and the long-term investments needed for organic production systems in the form of soil health, conservation, and biodiversity. Producers of color often face particularly high barriers to land access, as well as limited capital and funding in the face of rising land prices (Merrigan K. a.-H., 2022).

Several organizations in Oregon are actively working to increase BIPOC access to land and participation in agricultural food systems to increase economic development in underserved communities, such as the Black Food Sovereignty Coalition (BFSC) (Black Food Sovereignty Coalition, 2023). The BFSC took on a swift and instrumental role in combatting the disproportionate health and economic impacts on BIPOC communities in Oregon from the COVID-19 pandemic by implementing workshops and establishing multiple multi-racial, collaborative farms throughout the state (Hill & Gwin, 2020).

Labor

This study of Oregon organic agriculture estimates that approximately **6,690 workers** would be required to fully satisfy labor demand of organic production across the state of Oregon. This is based on an existing methodology for evaluating labor demand in agricultural sectors in Oregon (Rahe,

[85] THIS WOULD NOT BE A STATE OF OREGON RESPONSIBILITY, BUT RATHER AN OPPORTUNITY TO REVISE THE NOP AS DISCUSSED BY (MERRIGAN, GIRAUD, & GREENE, 2021).

2018) and data from a variety of sources (AgriFarming, 2018) (Rush, 2003) (Frank, 2000) (Galinato, Gallardo, & Hong, 2016) (USDA NASS, 2012). Combining this estimate with an assumed average hourly wage of $18/hour indicates approximately $46 million in organic agricultural production labor wages.

Organic production systems are more labor intensive than conventional agriculture due to higher physical labor management and fertility needs (Durham & Mizik, 2021). Weed control is the primary labor component of organic crop production in the form of hand and mechanical weeding, though adequate crop rotations also work to suppress weeds (Mohler & Johnson, 2009).

Organic producers are more greatly impacted by the increasing shortages of labor (and corresponding rise in costs) in the United States (Bampasidou & Salassi, 2019; Lohr, 2010). A survey of Oregon organic producers in 2012 identified finding affordable housing for farmworkers as a constraint[86] (Stephenson G. , Gwin, Powell, & Garrett, 2012). A 2021 survey of farms across Oregon found that nearly 75% of farm respondents in Oregon were impacted by inadequate farm labor during seasonal peaks (Highland Economics, 2021). This lack of labor resulted in revenue loss for approximately half of survey respondents. Dairy, berries, and vegetables were among the sectors that most often reported reduced farm income due to labor shortages, sectors that include three out of four of Oregon's top organic commodities: milk from cows, blueberries, and potatoes.

As labor wage rates have increased over the last decade across the nation, profit margins for crop producers have decreased (US Department of Agriculture, National Agricultural Statistics Service, 2021). Oregon producers' expenses for farm labor have increased by 42% since 1997 (US Census Bureau, 2023). Migrant workers in Oregon accounted for approximately 25% of hired farm labor as of 2017 (US Department of Agriculture, National Agricultural Statistics Service, 2017). Rapidly changing immigration policies can impact the availability of farmworkers in Oregon. According to a report from the Migration Policy Institute, immigration policy will be a determining factor for counteracting the decreasing domestic farm worker supply to help reduce costs and increase availability of important goods and services such as agricultural products (Holzer, 2019).

In March of 2022, the Oregon legislature passed House Bill (HB) 4002, imposing new overtime pay requirements for agricultural workers, along with tax credits for eligible employers to offset wage expenses associated with overtime pay (Schwabe Williamson & Wyatt, 2023). While this is likely to increase labor costs of all agricultural operations in the state, it may disproportionately impact organic farmers because of the reliance on labor. It should also be noted that Washington state and California (two adjacent states with high levels of organic production) also have similar agriculture overtime laws.

Water

Drought is increasingly affecting agricultural production in much of the American West, including Oregon. In Oregon, western regions of the state (coast and Willamette Valley) have historically relied on plentiful rainfall to meet their water needs. The Cascade mountains store wintertime precipitation as snowpacks, which serve as frozen reservoirs which slowly melt and release water throughout the spring and summer. In the Columbia River Basin, snowmelt accounts for about a quarter of the water available for irrigation. As the climate warms, though, that crucial snowpack storage is dwindling, adversely affecting irrigation water supplies in the summer months. Between 1982 and 2017 snow

[86] LOCAL ZONING REGULATIONS ARE NOTED AS A BARRIER TO THE DEVELOPMENT OF ON-FARM HOUSING (STEPHENSON G. , GWIN, POWELL, & GARRETT, 2012).

fell later in the year, melted earlier, and contained less water on all of Oregon's mountains (Williams, 2021).

Bill Jaeger, a professor of applied economics at Oregon State University, who has spent decades studying the state's water issues, projects that by the end of the century, snowpack could decline by as much as 94% (Jaeger, 2017) . Further, crop evapotranspiration rates are projected to increase along with temperatures during the growing season; depending on the region of the State, the 2015 Oregon Water Plan projects an increase of 7% to 14% crop water demand by 2050. These recent trends and future projections in water demand and supply are a significant challenge to agriculture. Several farms, including organic farms, have ceased production or significantly altered production due to these changing water supply conditions. However, as described below, compared to conventional production systems, organic production systems are often more resilient to drought conditions in the long-term.

Inputs (fertility, pest, and disease)
Organic agriculture relies on biological processes to improve fertility and prevent pests, weeds, and disease, whereas conventional agriculture can be more reliant on chemical inputs and controls. While conventional materials that are not allowed in organic systems are often effective, they can contribute to adverse environmental and human health effects (Rodale Institute, 2023), which are explored further below. The availability and cost of organic inputs, as well as fertility, pest, disease and weed management are major obstacles organic producers (Stephenson G. , Gwin, Schreiner, & Brown, 2021).

Opportunity Assessment

Climate Risk Mitigation
Organic systems build and regenerate soil health through methods such as reduced tillage, rotational grazing, crop rotations, cover crops, and other practice standards imposed by the National Organic Program (NOP). These practices have been shown by numerous studies to result in increased soil organic matter, soil stability, carbon sequestration, and water holding capacity in organic systems, and considerably decrease groundwater contamination from nitrates (Ghabbour, et al., 2017) (Mader, et al., 2002) (Noll, et al., 2020) (Williams, Blanco-Canqui, Francis, & Galusha, 2017). Organic agriculture's focus on soil health can increase farm resiliency and productivity compared with conventional production in the face of climate-related challenges such as drought (Rodale Institute, 2022). Increased soil health increases the water-holding capacity of the soil, decreasing irrigation water needs for a given level of plant productivity.

The production of synthetic fertility materials used in conventional agriculture is energy-intensive, contributing to 41% of energy consumption in agriculture (Smith, Williams, & Pearce, 2014). Synthetic nitrogen fertilizers, not allowed in organic crop production, account for 2.4% of global CO_2 emissions (IATP, GRAIN, Greenpeace International, 2021). Nitrous oxide (N_2O) is a byproduct of the application of nitrogen fertilizers to agricultural land, and N_2O emissions are 40% lower in organic production than conventional (Skinner, et al., 2019).

Methane emissions from the production of livestock, particularly cows, is a contributor to agricultural greenhouse gases. Livestock production in concentrated animal feeding operations (CAFOs) produce waste that is often stored in anaerobic conditions, which results in methane, a potent greenhouse gas. Organic livestock production requires pasturing and rotational grazing and land application of manure, thus drastically reducing methane emissions (National Sustainable Agriculture Coalition,

2019). Organic forage requirements for livestock can also contribute up to a 30% reduction in the digestive process (enteric fermentation) that produces methane (National Sustainable Agriculture Coalition, 2019).

Organic agriculture cultivation practices often result in higher soil carbon sequestration. Organic practices can increase soil organic matter by 15% relative to conventional systems, and stable soil organic matter comprised mostly of carbon can remain in soils for centuries (Ghabbour, et al., 2017) (Stevenson, 1994). While carbon sequestration capacity is finite in agricultural storage, conservation tillage preserves the stored carbon in organic systems. Practices such as cover cropping also often minimize the exposure of bare soils to the elements, thereby increasing soil water retention and carbon holding capacity (Wszelaki & Broughton, 2022). One broad evaluation of carbon sequestration found that organic systems have the potential for 44% more stable sequestered carbon than conventional systems (Ghabbour, et al., 2017). Another study (De Gryze et al, 2010) found that switching from conventional to organic farming has the greatest potential for increased carbon sequestration relative to conservation tillage or cover cropping alone.

According to the Oregon Department of Environmental Quality, agricultural in Oregon represents 8 to 9% of statewide greenhouse gas emissions, equating to roughly 5 to 7 million metric tons of CO_2 equivalent ($MTCO_2e$) annually from 1990-2015 (Oregon DEQ, 2018). Approximately 57% of agricultural emissions in 2015 were a result of methane emissions from cows, and 38% were from the application of synthetic nitrogen fertilizers. Conversion of agricultural land to certified organic has the potential to reduce GHG emissions, help meet the state's goal of 80% below 1990 levels of GHG emissions by 2050 (Oregon Department of Energy, 2023), and to become a carbon sink (CCOF Foundation, 2019).

Economic Development

Data from the 2017 US Census of Agriculture indicate that more than half of US farm operations lose money each year (56%); this figure is even higher for all farm operations in Oregon (69%) (USDA, 2017). Many farmers rely on second jobs as a primary source of income. These operators are typically small and midsize farmers who likely find it difficult to access public and private capital, land, equipment, insurance and markets while meeting the basic needs of their families (Semuels, 2019) (Inwood, 2021). Farms are vulnerable to seasonal yield variability, price fluctuations, and increasing consolidation of agricultural enterprises. All of these factors hinder the independent and small-scale farmer in competing in the marketplace.

Research indicates that certified organic farms are more profitable than their non-organic counterparts (Crowder, 2014) (Langemeier, 2020) (Greene, 2017). Between 2012 and 2017, organic farm income doubled while the income of all US farms remained flat (Merrigan, et al., 2022). In addition to farm income, organic producers tend to use direct to consumer marketing channels more than conventional farms, which is associated with higher local marketing employment and local sourcing of production supplies (Martinez, et al., 2010; USDA ERS, 2023).

