

The background is a warm-toned photograph of several glasses of beer on a wooden tray. A white outline of the state of Washington is overlaid on the image. A white silhouette of a hop branch with leaves and cones is positioned on the right side.

Washington Beer

Economic Impacts in Washington State

March 2019



Community Attributes Inc. tells data-rich stories about communities that are important to decision makers.

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Washington State Craft Beer

2017 Washington Economic Impacts



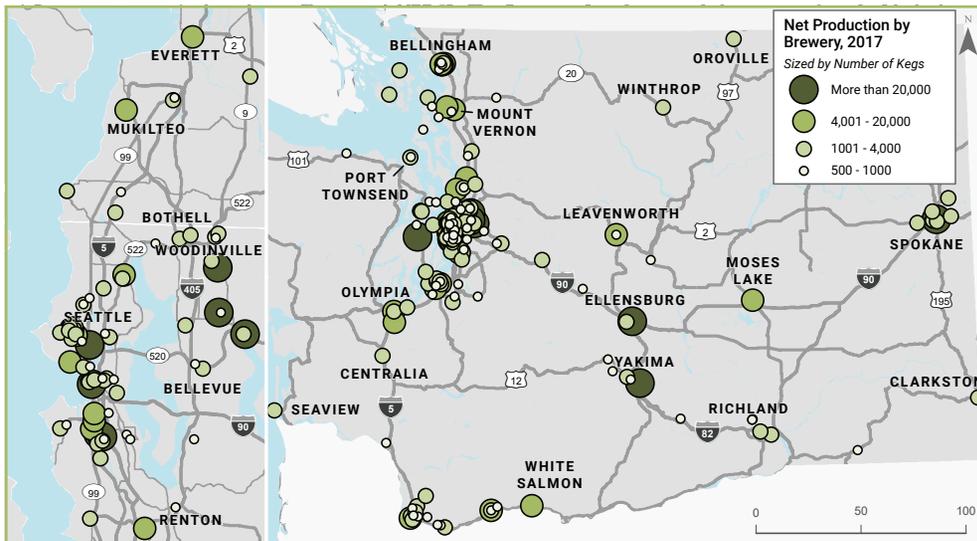
6,300
Direct Jobs



1.4 billion
Total Economic Impact



1,164,000
Kegs of Beer Produced
(582,000 Barrels)



391
Active brewery licenses in 2018



33
Average breweries added per year,
2010-2018



130
Cities have at least one brewery



2nd
Most craft
breweries in the U.S.
*California is first,
with 764 craft breweries*



4/5
Of all Washington Breweries are
neighborhood breweries
*Producing fewer than 4,000 kegs per
year, independently owned and operated*



75%
Of total hop crop production
in the U.S.
Yakima Valley, 2017

Sources: Washington State Liquor and Cannabis Board, 2018; Washington State Employment Security Department, 2018; Washington State Department of Revenue, 2019; Washington State Office of Financial Management, 2018; Brewer's Association, 2019; Community Attributes Inc., 2019.



Executive Summary

Washington beer production has surged in recent years, growing from just 283,400 barrels in 2005 to 582,400 in 2017. Washington is home to the largest single source of hop production in the world, with 75% of all U.S. hop production. Beer production volumes declined slightly from a recent peak of 632,300 in 2016, due to corporate acquisition of Washington beer and production relocation out of state, but growth in new craft brewers demonstrates industry strength and consumer demand.

Washington’s craft beer industry reflects both national trends and the state’s own qualities. Craft brewing has been on the rise across the U.S. In 2017, while overall beer sales by volume declined 1.2%, to 196 million barrels (BBLs), sales of craft beer continued to grow at 5.0%, reaching 12.7% of the total U.S. beer market (24 million barrels or 48 million kegs). Craft breweries contribute meaningfully to other parts of the economy through supply chain purchases and worker income. According to the Brewers Association, in 2017 the craft brewing industry nationwide contributed \$76.2 billion to the U.S. economy and supported more than 500,000 jobs.¹

Beginning in the 1980s with Redhook and Pyramid, Washington has long been a hub for high quality craft beer. This study provides an in-depth review and analysis of the beer industry in Washington, including growth trends, distribution and sales channels, economic contributions, and outlook and challenges.

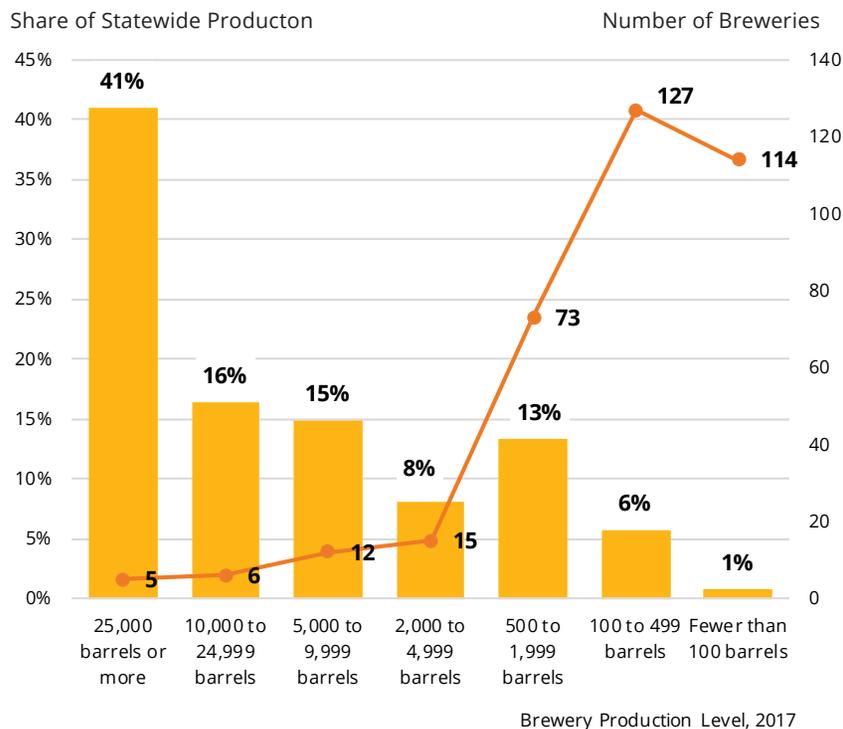
Breweries, Production, and Industry Segmentation

In the autumn of 2018, Washington had 391 licensed active brewing operations. Between 2005 and 2017 (last full year of data), overall volume of net production (gross production adjusted to exclude inventory losses) increased at an annual rate of 7% per year.² Excluding Redhook, which relocated its production to Oregon, production increased 16% per year.

Production amounts per brewery can help segment the industry. The majority of breweries are small, with two thirds of licensed active operations producing fewer than 500 barrels (or 1,000 kegs) in 2017. Slightly more than half of all net production came from the eight largest breweries in the state; more than a third of net production was by the

four largest breweries in 2017 (Elysian, Georgetown, Fremont, and Mac & Jack’s). Statewide, 30 (11%) breweries produced at least 2,000 barrels in 2017. Roughly one fifth produced between 500 and 2,000 barrels; more than one third between 100 and 500 barrels, and nearly one third produced fewer than 100 barrels. **(Exhibit E-1)**

