



# Special Report: Debunking Dispensary Myths

Literature Review Finds Cannabis Stores Are  
Associated With Lower Crime, Decreased Teen Use,  
and Increased Property Values

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## Abstract

Common political objections to the siting of cannabis retail stores in a given area often center on the supposed negative consequences the stores will bring to that area. However, a systematic literature review of studies on the impacts cannabis retailers have on the surrounding community actually refutes key assertions regarding the supposed negative impacts of dispensaries and/or stores on crime, underage use, and property values. In fact, the broad body of research reviewed in this paper suggests the opposite is occurring: Crime near licensed dispensaries has generally stayed flat or decreased, teen cannabis use in legal states has fallen since legalization, and property values near cannabis outlets generally are not affected or, in some cases, experience a greater value increase than comparable properties not near a cannabis outlet.

## DEBUNKING DISPENSARY MYTHS: INTRODUCTION

# Legal, but Not Local

Americans are embracing cannabis legalization at record levels. Two out of three Americans now support legalization for all adults (CBS News poll, April 2019). As of early 2019, 34 states have legalized the medical use of cannabis. Ten states—plus Washington, DC—have declared it legal for adult use.

Yet legalization doesn't mean all patients and adult consumers enjoy the same freedoms.

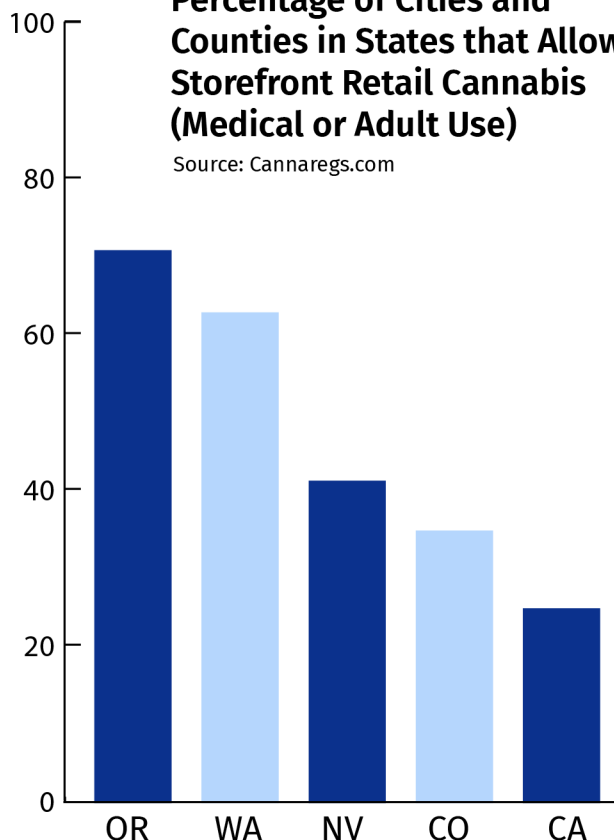
All state legalization laws allow municipalities to permit or prohibit cannabis sales within their jurisdictions. At the city and county levels, a number of lawmakers have responded to statewide legalization with ordinances banning all state-licensed cannabis companies within their jurisdiction. Others prohibit cannabis stores under the theory that they attract or foment criminal activity. These cannabis bans effectively reinstitute cannabis prohibition for local residents and encourage the illegal cannabis market to flourish.

### AS OF MAY 1, 2019:

- CA** In California, 75% of jurisdictions have banned cannabis stores
- CO** In Colorado, 65% of cities and counties have similar bans
- MA** In Massachusetts, 54% of the state's 351 municipalities have banned cannabis stores
- WA** In Washington, 35% of cities and 20% of counties have banned cannabis stores.
- NV** In Nevada, 75% of counties and 42% of cities prohibit cannabis stores

### Percentage of Cities and Counties in States that Allow Storefront Retail Cannabis (Medical or Adult Use)

Source: Cannaregs.com



### WHERE AND HOW BANS HAPPEN

Local cannabis bans tend to happen predominantly in suburban and rural districts in the aftermath of statewide legalization. At city council meetings, citizens and elected officials often voice fears about retail stores as a visual blight and a locus for criminal activity. Parents worry that a store could offer their children easier access to cannabis.

These debates are often rife with misinformation based on 80 years of government dishonesty and drug war hyperbole. The three most common myths center on the

notions that licensed cannabis retailers spur an uptick in crime, increase teen use of the drug, and cause property values to decline (Hughes, 2018).

Here are a few examples of more recent local concerns aired in California, Nevada, and Massachusetts:

#### ***Marijuana Production Faces 'War' From Asian American Communities***

"You will hear helicopters overhead, people shooting in the street, maybe prostitutes walking around," said Daniel Ding, of Temple City, CA. "It will destroy the city." (Los Angeles Times, 2019).

#### ***Nevada City Council Moves Forward With Adult-Use Cannabis Ordinance***

Several audience members spoke against allowing adult-use cannabis businesses, including former county Supervisor Nate Beason. "You need to consider the residents," Beason said. "We'll reach a point where something bad is going to happen ... This will change the character of our town." (The Nevada County Union, 2018)

#### ***The Marijuana War Has Gone Local***

"We have a brand-new youth center, a state-of-the-art library—all these beautiful things to attract families—and now we're going to bring retail pot shops in?" said Milford Selectman Mike Walsh. (Boston Globe, 2017)