In collaboration with the Organic Trade Association, Penn State developed a report in 2016 describing the economic impacts of "organic hotspots", defined as clusters of counties with high numbers of organic operations (Jaenicke, 2016). Locations considered to be organic hotspots by this report were found to have poverty rates 1.3% lower and median household incomes $2,000 higher relative to general agricultural hotspots, including 47% of counties in Oregon (Jaenicke, 2016).

It is important to differentiate local agriculture from organic agriculture in the context of economic impact and consumer preference. Supporting farms and other food producers within a consumer's

community provides the benefit of knowing the source of food, and several studies have shown it can increase the consumer's community attachment and sense of place (Delind, 2006; Feagan, 2007; Shifren, Lawry, & Bhappu, 2017). A consumer may prefer a local farm regardless of its organic status. However, certified organic operations benefit from their ability to relay to the consumer key features of their practices and product through the organic label.

Organic food is sold at a higher premium compared with conventional alternatives. While higher prices are attractive to producers, they may be a deterrent to the consumer (Bellows, Onyango, Diamond, & Hallman, 2008; Federal Reserve Bank of St. Louis, 2017; Jaenicke, 2016; Merrigan, et al., 2022). A survey by the Pew Research Center found that cost is a determining factor for 72% of consumers deciding whether to purchase organic products (Funk & Kennedy, 2016). Despite the influential role cost plays in organic purchasing decisions, consumers have consistently demonstrated their willingness to pay more for organic products for environmental, health, and economic reasons (Bellows, Onyango, Diamond, & Hallman, 2008; Gundala & Singh, 2021; Funk & Kennedy, 2016; Williams & Hammitt, 2002).

Public Health

Adverse effects to human health from conventional agriculture practices can stem from the exposure of both farmers and consumers to conventional pesticide residues (Benbrook, Kegley, & Baker, 2021; Merrigan K. , et al., 2022; Misiewicz & Shade, 2018). Conventional food products consistently contain three to five times as many pesticide residues as organic products (Baker, Benbrook, Groth III, & Lutz Benbrook, 2002; Gomez-Ramos, et al., 2020). An analysis of 61 studies published between 1980 and 2014 estimated that the total cost to human health from exposure to synthetic pesticides could have been as high as $15 billion in the United States in 2005 (Bourguet & Guillemand, 2016). Organic agriculture's minimal use of less toxic pest and disease control materials reduces the economic burden of pesticides on public health. Very few herbicides are approved for organic use beyond general farmstead maintenance (outside of the field) and within ornamental crops (Curran, 2005). As a result, organic agriculture eliminates the use of harmful chemical weed control materials, such as glyphosate, that are used in conventional agriculture.

Research & Innovation

Select chemical pest control materials are approved by the NOP and allowed in organic production. However, preventative practices must be implemented and shown to be insufficient for control prior to their use. Preventative methods include the selection of resistant varieties, encouragement of beneficial insects, and cultural disease prevention (spaced plantings, removing diseased materials, etc.), the combination of which can result in overall improved pest control relative to conventional approaches (Muneret, et al., 2018). While preventative methods can be quite successful, respondents to a survey in Oregon in 2012 identified the need for more research on organic control methods to better manage pests and diseases in organic systems (Stephenson G. , Gwin, Powell, & Garrett, 2012). Specifically, studies are needed to evaluate the efficacy of biological and cultural control methods to manage for key pests such as slugs, mummy berry, spotted wing drosophila, voles, and gophers. More than 70% of respondents in a 2021 survey indicated pest or disease management as an obstacle to organic farming (Stephenson G. , Gwin, Schreiner, & Brown, 2021).

Technological advancements in the agricultural industry are increasing productivity globally, and innovations in this sector can alleviate some of the labor constraints associated with organic crop production (Fuglie & Rada, 2013). Weed control technology presents the biggest advantage to organic producers, and advanced machinery such as laser weeders could significantly improve organic production efficiency (Carbon Robotics, 2023). However, is the challenge to reaping the benefits of these developments in mechanization is that economies of scale are necessary for farms

to be able to afford expensive equipment such as GPS-guided machinery and automated irrigation systems (Sorte, Reimer, & Jones, 2021).

Organic Food Market Assessment

This section explores the value of the total organic food market in Oregon, including a discussion of key drivers of market demand and key market channels of organic food. The section also describes the entire value-added food chain, from farm to processing/distribution to consumer. Specific opportunities associated with handling, distribution, and manufacturing of organic food are explored.

Consumer Spending

The Bureau of Labor Statistics (BLS) tracks data on food consumption at home and away from home. This consumer expenditure data is collected for select states, select metropolitan statistical areas (MSAs), and regional geographies. Food expenditures in Oregon by product type are presented in the table below, both at the household level and in total across the state[87]. Further estimates are included for *visitor* spending on food in Oregon.

As indicated in the following table, Oregon residents spent over $12 billion on food in 2022. In addition, the state received 27.3 million visitors (person trips) who spent $1.5 billion on food stores and food services across the state (Travel Oregon, 2022). In total, we estimate that consumer expenditures on food in Oregon approached $13.6 billion across the state in 2022 in both grocery retail sectors and food service sectors.

Table 1-2: Food Expenditures in Oregon, 2022

[87] STATE LEVEL EXPENDITURES ARE ESTIMATED BASED ON AVERAGE HOUSEHOLD SPENDING AND AN ESTIMATED 1.837 MILLION HOUSEHOLDS IN THE STATE (US CENSUS BUREAU, 2023).

	AVERAGE ANNUAL SPENDING / HOUSEHOLD	TOTAL MARKET SIZE (OREGON)
FOOD EXPENDITURES FOR AT HOME CONSUMPTION:		
CEREAL AND BAKERY	$692	$1,271,260,000
MEAT, POULTRY, FISH AND EGG	$1,207	$2,217,350,000
DAIRY PRODUCTS	$550	$1,010,390,000
FRUITS AND VEGETABLES	$1,149	$2,110,800,000
OTHER	$2,075	$3,811,940,000
SUBTOTAL AT HOME	**$5,673**	$10,421,750,000
FOOD EXPENDITURES FOR CONSUMPTION AWAY FROM HOME: *	$905	$1,662,190,000
TOTAL FOOD EXPENDITURES OF OREGON RESIDENTS:	**$6,578**	**$12,083,940,000**
FOOD EXPENDITURES OF VISITOR SPENDING IN OREGON:		
SPENDING AT FOOD STORES		$791,200,000
SPENDING ON FOOD SERVICE*		$720,000,000
TOTAL FOOD EXPENDITURES OF VISITORS:		**$1,511,200,000**
TOTAL FOOD EXPENDITURES		**$13,595,140,000**

Sources: (US Census Bureau, 2023) (Bureau of Labor Statistics, 2023) (Travel Oregon, 2022)
*This considers only 30% of total spending reported, to account for the food spending as a percentage of food service sales (Buckley, 2019)

Based on its annual survey and other data sources, Organic Trade Association (OTA) estimates the value of organic sectors across the United States. The most recent survey indicated 6.3% of total food expenditures across the United States are for organic foods (Organic Trade Association, 2022). No data is available at the state level, but if the proportion of spending on organic food in Oregon is comparable to the national average, then **nearly $856.5 million was spent on organic food** ($13.6 billion x 6.3%) **across the state in 2022**.

Total organic food sales by category are estimated in the table below, by taking the percentage of total organic spending for specific categories in the OTA survey at the national level and applying it to the total consumer expenditure estimate from above.

Table 0-3: Food Expenditures in Oregon by Organic Category, 2022

Food Category	% by category	Consumer Spending on Organic
Fruit & Veg	37.1%	$317,761,500
Bev	14.3%	$122,479,500
Dairy & Egg	12.8%	$109,632,000
Packaged & Prepared	11.9%	$101,923,500
Breads & Grains	10.9%	$93,358,500
Snack Foods	5.9%	$50,533,500
Condiments	4.0%	$34,260,000
Meat, Poultry & Fish	3.2%	$27,408,000
TOTAL	**100.0%**	**$856,500,000**

Demand Drivers

Consumer demand for organic food and products is driven by multiple factors. Organic foods are produced without the use of synthetic chemicals and are considered healthier than conventional alternatives by many health-conscious consumers. Health concerns have been shown by multiple studies to be one of the primary determining factors for consumers choice to purchase organic food (Bellows, Onyango, Diamond, & Hallman, 2008; Funk & Kennedy, 2016; Ghali, 2019; Gundala & Singh, 2021; Organic Trade Association, 2017; Williams & Hammitt, 2002). Organic agriculture is also supported by many consumers who are concerned with environmental quality (Garcia-Gallego & Georgantzis, 2011; Smith & Paladino, 2010). When consumers actively relate the organic label with increased sustainability and environmental health, they are more willing to purchase organic products (Ragavan & Mageh, 2005).

The organic label helps guide consumer spending decisions based on alignment with a certain set of values, and federal regulation and oversight by accredited certifiers provide consumers with confidence in the integrity of organic products. Most consumers' perception of organic products is that they are free from chemical additives such as pesticides and growth hormones.

However, there appears to be a gap in consumer knowledge regarding what the organic label means (Merrigan, Giraud, & Greene, 2021; Stephenson, Gwin, Powell, & Garrett, 2012), and farmers have identified a lack of consumer education regarding the broader environmental benefits of organic agriculture as a limitation to expanding their consumer base (Stephenson, Gwin, Powell, & Garrett, 2012; Suciu, Ferrari, & Trevisan, 2019). Organizations like the Organic Trade Association, Oregon State University, and Oregon Tilth have produced research that suggests that increased awareness of organic regulations and the associated sustainable production practice standards will help to strengthen and improve growth in the organic sector (Organic Trade Association, 2022; Stephenson, Gwin, Powell, & Garrett, 2012).

