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California: Lessons from the World's Largest Cannabis Market

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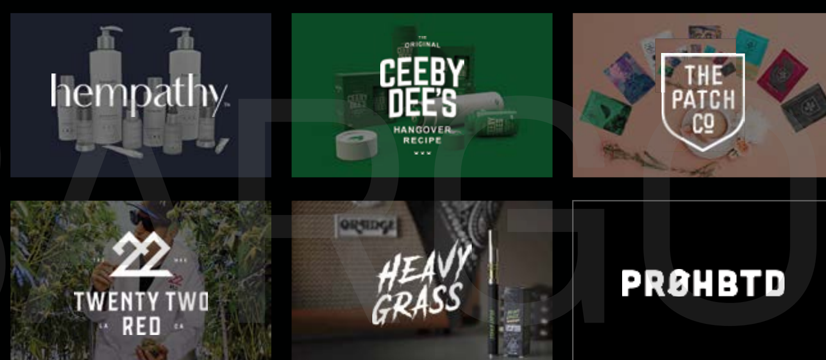

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The Best of Times... and the Worst

California has long been a state of superlatives—often first, usually largest, sometimes worst. This holds for its cannabis industry. California was the first to legalize medical cannabis, with the passage of the Compassionate Use Act of 1996 (aka California Proposition 215), and that market grew to nearly $3 billion in annual spending by 2017, the biggest in the world.

Then, another first (this one was no reason to celebrate): in 2018, California become the first state to manage to shrink its legal cannabis industry by allowing all adults to legally buy at dispensaries. Annual legal cannabis spending in the state slid to just over $2.5 billion in 2018—the direct result of burdensome regulations and taxes, recalcitrant or unprepared county and city authorities and a host of other issues detailed in this report.

California Market Summary

2019 Population	40.2 million
2019 21+ Population	30.1 million
2019 Legal Spending	$3.1 billion
2019 Illicit Spending	$8.7 billion
2024 Legal Spending	$7.2 billion
2024 Illicit Spending	$6.4 billion

Source: Arcview Market Research/BDS Analytics

As some of the kinks of the transition get worked out, and California's legal cannabis market is forecast to surpass its 2017 high-water mark in 2019, generating nearly $3.1 billion in spending. The latter half of 2018 and the beginning of 2019 have seen considerable improvement in the state's industry fundamentals, including the growth-critical retail footprint in the major municipalities.

Investors and out-of-state operators who had turned their attention to what will always be smaller markets elsewhere have shifted their focus back to the Golden State. That makes sense given the forecast that legal cannabis spending in California will grow at a 19% compound annual growth rate (CAGR) to $7.2 billion in 2024, 40% larger than Canada and 253% larger than the next-largest state, Colorado. That is why the state has seen billions in merger and acquisition activity between October 2018 and June 2019, a time during which Canadian licensed producers (LPs) and Eastern multistate operators (MSOs) have seen their stocks crater.

But the lessons learned from the California launch provide many object lessons for legalization advocates, regulators, operators and investors. The load of new regulatory demands and taxes in the enabling Prop. 64 passed in November 2016—or layered on afterward—brought on two "waves of extinction" that crashed through all segments of the supply chain.

The first came shortly after the Jan. 1, 2018, launch of the adult-use market that was accompanied by a significant decline in dollar sales, and thousands of business failures—or decisions—to go rogue. The second came in July 2018, with the implementation of the highly stringent Category II lab testing, leading to a dearth of product and another surge in business failures.

A unique feature of the California market that contributed to these dives in topline sales figures is the robust competition from the illicit market with which licensed retailers are forced to contend. Given the state's lengthy history as the source for the bulk of the nation's illicit cannabis, and the fact that many producers and retailers opted not to enter the regulated market due to compliance costs, Californian consumers have no shortage of cheap illicit sources for their cannabis. They rushed into dispensaries amid

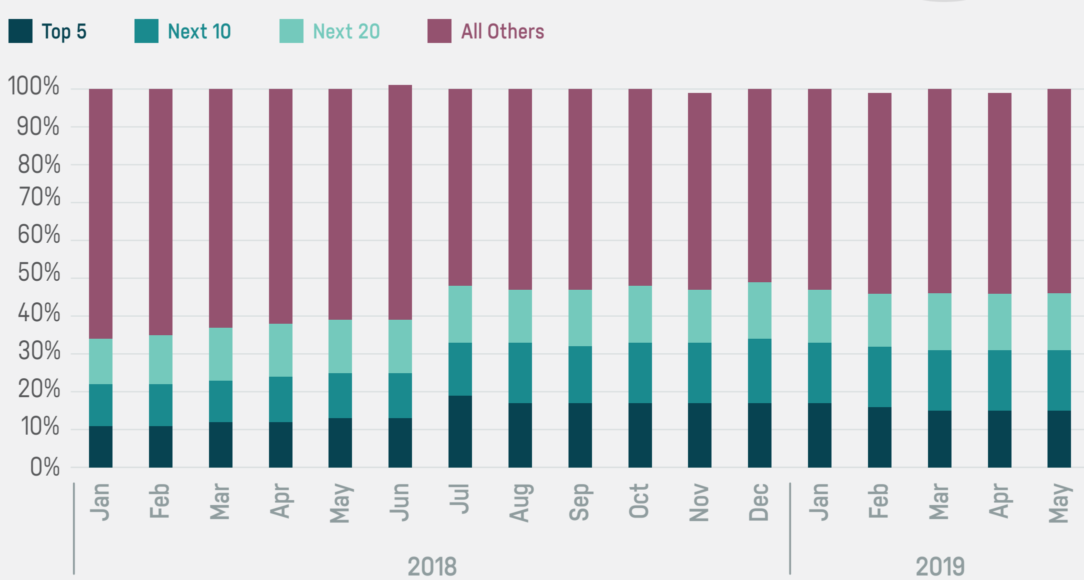
Lessons learned from the California launch provide many object lessons for legalization advocates, regulators, operators and investors

While sales did take a major hit from their peak in 2017, retailers who were early movers into the regulated system were able to grab much bigger pieces of this smaller pie

the hoopla of long-awaited legalization and then quietly returned to traditional sources when they saw after-tax prices reflective of the 77% tax-and-regulatory load the legal market bears.

For those operators who did opt to enter the regulated market, however, the top-line sales figures from 2018 do not tell the whole story. While sales did take a major hit from their peak in 2017, retailers who were early movers into the regulated system were able to grab much bigger

Market Share by Brand Band



Source: BDS Analytics' GreenEdge™

pieces of this smaller pie. The numbers of retailers fell much more significantly in 2018 than statewide legal revenue, giving a boost to those still active after the transition and setting them up to gain even more market share moving forward (see "Eighteen Months into Legalization"). Some brands were able to similarly capitalize off the July shake-up, as supply chain disruptions allowed leaders to gain market share, especially against generic flower products unprepared to meet new packaging requirements.

Given this silver lining to the stormy launch of adult-use, as well as the fact that the market has resumed growing after the wrenching reset of 2018, California is a renewed target for many large-scale investment projects (see "Co-op Conversion: Cannabis Goes Corporate"). Out-of-state vertical MSOs are seizing the California opportunity through supply-side brand acquisitions, as with Illinois-based multistate operator Cresco Labs' acquisition of Origin House or Curaleaf's all-stock deal to acquire top California concentrate brand Select Oil.

With a population of 40 million, and a $2.7 billion gross domestic product (bigger than all countries other than the U.S., China, Japan and Germany), the California market is a microcosm of national battles for market share to come in cannabis. The state has counties and individual cities bigger than many U.S. states. Cultivators, manufacturers, distributors and retailers are amassing local licenses and developing strategies to compete for markets across the whole state and—with federal legalization—the whole country and the world (see "Regional Diversity: Panning for Gold").

When that day comes, operators and investors elsewhere will need to be prepared to compete with companies having California's many advantages in terms of agricultural infrastructure, tech-development pipeline and media-based branding prowess. In the meantime, there are many lessons to be learned and applied locally from the launch of adult-use sales in the world's largest cannabis market.

Supply chain disruptions allowed leaders to gain market share, especially against generic flower products unprepared to meet new packaging requirements

Letter From the Editor

Forecasts matter, as it turns out. Had California cannabis companies not geared up for the doubling of revenue seen at the advent of adult-use legalization elsewhere, more of them might have avoided the dual "extinction events" of January and July last year.

Let me eat some crow myself: Despite our team's decades of experience forecasting other nascent industries, we too were blindsided by the unintended consequences in the fine print of the regulations that eventually emerged from the Bureau of Cannabis Control. The transition to adult-use sales had gone so well in prior states that we underestimated the drag on legal sales that California's local bans, high taxes and expensive compliance requirements proved to be. In an $11.3 billion total cannabis market of 2017, $8.3 billion was already being spent in extra-legal channels. For the first time anywhere, adult-use legalization actually prompted growth in illicit sales in California in 2018.

The rest of the cannabis industry can learn much from the California experience (see the discussion of our Growth Indicator Matrix in "Factors Impacting California's Future").

The most important of those lessons are ones California's governing class needs to learn too:

- Tax rates may or may not affect consumer behavior in general, but they certainly do when they are set at high levels on a product widely available through an established illicit pipeline.
- Justifying those taxes by promising to use the money for enforcement action against illicit operators is not credible for two reason:
  - If enforcement worked, the 40-year War on Drugs would have proved it.
  - Enforcement is anathema to an industry being legalized largely around agreement that no adult should be arrested, lose their property or even have their kid ostracized at Little League over involvement with cannabis.

Essentially, regulators need to get past their Prohibition-era prejudices: There would shortly be no more illicit market for cannabis than there is for liquor if regulations for the two products were the same, i.e. testing to keep out harmful chemicals and checking IDs at stores. The rest is regulatory overreach.

Every legalization event going forward will be different from the big ones so far—Colorado, Washington and California—but the lessons learned from California's wrenching first 18 months can help prevent them from being extinction events elsewhere.

Tom Adams
Editor in Chief
Arcview Market Research
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Eighteen Months Into Legalization

California—the largest legal cannabis market in the world—is on track to grow 23% in 2019 to $3.1 billion and forecast to reach consumer pre-tax spending of $7.2 billion in 2024, a 19% compound annual growth rate (CAGR). Those are solid prospects for what Kristi Knoblich Palmer, Kiva Confections co-founder and California Cannabis Industry Association board president, called "an industry in crisis" just 15 months ago.

That diagnosis came three months after lines around the block at dispensaries statewide celebrated legalization in the state that established itself as the center of cannabis culture in the U.S. several decades ago. California had also become the grower of the majority of domestic cannabis consumed in the U.S. during the long decades of the "War on Drugs."

Investor excitement around the $3-billion medical market moving to adult-use legalization was based on seeing earlier states to make the move double their revenue in the first year and grow it at 50%-plus CAGRs over their initial three years. Instead California became the first state to actually shrink legal spending while moving from medical-use to adult-use.

Part of the decline can be attributed simply to the institution of any sort of regulatory regime after 22 years of legal but unregulated and untaxed (other than normal retail sales tax) growth in medical spending in a state in which a "doctor's recommendation" could be had for less than $50 online. But the main drag on growth has been the 77% tax and regulatory load imposed by the state on the price of legal products. The resulting higher prices, especially on flower undifferentiated from what's available on the street, has allowed the world's

California became the first state to actually shrink legal spending while moving from medical-use to adult-use

largest illicit cannabis trade to continue to prosper, even to reportedly raise prices of late.

Still, a good number of California's legal cannabis businesses are finding out they can compete, with their convenient, modern store-fronts and delivery services, and branded edibles, concentrates, topicals and other products the illicit market largely doesn't offer. But California is unique in that its "extra-legal" market is also populated by hundreds of "gray market" stores, many leftover from the medical-only era, that look and feel just like licensed dispensaries to the consumer.

Hence, nothing like the growth rates seen in earlier adult-use transitions can be expected unless California lightens the tax load and loosens the constraints on legal operators. The sheer size of California's economy means it is likely to represent nearly one in every four dollars spent on legal cannabis in the U.S. in 2024. But California's legal market will be just 53% of overall cannabis spending in the state, where $6.4 billion will still be going to the illicit market. Many other states with more supportive regulatory regimes—like Colorado, Oregon and Washington—will have shrunk the illicit percentage to 30% or less of spending by then.

California Cannabis Market History

The foundations for California's enormous cannabis market were laid 50 years before the state's citizens voted to legalize in 2016. Widespread growing began in the late 1960s, when Californians inspired by the "back to the land" counterculture movement or simple entrepreneurial spirit settled in remote areas of the state to grow cannabis far from the watchful eye of law enforcement. The industry

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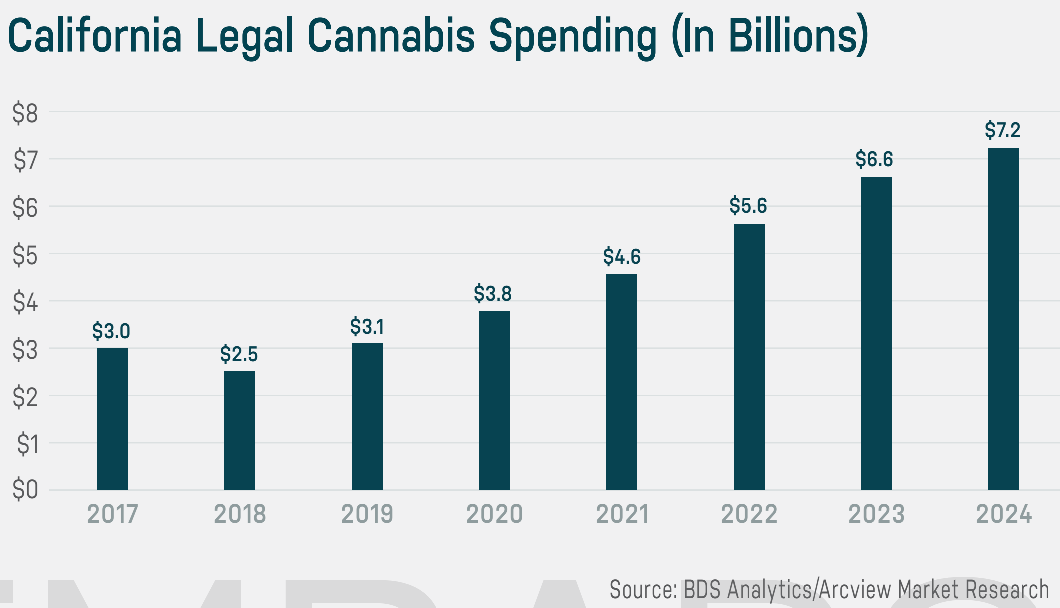


gained another layer of protection in 1996, when voters approved California Proposition 215—the Compassionate Use Act—to make California the first state in the Union to allow medical cannabis use. Since the passage of that legislation in 1996, 33 states, Washington, D.C., and several U.S. territories have legalized medical cannabis.