#### ***Residents Say Pot Shop Will Ruin Neighborhood***

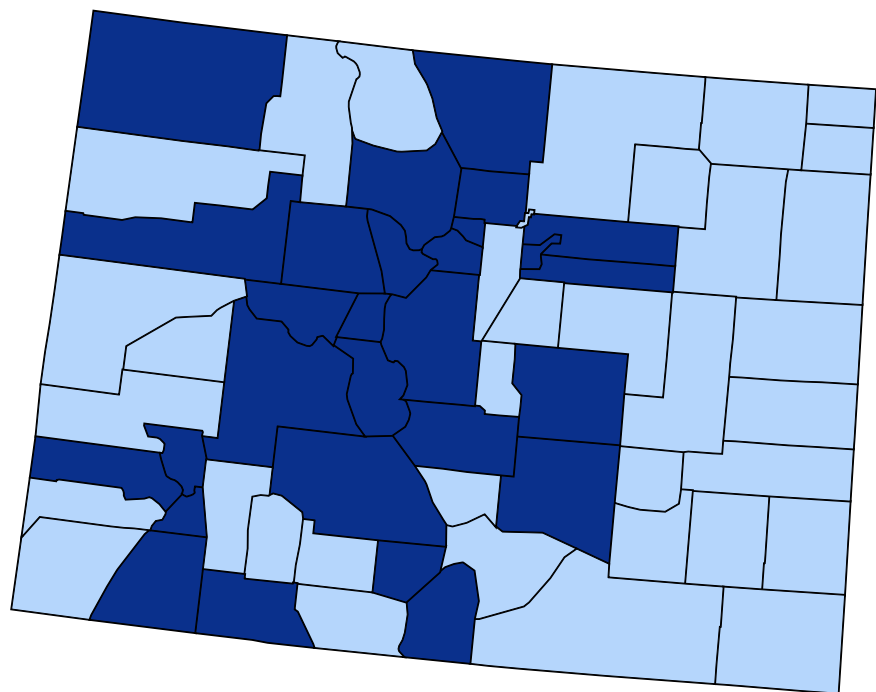
During a community meeting, residents of Haverhill voiced outrage that their neighborhood was zoned as a recreational marijuana establishment district. "We don't want you here," said Joel Bissonnette, an Elliott Street resident. "Go to Ward Hill." (The Haverhill Gazette, 2019)

During these debates, some residents and local leaders make their desire clear: Keep the cannabis stores in the big cities. Let Denver, Seattle, Portland, Boston, or Los Angeles go first. Others want to push it into the next town over: "Go to Ward Hill."

There's often an unspoken belief that banning cannabis stores will prevent cannabis from entering a community, as if patients and consumers reside only in metropolitan areas and aren't already in the local community.

A certain amount of virtue signaling also comes into play: *We're not the kind of people who use marijuana.* This can be a powerful motivator, even inspiring municipal authorities to act against the expressed desire of their own constituents—a majority of local residents vote for legalization, but then a handful of local officials prohibit cannabis businesses.

## **Colorado County Cannabis Bans**



Colorado famously legalized cannabis for all adults in 2012. But 38 of the state's 64 county governments have banned cannabis stores, resulting in a patchwork of legal and prohibition counties.

## ONGOING LOCAL LICENSING DEBATES

The concept of local control wasn't created by the cannabis legalization movement. It predates the existence of the United States.

All states follow existing legal precedent with regard to the enormous zoning and police powers of local cities and counties. Local authorities generally control all aspects of local cannabis commerce. They have the power to ban it entirely or to set the time, place, and manner in which it operates.

California, the world's biggest cannabis market by population, approved adult-use legalization by a 57% vote in 2016 and began licensing adult-use retail stores in December 2017. Sales began on Jan. 1, 2018. Even though adult-use stores have been legal for more than a year, a majority of communities—39 counties and 396 incorporated cities and towns—continue to prohibit cannabis stores within their borders.

In Massachusetts, where adult-use legalization—Question 4—passed by 54%, local licensing debates are taking on increasing urgency due to an upcoming deadline. Counties and towns have until June 30, 2019, to make a final decision on allowing or prohibiting cannabis retail stores. So far, 189 of the state's 351 municipalities have banned adult-use cannabis stores. Only 30 municipalities currently allow them.

Michigan residents voted in favor of statewide legalization in November 2018, passing Proposal 1 by a vote of 56% to 44%. But now comes the hard part: ending cannabis prohibition at the local level, or even keeping track of what's

**Even though adult-use stores have been legal for more than a year in California, a majority of communities—39 counties and 396 incorporated cities and towns—continue to prohibit cannabis stores within their borders.**

legal where. Michigan has 83 counties, 276 cities, 257 villages, and 1,240 townships, but no digital reporting mandate regarding cannabis regulations (Ostrowsky, CannaRegs), so it's going to be difficult to track implementation.

As cannabis legalization continues to spread to more states, communities across America will find themselves with the opportunity to weigh in on the appropriate place of cannabis in their communities. Each governing body will handle the decision its own way. These discussions should be informed by the best available information and research, not imagined fears and archaic mythology.

# 52%

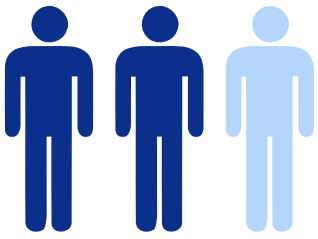
**of all Americans report having used cannabis at least once**