Direct to Consumer Channels of Organic Food

In 2021, according to National Agricultural Statistics Service (NASS), 127 organic farms in Oregon sold products directly to consumers. Organic sales directly from producer to consumer totaled $13.5 million in the state (about 4 percent of all organic sales reported by NASS). NASS reports $254.7 million in total producer to consumer food sales in the State of Oregon (in 2020, the latest report available). Thus, organic food comprises 5.3% of total producer to consumer food sales in Oregon.[88]

Fifty-one certified organic Oregon farms (about 10 percent of all Oregon organic farms) sold products through community support agricultural shares (CSA's) (National Agricultural Statistics Service, 2022). Farmers markets are another popular venue for growers to sell their products directly to consumers. The Oregon Farmers Markets Association (OFMA) conducts an annual survey to track farmers market operations and trends. Their most recent survey indicated that 113 organizations held 136 farmers markets across Oregon in 2021, the highest number of markets ever recorded. These markets served 3.4 million visitors and generated an estimated $61 million in sales in 2021 (down from pre-pandemic highs of 4.2 million visitors and an estimated $63 million in sales in 2019) (Oregon Farmers Markets Association, 2021). It is not known how much of these sales were from certified organic producers or processors.

[88] THIS IS NOT INCLUDING 'EXEMPT' FARMS (SALES LESS THAN $5,000) WHO MARKET AND SELL 'ORGANIC' GOODS BUT ARE NOT CERTIFIED ORGANIC.

Retail Markets

The 2021 NASS survey of organic producers in Oregon reported that sales directly from the farmer to retail markets, institutions, or food hubs accounted for $30.8 million across the state (National Agricultural Statistics Service, 2022).[89] Specific to retail markets, in 2020, the majority of organic food was sold in mainstream grocery stores (e.g. Fred Meyer[90], Costco, Walmart, and Safeway) (Organic Trade Association, 2022). The appeal of organic food spans diverse income and racial groups. While people with higher incomes and education levels purchase more organic foods than others, organic consumers come from a wide range of backgrounds (Hartman Group, 2017). A recent study found that 14 percent of dedicated organic consumers identify as Black, 25 percent as Hispanic, and 10 percent as Asian; each group exceeded its representation in the overall US population, indicating disproportionate interest in organic foods by minority populations (OTA, 2020).

Institutional Markets

Institutional food markets include schools, universities, prisons, and hospitals. Relative to other markets, there are additional barriers to entry for organic food products in the institutional market. In particular:

- Institutions require food to be delivered and often expect it to be washed, cut, and packaged. Many schools no longer have kitchens or even knives.
- Institutions may have limited storage capacity, making large quantities of highly perishable crops difficult to manage.
- Institutional buyers tend to prefer to purchase food through their traditional distribution channels, which may not offer organic options.
- Institutional buyers generally are more constrained by price as they work on fixed budgets for food buying. Organic products tend to be priced higher than conventional products.

The Oregon Department of Agriculture (ODA) and Oregon Department of Education operate the farm to school grant program, funded through the Oregon Legislature. The program allows school reimbursement for buying and featuring locally produced (in Oregon) foods. Data was provided by ODA on the reimbursements made to school districts over the life of this program. Through cross-referencing the vendors to the Organic Integrity Database (OID) we estimate that up to $500,000 in a school year (representing 1/3 of spending that year) could have been on certified organic food products. Most years the percentage of spending on potential organic products is around 12%.[91] These estimates indicate that the institutional food buyer sector is likely a large, albeit challenging, market opportunity for certified organic Oregon crops.

Food Access

Organic food is generally priced higher than conventional food. The cost of organic food represents a true cost of the food product, as organic producers tend not to receive public supports and subsidies like conventional commodity growers. In some cases, the higher price points are attractive to conventional producers who transition to organic in an attempt to achieve higher profit at the farmgate level. While this is generally a positive aspect of organic markets for producers it is a fundamental challenge for the organic consumer.

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[89] THE PREDOMINANT METHOD OF DISTRIBUTING FOOD TO RETAIL CHANNELS IS THROUGH WHOLESALERS / DISTRIBUTORS.

[90] FRED MEYER, PART OF THE KROGER FAMILY OF COMPANIES, WAS ORIGINALLY AN OREGON BASED BUSINESS THAT PIONEERED ORGANIC PRODUCTS IN CONVENTIONAL RETAIL AND IS LIKELY STILL A SIGNIFICANT BUYER OF ORGANIC PRODUCE FROM OREGON FARMS.

[91] RECOGNIZING THAT IF AN ENTITY IS CERTIFIED ORGANIC IT DOES NOT NECESSARILY MEAN ALL OF THEIR PRODUCTS ARE CERTIFIED ORGANIC.

While fair prices are critical for organic producers to stay afloat financially, these higher prices can put them out of reach for some lower-income consumers. Part of this dynamic can be explained by organic demand far surpassing supply and lack of investment supporting the additional costs of organic production. However, others have argued that current public policies do not do enough to bridge the gap between fair prices for organic producers and affordability and accessibility for all consumers (Merrigan K. a.-H., 2022).

In Oregon, the Farmers Market Fund and partners enable SNAP participants to increase purchases of fresh, local fruits and vegetables through the Double Up Food Bucks (DUFB) SNAP incentive program. The DUFB program is administered through 65 farmers markets, 25 grocery stores, and 40 CSA's in Oregon. Participants receive a dollar-for-dollar incentive at the point of purchase. The Double Up coalition includes the Farmers Market Fund, Oregon Food Bank, Oregon Farmers Markets Association, the Portland Area CSA Coalition, and the American Heart Association, organizations that approach ending hunger, improving health, and supporting farmers from complementary perspectives.

Currently, over 600,000 Oregon residents receive SNAP benefits and are eligible to participate in the DUFB program (The News Guard, 2019). It is unclear how much organic product is purchased through this incentive program, but this impacts multiple market channels and represents an opportunity for growth of the organic sector in fresh fruit and vegetable categories while also providing access to healthy food to low-income populations.

Organic Food Supply Chains

The term supply chain refers to the steps in creating a finished product, from initial production to when it is purchased by the consumer. The sections below explore the economic activity and opportunities associated with handling, distribution, and manufacturing organic food in Oregon.

Handling & Distributing Organic Food

The organic 'handler' certification is required for most entities involved in post-harvest handling of certified organic products. This includes packing (e.g. fresh market fruit and vegetable packing), distributing, and food product manufacturing. In this report we discuss packing and distributing, and then separately discuss manufacturing in a subsequent section.

Packing activities can occur on-farm or at a centralized facility. For certain fruit crops, like apples and blueberries, it may be economical to have centralized facilities for packing fruit and keeping them in storage. Such centralized packing facilities in Oregon include Silver Mountain Packing, Firestone Pacific Foods, Oregon Berry Packing, and Cascade Produce among others. Distribution activities move certified organic products further along the value chain, primarily buying from a producer and selling to a retailer (grocery store or restaurant), processor, or institution. A list of national distributors operating in Oregon, along with profiles of key regional and local distributors handling organic food is provided in the full report "Organic Agriculture & Organic Products Market Analysis."

Employment data for this industry is part of NAICS Industry Code 424 – Merchant Wholesalers, Nondurable. Data on employment and wages in relevant subsectors provided through the Oregon Employment Department indicates there are 8,690 jobs with an average wage of $63,533 in food-related merchant wholesale positions throughout Oregon. It is reasonable to expect at least 6% of these jobs and income would be associated with organic food (from OTA estimate of organic penetration into all food categories). On the high end, we have estimated that around 15% of all food product manufacturing occurring in the state is certified organic (see section below). We therefore

estimate that the percentage of organic wholesale jobs (and associated income) in Oregon is between 6% and 15%, such that between 520 and 1,300 jobs[92] and $33 to $83 million in labor income is directly attributed to wholesale activities related to organic food in the State of Oregon.

Potential for Fraud, SOE Rule

While primary records kept by all certified entities should be sufficient to completely trace an organic product from field to consumer, complex shipping and receiving records as well as lengthy distribution chains (where some middlemen are not required to be certified) create gaps and uncertainty in the tracing process. It is thus possible for organic fraud (substitution of conventional for organic products) to occur in the distribution portion of the organic value chain.

In 2017, Randy Constant was charged with the largest known case of organic fraud in the history of the industry. Through his organic grain business and a brokerage company that he co-owned, Constant supplemented his organic crop with non-organic grain from at least 2010 to 2017, resulting in fraudulent sales of over $142 million over the course of seven years due to the higher price of organic grains (Parker, 2021). His ability to insert a large quantity of uncertified organic grain into the organic market was facilitated by multiple weak points in organic enforcement.

Under-supervised distributors and the lack of ability to regulate brokers by the National Organic Program (NOP) are key drivers behind the new Strengthening Organic Enforcement (SOE) rule which was published by USDA in January 2023 and will become fully effective in March 2024 (Organic Trade Association, 2020). The rule will require more entities to attain organic certification, including those that import, export, trade, or broker organic products, and will reinforce traceability requirements across the organic value chain. This will increase demand of organic certification services and potentially increase costs of certification with additional record-keeping and verification expectations for certified entities and accredited certification agents.