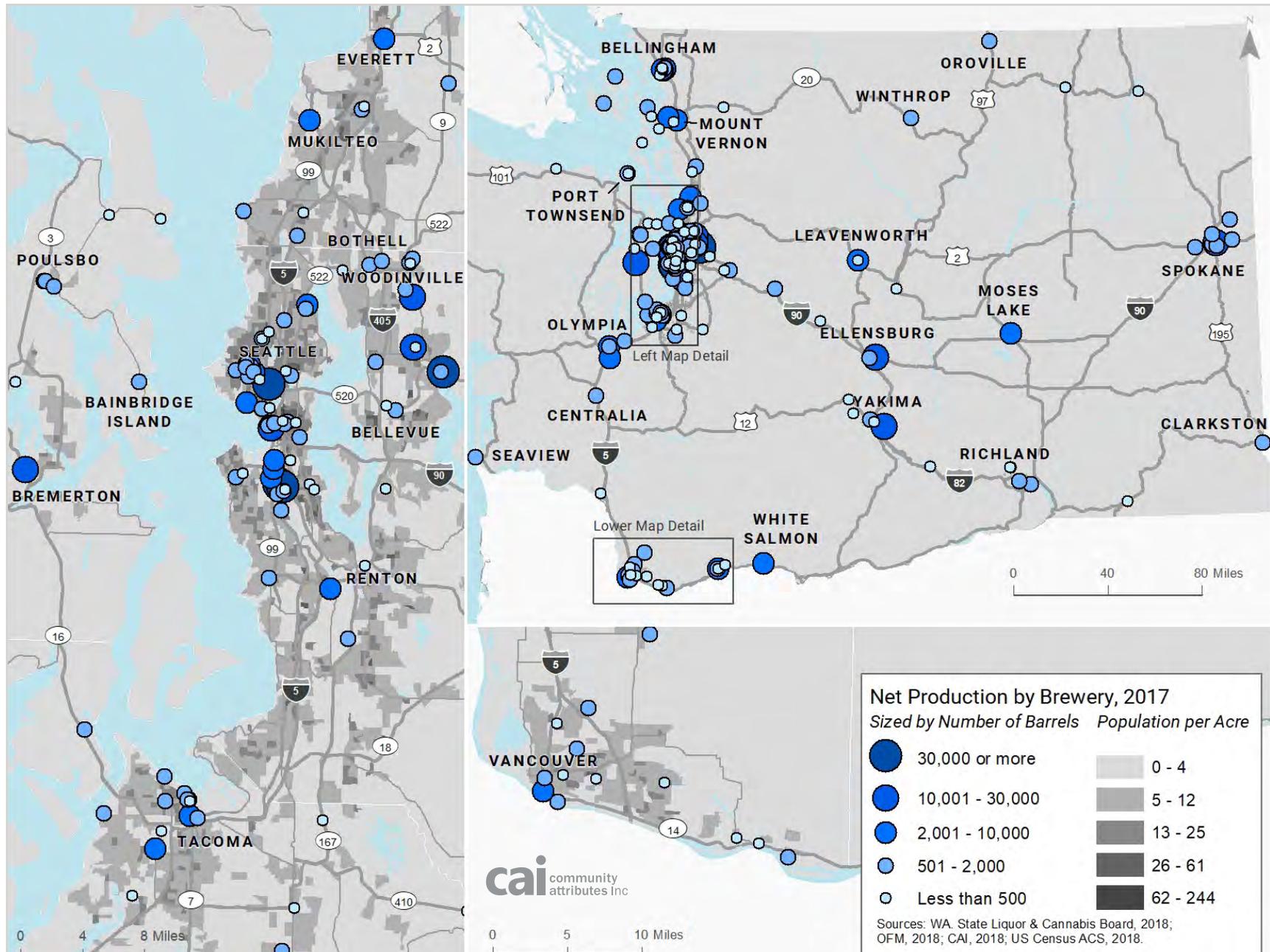
Exhibit E-1 Breweries by Production Size, 2017



Sources: Washington State Liquor and Cannabis Board, 2018; Community Attributes Inc., 2019.

Craft beer production has accelerated in recent years, including amongst established breweries. In 2007, of the 38 breweries (excluding Redhook) that produced at least 500 barrels of beer in Washington, slightly more than one third showed positive growth during the next ten years in production. By comparison, of the 56 breweries (excluding Redhook) that reported at least 500 barrels of net production in 2012, nearly half (26) showed production growth by 2017. Of these, 16 breweries grew by more than 10% a year during this time, including Iron Horse Brewery, whose annual growth averaged more than 60%.

Exhibit E-2. Brewery Locations Across Washington State, 2017



King County is home to the largest concentration of breweries in the state, with 55% of net production. Other notable concentrations include Kittitas, Yakima, Whatcom, Pierce, and Kitsap counties, each with more than 4% of total state net production.

The vast majority of Washington breweries are small, family-owned, and are an integral part of their local communities. Taprooms often serve as locations for public gatherings and events. At least one brewery exists in 130 cities and towns across the state, out of 281 incorporated municipalities. Seattle is home to largest number of brewery locations, with 66 in 2017, followed by Vancouver (19), Tacoma (16), Spokane (14), and Bellingham (13). **(Exhibit E-2)**

Distribution and Sales Channels and the Beer Business Model

The majority of beer sold by volume is through distribution networks, ultimately for final sale in restaurants, bars, and stores, though this is primarily among Washington's largest breweries. In 2017, an estimated two-thirds of all brewery sales by volume were via distributors, with the remainder in taproom sales, brewpubs, and self-distribution. For many breweries, especially smaller operations, distribution is a significant revenue challenge. Whereas a barrel of draft beer sold in a taproom in the form of pints can earn \$1,200 or more in sales, the same quantity sold to distributors typically generates \$300 or less for the brewery. In 2017, approximately one-fourth of all breweries worked with a distributor. For the eight largest breweries, representing more than half of all net production statewide, distribution channel sales by volume averaged more than 90% of all sales in 2017. More than 75% of breweries use self-distribution, brewpubs, and taprooms as their only sales channels.

The taproom business model has enabled much of the growth in small breweries. Taprooms allow small operations to sell beer directly to consumers without additional costs, such as operating a kitchen and dining facility. Through taprooms, breweries fully capture these revenues, whereas sales through distributors generate much lower returns for breweries on a per barrel, or BBL, basis. However, for breweries that seek to expand sales, distributors and significant investments in higher capacity barrel systems are required, each with their own inherent challenges.

Growth Opportunities and Challenges

Washington's beer industry has grown substantially in recent years, and continued growth depends on increasing market share within Washington and gaining traction in domestic and international exports, which Washington lags in. Beer sales in Washington state remain dominated by large out-of-state producers, including both major labels—such as those under AB InBev and Pabst Blue Ribbon—and larger regional craft breweries such as those out of Oregon and California. In 2017 an estimated 11% of all beer sold by distributors (representing the vast majority of all beer sales by volume) were of beer from Washington, up from slightly more than 4% in 2005. Growth opportunities exist for breweries of all sizes, though with their own unique challenges. The number of new breweries continues to grow, meeting a demand for small, neighborhood craft breweries across the state.



Image Source: Washington Beer Commission, 2019

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1. Introduction

Washington has in recent years emerged as one of the U.S.’s most vibrant and robust clusters of craft beer producers, ranking among the largest states in number of craft breweries. In 2017, there were nearly 400 unique craft breweries in Washington state, primarily concentrated in King County but with celebrated brands across the state. The industry in recent years has experienced substantial growth in overall net production, employees, and number of licensed brewery operations, and yet there remains significant market share available for local producers to capture.

This study, commissioned by the Washington Beer Commission, analyzes the size, breadth, evolution, and economic and fiscal contributions of the craft beer industry to the Washington state economy.

Methods

Analytics presented in this report leverage state and federal data on beer production and associated employment, wage, and revenue data, combined with data and information gathered and shared by the Washington Beer Commission and Washington Brewers Guild and through interviews with industry stakeholders. Economic impacts are modeled through use of the Washington State Input-Output Model, developed by the Washington State Office of Financial Management to represent the complex features and web of transactions that define the Washington state economy.

In some cases, such as reported beer production, different government agencies at state and federal levels use alternative measures for beer produced and sold. These differences will be explained in full in this report.

Organization of Report

The remainder of this report is organized as follows:

- **Industry overview.** The production, supply chain, and sales channels that define the industry.
- **Key industry metrics.** Production, brewery count, jobs, income, sales patterns, and tourism and festival activities.
- **Economic and fiscal impacts.** Additional jobs, income, and revenues supported through upstream business-to-business transactions and household consumption expenditures.
- **Outlook and key industry issues.** Drawing on interviews with industry stakeholders and supporting sources.
- **Summary and conclusions.** Review of key findings.



Image Source: Washington Beer Commission, 2019



Exhibit 1. Washington Beer Production Supply Chain



*Sized to represent proportion of market

2. Industry Overview

Washington’s beer industry represents a supply chain linking local farms to regional and national consumers. Brewers rely on local hops as a core ingredient, along with grains, a large share provided by local farmers and maltsters, fermentation equipment, barrels, bottling and canning systems, distribution and sales channels, and other key elements of the beer production system. **Exhibit 1** details the key components of this supply chain.

Hops Production

Washington’s beer supply chain begins with a few key ingredients, most notably hops. Washington is the nation’s largest producer of hops, representing three quarters of all U.S. production in 2017 (**Exhibit 2**) and 25% of global production. Nearly 30% of Washington’s hops harvest by value is exported, equal to 82% by value of all U.S. hops exports in 2017. Key providers of hops in the Yakima Valley include Yakima Chief Hops, Steiner and Haas (two German companies that have since established a presence in the region), as well as smaller processors of pellets such as Hollingbery and Sons.