Though four states were able to legalize and launch adult-use sales before California, the Golden State is the biggest legal cannabis market by several metrics. With more than 40 million residents and 30 million residents over the age of 21 in 2019, California's population dwarfs that of all other adult-use markets in the U.S.

Thus, in addition to the illicit market, California was home to a highly developed legal cannabis industry long before the passage of adult-use legalization. In 2017, the state saw a total of almost $3 billion in medical sales, far surpassing sales totals in any other market active at the time. While the market was widely unregulated prior to 2018, it still had a highly developed supply chain with a great deal of competition among medical stores in most major cities, well established brands and, especially in the Los Angeles area, hundreds of delivery services. In addition, California consumers have been exposed to the cannabis culture fostered in the state for decades and are some of the most educated consumers of any new adult-use legal market.

With more than 40 million residents and 30 million residents over the age of 21 in 2019, California's population dwarfs that of all other adult-use markets in the U.S.

The fact that California's industry had been so large and well developed even before the launch of adult-use sales makes it an important example of how a well-established cannabis market—as well as the consumer base it serves—develops with the advent of full legalization.

The growers who set up in rural areas starting in the 1960s demonstrated an ability to persist through the enforcement and eradication efforts that came in the 70s and 80s, as the Drug Enforcement Agency (DEA) and Campaign Against Marijuana Planting (CAMP) launched extensive efforts to stop the flow of cannabis from the Golden State. With the approval of the Compassionate Use Act in 1996, the entrepreneurial growers who had been honing their skills in remote parts of the state were able to come out into the open to operate as legitimate businesses rather than criminals—at least as far as California authorities were concerned. Legalization in 2018 may have marked the first year of regulated adult-use sales but, by this time, the industry had already spent 20 years developing a robust cannabis supply chain within the state.

The Compassionate Use Act of 1996 gave a quasi-legal framework for cannabis production and possession for medical uses. Though the act gave legal protections for patients and caregivers, almost the entire industry operated under a policy of forbearance by local and state authorities. The state's medical program was more officially established with the 2003 passage of Senate Bill 420, which clarified the scope of patient protections under the previous referendum and allowed patients and caregivers to form collectives, opening the door for legal dispensaries and collective gardens which began popping up rapidly across the state.

Though the 1996 ballot referendum and 2003 Senate bill gave legal protections to patients and caregivers, the industry remained largely unregulated. With severe limits on access to banking and other financial services, California's incipient legal industry also operated almost entirely on a cash-only basis.

The broad allowances of California's medical cannabis laws have allowed the state to develop what is currently, and will likely remain, the largest retail cannabis market in the world. Its status at the top of the heap can yield insights into how markets develop as they become regulated, as well as what the "typical" consumer looks like.

Californians and What They Consume

While residents of the West Coast's cannabis powerhouse report using cannabis at lower rates, on average, than some other states, the sheer size of the state's population ensures its place as the world's largest legal cannabis market. California's population was estimated to be almost 40 million in July of 2018. The Golden State is home to almost 30 million people over the age of 21, illustrating a massive pool of potential consumers for cannabis now that the adult-use industry is fully operational.

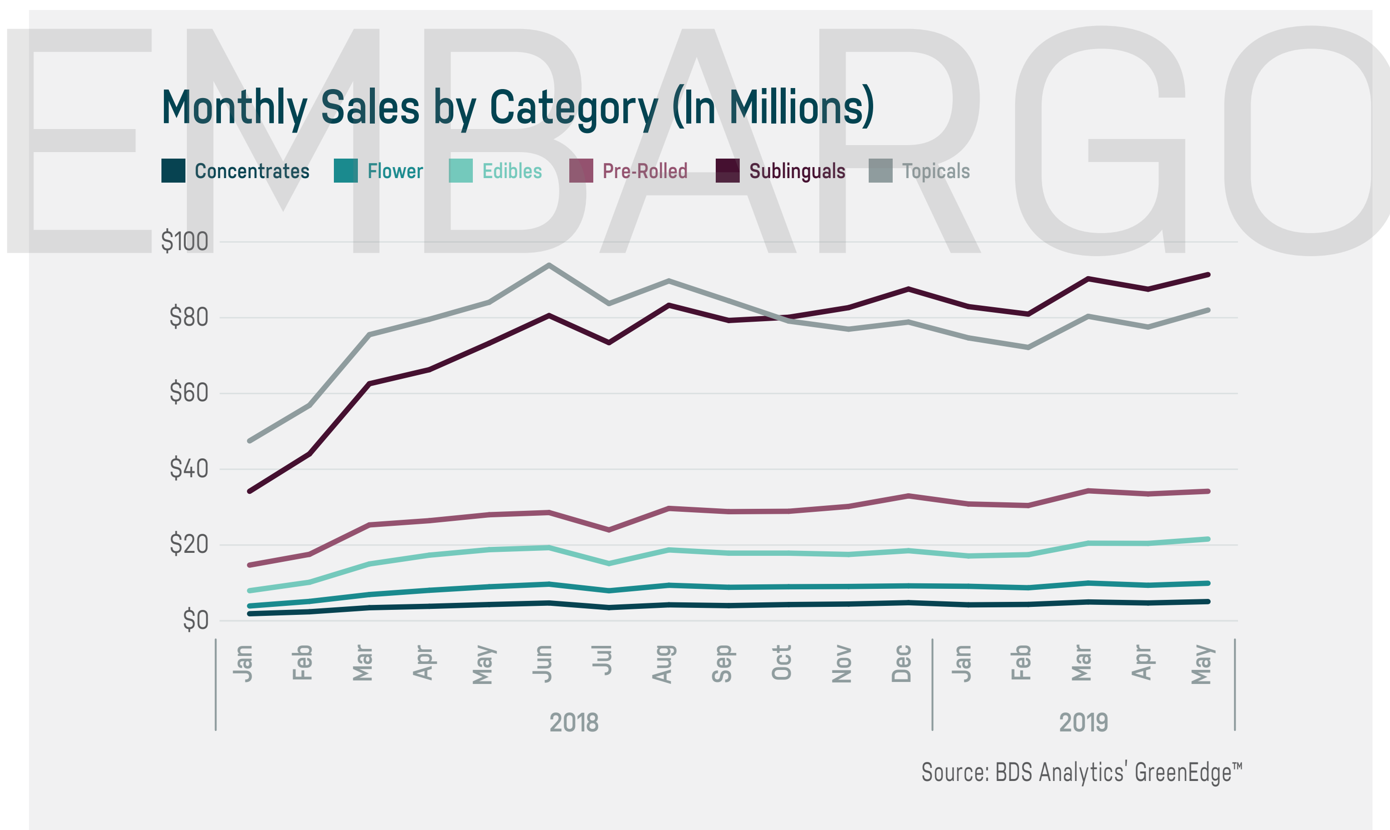
The annual survey conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA) found in 2017 that more than 5.3 million Californians over the age of 18 report consuming cannabis in the past year, and almost 3.5 million admit to consuming cannabis in the past month. A more recent study by BDS Analytics' Consumer Insights group showed that approximately 4.5 million Californians over the age of 21 have consumed cannabis in the past six months.

California's medical-use market helped establish many of the product mix trends seen in other states, with concentrates and other manufactured products becoming increasingly popular compared to raw flower

Data from consumers defies the stereotype of the cannabis consumer as a listless 20-something burnout. BDS Analytics' Consumer Insights research found that the average consumer in California is 44 years old. Younger generations consume at higher rates, with 39% of Gen Z and millennials and 41% of Gen X reporting consumption in the past six months, compared to just 20% of Baby Boomers and older generations. California's consumers also skew toward being male and more highly educated than the average resident, with 63% of past-six-month consumers being male, and 43% of consumers holding a college degree or higher.

A higher proportion of consumers report consuming cannabis for recreational than for medical purposes. Some 71% reported that they consume for recreational or social reasons, while 59% consume for health or wellness reasons, though there is a degree of overlap, with many reporting consumption for both medical and recreational purposes. The most common reasons that Californians report for cannabis consumption are to relieve pain, relax and assist with sleep.

California's medical-use market helped establish many of the product mix trends seen in other states, with



concentrates and other manufactured products becoming increasingly popular compared to raw flower. The trend of growing popularity of concentrates is even more pronounced in California than many other states, with sales of concentrates passing flower in October 2018.

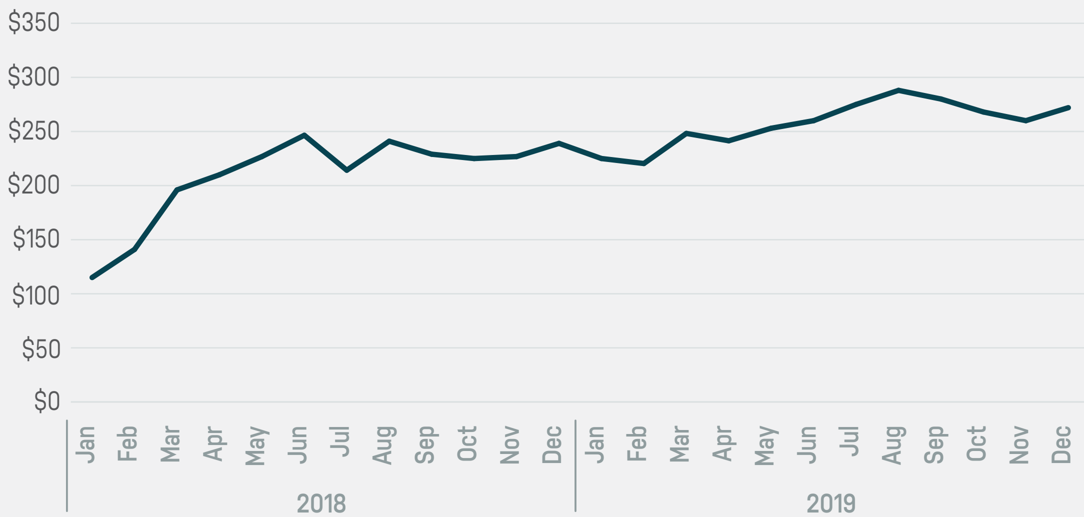
California Cannabis in 2018

The launch of adult-use sales represents a significant expansion of the consumer base in the state, but due to the highly developed nature of the medical market prior to legalization, few expected California's industry to see the massive growth rate of retail sales experienced in other newly legal markets. While many markets have highly restricted qualifying conditions, require consumers to pay substantial fees and often work their way through a state-managed bureaucracy to become a registered patient, California was home to a highly permissive medical system that allowed almost any resident to access medical cannabis.

California's medical industry was also largely unregulated, and enforcement actions undertaken by police and prosecutors who chose to ignore the Compassionate Use Act were, by the 2010s, often being thrown out of court by judges sworn to uphold the law. That allowed the industry to develop a booming retail environment that boasted an estimated 1,150 retail storefronts and 2,000 delivery services to provide cannabis to an estimated 900,000 card-carrying consumers.

The arrival of adult-use sales in January 2018 brought the first "wave of extinctions" to legal California cannabis businesses, when total monthly sales were cut by more than half from $259 million in December 2017 to $115 million in January 2018

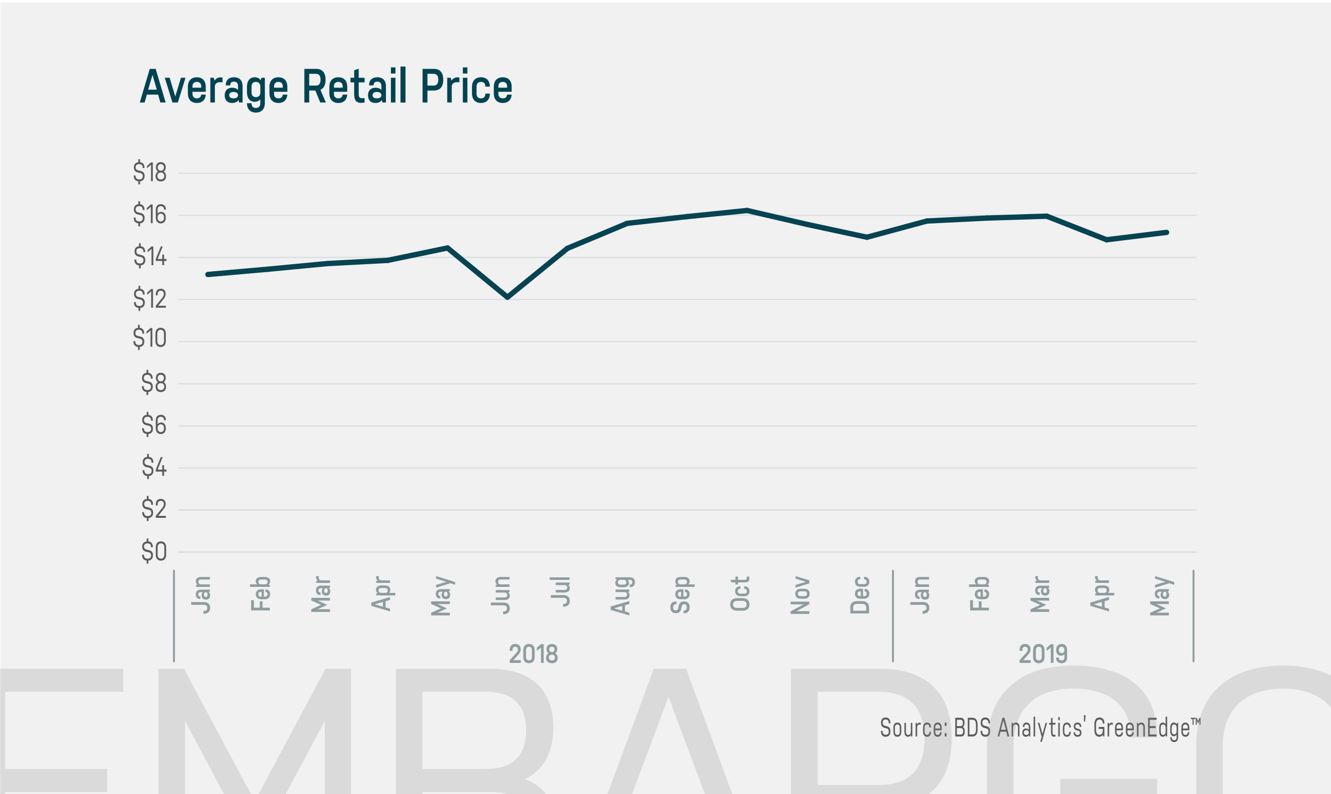
Monthly Sales (In Millions)



Note: Sales for June-December 2019 are forecasts.
Source: BDS Analytics' GreenEdge™

The first year of legal adult-use sales brought in a total of $2.5 billion, far shy of the lofty projections that the state and many industry insiders made prior to the market's launch. State officials estimated that legal cannabis would bring in $643 million in tax revenue for the first year (not including county and city taxes), while at the end of the year the state had collected a mere $345 million in cannabis tax revenue, including state excise taxes, cultivation taxes and state sales taxes.