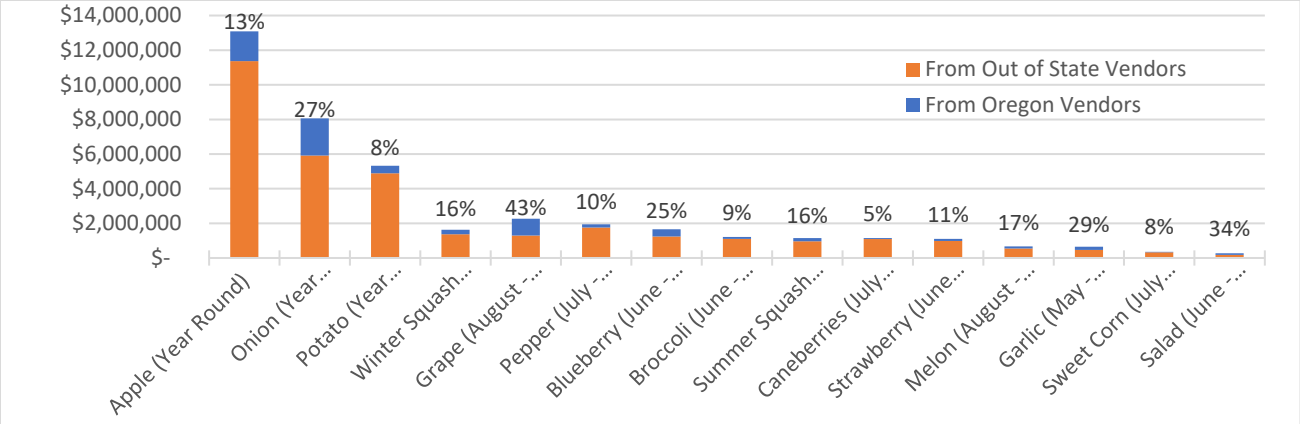
Import Substitution Opportunity

There are little to no publicly available data sources regarding the economic activity in the middle of the value chain. One key distributor interviewed as part of this study provided information regarding organic crop types and volumes being imported to the state. We focus on 15 crops that have existing or potential production in the state, and are also imported based on the data provided by regional distributors.[93]

Figure 3-2: Estimated Organic Distributor Food Sales in Oregon During Oregon Harvest Seasons (Wholesale Prices)

[92] ACTUAL JOBS SPECIFIC TO ORGANIC IS LIKELY ON THE HIGH END OF THIS RANGE, AS ORGANICALLY GROWN COMPANY ALONE EMPLOYS 275 PEOPLE (LIVELY, 2023).

[93] THE DATA INCLUDE ITEMIZED SALES ORGANIZED BY DATE OF SALE, PRODUCT SOLD (GROUPED INTO GENERALIZED CATEGORIES), DELIVERY LOCATION (DESTINATION), VENDOR LOCATION, AND ORIGIN COUNTRY.



Source: Highland Economics Analysis of Confidential Distributor Data

The table above summarizes available data on organic crop sales to Oregon vendors from Oregon sources, while the full report "Organic Agriculture & Organic Products Market Analysis" also considers out-of-state export sales from Oregon vendors.[94] Storage crop sales (apples, onions, potatoes, and winter squash) were analyzed year-round, while all other crop sales were filtered to a market window to reflect when they could have been bought and sold from an Oregon producer (i.e., broccoli bought and sold from June to November).

Sales to Oregon accounts from this dataset represented nearly 46% of total sales by the interviewed distributor providing data in 2022. Of the total sales to Oregon-based accounts, 16% came from Oregon vendors and 84% came from out-of-state. Less than 10% of potatoes, broccoli, cane berries (blackberries and raspberries), and sweet corn sold by the distributor to Oregon accounts during the Oregon harvest season came from Oregon vendors, and less than 10% of potatoes and broccoli sold to Oregon accounts came from Oregon vendors. This means that, at least for the distributor data highlighted here, 90% or more of these crops are sourced from outside the state during times when they are available from Oregon producers.

These data suggest that additional production from Oregon vendors could substitute crops currently purchased from out-of-state suppliers. The challenges associated with expanding organic production in these sectors is explored in the production section above.

Manufacturing Organic Food

Food manufacturers 'process livestock and agricultural inputs into products for intermediate or final consumption' (Fridley, 2023). In other words, the industry adds value to raw agricultural inputs and sells outputs to wholesalers and retailers for distribution to the end consumer. While there is infrastructure and manufacturing capacity in the state, Oregon food manufacturers do not necessarily use only Oregon-produced inputs. There are a total of 935 food manufacturing businesses across the state. Of these businesses, 110 are certified organic, and employed 9,700 people in 2021.[95] Total payroll for these certified organic entities in 2021 was $510.6 million. Not all of the products

[94] While the dataset specifies the location of vendor at the state level, the crop origin is only presented at the country level – meaning a crop sold to the handler from a vendor in Oregon was not necessarily grown in Oregon, but can at least be filtered to the United States. Because of this, sales from Oregon vendors displayed here are likely overrepresenting farm production in the State of Oregon.

[95] THIS AVERAGE REMAINED THE SAME THROUGH THREE QUARTERS OF 2022 (DATA FROM THE 4TH QUARTER OF 2022 IS NOT AVAILABLE).

from these entities are organic. Based on available public data and information provided by organic certifiers on organic sales by entity, we estimate that a minimum of 14% of the revenue generated by these entities (or $570 million) was from sales of certified organic products. In addition, NASS reports 12 percent of organic farms in Oregon (61 farms) produced processed or value-added organic products at the farm level. The total value of these products was nearly $12 million (National Agricultural Statistics Service, 2022). Therefore, the total value of certified organic food manufactured in the state is at least $582 million, or likely a minimum of 15% of all food manufacturing activity in Oregon. Applying this proportion to the economic activity in the food manufacturing sector, we estimate that there were approximately 1,500 jobs (in 2021) and payroll of around $80 million in organic food manufacturing in Oregon.

The following subsections discuss specific categories of organic food manufacturing in Oregon.

Fruit & Vegetable Processing

Nationally, organic sales in 2021 of fruits and vegetables that were canned and frozen rose by 7.5% and 7.9%, respectively, over the preceding two-year period. Growth would likely have been much higher, but there were decreases from 2020 to 2021 as more people were cooking at home meals using fresh produce during the pandemic (Organic Trade Association, 2022). In Oregon, PNW Veg Co (NORPAC) is one of the largest food manufacturers in the state and is certified organic by Oregon Department of Agriculture (ODA). They source produce through a wide variety of growers in the Willamette Valley.[96]

In 2016, Oregon Tilth published the results of a survey of 31 food processors and manufacturers of organic products and three natural food grocers in Oregon. Respondents were asked to identify crops that they have had difficulty procuring from organic farmers in Oregon. Strawberries were identified by seven out of the 31 companies as a crop they are unable to consistently source, followed by raspberries, blueberries, and edible dry beans (five out of 31 companies). Of the 53 crops identified, most were only mentioned by two or fewer businesses as difficult to source, which Oregon Tilth noted as indicative of varied market opportunities unique to buyers (Oregon Tilth, 2016). While the authors of this report could not quantify specific market opportunities based on the data they collected for specialty crops in Oregon, their results and the data supplied from the organic distributor interviewed for this study suggest market opportunity to meet a higher proportion of Oregon demand l by additional local fruit and vegetable production from Oregon organic farms.

Dairy Products & Eggs

Dairy and eggs is the third largest food category and nationally accounts for nearly 13% of all organic food sales. Approximately 8% of all dairy sales nationally are organic. Organic milk and cream account for more than 50% of this category's sales (amounting to $3.8 billion across the US in 2021). Organic yogurt accounts for 18% of sales nationally in this category and was the only segment to maintain positive growth in 2021, with sales increasing 2.5%. Due to pandemic related supply challenges, there were declines in the butter, cottage cheese, and sour cream category of national sales in 2021[97], but annual sales remained above 2019 levels (Organic Trade Association, 2022).

[96] NORPAC IS NOW PART OF OPC FAMILY OF COMPANIES, THEY OWN OR LEASE OVER 140,000 IRRIGATED ACRES AND HAVE A NETWORK OF PROCESSING PLANTS IN WASHINGTON, OREGON, IDAHO AND MICHIGAN (NORPAC, 2023).

[97] WITH PEOPLE COOKING AND BAKING AT HOME MORE THAN NORMAL, SALES OF ORGANIC HEAVY CREAM AND BUTTER SURGED IN 2020 AND 2021. TRADITIONALLY, PRODUCERS HAD BUILT UP HEAVY CREAM INVENTORY OVER THE SUMMER (AS THIS IS NOT A BAKING SEASON), AND THAT INVENTORY WOULD CARRY THROUGH THE FALL WHEN BAKING PICKS UP DURING THE HOLIDAYS. THIS WAS NOT THE CASE IN 2020, AND SO INVENTORIES OF HEAVY CREAM AND BUTTER WERE DEPLETED BY THE HOLIDAY SEASON.

For years prior to the pandemic, organic milk had been in oversupply, but in 2021, there was tightness in availability. However, this tightening availability was likely caused by transportation challenges and packaging and not actual supply of organic milk (Organic Trade Association, 2022).

The Organic Valley Creamery in McMinnville, Oregon, which had been receiving 500,000 pounds of milk daily from 27 Oregon farms, burned down in 2021 (Bohnert, 2021). The facility was the only Organic Valley butter and non-fat dried milk processing location in the Pacific Northwest. Organic Valley has been facing logistical challenges in finding alternative processing locations for their producers, resulting in shipping of organic milk from Oregon to California, Utah, and Idaho, resulting in lost organic revenue for the state (Chan, 2021). Rebuilding efforts are underway and expected to finish in 2023. Organic Valley is not the only dairy processor in the state, other companies including Lulubelle manufacture organic dairy products.

Beverages

The beverage market is the second largest organic food category, nationally contributing over 14% of all organic food sales, with penetration rate of 4% into overall beverage sales. Organic coffee is the largest sector in this category, making up over one-quarter of all organic beverage sales with a $2.1 billion market in the United States (Organic Trade Association, 2022). In Oregon there are several certified organic coffee roasting companies. Organic fresh juices are the second largest organic beverage category, followed by organic tea (Organic Trade Association, 2022).

Organic alcoholic beverages accounted for a small portion of sales but saw significant growth in 2021. Organic beer now accounts for $311 million in sales annually in the United States (Organic Trade Association, 2022). Oregon has the fifth most breweries per capita, when ranked against other states, at 4.4 breweries per 50,000 adults (Meunier, 2019). While there are many breweries in the state, only a couple are certified organic. There are opportunities to expand on key inputs needed for beer production (hops and malt) in Oregon. Currently, naked barley varieties are used by Great Western Malt (the largest buyer and processor of malting barley in the Pacific Northwest, located in Vancouver, WA) in malting a certified organic malt. Great Western Malt's commitment to a certified organic line of malt could expand opportunities for organic beer in the future.

Sales of organic wine across the US were flat in 2021 from the previous year. Organic wine has had supply issues also. Wineries have had difficulty procuring sufficient organically certified wine grapes, as vineyards were impacted by wildfires and erratic weather, especially in California.