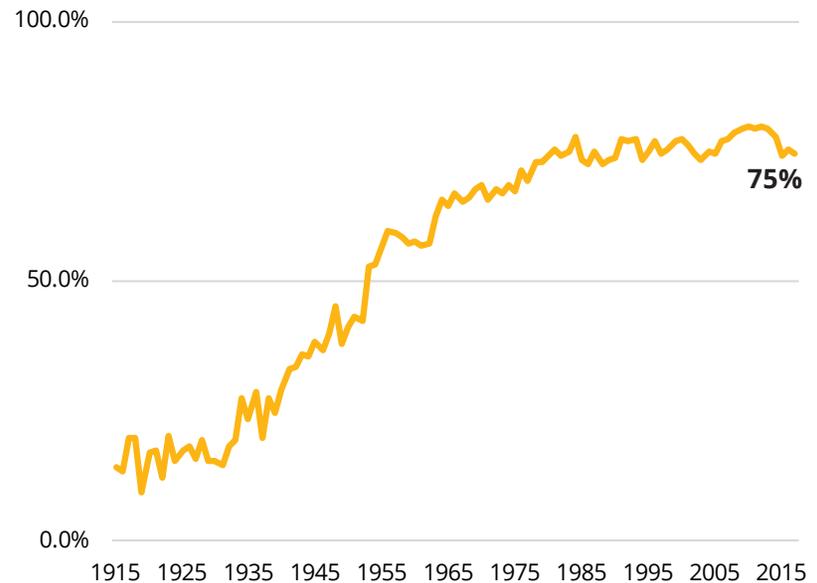


Image Source: Washington Beer Commission, 2019

The most commonly produced hops are alpha and super alpha varieties, though even within these subspecies of the plant there is an increasingly appreciated variation in the aroma and other attributes associated with terroir, including soil conditions, hill slope, amount of sunshine, and other factors. Larger breweries purchasing above a certain purchasing threshold (in pounds) often have first access to specific hops fields and are invited out by the growers or wholesalers in advance to make their selections.

One of the challenges for brewers is the maintaining of a consistent flavor profile for each beer style year over year. Unlike wine, when the year and appellation are presented as important and celebrated qualities shaping the profile of a wine, beer consumers typically expect the same flavor profile per style regardless of the year. Yet, it is often the case that aromatics and other attributes of a specific strand of hops will vary year by year based on climatic conditions and other factors.

Exhibit 2. Washington’s Share of Total U.S. Hops Production, 1915-2017



Sources: U.S. Department of Agriculture, National Agriculture Statistics Services, 2018; Community Attributes Inc., 2019.

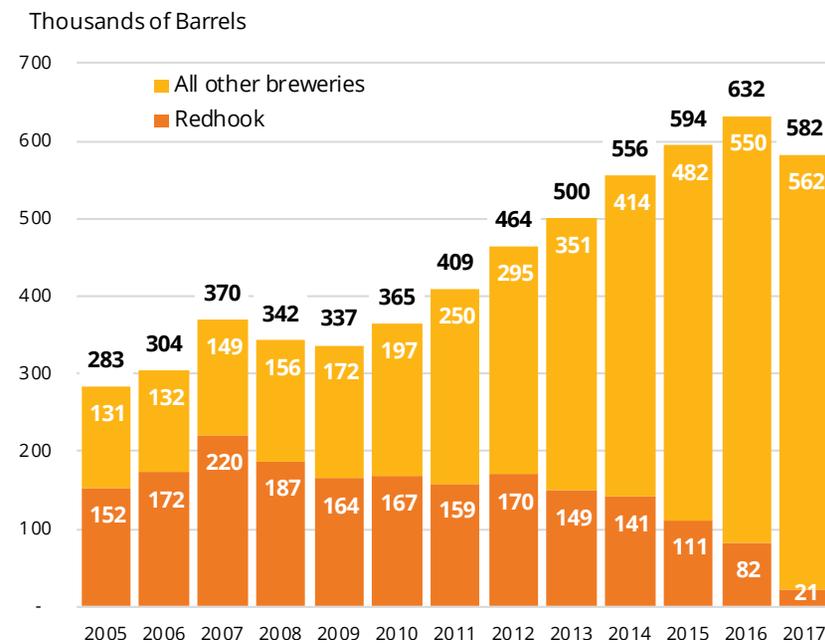
3. Washington Beer Industry Metrics

Beer Production and Breweries

Washington beer production has surged in recent years, growing from just 283,400 barrels in 2005 to a recent peak of 632,300 in 2016 (**Exhibit 3**). Volumes declined slightly in 2017, to 582,400, but this was largely due to the closure of Redhook production in the state and relocation to Oregon. Redhook has been a major staple of Washington’s beer industry historically, though its share of overall production has declined steadily in recent years as many other breweries have opened and expanded production.

Between 2007 and 2017, Redhook production in Washington declined at a compound annual growth rate of 21% per year, whereas all other breweries have seen positive growth of 16% per year over this same period. In 2017, while overall net production declined, after removing Redhook net production increased 2%.

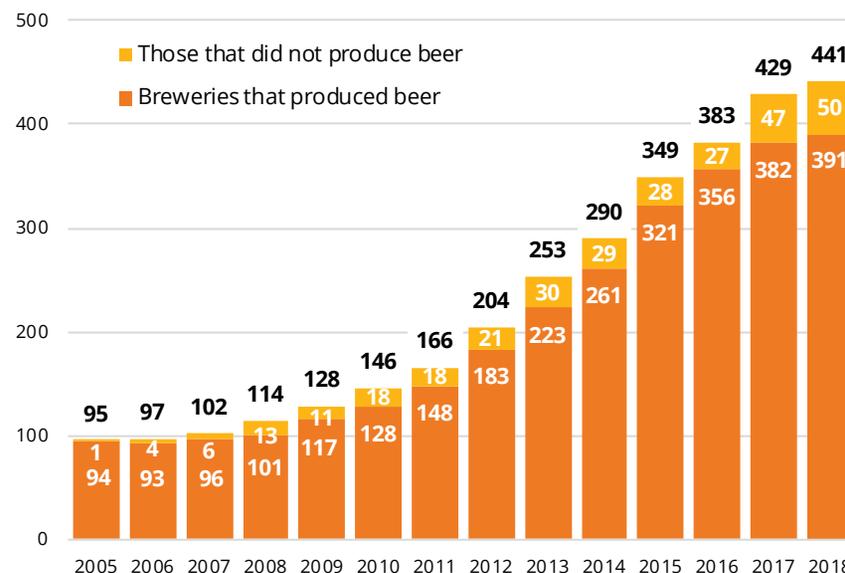
Exhibit 3. Beer Production Over Time



Sources: Washington State Liquor and Cannabis Board, 2018; Community Attributes Inc., 2019.

The number of active breweries, based on licensed operations, has continued to grow, reaching 391 as of August 2018 (**Exhibit 4**).³ Between 2005 and 2017, total active licenses (i.e., those associated with positive annual net production) increased at an average annual compound rate of more than 12% per year; since 2005, in only one year—2006—did the number of active licenses decline.

Exhibit 4. Licensed Brewery Operations in Washington State, 2005-2018*



*2018 data as of August 2018. Sources: Washington State Liquor and Cannabis Board, 2018; Community Attributes Inc., 2019.

In 2017, Washington’s largest breweries by net production included Elysian (66,300 barrels; acquired by Anheuser-Busch InBev in January 2015 but retaining production in Washington), Georgetown Brewing Company (65,000), and Fremont Brewing Company (44,200). Redhook Brewery, once Washington’s largest net producer, has since moved its primary production to Oregon, though it has invested in a new a tasting room in Capitol Hill in Seattle (**Exhibit 5**).

Exhibit 5. Largest Breweries by Net Production, 2017

Rank	Brewery	Number of Licenses 2017	Net Production (BBLs), 2017	Share of Total Net Production, 2017	Cumulative Share of Net Production, 2017
1	Elysian Brewing Company*	3	66,300	11%	11%
2	Georgetown Brewing Co.	1	65,000	11%	23%
3	Fremont Brewing Company	1	44,200	8%	30%
4	Mac & Jacks Brewery Inc.	1	38,200	7%	37%
5	Iron Horse Brewery	1	25,400	4%	41%
6	Bale Breaker Brewing Company	1	24,000	4%	45%
7	Redhook Ale Brewery**	1	20,400	4%	49%
8	Silver City Brewery	1	17,900	3%	52%
9	No-Li Brewhouse	1	11,500	2%	54%
10	Pike Brewing Company and Liberty Malt Supply	1	11,300	2%	56%
11	Black Raven Brewing Company	1	10,400	2%	57%
12	Reuben's Brews	2	9,100	2%	59%
13	Kulshan Brewery	2	9,000	2%	61%
14	Hales Ales	1	8,900	2%	62%
15	Fish Brewing Co.	1	8,800	2%	64%
	<i>Others, producing less than 8,000 BBLs</i>	363	212,000	36%	100%
Total		382	582,400		

*Part of AB InBev **Redhook closed its Woodinville production facility in 2017. Sources: Washington State Liquor and Cannabis Board, 2018; Community Attributes Inc., 2019.

Production Across the State

The vast majority of beer production is concentrated in the Greater Seattle region, with 55% of reported net production in King County. However, there are a growing of beer production regions across the state. These include Kittitas County (4.9% of net production), Yakima County (4.7%), and Whatcom County (4.6%). Moreover, while King County is home to more than half of all net production, it represents less than a third (30%) of all active breweries (**Exhibits 6, 7 and 8**).