The arrival of adult-use sales in January 2018 brought the first "wave of extinctions" to legal California cannabis businesses, when total monthly sales were cut by more than half from $259 million in December 2017 to $115 million in January 2018. A key factor in this decline was the dramatic reduction in the number of licensed retailers, as the state went from having 1,150 retail storefronts in 2017 to just over 100 licensed storefront retailers that were open on the first day of adult-use sales. This access constriction was accompanied by sticker-shock for many previous medical consumers, as they were now subject to paying retail taxes as high as 26% in some cities. Along with new cultivation taxes and regulatory costs, taxes ballooned prices to the point that many consumers turned to extra-legal sources to access their cannabis.



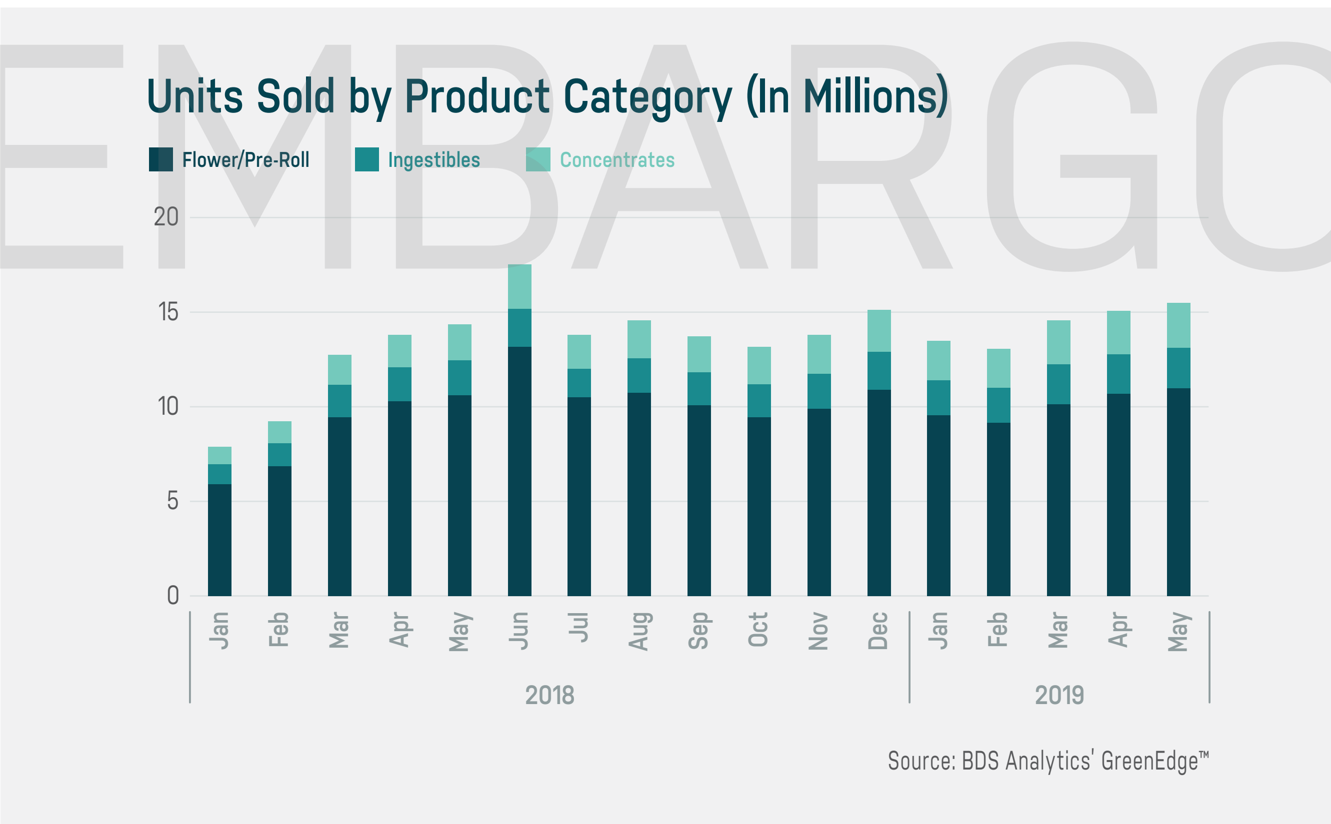
Monthly sales tracked by BDS Analytics rebounded some in the first half but saw a marked decline in July of 2018—the second of the extinction waves—brought on by the implementation of Category II lab testing requirements. Sales dropped from $247 million in June 2018 to $214 million in July, which marked an end to the grace period which allowed retailers to sell product not compliant with the new comprehensive lab testing regulations. This shakeup caused appreciable overall product shortages and a significantly lower number of brands on retailer shelves, which like any major restriction to the legal market, had the potential effect of channeling money into the illicit supply chain.

The end of the grace period for untested product resulted in appreciable effects on total unit sales and average selling price. Many licensed retailers held fire sales to clear shelves of product not tested in according to new regulations, accounting for decline in the sales price of an average unit (across all product categories) of more than 16% from $14.45 in May 2018 to $12.11 in June 2018, before jumping back up to $14.42 in July of 2018.

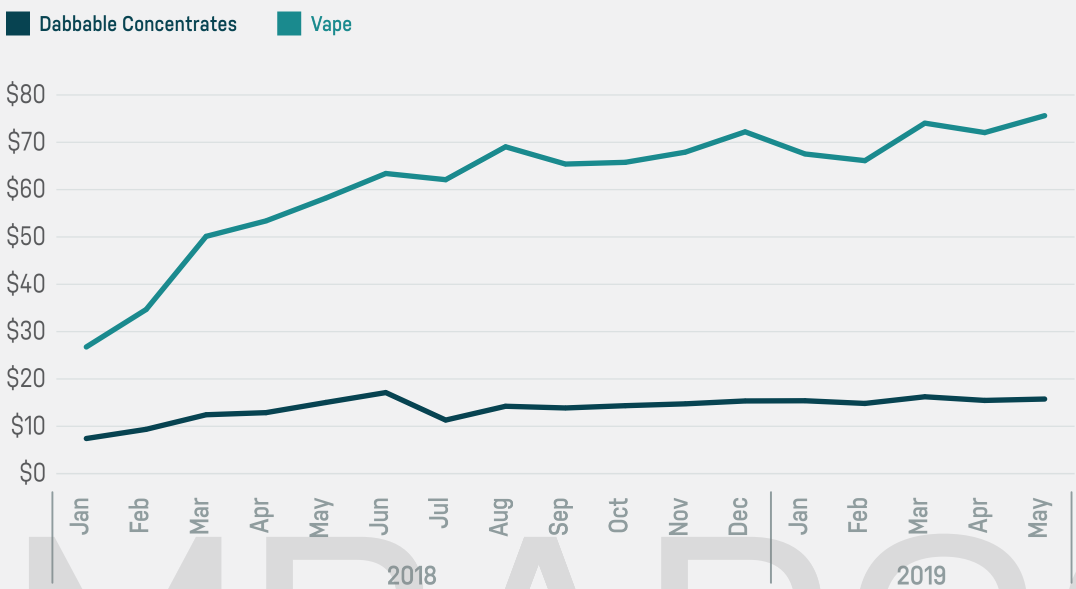
Several other trends important to those planning for adult-use transitions in other markets around the world continue to emerge in BDS Analytics' retail sales tracking. The increasing average prices following the July extinction event point to a key trend: the replacement of low-priced generic product by branded product with better pricing power.

As with many other markets, the popularity of concentrates has grown in recent years in California, with both unit sales and dollar sales of concentrates surpassing those of flower in the regulated market. While concentrates have been increasing in popularity in all adult-use states, they show particularly robust performance in California, with sales of concentrates actually surpassing those of flower in November of 2018.

The primary reason for the strong growth in concentrate sales is the popularity of vape products, which consumers appreciate for the convenience, discretion and ease-of-use that they offer. Sales of vapes have nearly tripled from $26.8 million in January of 2018 to $75.6 million in May 2019. Sales of dabbable concentrates—wax, shatter and oils—have grown more slowly, going from $7.4 million in January 2018 to only $15.8 million in May 2019.



Dabbable Concentrates vs. Vape Sales (In Millions)



Source: BDS Analytics' GreenEdge™

The Silver Lining (for Some) in Regulatory Overreach

Operators in many Eastern states are seeing oligopoly-style revenue and profits thanks to concerned regulators limiting the number of cannabis licenses in their state. At the state level, no such limits exist in California, but the initial slow rollout of state licenses, coupled with local bans and limitations, are creating a similar situation for retail licensees lucky enough to have been operating during the transitional period.

Prior to the launch of adult-use sales, monthly sales had peaked in California, with retailers seeing $259 million in December 2017. While this was an all-time high in monthly sales, the state was also home to an estimated 3,150 retailers and delivery services that had established themselves in California's unregulated market; that is an average of $82,190 in monthly sales per retailer, or $986,285 per retailer annually.

After the launch of the adult-use market on Jan. 1, 2018, cannabis sales for the month of January plummeted to just shy of $115 million. This drop in sales was disappointing for many who expected the market to explode with the newly expanded customer base. But there were only 314 active retail licenses by the end of January 2018, consisting of 278 storefront retailers and 36 delivery services. With the dramatically lower legal retailer count, average sales per retailer increased to $364,649, for an annualized run-rate of more than $4.4 million per retailer license.

The processing of retail license applications picked up significantly as 2018 progressed, with 490 storefront and 115 non-storefront retail licenses issued by the end of July 2018. Monthly sales climbed steadily as the market adjusted to the new supply chain and regulations, hitting $214 million in July 2018. Even with a higher retailer count than in January—and with diminished sales due to regulatory disruption in early July—sales per retail licensee averaged $354,049 for the month, or an annualized average of over $4.2 million per licensee.

Going forward, the overall growth of retail sales is forecast to gradually rise as the market adjusts to the strain of comprehensive regulation. But out of California's 482 municipalities, 390 do not allow adult-use cannabis sales, which creates at least a temporary ceiling for the number of retailers even if the pace of license approval speeds up significantly. Consequently, the average sales per licensee is likely to remain much higher moving forward than it was before the transition to the regulated market on Jan. 1, 2018, albeit lower than in many tightly-licensed Eastern markets.

The experience gained in navigating the state's convoluted compliance requirements, relationships developed with distributors and brands along with the brand recognition early entrants have established with consumers combine to put those retailers who were active early in the regulated market in a better place with regards to pursuing expansion of their operations.

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Factors Impacting California's Future

California leads the nation in both population and the amount of cannabis grown—13.5 million pounds in 2016, three-quarters of an ounce for every adult American, according to the state's environmental impact report for legal regulation.

But the state is decidedly below average by the Growth Indicator Matrix (GIM) BDS Analytics developed to drive the forecasts for legal cannabis markets. California clocks in with a GIM score of 4.33 on a 10-point scale. These metrics were developed by analyzing four to five years

California Market Growth Factors

Monthly Percent of Adults Consuming	• 7.7% in 2014.
Licensing and Taxation	• 7.25–10% sales tax. • 15% excise tax. • 5–20% local/municipal taxes and fees. • 9.25/oz flower and 2.75/oz trim
Retail Market Coverage	• 634 operating dispensaries. • 29.7 million 21+ adults. • 61,000 21+ adults per operating dispensary.
Resiliance to Extra-Legal Market	• Strong pre-existing unlicensed market. • Confusing punative compliance structure. • Competitive legal supply chain.
Consumption Regulation	• Medical. • Adult-use. • Out-of-state ID recognized. • Onsite public consumption beginning.
Supply Chain Regulation	• Ineffective, expensive supply chain regulation. • Limits vertical integration by restricting licenses. • Non-resident ownership permitted. • Onsite consumption planned. • Flower, concentrates, edibles permitted

Source: Arcview Market Research/BDS Analytics of retail tracking data from BDS Analytics' GreenEdge™ service in Colorado, Washington and Oregon as well as two to three years of data from California, Nevada and Arizona.

The GIM is the first explicit effort to rank the growth potential of markets by critical factors like cannabis-usage incidence, retail-store penetration and regulatory environment. Although no such formal analytical tool existed in the run-up to California's adult-use launch in January 2018, industry players assumed that it would play out much like the explosions in spending seen in prior adult-use transitions.

But in contrast to California's low 4.33 GIM, Colorado, Washington and Oregon all had conditions in place when they launched adult use, putting their GIMS above 7. All three states more than doubled their first-year revenue and went on to post three-year compound annual growth rates (CAGRs) above 50%. California instead actually shrank its legal market in 2018, and its three-year CAGR is forecast to be just 8%.

Monthly Percent of Adults Consuming

Despite its position as a center of cannabis culture for many decades—and consistency as a blue state in presidential elections since 1992—California is one of the most diverse states in the Union, politically and culturally. When the adult-use cannabis movement began in 2014, just 7.7% of adults reported consuming cannabis monthly in the annual survey conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA). That made California just the 13th highest state in the country, well behind leaders like Colorado (13.1%) and Washington (11.6%), and not even double the rate of the lowest-ranked state, South Dakota (4.4%).

Pre-legalization consumption rates only matter so much. Studies over the past three years show that the percentage of adults consuming cannabis climbs with legalization. Plus, it is very early on in the product development history of the business, and new form factors are likely to also drive consumption by more consumers. Product types like vapes, tinctures, topicals, beverages and pills are likely to decrease the lingering stigma from the days of joints, pipes and bongs. But the pre-legalization consumer is the base from which legal cannabis markets must build.

