

Estimating Enforcement Costs in Legal States and Correlation to Marijuana Policy:

Whack-a-Mole Cannabis Enforcement

Issues: A number of jurisdictions across the country have legalized marijuana in a limited or highly taxed manner and found that a sizeable illegal market remains; often with the illegal market still being larger than the legal market in the jurisdiction. Almost universally police enforcement actions have had limited impact in reducing these illegal market rates without substantive policy change. While part of this can be attributed to the reduced social utility of marijuana busts compared to other crime types (e.g. opioids, violent crime), a large part of the failure of policing efforts is attributable to the fact that marijuana business shutdowns are very expensive. More problematically, these shutdowns tend to have limited long term benefit as marijuana operators have shown strong willingness to reopen or new operators open in their place to meet unmet consumer demand.

Policy Recommendations: State and local jurisdictions need to better understand at the outset of legislative and regulatory processes that (i) the illegal market rate which remains after those policies are effected has proven impossible to alter with police enforcement alone and (ii) that police enforcement on illegal marijuana operators can generate costs that may quickly exceed tax revenue generated from legal operators. Accordingly, it is critical that policies be tailored to reduce illegal market rates below 20-25% where there are few enough illegal market operators that limited police enforcement can be conducted cost efficiently. These policies include: (a) keeping net effective tax rates at 20% or lower, (b) targeting retail density of 1 per 7,500, (c) allowing delivery to compete with illegal operators on convenience and (d) enabling illegal market operators to enter the legal market.

Overview

The cost of police enforcement actions on illegal marijuana operators in legalized states represents a massive cost for state and local governments that has been given limited attention. Even more poorly understood is the correlation between poor legalization policies and spiking enforcement costs; costs which can in extreme cases outstrip the tax revenue generated by legalization. A closer study of these enforcement costs is crucial as support for the legalization of marijuana has continued to rapidly increase across the globe. Recent polls indicate that 61% of Americans favor legalizing adult-use marijuana, while 88% favor legalizing medical marijuana nationwide.¹ This sentiment is also reflected through changes in laws at the state level. As of November 2016, 63 million Americans reside in states that have legalized adult-use marijuana.² When including medical marijuana and CBD only laws into this statistic, 95% of the population resides in a state that has legal marijuana access.³ Many countries have decriminalized cannabis, or are endeavoring to regulate it. Canada is rapidly advancing towards nationwide legalization,

¹ Williams, Janice. "Incredibly high number of Americans in favor of legalizing pot." *Newsweek*. April 26, 2017. Accessed July 20, 2017. <http://www.newsweek.com/marijuana-legalization-legal-states-poll-pot-588105>.

² McMaken, Ryan. "63 Million Americans Now Live in States with Legal Recreational Marijuana." *Mises Institute*. November 09, 2016. Accessed July 20, 2017. <https://mises.org/blog/63-million-americans-now-live-states-legal-recreational-marijuana>.

³ *Did You Know? 95% of the U.S. Population Lives in States With Legal Marijuana Access*. New Frontier, 2017. Accessed July 21, 2017. <https://newfrontierdata.com/wp-content/uploads/2015/11/MJ-by-the-numbers-FINAL.pdf>

as recent surveys show that 63% of Canadians are strongly or moderately in favor of the government's plan to legalize adult-use marijuana.⁴

While constituent groups support this policy shift for varying reasons ranging from social justice to medical use, they are not the only groups who are supportive of legalization. State and local government officials are taking notice of the tax revenue and job creation benefits that are stemming from the industry. The Tax Foundation estimates that nationwide legalization in the United States alone would result in \$7 billion in federal revenue and \$28 billion for all levels of government.⁵ In 2016, Colorado generated \$198.5 million in tax revenue and Washington generated \$185.7 million. State and local governments are using cannabis tax revenue to address fiscal challenges within their respective budgets on items ranging from pension to infrastructure to education.⁶

