

To: City & Borough of Juneau Marijuana Committee
From: Carole Triem, MPP
Date: August 13, 2015
Re: Estimating the Market for Regulated Marijuana in Juneau

The City and Borough of Juneau will create local rules and regulations, including determining the number of retail store licenses to issue. The optimal number of stores will maximize public safety, ensure CBJ captures all available tax revenue, and will prevent a large black market. The Marijuana Committee should look to the recreational marijuana markets in Colorado and Washington for guidance on structuring the market in Juneau.

Recommendation: To maximize potential tax revenue and to minimize public safety risks, the CBJ should allow six to ten retail marijuana stores to operate in Juneau.

Estimating the Market for Regulated Marijuana in Juneau

To predict the size of the marijuana market in Juneau, I compared Juneau's demographic information to two states that already have regulated marijuana markets – Washington and Colorado. These data and their sources are attached in Table 1.

I estimate a number of retail stores using two different methods: 1) I calculate the ratio of total population per retail store in Colorado and Washington and applying that ratio to the population of Juneau; 2) I calculate the ratio of total marijuana users¹ in each state per retail store, and apply that ratio to the estimated number of marijuana users in Juneau. For each method, I calculate two ratios (one high estimate and one low estimate) for the state of Washington, where the exact number of retail marijuana locations is unknown². In this analysis, the minimum number of stores necessary to serve the predicted marijuana market in Juneau is six.

Population data is from the U.S. Census Bureau and data on the prevalence of marijuana usage is from the Substance Abuse and Mental Health Services Administration. Information on the current size

¹ Unfortunately, due to small sample sizes and privacy restrictions, marijuana prevalence is not available by age group for the state of Alaska. While this analysis does include underage smokers, the prevalence among this age group is much lower than adults. See Table 2 for more information.

² When recreational marijuana was legalized in Washington, the state determined 334 licenses would be issued for retail stores. However, according to the Washington Department of Health, only 161 of those stores are currently operational. Medical dispensaries are not licensed in Washington, so the exact number is unknown. The Washington Department of Health estimates that there are 1,100 dispensaries operating in the state.

of the regulated markets is obtained from state sources. These data and their sources are attached in Table 1.

For the purpose of this analysis, I do not differentiate between medical marijuana dispensaries and recreational marijuana retail stores. The ratios are calculated using the total number of locations where marijuana is available for sale. Both Washington and Colorado had existing medical marijuana markets before the legalization of recreational sales, which drew consumers to the medical market who would have otherwise been served by the recreational market. In fact, in both states, the number of medical dispensaries far exceeds the number of recreational retail stores, indicating crowd out of the recreational market from the medical dispensaries.³ Alaska is in a unique position to develop a regulated marijuana market from scratch without the burden of a prior competing medical market.

Why the Number of Stores Matters

To keep long-term⁴ retail prices low enough to draw consumers away from the black market, the CBJ should ensure an adequate supply, by licensing a large enough number of retail stores. The risks of allowing too few retail stores are far greater than the risks of allowing too many stores.

Market forces will provide a natural cap to the number of stores: the high cost of meeting safety and licensing requirements and the cash-intensive nature of the marijuana business will limit the number of suppliers who enter the market. If there is excess supply, prices will fall enough to drive the least efficient retailers out of the market. Low prices will not cause a surge in demand – prior research⁵ indicates that demand for marijuana is inelastic. This means a decrease in price does not cause a proportional increase in demand.

On the other hand, the CBJ could issue too few licenses to allow for suppliers to meet demand for marijuana in Juneau. In this case, consumers will turn to the black market. A large black market means lost tax revenue for the CBJ and the inability to regulate the public safety aspects of marijuana

³ This trend is changing in both Washington and Colorado. Figure 1 shows the number of recreational stores is increasing in Colorado, while the number of medical dispensaries stays steady. Washington State recently passed Senate Bill 5052, which will eliminate the medical dispensary market and move all sales to the regulated retail stores.

⁴ Prices will likely fluctuate in the short term when regulated sales begin. Both Colorado and Washington experienced significant drops in retail prices in the months after legalizing recreational sales, as the market moved toward equilibrium and suppliers began to recoup start-up costs.

⁵ Rhodes, W., Johnston, P., Han, S., McMullen, Q., & Hozik, L. (2000). Illicit Drugs: Price Elasticity of Demand and Supply Final Report. Abt Associates, Inc., prepared for the National Institute of Justice.

use. For example, a large, unregulated black market would make it easier for teenagers and underage children to access marijuana.