Source: Marist Poll, 2017

# Timeline: The Rise of Retail Cannabis in the US

<b>1937</b>	Federal prohibition begins under Marihuana Tax Act.
<b>1940s</b>	Medical cannabis formulations disappear from pharmacy shelves.
<b>1994</b>	Cannabis Buyer's Club of San Francisco opens.
<b>1996</b>	California legalizes medical cannabis with no licensing or regulation.
<b>1998</b>	Alaska, Oregon, Washington legalize medical cannabis with no licensing or regulation.
<b>2000</b>	Colorado and Nevada legalize medical cannabis with no licensing or regulation.
<b>2004</b>	California Senate Bill 420 creates a legal defense for dispensaries. Unlicensed dispensaries open across California. San Francisco begins licensing medical cannabis dispensaries.
<b>2010</b>	Colorado regulates its medical dispensaries. Arizona legalizes medical cannabis and state-licensed dispensaries.
<b>2011</b>	Federal prosecutors step up asset forfeiture campaign against California dispensaries.
<b>2012</b>	Colorado and Washington legalize adult use of cannabis, with licensing and regulation.
<b>2013</b>	Justice Department's Cole memo takes federal crosshairs off licensed medical and adult-use retailers.
<b>2014</b>	Adult-use cannabis sales begin as licensed stores open in Colorado and Washington. New York legalizes medical cannabis, with licensed dispensaries. Washington, D.C., voters legalize adult use of cannabis, but Congress blocks efforts to license and regulate retail stores.
<b>2016</b>	Voters in California, Massachusetts, Nevada, and Maine legalize the adult use of cannabis. Florida voters legalize medical marijuana.
<b>2017</b>	Adult-use cannabis stores open in Nevada. Licensed medical dispensaries open in Hawaii and Maryland.
<b>2018</b>	Adult-use cannabis stores open California and Massachusetts. AG Jeff Sessions rescinds Cole Memo. Oklahoma legalizes medical cannabis. Michigan votes to legalize adult-use cannabis. Vermont legislature votes to legalize adult cannabis possession, but does not allow retail sales.

Source: Marijuana Policy Project, California NORML



# 2 out of 3 Americans now support legalization for all adults

Source: CBS, 2019

## PUBLIC SAFETY MYTHS

Since the 1930s, cannabis critics have claimed, without proof, that the slightest interaction with the plant leads to a life of addiction, debauchery, and crime. Cannabis has often been used by people of lower income (Caulkins, Davenport, 2016) who interact more with law enforcement (La Vigne, 2017).

Many people—including law enforcement officials—frequently mistake correlation with causation when it comes to the possession of cannabis among suspects. For example: Research suggests that about 72% of tobacco smokers come from lower-income communities (Truth Initiative, 2018). Those communities also experience a greater police presence than higher-income communities (Shi, 2016). That doesn't mean cigarette smoking causes crime.

These misconceptions and stereotypes don't just drive local zoning decisions; in some cases, local zoning can create them.

Consider the history of medical cannabis in Los Angeles. California legalized the medical use of cannabis in 1996. In LA, the city's first unlicensed dispensaries opened by 2000. The lack of regulation propelled a dispensary boom. Those dispensaries tended to open in lower-value property neighborhoods and in areas with higher crime rates (Nemeth, 2014). Once medical cannabis became correlated with higher-crime areas, people quickly—and mistakenly—inferred that cannabis dispensaries cause crime.

## TEEN USE MYTHS

Teen access to cannabis has been relatively easy nationwide since the 1970s (MacCoun, 2011). Yet proponents of local cannabis bans act like stores bring cannabis into a community for the first time.

Ban advocates also assert that legalization states have higher rates of teen use, and that the rate is associated with current policy (RMHIDTA, 2017). But for decades, legalization states like California and Colorado have had higher general rates of cannabis consumption (Cerda, 2012).

At community meetings, some parents express fears of cannabis sales to youth or that minors will obtain it by theft. Some claim a store's presence will lower a minor's fear of cannabis, thus encouraging young people to try it.

## PROPERTY VALUE MYTHS

During local debates about zoning cannabis stores, some critics assume the past social stigma attached to cannabis will decrease the property value of homes and businesses near a licensed cannabis store.

They expect an increase in crime will drive house prices down or that the business type will make other negative impacts to neighborhood noise, traffic, or odor, similar to a convenience store.

## DEBUNKING DISPENSARY MYTHS: PART I

# Literature Review Methodology

In this report, Leafly reporters, researchers, editors, and data analysts conducted the world's first-ever literature review of studies that test three key assertions on this topic.

We were advised by Humboldt State University co-director for the Humboldt Institute for Interdisciplinary Marijuana Research, Dominic Corva. Working with Corva, Leafly editors conducted a thorough survey of all available studies and followed up with an analysis of study validity, prioritizing the most impactful and generalizable findings.

We spent weeks reviewing academic journals and databases, considering more than 100 studies, digging into study methodology, and following up with study researchers for more information and context.

We identified 42 studies, research papers, and surveys that directly touched on the subject. We reviewed scholarly databases such as PubMed, Google Scholar, and NIH; private research groups such as RAND; government websites including the ONDCP; and health departments in legalization states. We identified periodicals that cited studies, then pulled those studies and followed the trail of citations to find even more related work.

We reviewed studies for validity, general applicability, accuracy, and timeliness—using as a proxy the number of times each paper was cited, number of contributing researchers, location of publication, study time period and publication date, level of peer review, and size and scope of the study. We also looked for evidence-based model assumptions, methodological rigor, as well as realistic and comprehensive discussion of study limitations and generalizability. We scored each study for

its strength on a scale of 1 to 4 based on those factors. For example, personal Realtor survey data has less strength than longitudinal home value reports over time for a given city block.

We collected and ranked the most prominent studies on the topics in a matrix, which we've attached in this report's Appendix.

We used the professional services of CannaRegs, the world's most current, in-depth cannabis legislative and regulatory database, to ascertain the level of retail store access in legal adult-use states. To add narrative accounts to the data, we also obtained qualitative, anecdotal accounts from local officials familiar with the impact of cannabis stores on their communities.

Literature review limitations are noted in the Appendix.

### A NOTE ON LANGUAGE

The word “dispensary” came into use when medical marijuana retail collectives opened in the San Francisco Bay Area in 2004.

Since the advent of adult-use legalization, the term “dispensary” has also included retailers serving all adults age 21 and older. Language evolves, and it's now trending in the direction of “stores” for adult-use retailers and “dispensaries” for medical marijuana shops.