Licensing and Taxation

Many consumers and industry professionals were predictably excited about the arrival of legal cannabis in the Golden State. Yet the launch of adult-use sales was also a source of enthusiasm for state officials eager to see revenue from the newly regulated market. Optimistic about the potential windfall of revenue from the various new taxes, the administration of former Gov. Jerry Brown forecast that legal cannabis would bring the state $643 million from cannabis taxes in 2018. Actual cannabis-related revenue fell short of projections, totaling just over $345 million, with $182 million coming from cannabis-specific excise taxes and $36 million from cultivation taxes.

First-quarter 2019 state tax proceeds were nearly twice first-quarter 2018, leading the administration of newly elected Gov. Gavin Newsom to predict excise tax revenue to total $288 million for 2019 and $359 million for 2020. But taxes are having an enormous negative impact on revenue growth in the legal market as it tries to compete with an extra-legal market that evades taxes.

Regulators can rightly claim that voters and the industry did it to themselves: The language of the Adult

Tax Revenue Q1 2018 to Q1 2019 (In Millions)

	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019
Excise tax total	$32.0	$42.3	$52.4	$55.6	$61.4
Cultivation tax total	$1.6	$4.7	$12.0	$17.2	$16.8
State Sales tax total	$27.3	$33.2	$28.7	$39.1	$38.4
Total quarterly tax	$60.9	$80.2	$93.1	$111.9	$116.6

Source: California Department of Tax and Fee Administration

Use of Marijuana Act (AUMA) that legalized adult-use prescribed a simple, but onerous, tax model. Starting with the cultivator, the state charges a wholesale tax of $9.75 per ounce on dried flower and $2.75 per ounce on trim as well as a 15% excise tax on retail sales. Cities and counties also were allowed to implement their own cannabis-specific taxes. Many did levy taxes on gross receipts as high as 15% as well as taxes based on square footage of cultivation area or retail operating space.

Additionally, the majority of cannabis transactions are subject to state, county and local sales tax. State tax rates start at 7.25% and run higher than 10% in some areas. Consumers with a state-issued medical ID card are exempt from paying general sales tax on medical cannabis purchases, but all legal cannabis sales are subject to the 15% excise tax.

Instead of being added to the state general fund, cannabis tax revenue is spent according to AUMA-dictated provisions. After covering the state's cost of regulating the legal industry, $10 million in cannabis revenue in 2018 was devoted to helping communities most affected by the War on Drugs. This sum will increase by $10 million per year, until it reaches $50 million in 2022, after which it will stay at that level. The state also allocated $2 million to fund the Medical Cannabis Research Center at the University of California, San Diego, and $10 million to fund public research related to legalization.

A great deal of revenue is also earmarked for public safety and law enforcement needs, with $3 million allocated to the California Highway Patrol to develop protocols for identifying cannabis-impaired drivers. Of the remaining revenue, 60% is to be spent on drug education, treatment and prevention, 20% will be dispersed to law enforcement, and 20% will go toward environmental recovery efforts to repair ecological damage from illegal grow operations.

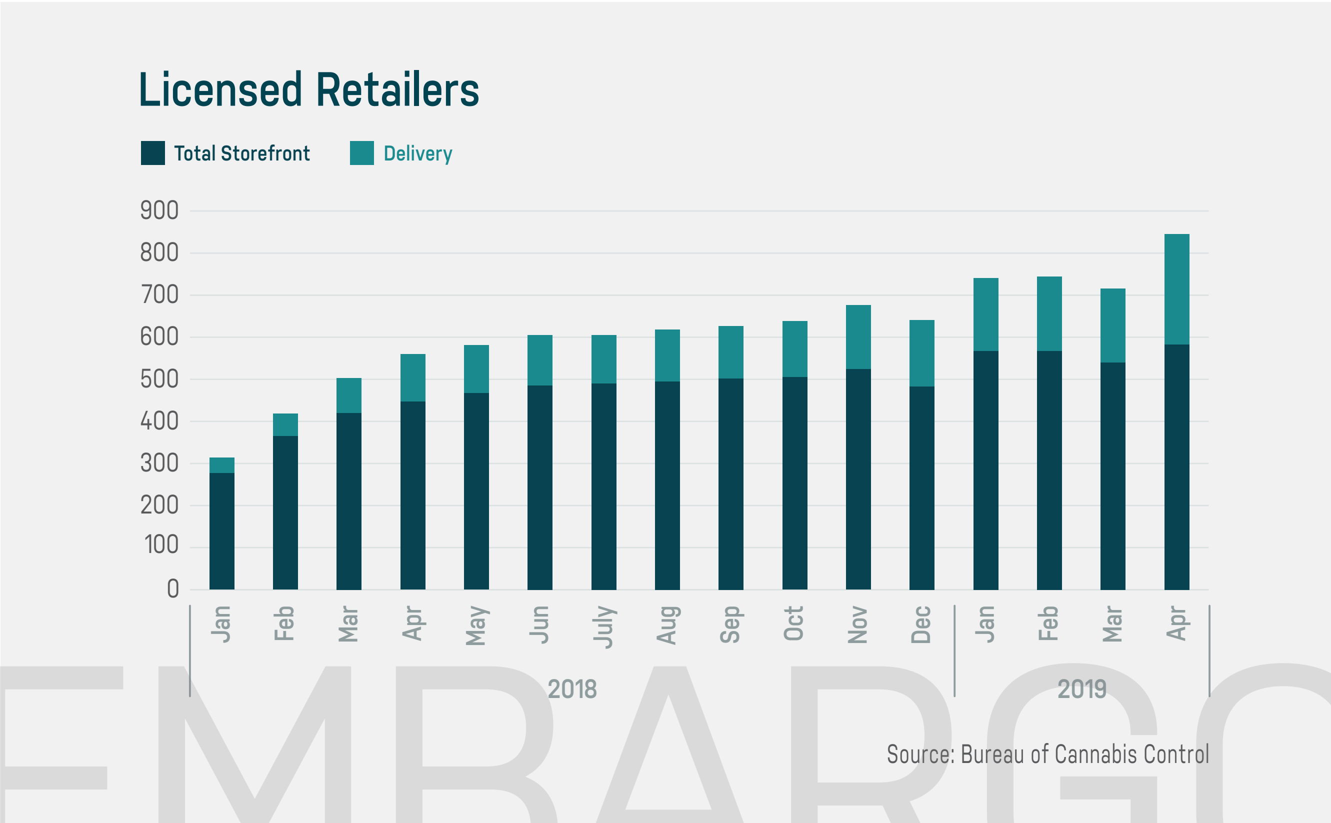
In addition to the various taxes, operators in the newly regulated market are subject to application and license fees. Application fees for all business types but cultivation is $1,000, while license fees depend on the type and scale of business. Cultivation application fees vary in cost depending on the size of cultivation operation.

These costs have had a serious negative impact, especially on bulk flower demand long well-served by the illicit market. But one tax in particular is a ticking time bomb: the $9.25 per-ounce cultivation tax (and

California Cannabis Business Licenses

Retailer		Application	License
Type 9/10	Up to $0.5 million	$1,000	$4,000
Type 9/10	Up to $1.5 million	$1,000	$12,000
Type 9/10	Up to $4.5 million	$1,000	$36,000
Type 9/10	More than $4.5 million	$1,000	$72,000
Distributor		Application	License
Type 11	Up to $2 million	$1,000	$1,200
Type 11	Up to $8 million	$1,000	$5,000
Type 11	Up to $80 million	$1,000	$36,000
Type 11	More than $80 million	$1,000	$125,000
Distributor (transport only self distribution)		Application	License
Type 11 (transport only)	Up to $2 million	$1,000	$500
Type 11 (transport only)	Up to $8 million	$1,000	$2,000
Distributor (transport only)		Application	License
Type 11 (transport only)	Up to $2 million	$1,000	$800
Type 11 (transport only)	Up to $8 million	$1,000	$2,500
Microbusiness		Application	License
Type 12	Up to $0.5 million	$1,000	$5,000
Type 12	Up to $1.5 million	$1,000	$15,000
Type 12	Up to $4.5 million	$1,000	$42,000
Type 12	More than $4.5 million	$1,000	$120,000
Testing Laboratory		Application	License
Type 8	Up to $50 million	$1,000	$20,000
Type 8	Up to $500 million	$1,000	$45,000
Type 8	More than $500 million	$1,000	$90,000
Cannabis Event		Application	License
	1–10 events annually	$1,000	$5,000
	More than 10 events	$1,000	$10,000
Processing		Application	License
Type 7	Extraction (volatile)	$1,000	$2,000 – $75,000
Type 6	Extraction (non-volatile or mechanical)	$1,000	$2,000 – $75,000
Type N	Infusion	$1,000	$2,000 – $75,000
Type P	Packaging/labeling	$1,000	$2,000 – $75,000
Cultivation		Application	License
Type 1C	Specialty Cottage Outdoor	$135	$1,205
Type 1	Specialty Outdoor	$270	$2,410
Type 2	Small Outdoor	$535	$4,820
Type 3	Medium Outdoor	$1,555	$13,990
Type 1C	Specialty Cottage Indoor	$205	$1,830
Type 1A	Specialty Indoor	$2,170	$19,540
Type 2A	Small Indoor	$3,935	$35,410
Type 3A	Medium Indoor	$8,655	$77,905
Type 1C	Specialty Cottage Mixed-Light Tier 1	$340	$3,035
Type 1B	Specialty Mixed-Light Tier 1	$655	$5,900
Type 2B	Small Mixed-Light Tier 1	$1,310	$11,800
Type 3B	Medium Mixed-Light Tier 1	$2,885	$25,970
Type 1C	Specialty Cottage Mixed-Light Tier 2	$580	$5,200
Type 1B	Specialty Mixed-Light Tier 2	$1,125	$10,120
Type 2B	Small Mixed-Light Tier 2	$2,250	$20,235
Type 3B	Medium Mixed-Light Tier 2	$4,945	$44,517
Type 4	Nursery	$520	$4,685
	Processor	$1,040	$9,370

Source: State of California



the many local versions of same). Rather than a percent-of-revenue tax, which would remain fixed in its negative impact on sales as the supply chain passes the cost on to consumers, a per-ounce flat rate tax will become more devastating with each inevitable decrease in wholesale flower prices.

As AUMA progressed to the ballot box, $9.25 per ounce worked out to a somewhat reasonable 8% levy on the $1,800 pound. But wholesale prices for flower in more mature markets have already plunged well below $1,000. At $500 per pound, the per-ounce levy will become a crippling 30%. That will push the 77% "load" on the cost of a legal gram versus an illicit one calculated in the "California: A Golden Opportunity" report in 2018 to over 100%. Unless the state provides relief to the legal market, it is hard to imagine consumers agreeing to pay double for legal flower.

Retail Market Coverage

Since the launch of the adult-use market, California has yet to see the proliferation of cannabis retailers experienced by its fast-growing predecessors in adult-use legalization—Colorado, Washington and Oregon. With the launch of the regulated market, the number of dispensaries and delivery services dropped dramatically from 3,150 total retailers in December 2017 to a mere 315 licensed retailers in January 2018. The pace of license approval was steady for the first months of the year but, after April 2018, approval of new retailers stalled. Approvals began to pick up again in the early months of 2019.

Still, California currently has a relatively low number of retailers for its population, with only one licensed retailer for every 35,147 adults over the age of 21. In contrast, Oregon has one dispensary for every 5,567 adults over 21, while Colorado—the first state to launch an adult-use market—has a retailer for every 4,240 adults age 21 and over.

Though more retailers are likely to come online in the coming months, their numbers will continue to be hampered by the outright bans on adult-use cannabis in 390 of California's 482 municipalities. As much as 40% of the state's population lives more than 60 miles from the closest storefront retailer. Though AUMA regulations give counties and cities the ability to ban cannabis activity aside from personal use and home grow, county bans only apply to unincorporated areas should any city in a county decide to allow commercial activity.

Even so, the allowance of local bans is a huge negative in the GIM-based modeling approach. In California, the local prohibition of cannabis retail is not as detrimental to consumer access as in other states, since AUMA allows non-storefront retailers to deliver to any location in the state. California regulators reaffirmed this policy in January 2019. This also allows licensed non-storefront retailers to capitalize off local bans and tap into the consumer base by delivering legal cannabis to regions where consumers have no local cannabis access.

Moreover, it may prompt local officials to eventually license retail in their jurisdictions. They are already ignoring the fact that such bans do little to prevent local cannabis consumption since the illicit market thrives statewide. But the realization that their intransigence is transferring tax payments to neighboring municipal treasuries will likely prompt most to eventually allow cannabis sales, as happened post-Prohibition with alcohol sales.

The number of dispensaries and delivery services dropped dramatically from 3,150 total retailers in December 2017 to a mere 315 licensed retailers in January 2018

Monthly Sales/Retailer

	DEC-17	JAN-18	JUL-18	JAN-19
Monthly Sales	$258,900,000	$114,500,000	$214,200,000	$225,000,000
Non-storefront Retailers	2,000	36	115	173
Storefront Retailers	1,150	278	490	567
Total Retailers	3150	314	605	740
Monthly Sales/Retailer	$82,190	$364,650	$354,050	$304,054
Annual Sales/Retailer	$986,286	$4,375,796	$4,248,595	$3,648,649

Source: BDS Analytics' GreenEdge™, Bureau of Cannabis Control

Comparative Cannabis Taxes

	COLORADO	OREGON	CALIFORNIA	WASHINGTON
Cultivation Tax	N/A	N/A	$9.75/oz flower $2.75/oz trim	N/A
Excise Tax	15%, adult-use only	17% adult-use only	15% all cannabis	37% all sales
State Sales Tax	2.9%	N/A	7.3%	6.5%

Source: Bureau of Cannabis Control, Oregon Liquor Control Commision, Colorado Department of Revenue, Washington State Liquor and Cannabis Board.

Resilience to Extra-Legal Market

A key feature of the sluggish launch of the market in California has been a relatively poor performance of flower since January 2018. During the "waves of extinction" of January and July 2018, dollar sales for bulk flower experienced sharper declines and a less complete recovery than other product categories.

Flower prices in California were particularly affected by the regulatory/tax load on legal product since the adult-use launch. Though the price of bulk flower has been historically higher in California than in Oregon and Colorado, the bulk flower price in California is especially burdened by the cost load of new regulations.