It is unlikely that the black market for marijuana will ever be completely eliminated. However, creating the right market conditions for a regulated market in Juneau will go a long way towards reducing the size of the black market. The CBJ should err on the side of allowing too much supply – if there is excess supply, the issue will be resolved by market forces – rather than restricting the regulated market and driving consumers to a black market.

Comparing Juneau to Washington and Colorado

This analysis rests on the assumption that Juneau is comparable to Washington and Colorado. The comparisons of marijuana usage and population are statistically valid. However, there are some ways Juneau is different from these two states – these differences affect the size of the marijuana market:

1. As indicated earlier, there are no existing medical dispensaries to crowd out the market for recreational marijuana in this state. This would make the market for regulated recreational marijuana proportionally larger in Juneau than it is in Colorado or Washington. This analysis attempts to account for this factor by using the total number of medical dispensaries and retail stores as a proxy for total demand in Washington and Colorado.
2. With no neighboring states, and no road access to Juneau, the market here will not include demand from visitors driving to the state solely to purchase marijuana. It is very difficult to determine the size of this “neighbors’ demand” in Washington and Colorado, although Colorado’s neighbors Nebraska and Oklahoma blame the legalized recreational marketplace for increased arrests in their states. Juneau’s lack of road access and contiguous neighboring states would make the market for marijuana smaller than Washington or Colorado, although it is difficult to predict the size of this impact.
3. Juneau does receive a very large number of visitors every year, particularly during the summer tourist season. Some of these visitors will likely purchase marijuana during their visits. The Colorado Department of Revenue estimates that in some mountain tourist destination communities, visitor demand accounts for up to 90% of marijuana sales. The amount of visitor demand for marijuana in Juneau will depend on the demographics of visitors and the decisions made by the CBJ. Cruise ship passengers and crew spending the day in Juneau will not be permitted to take marijuana

with them (although they may try.) If the CBJ allows businesses to provide a place to consume marijuana, cruise ship visitors will have a legal way to purchase and use marijuana in Juneau. Legal marijuana will be an additional incentive for other tourists who visit Juneau, but the high cost and difficulty of traveling to Alaska, and the proximity of Washington and Colorado, suggests there will likely not be a large influx of tourists visiting solely to participate in the legal marijuana market in Juneau.

Table 1. Marijuana Market Comparison

Population, Marijuana Users, Number of Stores	Washington³ (High estimate)	Washington³ (Low Estimate)	Colorado⁴	Juneau
Total Population (2014 estimate) ¹	6,724,540	6,724,540	5,029,196	33,026
Marijuana use in the past year, percentage (2012-2013 estimate) ²	17.48%	17.48%	18.92%	19.69%
Number of marijuana users	1,175,326	1,175,326	951,602	6,123
Number of recreational use stores	334	161	356	6
Number of medical dispensaries	1,100	1,100	503	0
Total number of retail locations	1,434	1,261	859	6
People per retail location (medical or recreational)	4,689	5,333	5,855	5,200
Number of users per retail location (medical or recreational)	820	932	1,108	1,000

¹ Annual Estimates of the Resident Population by Sex, Age, Race, and Hispanic Origin for the United States and States: April 1, 2010 to July 1, 2014. *U.S. Census Bureau, Population Division* (2015).

² SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2012 and 2013.

³ Email from Kristi Weeks, JD, Review Officer/Policy Counsel, Washington Department of Health, received 22 July 2015.

⁴ The number of medical and retail stores in Colorado is the latest available information (from March 2015). Source: Brohl, B., Kammerzell, R., & Lewis Koski, W. Colorado Department of Revenue, Enforcement Division - Marijuana (2015). 2015 First Quarter Update to MED 2014 Annual Update.

Table 2. Marijuana Use in the Past Year, by Age Group

State	12 or Older Estimate	12-17 Estimate	18-25 Estimate	18 or Older Estimate	26 or Older Estimate
Alaska	19.69%	15.61%	35.71%	20.16%	17.24%
Colorado	18.92%	18.76%	42.42%	18.94%	14.98%
Washington	17.48%	16.48%	37.57%	17.58%	14.30%

Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2012 and 2013.

Figure 1. Number of Marijuana Retail Sale Locations in Colorado