While the tax revenue and crime reduction benefits of cannabis legalization are attractive, they are only successfully achieved when policies are implemented at the outset of legalization that prioritize shrinking the illegal market. States and localities that completely prohibit cannabis legalization are currently enforcing against a 100% illegal market rate and market share in the face of average U.S. consumption rates that generally hover around 15% of their population. In 2010, State governments collectively spent over \$3.6 billion on marijuana possession enforcement alone.⁷

Extreme cannabis enforcement costs are not limited to states and localities that completely prohibit cannabis, but are also experienced by those that have codified cannabis regulations that do not prioritize reducing the illegal market. The conservative cost per individual marijuana arrest is \$750.⁸ According to the Drug Policy Alliance, in 2015, 643,121 people were arrested for marijuana law violations, with 89% of these arrests stemming from possession of marijuana only.⁹ Even including state-by-state policy shifts towards legalization, marijuana arrests still outnumber arrests associated with violent crimes.¹⁰ This is extremely concerning, considering violent crimes have increased in major cities across the United States.¹¹

States and localities that have legalized medical and/or recreational marijuana can still incur enforcement expenditures (albeit reduced), but these expenditures are exponentially higher in legalized states and localities that have not implemented policies designed to allow the newly legalized market to compete with and reduce the size of the illegal market. This is especially critical as markets move to a legal market from a prohibition status where there is a 100% illegal market pre-legalization. As with any business, consumers value convenience, selection and low price, among other factors. If government officials do

⁴ Grenier, Éric. "Canadians approve of pot legalization but not all the details: poll." CBCnews. April 20, 2017. Accessed July 27, 2017. <http://www.cbc.ca/news/politics/marijuana-legalization-poll-1.4076536>.

⁵ Ekins, Gavin, and Joseph Henchman. "Marijuana Tax Legalization and Federal Revenue." Tax Foundation. April 10, 2017. Accessed July 21, 2017. <https://taxfoundation.org/marijuana-tax-legalization-federal-revenue/>.

⁶ Borchardt, Debra. "Report: Total Marijuana Demand Tops Ice Cream In U.S." Forbes. May 17, 2017. Accessed July 27, 2017. <https://www.forbes.com/sites/debraborchardt/2017/05/17/new-report-says-total-marijuana-demand-tops-ice-cream/#26e6e1495b5e>.

⁷ Bradford, Harry, and The Huffington Post. "States Spending Billions to Enforce Pot Laws: Report." CNBC. June 05, 2013. Accessed August 14, 2017. <https://www.cnbc.com/id/100791442>.

⁸ Bradford, Harry. "States Spending Billions to Enforce Pot Laws: Report." CNBC. June 05, 2013. Accessed August 01, 2017. <https://www.cnbc.com/id/100791442>.

⁹ "Drug War Statistics." Drug Policy Alliance. Accessed May 19, 2017. <http://www.drugpolicy.org/drug-war-statistics>.

¹⁰ Williams, Timothy. "Marijuana Arrests Outnumber Those for Violent Crimes, Study Finds." The New York Times. October 12, 2016. Accessed August 01, 2017. <https://www.nytimes.com/2016/10/13/us/marijuana-arrests.html>.

¹¹ Sanburn, Josh, and David Johnson. "Violent Crime Is On the Rise in U.S. Cities." Time. January 30, 2017. Accessed July 20, 2017. <http://time.com/4651122/homicides-increase-cities-2016/>.

not create the regulations necessary for businesses to become compliant and compete with illegal market actors on both cost and price, then the illegal market will continue to command a sizeable market share of cannabis revenue. The net effect of this is a double whammy of local governments failing to achieve their projected tax revenue combined with ballooning recurring enforcement activities against now well-funded illegal market operators that have the funds and willingness to reopen quickly - a situation that has been termed 'whack-a-mole' enforcement.

While enforcement may temporarily cease a business's operations, it does not curtail the consumer demand that drives both the legal and illegal markets. It is estimated that the total demand for marijuana in the United States, including the illegal market, is between \$45-\$50 billion.¹² The illegal market share associated

“Whack-a-mole” - Used with reference to a situation in which attempts to solve a problem are piecemeal or superficial, resulting only in temporary or minor improvement.