We try to maintain that distinction when possible, but there are occasions when “store” or “dispensary” is meant to cover both medical and adult-use cannabis retailers—a situation reflected in many states, where a single retailer may serve both the adult-use and medical markets.



## DEBUNKING DISPENSARY MYTHS: PART II

# Findings

Based on the findings from 42 key studies, we discovered that the vast majority of the best, most recent data contradicts three key myths about the impact of cannabis dispensaries on local communities.

### CRIME FALLS

*The Green Mile is not a hotbed of criminal activity, the source of vehicle accidents from an influx of traffic or a known source behind more youths using cannabis, Port Hueneme Police Chief Andrew Salinas said. Instead, the cannabis businesses for which the strip is named are helping the city get back on its feet financially, adding jobs and playing a meaningful civic role in the city, Salinas said.*

*Ventura County Star, March 29, 2019*

Cannabis stores function like standard consumer packaged goods (CPG) retailers, on a design spectrum from corner bodegas to high-end boutiques. One key feature is strict licensure and regulations that require ample security, such as guards, cameras, lighting, and space access controls.

Using street-level data from cities including Sacramento, Washington, DC, and Los Angeles, studies suggest that licensed cannabis dispensaries have no impact, or an insignificant effect, on various kinds of crime (Zakrzewski, 2019; Brinkman, 2017).

“Results indicated that mean property and violent crime rates within 100-foot buffers of tobacco shops and alcohol outlets—but not medical marijuana dispensaries—substantially exceeded community-wide mean crime rates” (Subica, 2018).

Researchers examining the temporary closure of



**We find no effects on burglary, robberies, or assaults, which are the types of crimes one would expect if dispensaries were prime targets as a result of their holding large amounts of cash.**

Source: Pacula, 2018



hundreds of dispensaries in Los Angeles in 2010 reported that “contrary to conventional wisdom, we find no evidence that closures decreased crime.” In fact, there was “a significant relative increase in crime around closed dispensaries,” as much as 24% in some places (Chang, 2017).

A study of California counties found “a negative and significant relationship between dispensary allowances and property crime rates, although event studies indicate these effects may be a result of pre-existing trends” (Hunt, 2018).

“These results suggest that the density of medical marijuana dispensaries may not be associated with crime rates or that other factors, such as measures dispensaries take to reduce crime (i.e., doormen, video cameras), may increase guardianship such that it deters

possible motivated offenders” (Kepple, 2012).

Only one strong study (Freisthler, 2017) found an association between cannabis retailers and property crime. Those researchers found that “densities of marijuana outlets were unrelated to property and violent crimes in local areas. However, the density of marijuana outlets in spatially adjacent areas was positively related to property crime in spatially adjacent areas over time.” In other words, the study found that crime increased in areas further away from dispensaries and their security.

One weak study found mixed results. In a 2012–2013 study of unregulated medical marijuana dispensaries in the city of Long Beach, CA, researchers found no crime increase in the immediate vicinity of dispensaries but a slight rise in outlying areas (Freisthler, 2016).

At the state level, the most-cited studies suggest crime stays flat or goes down amid a store opening. An overwhelming majority of the studies available found no increase in crime related to the location of dispensaries or stores.

One widely cited report by a police group asserted that cannabis stores were associated with increased crime. We include this report for transparency, although many independent reviewers have dismissed its conclusions as invalid. The 2017 report by the Rocky Mountain High Intensity Drug Trafficking Area (HIDTA), a federally funded program run by drug enforcement officers and established by the White House Office of Drug Control Policy, claimed that “marijuana is the gateway drug to homicide.” The report also stated that a rise or fall in annual crime rates should not be construed as “due to the legalization of marijuana” (RMHITDA, 2017).

At the national level, the White House Office of National Drug Control Policy, in its own 2013 survey of the literature, concluded that cannabis use doesn’t lead consumers to commit crime.

“Even though marijuana is commonly used by individuals arrested for crimes,” the report found, “there is little support for a contemporaneous, causal relationship between its use and either violent or property crime” (ONDCP, “Improving the Measurement of Drug-Related Crime,” 2013).

## TEEN USE DOES NOT RISE

*Using data from the national and state Youth Risk Behavior Surveys, the National Longitudinal Survey of Youth 1997 and the Treatment Episode Data Set, we estimate the relationship between medical marijuana laws and marijuana use. Our results are not consistent with the hypothesis that legalization leads to increased use of marijuana by teenagers.*

*“Medical Marijuana Laws and Teen Marijuana Use,” National Bureau of Economic Research, 2014*

Licensed dispensaries and retail cannabis stores must check IDs to ensure consumers are 21 or older. In some states the age is 18 for licensed medical marijuana dispensaries. They use cameras and track-and-trace software to prevent diversion to illegal jurisdictions. Sales tax revenue is often earmarked for youth prevention programs. And as the price of legal, regulated cannabis falls in the years after the opening of a state’s retail market, so may the profit motive to sell it illicitly.

Teen use—as shown by more than a dozen papers and national self-reported youth health surveys—is not directly impacted by the opening of cannabis dispensaries.

No study has performed block-level or city-level analysis of a dispensary’s effect on teen use. The best information available is state-level data tracked across broad periods of medical and adult-use retail expansion. A minority of studies reported a negative impact, and in those studies the negative impact was weak and limited to certain subgroups.

- Federally funded surveys of teens find rates of

youth cannabis use in the past month among minors aged 12 to 17 have decreased since 2002, the dawn of medical cannabis dispensaries in the US. The 2016 US teen use rate was the lowest in more than 20 years.

- In California, the most current, in-depth, independent survey data show cannabis use among seventh grade students dropped 47% from 2013 to 2017. Hundreds of medical cannabis dispensaries operated during that period.

- State health officials in Colorado and Oregon both reported in 2018 that survey data showed cannabis use flat or down since licensed adult-use stores opened. Colorado's adult-use retail stores have been open since January 2014. Oregon's dispensaries began selling adult-use products in October 2015.