The inability of flower sales to recover to pre-2018 levels is largely due to California's problem of high levels of competition from an established extra-legal supply chain. Many operators from the unregulated market opted to continue taking their chances with the law rather than shell out the money required to comply with the regulated market, and now constitute a "gray market" on top of the traditional illicit market. These are stores that may actually predate licensed outlets in the same neighborhood in which products, especially flower, are indistinguishable from legal products in the eyes of the average consumer. As a result, consumers have no difficulty accessing cannabis from extra-legal sources, and the

Bans do little to prevent local cannabis consumption since the illicit market thrives statewide. But the realization that their intransigence is transferring tax payments to neighboring municipal treasuries will likely prompt most to eventually allow cannabis sales, as happened post-Prohibition with alcohol sales

lower prices of illicit product give many of these consumers reason to eschew licensed retailers as their primary source for cannabis, particularly flower.

The growing popularity of the vape product category (see “Eighteen Months into Legalization”) is good news for cultivators and producers, as vapes offer the industry the ability to add value through branding and new technology innovations. Vapes also offer a measure of resilience to extra-legal competition, as many consumers would rather purchase branded vapes with reliable technology than patronize illicit sources that may lack consistent brand options or the newest vaporization technology.

While illicit competition remains strong over a year after the launch of adult use, authorities have begun to clamp down on extra-legal operators. Substantial city and county efforts to halt illegal cultivation and unlicensed retail are underway. Los Angeles, in particular, is seeing a large number of raids to shut down the hundreds of illegal dispensaries still in operation. At the state level, Gov. Gavin Newsome has committed significant resources to combating widespread unlicensed cultivation, tasking the National Guard to combat illegal growers in remote regions of Northern California.

Still, enforcement efforts over five decades have put little dent in the illicit market of California. Only lower taxes and regulatory costs offer the hope of real, long-term resilience to the extra-legal market. Aside from the hidden costs in pre-tax retail prices, the excise tax and already high California retail sales taxes are in plain sight on sales receipts. Not just the traditional illicit dealer, but hundreds of unlicensed "gray market" stores are hanging on post adult-use legalization. They pay no such taxes and carry no other regulatory loads. On top of that, cannabis consumers in the state have a rich history of home-growing that, if anything, has increased with the passage of AUMA reducing all cannabis crimes to misdemeanor status. It all adds up to a multifaceted extra-legal market that is dramatically limiting growth in legal sales and will continue to do so until regulatory and tax costs are cut.

Consumption Regulation

The one GIM category in which California scores at the top of the charts is in the light touch AUMA and subsequent regulators have applied in the area of consumption regulation. In many more conservative states, the types of products allowed in legal stores are subject to severe limitation of every conceivable and often contradictory stripe, driven by local regulators coming of age in an era in which cannabis was classified by the federal government as a Schedule I controlled substance.

Many years have passed since a substantial percentage of Californians considered cannabis a dangerous drug. The cannabis culture that sprang up in coastal cities in the '60s spread to many rural areas with the growth of the illicit cultivation business in subsequent decades. The AIDS-caregiver movement that developed during the Reagan "Just Say No" era turned quickly into medical-use legalization in 1996.

Since that market was unregulated, nonprofit co-op owners and entrepreneurial companies busily developed pre-rolls, edibles, concentrates, vapes, topicals and every other form factor of cannabis product for nearly a decade. All are

Still, enforcement efforts over five decades have put little dent in the illicit market of California. Only lower taxes and regulatory costs offer the hope of real, long-term resilience to the extra-legal market.

legally available in dizzying varieties in adult-use stores today.

The first on-premise consumption sites are open in a few cities, and there seems no reason to think they will not spread. Expansion will naturally lead to further development of even more varieties of cannabis products. These will not only support growth in the domestic market, but help position California to the interstate and international export markets coming with expanding legalization.

The first on-premise consumption sites are open in a few cities, and there seems no reason to think they will not spread

Supply Chain Regulation

For years following the passage of the Compassionate Use Act in 1996, California's medical market operated on a caregiver model, with patients either growing their own cannabis or accessing cannabis from a delegated caregiver. A myriad of dispensaries began popping up in the state, most operating on a basis of forbearance with local law enforcement, with little legal legitimacy other than the affirmative defense that the Compassionate Use Act provided them in case of prosecution.

Even after the scope of the medical cannabis system was clarified by Senate Bill 420—signed into law in 2003—the market in California remained virtually unregulated. While the new bill allowed patients to form collectives and provided the legal framework that allowed a host of new storefront dispensaries to open across the state, it did not establish a regulated supply chain.

As a result, the already vigorous unregulated market provided cannabis to consumers through a patchwork of different means, with some dispensaries sourcing cannabis only from their member patients or their collective's designated grow operation. Many remained dependent on informal vendors, be they unlicensed cultivators or individual patients looking to offload the excess product of their personal grow.

This all changed with the move to a regulated market in 2018, as the language of AUMA mandates that all product go through a licensed distributor rather than be transported directly from producer to retailer. Distributors have taken on an important role in the new regulated market, in many ways acting as gatekeepers of the industry.

The Bureau of Cannabis Control (BCC) has delegated licensed distributors with the task of collecting excise tax from retailers and cultivation taxes from licensed grows and processors. Additionally, distributors are responsible for sending samples to licensed cannabis labs for testing. This creates a potential bottleneck for product should testing labs become backed up or if distributors fail to send out batch samples in a timely manner. The BCC has created a "transport only" license type to allow cultivators, manufacturers and microbusinesses to operate without having a third-party distributor act as the wholesaler for their product. Yet many top brands still opt to use a third-party distributor, ensuring the distributor will have a key role to play as the regulated market further develops.

Ultimately, wholesale distributors make retail markets more efficient, cutting costs for both suppliers and retailers. Furthermore, they help retailers stock huge selections that pay off in consumer demand. But they do typically mark up wholesale cost by 15–20%, about a 10% slice of every consumer dollar paid. If the state were collecting only a modest retail sales tax of 10% or less, wholesale's efficiencies and services would be a positive. For now, they add to the cost load that hampers legal competition with illicit sales.

Distributors have taken on an important role in the new regulated market, in many ways acting as gatekeepers of the industry

Co-op Conversions: Cannabis Goes Corporate

California's legal cannabis industry is not just bigger than any other; it is different than others in a host of different ways that have a tremendous impact on investing in the state. Complicating factors contributing to the unique investment environment include the massive illicit export market, microbusiness licenses and mandatory wholesale distribution.

Many of the biggest private-money bets ever made on the legal cannabis business were laid down in California during the run-up to the commencement of adult-use cannabis sales on Jan. 1, 2018. As the cannabis industry turned to public investment—through a surge of initial public offerings (IPOs) and reverse takeovers (RTOs) in the wake of Canada's 2018 federal legalization and Constellation Brands' bold first step with Canadian LP Canopy Growth Corp.—investor focus shifted east.

That makes sense on the surface: There is no easier path to profitability than having the government limit your competition. Politicians beyond the West Coast, especially in medical-only states like Florida, are doing their best to turn the freely licensed Western-state approach into a crony capitalism paradigm. California's ultra-competitive, high-tax, overregulated market looks scary in comparison.

But it is the largest single cannabis market in the world—and will remain so until federal legalization makes it just a part of "the U.S. market." At that point, California

With multistate operator stocks in a tailspin since 420 Day 2019, at least some investor focus is shifting back toward California

Notable Recent California Cannabis Industry Acquisitions (In Millions)

ACQUIRER	DATE	TARGET	VALUE	STRATEGY
MedMen	10/11/18	PharmaCann	$682.0	Acquisition of medical licenses in other states in expectation of adult-use legalization for those markets.
MedMen	1/8/19	Treehouse REIT	$133.0	Collaboration with Stable Road Capital to create REIT which then bought three California properties from MedMen for 12.5 million (which will be leased back to MedMen). Proceeds put toward nationwide expansion.
Innovative Industrial Properties	2/8/19	Sacramento property	$11.5	Publicly traded REIT, grows its portfolio to include cultivation processing and manufacturing sites in California.
TerrAscend	2/11/19	The Apothecarium	$118.4	Entry into California market by Canadian company through purchase of multiple dispensaries (three in California one in Nevada).
Australis	2/26/19	Mr. Natural	$1.3	Access to California market through established regional brand.
Curaleaf	2/27/19	Eureka Investment Partners	$30.5	Access to California through established Salinas cultivator and dispensasry owner to be used in tandem with City of Davis-issued permit for manufacturing and statewide distributuion.
Cresco Labs	4/1/19	Origin House	$840.0	Access to California through Canadian brand distributor with strong presence in the state.
Innovative Industrial Properties	4/16/19	San Diego Properties	$27.1	Publicly traded REIT grows its portfolio to include cultivation processing and manufacturing sites in California: five properties totalling 100,000 square feet.
Curaleaf	5/1/19	Cura Partners (Select Oils)	$949.0	Access to California/Western markets through Cura Partners Select brands.
SOL Global Investments	5/16/19	ECD Inc.	$120.0	Acquisition by Canadian company of California cultivator producer and distributor.
SOL Global Investments	5/16/19	Three Habitat Consulting	$17.0	Acquisition of six California dispensary companies that will operate under the One Plant brand and be combined with other SOL Global deals to create new Canadian-owned MSO.

Source: BDS Analytics/Arcview Market Research

will assume its usual place in the world economy: major exporter of agricultural commodities and their derivative products, technology mecca and consumer product trendsetter. With multistate operator (MSO) stocks in a tailspin since 420 Day 2019, at least some investor focus is shifting back toward California.

Investors pounced upon approval of Proposition 64 in November 2016, and companies began to jockey for position across the emerging legal landscape. California's 2018 implementation of legal adult-use sales, which brought the oldest and largest medical cannabis market to the fore of an emerging global market, primed the state as a testing ground and target for the rapidly expanding scope of cannabis investment.

With a population of 40 million residents, nearly 75% of whom are 21 or older, and a long history of illicit and gray markets, California's restrictive licensing regime at least has a fully operational supply chain. Though early hiccups such as the July 2018 supply crunch that developed with the institution of more rigorous testing requirements were reason for pause, that supply chain is providing the infrastructure and flexibility to accommodate a multitude of strategies aimed at market dominance.

The game is still any company's to win. But a look at the larger investments and financial moves within California provides clues as to where revenue is expected to be generated in-state and globally and who may already have the leading advantage. Four broad emerging strategies:

- Capital raises by California companies through private funding or public trading, often as means toward out-of-state expansion through acquisitions and partnerships.
- Acquisitions, primarily by Canadian companies, of licensed California retailers and cultivators.
- Access to California's market through acquisition of regionally-established brands, often by out-of-state MSOs.
- Development of cannabis-based real estate portfolios.

Capital Raises, IPOs and Acquisitions by California Companies

California companies that grew business as the state set the stage for global decriminalization and legal sales have leveraged early success in the gray medical market and achieved regional and nationwide recognition and funding. MedMen Enterprises, founded in 2010 as a West Hollywood medical dispensary, has taken the most prominent strides toward expansion. Trading on slick branding and large initial doses of private funding, the company has sought to position itself as the top U.S. retailer and brand through acquisitions of MSOs with large license counts in other regions and by opening high-profile stores in existing and expected markets (Los Angeles, New York).

The company's biggest acquisition—the largest in cannabis history at the time (October 2018)—was an all-stock deal valued at $682 million under which PharmaCann, a large medical MSO with licenses across the Midwest and Atlantic seaboard, was folded into a new MedMen holding company with licenses in 12 states, totaling a potential 76 retail stores and 16 cultivation and production facilities.

Licensing alone will not ensure market viability. For MedMen to make good on this rapid expansion, a sizeable source of liquidity is necessary. In addition to its May 2018 IPO, MedMen has also been able to raise larger sums through the private market. On July 10, 2019, Gotham Green Partners, a private equity firm focused on the cannabis market, added $30 million to its previous financing commitment, giving MedMen an eventual total of $280 million in convertible secured notes to finance the company's plans to expand its national footprint.

Some California brands are boosting out-of-state expansion via partnerships in other markets, often through licensing the manufacture of their products to companies with existing licensing and operational infrastructure

Some California brands are boosting out-of-state expansion via partnerships in other markets, often through licensing the manufacture of their products to companies with existing licensing and operational infrastructure. This allows for a gradual national brand recognition without starting from scratch in each new state.

Other California companies have chosen to build a strong statewide presence in the belief that proof of secure business operations and consumer brand loyalty in the world's largest market will translate to national and, eventually, international success. Harborside Health, which made the first legal adult-use sale in the state in 2018, has not made a priority of seeking out-of-state license acquisitions. Instead, Harborside has worked to position itself as the No. 1 vertically integrated dispensary chain in California. This retailer is pursuing access to capital via a June 2019 RTO with Canadian Lineage Grow.

NUG, a vertically integrated company based in Oakland, also is working to establish itself as a California powerhouse before turning an eye to other U.S. markets. Having built a product presence in dispensaries across the state, the company opened a Sacramento store in April 2019 and is set to open two more locations in October. Though not yet trading publicly, NUG raised $15 million in a series A funding round in May 2019. The investment is slated for expanding its existing manufacturing, distribution and branding operations.

Canadian LP Acquisitions of California Dispensaries and Licenses

As some local companies look to build business through expansion to other markets or investment from outside the state, others are taking advantage of non-native companies' desire to gain access to this giant and growing market. Canadian companies, bolstered by the access to capital provided by that country's federal legalization in October 2018, have made bold moves on Californian assets.

The most direct move: acquisition. In February 2019, Canadian Licensed Producer (LP) TerrAscend bought brand and dispensary line The Apothecarium in a deal valued at $118.4 million. As a result, TerrAscend will own four recognized U.S. dispensaries—three in California and one in Nevada—and Valhalla, an associated edibles brand.

SOL Global Investments, an international investment company headquartered in Toronto, is hoping to wed recent California acquisitions with investments in other states to build its own MSO—attempting from the ground up what Canopy Growth's potential acquisition of Acreage Holdings would do from the top, create a Canadian-run MSO. In May 2019, the company spent $137 million to enter California's market by acquiring ECD Inc. and its subsidiary, Humboldt's Northern Emeralds, a cultivation, processing and distribution company, for $120 million. The remaining $17 million was allocated for Three Habitat Consulting Holdco's six dispensary licenses. SOL Global plans to wed these acquisitions with its companies in Michigan and Florida.

Access to California through Brand Acquisition

A reciprocal process has emerged between brand or brand houses that are either based in California or have developed a large presence in the state and out-of-state MSOs or Canadian companies looking to access this market.