Image Source: Washington Beer Commission, 2019

Exhibit 6. Brewery Locations Across Washington State, 2017

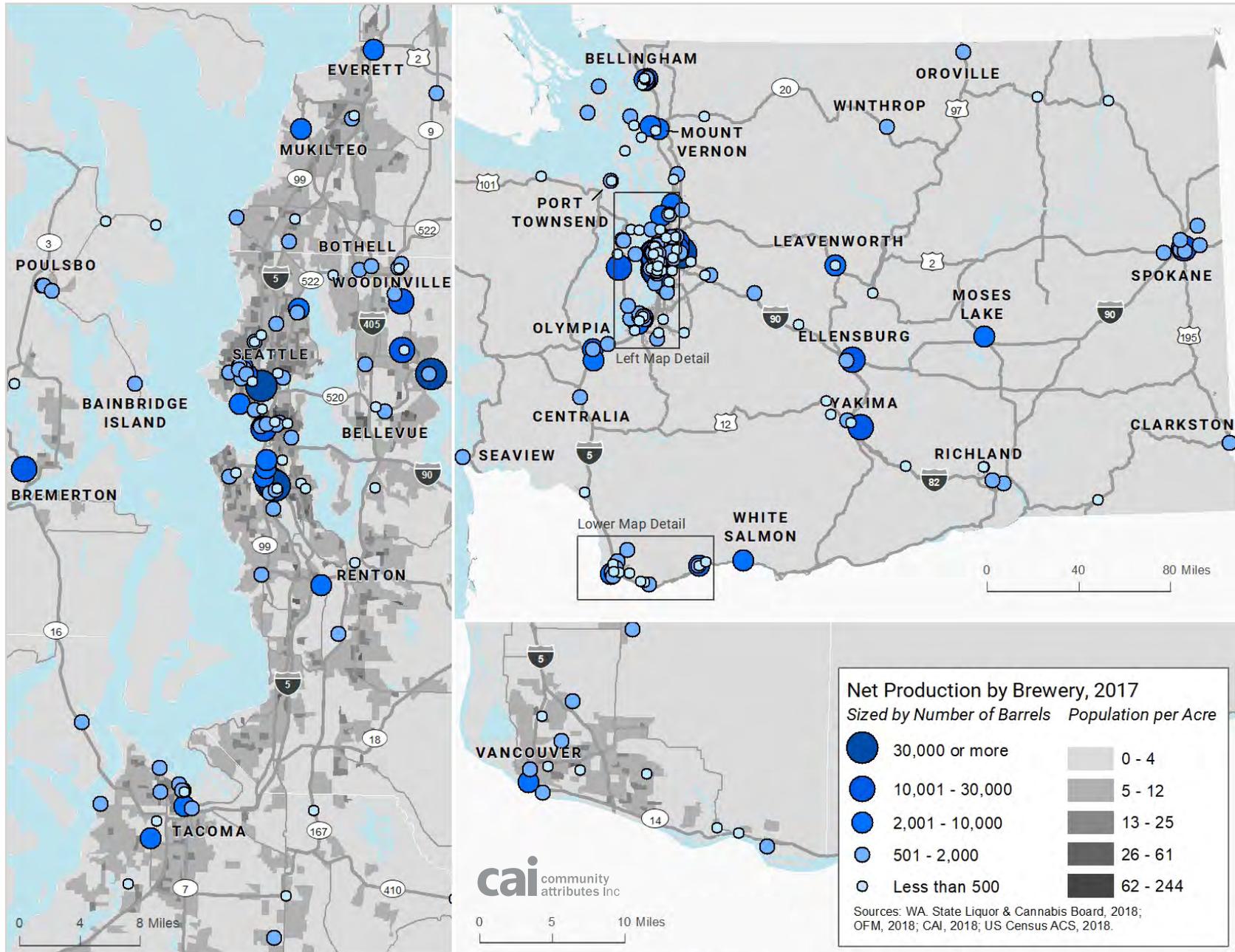


Exhibit 7. Brewery Locations in Seattle and the Central Puget Sound Region, 2017

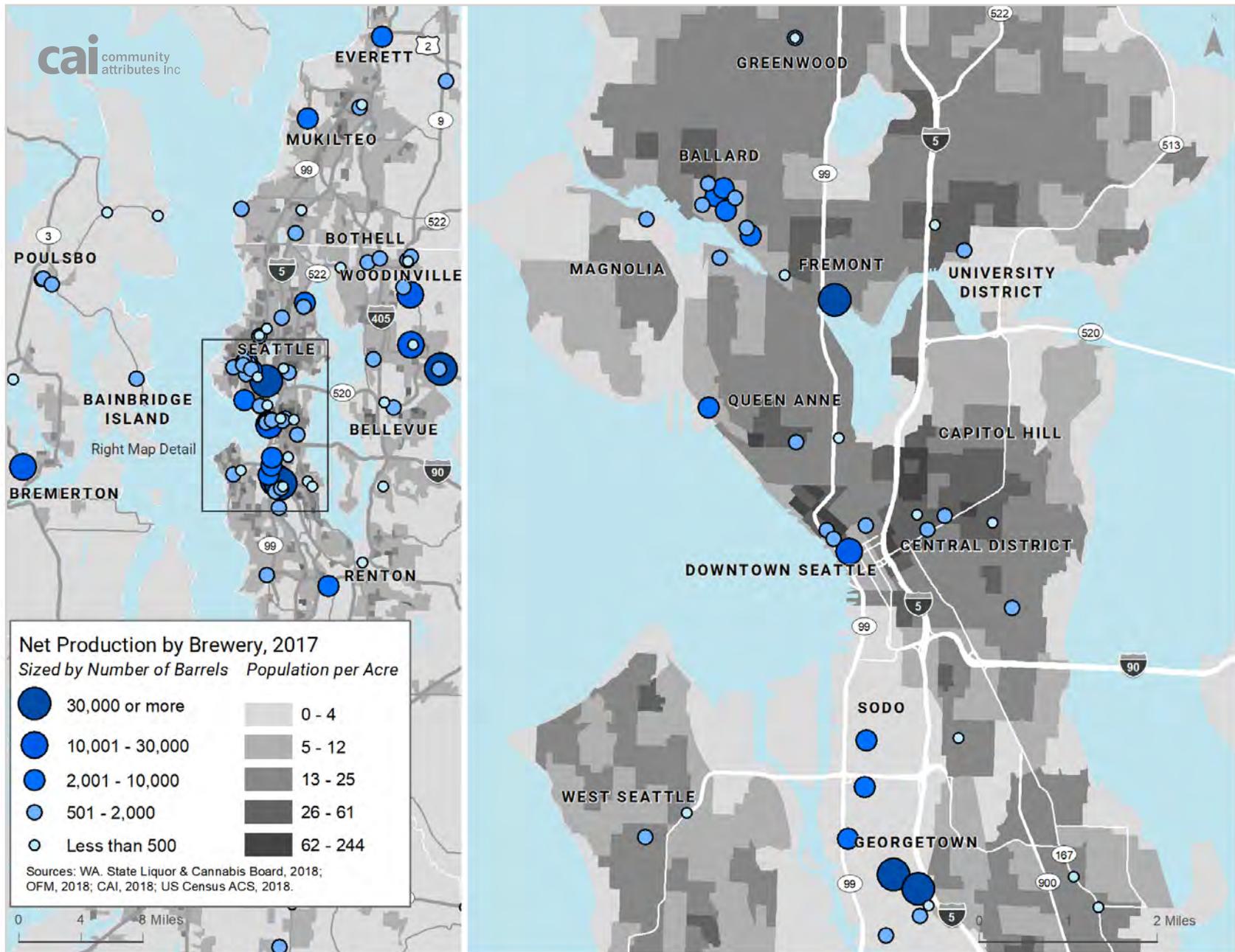
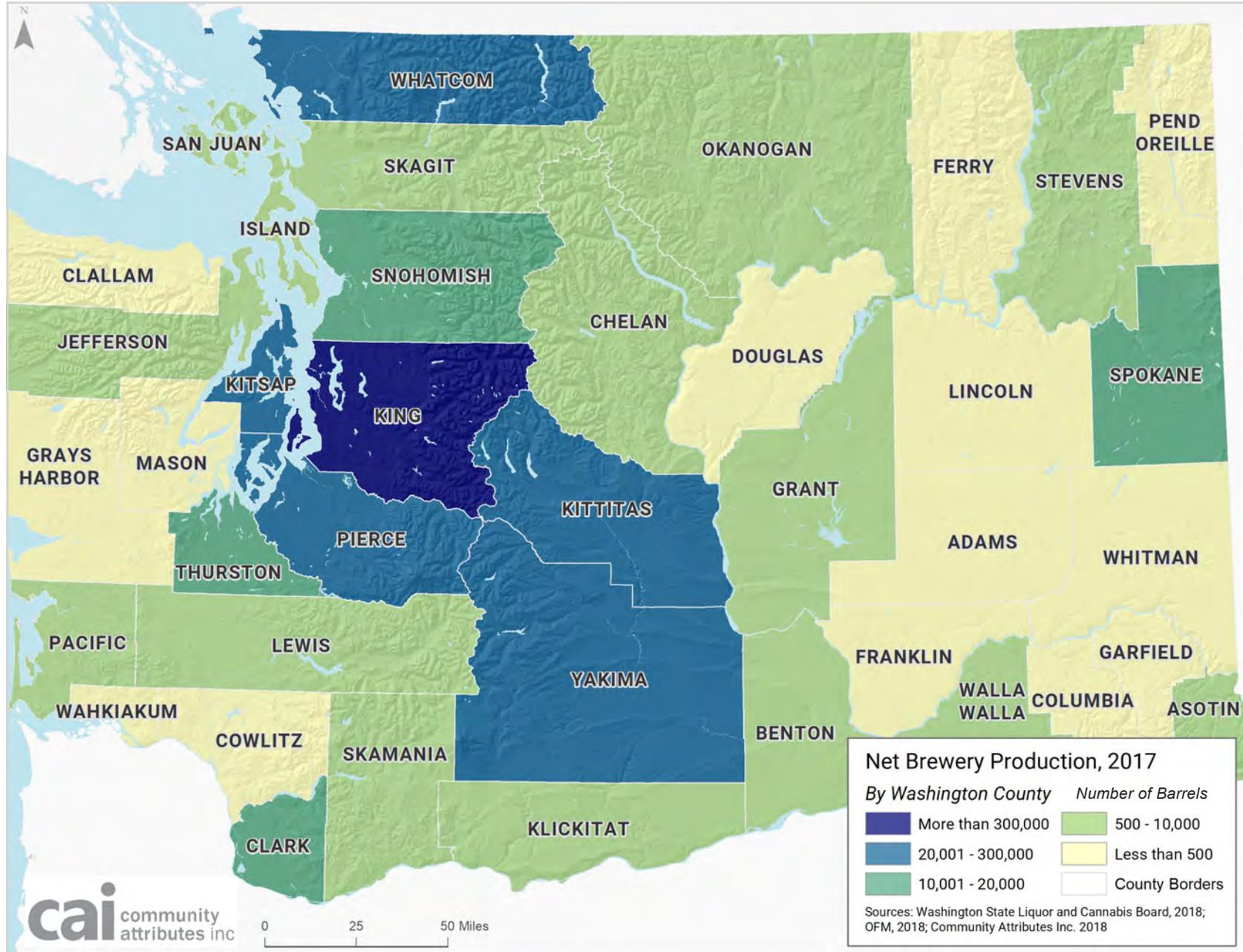