Non-alcoholic beverages continued to be in demand as kombucha sales grew along with enhanced waters and beverages made with botanicals, mushrooms or adaptogens (Organic Trade Association, 2022). There are several certified organic kombucha manufacturers in Oregon.

Bread and Grains

Nationally, bread and grains sales account for 11% of organic food sales, with organic accounting for 7.3% of total breads and grains sales across the US (Organic Trade Association, 2022). In Oregon there are several large bakeries that have certified organic product lines, including: Dave's Killer Bread, Innovative Bakery Resources, Kroger Clackamas Bakery (also known as Inter-American

CONTINUED SUPPLY SHORTAGES IN 2021 LED RETAILERS TO LIMIT THE AMOUNT OF BUTTER CONSUMERS COULD PURCHASE AT ONE TIME.

Products), and United States Bakery (also known as Franz Family of Bakeries).[98] Currently, there are 11 certified organic processors of organic grain in Oregon that manufacture food products with food grade grain, the majority of which also process grain for animal feed.

Snack Foods
Organic snacks were one of four food categories that maintained positive growth in 2021. Recent trends in packaging have shifted, with consumers now demanding more large and multi-serving sizes (as opposed to the trend for smaller packaging prior to 2021). As gyms, schools, and offices began to reopen in 2021, organic nutrition bar sales saw significant growth. While organic does not mean limited sugar, many parents perceive organic as an overall healthier option for kids. Organic salty snacks are the largest component of the snack food category. Nut purchases and interest in plant-based diets continue to grow across the US and are major drivers for the snack food market (Organic Trade Association, 2022).

Frozen & Prepared Foods
Growth in the organic frozen and prepared foods in 2020 was more than double expected levels because of the pandemic, and more people eating at home. Sales declined in 2021 relative to 2020 but still remained higher than 2019 levels. This category often serves as an entry point to organic for young families. Baby food and formula had strong growth in 2021, and continued growth is expected in the organic shelf stable and fresh baby and toddler food categories (Organic Trade Association, 2022).

Amy's Kitchen, a prepared frozen food manufacturer with many organic products, opened the White City, Oregon plant in 2006. Since that time the plant footprint has more than doubled to 450,000 square feet, and employees have nearly quadrupled to 980. There are six food production lines in the manufacturing facility, making 218 different products including pizza, soups, chilis, refried beans, entrees, gluten free burritos, and non-dairy frozen desserts. While not all of Amy's Kitchen products are certified organic, the company has a goal of using as many organic ingredients as they can. The few ingredients used in food manufacturing that are not organic is due to cost and availability issues (Amy's Kitchen, 2023).

Amy's Kitchen has cited Oregon's 'friendly business climate,' close proximity to California, cost advantages, skilled workforce specific to food manufacturing, and supportive Economic Development agency as key reasons for locating the manufacturing plant in Oregon (Amy's Kitchen, 2019). Amy's Kitchen also operates manufacturing facilities in California, Oregon, Idaho, and New York. In July of 2022, Amy's Kitchen closed their facility in San Jose, California. Reasons for the closure included abrupt cost increases, supply-chain disruptions, and tight labor market which caused their San Jose facility to lose over $1 million per month (Best, 2022). This information from Amy's Kitchen helps highlight some of the factors important for organic food manufacturers, including business climate, availability of skilled labor, and ingredient availability and proximity to key supply chains.

Public Policies and Funding Supporting Organic Agriculture

Organic food is estimated to currently represent roughly 6% of all consumer expenditures on food in the United States. Total federal government support for agricultural producers is approximately $428 billion annually. If federal spending on programs benefiting organic producers were proportionate with consumer spending on organic food, then roughly $26 billion in federal spending would benefit

[98] ACCORDING TO DUN & BRADSTREET REVENUE PROJECTIONS, UNITED STATES BAKERY WOULD BE THE FOURTH LARGEST FOOD MANUFACTURER IN THE STATE.

organic producers ($428 billion x 6%). For comparison, the $300 million Organic Transition Initiative announced by the USDA in 2022 is 0.07% of the farm bill budget. While other monies go to organic operations, this highlights a general lack of federal investment in organic agriculture. As highlighted in this report, growth in organic agriculture has the potential to provide many public benefits related to climate change resiliency, economic development, and public and environmental health. The remainder of this section identifies and discusses federal, state and other programs that support organic agriculture and food products.

Federal Programs

The major federal funding specifically for organic agriculture is the Organic Transition Initiative. In late summer 2022 USDA announced it will be investing $300 million in this initiative aimed at assisting farmers and producers in building new and better markets (USDA, 2022). There are three main areas of investment: Transition to Organic Partnership Program (TOPP), Direct Farmer Assistance, and Organic Pinpointed Market Development Support.

- TOPP is a $100 million investment over five years in cooperative agreements with non-profit organizations who will partner with others to provide technical assistance to existing organic farms. The funding is divided among six regions, of which Oregon is in the Northwest region. Oregon Tilth is the non-profit organization leading the effort in the Northwest region and is currently forming partnerships to serve transitioning and existing organic farmers. TOPP funds will be used to:
    - Connect transitioning farmers with mentors for at least one year after certification.
    - Build paid mentoring networks to share practical insights and advice,
    - Provide community building opportunities.
    - Help producers overcome technical, cultural, and financial shifts following certification.
    - Engage educational and training institutions (e.g. crop advisors and extension agents) on organic workforce training and education and future human capital planning (Agricultural Marketing Service, 2023).
- Direct Farmer Assistance:
    - Natural Resources Conservation Service (NRCS) will develop a new Organic Management conservation practice standard and offer financial and technical assistance to producers who implement the practice. USDA is investing $75 million in this effort which will increase organic expertise throughout the nation and create organic expert positions at each of its regional technology support centers.
    - USDA will invest $25 million to Risk Management Agency (RMA) for the new Transitional and Organic Grower Assistance Program (TOGA) to support transitioning and certain certified organic producers' participation in crop insurance (USDA, 2022).
- Organic Pinpointed Market Development Support:
    - Through the Agricultural Marketing Service (AMS), USDA will invest $100 million to help improve organic supply chains in pinpointed markets. The intent of this initiative is to develop new and expanded markets for targeted domestic organic products by providing more resources and market certainty for producers and processors transitioning to organic or initiating new organic production and processing capacity. The Department has been seeking stakeholder input on this initiative and will be crafting specific policy in the near future (USDA, 2022).

The National Organic Initiative funded through the Environmental Quality Incentives Program (EQIP), and Conservation Stewardship Program (CSP) are voluntary conservation programs administered by the NRCS and support organic practices. Finally, the Organic Certification Cost Share Program (OCCSP) is implemented by the Farm Service Agency (FSA) to provide certified organic producers

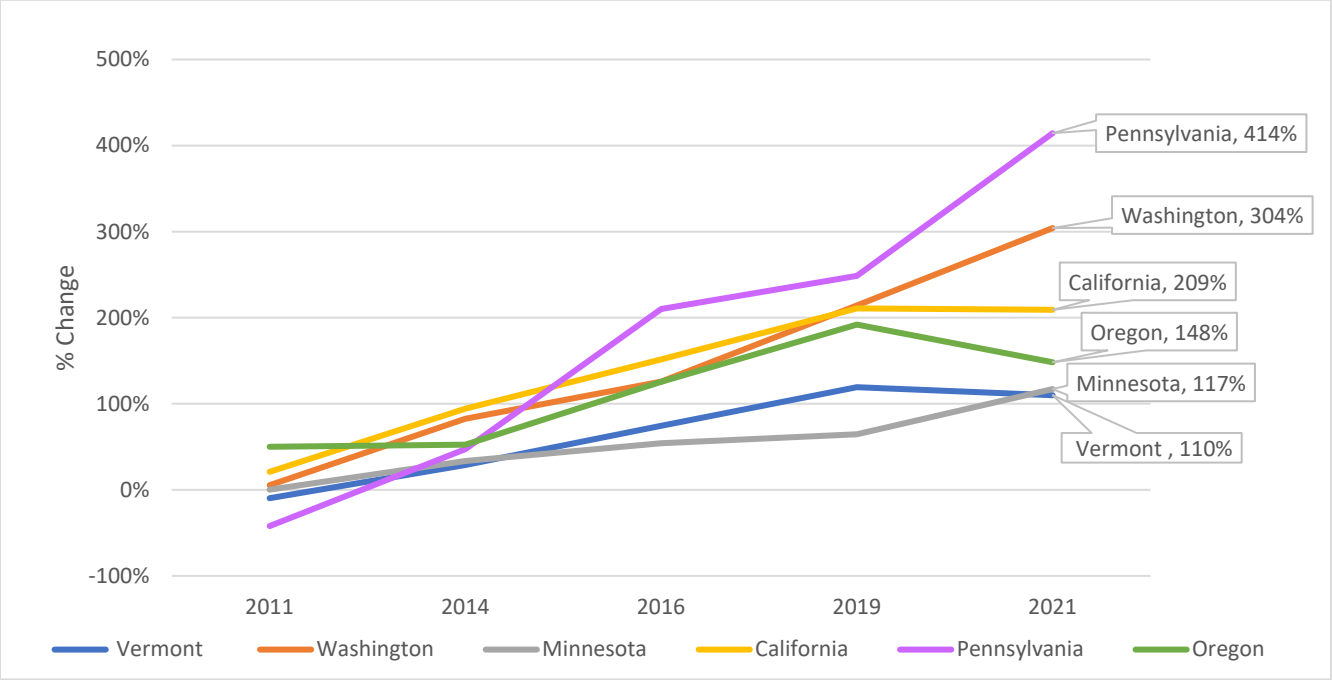
and handlers reimbursement for certification fees. Applicants may receive cost share assistance up to 50% of their costs paid during the program year, with a maximum of $500 per certification scope (USDA & FSA, 2023).

State Initiatives / Programs & Comparative Analysis with Oregon

We present data comparing Oregon's organic farm production relative to other leading organic states, and then compare state-level policies that may play a role in the strength of each state's organic sector.