- In Washington, a 2018 study in JAMA Pediatrics reported the prevalence of cannabis use generally fell among Washington teens amid the adult-use retail sales launch of 2014 to 2016 when compared to the 2010 to 2012 period.

## PROPERTY VALUES ARE NOT HARMED

*In California, Carpinteria has emerged as the state's greenhouse cultivation epicenter. With last year's stats in, "crime has gone down, and property values have increased," locals there note. "This begs a question: Has the cannabis boogeyman lost its power?"*

*Coastal View, April 3, 2019*

Modern cannabis retail stores are moving from the industrial fringes of town to prestige locations in high-value shopping districts. What were once unregulated, crudely adorned storefronts are now state-licensed, tightly regulated, and elegantly designed boutiques. The business type is subject to heavy local and state regulations to mitigate environmental impacts, including rules that regulate store signage and limit visual access to products from public areas. Those stores require significant financial investment, command premium rents,

and attract discerning customers. Most are clean, well lit, and welcoming additions to their neighborhoods.

The literature on the effects of dispensaries or stores on their neighbors is thinner but more detailed than on teen use. Most studies focus on older eras of lightly regulated or wholly unregulated medical marijuana dispensaries. The data from that period also contradict the claims of local cannabis ban advocates. The most authoritative peer-reviewed papers, which use block-by-block city data measured against property values over time, found a halo effect whereby home values increased an extra 8.4% near licensed dispensaries in Denver during the period of conversion from medical dispensaries to adult-use stores (Conklin, 2017).

Single-family residences close to a retail conversion (within 0.1 miles) "increased in value by approximately 8.4% relative to houses that are located slightly farther from a conversion (between 0.1 miles and 0.25 miles) in 2014 compared to the previous year" (Conklin, 2017).

At the city level, "legalizing retail marijuana on average increases housing values by approximately 6%" compared to cities that prohibit retail cannabis stores (Cheng, 2016).

At the national level, 75% of real estate agents in a 2018 industry survey told researchers that dispensaries did not impact nearby property values. Of those who did report an impact, 10% of Realtors said prices increased, while 12% to 14% reported a decrease in residential property values near dispensaries (National Association of Realtors Research Group, 2018).

# Discussion: Crime Studies

The available data strongly suggest that licensed cannabis retailers are not associated with increases in crime. Studies vary in the degree of resolution they provide down to the property level, but they almost always trend against assertions of increased crime.

The leading papers come from the Institute for Labor Economics, the Federal Reserve Bank, Preventive Medicine, the Journal of Urban Economics, the Journal of Economic Behavior & Organization, the Journal of Drug Issues and the Journal of Studies on Alcohol and Drugs. Out of eight strong studies, only one found a relationship between cannabis retailers and a crime rate increase in spatially adjacent blocks.

The weakest studies had conclusions that were not supported by their data. The Rocky Mountain HIDTA annual impact report, which is often cited by advocates of cannabis bans, is one such study. John Hudak, senior fellow at the nonpartisan Brookings Institute in Washington, DC, called it “garbage,” noting that HIDTA is “notorious for using data out of context or drawing grand conclusions that data ultimately do not support.” Washington Gov. Jay Inslee and Attorney General Bob Ferguson called HIDTA’s allegations “outdated, incorrect and ... incomplete.” Oregon Gov. Kate Brown said that HIDTA’s data “does not (and frankly does not purport to) reflect the ‘on the ground’ reality of Oregon in 2017.”

## WHAT MIGHT BE DRIVING THESE RESULTS?

### Eyes on the Street

Medical dispensaries and adult-use stores often move into buildings that are vacant or in disrepair in neglected parts of town. These storefronts are often stripped and rebuilt or renovated using high-quality materials and sophisticated designs. The new stores employ staff members to ensure the safety and comfort of their customers. The stores also generate foot traffic that reduces opportunistic crimes. More “eyes on the street” make blocks safer (Chang and Jacobson 2017).

### Cameras, Security Personnel

Most state regulatory agencies require dispensaries and retail stores to install and operate advanced security systems that include cameras, security guards, locks, and safes.

### Decreased Illicit Trade

State-licensed dispensaries and stores may decrease the level of illicit cannabis trade (Chu, 2018).

### Police Resource Savings

Ending the expenditure of tax money on low-level cannabis arrests frees up more police resources for higher-priority criminal cases (Makin, 2018).

## DEBUNKING DISPENSARY MYTHS: PART III

# Discussion: Teen Use Studies

Studies overwhelmingly conclude that, as a demographic, teens in adult-use states are not using more cannabis. The key studies in this area were published by Preventative Medicine, JAMA Pediatrics, Journal of Adolescent Health, and The Lancet Psychiatry. One of the strongest studies (Shi, 2016) found that “the availability of medical marijuana dispensaries was not associated with current use of marijuana among adolescents.”

One state-level study conducted during the dawn of the adult-use era in Washington and Colorado (Cerda, 2017) partially supported the assertions of cannabis ban advocates. That study found “marijuana use among 8th and 10th graders in Washington increased 2.0% and 4.1%, respectively, between 2010-2012 and 2013-2015; ... In Colorado, the prevalence of marijuana use pre-legalization and post-legalization did not differ.”

## WHAT MIGHT BE DRIVING THESE RESULTS?

### Stores Card Their Customers

All licensed cannabis retailers must check IDs (twice, in some jurisdictions) and serve only those 21 and older, or, in medical instances, patients 18 and older.

### Decreased Illicit Market Motives

Legalization causes an initial spike in cannabis prices followed by a steady and gradual decline to a level that competes with the illicit market (Smart, 2017).