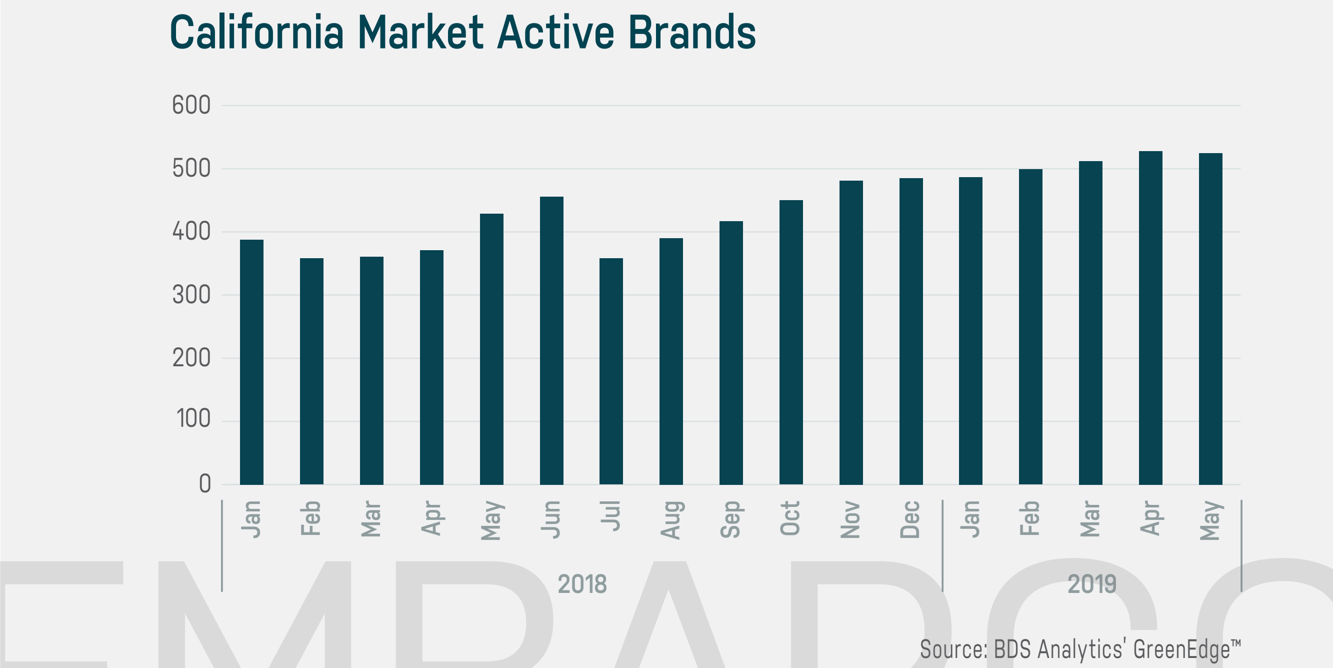
In February 2019, Australis Capital, an investment spin-off of Canadian LP Aurora Cannabis, acquired California's Mr. Natural Productions. The deal, valued at $1.3 million plus royalties on future performance, gives Australis entry to California through a revered Northern California brand and lays the groundwork for the expansion of reach for Mr. Natural products well beyond its regional foothold.

Larger infusions of cash have taken place for non-native companies that have a broad reach across the state. In March 2019, Massachusetts-based MSO Curaleaf offered $949 million in an all-stock deal for Cura Partners, a Portland, Oregon-based company with California market penetration via its leading Select Oil brand of concentrates products. A month prior, Illinois-headquartered MSO Cresco Labs, acquired Origin House in a deal valued at approximately $840 million. Origin House, a Canadian company that spent the last few years buying up California companies to create a brand and in-state distribution house, should be able to easily integrate Cresco's products into its West Coast platform in exchange for multistate access for its brands through Cresco's established U.S. footprint.

Cannabis-Based Real Estate Investment Trusts

Increased production, processing and manufacturing have led to a growing demand for viable property by licensed companies seeking to expand operations. This demand, in turn, has seeded large investments in cannabis-related real estate. Innovative Industrial Properties (IIP) has developed a portfolio of nationwide industrial and greenhouse buildings that it leases to state-licensed growers, most recently (April 2019) acquiring

Larger infusions of cash have taken place for non-native companies that have a broad reach across the state



approximately 102,000 square feet of industrial space in Southern California for $27.1 million, its second purchase in the state. Uniquely, this non-plant touching approach to the market enables IIP to trade publicly on the New York Stock Exchange.

Others are willing to bet big on value-added land. In September 2018, California-based Pelorus Equity Group announced its Pelorus Fund, a $100 million structured Commercial Real Estate (CRE) fund designed to aid licensed cannabis businesses. MedMen, too, has seen the value in real estate, restructuring some of its equity through the creation of Treehouse REIT, a collaboration with Stable Road Capital. In January 2019, the company announced a $133 million raise. Some funds will be used to purchase MedMen properties, freeing up revenue for the strengthening and expansion of its retail and manufacturing operations.

Panning for Gold

Since the transition to a regulated market began on Jan. 1, 2018, the structure of the cannabis supply chain in California has begun to take shape. A few notable trends—some unforeseen—have made themselves apparent as the industry has got off the ground and shaken off the growing pains of the first year of legal activity.

While county-level bans on commercial activity caused some initial damage to market growth, they present a potential upside for some industry operators moving forward. On the production side of the supply chain, the state's most prolific regions for cultivation have jumped out, with some of the leaders in the grow scene being widely predicted and others being rather unexpected.

One key feature of the Adult Use of Marijuana Act (AUMA) that has proven detrimental to market growth is the degree of control that local governments were given to partially or completely ban commercial cannabis activity. However, cities within counties with bans may opt to allow commercial activity, creating an advantageous situation for businesses that operate in these cities.

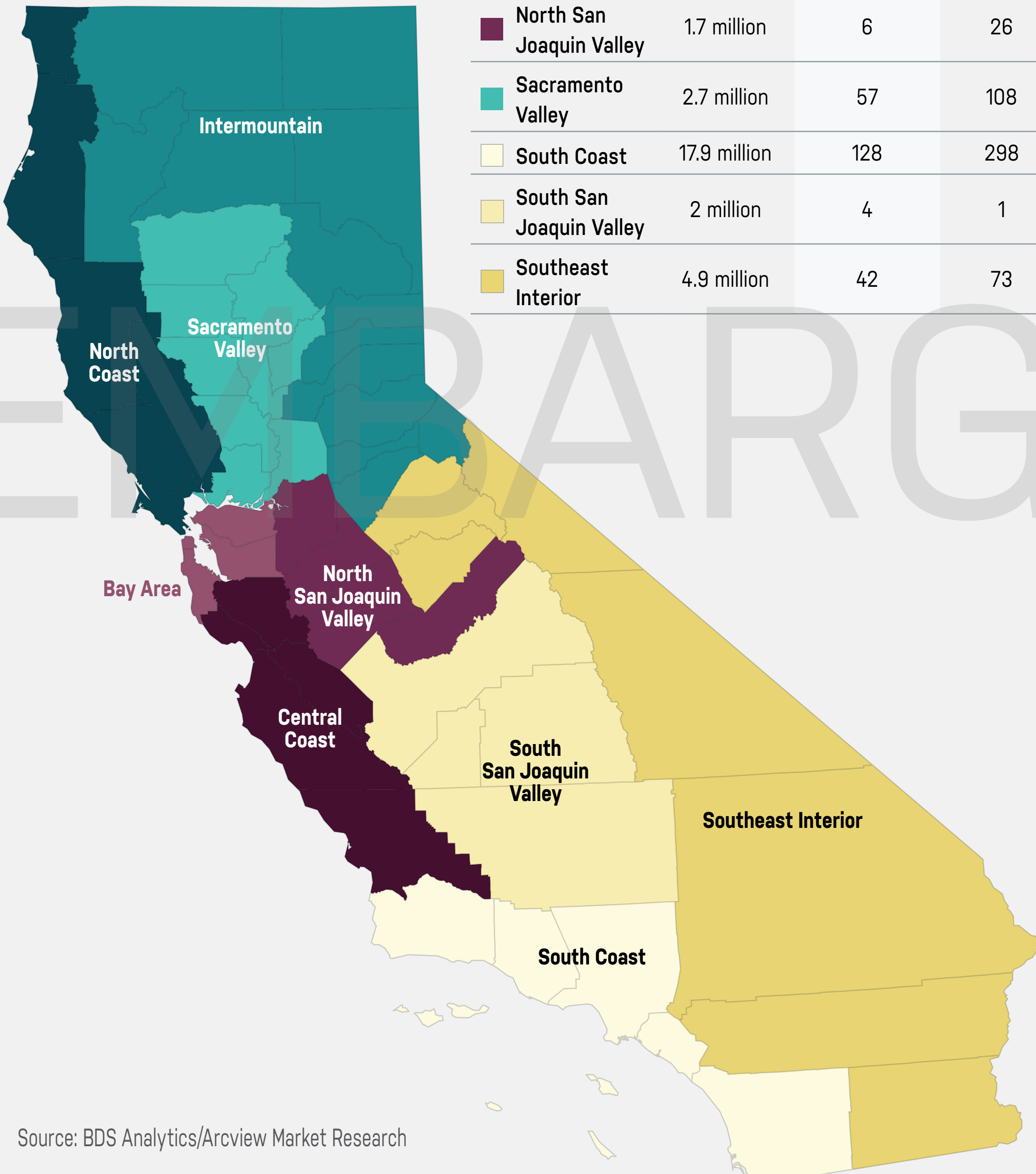
For example, while Fresno County has banned commercial activity, the City of Fresno has begun licensing cannabis businesses, allowing retailers who operate within the city to take advantage of the fact that they are the only legal cannabis source in the county as well as several surrounding counties that have also enacted bans.

This is in stark contrast to counties with broad allowances for legal cannabis such as Los Angeles, where licensees in the City of Los Angeles must compete with a much higher number of entities, both within the city and in surrounding jurisdictions that also allow legal cannabis.

As more licensed cultivators have come online, the picture of what cannabis production looks like across the state has become clearer. Some of the counties with

California Regional Summary

NAME	POPULATION	CULTIVATORS	RETAILERS	POP/ RETAILER
Bay Area	4.2 million	37	197	434,219
Central Coast	3 million	94	53	56,471
Intermountain	1 million	126	22	46,110
North Coast	1.2 million	692	58	20,457
North San Joaquin Valley	1.7 million	6	26	66,727
Sacramento Valley	2.7 million	57	108	25,257
South Coast	17.9 million	128	298	60,176
South San Joaquin Valley	2 million	4	1	2 million
Southeast Interior	4.9 million	42	73	67,239



Source: BDS Analytics/Arcview Market Research

the most extensive cultivation are predictable hotbeds of production—such as Humboldt and Mendocino counties—which are home to 698 and 315 active cultivation licenses, respectively. Other areas that have high concentrations of cultivation licenses, such as Monterey County with its 274 active licenses and Santa Barbara County with its 847 active licenses, do not have the history or reputation of being cannabis powerhouses before 2018.

Some of these areas that are new to widespread cultivation are home to the biggest players on the production side of the industry. While Santa Barbara's 847 licenses are held by only 56 individual licensees, Mendocino has 315 licenses held by 257 licensees, telling the story of how consolidation of the market by larger entities is already taking place in California.

While county-level bans on commercial activity caused some initial damage to market growth, they present a potential upside for some industry operators moving forward.

North Coast Region

Home to two of the three counties that make up the Emerald Triangle, the North Coast region has been saddled with transitioning from the world's largest illicit (and then gray market) cannabis producer to a regulated and licensed functioning industry. The region's long history of operating through an indigenously crafted and unpoliced supply chain has produced a booming legal business, but it also caused growing pains and resistance among communities used to doing things their own way.

Still, even with cultivation and retail being banned in Del Norte, Marin (except for medical use) and Napa counties, this area has seen a rise in licensed retailers and distributors since the passing of Prop. 64. Most of this growth—and resistance to the new way of doing things—has taken place in Humboldt and Mendocino counties.

Humboldt County

Though Humboldt currently has 698 active cultivation licenses, unlicensed cultivators in the county far outnumber those who have sought regulatory compliance. The balance between legal and illicit operations is shifting, though. In May 2019, growing cannabis in the coastal areas of the county was made legal, allowing for 171 permits covering 62 acres, laying the groundwork for continued expansion of legal cultivation.

With a population of 132,646—less than a third of the region's most populous county, Sonoma—Humboldt still matches Sonama's active retail storefront count of 13. Its 52 active distribution licenses make the county the leading distributor of Emerald Triangle-grown cannabis.

EUREKA

The city of Eureka, Humboldt County's largest population center, has recently taken aggressive business-friendly steps that may help to position it as a major tourist destination. Having already allowed for large-scale cultivation in industrial zones, in April 2019, the city passed an ordinance allowing cannabis-smoking lounges. Such lounges, among other prospective cannabis businesses, should flourish in a county that has been the center of cannabis culture since the 1960s.

In May 2019, the city council voted unanimously to remove the request for proposal process in which proposed businesses could only apply for licensing if invited during a small window. With this ordinance change, any potential business can now begin the application process as soon as they are compliant and there is no cap on licenses.

Mendocino County

With 315 active cultivation licenses, Mendocino has the third highest number of cultivation licenses issued so far by the California Department of Food and Agriculture (CDFA). But it is estimated that there are more than 5,000 independent growers in the county; hence the vast majority are not operating in the regulated market.

As a result, illicit production continues in the county, as it does in neighboring counties, where deeply embedded black and gray supply chains are slow to give up control. In July 2019, the Mendocino County Sheriff's Office announced that it had destroyed more than 42,000 plants on 30 unpermitted properties in the Eel River watershed.

Sonoma County

Since Sonoma began taking applications for the newly legalized cannabis industry two years ago, cultivation has lagged behind retail and distribution, with only 48 active cultivation licenses. This is understandable,

North Coast Region

COUNTY	POPULATION	BAN? Y/N/L*	ACTIVE CULTIVATION LICENSES	ACTIVE CULTIVATORS	ACTIVE MICROBUSINESSES
Sonoma	483,878	N	48	39	5
Marin	252,409	L	0	0	0
Napa	136,484	L	0	0	0
Humboldt	132,646	N	698	376	10
Mendocino	87,841	N	315	257	5
Lake	64,665	N	36	20	0
Del Norte	28,610	L	0	0	0
Total	1,186,533		1097	692	20

COUNTY	ACTIVE RETAILERS (INCLUDES DELIVERY)	ACTIVE DISTRIBUTORS	ACTIVE MANUFACTURERS	POP/RETAILER	MAJOR CITIES
Sonoma	16	36	36	30,242	Santa Rosa
Marin	5	1	7	50,482	Marin City, San Raphael
Napa	2	0	0	68,242	Napa
Humboldt	13	52	58	10,204	Eureka, Arcata
Mendocino	16	31	12	5,490	Ukiah, Willets
Lake	5	3	2	12,933	Lakeport
Del Norte	1	0	0	28,610	Crescent City
Total	58	123	115	20,457	

Y - yes, N - no, L - limited.