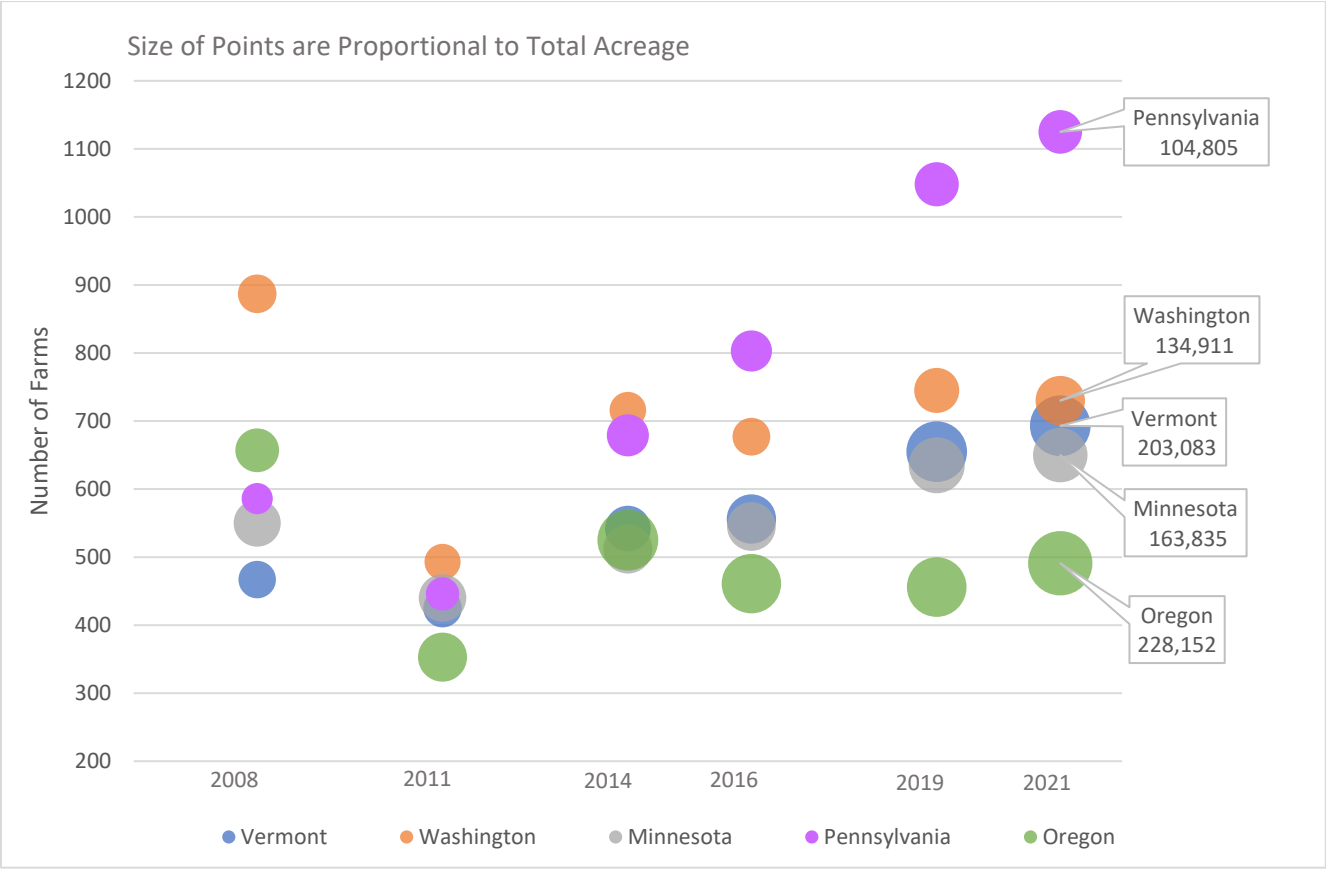
Organic sales certified organic acreage, and the number of organic farms in the U.S. generally shrank immediately following the 2007-2009 recession, though the consumer demand for organic food during this time and years since has spurred renewed growth in the organic sector (Greene, 2013). The COVID-19 pandemic and related shocks to the food supply chains led to increased organic sales nationally in 2020, with slowed growth in 2021 (Organic Trade Association, 2022). However, trends in sales at the retail level did not directly follow farmgate sales for all states. This section evaluates trends in growth of acreage and sales for organic products by state and considers (to the extent possible) what correlations there may be with programs supporting organic agriculture in these select key states.

Figure 3.1: Percent Change in Organic Sales since 2008



Source: National Agricultural Statistics Service, 2022

Figure 3.2: Total Farms & Acreage Growth since 2008[99]



Source: National Agricultural Statistics Service, 2022

Oregon

Oregon organic sales have increased since 2008 but dropped by nearly $70 million from 2019 to 2021. This has been accompanied by farm consolidation, with an increase in acreage and a decrease in number of farms. An economic analysis of agriculture in Oregon, by Oregon State University (OSU), suggests that decreased agricultural sales (farmgate sales) in the past few years are largely attributable to the COVID-19 pandemic, which impacted farm workers, supply chains, and certain crop sales. More recently, price inflation has also played a part in reduced organic sales (Pratt, 2023). According to OSU, Oregon producers that sell to food service and retail markets were impacted by pandemic sales reductions the most. The report highlights the 5% reduction in U.S. potato utilization in 2019 and 2020, which is one of Oregon's top organic crops. Data received from a large distributor and handler in Oregon shows a 50% reduction in sales of organic potatoes from 2020 to 2022 (35% reduction of sales from Oregon), potentially indicating the lingering impact of this reduced market. Sales of milk from cows were also substantially impacted by the pandemic, as consumer demand fell due to rising retail prices, while simultaneously prices received by farmers fell drastically (Johansson, 2021).

While there may be other factors at play when considering why Oregon organic farmers experienced this reduction in sales more heavily than other leading organic states, it is likely that Oregon's specific mix of organic crops were particularly impacted by changes in consumer demand and reduction of restaurant purchases during the pandemic. Additionally, labor challenges and supply chain issues associated with the pandemic may have been more keenly felt for Oregon producers. Farmgate sales (both conventional and organic) are expected to recover by 2023 due to multiple federal assistance

[99] CALIFORNIA ACREAGE AND NUMBER OF FARMS NOT SHOWN GIVEN THE VASTLY HIGHER NUMBER OF ARMS IN CALIFORNIA.

policies put in place during the pandemic, including the Coronavirus Aid, Relief, and Economic Security (CARES) Act (Pitt, 2020).

Oregon initiatives and programs supporting organic are explored in further detail in a section below.

Pennsylvania
Pennsylvania's organic acreage and number of farms has nearly doubled since 2008 and organic sales in the state have grown considerably since 2011, with the second largest jump from 2019 to 2021. This recent increase can be partly attributed to the provisions introduced in Pennsylvania's 2019 Farm Bill (Dmochowski, 2022). The bill includes an initiative to make Pennsylvania the nation's leading organic state, with $1.8 million in organic funding for programs that increase access to resources and financial assistance primarily through the Pennsylvania Preferred Organic Initiative and Transition to Organic program. Collaboration with the Rodale Institute, one of the leading organic research institutes in the country, is a key component of the success of the implementation of state-run initiatives (Dmochowski, 2022).

Additional support for Pennsylvania's sustainable farmers, both organic and conventional, includes the Conservation Excellence Grant (CEG) which provides financial assistance for implementing best management practices on agricultural land, the Resource Enhancement & Protection Program (REAP) which offers tax credits for best management practices, and the Urban Agriculture Infrastructure Grant Program, which provides funding for improving farm infrastructure in urban areas to combat food deserts (Pennsylvania Department of Agriculture, 2023).

Washington
Washington acreage has increased and sales have tripled since 2008, while the number of farms has decreased, indicating a larger average farm size. Growth in key commodity crops for Washington, specifically apples and blueberries, have driven part of the organic sector growth in the state. Berry production has increased nearly ten-fold since 2008 in eastern Washington where dry climates reduce disease pressure (Granatstein, 2022). Apples are the dominant organic crop in Washington, and they appear to have been a resilient commodity during the pandemic despite challenges in the workforce (Offner, 2020; Rosenberg, Cooke, & Walljasper, 2020).

The organic industry in Washington State benefits greatly from partnerships between state organizations. As one example, in collaboration with the Washington State Department of Agriculture (WSDA) Organic Program, Washington State University has collected organic production statistics (acreage, crops, sales, etc.) since 2004. This information is updated on an annual basis resulting in a current and comprehensive database used by producers, businesses, and policymakers (Kirby & Granatstein, 2023).

California
Organic acreage in California surged to over a million acres in 2016 and then dropped to 813,710 acres in 2021. In total, from 2008 to 2021, acreage increased 73% in California, while the number of California farms increased 13% since 2008. Sales in California have increased two-fold since 2008 though dropped slightly from 2019 to 2021, similar to Oregon. California is often impacted by wildfires, and grapes (a top California organic crop) were heavily affected by the 2020 wildfire season (Wood, 2021). The California Certified Organic Farmers Foundation (CCOF Foundation) offers financial assistance in the form of grants for organic farmers impacted by wildfires, and received four times as many applications for funding in 2020 (Mathias, 2020). The COVID-19 pandemic likely also contributed to reduced organic sales of fresh produce to food services and retail markets in 2021.

Compared to Oregon, California's climate is suitable for a larger array of warm weather crops like organic almonds, which only California produces. Over 60% of organic vegetable sales in 2021 came from California (US Department of Agriculture, National Agricultural Statistics Service, 2021). These favorable growing conditions as well as the quantity of agricultural land in the state are main contributors to its dominance in the organic market.

California has one of the longest histories of regulating organic products in the United States and implemented the Organic Food Act of 1979 prior to federal organic regulations. The National Organic Program (NOP) allows states to the implement their own State Organic Program (SOP) to oversee the enforcement of the USDA organic regulations within their state. An SOP must at minimum meet the restrictions enforced by the NOP but may have additional restrictions. Currently, California is the only state with their own SOP, and their certification standards include four additional requirements:

- Organic producers and handlers must register with their county agricultural commissioner.
- Organic processers must register with the California Department of Public Health.
- All organic operations must provide verification of SOP registration to their accredited certifying agent prior to granting or continuing certification.
- Accredited certifying agents must register with the California Department of Food and Agriculture (CCOF, 2023).