Exhibit 8. Net Beer Production by County, 2017



Jobs, Income, and Wages in Beer Production

In 2017, an estimated 6,300 workers were employed in breweries, including brewpubs and beer-only operations.⁴ Income associated with these positions, inclusive of wages and benefits, summed to \$244.8 million in 2017. Between 2005 and 2017, estimated annual beer production employment grew at an annual compound growth rate of 13% per year, from 1,500 employees to 6,300 over this period (**Exhibit 9**).

Business revenues generated by beer production summed to an estimated \$581.4 million in 2017 (**Exhibit 10**). This estimate is inclusive of the value of beer sales—either in kegs, packaged (bottles and cans), and on-site tasting room sales—as well as souvenirs and additional sales at brewpubs in the form of food and other drink options.⁵ Unlike other types of beverages and agriculture-based products, such as wine, beer employment is not seasonal. It also can require just one to two individuals to start and operate a brewery.

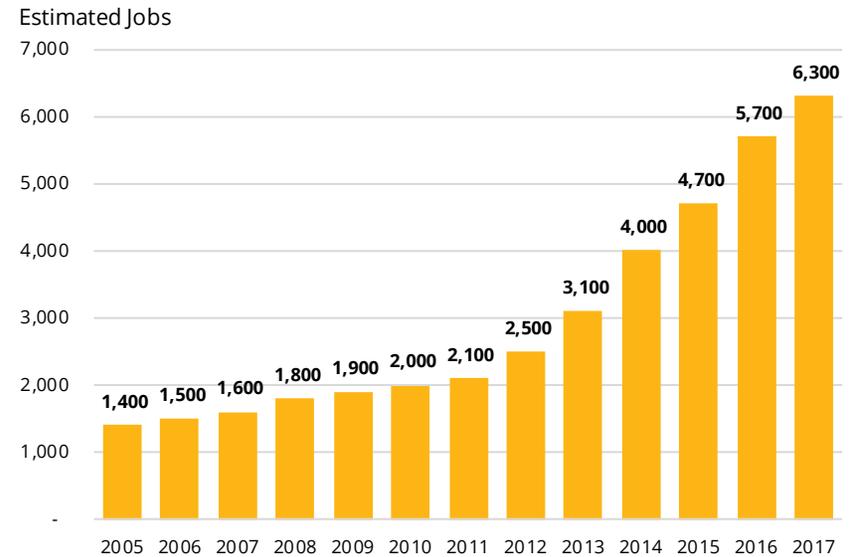
Breweries can also be segmented by size of production and employment. In 2017, breweries that reported net production of between 500 and 2,000 barrels employed an estimated more than 1,400 workers, or nearly a quarter of all brewery jobs Washington. Approximately 89% of all breweries in 2017 produced less than 2,000 barrels (4,000 kegs). Breweries producing in excess of 25,000 BBLs in 2017 represented 6% of the total industry workforce (**Exhibit 11**).

Exhibit 10. Summary of Leading Metrics, Beer Production, Statewide, 2017

Jobs	6,300
Labor Income (mils \$)	\$250.2
Business Revenues (mils \$)	\$581.4
Number of Active Licenses	382
Net Production (thousands of barrels)	582.4

Sources: Washington State Employment Security Department, 2018; Washington State Department of Revenue, 2019; Washington State Liquor and Cannabis Board, 2018; Community Attributes Inc., 2019.

Exhibit 9. Washington Jobs in Beer Production, 2005-2017



Sources: Washington State Employment Security Department, 2018; Washington State Liquor and Cannabis Board, 2018; Community Attributes Inc., 2019.

Major Beer Corporations in Washington

Anheuser-Busch (AB InBev), North American Breweries, and Heineken all have a presence in Washington state, either through distribution, acquired craft breweries, or taprooms. AB InBev bought Seattle-based Elysian Brewing in January 2015 and owns a stake in Redhook.^{6,7} Elysian continues to brew beer in Washington state, with 66,300 BBLs of net production in 2017, equal to 11% of all Washington state beer production. AB InBev also owns Anheuser-Busch Sales of Washington, a distributor in Renton.⁸ Pyramid Brewing, also founded in Washington, was acquired in 2010 by North American Breweries and maintains only small batch production and a taproom in Seattle.⁹ Lagunitas Brewing Company, which began in Petaluma, California, has been wholly owned by Heineken since 2017, and that same year opened a brewery and taproom in Seattle.¹⁰

Exhibit 11. Brewery Net Production and Employment by Production Size, 2017

Net Production (BBLs)	Number of Breweries	Number of Licenses	Share of Breweries	Net Production (thous barrels)	Share of Net Production	Employment	Share of Employment
Fewer than 100	114	117	32%	4.2	1%	1,300	21%
100 to 499	127	132	36%	33.3	6%	1,300	20%
500 to 1,999	73	76	21%	77.3	13%	1,500	23%
2,000 to 4,999	15	24	4%	46.6	8%	900	14%
5,000 to 9,999	12	20	3%	86.6	15%	700	11%
10,000 to 24,999	6	6	2%	95.4	16%	200	4%
25,000 and above	5	7	1%	238.8	41%	400	6%
Total	352	382	100%	582.4	100%	6,300	100%

Sources: Washington State Employment Security Department, 2018; Washington State Liquor and Cannabis Board, 2018; Community Attributes Inc., 2019.
 Note: employment figures are rounded to the nearest 100.