– English Oxford Living Dictionaries

with this figure far outweighs that of legal markets, with the market-share-ratio only tipping due to legalization in conjunction with thoughtfully crafted regulations- not enforcement activities alone. Government officials should be cognizant of the cyclical nature of the opening and closing of illegal market businesses and adopt sensible policies that address revenue lost due to perpetual enforcement activities.

A Framework for Estimating Illegal Markets and Enforcement Costs

Part 1: Case Studies and Estimates of Illegal Market Levels

The first step in projecting enforcement costs in a jurisdiction is understanding the size of the illegal market in the jurisdiction and the correlation between illegal market size and (i) the cost of enforcement, (ii) the lost tax revenue, and (iii) the increased probability that shuttered operators reopen. Estimating the size of the illegal market is best accomplished by analyzing data from states and localities that have already formed legalization and taxation models. The primary driver of illegal marijuana markets is the combination of: (i) policies which overly restrict the availability and ease of purchasing marijuana through legal channels, (ii) high effective tax rates and compliance costs on legal marijuana and (iii) insufficient quantity and quality of legal marijuana for sale in a market. As government officials move forward in creating or adjusting marijuana policies, it is critical that these policies or reforms be designed with a goal of reducing illegal markets.¹³

As previously stated, consumers will choose where to purchase marijuana, like any other product, based largely on availability, price and quality. Legal market operators who are enabled to offer marijuana at competitive price points when compared to their illegal market counterparts will have a greater success rate of channeling demand for the product toward the legal market. However, this transition is only achieved if the accessibility of the legal market is competitive with that of the illegal market.

Reducing the illegal market and enforcement costs requires a framework that will enable the legal market to compete with the illegal market on both access and price, and conversely encourages illegal market operators to enter the regulated system. In turn, the tax revenue generated from legal market operators,

¹² Borhardt, Debra. "Report: Total Marijuana Demand Tops Ice Cream In U.S." Forbes. May 17, 2017. Accessed July 25, 2017. <https://www.forbes.com/sites/debraborhardt/2017/05/17/new-report-says-total-marijuana-demand-tops-ice-cream/#459caa455b5e>.

¹³ Note: refer to our paper "Minimizing the Illegal Marijuana Market" for a more detailed discussion of this.

who should be viewed as partners in helping to shrink the illegal market, will far exceed enforcement costs against illegal market actors. This will yield tax revenue available to enforce against the illegal market, and additional revenue that can be utilized for critically underfunded public policy programs. If these policies are not carefully crafted, state and local governments will quickly see these returns decimated by having to run recurring enforcement activities against extremely well-funded illegal market operators.

Below are some examples of city policies and where their illegal market rates stand:

Phoenix, Arizona

Phoenix, AZ, has one of the lowest marijuana tax rates in the entire nation at 6.6%, but a dispensary density of 1 per every 45,848 citizens. In these conditions, cannabis is less accessible, and consumers favor easily accessible products in instances where the products are priced similarly. These factors, along with data generated from our databases, indicate that Phoenix's illegal market rate is approximately 58%, even with one of the lowest tax rates of any city.

Denver, Colorado

In contrast to Phoenix, Denver has a dispensary density of 1 per every 2,887 citizens. This ratio is among the highest in the nation, allowing the legal market to provide abundant access to marijuana that counteracts some of the other issues the markets faces. Given the density of dispensaries and some of the lowest wholesale prices in the country, Colorado has made great strides and boasts one of the lowest illegal market rates in the country. However, the tax rate remains inefficiently high at 37.2%¹⁴, and the city does not allow delivery services. While legal market access is sufficient and rapidly decreasing wholesale prices have helped close pricing gaps, the high tax rate and delivery ban translates to an illegal market that is able to compete on both price and convenience. Considering publicly available data and a survey of market participants, we estimate Denver's illegal market rate to be between 25-30%.