Source: BDS Analytics/Arcview Market Research

as the vineyard-rich county does not have the cannabis growing history its neighbors to the north do. Still, Sonoma is busy with 13 active retail business licenses, 36 active manufacturing licenses and 36 operating distributor licenses. Sonoma's relatively small legal output—when compared to neighboring counties in the region—is in part due to vocal opposition faced by cultivators from local neighborhood groups.

Marin

Upscale Marin County has taken a tough approach to cannabis and has banned commercial activity in unincorporated areas of the county. San Rafael, a city in Marin County with a population of just over 59,000, has decided to allow more cannabis activity and is currently home to five active delivery licenses, one active manufacturing license and one active distributor license.

Intermountain Region

The intermountain region market is still highly regulated. In many counties (Alpine, Amador, Lassen and Plumas) all activity is banned. In the counties where there is no ban (Calaveras, El Dorado, Lassen) only cultivation and medical dispensaries are legal. Counties such as Shasta and El Dorado have begun to slowly update their county ordinances in accordance with the new state legalization. In Shasta County a new ordinance will allow residents to grow up to six plants indoors, but outdoor growing will still be banned.

Trinity County

Trinity County, the one member of the Emerald Triangle not in the North Coast region, has historically been responsible for less production than Humboldt and Mendocino, but it is still home to 102 active cultivation licenses and considerable numbers of illicit growing operations. In July 2019, authorities seized close to 3,000 illegal plants, marking three years in a row of targeted raids in the Hale Creek watershed.

Calaveras County

Calaveras County originally approved cannabis cultivation and collected in excess of $16 million in fees and taxes before its Board of Supervisors voted 3-2 for a total ban on cannabis production in the county in January 2018. Two growers filed lawsuits in August, seeking a return of the unpaid monies.

In January 2019, the board voted to refund nearly $1 million of that voluntarily, though the court case against the county proceeded. Then, in March, the case was granted class action status. The plaintiffs are seeking the refund of a total of $16.3 million in Measure C taxes and licensing fees collected under the county's defunct Commercial Cannabis Urgency Ordinance Registration Program.

In late February 2019, work began on drafting regulations to reverse the county's ban on cannabis cultivation. A number of details have been decided though full, final rules are not expected until August or later.

Sisikiyou County

A referendum on temporary Ordinance 15-18 failed, continuing a moratorium on commercial activities. The permanent ordinance must be voted on by August 2019. In May, Siskiyou County seized more than 19,000 illegal plants in raids.

Intermountain Region

COUNTY	POPULATION	BAN? Y/N/L*	ACTIVE CULTIVATION LICENSES	ACTIVE CULTIVATORS	ACTIVE MICROBUSINESSES
Placer	348,432	L	—	—	—
El Dorado	181,058	L	—	—	1
Shasta	180,040	L	3	3	—
Nevada	98,764	L	26	22	—
Siskiyou	44,900	N	1	1	5
Calaveras	40,349	L	1	1	—
Amador	38,091	Y	—	—	—
Lassen	34,895	L	—	—	—
Plumas	20,007	L	—	—	—
Trinity	13,786	L	102	99	1
Modoc	9,686	Y	—	—	—
Sierra	3,240	L	—	—	—
Alpine	1,175	Y	—	—	—
Total	1,014,423		133	126	7

COUNTY	ACTIVE RETAILERS (INCLUDES DELIVERY)	ACTIVE DISTRIBUTORS	ACTIVE MANUFACTURERS	POP/RETAILER	MAJOR CITIES
Placer	1	—	—	348,432	Auburn, Roseville
El Dorado	5	—	—	36,212	Placerville, South Lake Tahoe
Shasta	7	8	2	25,720	Redding
Nevada	2	8	9	49,382	Nevada City, Grass Valley
Siskiyou	4	3	2	11,225	Yreka
Calaveras	3	—	—	13,450	San Andreas, Rancho Calaveras
Amador	—	—	—	n/a	Jackson, Ione
Lassen	—	—	—	n/a	Susanville
Plumas	—	—	—	n/a	Quincy, Easy Quincy
Trinity	—	2	—	n/a	Weaverville
Modoc	—	—	—	n/a	Alturas
Sierra	—	—	—	n/a	Downieville
Alpine	—	—	—	n/a	Markleeville
Total	22	21	13	46,110	

Y - yes, N - no, L - limited.

Source: BDS Analytics/Arcview Market Research

Bay Area Region

Having long been the vanguard in the battle for legalization, the Bay Area region, led by San Francisco and Alameda counties, is now also home to some of the largest brands in the industry. Benefiting from the financial and talent capital pouring into the region as a result of the tech boom, the Bay Area has become the No. 1 metropolitan area for cannabis-related job hires, accounting for 13% of all Glassdoor postings listed.

The region is home to popular brands such as Eaze, KIVA Confections, Pax and Somatik. Harborside Health, which recently went public in a reverse takeover on

Bay Area Region

COUNTY	POPULATION	BAN? Y/N/L*	ACTIVE CULTIVATION LICENSES	ACTIVE CULTIVATORS	ACTIVE MICROBUSINESSES
Alameda	1,510,271	N	31	24	53
Contra Costa	1,049,025	N	4	2	0
San Francisco	883,305	N	10	10	10
San Mateo	727,209	N	4	1	0
Total	4,169,810		49	37	63

COUNTY	ACTIVE RETAILERS (INCLUDES DELIVERY)	ACTIVE DISTRIBUTORS	ACTIVE MANUFACTURERS	POP/RETAILER	MAJOR CITIES
Alameda	128	119	100	11,799	Oakland, Berkeley
Contra Costa	4	4	5	262,256	Concord, Richmond
San Francisco	60	22	20	14,722	San Francisco
San Mateo	5	2	1	145,442	Redwood City, Daly City, San Mateo
Total	197	147	126	434,219	

Y - yes, N - no, L - limited.

Source: BDS Analytics/Arcview Market Research

the Canadian Securities Exchange, calls Oakland home, where it pioneered the medical dispensary market more than a decade ago. The region has 47 active cultivation licenses, 63 active licenses for storefront retailers, 126 active manufacturing licenses and 147 active distributor licenses.

Oakland was one of the few California cities with multiple storefront retailers open for business on the first day of adult-use sales

City and County of San Francisco

San Francisco, the fourth most populous city in California with just over 883,000 residents, opened its first adult-use dispensaries on Jan. 6, 2018. This slightly late start was due to the city's Board of Supervisors' late finalization of industry regulations, including the details of a social equity program encouraging the participation of low-income and minority entrepreneurs as well as those with former drug-related convictions. San Francisco residents have approved a city cannabis tax of 2.5% on businesses with revenue under $1 million annually and 5% on businesses with revenue over $1 million.

As of July 2019, the city was home to a 122 active licenses, including 60 retail (34 storefront), 22 distributor, 20 manufacturing licenses, 10 microbusiness licenses and 10 cultivation licenses. San Francisco hosts a retail cannabis outlet for every 14,722 people—less penetration than nearby Oakland but considerably higher than Los Angeles and San Diego. All dispensaries in the city are required to also sell medical cannabis to registered patients.

San Mateo County

Commercial cannabis activity is still prohibited in unincorporated San Mateo County. The City of San Mateo itself specifically prohibits the cultivation, storage, processing, manufacturing and adult-use sales of cannabis. Medical dispensaries are allowed but cannot be operated as for-profit businesses. Daly City has opted to allow cannabis activity and currently has four active cultivation licenses, five active retail licenses, one active manufacturing license and two active distributor licenses.

Contra Costa County

Contra Costa County is also less enthusiastic than Alameda and San Francisco counties, granting 15 licenses, all in unincorporated areas. Only four retail storefronts are allowed in the county, all currently active. Two of the 10 allowed cultivation licenses are currently active in agricultural districts.

Alameda County

In 2018, Alameda county amended its business ordinances to allow licensed cannabis operations to operate in unincorporated areas of the county with very few restrictions, making it one of the more friendly counties in the state for the industry. A broad range of cannabis businesses are currently operating in the cities of Berkeley, Hayward, San Leandro and Oakland, with Oakland having the highest concentration of licenses.

CITY OF OAKLAND

Oakland is California's eighth largest city, with a population of nearly 433,000, but boasts perhaps the state's most robust cannabis market. As of July 2019, the city had a total of 338 active licenses including 115 retail, 106 distribution, 86 manufacturing and 31 cultivation licenses. Oakland was one of the few California cities with multiple storefront retailers open for business on the first day of adult-use sales. With 11 active storefront retailers and 104 non-storefront retailers, the city has a retail outlet for every 3,765 residents—one of the highest penetrations anywhere. Oakland levies a 10% city tax on all adult-use receipts for businesses with annual revenue exceeding $500,000 and a 12% tax on businesses with annual revenue under $500,000.

Oakland's Harborside is one of the oldest currently operating dispensaries in the world—founded in 2006. Harborside is perhaps best known for successfully fighting a federal civil forfeiture lawsuit against it in 2012 and continuing efforts to fight against the IRS and 280E, which prevents state-legal cannabis businesses from deducting business expenses on federal taxes. Oakland is also home to KIVA Confections, one of the strongest edibles brands in the California market. KIVA, founded in 2010, has been leveraging its expertise to expand to other legal states including Arizona, Hawaii, Illinois and Nevada, previewing what will likely be similar moves by many California brands.

Central Coast Region

The Central Coast has openly embraced cannabis, with Monterey and Santa Cruz counties taking the lead as both regional and statewide producers and distributors, and Santa Clara County, though still restricted to medical in its unincorporated areas, is generating business in its county seat and Silicon Valley center, San Jose.

Monterey County

Monterey County has positioned itself as the region's prime mover for cannabis cultivation with 275 currently operational cultivation licenses and 27 manufacturing licenses. The county has also notably set up environmentally friendly regulations for the industry, requiring water conservation and alternative fuels for transport

Central Coast Region

COUNTY	POPULATION	BAN? Y/N/L*	ACTIVE CULTIVATION LICENSES	ACTIVE CULTIVATORS	ACTIVE MICROBUSINESSES
Santa Clara	1,937,570	L	12	7	8
Monterey	435,594	N	274	60	0
San Luis Obispo	284,010	L	11	8	0
Santa Cruz	274,255	N	25	17	8
San Benito	61,537	L	3	2	0
Total	2,992,966		325	94	16

COUNTY	ACTIVE RETAILERS (INCLUDES DELIVERY)	ACTIVE DISTRIBUTORS	ACTIVE MANUFACTUERS	POP/RETAILER	MAJOR CITIES
Santa Clara	10	8	5	193,757	San Jose, Santa Clara
Monterey	22	67	27	19,800	Monterey, Salinas
San Luis Obispo	6	9	7	47,335	San Luis Obispo
Santa Cruz	14	31	33	19,590	Santa Cruz
San Benito	1	5	5	61,537	Hollister
Total	53	120	77	56,471	

Y - yes, N - no, L - limited.

Source: BDS Analytics/Arcview Market Research

and distribution. Salinas is the center of Monterey's cultivation, with vertically integrated companies like Indus Holdings Inc. and Harborside Health's cultivation arm, Harborside Farms, fitting easily into the historically agricultural valley. With 13 active retail licenses, Monterey County also leads the region in dispensary counts.

San Luis Obispo County

Located between the counties of Monterey and Santa Barbara, San Luis Obispo County has two-thirds the population of either neighbor but significantly fewer commercial cannabis operations. The county has 11 operating cultivation licenses, 3 active retail licenses, 7 manufacturing licenses and 9 operational licensed distributors.

Santa Clara County

If it were not for the City of San Jose, Santa Clara County, with its continued moratoriums on adult-use dispensaries and generally limited commercial activity, would risk being completely shadowed by its cannabis-active surrounding counties. San Jose, culturally and economically more a sibling to its northern Silicon Valley neighbors than to the agricultural communities that make up much of the county's south, has chosen to develop business-friendly commercial cannabis regulation, already having 10 retail licenses and allowing transition to adult-use immediately upon California's January 2018 launch of adult-use sales. The county also has five active manufacturing licenses, eight active microbusiness licenses, and eight active distributor licenses. Caliva, a vertically integrated company that has been actively securing investment and partnership, operates its flagship store, and is headquartered, in the city.

Santa Cruz County

Santa Cruz County has distinguished itself by being the earliest and most vocal proponent of legalization on the Central Coast. This has meant a quick initial transition to adult-use but not without snags. In May 2019, the Santa Cruz County Board of Supervisors announced regulatory updates aimed at addressing a shortfall in expected cannabis tax revenue by easing licensing requirements for cultivators and adding new licenses for nurseries and processors.

As with other regions in California with a long history of laissez-faire policy on cannabis, Santa Cruz County's revenue from the newly legal industry will also continue to be challenged by a resistant illicit market There are 25 active cultivation licenses, 8 active microbusiness licenses, 33 manufacturing licenses, 14 active licensed storefront retailers and 31 active licensed distributors in the county. Retail licenses are currently capped at the 14 existing dispensaries.

South Coast Region

City of Los Angeles

As the largest city in California, Los Angeles stands out as the largest metropolitan legal cannabis market in the world. Despite a host of problems that have dogged the move to adult use since January 2018, cannabis businesses in Los Angeles span the supply chain, from cultivation and distribution to retail sales and microbusinesses. The number of active cannabis businesses licenses issued by the Los Angeles Department of Cannabis Regulation reached 775 in July 2019. There are currently 71 active licensed cultivators. The county also has 96 active microbusiness licenses, 79 active manufacturing licenses, 187 active retailer licenses and 342 active distributor licenses.