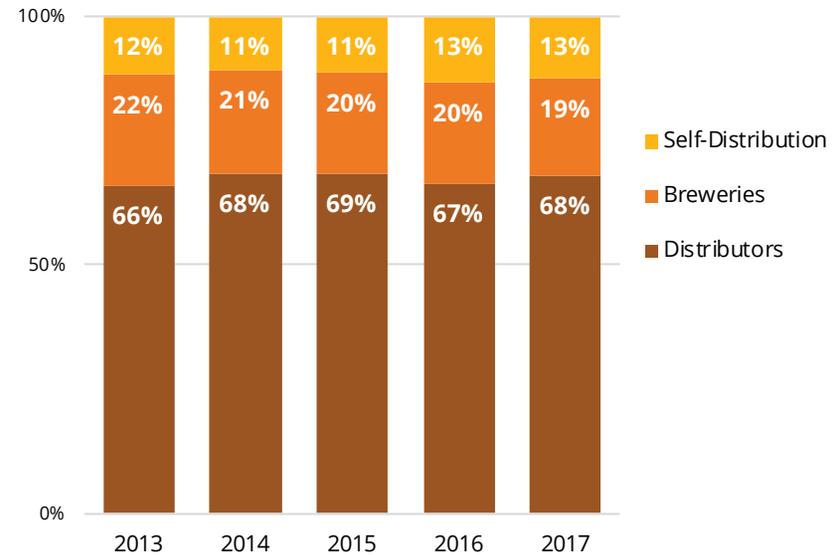
Sales and Distribution Patterns

Beer sales data represent actual sales of beer, irrespective of time of production, and thus diverge slightly from reported statewide net production data. In 2017, for example, according to the Washington State Liquor and Cannabis Board, 479,200 barrels of beer were sold by Washington state breweries (**Exhibit 12**). These include: 1) self-distribution; 2) on-premise sales of draft beer at the brewery itself, such as at a tasting room or served at a brewpub; and 3) sales—kegs and packaged beer—through distributors. Of these, sales through distributors constituted more than two thirds (68%) of all sales in 2017, followed by brewery on-premise sales (20%).



Image Source: Washington Beer Commission, 2019

Exhibit 12. Distribution of Sales Channels for Washington Beer, 2013-2017

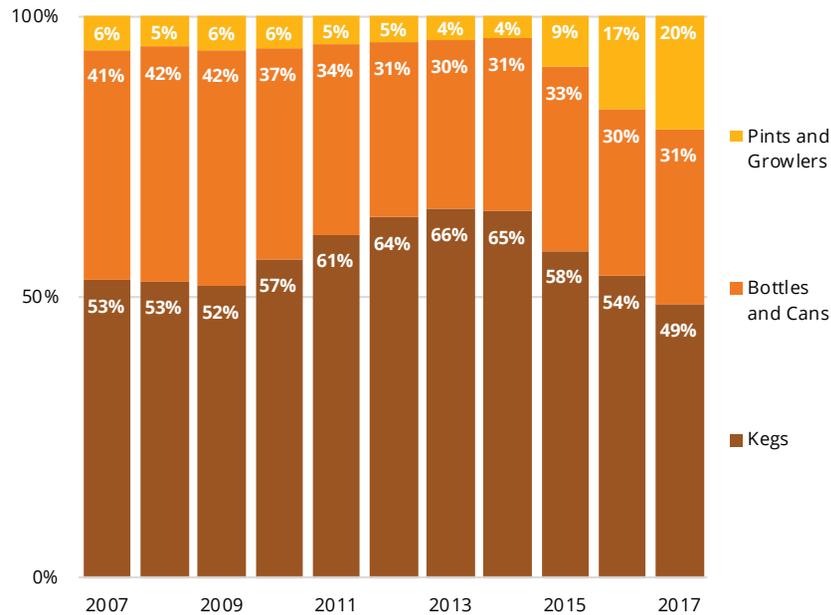


Sources: Washington State Liquor and Cannabis Board, 2018; Community Attributes Inc., 2019.
 Note: reported subtotals may not sum to 100% due to rounding.

By mode of sale, in 2017 nearly half of all Washington beer sold by volume was in the form of kegs. This is down from a peak of 66% in 2013, while draft sales at on-site tasting rooms and brewpubs has increased from 4% in 2014 to more than one fifth of all sold beer in 2017 (**Exhibit 13**). These figures likely reflect the growth in small breweries across the state, many of which rely on on-site sales as their primary sales channel.

Exhibit 13. Type of Sale for Barrels of Beer Produced in Washington, 2007-2017

Share of Barrels of Beer Sold



Sources: U.S. Tax and Trade Bureau, 2018; Community Attributes Inc., 2019.

Sales of packaged product and on-site draft pints yield a much higher sales-to-volume ratio compared with off-site keg sales. For example, on average, a keg of beer sold via distributor may generate between \$150 and \$200 for the brewery. The recipient purchasing bar or restaurant, assuming an average price per pint of \$5 and 124 pints per keg, can in turn generate upwards of \$620 per keg, representing a nearly 4 to 1 ratio in sales. However, most breweries, in growing their business, often

resort to off-site keg sales as their first foray into distribution, due in large part to the high capital costs of packaging, such as the purchase of an on-site canning machine which can cost hundreds of thousands of dollars or more.

As breweries grow and scale production, distribution typically becomes an increasingly important channel for sales. For example, among Washington’s largest breweries by net production, an estimated 91% of Georgetown’s sales are through distributors, 90% for Fremont Brewery, 98% for Mac & Jack, and 90% for Bale Breaker.

However, breweries report challenges and risks in finding and maintaining a strong distributor relationship. For many breweries, distribution is a matter of scale; a given brewery, after signing a distribution agreement, must guarantee a consistent volume of production on a regular basis. Brewers fear potentially greater damage to the business from signing a distributor agreement and failing to consistently deliver on the agreed upon volume than to hold back sales opportunities from not signing a distributor agreement. For supermarkets and grocery chains, alcohol sales represent a disproportionate revenue source; when a contracted brewery is unable to maintain its vendor relationship and contractual obligations with these entities, stores will suffer revenue losses from empty shelf space.

Brewers also find it increasingly difficult to secure a distributor relationship. In recent years there have been at least two important shifts in the distributor system. Consolidation and acquisitions within distribution networks has made it more challenging for local brewers to tap into broader sales channels. Some of the larger national and multi-national corporate beer producers, such as Anheuser-Busch InBev, have purchased both craft breweries and distributors. These larger entities have a natural preference for distributing their own products, potentially excluding up and coming craft breweries. Secondly, brewers perceive a trend towards greater centralization among supermarket procurement in recent years, reversing a more localized purchasing model. This model has made it more difficult for local brewers to build vendor relationships with purchasing agents due to increased sales

volume requirements, as fewer purchasing agents manage a greater number of outlets. While the number of craft breweries has increased significantly in recent years, the number of unique SKUs (stock-keeping unit) for beer available at retail outlets has not increased at nearly the same rate.

Tourism and Festivals

Throughout the year, the Washington Beer Commission and Washington Brewers Guild organize several festivals to celebrate and promote Washington craft beer. These include the Washington Brewers Fest, which attracted nearly 20,000 unique visitors in 2017. **Exhibit 14** below summarizes major beer promotion events throughout the year and attendance at each. In addition to these events, many other local and community groups organize beer festivals and events not captured in these figures, such as annual neighborhood beer fests throughout Seattle, further elevating the visibility of Washington craft beer.

Exhibit 14. Festivals Organized by the Washington Beer Commission and Washington Brewers Guild in 2017 and Number of Unique Attendees

2017 Event	Attendees
Brewers Festival	19,800
Winter Beer Fest*	3,500
Inland	3,300
Bremerton	2,700
Belgian Fest	2,200
Cask Fest*	1,900
Beer Collaboration	1,700
Tri-Cities	1,300
South Sound	800
Total	37,200

Sources: Washington Beer Commission, 2018; Washington Brewers Guild, 2018. Above are the updated numbers of paid attendees for 2017 beer events produced by the Washington Beer Commission and Washington Brewers Guild*

Of the 37,200 reported visitors to these events, an estimated 5% came from outside Washington state, based on analysis of event registration records, or approximately 1,900 individuals. These visitors are estimated to have spent \$1.5 million on local goods and services, in turn supporting nearly \$300,000 in labor income.¹¹

4. Economic and Fiscal Impacts

Economic impacts refer to the sum of activities directly attributable to beer production and additional sales support through upstream business-to-business transactions (indirect impacts) and household consumption expenditures from income earned through direct and indirect employment (induced). Fiscal impacts, discussed further below, represent additional tax revenues supported through these economic activities.

Breweries and Beer Production in Washington

In 2017, beer production and related activities supported a total of 11,000 jobs and more than \$1.4 billion in business revenues across the state economy. These impacts include 3,100 jobs and \$477.9 million in business revenues supported through induced impacts (**Exhibit 15**). Interpreted as multipliers, each job in beer production was associated with a total of 1.7 jobs across the state. Similarly, each dollar of revenue generated directly in beer production supported through indirect and induced effects an additional \$1.50 in revenues among other industries and businesses statewide.

Exhibit 15. Economic Impacts of Beer Production in Washington State, 2017

	Direct	Indirect	Induced	Total
Jobs	6,300	1,600	3,100	11,000
Total Compensation (mils 2017 \$)	\$250.2	\$111.1	\$162.0	\$523.3
Business Revenue (mils 2017 \$)	\$581.4	\$386.5	\$477.9	\$1,445.8

Sources: Washington State Office of Financial Management, 2017; Community Attributes Inc., 2019.