A bill was introduced to California Legislature in 2022 that would create an Organic Transition Pilot Program aimed at supporting new farmers and ranchers in the transition towards organic in the form of grants, research, and information (Weber, 2022). California's 2022 Scoping Plan was developed by the California Air Resources Board to map steps for the statewide reduction of greenhouse gas emissions with the goal of carbon neutral by 2045. The plan includes a goal of expanding organic agriculture to 20% of farmland in the state (California Air Resources Board, 2022).

Of the seven states originally part of the 1922 Colorado River Compact, California is the largest user of water from the Colorado River (James, 2023). Drought has been severely impacting this source of irrigation for the past two decades, and the federal government has begun to implement regulations to this key water supply (US Department of the Interior, 2022). Cutbacks in water availability would impact southern California irrigators substantially, and there has been conflict between the compact states regarding how this issue will be addressed (James, 2023; NPR, 2023). While the extent to which California will have to reduce its use of water from the Colorado River is yet undetermined, it is likely to impact their agricultural production capacity. Expected continued drought and water supply issues, along with additional focus on diversity of the supply chain in the organic food system could present opportunities for other states like Oregon to capture additional market share in key high-valued organic crops currently dominated by California.

Vermont

Organic sales, farms, and acreage have grown steadily since 2008, apart from an initial reduction in farms in 2011. In addition to market challenges due to the pandemic, Vermont faced challenges in the dairy industry in 2021 when Horizon Organic, a buyer for 28 organic dairy farms in the state, declared it would no longer purchase in the region (Rathke, 2021). In a swift response, the Vermont Agency of Agriculture, Food and Markets (VAAFM) developed the Organic Dairy Farm Transition Support Grant program in 2022 to assist dairy farmers in operation modifications for seeking a new buyer (Vermont Agency of Agriculture, Food and Markets, 2023).

Vermont leads the nation in terms of percentage of organic agriculture in the state. With the goal of further enhancing Vermont's agricultural industry, the Vermont Agriculture and Food System Strategic

Plan 2021-2030 was released by Vermont Farm to Plate to serve as a roadmap for revitalizing food systems in the state. The plan outlines current agricultural market conditions, identifies barriers, provides suggestions for advancement, and highlights opportunities for growth over the next decade. Among the proposed outcomes of the strategic plan, the authors project increased sales of certified organic products from Vermont by 20%. Highlighting increased consumer demand, the plan suggests that facilitating this growth will require improved and dedicated marketing of Vermont food and farm products to better to consumer trends. (Claro, et al., 2021). The plan consists of developing regional markets and cataloging available products to identify and develop market channel opportunities by creating and funding marketing broker positions.

Minnesota
Similar to Vermont, Minnesota has inexperienced strong growth in organic sales, farms, and acreage. Resources for Minnesota organic farmers provided by the Minnesota Department of Agriculture (MDA) and the University of Minnesota (U of M) provide one of the highest concentrations of organic assistance programs in the nation, likely contributing to the industry's steady growth (Driscoll & Ichikawa, 2017; Minnesota Department of Agriculture, 2022). Minnesota's Organic Advisory Task Force (OATF) was created to advise state governmental and research organizations on initiatives that benefit the organic sector in Minnesota (Minnesota Department of Agriculture, 2023). The University of Minnesota's Institute for Sustainable Agriculture (MISA) conducts research and provides resources for organic and transitioning farmers (MISA, 2023). The Minnesota Department of Agriculture releases organic industry status reports and maintains a comprehensive list of all certified organic farms in the state (MDA, 2023).

Like the federally administered Organic Certification Cost Share Program (OCCSP), Minnesota also has its own Transition to Organic Cost-Share Program. Through this program, Minnesota residents applying for organic certification for the first time may receive partial reimbursement for their certification fees (MDA, 2023).

Market challenges and supply chain issues stemming from the pandemic likely impacted organic dairy and grain corn sales, Minnesota's top organic commodities, in 2021. While not exclusive to Minnesota producers, MDA references the Whole Farm Revenue Protection policy from the USDA Risk Management Agency (RMA) as a key program for providing COVID relief to Minnesota's organic farmers (Minnesota Department of Agriculture, 2022).

Oregon Initiatives & Programs

This section highlights state initiatives and programs that promote organic agriculture and provide funding to support the sector in Oregon.

Oregon State University – Center for Small Farms & Community Food Systems
OSU offers a small farms program with a mission to advance sustainable agriculture, community food systems, and economic progress for Oregon's small farmers and ranchers and provide a leading-edge experience for students. This program has also been a conduit for relevant research and resources for organic farmers across the state covering planning, marketing, and technical assistance for production.

The OSU Organic Extension Program is part of the Center for Small Farms & Community Food Systems. There are three Organic Extension faculty, two full-time (2.0 FTE) and one part-time (0.2 FTE) with specialties in organic vegetables, organic grain and pulse crops, and organic pasture and

forage crops, who serve both organic and non-organic farms of all sizes and provide researched based information on organic principles and practices (Oregon State University, 2023).

Land Use Policies

In 1973 the State of Oregon passed the Land Conservation and Development Act, which was primarily a response to rapid population growth and unanticipated urban sprawl. At the core of this Act is the Urban Growth Boundary (UGB) designation. Each Oregon city is surrounded by a UGB, which is a land use planning line drawn to control urban expansion onto farm and forest lands. Oregon's land use laws specifically state as a goal that 'agricultural lands shall be preserved and maintained for farm use.' This goal requires that all suitable agricultural land be zoned for exclusive farm use, severely limiting the potential for residential development on these lands (Bell, 2021).

In 2020 the American Farmland Trust (AFT) released report findings of "Farms Under Threat, the State of the States," which included a scorecard for every state in the nation (Agricultural Land Protection Scorecard). Oregon was found to have a high policy response to forces that lead to agricultural land conversion (development pressure, weakened farm viability, and challenges transferring land to a new generation), and a resulting low threat to agricultural land development.

These protections for agricultural land have likely supported the continuation of small-scale organic operations across the state, and small farms serving direct markets in urban areas. In Oregon, 1.3% of all farm operations are certified organic (491 of 37,300 operations total), ranking 11th in the country in terms of highest percentage in the United States. It is worth noting that 23,500 of the 37,300 farm operations in the state had sales of less than $10,000 as of the last census. This size of farm is not likely to be certified organic as farms selling less than $5,000 annually are exempt from certifying (and can market produce as 'organic' without a certification). Thus, a more appropriate measure for organic farms as a percentage of total farms is Oregon is likely 3.5% (491 of 13,800 farms).

Canola Ban in the Willamette Valley

The Willamette Valley is a key brassica seed production region, including organic seed acreage. In 2019, the Oregon Department of Agriculture (ODA) proposed a 937,000-acre isolation area in the Willamette Valley where canola production would be prohibited in order to protect brassica seed from cross-pollination from canola. However, this proposed rule was made unnecessary after SB 885 passed, which maintained historic restrictions on canola, required canola growers to get a license from ODA, and maintained the 500-acre cap and recommended isolation distances. The bill set a self-imposed expiration date of June 30, 2023, after which all restrictions on canola would be lifted unless further action was taken. The 2022 legislative session ended without any action on the canola restriction, and, as of the date of this report, the ODA has not indicated it will impose any new rules on canola. Therefore, without any further action from the Oregon legislature or ODA, the restrictions on growing canola in the Willamette Valley will be lifted. The state regulation of canola in the Willamette Valley, one of the best places for producing seed in the world, is seen as a protection for the seed industry, which is a critical input to agriculture, including organic production. A recent study found that brassica seed production in the Willamette Valley represents only a few thousand acres annually but contributes up to $25 million in revenue to producers and directly supports roughly 190 jobs. Over 37,000 acres of canola would need to be grown in order to replace the profits generated from brassica seed. Further, control measures that seed producers would need to implement to limit the cross-pollination potential of canola that would be necessary to continue seed production would carry high cost burdens of nearly $10,000 per acre, making it unviable for most producers of seed crops (Highland Economics, 2023). The European Union organic regulations have mandated that, beginning in 2035, all organic products in Europe must be grown with organic seed (Bio Eco Actual,

2021). This has the potential to greatly expand global demand for Brassica seed, which the Willamette Valley has the unique ability to supply.

Oregon Agriculture Heritage Program

The Oregon State Legislature established the Oregon Agricultural Heritage Program (OAHP) in 2017 to help address the challenges of fragmentation of farmland, conversion of farmland, and planning for generational transfers. The program provides voluntary incentives to farmers and ranchers to support practices that maintain or enhance both agriculture and natural resources such as fish and wildlife on agricultural lands. OAHP was developed by a collaboration of organizations representing natural resource conservation and agriculture, including farmer and rancher representatives. Through the direction provided by ORS 541.977-ORS 541.989, OAHP offers grants for Conservation Management Plans, working with land conservation covenants and easements, technical assistance, and succession planning with producers. While not specific to organic, funding in this program could support organic production practices (Oregon.gov, 2023).

Recommendations and Conclusion

This section outlines several recommendations to the State of Oregon that could further grow the organic sector across the state.