### Taboo Reduction

Taxing and regulating cannabis removes it from the realm of teenage-rebellion taboos and places it alongside other adults-only activities. The perception of cannabis’s harm is falling among teens (Austin, 2018), but so are teen use rates (Dilley, 2018). Opponents of legalization often point to the perception of cannabis harm among teens as a worrying sign. But it’s more likely that teens are coming to a more fact-based, scientifically informed understanding of cannabis and its health risks—and that a deeper understanding is leading to lower use and abuse rates among minors.

### Tax Resources Used for Youth Education

Most state and local legalization schemes earmark a portion of cannabis tax revenue for drug prevention programs. For example, California Proposition 64 earmarks \$50 million per year by 2023 for community reinvestment grants to local health departments. In 2018, about \$270 million in Washington cannabis tax revenue flowed to three state health departments. Some of these grants and programs aim to discourage teen use.

## DEBUNKING DISPENSARY MYTHS: PART III

# Discussion: Property Value Studies

We found that the strongest studies, as measured by our literature review scoring methodology, point out that dispensaries are associated with either increased property values or have no effect on them.

The most detailed peer-reviewed study available (Conklin, 2017) looked at Colorado dispensary impacts and found that “single family residences close to a retail conversion (within 0.1 miles) increased in value by approximately 8.4% relative to houses that are located slightly farther from a conversion (between 0.1 miles and 0.25 miles) in 2014 compared to the previous year.”

“In summary, the evidence from 2014-2015 paints a picture of economic growth, a tighter housing market, and lower crime rates, all while tax revenue is being generated for public works and marijuana usage is staying relatively flat. ... We find that after the law went into effect at the end of 2013” (Conklin, 2017).

Other studies offer less fine detail, but at the city level (Cheng, 2016) and at the state level (Realtor.com, 2016) there continues to be a mild association between legal cannabis retail and increased property values.

## WHAT MIGHT BE DRIVING THESE RESULTS?

### Cannabis as a Symbol of Innovation

Cannabis retail licensing is but one facet of innovation in America’s most dynamic cities. San Francisco, Seattle, Boston, Denver, Boulder, Portland, Los Angeles, and other cannabis retail hotbeds are synonymous with broader innovations in technology, finance, services, and other sectors driving regional economic growth.

### Job Creation Spurs Growth

Cannabis business licensing spurs economic growth in the form of job creation, retail sales, higher rents, and sales taxes. Leafly’s recent Cannabis Jobs Count report found that as of early 2019, more than 211,000 full-time jobs nationwide depended on legal cannabis. That’s a 44% increase over the previous year, and it marks the legal cannabis industry as America’s fastest-growing industry (Leafly, 2019). The strongest studies suggest that higher property values near cannabis retailers may occur because of “a surge in housing demand spurred by marijuana-related employment growth, lower crime rates, and additional amenities [located] in close proximity to retail conversions” (Conklin, Diop, Li, 2017).

### Cannabis as an Attractive Amenity

The hedonic price theory (Leonard, 2017) suggests a dispensary can increase property values because it can be an attractive amenity, alongside coffee shops and bars. More than 66% of Americans support legalization (Gallup, 2018) and 90% support the legal medical use of cannabis.

## DEBUNKING DISPENSARY MYTHS: PART IV

# Voices of Experience

Regulators and local leaders who have allowed legal dispensaries have realized gains in public health, tax revenue, economic vitality, and community safety. Here are a few of their voices:

**Pamela Goynes-Brown, mayor pro tem and councilmember, City of North Las Vegas:**

“We’re proud to be the only municipality in Southern Nevada that wasn’t sued over marijuana licensing. That happened because we took the time to create a responsible and thoughtful ordinance for all of the stakeholders involved. The legalization of marijuana in Nevada creates a great new avenue for economic development, job creation, economic diversity, and entrepreneurship. We welcome this new industry in the City of North Las Vegas and look forward to continuing to be a part of this growing trade.”

**Joe Devlin, chief of cannabis policy enforcement, City of Sacramento:**

“Overall, Sacramento’s pragmatic approach to managing cannabis has largely been successful. We have established a comprehensive framework to regulate each part of the industry and created a functioning marketplace that supports the transition of the cannabis industry, while also implementing enforcement strategies to reduce the illicit market.” (Quoted in the Sacramento News & Review, 2019)

**Ron Kammerzell, former senior director of enforcement, Colorado Department of Revenue:**

“One of the common misconceptions concerning people who operate licensed marijuana businesses is that they are nothing more than state-sponsored drug dealers. Many who are uninformed have images of Cheech and Chong or the characters from *Dude, Where’s*

*My Car?* in mind when they think of marijuana business owners. As a former regulator with more than 25 years of regulatory experience in various industries, I can tell you that these misconceptions couldn’t be further from reality. Marijuana business owners come from all walks of life including former bankers, scientists, botanists, farmers, information technology professionals, engineers, startup company CEOs, bakers, and pharmaceutical professionals. They are tremendous employers and socially responsible members of the communities in which they operate.”

**Rebecca Kaplan, City Council president, City of Oakland:**

“For over a decade, Oakland has had a successful system to tax and regulate cannabis facilities, starting with medical cannabis, and now including adult use as well. I am proud of much of the results we have achieved in Oakland. We are clearly showing that the legal and regulated industry can pay taxes and abide by the rules. As the first city in the nation to issue permits for cannabis dispensaries, we have seen no significant issues with crime related to cannabis retailers. ... The Oakland permit system proved that having responsible regulation is far more effective than prohibition, and demonstrated that permitted and regulated cannabis facilities can be a positive contribution to the wider community. This approach has become a widely-adopted model.”

# Conclusion

In states that have legalized the adult use of cannabis, many residents still aren't able to enjoy legal cannabis. That's because their local county, city, or town has banned cannabis stores.

These local bans are often based on fears about crime, teen use, and property values. But research has shown that those fears simply don't reflect reality.