Santa Ana, California

Cities within California will be subject to high aggregate tax rates once all levels of taxation are factored in. According to Santa Ana 'Measure BB', which regulates cannabis within the City, cannabis businesses are to be taxed between 5% and 10% with a \$2,000 annual fee per location. This is in addition to the City's 7.75% sales tax, as well as the State's 15% retail excise tax, \$9.25 per dry-weight-ounce of cannabis flower tax, and \$2.75 tax per dry-weight ounce of cannabis leaves. With all factors considered, Santa Ana's effective tax rate is greater than 30%, making it difficult for legal market actors to compete with the illegal market price-wise. Additionally, the City has a dispensary density of 1 per every 15,192 citizens. While this density is not as low as Phoenix, it is still low enough that the illegal market is also competitive on access in addition to the pricing advantages it receives. Given these factors, as well as data generated from surveying local operators, we estimate that Santa Ana's illegal market rate is approximately 55%.

Part 2: Whack-a-Mole Enforcement and Approximating Reopen Rates

According to the English Oxford Living Dictionary, 'whack-a-mole' is "a situation in which attempts to solve a problem are piecemeal or superficial, resulting only in temporary or minor improvement."¹⁵ This definition has been applied to enforcing illegal market activity by government officials in insufficiently

¹⁴ When factoring in the 15% state excise tax, 15% state marijuana tax, the City's 3.65% general sales tax, and the City's 3.5% special tax, Denver's aggregate tax rate is 37.15%.

¹⁵ English Oxford Living Dictionary, <https://en.oxforddictionaries.com/definition/us/whack-a-mole>

regulated markets, as they have firsthand experience with the concept.¹⁶ Mary Wickham, the County Counsel for Los Angeles, defines ‘whack-a-mole’ as when marijuana businesses “re-open after temporarily closing, or close one [medical marijuana business] and open a new one at a different location”.¹⁷ These recurring expenditures are occurring even though budget constraints exist at every level of government.¹⁸

From discussions with numerous cities, including those cited below, we estimate that the police cost of a single enforcement action ranges from \$50,000 to \$100,000. This excludes the cost of judicial resources and incarceration resources, which were estimated to be as high as \$6 billion nationwide in 2016.

An extremely important factor to consider in the context of enforcement activities against cannabis businesses is the dollar figure associated with the Nation’s entire marijuana market, which is estimated to be between \$45-\$50 billion.¹⁹ This estimate means that tremendous demand for marijuana exists no matter which market it comes from. This, taken in context with the fact that there are states and localities with complete prohibitions in place, means that huge swaths of this market share funds illegal market operations.

According to analyses from industry experts, the vast majority of raided shops will eventually reopen. With cannabis demand being so high, illegal market retailers see the potential for quick profits, already have supply infrastructure and an established consumer base, and often develop back-up plans in the event that their businesses are raided. These plans include renting multiple locations and investing only enough in them to operate should one location be raided. A raided shop can immediately reopen if they have an alternate location with displays and storage infrastructure in place. The other option simply consists of raided businesses instantly turning their operation into a delivery businesses, which does not require the extra expenditures associated with renting or owning multiple locations. Because the illegal market share is so high, these operators have ample resources to easily accomplish either of these options. Considering internal data, we conservatively estimate that the ‘churn rate’ of retailers who will reopen to be 50% in jurisdictions where policies do not allow legal market actors to combat the illegal market in concert with target enforcement efforts. However, in jurisdictions that do not solely rely on arbitrary and perpetual enforcement, the success rate for closing illegal market actors and them remaining shuttered is higher due to the shift in market share to legal market actors and increased enforcement resources due to tax revenue. We estimate that the success rate in shuttering an illegal market actor and having that actor stay closed can approach or exceed 75% in these conditions. We believe this increase in enforcement success is due to: (i) the ability to more closely monitor the smaller number of illegal actors, (ii) a tighter competitive landscape for illegal operators seeking to compete and (iii) more tailored deployment of policing actors and resources to carry forward prosecutions. The

¹⁶ Abram, Susan. "Keeping LA County’s illegal medical pot shops closed is like a game of ‘whack-a-mole’." LA Daily News. April 18, 2017. Accessed May 19, 2017. <http://www.dailynews.com/government-and-politics/20170418/keeping-la-countys-illegal-medical-pot-shops-closed-is-like-a-game-of-whack-a-mole>.