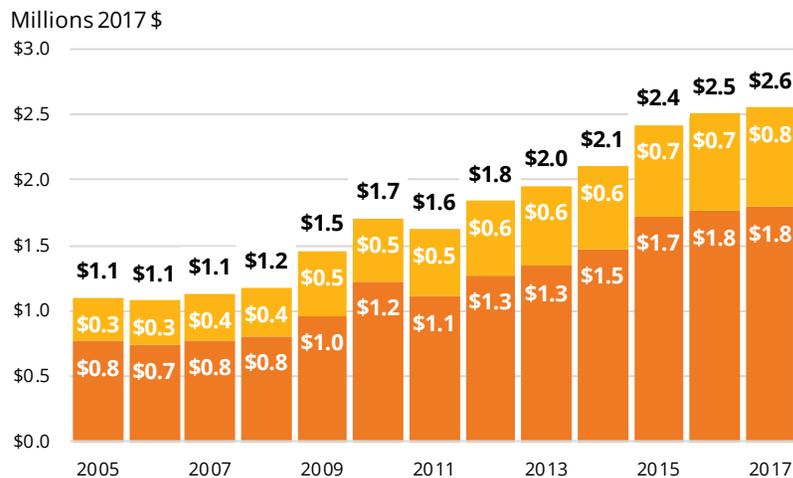
Estimates are based on the Washington State Input-Output Model, published by the Washington State Office of Financial Management; estimated values for revenue, jobs, and labor income discussed in earlier sections of this report; and estimated state-based first round purchases, or “direct requirements,” made by breweries as part of their overall production costs. These include the purchase of local hops, malted grains, capital expenditures, water, electricity, and labor costs, among

many other purchases and key inputs. Impact estimates assumed a labor share of total brewery costs of approximately 30%, based on existing research, labor income estimates, and brewery feedback and validation. An estimated 37% of brewery commodity and merchandise purchases necessary for beer production were made from Washington state businesses and farmers.

Fiscal Impacts

Beer production further supports tax revenues collected by the state in various forms, including B&O, sales & use, and excise taxes. Based on data provided by the Washington State Department of Revenue, in fiscal year 2017, Washington state breweries and brewpubs paid more than \$2.4 million in B&O tax and \$14.6 million in state sales tax. Breweries and brewpubs also paid \$6.4 million in local sales tax.¹² Excise taxes paid on beer sales in Washington include payments from direct sales at Washington breweries and sales by distributors of Washington state beer. These tax revenues summed to \$2.6 million in 2017.¹³ (Exhibit 16)

Exhibit 16. Excise Taxes from Sale of Washington State Beer, 2005-2017



Sources: Washington Liquor and Cannabis Board, 2018; Federal Reserve Bank of St. Louis, 2018; Community Attributes Inc., 2019.

5. Washington Beer Industry Outlook

Washington’s beer industry has grown at a significant pace over the past decade and demand continues to grow for Washington beer. Washington’s total beer consumption remains strong and Washington brewers have much room to grow through market share of Washington consumption alone. The number of licensed, active craft brewery operations in Washington has increased more than four-fold between 2007 and 2017.¹⁴

Industry growth can include more local breweries and expansion of existing breweries. Washington brewers expressed optimism that the industry will continue to grow, though it is becoming increasingly competitive in their view. The main thrust of their effort for growth in Washington will remain focused on the local market, serving local communities.

Business Survival and Turnover

In 2009, during the last recession, there were 93 Washington breweries, including those with multiple licensed locations (92 excluding Redhook). Of these:

- Only one brewery (Mac & Jack’s) produced more than 30,000 net barrels
- Two produced between 10,000 and 30,000 barrels
- 15 (16%) produced between 2,000 and 10,000 barrels
- 18 (20%) produced between 500 and 2,000 barrels
- 35 (38%) between 100 and 500 barrels.

Of these operations, by 2017 roughly 70% remained in operation. In 2017, among those same breweries:

- Four produced more than 30,000 barrels in net production
- Four produced between 10,000 and 30,000
- 13 produced between 2,000 and 10,000.

Among those that produced at least 500 barrels in 2009, 89% were still in operation in 2017. Of the 56 breweries in 2009 that produced less than 500 net barrels, only 13 survived and increased production to 500 or more barrels in 2017.¹⁵

Opportunities

Global Demand for Craft Beer

The emergence of craft breweries in Washington in recent years has been part of a general trend across the U.S., and even internationally, as beer drinkers increasingly desire more complex styles and flavors. According to the Brewers Association, the national trade association for craft breweries, craft beer is now in every state,¹⁶ and the vast majority of U.S. adults live within 10 miles of a craft brewery.¹⁷ In the past five years, Europe surpassed North America in number of craft beer retail launches, though the U.S. remained the top single market in 2017.¹⁸

Washington Markets

In 2017, 4.7 million barrels of beer were sold to consumers in Washington state via distributors to restaurants and bars, representing the vast majority of overall beer sales in the state. Statewide growth in beer consumption is strong, as indicated by nearly 6% real annual growth from 2012 to 2017 in taxable retail sales from restaurants, bars, retail and wholesalers of alcohol, and alcohol beverage producers.¹⁹

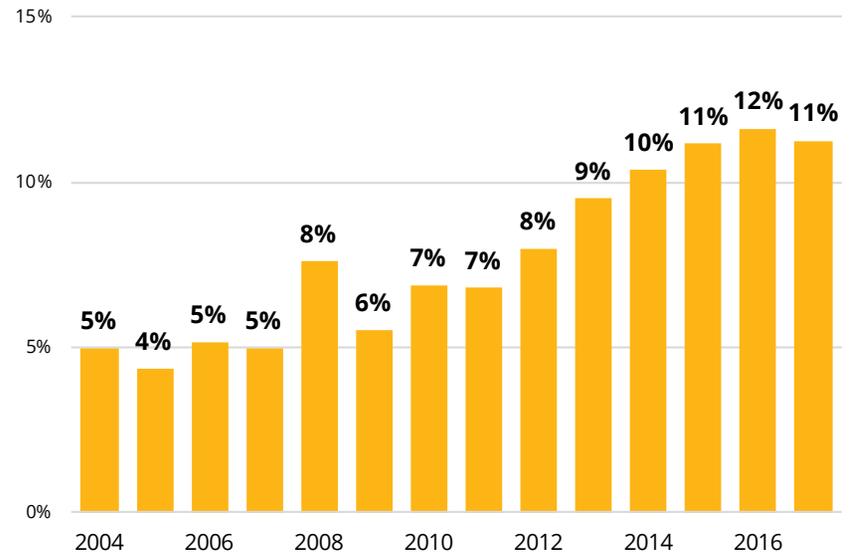
Washington beers represented 11% of distributors sales in 2017, nearly three times the 4% of distributors' sales in 2005 (**Exhibit 17**). Local brewery in-state distribution sales increased 180% over this period, compared to overall distributor beer sales growth of 15%. This is strong growth in Washington market share (and does not even account for sales on-site, in tap rooms, and direct sales to restaurants).²⁰



Image Source: Washington Beer Commission, 2019

Exhibit 17. Washington State Brewery Shares of In-state Distributor Sales, 2004-2017

Share (%) of Beer Sold in Washington



Source: Washington State Liquor and Cannabis Board, 2019.

Growth in Numbers of Small Brewers

Smaller craft brewers and their tap rooms compete with neighborhood bars and restaurants. Some offer food themselves and are truly a full food and beer experience. In other cases, as is increasingly popular, food trucks pull up outside of the tap room and the two together effectively serve as an eating and drinking establishment. Throughout Washington state, wherever restaurants and bars exist, a craft brewer has an opportunity to offer a quality product and attract customers to a new experience.

Only 38 breweries in Washington, or about 11% of all breweries in the state, produced more than 2,000 net barrels of beer in 2017, which demonstrates the success of smaller brewers. However, even among smaller breweries, gaining access to bars and tap rooms is highly competitive, and each facility can only accommodate a finite number of taps and small brewers' beers.

Challenges

Expansion Costs

The capital costs necessary to grow can be prohibitively expensive for small brewers. To grow from a 2,000 to 4,000-barrel production system, a brewery must buy new fermenters costing up to \$15,000 each, plus conditioning containers. Bottling and canning requires significant capital investment as well. The expansion of equipment in all likelihood leads to the need for more production space to install and operate a larger system.

In addition to capital costs, growth requires ownership commitment and managerial capacity, which small business owners may not be able or willing to take on. Additional sales force capacity is critical, and growth through distributors presents its own challenges, described in the following section.

Distributors and Wholesale Channels

Distributors and wholesale channels are a challenge to growth for many smaller and up-and-coming breweries. In recent years, the number of breweries has expanded at a rapid rate, but the amount of space allocated for craft brewery sales at local supermarkets has not expanded at the same rate. Moreover, the distributor network has consolidated in recent years. This means fewer distributors handle larger accounts, many of which are owned by national brewers and global brands such as AB InBev. These corporations acquire craft brewers and prioritize the distribution of their own portfolio brands through their own distribution networks, creating challenges for true craft brewers to benefit from distributors.