A thorough review of the research literature on the effects of medical cannabis dispensaries and/or adult-use stores found:

- The majority of studies show neighborhood crime rates decreasing or remaining unchanged after the opening of state-licensed cannabis stores. By contrast, when Los Angeles ordered its medical dispensaries to close, crime rates increased by as much as 24% within an 1/8th of a mile of shuttered dispensaries.

- The vast majority of national and state-level surveys indicate teen cannabis use has fallen in states that pass medical cannabis and adult-use laws. As adult-use stores opened across Washington state, for example, cannabis use among eighth graders declined from 9.8% to 7.3%. Illegal sellers do not check IDs. State-licensed stores strictly turn minors away.

- Longitudinal, highly detailed studies and Realtor surveys show that licensed dispensaries do not hurt nearby property values; rather, they can often give an extra boost to home values. In Colorado, home values went up an extra 8% within 1/10th of a mile of medical dispensaries that converted to adult-use sales.

Despite the fears of those who want to ban cannabis stores, the published research finds that legal retailers are safe, responsible neighbors.

## Impact of Cannabis Legalization on Communities

### Home Values



Increased 8% within 1/10th of a mile of Colorado dispensaries

### Crime Rate



Stays flat or declines after store openings

### Teen Use



Declined from 9.8% to 7.3% in eighth graders



## DEBUNKING DISPENSARY MYTHS: PART VI

# Information for Policy Makers

A number of best-practice models have emerged from local counties and towns in legal states.

Among them:

- Somerville, MA, (pop. 81,000) adopted a suite of cannabis regulations that included a pioneering social equity measure. That measure stipulates that existing medical marijuana dispensaries will be granted adult-use licenses on a one-to-one basis with locally owned and/or economic empowerment licenses.

- Oregon City, OR, (pop. 32,000) initially imposed a citywide ban on all cannabis businesses in the wake of the 2014 statewide legalization vote. In 2016, local residents voted to lift the ban. City officials began licensing cannabis businesses in early 2017. Those licenses established buffer zones and limits on allowed locations and operating hours. Today there are six licensed stores serving the residents of Oregon City.

- The League of California Cities has a cannabis resource page for local officials seeking information about cannabis laws and sample ordinances and regulations. The California State Association of Counties also maintains an index of links to retail ordinances by county. Of interest are Sonoma County and the City and County of San Francisco. The City of Sacramento also publishes its retail cannabis dispensary ordinance. See also, ordinances from Emeryville and the City of Santa Rosa code (chapter 20-46).

- The City of Bainbridge Island, WA, (pop. 24,000) adopted zoning regulations that limited cannabis producers, processors, and retailers to business and industrial zones. The local regulations also included wastewater conservation and power efficiency standards. This resulted in a number of appropriately

scaled cannabis operations, including one retail store, that are now thriving.

- Nevada City, NV, (pop. 3,100) initially prohibited adult-use cannabis stores after Nevada's 2016 statewide legalization vote. In 2018, the Nevada City Council adopted a new ordinance that allowed the town's existing medical marijuana dispensary to also serve all adults 21 and older.

- The League of Oregon Cities has created a 60-page guide to local government regulation of marijuana. It's specific to Oregon but contains a number of model local ordinances that can be adapted to municipalities in other states.





# Appendix

Research Studies Ratings, Key Literature, Extended  
Bibliography, Study Limitations

## DEBUNKING DISPENSARY MYTHS: APPENDIX I

# Research Studies Rated

GREEN = STUDY FOUND POSITIVE DISPENSARY EFFECTS; YELLOW = NEUTRAL; RED = NEGATIVE EFFECTS

### CRIME

TOPIC	AUTHORS	DATE	WHERE PUBLISHED	STUDY STRENGTH (1-4)
Exploring the Effects of Marijuana Dispensary Laws on Crime in California Counties	Priscillia E Hunt, et al.	2018	Institute for Labor Economics	4
The Effect of Marijuana Legalization on Neighborhood Crime	Jeffrey Brinkman, David Mok	2017	Federal Reserve Bank	4
The geography of crime and violence surrounding tobacco shops, medical marijuana dispensaries, etc.	Andrew M. Subica, et al.	2018	Preventive Medicine	4
The impact of dispensary closures on crime	Tom Y. Chang, Mireille Jacobson	2017	Journal of Urban Economics	3
Improving the Measurement of Drug- Related Crime	Rosalie Liccardo Pacula, et al., RAND Drug Policy Research Center. M. Fe Caces, ONDCP	2013	WhiteHouse.gov	4
The effects of medical marijuana laws on crime	Yu-Wei Luke Chu, Wilbur Townsend	2018	Journal of Economic Behavior & Organization	4
Medical Marijuana & Crime: Further Evidence From the Western States	Edward M. Shepard, Paul R. Blackley	2016	Journal of Drug Issues	3

Exploring the Ecological Association Between Crime and Medical Marijuana Dispensaries	Nancy Kepple, Bridget Friesthler	2012	Journal of Studies on Alcohol and Drugs	4
A Block-Level Analysis of Medical Marijuana Dispensaries and Crime in the City of Los Angeles	Christopher Contreras	2016	Justice Quarterly	4
Crime and the legalization Journal of Economic Behavior & of recreational marijuana	Davide Dragone, et al.	2019	Journal of Economic Behavior & Organization	2
Exploring the spatial association between medical marijuana dispensaries and crime	William J. Zakrzewski Jr., et al.	2019	Journal of Crime and Justice	2
Is Legal Pot Crippling Mexican Drug Trafficking Organisations? The Effect of Medical Marijuana Laws	Evelina Gavrilova, et al.	2017	The Economic Journal	1
The Effect of Medical Marijuana Laws on Crime: Evidence from State Panel Data, 1990-2006	Robert G. Morris, et al.	2014	PLOS One	1
Marijuana Dispensaries and Neighborhood Crime and Disorder in Denver, Colorado	Lorine A. Hughes, et al.	2018	Juatice Quarterly	4
Analysis of medical marijuana dispensaries and crime in long beach California	Bridget Freisthler, et al.	2016	Addiction	2
Marijuana Outlets and Crime in an Era of Changing Marijuana Legislation	Bridget Freisthler, et al.	2017	The Journal of Primary	3