¹⁷ Wickham, Mary. *Public Report on Enforcement Strategies for Closure of Unlawful Medical Marijuana Dispensaries*. City of Los Angeles Office of the County Counsel, 2017. Accessed May 19, 2017. <http://www.easybib.com/guides/citation-guides/chicago-turabian/how-to-cite-a-report-chicago-turabian/>

¹⁸ U.S. Government Accountability Office, *State and Local Governments’ Fiscal Outlook 2016 Update*, GAO-17-213SP (Washington, DC, 2016), <https://www.gao.gov/assets/690/681506.pdf>

¹⁹ Borhardt, Debra. "Report: Total Marijuana Demand Tops Ice Cream In U.S." Forbes. May 17, 2017. Accessed July 25, 2017. <https://www.forbes.com/sites/debraborhardt/2017/05/17/new-report-says-total-marijuana-demand-tops-ice-cream/#459caa455b5e>.

following is a table of representative illegal market rates and corresponding estimated enforcement success rates for illustrative purposes:

Market Located	Where City	Estimated Market Rate	Illegal	Enforcement Failure Rate (i.e. shuttered operators who reopen)
Colorado		20-30%		20-30%
California (1)		50-60%		45-55%
Washington		60-70%		60-70%
California (2)		75-85%		70-80%

Some examples of enforcement with limited success and high reopen rates are below:

California

California was the first state to legalize medical marijuana via the Compassionate Use Act in 1996. In 2015, California enacted the Medical Marijuana Regulation and Safety Act (MMRSA) to license and regulate medical marijuana. Last November, Californians passed the Adult Use of Marijuana Act with an overwhelming majority of voters choosing to allow recreational use in addition to medical use in California.²⁰ Although many elected officials at California state and local levels look forward to additional revenue generated from taxing marijuana, localities with complete prohibitions or insufficient regulations in place still spend extraordinary amounts of finite taxpayer resources enforcing non-violent marijuana crimes.

There are numerous examples of illegal market operators being raided, only to reopen shortly thereafter. For instance, the ‘Love In It Cooperative’ was raided in March 2014 after law enforcement officials conducted three months of investigations and arrested nine individuals.²¹ The same dispensary reopened less than one month later.²² Similarly, in November 2015, the Greenhouse Herbal Center was raided, only to reopen a few days later.²³ Infamously, Sky High Holistic, a dispensary operating in Santa Ana, was raided by authorities, only to reopen and remain open following litigation and receiving a \$100k settlement from the City.²⁴

The Los Angeles County Board of Supervisors (Board) recently considered a plan from the County Counsel that would utilize a ‘surge strategy’ to shutter 26 dispensaries within the unincorporated areas of the County. If the Board approves this plan, it could cost the county as much as \$25 million.²⁵ Taxpayer

²⁰ "California Proposition 64, Marijuana Legalization (2016)." Ballotpedia. Accessed May 19, 2017. [https://ballotpedia.org/California_Proposition_64,_Marijuana_Legalization_\(2016\)](https://ballotpedia.org/California_Proposition_64,_Marijuana_Legalization_(2016)).

²¹ Anderson, Glenda. "Mendocino pot dispensary reopens after raid." Santa Rosa Press Democrat. April 02, 2014. Accessed June 12, 2017.

<http://www.pressdemocrat.com/csp/mediapool/sites/PressDemocrat/News/story.csp?cid=1793324&sid=555&fid=181>.

²² Id.

²³ Halperin, Alex. "Police Raids of Marijuana Businesses Continue to Worry the Pot Industry." L.A. Weekly. June 22, 2017. Accessed August 01, 2017. <http://www.laweekly.com/news/police-raids-of-marijuana-businesses-continue-despite-moves-toward-legalization-8292860>.