- **Organic Data Collection Initiatives**
  - There is generally a lack of available data on organic agricultural production and organic value chains. Useful data would include: county level organic production data, distributor data on sales by point of origin and point of sale,[100] revenue and jobs at the distribution level specific to organic, and revenue and jobs directly attributed to organic food product manufacturing. Strengthening data collection and presentation would benefit planning efforts around organic food value chains, future studies evaluating economic and social impacts of organic sectors, and likely help in efforts to develop Oregon's organic food manufacturing sectors. The role of data collection activities may best be suited to independent industry organizations as part of a voluntary program, as mandating the reporting for this type of data may overly burden participants in the value chain.
- **Consumer Education / Branding around Organic**
  - Organizations like the Organic Trade Association, Oregon State University, and Oregon Tilth suggest that increased awareness of organic regulations and the associated sustainable production practice standards will help to strengthen and improve growth in the organic sector. Informing consumers of organic production occurring in the state, and the associated social and economic benefits will help market organic products and strengthens Oregon's brand image as an environmentally healthy place to live (and eat).
- **Organic to Mitigate Risks of Climate Change**
  - Organic agriculture and relevant production practices can be incentivized as a way to mitigate and adapt to climate change. The OAHP initiative in place already can promote organic agriculture and relevant production practices. These are tools the state can use to help producers with the financial burden associated with organic transition, help close the gap on investment in organic, while funding practices that provide society with public benefits.
  - Invest in organic as a way to reduce GHG emissions, help meet the state's goal of 80% below 1990 levels of GHG emissions by 2050 (Oregon Department of Energy, 2023), and potentially become a carbon sink (CCOF Foundation, 2019).

[100] A COUPLE COMPANIES WERE WILLING TO SHARE THIS INFORMATION WITH US, BUT MOST WERE NOT, AND THERE IS A LACK OF IMPORT / EXPORT DATA AT THE STATE LEVEL SPECIFIC TO ORGANIC.

- **Protect Brassica Seed Production in the Willamette Valley**
  - The Willamette Valley is well positioned to capture additional growth in organic seed production, but this growth would be threatened if the ban on canola is lifted in the summer of 2023. To minimize effects of lifting the ban, a buffer zone could be required to allow a sufficient distance between canola and brassica seed production in the valley as other states require (e.g. Washington State).
- **Promote Organic as Economic Development Strategy & Social Justice Initiative**
  - Initiatives that focus on organic food access, particularly fruits and vegetables, would also contribute to enhanced public health, especially for underserved demographic groups. Additional organic handling and manufacturing capacity in Oregon's food value chain would make the state more resilient to future shocks, including those related to climate change, weather events, supply chain issues, international wars, etc. There is also an immediate opportunity for state initiatives to get matching federal investment funds through the Organic Transition Initiative, thereby allowing the state to 'get more bang for buck'.
  - Opportunities for attracting additional high valued organic production and food product manufacturing from areas severely impacted by climate change (California in particular) could provide future economic development in the state.
  - The economic development potential within BIPOC communities is particularly high, and the inclusion of racial equity and social justice groups in policy efforts is important for expanding organic access and development opportunities throughout the state.

Conclusion

The organic production and food sectors in Oregon are significant components of the state's economy. There are key opportunities for economic growth in agricultural production, food manufacturing and distribution value chains. Growth in organic production can also benefit Oregonians through enhanced local food security, increased agricultural resiliency to climate change, economic development (jobs and income), and environmental and public health. While the state is well positioned for growth in these sectors, there are areas of regulation (ban on canola in the Willamette Valley), promotion programs, consumer branding / education, and data collection that could be implemented to further support growth in organic sectors of the economy.

The table below identifies key metrics of the profile for organic agriculture and food products in Oregon. As mentioned above, and identified in the table below, many of these metrics are not readily available in published reports. The exception is farmgate values published by NASS in the organic survey results. While this data limitation presents a constraint in accurately measuring these metrics, this study documented approaches used to derive these metrics with existing data. Primary data collection from the relevant organic entities could further refine these metrics in the future to increase the certainty of the estimates, and is one of the opportunities discussed above.

Table 6-1: Organic Ag & Food Metrics, Oregon

	Farmgate	Packing, Handling, Processing	Wholesale	Retail
Production Area (acres)	228,100			
Sales / Revenue	$386 million	>$582 million*		$856.5 million*
Jobs	6,690	1,500*	1,300*	
Labor Income	~$46 million*	$80 million*	$83 million*	

*Highland Economics' analysis, presented above

The metrics defined in this study could be used to quantify the effectiveness of the strategy or tactics that Oregon employs to support organic agriculture and food in the future (in annual, 5 year or 10 year measures). As demonstrated in the review of state initiatives, there does appear to be a correlation between growth in the organic sector and state sponsored initiatives supporting organic agriculture. Further, the Organic Transition Initiative creates immediate opportunities for matching federal investments in many of the areas evaluated in this report.

Afterword from the Organics Advisory Committee

The following is an afterword from the industry advisory committee that helped guide the consultant's work in preparing this report. The afterword does not necessarily reflect the views of Business Oregon or the contracted consultant that authored the industry analysis. Business Oregon would like to thank the committee members for the extensive time spent in contributing to the production of this report produced at the request of the state legislature.

Oregon is ideally situated to be a leader in the rapidly growing organic industry but will need to make both public and private investments in order to fully actualize this opportunity. As climate change disrupts our food and agriculture systems, organic practices offer solutions that mitigate adverse impacts, support adaptation towards agricultural and economic resilience, and offer new market opportunities.

US organic industry sales were valued at $63.3 billion in 2021. Despite the continued growth of organic in Oregon, and various opportunities to accelerate that growth, Oregon is losing ground compared to other organic market-leading states across the country. Pennsylvania invested nearly $4 million specifically for organic programming. As a result, Pennsylvania's organic growth from 2008 to 2021 went from $212 million to $1.1 billion in annual sales. Likewise, Washington leveraged investments in organic to fuel annual organic sales from $282 million to $1.13 billion. In contrast, during this same period Oregon's organic annual sales only grew from $155 million to $386 million.

Based on this report's findings, the Organic Advisory Committee has identified highlights and near-term, high-priority recommendations that Oregon can act on to ensure it does not lose additional ground in this essential industry that offers triple bottom line benefits.

MAKING SENSE OF THE NUMBERS – A REAL ASSESSMENT OF OREGON'S ORGANIC FARMS

Organic certification is associated with the preferred market channels utilized by farmers. Sales into third party markets (such as wholesale, retail, etc.) require organic certification to assure legal standards are met. There are many farms using organic practices that sell into direct-to-consumer markets whose customers do not require organic certification. Therefore, the number and economic impact of organic farming is far greater than just certified organic farms.

The majority of Oregon's 37,300 total farm operations (23,500 farms) have less than $10,000 in annual sales. Certified organic farms represent 491 or 3.5% of the remaining 13,800 farms with sales over $10,000.

Many certified organic farms generate significant sales. According to NASS, only 3000 of the over 37,000 Oregon farms have sales over $250,000. More than 30% of certified organic farms have over $250,000 in sales and 21% have over $500,000 in sales. These farms are considered medium- and large-scale farms and contribute significantly to the economy through employment and input purchases where they are located.

Generally, research indicates that organic farms are 35% more profitable than the average non-organic farm. Between 2012 and 2017, organic farm income doubled while the income of all U.S. farms remained flat.

WHERE OREGON LEADS IN ORGANIC PRODUCTION

For at least the last 15 years, Oregon has been in the top five states for total farmgate value of organic agricultural products–$386 million. And, at a minimum, $582 million in estimated revenue from manufactured organic products.
Leading products include dairy, livestock, and poultry products; vegetables; fruit; field crops and hay (alfalfa); hazelnuts; and grains. Supporting transition to organic in these sectors is an effective and efficient way for Oregon to grow organic.

COMMUNITY, CLIMATE, & ENVIRONMENTAL BENEFITS & TRUE COST ACCOUNTING

Organic hotspots, defined as clusters of counties with high numbers of organic operations, have poverty rates 1.3% lower And median household incomes $2,000 higher relative to general agricultural hotspots. Nearly half (47%) of oregon counties are organic hotspots.

Based on oregon employment department data, highland estimates that $33 to $83 million in labor income is directly attributed to wholesale activities related to organic food.

Organic protects the safety and health of frontline farmworkers, who are not subject to synthetic pesticide, herbicide and fertilizer exposure on organic farms.

In a long-term study conducted by the Rodale Institute, organic production was found to yield as much as 40% higher than conventional in drought conditions, which are becoming increasingly frequent in the U.S., especially in the west. Organic agriculture has considerable potential to better withstand volatile weather conditions.

Organic systems build and regenerate soil health through reduced tillage, rotational grazing, crop rotations, cover crops, and other practice standards required by the National Organic Program (NOP). These practices have been shown by numerous studies to increase soil organic matter, soil stability, carbon sequestration, and water holding capacity, and considerably decrease groundwater contamination from nitrates.

While conventional materials not allowed for use in organic systems are often efficient and effective, they can contribute to extractive systems that utilize only reactionary, short-term solutions with long-term environmental and human health related repercussions.

CONSUMERS SNAPSHOT

- 14% of dedicated organic consumers identify as Black, 25% as Hispanic, and 10% as Asian; each group’s organic purchasing exceeded its representation in the overall U.S. population.
- According to 2022 OTA data, 45% of the organic customer base are under 40; it is the market of the future.

ORGANIC ADVISORY COMMITTEE’S SUGGESTED ACTION ITEMS

- Invest in Organic Technical Assistance & Applied Research by expanding the successful Organic Extension Program at OSU. Significant organic gains could be made in food-grade grain, dairy/livestock, fruit & tree fruit, soil ecology, vineyards, and hazelnuts.
- Address Data Gap Issues - look to systems other organic leaders have implemented.

- Address Organic Import Substitution Issues - grow in-state what Oregon can.
- Market Support Domestically and Internationally & Consumer Education
- Increase Support for Transitioning to Organic, leveraging federal funds and the Transition to Organic Partnership Program (TOPP).
- Reward and Incentivize Organic Practices, which are already building climate resilience.
- Improve Statewide Infrastructure for Post-Harvest Handling and Processing; e.g. hydrocoolers; hazelnut processing; cold storage; co-packing.
- Protect the Lucrative Brassica Specialty Seed Industry from Increased Canola Acreage.

For the health of our people, businesses, and planet, it is necessary to realize not only the role organic plays in mitigating the impacts a changing climate brings. Oregon's organic community urges you to support the organic industry by making investments that move our state toward agricultural, economic, and environmental resiliency. We look forward to our continued work, together with policy makers and others, to fully leverage the potential of Oregon's organic industry to the benefit of all Oregonians. The Advisory Committee would also like to thank the many agencies and institutions that consulted on this project such as ODA, USDA NASS, NRCS, and OSU, among others.

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