South Coast Region

COUNTY	POPULATION	BAN? Y/N/L*	ACTIVE CULTIVATION LICENSES	ACTIVE CULTIVATORS	ACTIVE MICROBUSINESSES
Los Angeles	10,105,518	N	71	71	96
San Diego	3,343,364	L	1	1	3
Orange	3,185,968	L	—	—	—
Ventura	850,967	L	—	—	1
Santa Barbara	446,527	N	847	56	1
Total	17,932,344		919	128	101

COUNTY	ACTIVE RETAILERS (INCLUDES DELIVERY)	ACTIVE DISTRIBUTORS	ACTIVE MANUFACTURERS	POP/RETAILER	MAJOR CITIES
Los Angeles	210	342	256	48,122	Los Angeles
San Diego	31	19	21	107,850	San Diego
Orange	25	32	27	127,439	Anaheim, Santa Ana, Irvine, Huntington Beach
Ventura	11	—	—	77,361	Ventura, Oxnard
Santa Barbara	21	5	7	21,263	Santa Barbara, Santa Maria
Total	298	398	311	60,176	

Y - yes, N - no, L - limited.

Source: BDS Analytics/Arcview Market Research

The challenge for LA's legal market, however, is that as an artifact of the loosely regulated medical era, it has more unlicensed shops and delivery services than licensed ones. Regulators shut one down and it simply reopens nearby. The city's cannabis regulators are working with law enforcement on a strategy that would target landlords, who have much more to lose than gray-market retailers, with civil actions with real teeth.

The tax structure in LA is organized by business category, with a 10% tax on adult-use retail sales, 5% tax on medicinal retail sales, 2% tax for manufacturing and cultivation, and 1% tax for distribution.

The challenge for LA's legal market, however, is that as an artifact of the loosely regulated medical era, it has more unlicensed shops and delivery services than licensed ones

Los Angeles is home to some of the largest medical and adult-use cannabis companies in the region—and hence the world—including MedMen, The Farmacy and LA Wonderland. Los Angeles-based company MedMen operates three of the city's most popular retail dispensaries and holds two distribution licenses in the City of Los Angeles. MedMen was first established in 2010 and has become a frontrunner in California's adult-use and medical cannabis market. As of July 2019, MedMen has licenses in 12 states and operates 84 retail stores and 19 cannabis production facilities, with plans to open 50 additional retail outlets by the end of 2019.

Orange County

Orange County has banned commercial cannabis operations, but with city-level exceptions led by the City of Santa Ana, there is 1 licensed cultivator, 25 active retailer licenses, 27 active manufacturing licenses and 32 active distributor licenses overall.

San Diego County

San Diego County has 1 active cultivator, 21 active manufacturing licenses as well as 31 active retailers and 19 active licensed distributors. The county has one-third of the population of Los Angeles County but less than one-tenth the number of cannabis operations.

CITY OF SAN DIEGO

San Diego is the second most populous city in California and one of the first municipalities to implement regulations for the production and sale of adult-use and medical cannabis. In spite of the city's rapid push toward cannabis legalization, the number of licensed commercial cannabis businesses in San Diego remains limited on a per-capita basis compared to other cities in California.

San Diego regulations specify a maximum of 36 licenses for retail outlets and 40 licenses for cannabis production businesses. As of July, San Diego has only 16 licensed retailers within the city—well under the 36-license cap—amounting to roughly 1 retail outlet per 88,750 residents. On the production side, San Diego has 19 licensed distributors, 18 licensed manufacturers and only 1 licensed cultivator as of July 2019. San Diego raised its tax on cannabis businesses to 8% on July 1, 2019.

Many of San Diego's top licensed cannabis businesses have been around since it first started issuing licenses at the beginning of 2018. Torrey Holistics was the first dispensary to receive a license to sell adult-use cannabis in San Diego and remains one of its top dispensaries today. There are a number of novel businesses that have popped up as a result of the legal cannabis industry, including several cannabis-centered tour agencies, in a beach city that is a favorite vacation destination for many. West Coast Cannabis Tours offers tour packages that include visits to cultivation and manufacturing facilities, tours of San Diego's top dispensaries and grow-your-own cultivation demonstrations.

Santa Barbara County

With a population of less than half a million people and no explicit restrictions on commercial cannabis operations, Santa Barbara County has an outsized presence when it comes to growing cannabis, having so far issued the most cultivation licenses in California. The Santa Barbara Board of County Supervisors, though, has recently sought to reign production in by capping cultivation at around 1,500 acres and by prohibiting commercial growing on property less than 20 acres in size; there has been vocal push back from neighbors complaining of odor and other related nuisances.

There are a whopping 847 active cultivation licenses in the county. Retail and other operations are another matter, reflecting the split between upscale cities like Santa Barbara and Montecito with the rural areas of the county. The county has only 18 active retail licenses as well as 1 active licensed microbusiness, 7 active manufacturing licenses and 5 active licensed distributors.

Ventura County

Ventura County has a population of 851,000 people but due to a ban on all commercial cannabis operations, it has almost no businesses. Even with municipality exceptions there are is only 1 active licensed microbusiness, 10 active licensed retailers and no distributors or cultivators.

South San Joaquin Valley Region

Agricultural South San Joaquin is one of the more restricted regions in the state, with bans on commercial activity in all counties except for Tulare, which allows medical sales and is home to Valley Pure in Woodlake and Tulare Alternative Relief Association in Visalia. Some municipalities have chosen to break with county law and allow cannabis licensing, and county bans are only enforced in unincorporated areas except in Fresno County, where the cannabis business in the region is mostly underground.

Fresno County

Interim Ordinance 17-001, which prohibited cultivation, sales and use of adult-use cannabis in Fresno, expired in December 2018, leaving its legal status unclear. The City of Fresno, surrounded by agricultural communities, has passed an ordinance legalizing commercial cannabis operations as well as establishing a special Cannabis Innovation Zone. The City of Fresno currently has one retail license, one microbusiness license, four manufacturing licenses and seven distributor licenses.

Kings County

While there is a ban on commercial cannabis in Kings County, the county seat of Hanford has now legalized commercial cannabis activities, but actual development is still in process. Neighboring Lemoore has also allowed limited activities. Despite the county ban,

South San Joaquin Region

COUNTY	POPULATION	BAN? Y/N/L*	ACTIVE CULTIVATION LICENSES	ACTIVE CULTIVATORS	ACTIVE MICROBUSINESSES
Fresno	994,400	L	—	—	1
Kern	896,764	Y	2	2	—
Kings	151,366	Y	—	—	—
Tulare	465,861	L	2	2	—
Total	2,042,530		2	4	1

COUNTY	ACTIVE RETAILERS (INCLUDES DELIVERY)	ACTIVE DISTRIBUTORS	ACTIVE MANUFACTURERS	POP/RETAILER	MAJOR CITIES
Fresno	1	7	4	994,400	Fresno
Kern	—	7	15	n/a	Bakersfield
Kings	—	1	—	n/a	Hanford, Corcoran
Tulare	6	2	3	77,644	Visalia
Total	1	15	22	2,042,530	

Y - yes, N - no, L - limited.

Source: BDS Analytics/Arcview Market Research

NC3 Systems, doing business as Caliva, operates a dispensary in the county.

North San Joaquin Valley Region

With the exception of Stanislaus County, which has long permitted medical cannabis collectives, the North San Joaquin Valley has primarily assumed a conservative stance on the legalization of cannabis. There are bans on commercial activity in every county, and as of July 2019, Madera (where cultivation is limited to one room in a single-family home or an outdoor area covered from view) has yet to issue any commercial licenses.

With more than 70,000 residents per operating retailer, unless consumers in this region are in the greater Modesto area, they will most likely have to

North San Joaquin Region

COUNTY	POPULATION	BAN? Y/N/L*	ACTIVE CULTIVATION LICENSES	ACTIVE CULTIVATORS	ACTIVE MICROBUSINESSES
San Joaquin	752,660	L	0	0	0
Stanislaus	549,815	L	9	6	1
Merced	274,765	L	0	0	0
Madera	157,672	L	0	0	0
Total	1,734,912		9	6	1

COUNTY	ACTIVE RETAILERS (INCLUDES DELIVERY)	ACTIVE DISTRIBUTORS	ACTIVE MANUFACTURERS	POP/RETAILER	MAJOR CITIES
San Joaquin	3	0	0	250,887	Stockton
Stanislaus	21	9	4	26,182	Modesto
Merced	2	3	0	137,383	Merced
Madera	0	0	0	n/a	Madera
Total	26	12	4	66,727	

Y - yes, N - no, L - limited.

Source: BDS Analytics/Arcview Market Research

plan a visit to the dispensary. Twenty of the North San Joaquin Valley's 25 operating licensed retailers are in or near that city, the largest in Stanislaus County and its seat.

San Joaquin County

In August 2018, San Joaquin County's Board of Supervisors adopted Ordinance No. 4512, permitting all types of commercial cannabis businesses in unincorporated areas save for outdoor cultivation and cannabis events. The ordinance faltered after voters failed to approve a necessary cannabis business tax, but in May 2019, the Board removed this requirement and instead established "Development Agreements" that will be individually negotiated with each applicant. In a setback for local business, the Board also voted to remove the allowance for retail stores.

In March 2019, however, the City of Stockton adopted an ordinance, creating its own regulatory program for commercial cannabis businesses encompassing manufacturing, cultivation, distribution, laboratory testing and delivery. The city is currently home to three active retail storefront licenses.

Sacramento Valley Region

The Sacramento Valley has been slow to embrace California's full legalization, with limited bans in all of the region's nine counties. Colusa and Tehama counties have some of the strictest prohibition, banning manufacturing and retail. In Butte, Sacramento, Solano, Sutter and Yolo County, manufacturing and commercial cultivation is banned, but residents can grow for personal and medical use.

Sacramento County

With a population of 1.5 million (more than three times that of Solano, the region's second most populous county), Sacramento County accounts for much of the valley's cannabis business, housing 30 of the region's 49 active dispensaries.

CITY OF SACRAMENTO

The bulk of the county's activity is centered in the state's capital, which allows for dispensaries, manufacturing, testing and cultivation of up to 22,000 square feet of production within the city's boundaries. Growth is somewhat halted, though, as the city currently only permits medical dispensaries, and there is a moratorium on dispensary license applications. The city of Sacramento has imposed a 4% tax on all cannabis sales.

Yolo County

Though Yolo County only allows for one acre of commercial medical cultivation, it has been the most liberal of the region's counties in licensing cultivators. As of July 2019, the count is up to 57 active cultivation licenses, more than twice those operating in the valley's second busiest cultivation hub, Sacramento County. What little there is of a retail market is centered in the college town of Davis, which hosts the five active licensed retailers in the county.

Sacramento Region

COUNTY	POPULATION	BAN? Y/N/L*	ACTIVE CULTIVATION LICENSES	ACTIVE CULTIVATORS	ACTIVE MICROBUSINESSES
Sacramento	1,540,975	L	27	25	9
Solano	446,610	L	0	0	0
Butte	231,256	L	0	0	0
Yolo	220,408	L	57	31	0
Sutter	96,807	L	0	0	0
Yuba	78,041	L	0	0	0
Tehama	63,916	L	0	0	0
Glenn	28,094	L	0	0	0
Colusa	21,627	L	1	1	0
Total	2,727,734		85	57	9

COUNTY	ACTIVE RETAILERS (INCLUDES DELIVERY)	ACTIVE DISTRIBUTORS	ACTIVE MANUFACTURERS	POP/RETAILER	MAJOR CITIES
Sacramento	84	44	41	18,345	Sacramento
Solano	12	9	4	37,218	Vallejo, Fairfield
Butte	0	0	0	n/a	Chico, Oroville
Yolo	8	10	10	27,551	Woodland, Davis, West Sacramento
Sutter	0	0	0	n/a	Yuba City
Yuba	2	0	0	39,021	Marysville
Tehama	0	0	0	n/a	Red Bluff
Glenn	0	0	0	n/a	Willows
Colusa	2	2	1	10,814	Colusa
Total	108	65	56	25,257	

Y - yes, N - no, L - limited.

Source: BDS Analytics/Arcview Market Research

Southeast Interior Region

The counties in California's southeast interior vary on their stances toward cannabis legalization. While Tuolumne and San Bernardino have bans on the manufacturing, cultivation and retail of commercial cannabis, Mono, Mariposa and Inyo County permit cultivation. In Imperial County and Riverside County, no bans exist on commercial cannabis.

Southeast Interior Region

COUNTY	POPULATION	BAN? Y/N/L*	ACTIVE CULTIVATION LICENSES	ACTIVE CULTIVATORS	ACTIVE MICROBUSINESSES
Riverside	2,450,758	N	39	20	29
San Bernadino	2,171,603	L	23	22	6
Imperial	181,827	N	0	0	0
Tuolumne	54,539	L	0	0	0
Inyo	17,987	L	0	0	0
Mariposa	17,471	L	0	0	0
Mono	14,250	L	0	0	0
Total	4,908,435		62	42	35

COUNTY	ACTIVE RETAILERS (INCLUDES DELIVERY)	ACTIVE DISTRIBUTORS	ACTIVE MANUFACTURERS	POP/RETAILER	MAJOR CITIES
Riverside	49	61	79	50,015	Riverside, Palm Springs, Palm Desert
San Bernadino	15	41	48	144,774	San Bernadino
Imperial	4	4	1	45,457	El Centro
Tuolumne	1	0	0	54,539	Sonora
Inyo	1	0	0	17,987	Independence
Mariposa	0	0	0	n/a	Mariposa
Mono	3	2	2	4,750	Bridgeport
Total	73	108	130	67,239	

Y - yes, N - no, L - limited.

Source: BDS Analytics/Arcview Market Research

Riverside County

Individual cities in Riverside County are among the most welcoming to the industry, with 11 cities participating and 5 of these allowing and regulating commercial cannabis completely. The industry is most concentrated in the Coachella Valley cities of Palm Desert and Cathedral City, but there is also significant activity in Lake Elsinore and Moreno Valley, strengthening the county's reputation as cannabis friendly. Thirty-nine cultivation licenses and 79 manufacturing licenses are currently active. Riverside, which also has 47 active retailer licenses and 29 active microbusiness licenses, is already a draw for consumers and patients across the state's largely retail-barren interior.

SAN BERNARDINO CITY

Despite San Bernardino County's ban on commercial cannabis activity, San Bernardino City has taken a friendly stance toward the industry. In February 2019, the city granted council members 17 licenses to hand out to a wide variety of applicants, including cultivators, microbusinesses and manufacturers. The license count has since expanded to include 15 retail licenses, 6 microbusiness licenses, 23 cultivation licenses, 48 manufacturing licenses and 41 distributor licenses.

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