²⁴ Schwebke, Scott. "Santa Ana to pay \$100,000 to pot shop at center of controversial police raid." Orange County Register. Accessed August 01, 2017. <http://www.ocregister.com/2016/10/26/santa-ana-to-pay-100000-to-pot-shop-at-center-of-controversial-police-raid/>.

²⁵ Romero, Dennis. "Mass Marijuana Raids Proposed by L.A. County Officials." L.A. Weekly. May 03, 2017. Accessed May 19, 2017. <http://www.laweekly.com/news/mass-marijuana-raids-proposed-by-la-county-officials-7992667>.

resources will be utilized to fund these enforcement activities, even though the voters of Los Angeles County overwhelmingly supported the Adult Use of Marijuana Act. 59.5% of these citizens supported the ballot initiative that created the framework for taxing and regulating adult use marijuana.²⁶

With 40 of the 58 counties that make up California reporting increases in violent crime as of 2015²⁷, law enforcement officials, government entities, and elected officials should strongly consider the amount of resources allocated to an issue that they concede is perpetual. A better alternative is to create comprehensive regulations, identify responsible business owners and allow them to contribute to the tax base by becoming compliant, and enforce and readjust policies as necessary to shift the balance of legal to illegal market actors. The alternative, which seems probable, is using taxpayer funds to raid businesses that government officials concede will reopen, while the taxpayers overwhelmingly support marijuana legalization initiatives.

Toronto, Ontario, Canada

States throughout the US are not the only areas experiencing whack-a-mole enforcement issue. There are numerous examples of Canadian enforcement activities that have not reduced or eliminated illegal market actors, but instead have only wasted taxpayer dollars. In May 2016, Toronto police conducted Operation Claudia which consisted of simultaneous raid activities against forty marijuana retailers and resulted in ninety arrests and 257 charges being filed.²⁸ However, charges against 72 of these individuals were dropped.²⁹ To add insult to financial injury, many of the raided shops already have, or plan to, reopen their businesses.³⁰

Even excluding Operation Claudia, there are many examples of Canadian retailers reopening their businesses after being raided. In April 2017, the Green Tree Medical Dispensary was raided by Kitchener law enforcement, only to reopen within weeks under a new name and new management.³¹ In February 2017, Saint John authorities raided four unlicensed dispensaries, only to have all four businesses reopen within the same month.³² Examples of recurring enforcement activities extend across the globe, with similar whack-a-mole enforcement activities also occurring in London.³³

²⁶ California Secretary of State. "Statewide Summary by County for State Ballot Measures."

<http://elections.cdn.sos.ca.gov/sov/2016-general/ssov/ballot-measures-summary-by-county.pdf>.

²⁷ Lofstrom, Magnus, and Brandon Martin. "Crime Trends in California." Public Policy Institute of California. Accessed May 19, 2017. http://www.ppic.org/main/publication_show.asp?i=1036.

²⁸ Gray, Jeff. "The Toronto pot bust: Everything you need to know." The Globe and Mail. March 24, 2017. Accessed August 01, 2017. <https://beta.theglobeandmail.com/news/toronto/toronto-police-chief-speaks-on-marijuana-shop-raids/article30186564/?ref=http%3A%2F%2Fwww.theglobeandmail.com&>.

²⁹ Browne, Rachel. "The vast majority of pot shop workers arrested in massive raids won't go to trial." Vice News. July 5, 2017. Accessed August 01, 2017. <https://news.vice.com/story/the-vast-majority-of-pot-shop-workers-arrested-in-massive-raids-wont-go-to-trial>.

³⁰ Gray, Jeff. "The Toronto pot bust: Everything you need to know." The Globe and Mail. March 24, 2017. Accessed August 01, 2017. <https://beta.theglobeandmail.com/news/toronto/toronto-police-chief-speaks-on-marijuana-shop-raids/article30186564/?ref=http%3A%2F%2Fwww.theglobeandmail.com&>.