## TEEN USE

The availability of medical marijuana dispensary and adolescent marijuana use	Yuyan Shi	2016	Preventative Medicine	4
California Healthy Kids Survey - Results of the Sixteenth Biennial Statewide	Gregory Austin, et al.	2018	California Dept of Education	4
Prevalence of Cannabis Use in Youths After Legalization in Washington State	Julia A. Dilley, et al.	2018	JAMA Pediatrics	4
Youth marijuana use, attitudes and related behaviors in Oregon	Oregon Health Authority	2019	Oregon Health Authority	4
The Impact of State Medical Marijuana Legislation on Adolescent Marijuana Use	Esther K. Choo, et al.	2014	Journal of Adolescent Health	4
Medical marijuana laws and adolescent marijuana use in the USA from 1991 to 2014	Deborah S. Hasin, et al.	2015	The Lancet Psychiatry	4
Effects of state medical marijuana laws on adolescent marijuana use	Sarah D. Lynne-Landsman, et al.	2013	American Journal of Public Health	4
Medical Marijuana and Marijuana Legalization	Rosalie Liccardo Pacula, Rosanna Smart	2017	Annual Review of Clinical Psychology	4
Marijuana Legalization in Colorado: Early Findings	Colorado DPH	2016	Colorado DPH	3
Medical Marijuana Laws and Teen Marijuana Use	Mark D. Anderson, et al.	2014	National Bureau of Economic Research	2
High times: The effect of medical marijuana laws on student time use	Yu-Wei Luke Chu, Seth Gershenson	2018	Economics of Education Review	3
Declining Prevalence of Marijuana Use Disorders Among Adolescents in the United States, 2002 to 2013	Richard Grucza, et al.	2016	J. of the American Academy of Child & Adolescent Psychiatry	4

2017 Drug Use Trends in King County, Washington	Caleb Banta- Green, et al.	2018	University of Washington	4
Rocky Mountain High Intensity Drug Trafficking Area - Reports	RM HIDTA	annual	self	0
Employment and Marijuana Use Among Washington State Adolescents Before and After Legalization of Retail Marijuana	Janessa M. Graves, et al	2018?	Journal of Adolescent Health	4
Legalization of Recreational Marijuana and Community Sales Policy in Oregon: Impact on Adolescent Willingness and Intent to Use, Parent Use, and Adolescent Use	Julie C. Rusby, et al.	2018	Psychology of Addictive Behaviors	2
How Medical Marijuana Market Growth Impacts Adult and Adolescent Substance- Related Outcomes	Rosanna Smart	2015	no journal	1
Prevalence of marijuana and other substance use before and after Washington State's change from legal medical marijuana to legal medical and nonmedical marijuana	W. Alex Mason, et al.	2016	Substance Abuse	1
The Impact of Marijuana Legalization on Adolescent Use, Consequences, and Perceived Risk	Ashley C. Estoup, et al.	2016	Substance Use & Misuse	1
Association of state recreational marijuana laws with adolescent marijuana use	Magdalena Cerdá, et al.	2017	JAMA Pediatrics	4

# PROPERTY VALUES

Do medical marijuana centers behave like locally undesirable land uses?	Lyndsay N. Boggess, et al.	2014	Urban Geography	4
The External Effects of Retail Marijuana Establishments on House Prices	James Conklin, et al.	2017	Social Science Research Network; Real Estate Economics	4
The Effect of Legalizing Retail Marijuana on Housing Values: Evidence from Colorado	Cheng Cheng, et al.	2016	Economic Inquiry	4
The Effect of Marijuana Dispensary Openings on Housing Prices	Jessie Burkhardt, Matthew Flyr	2018	Contemporary Economic Policy	4
Will Legal Marijuana Give Home Prices a New High?	Realtor.com data team	2016	Realtor.com	2
Marijuana and Real Estate: A Budding Issue		2018	National Association of Realtors	1

# THE KEY LITERATURE: APPENDIX I

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## THE KEY LITERATURE: APPENDIX I

# Study Limitations

### **Heterogeneity of Time, Place, and Policies**

Each city and state has different cannabis policies that have changed over time, and are often still evolving. The research space is defined by its immense heterogeneity. Thus, it's hard to generalize from most individual studies.

For example, a study of Long Beach, CA, crime rates near medical cannabis dispensaries from 2010–2014 lacks generalizability to 2019. Back then, statewide medical cannabis regulations did not exist. The City of Long Beach responded by banning all dispensaries. That situation no longer speaks to locations in 2019 that have both state and local licenses.

Most studies cited in this report involve medical cannabis dispensaries, not adult-use stores, because dispensaries have been around longer than adult-use stores and exist in many more jurisdictions. For the purposes of this review, we

don't separate findings on medical dispensaries from adult-use cannabis retail stores. Medical cannabis commerce—going into a store and paying money for cannabis products—can look nearly identical to adult-use commerce, with stores either serving both groups of customers or switching from one mode to the next as state law changes. In general, early medical dispensaries operated with far fewer regulations and licensing requirements than current shops.

States differ in the robustness of their medical or adult-use markets over time. The medical and adult-use markets can be different. For example, medical eligibility often begins at 18 in California, while adult-use access is set at age 21. In Washington, DC, where medical dispensaries operate legally, adult-use storefronts are banned entirely; only personal cultivation and gifting are allowed.