Consolidation also leads to a preference for brands able to supply sufficient volume for a wider, larger network of grocery stores and retailers. Most craft breweries do not have the production capacity to supply volumes required for larger distribution networks.

Export Challenges

Challenges exist for brewers striving to build regional or national brands through exports. Distribution contracts often result in brewers earning a fraction of what can be earned through sales on-site in their tap rooms.

For example, a brewery might earn more than \$600 on a keg of beer sold by the pint in their tasting room at \$5 per pint. When selling to a distributor, the brewer might receive just \$150—one fourth the revenue of direct sales. Brewers may net even lower revenues when selling outside of Washington state, given additional shipment costs.

Market barriers are high out of state as well, as craft brewers have grown rapidly in other states and customers show loyalty to their local beers. Washington beers must compete with an increasingly robust market of local craft beers and established brands, such as Deschutes and Sierra Nevada. Breweries in destination markets include those owned by global corporations such as AB InBev, which brings access to capital and marketing and extensive distribution networks.

Out of state consumers must therefore be willing to pay more for Washington beer for growth-oriented Washington craft breweries to profit from exports. To gain market share outside the state, consumers must appreciate Washington beer's quality, distinctive taste, and branding. Examples of breweries with some success selling into out-of-state markets include Georgetown (in California and Oregon), Icicle (Northern Idaho), Fremont (West Coast, Montana, and Colorado), and Iron Horse (Idaho, Alaska, Montana, and Oregon).

Some of the largest regional and national craft breweries have struggled to maintain market share, as craft beers flourish in their destination markets out of state. In December 2018, Oregon's Deschutes Brewery—ranked the tenth largest craft brewery in the U.S.—reduced its workforce by 7% and canceled plans to build a second production facility in Virginia due to declining sales outside of Oregon. Workforce reductions were also reported at Lagunitas, New Belgium, Green Flash, Ninkasi, and Avery Brewing—all established exporters of craft beers.²¹

State Business Climate for Small Brewers

Some brewers view the tax system between Washington and Oregon as disadvantageous to Washington breweries. Washington's barrel volume tax hinders the growth of its state's larger craft breweries and is viewed as regressive to smaller businesses.

6. Summary and Conclusions

Washington's beer industry has experienced rapid growth in recent years. Between 2005 and 2017 (last full year of data), net production increased 7% per year.²² Excluding Redhook, which relocated its production to Oregon, production increased 16% per year. The number of active licensed brewery operations increased from 94 in 2005 to 391 in the autumn of 2018. This growth reflects both national trends and the state's own qualities. Washington is home to the largest single source of hop production in the world and 75% of all U.S. hop production.

Breweries include taprooms, brewpubs, and production facilities—any place that makes beer. In 2017, these businesses directly employed an estimated 6,300 full- and part-time workers and generated \$581.4 million in business revenues. Breweries in Washington had a total economic impact of 11,000 jobs and more than \$1.4 billion in business revenues, reflecting business-to-business transactions (indirect) and worker household consumption (induced).

The vast majority of Washington breweries are small, family-owned, and are an integral part of their local communities. Of the 352 breweries in 2017 (including those with multiple production licenses), nearly 90% produced less than 2,000 barrels. Taprooms often serve as locations for public gatherings and events. At least one brewery exists in 130 cities and towns across the state, out of 281 incorporated municipalities. Seattle is home to largest number of brewery locations, with 66 in 2017, followed by Vancouver (19), Tacoma (16), Spokane (14), and Bellingham (13).

Distribution networks are a critical for breweries to grow from a small business to a regional operation. The majority of beer sold by volume is through distribution networks, ultimately for final sale in restaurants, bars, and stores. In 2017, an estimated two-thirds of all brewery sales by volume were via distributors, with the remainder in taproom sales, brewpubs, and self-distribution.

Larger brewers benefit most from distributors and distribution is a significant revenue challenge for smaller brewers. Whereas a barrel of draft beer (two kegs) sold by pint in a taproom can earn \$1,200 or more in sales, the same quantity sold to distributors typically generates \$300 or less for the brewery. In 2017, approximately one-fourth of all

breweries worked with a distributor. For the eight largest breweries, representing more than half of all net production statewide, distribution channel sales by volume averaged more than 90% of all sales in 2017. More than 75% of breweries use self-distribution, taprooms, and brewpubs as their only sales channels.

The taproom business model has enabled much of the growth in small breweries. Taprooms allow small operations to sell beer directly to consumers without additional costs, such as operating a kitchen and dining facility. Through taprooms, breweries fully capture these revenues, whereas sales through distributors generate much lower returns for breweries on a per barrel, or BBL, basis. However, for breweries that seek to expand sales, distributors and significant investments in higher capacity barrel systems are required, each with their own inherent challenges.

Beer sales in Washington state remain dominated by large out-of-state producers, including both major labels—such as those under AB InBev and Pabst Blue Ribbon—and larger regional craft breweries such as those out of Oregon and California. In 2017, an estimated 11% of all beer sold by distributors (representing the vast majority of all beer sales by volume) were of beer from Washington, up from 4.3% in 2005.

Growth opportunities exist for breweries of all sizes, though with their own unique challenges. The number of new breweries continues to grow, meeting a demand for small, neighborhood craft breweries across the state.



Image Source: Washington Beer Commission, 2019

Endnotes

1. "The Craft Brewing Industry Contributed \$76.2 Billion to the U.S. Economy in 2017, more than 500,000 Jobs," Brewers Association, <https://www.brewersassociation.org/statistics/economic-impact-data/>.
2. The data on net production is collected through the Washington State Liquor and Cannabis Board's Form LIQ-526, which should match the data reported by breweries to U.S. Alcohol and Tobacco Tax and Trade Bureau through Form F 5130.9.
3. The Washington State Liquor and Cannabis Board reports total licenses, irrespective of whether the licensed operation is actively producing beer. In 2017, for example, 50 licenses were attached to operations that either produced no beer or reported a negative amount due to data adjustments. Both measurements are reported in Exhibit 4.
4. These jobs are spread across a range of businesses, including those classified in government records (based on the North American Industry Classification System, or "NAICS") as exclusively breweries (about one third of all jobs), brewery operations at restaurants and brewpubs, bars that produce beer, malt manufacturers, other businesses, and self-employed workers.
5. Washington State Department of Revenue, 2019. Estimate was based on a custom data request of all licensed breweries using each brewery's unique business identification code, or UBI.
6. Consumer Reports, April 13, 2016. <https://www.consumerreports.org/consumerist/here-are-the-8-u-s-craft-brewers-bought-by-anheuser-busch-since-2011/>
7. American Craft Beer, May 13, 2017. <https://www.americancraftbeer.com/fake-brews-craft-breweries-no-longer/>
8. Anheuser-Busch, Wholesalers. <https://www.anheuser-busch.com/about/wholesaler.html>
9. CSP Daily News, October 25, 2018. <https://www.cspdailynews.com/beverages/north-american-breweries-changes-name-reorganizes>
10. Fortune, May 4, 2017. <http://fortune.com/2017/05/04/heineken-lagunitas-takeover/>
11. Estimates are based on Dean Runyan visitor spending estimates for Washington state, with additional customizations for beer festival attendees. Source: Dean Runyan Associates, "Washington State Travel Impacts & Visitor Volume," 2017. 2000 - 2017.
12. Washington State Department of Revenue, 2019. Estimates based on licensed breweries in Washington state.
13. Beer tax is calculated at \$4.782/barrel (60 under) and \$8.08 (60 over). From June 1, 2010 through June 30, 2013, an additional tax of \$15.50 was imposed per RCW 66.24.290 (5)(a) which raised the high-rate (60 over) to \$23.58.
14. There are several licenses with no active beer production in a given year. Throughout this report, only those licenses associated with net beer production are considered.
15. Washington State Liquor and Cannabis Board, 2018; Community Attributes Inc., 2019.
16. <https://www.crrresearch.com/blog/state-craft-beer>
17. <https://www.beveragedaily.com/Article/2017/03/28/Brewers-Association-20-market-share-for-craft-beer-now-a-longshot>
18. <https://www.beveragedaily.com/Article/2018/09/21/Top-10-markets-for-craft-beer-innovation-Europe-now-outpaces-North-America>
19. Sources: Washington State Department of Revenue, 2019; Federal Reserve Bank of St. Louis, 2019; Community Attributes Inc., 2019.
20. This is down slightly from 12% in 2016 (attributable to the relocation of Redhook out of state)
21. Kendall, Justin (December 17, 2018), "Deschutes Cuts 7 Percent of Workforce," retrieved at <https://www.brewbound.com/news/deschutes-cuts-7-percent-of-workforce>
22. The data on net production is collected through the Washington State Liquor and Cannabis Board's Form LIQ-526, which should match the data reported by breweries to U.S. Alcohol and Tobacco Tax and Trade Bureau through Form F 5130.9.