³¹ <https://www.therecord.com/news-story/7236327-kitchener-marijuana-dispensary-reopens-after-raid/>

³² <http://www.cbc.ca/news/canada/new-brunswick/medical-marijuana-dispensary-saint-john-1.3998724>

³³ <http://globalnews.ca/news/3369592/marijuana-dispensaries-reopening-doors-in-london/>

Part 3: Costs Incurred in Conducting a Raid

According to former police officers, conducting raids on marijuana businesses are an extremely costly endeavor. The raid itself will need *at least* a team of 8 to 10 law enforcement officers, who will likely be part of specialty units, typically composed of senior officers nearing the higher portion of the law enforcement pay scale. During a raid, officers will need to secure the marijuana business and those inside of it, search the premises, photograph evidence, gather evidence, log evidence, and then transport the evidence and individuals, if necessary, back to headquarters. At headquarters, individuals must be booked and evidence will need to be tested, logged, and stored. These activities alone could take as many as 20 hours to complete, and do not include the preceding investigations needed to gather sufficient information for the approval of a warrant, or the judicial resources needed after a raid to prosecute the business. From discussions with numerous cities, including those cited below, we estimate that the cost of a single enforcement action ranges from \$50,000 to \$100,000. This excludes the cost of judicial resources and incarceration resource, which are estimated to be as high as \$6 billion nationwide.³⁴



Santa Ana Raid as an Example

As a granular example, let's walk through a typical enforcement activity on a medical marijuana dispensary. During the raid on Sky High Holistic in Santa Ana³⁵, 8 law enforcement officers burst into the premises to shutter the dispensary. According to law enforcement sources, this team will usually be composed of senior level officers who are part of specialized units. 8 officers will expend 20 hours conducting all activities associated with the actual raid itself. 12.5 of the hours are standard pay, and the additional 7.5 hours are overtime, which is paid at a rate of time and one half. Collectively, the officers will expend 100 hours (8 officers x 12.5 hours) at the standard rate of pay, and 90 hours overtime pay (8 officers x 7.5 hours x 1.5 overtime pay). This equals 190 hours, at a minimum, of compensation for a team of 8 officers. The average pay for a police officer is \$111,800.³⁶ This equals \$53.75 per hour. 190 hours x \$53.75 = \$10,212.50.

To enter the marijuana business, the team must first have done enough investigatory and covert work to establish the grounds to be granted a warrant. These investigations take extensive amounts of time, usually around one month according to law enforcement sources. $\$111,800/12 = \$9,317.00$ (one month's salary at the average pay rate for an officer in California, not including overtime). $\$9,317 \times 8 \text{ officers} = \$74,536$. $\$74,536.00$ (monthly salary for 8 officers for one month of investigative work) + $\$10,212.50$ (cost for one raid at 20 hours used) = $\$84,748.50$.

³⁴ "The War on Marijuana in Black and White, Billions of Dollars Wasted on Racially Biased Arrests." American Civil Liberties Union, June 2013.

³⁵ Schwebke, Scott. "Santa Ana to pay \$100,000 to pot shop at center of controversial police raid." Orange County Register. Accessed May 19, 2017. <http://www.ocregister.com/2016/10/26/santa-ana-to-pay-100000-to-pot-shop-at-center-of-controversial-police-raid/>.

³⁶ Preese@sacbee.com, Phillip Reese -. "See what California cities pay police, firefighters." Sacbee. Accessed May 19, 2017. <http://www.sacbee.com/site-services/databases/article2573210.html>.

Nearly \$85,000 is utilized to conduct one raid, in terms of police manpower. What also must be factored in are vehicle and equipment costs, administrative employee costs, holding costs for evidence, holding costs for individuals, costs to the Department of Regional planning, County Counsel costs, prosecution costs, as well as costs to the judicial and prison system- and these costs are not included here.

East Coast Facility

Recently, an east-coast city’s law enforcement entities conducted raid activities against a marijuana business. Though we are unable to name the specific locality, insiders with specific information related to the law enforcement activities report that the local government spent approximately \$52,000 on the raid. This figure does not include costs associated with the State police or County prosecutors. The local police department conducted the majority of the investigation and actual enforcement activities, which accounted for nearly 500 man hours in an area with a significantly lower blended cost per police officer.

Part 4: Estimating Expected Revenue vs. Enforcement Costs

For purposes of showing the effect whack-a-mole enforcement can have on collected tax revenue, let’s walk through a mock city’s retail revenue and the cost of conducting recurring raids to combat the illegal market. The following chart displays two scenarios for the projected annual tax revenue for dispensary licenses at a tax rate of 3%. The first uses our minimum recommendation of 7,500 inhabitants per dispensary license while the second column uses a model of roughly 15,000 inhabitants per dispensary. Please note the justification for maintaining dispensary density of at least 1/7,500 is tied to maximizing tax revenue and reducing the illegal market and is also covered at length in our related paper on reducing illegal markets in legal jurisdictions.

Cannabis Retailer Example (200,000 Population)		
Dispensaries per population	7,500	15,000
Number of Licenses	27	13
Patients Per Day	180	200
Average Sale Per Customer	\$60	\$60
Gross Monthly Sales	\$8,748,000	\$4,680,000
Annual Gross Revenue	\$106,434,000	\$56,940,000
Monthly Net Tax (3%)	\$262,440	\$140,400
Annual Tax Revenue (3%)	\$3,193,020	\$1,708,200
Estimated Illegal Market Rate	10%	50%
Total Market Value Per Year	\$117,077,400	\$113,880,000
Illegal Market Share Per Year	\$10,634,400	\$56,940,000

Below, we will extrapolate the conservative churn rate estimate of 50%, and show how whack-a-mole enforcement costs are compounded and exhausted due to recurring sweeps of every illegal market actor at a cost of \$85,000 per raid. In this example, four raids of each business are conducted per year. Note the number of illegal market actors in this market is twice that of the license types, even though a 50% market rate in that particular scenario would yield 13 illegal market actors. Illegal market actors will spend very little on dispensary buildout due to the expectation of being raided. Also, they will carry less marijuana due to the expectation that it will be seized during a raid.

	Raid 1	Raid 2	Raid 3	Raid 4
City 1 (1/7,500)				
Retailers	2.70 (75%)	.68	-	-
Expenditures	229,500	114,750	-	-
City 2 (1/15,000)				
Retailers	26 (50%)	13	7.5	3.75
Expenditures	2,210,000*	1,105,000	637,500	318,750

** City 2 exhausts all revenue associated with one year of regulated cannabis retailer activity during one raid of every business within that category.*

Policy Recommendations

All of the below recommendations should be considered in totality, as setting responsible policy in one area and not altogether will exacerbate illegal market levels.

Taxes

- State and local governments should set tax rates at levels that appropriately balance tax revenue generation and illegal market reduction. Research shows that effective tax rates (inclusive of state, local, and supply-chain taxes) exceeding 20% have diminishing returns for tax revenue generation but significantly increase the size of the illegal market.³⁷
- Taxes should generally only be placed on the sale to consumer to avoid multiplicative taxation through the supply chain.
- State and local regulatory agencies should review and adjust tax rates annually based on several factors including illegal market levels.

Accessibility

- Zoning rules or licensing caps should be tailored to create a ratio of at least one dispensary or delivery service per every 7,500 residents. This will ensure that the legal market is able to compete with the illegal market on access.

Enforcement

- Do not waste finite tax payer resources on a perpetual problem. Instead, view legal market actors as a tool and asset in combatting the illegal market. This tool is more effective when operating in a regulatory environment that allows it to compete.
- By keeping illegal market rates low, enforcement can be targeted against truly bad actors and rate of success of enforcement will be increased.
- Enforcement efforts against legal operators have proven to be far more successful due to the cost of building out licensed facilities and fear of losing licensure. Accordingly bringing illegal operators into the legal market is critical.

³⁷ C.D. Howe Institute. Intelligence Memos: With Legal Weed the Government Must Choose Revenue or Regulated Market, Not Both, April 10, 2017 https://www.cdhowe.org/sites/default/files/blog_Rosalie_0410.pdf.